

Compilations of the statements and answers of the Governments in the Baltic Sea Region

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Denmark



Klima-, Energi- og
Forsyningsministeriet

Intergovernmental survey – BSPC Working Group on Climate change and biodiversity

Department
CVS

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- I. General information on the measures and strategies in the BSPC member states and regions

Climate change

National and global climate mitigation objectives

Denmark has adopted a Climate Act, committing to achieve a national 70 percent reduction in greenhouse gas emissions by 2030 compared to the emissions in 1990. The law also sets a long-term target for Denmark to be a climate neutral society by 2050 at the latest, taking into account the target of limiting the global temperature rise to 1.5 degrees Celsius in the Paris Agreement. The climate law further mandates the setting of new national climate targets every five years with a ten-year perspective and sets a series of yearly reporting obligations, including a climate programme describing how the climate targets will be reached and a report on the global effects of Danish climate efforts. Along with the 2021 Climate Programme, the Danish government presented *Roadmap for a Green Denmark*, which lays out 24 concrete political initiatives that will ensure fulfillment of the 2030-target. At this point, the government along with the Danish parliament has delivered reductions of app. 10 mil. Tons CO₂e in 2030, which means that we are halfway to achieving the 2030-target.

Critical sectors where additional measures is imminent

Greenhouse gasses from service and industry accounts for approximately one fifth of Denmark's emissions. Green transitioning and energy efficiency of the industry's fossil production are important elements in the green transition of society. The Climate Agreement on Energy and Industry of 2020 prioritizes DKK 22.5 bn. to the green transition. The next step for the industrial sector is taken in the first phase of The Green Tax Reform, that creates strong incentives for companies to transition to a greener production, e.g. through taxes on the industries' process fossil energy while easing companies' transition to clean energy.

The agriculture industry occupies more than 60 percent of the Danish land area, and by 2030, it will be responsible for 1/3 of the Danish greenhouse gas emissions if action is not taken. In October 2021, the Danish parliament agreed on a Green Transition of the Agricultural Sector, which ensures that the agricultural and forestry



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sector in Denmark delivers a substantial contribution to the 2030-target. Importantly, the agreement contains a binding climate target for the agricultural and forestry sector of 55 to 65 percent CO₂e reduction in 2030 compared to the emissions in 1990. This equals a reduction of 6 to 8 M tons CO₂e. The concrete reduction initiatives include restoration of peatlands, reduction of nitrogen emissions to the environment, greenhouse gas reducing requirements in the animal production sector, more green areas and forests. The government is currently working on a strategy for realizing the emission reduction potentials from the agriculture agreement.

The transport sector is one of the largest emitters of greenhouse gasses in Denmark. In order to reach the ambitious target of reducing greenhouse gas emissions by 70 % by 2030, reductions in the transport sector is essential. Increasing the sustainability of the road transport sector, which accounts for about 90% of the greenhouse gas emissions in the transport sector in Denmark, is especially crucial. The Agreement on a Green Transition of Road Transport sets out strong measures and contributes to lower greenhouse gas emissions in the road transport sector by 2.1 M tons CO₂e in 2030. Furthermore, the agreement sets forth the ambition of having 1 million zero- and low-emission cars on the roads by 2030. Reprioritization of the registration tax is reducing GHG intensity of fuels throughout the production chain and significant investments and subsidies in green infrastructure and new technologies further incentivizes green mobility supporting public health and reducing congestion.

Current and planned mitigation measures

Roadmap for a green Denmark presents 24 concrete political initiatives to be implemented over the coming years. As stated in the roadmap the government will have presented proposals no later than 2025 that ensure that all sectors are revisited, and that all decisions required to achieve the 2030-target will have been made by 2025. In 2022, the government will present strategies on green transition of heavy road transport, as well as proposals on a green energy and utilities sector, a green industry sector, green transition of air traffic, climate-friendly choices in everyday life and follow up on the green tax reform – phase 2.

Measures and strategies for adaptation to climate change

Landowners and municipalities have the overall responsibility for climate adaptation. The state supports their efforts through subsidy schemes for coastal protection, guidance and by making data and information available. In addition, the state determines the legislation, which is continuously evaluated, on which municipalities and landowners' initiatives are based.

Furthermore, Denmark is currently in the process of preparing a new national climate adaptation plan.

Biodiversity



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In 2020 a political agreement was made in Denmark about a Danish Nature and Biodiversity Package with a DKK 888 mil. budget for 2021-2024. This agreement included up to 75 000 hectares of untouched forest, the establishment of 13 new nature national parks (increasing the total number of nature national parks to 15) and a Strategy on management of Threatened and Red listed species. Included in this funding was also DKK 4 mil. annually for 2021-2024 for a biodiversity council. As part of the agreement, a review of the existing legislation in the field of nature and biodiversity has also been initiated in order to support a suitable legal framework for the realization of the Nature and Biodiversity Package as well as a clear legal framework for the continued development of nature and biodiversity in Denmark. Furthermore, Denmark has set aside DKK 50 million for establishing urban forests in the metropolitan area of Copenhagen.

Regarding the marine ecosystem a number of stone reefs are being restored among other as part of the initiatives funded by the Danish Nature and Biodiversity package with the aim of improving the local marine environment. Planning of further projects is ongoing. Furthermore, financial contribution has been given to establishment of a new research center focusing on marine nature restoration. The protection of the marine environment is a focal point. Currently, 26 pct. of the Danish maritime area is designated as MPAs including 6 new SPAs. Furthermore, we are focused on designating further MPAs under the marine strategy framework directive. This includes the first strictly protected MPAs in Danish waters. In March 2021, Denmark sent 13 new MSFD MPAs in national consultation including 12 strictly protected areas. The aim is to further protect those benthic habitats which are not protected under the habitats directive, but which are vulnerable. This includes off shore habitats such as muddy substrate some of which are HELCOM red-listed. Furthermore, management of the strictly protected areas will lead to protection of the water column as a whole from seafloor to the sea surface to protect marine mammals, fish species and areas with high productivity etc.

Denmark has in February 2022 submitted 257 draft plans one for each Natura 2000 site for public consultation. Each plan has a long-term objective and measures for nature management in the period 2023-27. The new plans have a special focus on preventing further deterioration of nature types and species and more dynamic nature management.

Danish nature and biodiversity is generally under pressure and only a few nature types or species have favorable conservation status. An important part of Danish nature is located in the coastal zone or close to the coast. It is expected that climate change and rising water levels will be major challenges for coastal nature areas and habitats for species over the coming decades.



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II. Legal basis of the measures and strategies in the BSPC member states and regions

Main provisions to combat climate change

The Danish approach to combatting climate change is multidimensional, targets all sectors and must adhere to a number of guiding principles. The realization of Denmark's climate policy must be as cost effective as possible, take for example sustainable business development and social public finances and employment into consideration and must result in real domestic reductions, and not simply relocate greenhouse gas emissions outside Denmark. One example of this approach is in the Green tax reform.

A uniform tax on all emissions is the most cost effective way to reduce emissions, as it sets a fixed uniform price on emitting greenhouse gas equivalents. This ensures that reductions happen where the socio-economic costs are lowest. In December 2020, the Danish parliament agreed on a Green Tax Reform in two phases. With the first phase of the green tax reform, energy tax rates on fossil fuel usage are increased for industries to ensure greenhouse gas reductions by 0.5 M tons CO₂e in 2025. The second phase will work towards introducing a uniform carbon tax. A group of experts has recently presented its first report, which highlights the dilemma of introducing a tax on emissions without causing heavy industries to outsource production. Following this, the experts have suggested three different models for a tax on emissions seeking to counteract CO₂-leakage. The next step will be negotiations with parties behind the political agreement in order to determine the level of the emission tax and support for industries.

Climate and biodiversity protection laws

There is no specific law for climate protection, as climate requirements are a part of laws tied to the emission source. The climate law contains mechanisms aimed at reducing carbon emissions thereby combatting climate change and protecting the climate from global warming.

The Danish biodiversity is mainly protected with the Natura Conservation Act, but there is also a strong tradition for protection of biodiversity in the legislation of different sectors e.g. environment, forest, energy, fishery, transport or extraction of raw materials.

III. Specific areas and aspects

Maritime areas and protected zones



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Denmark has a number of Natura 2000 sites consisting of SPAs and SACs, these are managed to protect the species and habitats in the areas that the sites are designated for. This includes management in the surrounding zones to ensure the sites aren't negatively affected. MSFD MPAs have so far had a focus on protecting the seafloor within the areas to protect the vulnerable species and habitats connected to the seafloor within the areas. As mentioned above Denmark is in the process of designating strictly protected areas MPAs. Twelve such areas were sent in public consultation in March 2021.

A large number of marine Natura 2000 sites are located in the coastal zone and protect both the marine habitats and the adjacent terrestrial habitats. Additionally, measures have been taken to protect the coastal zone (to 3 nm) from fishing with bottom contacting gears in large parts of the country, and to protect eelgrass.

Eutrophication

The revised Baltic Sea Action Plan, adopted in October 2021, contains measures targeting agricultural run-off, point sources incl. wastewater treatment plants, atmospheric emissions and nutrient recycling. The update of the Baltic Sea Action Plan is an important tool to achieve good environmental status of the Baltic Sea and Denmark is committed to implementing the actions. In the development of the updated plan, Denmark submitted concrete action proposals with the aim to ensure an ambitious focus on marine litter, eutrophication and biodiversity. Denmark remains committed to reducing the input of nutrients to the Baltic Sea, by addressing all relevant sources of nutrient input. Denmark recently sent the third generation River Basin Management Plans in public hearing. These set an ambitious target for nutrient input reduction. Furthermore, Denmark has implemented HELCOM's Maximum Allowable Inputs (MAI) on nutrients in our national marine strategy as environmental targets on eutrophication.

Sea-dumped munitions

Ammunition can be found in Danish territorial waters at a number of locations, e.g. at the Bornholm CWA (chemical warfare agents) dumpsite and in the southern part of Lillebælt. Denmark contributes to regionally coordinated actions on submerged munitions and explosives in the HELCOM Expert Group on Environmental Risks of Submerged Objects (EG SUBMERGED). Furthermore, Denmark will take part in the regional work on developing best environmental practice for comprehensive risk assessment of munitions, wrecks and hazardous submerged objects and implement the best available techniques for environmental sound and safe management in HELCOM (S34) as part of implementation of the newly updated Baltic Sea Action Plan.

Towards zero pollution

While the Danish Government does not have a single zero-pollution action plan, it has policies, proposals and regulation on protecting air, water and soil with varied



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timelines and goals. Many of these policies are based on targets and requirements from EU regulation.

For example the “Green cities and an developing capital”-proposal from May 2021 which presents the government’s initiatives including on the possibility of banning certain diesels cars in low emission zones, the use of stoves in areas with district heating and the use of pesticides in certain areas as well as introducing zero emission zones for electric vehicles. Denmark is also active in strengthening regulation on industrial emissions and the implementation hereof. Finally as an example on water, the Denmark is currently updating its water management plans in order to comply with the EU Water Frame-directive.

In order to avoid plastic pollution, the Danish Government supports a number of projects to ensure much more recycling, but also to make the necessary transition from single-use plastics to products that can be used again and again. These projects include amongst others:

The Government has recently taken steps in our waste collection system, to have a lot more separation of fractions, including plastic, for better treatment and recycling.

The Government is in the process of implementing an extended producer responsibility scheme for packaging with the ambition to ensure economic incentives to design better packaging that more easily can be reused or recycled.

The Government is also taking steps to implement the measures of the Single Use Plastics Directive. Currently, the ban on certain single use products and the marking requirements have been implemented, and we are in the process of creating an effective framework for the extended producer responsibility concerning tobacco products.

Denmark has a very well functioning deposit and return system for beverage containers, which ensure high quality recycling and less plastic waste in nature. We have banned free carrier bags in shops and raised the levies on single-use plastics.

The Government has initiated public-private partnerships around the use of plastic in the following four sectors: Agriculture, construction, food services and retail. These are all sectors with a clear potential for increasing recycling and reducing plastic waste.

Additionally, Denmark has set a goal of reducing waste from take away packaging by half before 2026.

In 2020, the Danish authorities ceased issuing permissions for mass launch of balloons.



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Furthermore, Denmark is actively participating on both the development of and the implementation of actions in the Regional Action Plan on Marine Litter in both OSPAR as well as in HELCOM. These actions covers a broad diversity of measures.

Economy

Investment priorities to reduce CO₂ emissions

The Danish parliament has agreed to invest in green technologies across sectors, including agriculture, industry, transport and energy. In total, more than DKK 85 B has been allocated to climate policies. Furthermore, the parliament has agreed to fund research projects related to climate change mitigation.

The role of carbon capture, utilization and storage in achieving climate neutrality in the government's strategy

Carbon capture and storage is one of the most important tools in combating climate change and achieving the 2030-target. Capture and storage of carbon can reduce emissions in sectors, where reductions have proved difficult. For instance concerning incineration of waste and cement production.

The Danish parliament has agreed on a strategy that will promote new infrastructure and regulation for capture, transport, storage and utilization of carbon in Denmark on market conditions. The agreement ensures that the first Danish capture and storage plants will be running by 2025, leading to emission reductions of 0.4 M tons from 2025, contributing to achieving the 2030-target.

Planned ban on coal usage in the electricity supply

In 2017, it was announced that coal would be completely phased out of Denmark's electricity supply by 2030. Furthermore, Denmark will donate 100 M DKK to the Climate Investment Fund's work of buying out and closing coal power plants and investing in new energy sources.

Strategy regarding the use of hydrogen for the next ten years

The Danish parliament has agreed on allocating funds to the development of green Power-to-X fuels for planes, ships and trucks nationally and internationally. The agreement contains a state tender of DKK 1.25 bn. for increasing hydrogen production and improving conditions for producers. The aim of the agreement is to establish 4-6 GW electrolysis capacity in 2030, which will produce the hydrogen that provides the energy for green fuels.

Innovation

Programs used to promote innovations in climate protection and biodiversity

The Danish government has published a national strategy for investments in green research, technology and innovation. The strategy sets a clear direction for the



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Danish green research and innovation effort in order to accelerate the development of technologies and solutions, which can help protect our climate, nature and environment. Research and innovation play a crucial role in attaining the ambitious climate target of Denmark and safeguarding our nature and environment. With a new comprehensive national strategy, the government sets a long-term direction for green research, innovation, development, and demonstration accelerating the development of new green solutions and technologies. The strategy points out four missions that serves as areas of special focus:

1. Development of cost-effective solutions for carbon capture and storage that can be used to reduce carbon emissions and create negative emissions from large industrial emitters, waste incineration plants, biogas plants, and biomass based combined power and heating plants.
2. Development of solutions to convert electricity from renewable energy to products that can be used to reduce emissions from parts of the transport and energy sectors where there are no existing cost-effective alternatives to fossil energy.
3. Development of technologies and solutions significantly reducing climate and environmental impacts from conventional as well as organic food production and agriculture, including emissions from livestock, fertilization, and land reducing derived effects on nature.
4. Development of new technologies and manufacturing methods that enable waste reduction and better sorting and recycling of plastic waste into new plastics products.

The Energy Technology Development and Demonstration Programme (EUDP) was established in 2007 and funds work by enterprises and universities on demonstration of new green energy technologies. This takes place in a number of promising projects, all of which support Denmark's 2030- and 2050-targets. Since its establishment in 2007, the EUDP has supported more than 1,000 innovative projects with about DKK 5.7 bn. The EUDP is technology-neutral in its prioritization and assesses applications according to nine criteria, including innovation height, climate-policy targets and commercialization potential.

Innovation Fund Denmark invests a minimum of DKK 201.1bn in green research, technology development and innovation and thereby contributes to ensuring knowledge and creating technologies that support Denmark's goal of a 70 pct. carbon reduction by 2030 and climate neutrality by 2050. Furthermore investments in green research, technology development and innovation are essential for the transition toward a more sustainable society. In turn these investments will help Denmark obtain its objectives regarding nature, environment and biodiversity.

As a follow-up on the government's strategy for investments in green research, innovation and technology, Innovation Fund Denmark invests in specific projects that demonstrates the largest positive effects on climate, nature and biodiversity while taking growth and employment into account within the seven aforementioned topics.



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MUDP

The main purpose of the Danish Ecoinnovation Programme, MUDP is to support the development and application of new environmental and resource efficient solutions addressing prioritized environmental challenges. Further, the ambition is to boost and strengthen cooperation between companies, knowledge-based institutions and partners in the EU within the field of environmental technology.

In the action plan for 2022, MUDP has a special focus on wild nature and biodiversity:

“Nature and biological diversity is under pressure both on land and in water. When species and biotopes disappear, it is often irreversible losses. Global climate change is contributing to accelerate the problem. MUDP supports projects that develops technologies that can contribute to meet those challenges. This may be technologies that:

- Limits pressure factors in the sea
- Enables intelligent control and monitoring of large consecutive natural areas on land and in the sea.

International cooperation

The policy framework of Danish energy and climate policies are widely affected by EU legislation. Common targets, such as reductions of greenhouse gas emissions, promoting of renewable energy and energy efficiency improvements are set at EU level and implemented and supplemented by specific measures in the EU legislation. Denmark is actively participating in the development of climate policies at the EU-level. In negotiations related to the fit-for-55 legislative package, Denmark is pushing for higher ambitions approaching 2030 and for a faster transition of the European energy sector.

Denmark is, in close cooperation with Costa Rica, spearheading the work to create a new international alliance to promote a managed phase-out of oil and gas production called the Beyond Oil and Gas Alliance (BOGA). BOGA will gather a group of ambitious governments that are committed to delivering a managed and just transition away from oil and gas production. The objectives of BOGA are:

- To raise global climate ambition by aligning oil and gas production with the Paris Agreement goal of well below 2°C, pursuing efforts for 1.5°C.
- Raise the issue of fossil fuel supply on the international climate and energy agenda, and promote dialogue on the need for a managed and just phase-out of oil and gas production.
- Capture and leverage momentum from first movers to encourage others to take action, by providing a home for those new commitments.
- Create an international community of practice that can support governments in delivering their commitments to a managed and just phase-out of oil and gas production.



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Denmark cooperates with a number of the world's largest economies on the transition to cleaner energy systems. Together, they represent two thirds of the total global CO₂-emissions. Through bilateral energy partnerships, the Danish Ministry of Climate, Energy and Utilities share experiences from the Danish energy transition with the world. The 19 partner countries are China, the USA, India, Mexico, South Africa, Vietnam, Ukraine, Indonesia, Turkey, South Korea, Japan, the Netherlands, Germany, Poland, France, the United Kingdom, Egypt, Kenya, and Ethiopia. Together, they represent two thirds of global CO₂-emissions.

The Danish Nature Agency and some municipalities have projects with neighboring countries, but there is not an overview of terrestrial projects. For the marine environment, cooperation with neighboring countries in the Baltic Sea area primarily takes place through HELCOM.

The fight for climate, nature and environment is on top of Denmark's agenda when it comes to development cooperation. It is a key focus in the Danish Strategy for Development Cooperation, The World We Share, which among other things states that Denmark will strengthen action to support climate change adaptation, nature, the environment and resilience in the poorest and most vulnerable countries; that Denmark will assume international leadership within reductions, green transition, and access to clean energy; that Denmark will increase mobilization of finance and promote green Danish solutions within climate, nature and the environment; and finally that Denmark will create hope and prospects for the future through green and socially just economic recovery and poverty-oriented development.

Furthermore, the Danish Government has an ambition that at least 25% of ODA to developing countries from 2023 should go to climate change actions and at least 5% dedicated to environment and biodiversity. This means that at least 30% of ODA to developing countries from 2023 will be green. In addition, the government has set the ambitious target of dedicating at least 60% of climate-related ODA to climate change adaptation actions from 2023.

Adaptation

Denmark is currently in the process of preparing a new national climate adaptation plan. The purpose of the plan is to look at the overall framework for securing Denmark against the consequences of climate change, especially in relation to floods. It looks at, among other things, how to optimize the framework conditions for municipalities and landowners.

Involvement of citizens and stakeholders

The Government has entered into 14 Climate partnerships with all segments of the Danish business community. The purpose is to ensure that the business community will contribute to reducing greenhouse gases in Denmark using methods that take into account Danish competitiveness, exports, jobs and welfare. A CEO from a major company within the sector chairs each partnership. In March 2020, the partnerships presented more than 400 recommendations for the sector and the govern-



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ment. Since then the partnerships and the government have worked with implementing many of the recommendations. Embedded in the Green Business Forum, the Government's Climate partnerships will contribute to strengthening dialogue between Government, the business community and trade unions on opportunities and obstacles in the green business transition.

With the Climate Act, it was decided that Denmark should establish its first national Citizens' Assembly on climate issues where the Danish public could make their voices heard in the planning of national climate policies. The Citizens' Assembly consists of 99 individuals selected by Statistics Denmark based on few simple criteria such as their age, geographic location, level of education and income. They have been tasked with debating citizen-level dilemmas associated with the green transition as well as providing input and recommendations to the drafting of the climate action plans.

The government has established the Youth Council on Climate with the purpose of innovating Danish climate politics and giving input to the minister on possible future solutions. The members of the youth council are appointed for a one-year term, coming from all parts of the country with different educational backgrounds and representing different approaches to the climate challenge.

There is also a wide range of citizen and stakeholder involvement in Danish nature legislation. Stakeholders are involved on both official and political levels and some are even members of various working groups facilitated by the Ministry of the Environment or its agencies. Citizens can also be involved in working groups, e.g. in the current local stakeholder groups working with the implementation of the Danish nature national parks. Citizens can also become involved if they participate in public consultations, which can take place at local as well as a national level.

Regarding drafting of River Basin Management Plans Denmark is using a highly inclusive approach to engage the public at large in the drafting in order to ensure important local entitlement and access new knowledge and information. This include the involvement of small groups consisting of particularly interested Parties that closely follow projects central to the content and drafting of the 3rd River Basin Management Plans. Moreover, two main platforms were established to follow all the work throughout the development, i.e. Blue Progress Forum and Technical Reference Group. Under the Agriculture Agreement on Climate DKK 16 M. has been assigned to the creation of Coastal Water Councils with the participation of several municipalities and locally interested parties, including agricultural organizations that shall look into possible alternative ways to deliver on the obligations under the Water Framework Directive.



Estonia



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Answers to the questions sent by the BSPC Working
Group on Climate Change and Biodiversity

Dear BSPC Working Group members,

Herewith we are sending answers to your questions about Estonian activities on climate change mitigation and biodiversity maintenance.

I. General information on the measures and strategies

Climate change

1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals).

Long term national strategy "[Eesti 2035](#)"¹ sets a goal that by 2050, Estonia will be a competitive, climate-neutral country with a knowledge-based society and economy, where a high-quality and species-rich living environment and readiness and ability to reduce the adverse effects of climate change and make the best use of its positive effects are ensured. The strategy also sets an intermediate cross-sectoral net GHG emissions target of 8 million tonnes of CO₂ equivalent by 2035.

["General Principles of Climate Policy until 2050"](#)² sets a long-term goal for Estonia to reduce greenhouse gas emissions by 80% by 2050. To achieve this, an intermediate goal has been agreed for 2030 - to reduce emissions by about 70%. It is a document of the basic principles of the policy, but needs updating (under planning) to bring it in line with the national climate neutrality goal set out in the national long-term development plan "Estonia 2035".

[Estonia's 2030 National Energy and Climate Plan \(NECP 2030\)](#)³ describes the provisions of development documents guiding energy and climate policy, and highlights the relevant measures and trends. Progress report is due March 2023, and update is due June 2024.

¹ <https://www.riigiteataja.ee/akt/315052021012>

² <https://www.riigiteataja.ee/akt/307042017001>

³ https://ec.europa.eu/energy/sites/ener/files/documents/ee_final_necp_main_en.pdf

Estonia compiles an annual inventory of greenhouse gas emissions. The latest greenhouse gas inventory, published in March 2021, covers the period 1990-2019. In 2019, the total greenhouse gas emissions decreased by approximately 27% compared to the previous year, although the Estonian economy continued to grow. The country's total emissions in 2019 were approximately 14.7 million tonnes of CO₂ equivalent (CO₂ eq) excluding the land use and forestry (LULUCF) sector. Together with the LULUCF sectors, Estonia's net GHG emissions were almost 14 million tonnes of CO₂ eq. Compared to 1990, Estonia's total GHG emissions have decreased by 64%.

GHG emissions have decreased the most in the energy sector, where the significant decrease is taken place due to a reduction in emissions from oil shale power plants. This is in part due to the increase in the price of CO₂ under the EU ETS.

The energy sector (incl. transport) is the largest source of GHG emissions in Estonia and accounts for 83.6% of total emissions, despite a large decrease in emissions in the sector. The decrease in emissions from oil shale power plants caused a significant decrease in Estonia's total emissions in 2019. The forecasts for the energy sector (excluding transport) have changed considerably compared to 2015, depending largely on the number and volume of oil shale plants planned to be opened in the coming years.

The transport sector accounts for 19.5% of the energy sector's emissions and 16.3% of Estonia's total emissions. Emissions from the transport sector are mainly generated by road transport (98% in 2019).

In 2019, the agricultural sector accounted for 10.2% of total emissions. Between 1990 and 2019, emissions fell by 44.49%, mainly due to a reduction in the number of livestock and the amount of mineral fertilizers and manure applied to agricultural fields. GHG emissions from the agricultural sector in 2019 increased by 5.4% compared to 2018, mainly due to the increase in emissions from the agricultural sub-sector, which was mainly due to higher crop production.

In 2019, greenhouse gas emissions from the use of industrial processes and products accounted for 4.2% of total emissions. Between 1990 and 2019, emissions have decreased by 35.80% due to the closure of some of the industries concerned and the decline in production of the remaining industries.

In 2019, the waste sector accounted for 2.1% of Estonia's greenhouse gas emissions. Total emissions from the waste sector have decreased by 17.25% compared to the base year 1990.

In 2019, as in previous years, the LULUCF sector acted as a net sink of greenhouse gases, sequestering 715.61 kt CO₂ eq. Since 1990, net sequestering has declined by 75.8%.

Estonia prepares GHG emission forecasts until 2050 at least every two years. Although, according to approximate and unconfirmed data, total GHG emissions had already decreased by 72% in 2020, the results of the forecasts completed in March 2021 show that Estonia is slightly short of meeting the 2030 emission reduction target set by both existing and planned measures set a reduction of about 69% instead of 70%. It is also projected to fall short of the 2050 climate neutrality target. Therefore, additional measures are needed to meet both the 2030 and 2050 climate targets.

The impacts of COVID19 pandemic to GHG emissions have not yet been fully assessed.

2. Critical sectors where the need for additional measures is imminent

EU's increased ambition for 2030 will set more ambitious national targets for LULUCF and ESR sectors. Although final agreements under Fit for 55 are still under negotiations it is clear that existing measures will fall short in achieving higher ambition.

In terms of 2050 climate neutrality target, decarbonizing of energy production is one of the key aspects.

We have a considerable number of developed and evolving green technologies in Estonia, many of which are related to the energy sector. Though there is a need to support further development of green technologies and skills, and resource efficiency of the companies.

Developing offshore wind energy parks has the greatest potential to expand our renewable energy production in Estonia. We are already cooperating with Latvia on a joint offshore wind farm. Our broader vision is an offshore electricity grid in the Baltic Sea.

To enable the development of renewable energy, one of our key priorities is the use of hydrogen. The National Roadmap of Hydrogen is currently under development.

3. Current and planned mitigation measures

Current and planned measures are listed in following documents:

[Estonia's 2030 National Energy and Climate Plan \(NECP 2030\)](#) describes the provisions of development documents guiding energy and climate policy, and highlights the relevant measures and trends. Progress report is due March 2023, and update is due June 2024.

[Estonia's 2019 report on policies and measures⁴](#). The report describes and assesses Estonia's policies and measures to reduce greenhouse gas emissions in the future in accordance with the current development plans and plans, and presents Estonia's national greenhouse gas projections until 2050, which meet the criteria set by the European Commission. Policies and measures to reduce greenhouse gas emissions are assessed and forecasted in five areas: energy, industrial processes and product use, agriculture, land use, land use change and forestry, and waste management.

4. Measures and strategies for adaptation to climate change.

The national framework for adaptation to climate change is set out in the document "[Climate Change Adaptation Development Plan until 2030](#)"⁵ (KOHAK), which was adopted by the Government of the Republic on 2 March 2017 with the accompanying implementation plan for the period 2017-2020.

Flood risk management plans – You can read more in following link - <https://envir.ee/keskkonnakasutus/vesi/uleujutused>

The main objective of management plans is to prevent the emergence of new flood risk areas; to prevent a flood; to protect from flood and its control; and ensuring of preparedness for floods.

Local municipality's and local people in risk areas need additional measures to protect their living environment from floods.

Biodiversity

Information is available in the following documents:

- [Nature Conservation Development Plan until 2020⁶](#) and [final report⁷](#)

⁴ <https://envir.ee/media/4014/download>

⁵ In English <https://envir.ee/media/912/download>

⁶ In English: <https://www.cbd.int/doc/world/ee/ee-nbsap-v2-en.pdf>

⁷ <https://envir.ee/elusloodus-looduskaitse/looduskaitse>

- (in Estonian)
The NCDP is out of date, but the root causes and drivers of the problem are mostly same.
- [Prioritized Action Framework \(PAF\) for Natura 2000 in Estonia 2021 – 2027](#)⁸
- [Nature Conservation Act](#)⁹
- [Action plan for semi-natural grasslands](#)¹⁰ (in Estonian)
- [Action plan for protected mires](#)¹¹ (in Estonian)
- Marine strategy's [Programme of Measures](#) (in Estonian; [Summary in English](#); update ongoing)
- Water management plans <https://envir.ee/keskkonnakasutus/vesi/veemajanduskavad>

As a HELCOM Contracting Party Estonia contributes to the implementation of the Baltic Sea Action Plan, where several measures are planned to achieve the resilience of marine ecosystems to the climate change. Similar measures and activities are also planned in the Estonian Programme of Measures under MSFD. These measures include inter alia restoration of habitats and spawning grounds, setting stricter environmental requirements for fuels (in shipping and fisheries sectors), expanding marine protected areas as well as development of monitoring and assessment activities. Mapping of our seabed and its habitats is one of the priorities as it would create a basis for future targeted actions and measures.

Biodiversity protection measures and implementation of MSFD and Helcom BSAP measures are financed mainly from state budget, the nature preservation programme and marine protection programme of the Environmental Investment Centre, Rural Development Programme 2014 - 2020, Operational Programme for Cohesion Policy Funds 2014-2020, LIFE programme, European HORIZON and Interreg programmes, EMP and EMFF.

COVID-19 pandemic had not any notable impact on achieving the measures.

Concerning the BSAP implementation – the main obstacle in implementation has been lack of resources (manpower, finance), but also it has occurred that planned measures are unefficient or are not targeted enough to achieve the objective - improvement of the environmental status of the Baltic Sea. In case of Estonia the positive side in implementation of previous BSAP is the establishment of marine protected areas: currently 27% of our coastal and territorial sea area is under protection.

We see the problem in future as human pressure to the Baltic Sea will increase – development of marine wind parks, intensification of aquaculture and other marine activities will undoubtedly increase the pressures and negative impact to marine ecosystems. Thus, the assessment of cumulative impacts is necessary when making new development plans in addition to EIA processes. Also when planning new measures, the focus should be on implementation of effective measures that directly would improve the status of the sea and additional or supporting activities mentioned in BSAP can be handled as a second or even third priority.

II. Legal basis of the measures and strategies in the BSAP member states and regions

1. What are the main provisions to combat climate change?

Main provisions are:

- Carbon pricing in the frame of the EU Emissions Trading System (EU ETS)
- Minimum energy performance requirements for a building
- National target for ESR sectors
- National targets on renewable energy production and usage

⁸ <https://envir.ee/elusloodus-looduskaitse/looduskaitse/natura-2000>

⁹ <https://www.riigiteataja.ee/en/eli/530062021001/consolide>

¹⁰ https://keskkonnaamet.ee/sites/default/files/parandniitude_tegevuskava_2021-2027_1.pdf

¹¹ <https://envir.ee/elusloodus-looduskaitse/looduskaitse/elupaigatuupide-tegevuskavad>

2. Is there a climate protection law?

Estonia has Atmospheric Air Protection Act. This Act provides for:

- 1) the requirements set for affecting ambient air by chemical and physical pollutants;
- 2) the measures for maintaining and improving the quality of ambient air;
- 3) the requirements for protection of ozone layer;
- 4) the measures for mitigation of climate changes and reduction of greenhouse gas emissions;
- 5) the organisation of state supervision over compliance with the requirements provided for in this Act;
- 6) the liability for failure to comply with the requirements provided for in this Act.

Estonia does not have Climate Law but the necessity of it is currently under assessment.

3. What are the main provisions on biodiversity?

Main provisions are stipulated in the Nature Conservation Act and related to the protection of different type of areas (protected areas, protection of habitats of the species, protection of shores and banks of waterbodies) and species protection. In addition there are several provisions on biodiversity in the Forest Act, Water Act, Earth Crust Act, Environmental Impact Assessment and Environmental Management System Act, etc.

4. Is there a law protecting biodiversity?

Yes, Nature Conservation Act.

III. Specific areas and aspects

Maritime areas and protected zones

1. How exactly are maritime areas protected?

According to Nature Conservation Act and Water Act. There are different protection regimes and protection rules regulating allowed or forbidden activities on the area (e.g. ban to enter to the protected area during nesting period, requirements on fishing etc). Protected area has its (legally binding) protection rules and some general restrictions are in place by the law or regulations.

2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?

We do not have large-scale zero-use zones in marine conservation areas, but we have zones with strict limits to any activities (strictly protected conservation zones) in our territorial waters. And we have several spawning grounds, which are permanent or time limited zero-use zones.

3. What actions has your country taken to create functioning coastal ecosystems? (Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.)

Nature Conservation Act stipulates regulations to limit activities inside coastal zones. In addition we have a lot of protected areas to protect coastal ecosystems and maintain their functionality. Additional measures to achieve water bodies' good status are taken in water management plans. E.g. according to Nature Conservation Act, building exclusion zones are established in a width of 100 or 200 m on seashore and great lakes and 25 or 50 m on other waterbodies (depending their size and catchments). There are also limited management zone and water protection zone of shores

and banks to provide coherent protection for coastal ecosystems, water quality and water habitats. Activities that are allowed or forbidden in these zones are established in Nature Conservation Act or Water Act. In addition we have a lot of protected areas to protect coastal ecosystems with their own Protection Regulation (established by Governmental Regulations).

Eutrophication

Eutrophication problem and reduction of nutrient loads into the sea are covered by different action plans in Estonia. The main instruments are Water Management Plans under WFD, but it is covered also by the Action Plan of the Nitrate Sensitive Area (under NiD) and Programme of Measures (under MSFD). Public water supply and sewerage development plans also contributes reducing eutrophication (Urban waste water treatment directive).

To reduce pollution loads into waterbodies, a water protection zone of 1, 10 or 20 m width is required by the Water Act on the shores of waterbodies (depending on the type of a waterbody - at the shores of the Baltic Sea 20 m). Water Act sets also environmental requirements on agricultural activities, regulating the usage of fertilizers and manure, keeping livestock, grazing etc.

Estonia has still a task to reduce our nutrient loads to the Baltic Sea to achieve Helcom's MAI/CART/NIC targets. For that purpose better implementation of agreed measures and enforcement of implementation of legal obligations and supervision is envisaged.

As BSAP was updated in 2021 and currently updates of MSFD Programme of Measures as well as WFD Water Management Plans are ongoing, these documents will be cross-checked to achieve their coherence and if needed, more precise action plans (eg for marine litter etc) will be elaborated and implemented to achieve the BSAP objectives for 2030. Prioritization of BSAP activities on regional level and HELCOM working groups would help to start the implementation of the most urgent measures by all contracting parties.

Sea-dumped munitions

We do not have information on sea-dumped munitions in Estonian territorial waters. The individual mines found (from WW II) have being cleared by the Defense Forces.

Towards zero pollution

1. Is your government following a zero-pollution action plan for air, water and earth?

Yes, as all of the EU Estonia is following the zero pollution action plan. The tools of achieving zero pollution are to be implemented through changes in several EU documents: ambient air quality directive, urban wastewater treatment directive, industrial emissions directive, EU soil strategy etc. These changes will be negotiated mainly in 2022, possibly partially also after that. When changes will be agreed, details of implementation can be planned.

2. What time horizon is planned for which intermediate steps and goals?

The zero pollution sets out targets for 2030 as a milestone along the way to 2050.

3. What concrete projects for the avoidance of plastic pollution is your government supporting?

4. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?

The efforts are currently directed to analysis of what can be done. National measures will be developed and initiated after the directives have been negotiated.

Economy

1. What are the investment priorities of the state to reduce CO2 emissions?

During the period of 2021-2027 the key public sector's investments are targeting:

- Increasing energy efficiency in housing
- Decreasing GHG emissions from transport sector through investments into rail infrastructure, public transport, and walking and cycling
- Supporting development of green technologies

2. What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?

The role of CCUS has not yet been incorporated into national strategies. In 2021 there was a survey carried out by TalTech and University of Tartu on climate change mitigation through CCS and CCU technologies (ClimMit).

3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

No

4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

To enable the development of renewable energy, one of our key priorities is the use of hydrogen. The National Roadmap of Hydrogen is currently under development.

Innovation

1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?

The RRF (The Recovery and Resilience Facility instrument) is invested in green technology development programs aimed at contributing to the green revolution of the economy by promoting the development and diffusion of innovative green technologies and solutions. The investment complements existing start-up development activities, emphasizing environmental aspects. As a result, there is a desire to increase the number of strong and research-intensive green technology companies in the market.

RRF funds will be used to provide services necessary for the development of green technology start-ups. To this end, procurement will be carried out to create innovative development clusters. The aim is to bring together organisations already operating in the market, universities, entrepreneurs and other stakeholders, to help startups to get from the idea level to the phase of development of the prototype. In the next stage, there will be a grant for the startups to give them boost for creating new solutions and prototypes.

RRF funds will also be directed to the provision of verified and comparable environmental data, which is the basis for modeling Estonian green technologies and developing applicable results.

Through these activities, the number and quality of start-ups operating in the market will increase and the volume of development programs that can support their development will also increase.

Budget of RRF is about 8 mio EUR.

Funds from emission trading system (via state budget) are invested in green technologies for development countries such as innovative water treatment solutions, sustainable forestry application etc. Budget of ETS is annually about 1 mio EUR. Additionally, a call for competitions, hackathons and educational programs on climate solutions and technologies has started in 2021.

Funds from environmental taxes (via state budget) and environmental program are invested in youth green technology competition Negavatt and open calls. Budget of Negavatt is 100 thousand EUR, budget of EP is annually 13 million EUR, however the investments are depending on project ideas received from target groups. Innovation and research has been subject of interest in circular and blue economy.

EU Horizon Europe cluster 5 aims to fight climate change by better understanding its causes, evolution, risks, impacts and opportunities, and by making the energy and transport sectors more climate and environment-friendly, more efficient and competitive, smarter, safer and more resilient.

Current research and innovation activities focus on

- climate science
- polar and ocean research
- climate resilience and adaptation to climate change
- knowledge for climate neutrality
- forest fires and extreme weather events
- nature-based solutions
- education on climate change
- citizen engagement and behaviour change

EU Mission Adaptation to Climate Change aims to support at least 150 European regions and communities towards climate resilience by 2030. The mission will foster the development of innovative solutions to adapt to climate change and encourage regions, cities and communities to lead the societal transformation. It will help to maximise the impact of the EU's support to research and innovation and demonstrate its relevance for society and citizens.

2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?

The focus of the investment is on energy and resource efficiency, the promotion of the circular economy, new business models, digitalisation and automation. Detailed focus areas:

https://www.hm.ee/sites/default/files/htm_taie_rdie_focus_areas_factsheets_en_a4_5mmb1.pdf
https://www.hm.ee/sites/default/files/taie_arengukava_kinnitatus_15.07.2021_211109a_en_final.pdf

3. What effects are expected from current support measures?

We expect that measures will accelerate the development of green technology, both to provide solutions to our own problems and to reap the benefits of global trends. It will bring new green start-ups and know-how to the Estonian market. Supported projects will contribute both directly and indirectly to the reduction of greenhouse gas emissions and increase of resource productivity in Estonia by implementing the potential of new solutions.

International cooperation

1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

In the area on Biodiversity and climate change, cooperation between countries is mostly carried out in the framework of CDB, UNFCCC and Bern convention frameworks, where we have good cooperation with our neighboring countries. To name some of the more regional cooperation initiatives and joint projects, we can name some examples that are interlinked with climate and biodiversity:

Finland and Estonia „The Flying Squirrel LIFE project“ aims to improve the conservation of flying squirrels in Europe through co-operation. The project brings together key actors in land use, such as land-use planning and forestry, as well as information on the habitat networks of flying squirrels. Changes in forest cultures (from coniferous to deciduous forest) and loss of habitat of species is interlinked with changing climate and increasing temperatures, where the deciduous forest cultures are more favorable because of rapid growth and species climate resilience. This on the other hand might not be favorable to the species whose habitat will be changing because of this. Project page: <https://www.metsa.fi/en/project/flying-squirrel-life/>

Finland, Sweden, Estonia „LIFE Revives project“ aim to improve the ecological conditions of freshwater pearl mussel populations across Finland, Sweden and Estonia. Many countries in Europe, as well Estonia, have gone through a transition in the last decade and many of the rivers have been made accessible for migratory fish and species (i.e. mussels), and their ecosystems have been restored. Similarly many countries are still facing the problem of impoundment of rivers and the effects on riverine habitat. On top of the paradigm on green energy production that is needed for green transition and achieving of climate neutrality and shifting the energy low greenhouse emissions. Project page: <https://www.jyu.fi/science/en/bioenv/research/natural-resources-and-environment/life-revives>

Estonian and Latvian project "WOODMEADOWLIFE" for the period of 2021-2025. Meadows are considered to have high value in binding CO₂ and nature solutions as such kind hold a huge potential in being natural stocks of CO₂. Project page not available yet.

2. Are increased cooperation and the implementation of joint projects planned for the future?

Increased cooperation and sharing of best practices between countries, especially with neighboring countries who are experiencing similar challenges and have the same natural and climatological environment, is a high priority for Estonia. We are open for future cooperation and have multilevel cooperation with our neighboring countries between different institutions (ie. Environmental Board) private sector and universities. Estonia is also a member of The Baltic Marine Environment Protection Commission (HELCOM) where biodiversity and climate interlinkages are investigated and where there is a cooperation between countries around Baltic Sea to restore and ensure the protection of nature protection areas and species, as well in the changing climate.

Some more concrete projects planned for the future, planned but not yet confirmed:

- Latvia and Estonia planned a project in GrassLIFE2 for the period of 2022-2027 “Semi-natural grasslands restoration“.
- LIFE BEEscapes project for the period of 2022-2027 „Pollinator research and habitat restoration“.
- Participation in HELCOMs project “Strategic and Transboundary Approaches Towards Effective Governance and Improved Capacity for Conservation in the Baltic Sea” in LIFE-SNAP for the period 2022-2027.

On top of what is already mentioned we see that in the future there would be high value to understand the interlinkages between biodiversity and climate change. On a more regional level to have more cooperation between our neighboring countries on species management plans (for example on management of large carnivores) and on how to deal with invasive species in changing climate.

3. What effects are expected as a result?

Cooperation between countries for better management of biodiversity and adaptation of climate change. Results of the planned projects can be found in the Project pages referred in the previous question.

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

From 2018 Estonia decided to support developing countries through the annual round of project calls. Estonia aims to support different mitigation and adaptation oriented projects and take into account the needs of the destination country. Up to now there has been 3 application rounds carried out and 4th in undergoing, with total amount 1,33 million euros already invested in developing countries and another 1 million to be allocated in 2022 (4th round) Projects carried out in Bangladesh, Myanmar, Grenada, Kenia, South-Africa, Costa Rica, Burkina Faso and other countries.

Estonia allocated an additional 1.5 million euros in 2021 to international climate change collaboration and supporting developing countries. Contributing €1M to the Least Developed Countries Fund to support climate mitigation and adaptation and 400 000 € for the development of DEAL under UNEP. DEAL is a multi-sector initiative with the aim of uniting global efforts towards accessible and quality environmental data using the latest technologies. In addition there are other smaller contributions on IPCC, IPBES, UNFCCC Trust Fond etc.

Adaptation

1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?

The national framework for adaptation to climate change is set out in the document in the Climate Change Adaptation Development Plan until 2030 (KOHAK) <https://envir.ee/media/912/download> (in English), which was adopted by the Government of the Republic on 2 March 2017 with the accompanying implementation plan for the period 2017-2020.

2. If that is the case, could you indicate its main objectives, policy tools and measures?

The main objectives and measures are listed in the adaptation plan document (in English) linked above.

Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

Everyone, as well the general public and stakeholders, as well industry, scientific community, NGO-s, civil society and youth is involved through public consultations to the compilation of national development plans and strategies, as well in the matter of climate action and biodiversity.

Ministry of the Environment has a climate communication strategy and action plan for increasing climate knowledge in overall population. The action plan involves thematic articles (experience stories, knowledge sharing etc.), making of visual graphic about ETS and ESR, trainings for

journalists on the topic of climate change, short clips about climate topics, actively offering climate topics for media debates, events, programs, keeping Ministry's webpage up-to date etc.

2. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

Estonia has involved youth representatives to COP26 last year, to involve the younger generation more strongly.

Since June 5, 2019, the Youth Environmental Council has been an advisory body to the Ministry of the Environment. The aim of Youth Environmental Council is to advise the Ministry in decision making, to represent the environmental interests of young people and youth organizations both in Estonia and internationally, to give Estonian young people the opportunity to raise important environmental issues, to be involved in environmental discussions and policy-making and to contribute to increasing the environmental knowledge of young people through various activities.

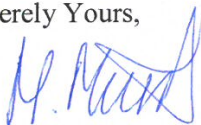
3. Are there plans to increase such initiatives in the future?

We are planning on continue involving youth representatives to COP events.

The Youth Environmental Council will continue its work.

Please let us know if any additional information is needed.

Sincerely Yours,



Meelis Münt
Secretary General



Finland



Ympäristöministeriö
Miljöministeriet
Ministry of the Environment

Lausunto

1 (22)

10.3.2022

VN/3440/2022
VN/3440/2022-YM-3

Mika Laaksonen
Kansainvälisten suhteiden asiantuntija
Itämeren parlamentaarikkokonferenssin Suomen valtuuskunnan sihteeri
00102 EDUSKUNTA

Viite: Lausuntopyyntö BSPC WG CCB -työryhmältä 5.10.2021

Lausunto Itämeriparlamentaarikkokonferenssille

To: BSPC Working Group on Climate Change and Biodiversity (CCB)

Please find below the answers to the Intergovernmental survey (adopted by the BSPC WG CCB on 4 October 2021) on the mitigation of climate change and on the protection of biodiversity from the Finnish Ministry of the Environment.

I. General information on the measures and strategies in the BSPC member states and regions

Climate change

Could you give a policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures? The report should preferably be structured according to the following policy areas:

1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);

The government will present a new National Climate and Energy Strategy and a Medium-term Climate Policy Plan in 2022. The Climate and Energy Strategy will cover all of Finland's greenhouse gas emissions and sinks in the emissions trading sector, the burden-sharing sector and the land use sector. The medium-term plan and the strategy have been prepared in parallel. They are based on a common knowledge base, such as the baseline scenario for energy use and emissions.

The Medium-Term Climate Policy Plan applies only to the so-called effort-sharing sector, i.e. non-emissions trading sectors other than the land use sector. The burden-sharing sector includes transport, agriculture, district heating of buildings, construction machinery, waste management and emissions of F-gases and emissions from non-trading industries and other energy uses. According to the Commission's proposal, Finland's greenhouse gas emission reduction target for the effort-sharing sector by 2030 is to be 50% compared to 2005 levels. The current actions in the baseline scenario are not sufficient to achieve the targets. The Medium-term Climate Policy Plan assesses the actions to be taken and how emissions will be reduced for the effort-sharing sector so that the objective of carbon neutrality can be achieved. The plan has been prepared in parallel with the climate and energy strategy.

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Lausunto

2 (22)

10.3.2022

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Moreover, the government adopted a roadmap for fossil-free transport in May 2021. According to the roadmap, Finland will reduce emissions from domestic transport by at least 50 per cent compared to the 2005 level by 2030. The aim is to achieve an entirely fossil-free transport sector by 2045. The Roadmap includes three phases. In the first phase, the Government will implement a wide range of aids and incentives to promote emission-free transport. Among these are the inclusion of biogas and electric fuels in the distribution obligation legislation, various aids related to the procurement and distribution infrastructure of electric and gas vehicles, support for promoting walking, cycling and public transport services, transport infrastructure maintenance and digitalisation in logistics.

In addition, in accordance with Sanna Marin's government program, the industry sectors have prepared their own low-carbon roadmaps in co-operation with the authorities. In their roadmaps, the industries present emission reduction opportunities and the conditions for their implementation.

2. Critical sectors where the need for additional measures is imminent;

Overall, Finland has successfully met internationally agreed targets for reducing greenhouse gases (GHG). It reached its Kyoto Protocol target (20% emissions reduction by 2020 compared with 1990) in 2018.

Finland's GHG emissions declined by 24% between 2005 and 2019. Emissions decreased in all sectors but agriculture. The energy industry and manufacturing sectors showed the largest declines due to a shift from fossil fuels and peat to low-carbon energy carriers (electricity, biofuels). Overall, emissions included in the EU Emissions Trading System (ETS, mainly power plants and energy-intensive industry) declined much more than the emissions in the effort-sharing sector in 2010-19 (by 44% compared to 12% in the non-ETS sectors). However, the decrease of both groups of emissions slowed down with the more sustained economic growth of the second half of the 2010s, until the COVID-19 pandemic hit the world economy in 2020.

In 2019, the EU ETS covered 45% of Finland's GHG emissions, calling for focusing mitigation efforts in the non-trading sectors. In 2019, the energy industry (31%), transport (21%) and manufacturing (12%) accounted for the largest shares of emissions, followed by agriculture (12%) and residential (10%).

Overall, in keeping with the Government Programme, electricity and heat production must be made nearly emissions-free by the end of the 2030s while also taking into account the perspectives of security of supply and servicing. After the energy industry, transport is the second largest source of emissions – and the largest in the effort sharing sector – in Finland. Measures to reduce transport emissions play a key role in attaining the 2030 target in the effort sharing sector. Reducing emissions from the land use sector is also critical, as well as strengthening carbon sinks in the long and short term.

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Lausunto

3 (22)

10.3.2022

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3. Current and planned mitigation measures;

The government will present a new National Climate and Energy Strategy and a Medium-term Climate Policy Plan in 2022, including the latest measures to mitigate greenhouse gas emissions. While these are still under revision, of the effort-sharing sector, the roadmap for fossil-free transport was adopted already in May 2021. The measures of the three-phased roadmap are particularly relevant for road transport, which accounts for the majority of transport emissions. The overall targets defined in the first phase are

1.Replacing fossil fuels with alternative power sources (including measures like developing infrastructure for distribution of electricity and biogas and including biogas and electricity to distribution obligation legislation)

2.Speeding up the vehicle replacement rate (including measures like continuing incentives for purchasing an electric car or converting a car to use ethanol or biogas)

3.Increasing efficiency of traffic systems (including measures like promoting walking and biking and public transport, increasing incentives for public transport in medium-sized and big cities)

In the draft Medium-term Climate Policy Plan the agriculture section includes

1.Measures related to changes in land use (including, e.g. limiting clearing of forests for new fields, limiting transferring former peatlands for agricultural use, promoting reforestation, transferring farmland to wetlands)

2.Measures related to use of fields and methane emissions from dairy farms (e.g. use of precision agriculture, reducing methane emissions using specific forage)

Related to warming of buildings, supporting the replacement of oil heating with other techniques is a key measure. Also in construction machinery the replacement of fossil fuels is a key measure, e.g. increasing biofuel distribution obligation and promoting change to electric alternatives.

4. Measures and strategies for adaptation to climate change.

Adaptation measures are laid out in the National Climate Change Adaptation Plan. The National Climate Change Adaptation Plan is part of the climate policy planning system regulated by the Climate Change Act. The current plan was adopted in 2014. The plan specifies the key measures in support of adaptation that was to be implemented in the next few years from its adoption. A new Adaptation Plan is currently being prepared in The Ministry of Agriculture and Forestry.

The European Commission adopted a new adaptation strategy in February 2021. It aims to strengthen climate change preparedness and adaptation as part of building a climate-resilient, carbon-neutral Europe by 2050. The Climate Change Adaptation Strategy links adaptation to all policies. The strategy commits the EU and its Member States to continuously promoting adaptation capacity, strengthening resilience to vulnerability and reducing vulnerability to climate change. The European Climate Law, on the other hand, requires Member States to develop and monitor the implementation of comprehensive adaptation strategies and / or plans.

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Ministry of the Environment

Lausunto

4 (22)

10.3.2022

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Biodiversity

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?

Finland is currently preparing a new National Biodiversity Strategy and an action plan to 2030. This process will be completed in 2022. Assessment of Finland's previous biodiversity strategy, covering 2013-2020, concluded that although some aspects have seen progress, the action taken was not effective enough to halt the loss of biodiversity.

The new strategy will enhance the protection of biodiversity and promote the restoration of degraded ecosystems. In addition, methods to measure the actions and their impacts will be developed. The strategy takes into account the objectives of the UN Convention on Biological Diversity and the new EU Biodiversity Strategy.

A new Biodiversity Strategy will be needed as the biodiversity of Finnish natural environments continues to decline. The decline is even faster than before if measured by the number of threatened species. The aim of the strategy is to halt the loss of biodiversity and turn the trend towards recovery by 2030.

The Government approved in December 2021 the updated Finland's Marine Strategy. The Marine Strategy applies a holistic ecosystem based approach, and the marine biodiversity component is very strong in all parts of this strategy. The strategy consists of three parts: the Initial assessment of the state of the marine environment, determination of a good status and environmental objectives with indicators (2018), Monitoring Programme for Finland's Marine Strategy (2020-2026) and Programme of Measures of Finland's Marine Strategy 2022–2027. The Strategy covers Finland's territorial waters and the exclusive economic zone.

The report 'Status of Finland's Marine Environment 2018' presents an assessment of the state of the marine areas in 2011–2016. It also covers human-derived pressures on the marine environment, and includes an economic assessment which shows the value of achieving good environmental status.

The Monitoring Programme for 2014–2020 consists of 13 programs, with a total of 44 sub-programmes under which information is collected on species, biotopes, the quality of marine water, and pressures on the marine environment. A responsible authority was appointed for each sub-programme.

The updated Programme of Measures of the Marine Strategy in Finland aims to improve the status of the marine environment and reduce pressures on it. The programme of measures gives an overview of the measures taken so far for improving the status of the marine environment. It also sets out 63 new measures for implementing the marine strategy and presents an environmental report, analysis of the costs and benefits of the measures, and assessment of the impacts of the measures. Out of these 63 new measures, 9 are directly linked to improve the state of marine biodiversity.

The Marine Strategy is closely connected to river basin management plans, which cover coastal waters, lakes, rivers and groundwater. The updated river basin management plans for 2022-2027 were approved by the government in December 2021. The river basin management plans include measures to reduce pressures from catchment area, e.g. in agriculture and forestry, industrial and domestic wastewaters etc. In addition, the river basin management plans include measures for restoration of water bodies, including restoration of lakes, glo lakes and eutrophicated bays in the coastal area, removal of migration barriers and restoration of spawning habitats, and in restoration of eutrophicated lakes.

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2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine?

Findings from the Red List of Finnish Species (2019) indicate that for example fells, mires, forests and rural biotopes are habitats of specific importance for the protection of biodiversity in Finland. Species are becoming threatened the fastest in fell areas, mires, aquatic habitats and rock outcrops. Only some improvements have occurred among species living in such areas.

The majority of threatened species live in forests and rural biotopes, as well as other environments established as a result of human activity. Part of the species in such habitats have become threatened, but at the same time, the situation has improved for other species. As a whole, species in such habitats are declining at a slower pace than in fell areas and mires. The forests and rural biotopes are home to the largest number of species, which partly explains the large number of threatened species.

The knowledge on underwater marine habitats and species has increased significantly in recent years, thanks to The Finnish Inventory Programme for the Underwater Marine Environment (VELMU). Some underwater habitats can be considered especially important for maintaining biodiversity and functioning of the ecosystems. On soft and sandy bottoms these include e.g. habitats characterised by pondweeds and other marine vascular plants as well as eelgrass meadows. Healthy infaunal communities (i.e. animals living within the sediment) are important for maintain biogeochemical cycling. Also coastal reed belts are important for biodiversity, although their increase is often considered a negative result of eutrophication. On rocky bottoms, bladderwrack belts and blue mussel beds maintain high biodiversity.

The second assessment of threatened habitat types in Finland (2018) listed a total of 42 Baltic Sea habitats, of which 10 were estimated to be threatened: bladderwrack and red algal bottoms, Monoporeia/Pontoporeia shrimp bottoms, Unionid mussels bottoms as well as estuaries were considered endangered (EN); sheltered charophyte bottoms, eelgrass bottoms, sea ice, flads and glo-lakes were listed as vulnerable (VU). Four habitats were considered near threatened. However, 14 habitat types were classified as data deficient (DD), which shows that our knowledge of underwater marine habitats still needs improving.

Of the endangered species, 19 live primarily in the Baltic Sea (12.2% of endangered species in the waters, and 0.7% of all endangered species). The Baltic Sea is home to 83 Red List species living primarily in water (18.2% of Red List aquatic species and 1.2% of all Red List species). The majority of these are algae, fish and birds. Most of the species on the Baltic Red List live on rocky and boulder bottoms.

3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.

The most important societal driver behind biodiversity loss is the use of our natural resources, especially forest resources. The most extensive habitat type in Finland is forest, and over 40% of our species live in forested habitats. In the Red List of Finnish Species (2019), the number of forest species considered to be threatened was clearly the highest, almost one third of all threatened species. Forest industry products account for one fifth of Finland's goods exports. So far, economic growth has inevitably meant using natural resources to an accelerating extent, and it has not been possible to decouple increasing material well-being from the decline in biodiversity.

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Due to changes in agricultural practices, the percentage of threatened species in rural biotopes and cultural habitats was also considerable, almost a quarter of all threatened species. According to the Red List of Habitats (2018), the share of threatened habitats was also the highest in seminatural grassland and wooded pastures as well as in forests. The rate of loss of meadows, wooded pastures and grazed woodlands has been very high and the quality of these habitats has also declined. Traditional livestock farming practices have been discontinued or been altered so that they are less sustaining of the characteristic features.

The most rapid increase in threatened species and habitats has occurred in alpine habitats, where the impact of climate change is most evident. In aquatic habitats, the situation is worst on the coast, in streams and in small water bodies. Southern parts of Finland host the highest number and share of threatened species and habitats. This is due to a high level of pressures from land use and water constructions (e.g. dredging, ditching and damming) causing morphological alterations.

Eutrophication continues to be the most important threat to underwater marine habitats in the Baltic Sea. It was considered to be the most significant cause of deterioration for almost all threatened (Vulnerable, or Near Threatened) marine habitats, such as biotopes consisting of bladderwrack (2 species of the brown algae family *Fucus* sp.), red algae, Stoneworts, common eelgrass, habitats with *Pontoporeia* species (small crustaceans) and some of the mussel habitats (with *Unio* species). In the future, climate change is expected to exacerbate the eutrophication of the Baltic Sea and, in the long run, a decrease in the salinity of the seawater may significantly change the ecological communities.

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II. Legal basis of the measures and strategies in the BSPC member states and regions

1. What are the main provisions to combat climate change?

An important piece of legislation regarding the combat of climate change is the national Climate Change Act (609/2015). The Act is currently being revised. More on the Act in subsection 2. There is also other relevant legislation. For example, a national act banning the use of coal for energy generation in 2029 was passed in 2019 (416/2019).

Finland is bound by the objectives, obligations and political decisions of the European Union's climate and energy legislation. At the heart of EU climate policy are emissions trading, national targets for non-trading sectors, ie. the burden-sharing sector, and the LULUCF sector for land use, land-use change and forests. The Regulation on the governance of the Energy Union is a key instrument in EU climate regulation. The governance model is the monitoring system of EU's climate and energy policy, which guides the goals of the Energy Union and the realization of emission reduction targets.

2. Is there a climate protection law?

There is a national Climate Change Act, which was passed in 2015. The Act is currently being amended; the government bill was handed over to Parliament 3 March 2022. The Act is to enter into force in July 2022. The new Act will include the national target on climate neutrality by 2035.

Furthermore, new emission reduction targets for 2030 (-60 % compared to 1990 levels) and 2040 (-80 % compared to 1990 levels) will be included in the Act and the current target for 2050 will be updated (90 % compared to 1990 levels, but aiming for -95 %). A new target concerning stronger carbon sinks will also be added to the Act and the planning system will be extended to the land-use sector. There are also new provisions on the rights of the indigenous Sámi people, who live in the North and will suffer from climate change.

3. What are the main provisions on biodiversity?

The most important national legislation on biodiversity is the Nature Conservation Act (1096/1996), which is currently being revised. In addition to the Nature Conservation Act, guidance on planning and other land-use have impacts on biodiversity. These are mainly regulated by the Land Use and Building Act (132/1999), which is also under revision. The Nature Conservation Act implements the Habitats Directive (1992/43 / EEC) and the Birds Directive (2009/147 / EC) 81, which are the main legal instruments of nature protection in the European Union.

4. Is there a law protecting biodiversity?

Please see the text above on Nature Conservation Act.

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III. Specific areas and aspects

A. Maritime areas and protected zones

1. How exactly are maritime areas protected?

The marine protected area (MPA) network in the Finnish marine area consists of different types of protected areas. Most of the MPAs are a part of the Natura 2000 network and cover about 9.9% of the marine areas. The HELCOM MPA network covers about 7.7 % of the Finnish marine areas, but except for one area in southern Åland, they overlap with Natura 2000 sites (See Figure 1 for overlap between protected areas). There are also six marine national parks. However, water areas are not included in the Eastern Gulf of Finland National park, only islands. Protected areas in private waters (YSA) cover about 1.9 % of the marine areas. In addition, Finland has one marine Unesco World Heritage Site in Kvarken area and several RAMSAR wetland conservation sites. The different types of protected areas are summarized in table 1.

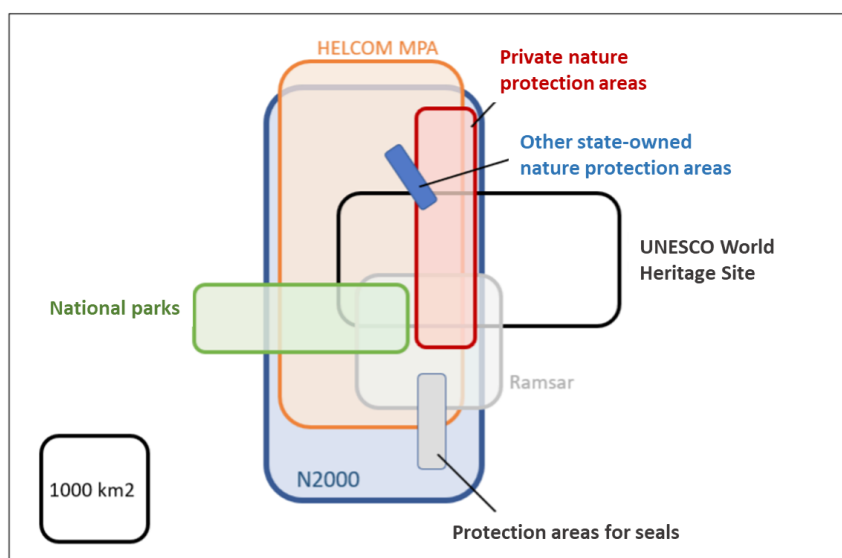


Figure 1. Rough illustration of coverage and overlap between different types of nature protection areas within the Finnish marine area.

In total, marine MPAs cover approximately 11 % of the Finnish marine waters. (including territorial waters and the EEZ). Therefore the current Aichi 11 target of 10% set in the Convention on Biological Diversity is reached.

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Table 1. The types of protected areas within the Finnish marine area, their classification according to the IUCN protection classes (with class I representing the highest level of protection and their coverage (in %) of the Finnish marine area. Natura 2000 sites or other areas included in the international networks (HELCOM MPA, Unesco World Heritage Sites, Ramsar sites) are not generally classified to IUCN classes but here corresponding IUCN classes are presented in brackets. The different types of protected areas overlap, and thus, their coverages cannot be summed. Percentages have been calculated 1.10.2020.

Protected area type	Protection level according to IUCN classification	Number of areas	Percentage (%) of the Finnish marine area	Legal Framework
National parks	II	5	1.9	Nature Conservation Act (1096/1996)
Private protection areas	I-IV	619	1.9	
Protection areas for seals	IV	7	0.2	
Other state owned protection areas	I-V	42	0.1	
Natura 2000 sites (SAC, SCI, SPA)	(IV)	170	9.9	Partly Nature Conservation Act (1096/1996), partly other legislation, e.g. Water Act or Fishing Act
HELCOM MPAs	(IV-V)	34	7.7	International
Ramsar sites	(IV-V)	17	2.2	

During the past decades the coverage of protected areas in the Finnish marine area has increased, mainly due to expansion in the Natura 2000 network. A considerable addition to the network was achieved in 2018 with large additions to the Archipelago Sea and Tulliniemi Natura 2000 areas. New areas were also included in the HELCOM MPA network. However, as the ambition in protection level increases both at EU level and globally (CBD), the existing network of marine protected areas needs to be further developed. At EU level, the target is to protect 30% of marine areas, of which 10% should be strictly protected. Nationally, the aim of expanding the network has been included in the Programme of Measures for Finland's Marine Strategy 2022-2027. When expanding the network, also other area-based conservation measures can be considered (Other Effective Conservation Measures, OECM). The concept and criteria for OECMs are currently under discussion both nationally and in a Baltic-wide context within HELCOM.

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2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?

There is currently only few strict zero-use zones within the marine protected areas, for example the core areas within the protection areas for seals. The set regulations on protected areas depend on the type of the area, and they vary also area-specifically, depending on the nature values that the area is aiming to protect. The improvements in protection efficiency are planned to take place via updating the management plans for protected areas, or through evaluating the state of the Natura areas (NATA evaluation), with the aim to improve the protection of especially key species and key habitats. These actions are taken for example within the LIFE IP project BIODIVERSEA. Furthermore, one of the aims set in the Programme of Measures for Finland's Marine Strategy 2022-2027 is improving the efficiency of the MPA network, in the light of the EU Biodiversity Strategy aiming for 10% strictly protected marine areas. However, at this point, the criteria for strict protection are still under development.

3. What actions has your country taken to create functioning coastal ecosystems?

HELMI habitats programme (2021-2030) led by the Ministry of the Environment, aims to strengthen Finland's biodiversity and safeguard vital ecosystem services. One of the target areas in the programme, is restoring coastal habitats, such as sandy beaches and small water bodies, e.g. coastal lagoons. For example Natural Resources Institute (Luke) has already carried out restoration of coastal lagoons in 2019-2021, with the aim to improve their value as nursery areas for coastal fish.

The restoration of key habitats (charophytes and eelgrass, flads and glo-lakes) is included in the Programme of Measures for Finland's Marine Strategy 2022-2027. A national plan for restoring marine habitats will be made within the EU LIFE IP Project BIODIVERSEA (2022-2029). Within the project, also restoration measures for key habitats (charophytes and bladderwrack) will be piloted and based on the results, best practices for restoration will be established. The restoration of eelgrass has already been successfully piloted by Parks & Wildlife Finland and WWF in 2020-2021.

In addition, the Programme of Measures for Finland's Marine Strategy 2022-2027 includes many other concrete measures to enhance functioning of coastal ecosystems, e.g. removing reed to support biodiversity, reducing impacts of recreational boating on underwater vegetation, and to improve management and reduce impacts of small-scale coastal dredging that often has negative impacts on shallow coastal areas.

Construction in coastal areas is regulated through Land Use and Building Act (5.2.1999/132) and certain types of actions (e.g. dredging > 500 m3) require permits from local authorities (Water Act 587/2011). Larger-scale constructions and activities require Environmental Impact Assessments (EIA, Act on Environmental Impact Assessment Procedure 252/2017).

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B. Eutrophication

1. What actions does your country take to fulfil the BSAP and other directives?

Eutrophication is the main challenges for the ecological status of the inland and coastal waters, and the by far the main challenge for the Baltic Sea. The main pressures for eutrophication are nutrient loading from diffuse sources, mainly agriculture. In addition, new studies have shown the impact of forestry, especially the role of drained peatlands.

The river basin management plans set out measures needed to reduce the nutrient loading from different sources in order to achieve the good ecological status. The measures in agriculture include e.g. buffer zones, winter time vegetation, wetlands and water management, nutrient recycling and amendment of phosphorus binding materials like gypsum or structural lime. The measures have been coordinated with the preparation of CAP strategic plan in order to ensure effective implementation. In addition to CAP strategic plans other programs such as the water protection program are utilised to improve the implementation of the measures.

New government decree on phosphorus use is being prepared. Nitrates directive is implemented by government decree on limiting certain emissions from agriculture and horticulture. Degree sets requirements not only for the use of manure and other nitrogen fertilizers but also for organic fertilizer preparations.

Measures in forestry include improved water management and retention of nutrients and suspended solids. The treatment of urban waste waters will be improved through a green deal agreement.

The total load of nutrients from Finland into the Baltic Sea has levelled off or decreased somewhat over the last 25 years, but is far from sufficient to achieve good eutrophication status of the sea. According to the marine management objectives, good status should have been achieved by 2020 at the latest and according to HELCOM's Baltic Sea Action Plan in 2021. No good status has been achieved in any coastal water or offshore area in the Finnish sea areas in terms of eutrophication.

HELCOM's Baltic Sea Action Plan sets annual reduction targets for phosphorus of 356 tonnes and 3030 tonnes of nitrogen for Finland's offshore areas. According to the latest estimate, which extends to 2017, the phosphorus load reduction requirement is 455 t/y, of which 102 t/y applies to the Bothnian Sea/Archipelago Sea and 353 t/y to the Gulf of Finland. The need for reduction has therefore increased compared to the original reduction target, due to the fact that the phosphorus load in the Bothnian Sea/Archipelago Sea has increased from the reference level. Finland should reduce its nitrogen load by a total of 1,870 t/y: in the Bothnian Sea/Archipelago Sea by 129 t/y and in the Gulf of Finland by 1,741 t / y.

The results show that the effect of weather conditions on diffuse pollution is so great that even if the period under consideration is six years or more, a single deviating year can have a significant effect on the result. For this reason, the current load ceilings, based on the 2006-2011 load, appear to underestimate the need to reduce nutrient loads. The load ceilings are to be updated using a longer period in the definition and taking into account the variation in weather conditions and flows as much as possible. In addition, national methods for assessing coastal water pressures, abatement needs and load ceilings will be harmonized as far as possible with HELCOM's offshore assessment. The assessment should also take into account the effects of load reductions at sea and time delays in improving the state of the sea.

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The Finnish Marine Strategy is explained in more details in the Biodiversity section above, but here below we explain the work related to eutrophication reduction and the impact from eutrophication.

A total of 13 measures to reduce eutrophication are included in Finland's updated Programme of Measures (POM) in the new Marine Strategy for 2022 – 2027. These are related to food consumption, use of fish as food, circular economy in farming and biogas production, use of sludge from wastewater plants, reduction of diffuse input from farming and fur-farms, use of seabuckthorn to reduce eutrophication from the drainage area run-off. Furthermore, four measures to reduce nutrients from maritime traffic are included, e.g. related to ship wastewater, greywater, foodwaste (study) and, reductions of loss of transported/moved nutrients from ships. Additionally, there are two measures related to internal nutrient load and to removal of dead and decomposing algal biomass.

Finland is also fully committed to carry out the actions for nutrient reduction listed in the HELCOM Baltic Sea Action Plan, linking them to the national POMs. The eutrophication actions of the updated BSAP aim to achieve concentrations of nutrients close to natural levels, clear waters, natural level of algal blooms, natural distribution and occurrence of plants and animals, and natural oxygen levels.

2. Which objectives of the Baltic Sea Action Plan are planned to be realized in your country by when and by which measures?

We are currently in the planning the national implementation of the Baltic Sea Action Plan, and begin by checking how the BSAP actions link to our national POM, and checking the time table for the BSAP vs. national POM. Finland, like other HELCOM Contracting Parties, is committed to carry out the BSAP in full.

3. How can we speed up the work?

Implementing the BSAP actions and the national POM of the marine strategy will require long term funding. The "Programme to enhance the effectiveness of water protection" launched by Finnish Government aims to make Finland a world leader in effective water protection. Finland will continue the intensified Baltic Sea and water protection programme within at least the current scope during the parliamentary term to achieve a good ecological and environmental status of waters.

The review of the Marine Strategy Framework Directive (MSFD) will include an impact assessment that is likely to show ways to speed up the work towards a better state of the marine waters.

Other ways to speed up the work relates to communication of how to achieve the good environmental status of the Baltic Sea by carrying out the POM and the BSAP. To achieve this, the communication and dialogue with stakeholders and politicians is fundamental (national politicians as well as the BSPC).

All the work aimed at achieving a good environmental/ecological status should and will be linked to ongoing larger policies, such as the EU's Green Deal and the associated Biodiversity Strategy and funding programmes such as the EU MFF. Furthermore, linking all actions/measures to global initiatives and policies is important, such as the UN One Ocean, UN Decade of Ocean

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Science, and the Sustainable Development Goals, in particular goal 14. Also the aims to achieve a global treaty to curb plastic waste will have a positive impact on marine litter reduction.

C. Sea-dumped munitions

1. Are there areas in your territorial waters that are contaminated with ammunition?

During the World War II about 60 000 mines were laid in the bottom of Gulf of Finland, and Gulf of Finland has been estimated to be a marine area with most mines in the world. Finnish Navy has been mapping and clearing mines and other explosives for decades; nobody can give an exact number how many unexploded ordnance have been cleared and how many are still lying on/within the seabed. Finnish Navy carries still yearly clearing operations of submerged munitions.

2. What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?

The main strategy of the Government for dealing with dumped munitions is to let Finnish Navy carry on clearance operations of the munitions when needed; especially when submerged objects endanger shipping and marine infrastructure.

Finnish Environment Institute SYKE and Verifin have taken part in several international projects dealing with the problem of unexploded ordnance (UXO) and chemical munitions, like Chemsea and Daimon. These projects give valuable information on the impact of UXOs to the marine environment and how to tackle this problem with the newest information and technology.

D. Towards zero pollution

1. Is your government following a zero-pollution action plan for air, water and earth?

Finland welcomes the Zero Pollution Action Plan and as an overarching view, we appreciate in particular all actions to reduce water pollution, the promotion of safe material cycles and support for circular economy.

In order to make it reality, we certainly need to boost our efforts towards effective environment and climate policies, but maybe even more important is that we ensure that pollution prevention will be integrated in all relevant EU policies.

2. What time horizon is planned for which intermediate steps and goals?

Finland welcomes the ambitious vision in the action plan towards 2050. Same is valid for the 2030 targets. Most of the targets will be met by implementing the current EU legislation and new Green Deal initiatives. The target on noise is an exception to this, as only small part of the measures needed for noise reductions are covered in the EU legislation.

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3. Which measures in this direction have already been initiated or are to be realised?

As for the actions, many of the existing and newly adopted actions in the Nordic countries, including Finland, are already covered in the background study of the Zero Pollution Action Plan.

Over the past decades in Finland we have demonstrated very significant improvements in the Energy Efficiency via voluntary agreements with industry sectors. More recently, we have adopted around ten different voluntary agreements with relevant actors in the areas of Circular Economy and Climate Change, which contribute also to the Zero Pollution goals.

It is clear that legislation as such is not enough and we would need to strengthen our efforts to improve implementation. Prerequisite for effective implementation is that all relevant legislation is up-to-date and takes into account the technical progress, that legal provisions are clear and enforceable and we have ensured sufficient resources, and that there is a wide public acceptance for the measures taken. On those points, more efforts are definitely needed during the coming decades.

4. What concrete projects for the avoidance of plastic pollution is your government supporting?

The Ministry of the Environment appointed in March 2018 a broad-based working group tasked with preparing a roadmap for plastics. The idea was to examine the challenges related to plastics and potential solutions to these and to define and prioritise short- and long- term measures to respond to the challenges. <https://muovitiekartta.fi/in-brief/>

The Plastics Roadmap identifies measures to reduce the harm caused by plastic waste and litter, help consumers take plastics to waste management, improve the efficiency of plastics recovery, recycling and product design, create conditions for investments and innovations in the circular economy, and make us less dependent on fossil raw materials by increasing bio-based and biodegradable solutions. There is also EU LIFE project PlastLIFE in preparation to support the implementation of the Plastic Roadmap, with the Ministry of the Environment and Finnish Environment Institute coordinating the consortium. The project proposal has been accepted and the second part of the application is prepared during spring 2022.

Addressing the plastics challenge requires a wide range of measures, some of them new ones. Voluntary actions are needed as well. One good example of the new ways to enforce the law and promote its objectives is the Plastic Carrier Bag Agreement concluded between the Ministry of the Environment and the Federation of Finnish Commerce. Replacing plastics and new solutions require more research, development work in the sector, and influencing people's attitudes. While some of the proposed measures could be launched and implemented quite quickly, actions spanning several government terms are also needed, and these should be started as soon as possible. Decisions in respect of State financing are made as part of General Government Fiscal Plan and the Budget.

Also the updated Programme of Measures of the Marine Strategy in Finland 2022–2027, approved by the Government in December 2021, includes four goals and 11 measures to reduce marine litter. The measures include e.g. enhancing collection of litter at their sources, especially in near shore areas and in leisure boat harbors, reducing microplastics especially from urban runoff, wastewaters, turfs and traffic. There are also measures to reduce plastics from agriculture and marine traffic.

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5. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?

There are no statutory (state wide) bans on the selling or use of the mentioned plastic products. Municipal regulations, however, may include local bans or restrictions on the use of these products.

E. Economy

1. What are the investment priorities of the state to reduce CO2 emissions?

On 16 December 2021, the Government issued a decree that will allow support to energy investments under Finland's Recovery and Resilience Plan in 2022–2026. The aim is to promote energy investment and energy infrastructure projects that reduce greenhouse gas emissions in Finland and support the country's 2035 carbon neutrality target.

The Recovery and Resilience Plan is part of the Sustainable Growth Programme for Finland, which, in line with the objectives of Prime Minister Sanna Marin's Government Programme, supports ecologically, socially and economically sustainable growth. In addition to climate objectives, the funding will also promote new business opportunities in sustainable growth for companies. Green transition funding will support companies' energy transition and enable the commercialisation of new technologies at the same time. The funding will be used to renew the economic structure and will help create new jobs.

Upon the adoption of the decree, The Ministry of Economic Affairs and Employment and Business Finland opened calls for applications related to the energy system transformation and industrial energy solutions of the Sustainable Growth Programme. The amount of available funding will total about 520 million euros.

The Sustainable Growth Programme has specified the following amounts of funding to energy investments:

- Investments in energy infrastructure: EUR 155 million
- Investments in new energy technology: EUR 155 million
- Low-carbon hydrogen and carbon capture and utilisation EUR 150 million
- Direct electrification and decarbonisation of industrial processes EUR 60 million

The funding will come from the EU Recovery and Resilience Facility (RRF). Above figures may still change, as the final amount of funding from the EU will be specified in summer 2022.

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2. What is the role of carbon capture, utilization and storage in achieving climate neutrality in the government's strategy?

"Carbon neutral Finland that protects biodiversity" is one of the strategic themes in Sanna Marin's Government Program. Under this theme, one of the objectives is "We will strengthen carbon sinks and stocks in the short and long term". The measures of the climate program for the land use sector will be assessed from the perspective of efficiency and cost-effectiveness. The program's measures include, but are not limited to, the following:

- o Safeguarding the management, growth capacity and health of forests
- o Advancing afforestation
- o Reducing deforestation
- o Means to reduce the emissions of swamps and peatlands
- o Climate-sustainable management of swamp forests
- o Reducing the emissions and strengthening the carbon sequestration properties of agricultural land

3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

A national act banning the use of coal for energy generation in 2029 was passed in 2019 (416/2019)

4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

There is no separate strategy regarding the use of hydrogen. However, low-carbon hydrogen was included e.g. as one of the themes in the Recovery and Resilience Plan (see answer to question 1 above).

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F. Innovation

1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?

The most important program, which includes the promotion of innovations related to climate protection and biodiversity, is the Sustainable Growth Program for Finland. This Programme will support growth that is ecologically, socially and economically sustainable in line with the aims of the Government Programme. The Programme will boost competitiveness, investment, research, development and innovation, and efforts to raise skill levels. Funding comes from the EU's Recovery and Resilience Facility (RRF) and is allocated in accordance with a national Recovery and Resilience Plan (a part of the Sustainable Growth Programme for Finland). Measures to reduce greenhouse gas emissions are included especially, in one of the four pillars of the Programme, Pillar 1: Green transition. The total funding for green transition is 822 M€ for the years 2021-2025.

Other related national programs include the Finland's Circular Economy Program, two different Nutrient Recycling Programs (coordinated by the Ministry of the Environment and the Ministry of Agriculture and Forestry), the Water Competence Growth and Internationalization Program, and the Program Enhancing Water Protection. These all involve innovation and aim to protect both the climate and biodiversity. Currently, these programs are also strongly linked to and receive some or all of the funding through the Sustainable Growth Program for Finland.

2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?

The measures in green transition will focus on the transition to carbon neutrality and circular economy especially in areas of transport, housing and industry. Component areas include energy systems, reforms and investments supporting the green transition and digitalisation in industry, low-carbon solutions for communities and transport, reducing the environmental and climate impacts of the building stock, and implementing environmental sustainability and nature conservation. The measures include for example phasing out oil heating in single-family houses, building charging infrastructure for electric cars, investing and RDI in the reuse of industrial side-streams as well as recycling nutrients from various by-products.

3. What effects are expected from current support measures?

The current support measures usually have a direct impact on climate protection and indirect impacts, for example, on the protection of biodiversity and restoring good water quality in waterways. There are several targets set for Finland in the future: Finland aims to be carbon-neutral by the year 2035 and to halt biodiversity loss by 2030. In addition, Finland aims to be the world's first fossil-free welfare society and is committed to halving emissions from traffic by 2030.

Green transition solutions will be accelerated to facilitate significant reductions in emissions in Finland and elsewhere to support national targets for carbon neutrality and circular economy. The aim is to make Finland a global leader in the fields of hydrogen and circular economy, high added value bio-products, zero-emission energy systems and other climate and environmental solutions; to improve energy efficiency; and to accelerate the transition to fossil-free transport and heating.

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G. International

1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

Joint projects with neighbouring countries on climate change and biodiversity protection are implemented with funding from the Ministry for Foreign Affairs of Finland (Baltic Sea, Barents Sea and the Arctic regions), Nordic Council of Ministers and e.g. Interreg and EU's CBC-instruments. Topics include climate change and ecosystem impacts, black carbon, protected areas, conservation (e.g. Kolarctic CBC project CoASal), invasive alien species (e.g. Karelia CBC project DIAS), and awareness raising and education.

Under the Finnish Chairmanship of the Barents Euro-Arctic Council and its Working Group on Environment, an updated version of the Barents Climate Change Action Plan was adopted by the Foreign Ministers of the Barents countries at the end of 2021.

In the Baltic Sea area, climate change and the protection of biodiversity are key issues also in maritime spatial planning (MSP). Cooperation on maritime spatial planning between the Baltic Sea countries is carried out in the joint maritime spatial planning working group of HELCOM (Environmental Protection Agreement) and VASAB (Ministerial Spatial Planning Cooperation). An ecosystem approach is applied to maritime spatial planning, with the key objective to preserve, protect and enhance the marine environment and nature. In its Marine Spatial Plan, Finland has identified very significant areas of underwater biodiversity (EMMA) as well as extensive renewable energy production areas. Finland participates in several EU-funded projects in the Baltic Sea area and Europe, which promote the consideration of climate change and biodiversity in maritime spatial plans.

2. Are increased cooperation and the implementation of joint projects planned for the future?

Finnish actors are actively involved in various international projects, funded e.g. by the European Union, Nordic Council of Ministers and through other regional instruments.

Action Plan on Climate Change for the Barents Cooperation has been adopted by the BEAC Foreign Ministers in October 2021. Implementation of this Action Plan will increase cooperation and launch of new projects in the Barents Region, which might have relevance for the cooperation on Baltic Sea, as well.

3. What effects are expected as a result?

As there are many ongoing projects, focusing on different parts of the ecosystem and different aspects of climate change and biodiversity, making an exhaustive list of specific results is difficult. However, in general the projects and programmes work towards preserving or restoring biodiversity (marine, riverine and terrestrial habitats) and towards minimizing emissions of greenhouse gases and pollution.

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

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Finland is a Party to the United Nations Framework Convention on Climate Change, the Paris Agreement and the Convention on Biological Diversity and contributes to many funds supporting the aims of those conventions. Support to developing countries is channelled through, for example, the Green Climate Fund, the Adaptation Fund, the Global Environment Facility, the Least Developed Countries Fund, the United Nations Environment Programme, the Multilateral Fund, and more.

H. Adaptation

1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?

Yes, Finland has a national climate change adaptation strategy (from year 2005, updated in 2014) as well as several sectoral adaptation plans (e.g. environmental sector and social services sector). In addition, there are some regional adaptation strategies and local strategies (municipal level). Finland is currently in the process of updating and renewing the adaptation plan and the new plan is expected to be ready in the end of year 2022.

A mid-term evaluation of the National Adaptation Plan (2014) was published in April 2019. The evaluation was coordinated by the Finnish Environment Institute (SYKE) and Natural Resources Institute Finland (Luke) and included a broad stakeholder engagement process.

Since 2015 there has been a regulatory duty established by the Climate Act to prepare a climate adaptation strategy at least in every ten years. The Climate Act is currently under reform and the regulation on adaptation has also been specified.

2. If that is the case, could you indicate its main objectives, policy tools and measures?

The main aim of the current National Climate Change Adaptation Plan has been to build the capacity of Finnish society to manage the risks associated with climate change and adapt to changes in the climate. The objectives of the plan have been:

- Adaptation is integrated into the planning and activities of both the various sectors and their actors

- The actors have access to the necessary climate change assessment and management methods

- Research and development work, communication and education and training have enhanced the adaptive capacity of society, developed innovative solutions and improved citizens' awareness on climate change adaptation.

The adaptation plan has also implemented the EU Strategy on Adaptation to Climate Change within Finland.

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I. Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

The Climate Policy Round Table was launched in February 2020 and it met for the first time in May 2020. Due to Covid -19 virus, the start of the Round Table was delayed and for the most part, meetings are held remotely. The Round Table discusses key government initiatives and legislative proposals aimed at carbon neutrality, as well as roadmaps, especially from the perspective of a fair transition.

The purpose of the Round Table is to create a common understanding of how Finland can make a just transition to a carbon neutral society by 2035. From the discussions, we have gained a good overview of different opinions of several sectors of society on the transition towards a carbon-neutral society, which can be utilized in official preparation as well as policy-making. The outcomes of the meeting are presented to the Ministerial Working Group on Climate and Energy Policy.

The Round Table is chaired by Prime Minister. In her absence, Minister of the Environment and Climate Change usually chairs the meeting. It is common that all vice-chairs participate in the meetings as well. The Round Table uses the Chatham House Principle, supporting a confidential atmosphere (e.g. direct quotations from another member's speech are not allowed in communication). The starting point for setting up the Round Table was that it is a high-level, confidential discussion forum and thus the Round Table is limited to a certain number of people and entities. The selection of the members was decided by the Ministry of the Environment in close cooperation with the Prime Minister's Office in a way that the Round Table represents different actors or sectors of the society. The Prime Minister's Office officially conducted the process of appointing the members. The Round Table consists of 4 vice chairs, 20 members and 3 Representatives of Expert Bodies. From a regional and social perspective, the composition of the Round Table recognizes the active role of young people in climate issues. One of the vice-chairmen represents the Finnish National Youth Council Allianssi and one of the members represents the Agenda 2030 Youth Group. The Round Table also include representatives of the Sámi Parliament and municipalities, who will play an important role in achieving Finland's climate neutrality target by 2035.

Preparations are made in cooperation with Special Advisers to the Ministers (e.g. meetings, work plan etc.). The youth representative and the representative of industry are involved in planning of the meetings and, in general, for developing the work of the Round Table with the Secretariat.

In addition, Finland has had a national citizen jury on climate action. The national Citizens Jury contributed to the assessment of the fairness of the climate actions. The Jury formulated a considered public opinion on 14 different climate measures related to food, housing and transportation. The outcomes of the Jury were introduced to the Round Table in the meeting in May 2021.

The final report of the Citizen Jury was completed in the end of June 2021. For example: The Citizen Jury considered important that the measures included in the new Climate Policy Plan take into consideration the economic impact of the actions on individuals and different socio-economic segments, as well as regional equality. The Jury hopes that it is possible to live and take part in everyday activities everywhere in Finland, also in future. In the general observations, the Jury also highlighted the allocation of tax revenues in public administration and municipalities to climate-friendly traffic, housing, and food, as well as the importance of steering

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by information so that all citizens will have adequate knowledge of the impacts of climate actions and e.g. different types of allowances and deductions.

In addition, the Ministry of the Environment has been testing a number of methods and innovations to engage on reforms to the Climate Act, utilizing a human-rights based, inclusive approach to consultation and working with a range of external partners. Methods include: an online survey in six languages (English, Swedish, Finnish and three Sámi languages); consultations in different cities with the public; consultations with stakeholders (e.g. municipalities, legal experts); consultations with youth during school time via the all-Youth project; dialogues with journalists; online discussions using the Timeout platform, meetings with climate activists in small groups; hearings; and workshops with Sámi youth in Finnish and Sámi. In October 2020, human rights-related discussions were planned via the BIBU research project. Implications of climate change have in particularly strong influence on Arctic regions and indigenous peoples, such as the Sami people. Consequently, the Government has also officially negotiated with the Sami Parliament in relation to Climate Act. In the negotiations language rights has been protected. In addition, there has been online consultations in three Sami languages.

Currently the Ministry of the Environment is preparing a climate mid-term plan 2035 and in our online questionnaire, there was all together over 18 000 participants in January-February 2021. The aim was to ask, what climate policy measures citizens find fair and just. The main findings included, that citizens prefer climate measures that include financial incentives and information support.

Regarding biodiversity specifically, the role of socio-economic actors (industry etc.) in biodiversity protection is addressed e.g. in the upcoming national biodiversity strategy and action plan.

3. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

The Agenda 2030 Youth Group was set up first time in spring 2017, under the Finnish National Commission on Sustainable Development led by the Prime Minister. The Agenda Youth Group has two aims: to serve as an advocate for the goals and participate in the national planning and implementation of the Sustainable Development Goals.

The Finnish Agenda 2030 Youth Group is composed of under 20 people aged 15 to 28 years from all around Finland and with a variety of backgrounds.

The Youth Group is invited to various stakeholder meetings in the ministries and it attends workshops, discussions and events on sustainable development. The members serve as advocates and participate in the dialogue and debate on the goals in national contexts. The group has for example organized a panel session for presidential candidates on climate change and a youth climate summit on March 2019, which involved 500 young people. As a part of their summit, they prepared a declaration on climate change, which was sent to members of the Parliament.

Finland has also supported the World Summit of Students for Climate, which has strengthened the participation of the youth in several countries and created considerable amount of new carbon sinks. World Summit of Students for Climate took place 29 May – 5 June 2019 in Finland. The summit was initiated and organised by ENO Schoolnet, in co-operation with the cities of Helsinki and Joensuu, municipality of Liperi, Ministry of Environment Finland and the Ministries for Forestry and Agriculture, for Education and for Foreign Affairs. 135 students and 100

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teachers from 70 countries gathered together. Students discussed about the climate change and forests, based on their preliminary assignment and committed to start planting trees (tree planting and tree adopting schools). They voted about the actions they could do as students and created Climate Action Plan 2019-25. Teachers had workshops in the field of education, natural sciences and circular economy, for instance. The ultimate goal is to tie 3 million tons of carbon dioxide by 2025. The summit was endorsed by the president of the Republic of Finland, Mr Sauli Niinistö.

There has been also separate consultations for youth in 2020-2021 in cooperation with researchers and NGOs.

4. Are there plans to increase such initiatives in the future?

Yes, there are plans to for example guarantee participation for youth, disabled and elderly in adaptation plan process.

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This document has been signed electronically by the following persons:

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Germany

4 October 2021



BSPC Working Group on Climate Change and Biodiversity (CCB)

Intergovernmental survey

Adopted by the BSPC WG CCB on 4 October 2021

The governments of the BSPC member parliaments are kindly asked to send statements and answers to the following issues and questions to their respective parliaments until 28 February 2022:

- I. General information on the measures and strategies in the BSPC member states and regions

Climate change

Could you give a policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures? The report should preferably be structured according to the following policy areas:

- 1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);**
- 2. Critical sectors where the need for additional measures is imminent;**
- 3. Current and planned mitigation measures;**
- 4. Measures and strategies for adaptation to climate change.**

Germany has set itself ambitious climate targets to fulfil its global responsibility. With the amendment of the Climate Change Act in June 2021, Germany committed itself to becoming greenhouse gas neutral by 2045. At that stage, no more harmful pollutants may be emitted than can be absorbed, for example by carbon sinks like forests and peatlands. By 2030, greenhouse gas emissions are to be reduced by at least 65% compared with 1990. A new national climate action target of at least 88% reduction applies for the year 2040.

The Climate Change Act also specifies legally binding reduction targets for individual sectors until 2030. By defining annual emission volumes which the sectors must not exceed, the Climate Change Act defines the emission reductions the individual sectors must contribute to annually. By 2030, greenhouse gas emissions are to be reduced by 68% in the buildings sector, by 77% in the energy sector, by 58% in the industrial sector, by 48% in the transport sector and by 31% in the agriculture sector compared with 1990 levels. Cross-sectoral annual reduction targets are set for the years 2031 to 2040, based on which the annual allowable emission levels for each sector in that period will be determined in 2024. In addition, specific targets were also set for the first time for the land use, land use change and forestry sector. In 2030, 2040 and 2045, the sector is expected to have an emissions balance of minus 25, minus 35 and minus 40 million tonnes of CO₂ equivalents, respectively. In 2045, the sector will thus contribute to net greenhouse gas neutrality.

In its Climate Action Programme 2030, the Federal Government has set measures in motion that contribute, within the framework of the Climate Change Act, to Germany's ability to reach its climate change mitigation targets in every sector by 2030. The Climate Action Programme 2030 encompasses measures for all sectors, including the introduction of carbon pricing in the heat and transport sectors and many other climate action measures for the energy, industrial buildings, transport, agriculture, forestry and waste management sectors. Among others, they include the accelerated expansion of renewable energy sources, investments in local public transport and support for sustainable agriculture and energy-efficient buildings.

Key projects in the Climate Action Programme 2030 have already been implemented, such as the Coal Phaseout Act, passed in 2020, which governs the gradual phase-out of coal-fired power generation by 2038 at the latest. Emission allowances freed up by this in the EU Emissions Trading System (EU ETS) will be cancelled. The Coal Phase-out Act also includes the amendment of the Combined Heat and Power Act, creating incentives to rapidly convert coal-fired power stations to more climate-friendly technologies. In particular, this includes transitioning to fuels with a better climate balance like biomass, waste or natural gas. Combined heat and power plants generate electricity or mechanical energy and useful heat at the same time, making them more efficient and reducing their greenhouse gas emissions.

Economic Affairs and Climate Action Minister Robert Habeck has announced that an initial climate action package will come in April 2022, and a second one in the summer. The objective of the Immediate Climate Action Programme is to put all sectors on the right course to meeting the targets and to ensure that all the

necessary measures are taken for Germany to be able to reach its climate targets. The work on the necessary legislation, regulation, and other measures for this is to be concluded by the end of 2022. To make this happen, the Federal Government will press ahead with the drawing up and the implementation of the Programme. The following immediate measures, which the Federal Ministry for Economic Affairs and Climate Action will present in the near future include, have already been announced – more measures will follow as part of the Immediate Climate Action Programme:

- Amendment of the Renewable Energy Sources Act (EEG): We will amend the EEG to set the course for an electricity supply that will be based on 80% renewables by 2030. To achieve this, we will increase the quantities up for auction. Technology-specific quantities will be increased, starting from what will already be a highly ambitious level. The level of gross electricity consumption we are using in our calculations lies at the centre of the corridor set out in the Coalition Agreement (680-750 TWh), i.e. 715 TWh. We will enshrine a new principle in law, namely that the expansion of renewables is in the overriding public interest and in the interest of public security.
- Solar energy: We will utilise the power of solar energy by introducing a solar acceleration package. The solar acceleration package will contain a broad range of individual measures designed to deliver significant progress on solar energy. Among other things, this means putting in place improvements around landlord-to-tenant electricity supply, raising the thresholds applying in auctions, and opening areas and sites for ground mounted installations whilst observing the relevant environmental criteria. We are also taking legislative action to ensure that all suitable roofspace will be used for solar energy in future. Solar energy will be mandatory for new commercial buildings, and will become the norm for new private buildings.
- Wind energy: We will harness the potential of land that can be made available for onshore wind power at short notice and introduce an Onshore Wind Power Act to speed up the expansion process. We will also be reducing the mandatory distances to rotating beacons and weather radar and implement measures to make the expansion of onshore wind power better compatible with military interests. This can free up a lot of sites for wind power. For instance, in areas where radio navigation systems and rotating beacons are in place, it is possible to install 4 to 5 GW of capacity. Another 3 to 4 GW can be installed in areas where there are military interests. We will use the Onshore Wind Power Act to reserve 2% of Germany's land territory for wind energy, reconcile the expansion of wind power with conservation interests, and pave the way for swifter planning and approval procedures.
- Bringing down the price of electricity: We will lay the basis for having more electricity from renewables at competitive prices. In particular, electricity is to become cheaper than fossil fuels. For this purpose, we will render heat pumps and eMobility more attractive and make progress on sector coupling. For this reason, we will be financing the renewable energy surcharge (EEG surcharge) from the federal budget as from 2023, which will ease the financial burden on electricity consumers. As we abolish the EEG surcharge, we are moving the provisions resulting from the special equalisation scheme (Combined Heat and Power Act, offshore grid surcharge) into a separate statute so as to give the industrial sector a reliable and predictable legal basis with regard to the relevant surcharges.

- Carbon contracts with the industrial sector: We will lay the legal and financial basis for 'carbon contracts for difference', which will be a key instrument to support the transformation within the industrial sector. As the industrial sector ushers in climate-neutral manufacturing methods, it needs a reliable funding and investment framework. This instrument will render climate-neutral manufacturing methods economically viable at an earlier point in time and ensure that companies can better plan ahead financially.
- Heat strategy: In the heat sector, we are also striving for a very high share of renewables and will be generating 50% of the heat used in Germany in climate-neutral ways by 2030. As we regard energy efficiency as a second pillar to work with, we will develop a new strategy for climate neutrality in buildings that will bring together both instruments in an optimised manner. We will make decisive progress on climate action in the buildings sector and work towards a full rollout of municipal heat planning and towards decarbonising and expanding the heat networks. For this purpose, we will see to it that the federal assistance for efficient heat networks takes effect as soon as it has been approved under the state-aid rules, and will top up its financing.
- Standards and funding for buildings: Together with the Federal Ministry for Housing, Urban Development and Building, we will swiftly review the Buildings Energy Act to create a reliable basis for investors to plan on. This will set us on the pathway towards climate neutrality in 2045 where new buildings and the modernisation of buildings are concerned, and help reduce energy consumption in this area. In this way, we are implementing the Coalition Agreement where it says that every new heating system installed as of 2025 must be based on at least 65% renewable energy. This will prevent misdirected investments that are not compatible with our climate targets. In parallel, the federal funding scheme for efficient buildings will be swiftly adjusted; it will act in support of the new provisions of the Buildings Energy Act and set the right incentives for greater efficiency to prepare the market for these steps until 2025.
- Hydrogen strategy: We are adjusting our measures to ramp up the use of hydrogen technology so as to double the production of green hydrogen compared to the plans currently in force. To this end, we will be revising the National Hydrogen Strategy by the end of this year, and will introduce additional funding programmes.

Measures and strategies for adaptation to climate change

The national adaptation strategy of 2008 (Deutsche Anpassungsstrategie, DAS) established climate change adaptation as a cross-cutting topic in all relevant policy areas. This strategy has been reviewed and enhanced continuously. As the strategic framework that guides the Government's adaptation-related policies and activities, it aims to decrease the vulnerability of the German society, economy and environment and to strengthen the country's overall adaptive capacities.

The strategy describes 15 core action areas and includes a cyclical reporting regime (monitoring report, vulnerability analysis, progress report, evaluation report). For more information on the German Adaptation Strategy, please refer to the information contained under III.H.

A number of support programmes currently complement action under the DAS in different policy areas. On environment these include: The Forest Climate Fund

(Waldklimafonds) which provides financial support to enhance the climate resilience of forests. The planned peatland protection strategy (Moorschutzstrategie) aims at restoring peatlands to, among others, re-establish their capacities to balance and regulate the local climate and to retain water in times of overabundance. As their restoration also avoids large amounts of CO₂ emissions, this measure contributes both to climate change adaptation and mitigation. Through the national floods programme (Nationales Hochwasserschutz Programm) 5.5 billion euros have been made available for preventive action to avert flooding around the main German rivers.

Support programmes of a more cross-cutting nature include the programme "Measures for Adaptation to Climate Change", under which funding is provided for projects of local and municipal actors, associations and small and medium-sized enterprises as well as educational institutions. Another programme is called „Climate adaptation in social/welfare facilities" – it supports municipalities and welfare organisations as operators of social and welfare facilities with the aim to protect the most vulnerable from and prepare them for climate change.

In 2021, the Competence Centre on Climate Adaptation was inaugurated to advise municipalities in the area of adaptation to climate change. This includes the provision of information on support mechanisms at the federal and the state level, knowledge transfer, the establishment of a nation-wide network of relevant stakeholders and decision-makers, as well as the development of criteria for comprehensive concept development.

In its November 2021 coalition agreement, the German Government agreed to prepare a Climate Change Adaptation Act which would mandate, among others, the development of a precautionary adaptation strategy, including concrete and measurable targets. It is also envisaged to further enhance the financing of adaptation measures.

Due to the cross-cutting nature of climate change adaptation, Government measures are being implemented and mainstreamed in all relevant policy areas, ranging from urban planning, to public health, tourism and agriculture. Adaptation efforts at the federal level are complemented by a multitude of measures at the regional and local level.

Furthermore, Germany`s efforts to adapt to the impacts of climate change and to enhance the resilience of the society, the economy and the environment are underpinned by a variety of analytical and methodological work and supported by robust climate science.

If implemented well, adapting to a changing climate could improve the quality of life for all citizens. Examples are green roofs and facades, watercourses and shady squares, which bring cooling and enhance rainwater retention, boost natural diversity in cities, strengthen ecosystems, enhance air quality, and thus improve the overall quality of life. Sustainable adaptation to climate change can bring real added benefits for society.

Biodiversity

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?

The most important strategy to protect biodiversity and the integrity of ecosystems is the comprehensive "National Strategy on Biological Diversity (NBS)", which fulfils Germany's obligations under Article 6 of the Convention on Biological Diversity as well as the EU Biodiversity Strategy. The NBS was adopted in 2007. Germany is currently further developing its NBS due to the new Global Biodiversity Framework presently under negotiation under the Convention on Biological Diversity as well as the new EU Biodiversity Strategy for 2030.

The NBS serves to implement both international and EU obligations on a national level. It also outlines Germany's contribution to the conservation of biological diversity worldwide by placing it in a European context, with due regard for international correlations. It not only addresses all government institutions at federal, federal state and local government level, but also all social actors. The strategy is designed to mobilise and pool all social actors with the aim of significantly minimising, and eventually halting altogether, the threat to biological diversity in Germany. Its ultimate aim is to reverse the trend in favour of an increase in biological diversity, including its typical regional peculiarities. A further aim is that Germany should take greater responsibility for global sustainable development.

The strategy formulates a concrete vision for the future, and specifies quality targets and action objectives for all biodiversity-related topics. In the overall strategy, equal consideration is given to ecological, economic and social aspects, in keeping with the guiding principle of sustainability.

Other relevant national strategies / measures include:

- German Sustainable Development Strategy*
- National Strategy for Adaption to Climate Change*
- National Bioeconomy Strategy*
- National Marine Strategy*
- Action Programme for Insect Protection*
- Agrobiodiversity Strategy and sectoral National Programmes for Genetic Resources of the Federal Ministry of Food and Agriculture*
- Forest Strategy 2020*
- The Federal Ministry of Education and Research (BMBF) Research Initiative for the Conservation of Species - Federal Defragmentation Programme*

2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine?

Terrestrial

In the German Baltic Sea region there are a number of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity, including: Jasmund Bodden and Northeast Rügen (600km²) has to be mentioned as a landscape worthy of protection. With its chalk coasts and lime beech forests, Northeast Rügen has a unique landscape. The large coastal beech forests stretch over hills and stream valleys, enclosing moors, bogs and fens as well as springs. Its forests are among the richest in orchids throughout northern Germany. In other parts there are mosaic landscapes which have all transitions from sandy grassland to salt reeds, or of semi-arid grassland to bush-beech forest and high flint beach ridges. Many parts of this landscape are therefore protected by different protected areas, such as the 'National Parc Jasmund', the 'Biosphere Reserve Southeast Rügen' as well as several protected sites of the Natura 2000 network and national conservation areas.

Another example is the Vorpommersche Boddenlandschaft and Rostocker Heide (1200km²), which can be called a hotspot of biological diversity in Germany. It encloses a diverse coastal landscape that is unique in Germany, with bays, lagoons, islands and peninsulas, flat and steep coasts, salt marshes and reeds, moors and alder forests. The numerous shallow water areas, floodplains and salt marshes of this coastal landscape are considered important resting and wintering areas for waders and waterfowl in Germany and excellent breeding areas for numerous meadow and shorebirds. The landscape also provides important habitats for many other animal and plant species, some of which are rare, such as dune- and salt-running beetles or the grey seal. More than 60% of the area is protected, mainly by the 'National Park Vorpommersche Boddenlandschaft'. The Ueckermünder Heide (650km²) in the far east of the coastal region of Germany is a landscape worthy of protection and important for biodiversity as well. Large parts of the area are very low in disturbance of wildlife due to their low settlement density and thus provide an important habitat, especially for numerous disturbance-sensitive bird species. Therefore, almost one third of the area is designated as a Special Protection Area.

Marine

Reference can be made to the HELCOM Coastal and Marine Baltic Sea Protected Areas (HELCOM MPAs) and marine Natura 2000 areas as well as to the following marine ecosystem, landscapes and habitats: Estuaries, lagoons, coastal lakes, sand banks, boulder and stone reefs, habitats consisting of gravel, coarse sand and shell bottoms, macrophyte stands, habitat building species such as bladder wrack stands and mussel beds, important bird areas (wintering, moulting, feeding), roosting-, feeding-, reproduction- and nursery areas for marine mammals and spawning grounds for fish.

3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.

An indicator set of 18 indicators is used to assess progress towards meeting the goals of the National Strategy on Biological Diversity. For a total of 13 indicators with quantitative target values, a degree of target achievement (status) can be given, which is calculated from the distance between the last reported data point

and the target value. From these 13 indicators, one indicator each is either within the target range ($\geq 90\%$) or close to the target range ($80\% - <90\%$): landscape dissection and sustainable forestry. For six indicators the current value is still far from the target range ($50\% - <80\%$):

- Species diversity and landscape quality
- Conservation status of habitats and species included in the Habitats Directive
- Status of floodplains
- High nature value farmland
- Agricultural nitrogen surplus
- Eutrophication of ecosystems

For five indicators, the current value is still a long way from the target range (< 50 percent):

- Endangered species
- Ecological status of surface waters
- Increase in land use for settlement and transport
- Organic farming
- Awareness of biodiversity

The main causes of species diversity and landscape quality loss are – to regionally varying degrees – intensive farming, landscape dissection and urban sprawl, soil sealing and pollutants affecting large areas (e.g. acidifying chemicals and nutrients). In human settlements, negative impacts are brought about by the loss of near-natural habitats and village structures due to building and soil sealing.

Current figures that provide valid evidence of the decline in species and biotope diversity in Germany can also be found in the nationwide red lists of endangered animals, plants, fungi and biotope types in Germany published by the Federal Agency for Nature Conservation. In addition the German national report on the Fauna-Flora-Habitat Directive for the reporting period 2013-2018 has shown that only a quarter of the animal species are in a favourable conservation status. The traffic light is yellow or red for almost two thirds, which means that they are in an inadequate or bad condition. This mainly affects butterflies, beetles and dragonflies. The situation is similar with the habitats. Almost 70% (based on the number) of habitats in Germany are in inadequate condition.

National biodiversity related targets and their category of progress are compiled within Germany's Sixth National Report to the Convention on Biological Diversity (2020), which can be found at <https://www.cbd.int/countries/?country=de>

- **Concerning the HELCOM Baltic Sea Action Plan (BSAP) implementation: what has helped in their implementation and/or why have some not been met, with concrete examples from each country;**

Despite several decades of constructive cooperation in HELCOM, not all measures of the first Baltic Sea Action Plan of 2007 could be implemented as planned for various reasons. The measures and their achievement of objectives were and are partly very complex and subject to different framework conditions. In addition, the expected improvement in ecological status, depending on the measure, sometimes only occurs after a longer period of time due to natural conditions. However, the resources available to implement the measures and the requirements of existing international regulations also represent a factor in implementation that should not be underestimated. All targets that have not yet been implemented were included in the updated Baltic Sea Action Plan adopted in October 2021 with the aim of achieving them by 2030 at the latest.

- **Legislative measures: best practice examples on progressive legislation as well as the role of taxation and how far both helped in achieving the objectives;**

The Federal Nature Conservation Act implements European nature conservation directives, in particular the Flora-Fauna-Habitat Directive (92/43/EEC) and the Birds Directive (2009/147/EC), into national law. In addition to provisions on species and site protection, the Federal Nature Conservation Act includes regulations on landscape planning, compensation for impacts on nature and the landscape, biotope networks, marine nature conservation, recreation in nature and the landscape, and the participation of nature conservation associations in certain decision-making procedures. The law is supplemented by state law regulations of the 16 federal states.

In September 2019, the German Federal Government adopted the "Action Programme for Insect Conservation", or API for short, which is the most comprehensive and effective package of measures to date to protect insects and their diversity (<https://www.bmu.de/en/publication/action-programme-for-insect-conservation>). One important milestone in the implementation of the API was the adoption of the Insect Conservation Act in the summer of 2021. Among other things, the Act grants special legal protection to additional areas that provide important habitats for insects like meadow orchards and dry stone walls, and further boosts protection provided to insects in the future by restricting the use of biocides harmful to insects in certain areas.

- **Impact of COVID-19 pandemic on achieving the biodiversity policy measures?**

The COVID-19 pandemic has made clear that the health of humans, animals and nature are inextricably linked and how this causes disruptive financial impact, both at individual and national levels. The Intergovernmental Platform on Biodiversity and Ecosystem Services Workshop Report on Biodiversity and Pandemics (October 2020) urgently warns that, because of the destruction of nature, pandemics could occur with even greater frequency in the future. The same global environmental changes that lead to biodiversity loss and climate change are among the underlying causes of pandemics. Human interventions in ecosystems (in particular land-use changes such as deforestation, expansion and intensification of agriculture and trade in wild animals and wildlife products)

increase the risk of pathogens passing from animals to humans and spreading to become pandemics. Preserving and restoring biodiversity and functioning, resilient ecosystems can make an important contribution to reducing the risk of the spread of zoonotic diseases.

On a global scale, the COVID-19 pandemic had and is having a direct impact on biodiversity conservation, in particular in developing countries and emerging economies. Drastic cuts in public funding of nature conservation, for instance due to prioritisation of economic recovery packages, pose major challenges for nature conservation authorities. Serious revenue shortages in the eco-tourism sector in many countries due to lack of tourists increases the strain. In many cases, this leads to reductions in monitoring activities in protected areas because there is no money for the personnel required. In addition, the rural population – including people moving to the countryside due to losing their income in urban areas because of the pandemic or lockdown – increasingly hunt wild game inside and outside of protected areas to cheaply supplement their diets. Probably in connection with these developments, many reports of increasing poaching activities, by organised big game or subsistence hunting, are coming from a variety of regions.

- Are there concrete figures on what impact measures to combat the pandemic had on the volume of greenhouse gas emissions (transport, economy)?

There are no official estimates. The difference between real emissions and official emission projections for 2020, however, show a significant impact of the pandemic on transport where emissions came down by around 11% (while a slight increase had been projected) which outweighs the economic downturn rate by far. Passenger and goods transport statistics add to the estimate that pandemic related measures largely contributed to the emission reduction, with reduced passenger mobility (pkm 19.5% down in 2020) being the largest factor.

- Are prosperity and an ecologically stable and sound environmental condition for future generations considered as a fundamental right in the decision-making processes?

Article 20a of the Basic Law for the Federal Republic of Germany [Protection of the natural foundations of life and animals] stipulates: "Mindful also of its responsibility towards future generations, the state shall protect the natural foundations of life and animals by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order." This principle was affirmed by the First Senate of the Federal Constitutional Court in 2021, when it held that the provisions of the Federal Climate Change Act of 12 December 2019 governing national climate targets and the annual emission amounts allowed until 2030 were incompatible with fundamental rights insofar as they lacked sufficient specifications for further emission reductions from 2031 onwards. The First Senate affirmed that the objective duty of protection arising from Art. 20a encompasses the necessity to treat the natural foundations of life with such care and to leave them in such condition that future generations who wish to continue preserving these foundations are not forced to engage in radical abstinence.

II. Legal basis of the measures and strategies in the BSPC member states and regions

1. What are the main provisions to combat climate change?

The Climate Change Act provides the legal framework for Germany's climate protection policies (cf. Section I). In addition to this, there are numerous more specific provisions that contain important regulations for achieving the climate action and legally binding annual reduction targets of the Climate Change Act (e.g. Renewable Energies Act, Coal Phase-out Act, Fuel Emissions Trading Act).

2. Is there a climate protection law?

Yes (cf. Sections I and II. 1)

3. What are the main provisions on biodiversity

4. Is there a law protecting biodiversity?

Questions 3 and 4 are answered together:

The Basic Law for the Federal Republic of Germany protects the natural foundations of life and animals (Art. 20a).

The main provision for nature conservation measures is the Federal Nature Conservation Act which states that by virtue of their intrinsic value and importance as a basic necessity of human life, and also as a responsibility to future generations, nature and landscape in both settled and non-settled areas are to be protected so as to permanently safeguard (1) biological diversity, (2) the performance and functioning of the natural balance, including the ability of natural resources to regenerate and lend themselves to sustainable use, and (3) the diversity, characteristic features and beauty of nature and landscape, as well as their recreational value. Such protection shall include management, development and, as necessary, restoration of nature and landscape (general principle). The Federal Nature Conservation Act also foresees actions to be taken in order to permanently safeguard biological diversity.

The European Nature Conservation Directives play an important role for nature conservation and biodiversity policy in Germany.

III. Specific areas and aspects

A. Maritime areas and protected zones

1. How exactly are maritime areas protected?

In the Exclusive Economic Zone they are mainly protected as Marine Protected Areas (MPAs). All MPAs are national nature reserves (NSG) with respective

ordinances and at the same time NATURA 2000 sites and HELCOM MPAs. They are protected according to the requirements of the EU Habitats Directive and the Bird Directive. Management plans have been elaborated and will be published shortly. In the federal state of Mecklenburg-Vorpommern (MV) there exist two National Parks and one Biosphere Reserve with marine parts, respectively. They are protected by special ordinances. All remaining MPAs in Mecklenburg-Vorpommern and all in the federal state of Schleswig-Holstein are NATURA 2000 sites and HELCOM MPAs (in MV only marine part). They have management plans and are protected according to the requirements of the EU Habitats and Bird Directives. Some are partly national NSG with specific ordinances. In addition, specific marine habitats are under legal protection according to the Federal Nature Conservation Act, even if they are located outside MPAs, such as sandbanks and reefs or macrophyte stands.

2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?

No large-scale-zones have been established so far.

3. What actions has your country taken to create functioning coastal ecosystems?

(Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.)

Very large parts of the coastal areas are protected either as National Park, Biosphere Reserve, NSG or Protected Landscape/seascape, most of them in addition as Natura 2000 sites. Many coastal landscapes and habitats are under legal protection such as the coastal strip, dunes, beach ridges and active cliffs.

B. Eutrophication

(Eutrophication is a major threat to biodiversity in the Baltic Sea and has a negative impact on both ecosystem function and ecological services. Mitigating eutrophication is essential for the protection of biodiversity.)

- 1. What actions does your country take to fulfil the Baltic Sea Action Plan (BSAP) and other directives?**
- 2. Which objectives of the BSAP are planned to be realised in your country by when and by which measures?**
- 3. How can we speed up the work?**

Questions 1-3 are answered together.

Under the German chairmanship the HELCOM Contracting Parties agreed on an updated Baltic Sea Action Plan on 20th October 2021 in Lübeck that covers the time period 2021-2030 (siehe: <https://helcom.fi/media/publications/Baltic-Sea-Action-Plan-2021-update.pdf>). The action plan is dedicated to address pressures on the Baltic Sea ecosystem in order to achieve a good status at the end of this decade. Eutrophication remains one of the focal themes of the updated BSAP. The

core of the eutrophication segment remain the quantitative nutrient reduction targets (expressed as nutrient input ceilings for nitrogen and phosphorus). Germany will strive to achieve these targets by 2027. While good progress has been made with respect to lowering the nitrogen inputs, high phosphorus inputs remain a challenge. In addition to the reduction targets the updated BSAP contains a detailed list of actions that are important to combat eutrophication. These actions address the main sources/sectors of nutrient inputs, agriculture and waste water.

The updated BSAP is accompanied by a detailed implementation plan that sets target years for the individual actions (<https://helcom.fi/wp-content/uploads/2021/10/Additional-information-on-the-actions-in-the-updated-Baltic-Sea-Action-Plan.pdf>). There are national actions that need to be undertaken by the HELCOM Contracting Parties individually and actions that require joint HELCOM activities. Germany intends to deliver the national actions in time and as scheduled in the implementation plan. Specific measures to reduce nutrient inputs to the Baltic Sea will be in particular taken under the Water Framework Directive. The focus is on measures that reduce and retain nutrients in the catchment area. In addition, the Marine Strategy Framework Directive (MSFD) also incorporates a number of measures for combatting eutrophication in the Baltic Sea. The focus of the MSFD is on measures to reduce atmospheric nitrogen inputs and on selected activities at sea that lead to nutrient inputs (e.g. fertiliser handling in ports). The joint actions require lead Contracting Parties to ensure their implementation. The discussion has just started nationally on which action Germany intends to lead.

Germany will continue to focus on eutrophication, which was also an important topic under the German chairmanship. Germany is currently working on an analysis of the implementation obstacles that could prevent attaining the nutrient reduction targets of the BSAP. Furthermore, Germany is focussing on the hotspot approach (action HT24) and is developing criteria to designate new nutrient hotspots in the Baltic Sea region.

Another important issue is the implementation of the HELCOM nutrient recycling strategy (<https://helcom.fi/media/publications/Baltic-Sea-Regional-Nutrient-Recycling-Strategy.pdf>), which suggests innovative measures to recycle nutrients from sewage sludge and in agriculture. Germany has substantially contributed to the development of Guidelines for Sea-Based Measures to Manage Internal Nutrient Reserves in the Baltic Sea Region (<https://helcom.fi/media/publications/Guidelines-for-Sea-Based-Measures-to-Manage-Internal-Nutrient-Reserves-in-the-Baltic-Sea-Region.pdf>) and will ensure that these guidelines are applied in order to mitigate any risks that might arise from large-scale technical measures in the Baltic Sea conducted by other contracting parties. Lastly, an important field of work in Germany is the development of best available technique/best environmental practice for aquaculture in the Baltic Sea region to ensure that nutrient inputs are minimised and aquaculture operates sustainably.

Continuing the effective cooperation in HELCOM is a prerequisite for achieving the objectives of the BSAP. Climate change poses a significant threat to mitigating eutrophication in the Baltic Sea and HELCOM requires scientific support to better understand the impact of climate change and to target nutrient reduction measures to remain effective in a changing climate.

C. Sea-dumped munitions

1. Are there areas in your territorial waters that are contaminated with ammunition?

For Germany it is estimated that as much as 1.6 million tons of conventional munitions are still present in German waters of the North and Baltic Seas, and that around 1,300,000 tons of these are located in the North Sea alone. Around 170,000 tons of chemical munitions have been dumped in the North Sea (including German Bight) and the Norwegian Sea, and 42,000 to 65,000 tons in the Baltic Sea (including Bornholm Basin).

2. What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?

The coalition agreement for the 20th legislative period of the new German government declares the intention to set up a national immediate program for the salvage and destruction of ammunition dumping sites in the North Sea and Baltic Sea and to establish and solidly finance a fund for medium- and long-term salvage with the participation of the federal states. Work on a respective concept is in progress.

Besides this programme, other national research programmes such as the Maritime Research Programme fund environmentally friendly technology developments for removal and delaboration of munition in the sea. A working group is currently developing guidelines in order to tackle environmental impacts resulting from the salvage and destruction of the ammunition.

D. Towards zero pollution

(Pollution harms our health and our environment. It is the largest environmental cause of multiple mental and physical diseases and of premature deaths, especially among children, people with certain medical conditions and the elderly. In addition to affecting people's health, pollution is one of the main reasons for the loss of biodiversity. It reduces the ability of ecosystems to provide services such as carbon sequestration and decontamination. Therefore, these questions are being asked.)

1. Is your government following a zero-pollution action plan for air, water and earth?
2. What time horizon is planned for which intermediate steps and goals?
3. Which measures in this direction have already been initiated or are to be realised?
4. What concrete projects for the avoidance of plastic pollution is your government supporting?
5. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?

Questions 1-5 are answered together

The EU Action Plan on Zero Pollution is a step forward in countering the pollution of air, water and soil. We welcome the ambition of the action plan to improve synergies between different interlinked pieces of regulation for achieving their respective objectives in a more integrated, coherent and mutually supportive manner.

In Germany, the National Clean Air Programme was adopted by the German government on 22 May 2019 and sets out measures to further reduce the emissions of pollutants to meet the requirements of the National Emission Reduction Commitments Directive and thus further improve air quality in Germany by 2030.

In 2013, the Federal Government adopted the Federal Waste Prevention Program with the participation of the federal states. For the first time, systematic and comprehensive target-oriented approaches to waste prevention by the public sector were recorded in the form of recommendations for specific instruments and measures. An update to the programme, including measures to prevent plastic waste, was adopted in January 2021.

Implementation of the EU Directive on Single-Use Plastic:

One of the designated goals of the European Union's Single-use Plastic Directive (SUPD) is the reduction of marine litter. To this end, the directive provides for a range of different measures to address disposable plastic items that were most commonly found on the beaches of EU Member States (MS). Among the most important measures is the ban to market e.g. disposable plastic plates and cutlery, as well as food containers and beverage cups/containers made from expanded polystyrol and any product made from oxo-degradable plastic. Other means to be taken by EU MS are national measures to reduce the consumption in beverage cups and food containers and to mandate the marking of hygiene products, tobacco filters/filter products and beverage cups to inform customers of the plastic content and the correct disposal of these items. Germany has so far transposed all of these abovementioned measures (and almost all other measures of the SUPD) into national law. The final measure to be implemented by Germany, and the most complex measure in the SUPD, is the introduction of extended producer responsibility for a range of products such as food and beverage packaging, wet wipes and tobacco filters/products.

Measures due to innovations in the Packaging Act:

With the amendment of the Packaging Act, Germany has introduced regulations to reduce the consumption of certain single-use plastic packaging, limit littering and promote high-quality recycling. Among other things, a mandatory minimum recycle input quota for certain single-use plastic beverage bottles was introduced from 2025 as well as the extension of the mandatory deposit to almost all single-use plastic beverage bottles and to all beverage cans from 2022 in each case. Since the beginning of 2022, the ban on the marketing of lightweight plastic carrier bags is in force. To strengthen reusable packaging, the new obligation to offer reusable packaging for the sale of food and beverages "to go", which will apply from January 1, 2023, will be introduced.

E. Economy**1. What are the investment priorities of the state to reduce CO₂ emissions?**

Germany will need to make investments in all sectors, including the energy, industry, building and transport sector, to transform the economy towards greenhouse gas neutrality in 2045.

2. What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?

Germany acknowledges the need also for technical negative emissions and will develop a long-term strategy for dealing with the approximately five percent of unavoidable residual emissions.

3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

The phase-out of coal-fired power generation in Germany is legally enforced with coal-firing bans pursuant to Section 51 of the Coal-fired Power Generation Termination Act. If the legal requirements have been met, power plant operators will no longer be permitted to burn coal from a specific date onwards. This means that the burning of coal in Germany will end by 2038 at the latest. However, coal-fired power plants will be shut down gradually prior to that date.

At the same time, there is a ban on the construction and commissioning of new black coal and lignite-fired power plants (Section 53 of the Coal-fired Power Generation Termination Act). According to this ban, commissioning new black coal or lignite plants is prohibited as a rule after 14 August 2020.

4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

The German Government will press ahead with the development of a productive hydrogen industry and the necessary import and transportation infrastructure. The objective is to achieve an electrolysis capacity of around 10 gigawatts in 2030. The German Federal Government will ensure this by taking measures such as increasing the capacity of offshore wind power and engaging in European and international energy partnerships. This requires dedicated efforts to develop the necessary infrastructure. The necessary parameters for this will be created, including efficient funding programmes, and European cooperation in this area will be strengthened in particular. Planning and approval procedures will be sped up to ensure that electricity and hydrogen grids can be planned and realised more quickly.

F. Innovation**1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?**

In the context of the National Biodiversity Strategy, the Federal Ministry for the Environment in 2011 set up a funding programme (<https://www.bfn.de/thema/bundesprogramm-biologische-vielfalt>) to support innovative project ideas and outstanding concepts in the field of biodiversity.

Furthermore, testing and development (T&D) projects, financed by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), are used to test promising nature conservation ideas and approaches and translate research results into practice (<https://www.bfn.de/en/topic/testing-and-development-projects>). Funding T&D activities enables best-practice testing and development of new nature conservation methodologies and processes. They focus on practical application of an idea or an approach and are accompanied by scientific studies.

As part of the National Artificial Intelligence (AI) Strategy, the BMUV initiated the funding programme "AI lighthouse projects for the environment, climate, nature and resources" in 2019 (<https://www.bmuv.de/en/topics/sustainability-digitalisation/digitalisation/our-support-programme-for-artificial-intelligence>). In order to capitalize on the transformative potential of AI for the benefit of the environment, the programme funds projects that enhance resource efficiency, protect biodiversity and mitigate and adapt to climate change. So far, 28 projects have received funding in a variety of different areas, such as circular economy, energy transition, agriculture and ecosystem monitoring.

Moreover, in 2020 a new biodiversity innovation category has been introduced in the German Innovation Award for Climate and Environment.

In addition to that the BMUV has initiated and actively supports national initiatives and platforms for business and biodiversity:

- <https://biologischevielfalt.bfn.de/unternehmen/ueber-ubi.html>*
- https://biologischevielfalt.bfn.de/fileadmin/NBS/documents/UBI/UBi_2020_English_2018_bf.pdf*
- <https://www.business-and-biodiversity.de/en>*

Within the dialogue process we also set up a national biodiversity commitment platform „GERMAN BUSINESS FOR BIODIVERSITY“:

- <https://www.german-business-for-biodiversity.de>*

The German Government has recognised the need for scientifically substantiated interventions and strategies to reverse the trend in species loss, and has therefore launched the Research Initiative for the Conservation of Biodiversity which is funded by the Federal Ministry of Education and Research (BMBF). The initiative aims to create the necessary scientific foundation for preserving biodiversity in Germany and securing ecosystem services that are vital to our well-being. To this end, the approach of the Research Initiative for the Conservation of Biodiversity is divided into three strategic focus areas:

1. develop innovative technologies and methods to improve and boost the efficiency of biodiversity monitoring,
2. enhance our systemic understanding of the causes, dynamics, and consequences of biodiversity changes, and
3. generate systemic solutions and a 'repertoire of measures' in cooperation with prospective users.

As for the programmes of the Federal Ministry for Economic Affairs and Climate Action (BMWK) and their expected effects see section F.3.

As for the programmes "Interreg B Baltic Sea Region" and "Interreg B South Baltic Sea Region" see section "G.1 International Cooperation".

2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?

There are three focus areas of the Research Initiative for the Conservation of Biodiversity funded by BMBF. They include enhancement of our systemic understanding of the causes, dynamics, and consequences of biodiversity changes; the development of innovative technologies and methods to improve and boost the efficiency of biodiversity monitoring; as well as the generation of systemic solutions and a 'repertoire of measures' in cooperation with prospective users (see also previous question).

In recent years, Germany has emphasized the need for improved biodiversity monitoring. In 2021, the government founded the "National Monitoring Centre for Biodiversity" (<https://www.monitoringzentrum.de>) at the Federal Agency for Nature Conservation. It works on improving and expanding the nation-wide biodiversity monitoring, improves the data management, evaluates the use of novel technologies in biodiversity monitoring. For this purpose, it brings together actors from all fields of biodiversity monitoring - government agencies at federal and state level, research, professional associations run mainly by volunteers, museums and others.

In addition, the Federal Ministry of Food and Agriculture developed a specific "National Monitoring of Biodiversity in Agricultural Landscapes" (<https://agrarmonitoring-monvia.de/en/>) to provide a scientifically representative data base regarding impacts of agricultural production on biodiversity.

Regarding the programmes of the Federal Ministry for Economic Affairs and Climate Action (BMWK), please see section F.3. As for the programmes "Interreg B Baltic Sea Region" and "Interreg B South Baltic Sea Region" there are examples in section "G.1 International Cooperation".

3. What effects are expected from current support measures?

The overall aim of the Research Initiative for the Conservation of Biodiversity is to enable decision-makers from politics, business, and society to substantially counteract the loss of biodiversity by providing options for concrete action as well as a 'policy toolbox' of applicable measures.

In terms of biodiversity monitoring, it is expected that more data about the development of biodiversity will become available through the aforementioned measures. This is essential for evaluating and effectively targeting biodiversity conservation measures.

In the field of climate change one example is the Important Project of Common European Interest battery cell production. Its aim is to establish sustainable and innovative battery cell production as a core element of electromobility. This is of high relevance for many other industries along the entire value chain in Germany. The funding is pursued under the instrument of the "Important Project of Common European Interest" (IPCEI) and is therefore integrated into an overall European project that has been initiated since 2017 as part of the "European Battery Alliance". Subsequently, two IPCEIs on batteries were pursued in parallel by the BMWK together with the European Commission and twelve interested EU Member States ("Summer-IPCEI on Batteries" and "IPCEI on Batteries European Battery Innovation").

Lithium-ion batteries represent a large part of the value added in electric vehicles. They also have a major influence on customer benefits (e.g. range, fast-charging capability, etc.) and thus on the market opportunities of the vehicles. They are largely responsible for their carbon footprint. Challenges currently exist with regard to the manufacturing conditions for battery cells that are as environmentally friendly as possible, especially with regard to energy intensity and the supply of renewable energy as well as sustainably mined and processed raw materials.

The goal is for Germany to become the lead market and lead provider in electromobility. By 2030, up to 15 million electric vehicles should be on the road and 1 million public charging points should be available. This is to be achieved, inter alia, through innovations in the field of vehicle technology and infrastructures as well as with the integration of these vehicles into the electricity and transport systems. The technological leadership of German industry in the field of electromobility and the successful marketing of its electric vehicles with the associated systems, components and services in Germany and on the world markets are to be supported. The thematic focus of the funding is on innovative charging infrastructure and the development of synergies between the energy and transport systems. In addition to the development of charging technology, projects are funded that map the entire "charging chain" and use electromobility as part of the energy and transport transition, e.g. for bidirectional charging (sector coupling).

As for the programmes "Interreg B Baltic Sea Region" and "Interreg B South Baltic Sea Region" see examples under the subsequent section "G.1 International Cooperation".

G. International cooperation

1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

Within the framework of the European Territorial Cooperation there are two relevant, mainly EU-financed programmes dealing with cooperation among Baltic Sea countries (incl. Russia as far as there is willingness for cooperation). These programmes are named "Interreg B Baltic Sea Region" as well as "Interreg B South Baltic Sea Region" and politically coordinated on the part of Germany within the Ministry of Economic Affairs and Climate Action in alignment with the German Länder that have a coastline along the Baltic Sea.

It is possible to promote projects in the following fields: innovation, digitalization, services for the public, „green“ (e.g. energy transition, circular economy, climate change, biological diversity infrastructure), sustainable mobility and social (e.g. labour market, education, culture and tourism).

Recipients of EU subsidies such as the European Regional Development Fund are regional and local authorities and, where appropriate, private enterprises. Project partners have to pay a financial contribution (if not private enterprises in coordinating role). The contribution to projects can also be paid by German Länder involved or supported by them.

The programmes are rather flexible in use. Therefore different projects can be promoted, especially under the objective "green".

A few project examples are listed below:

Baltic Slurry ACIDI (Budget in total 5.08 million euros, of which 3.99 million euros are ERDF means). Objective: To reduce the entry of the greenhouse gas ammonia into the atmosphere. Involved in the project are 6 farms with large livestock from different Baltic Sea countries (Estonia, Latvia, Lithuania, Poland, Sweden and Germany).

DAIMON2 (Budget in total 0.9 million euros; of which 0.66 million euros are ERDF means, Norway 0.03 million euros). Decision Aid for Marine Munitions – Practical Application. Objective: Responsible authorities (maritime administrators, spatial planners, environmental agencies, coastguards and militaries) do not sufficiently use newly developed tools for risk analysis, selection of remediation methods as well as environmental impact assessment. DAIMON2 offers training in using the new tools and develop them further. Partners here are academies, research institutions and universities from Norway, Sweden, Finland, Poland and Germany.

ENERGIZE Co2MMUNITY (Budget in total 0.67 million euros, ERDF 0.52 million euros). Objective: ENERGIZE Co2MMUNITY launches pilot projects of renewable community energy in the Baltic Sea region. Citizens facilitate, implement and co-finance renewable energy projects from different local sources (e.g. solar, wind, biomass, geothermal). Such community energy projects are more easily accepted by society than commercial projects and thus foster transition towards renewable energy production. Communities from two regions pair up to learn from and support each other. Partners are institutions and universities from Denmark, Finland, Latvia, Lithuania and Germany.

BMUV cooperates since 1992 closely with Russia in the field of environmental protection. Cooperation focuses on environmental technology, resource efficiency, on preserving and restoring natural carbon sinks (peatlands, forests etc.), on

biodiversity conservation (terrestrial protected areas, resilience of community conservation initiatives) as well as on ecosystem-based adaptation. Another field of cooperation is the development of low carbon policies, especially a long term strategy with the goal of carbon neutrality.

Furthermore, BMUV supports climate projects within the EU, some of which are active also in the BSCP region. It is the overarching goal of the European Climate Initiative (EUKI) to foster climate cooperation within the European Union in order to mitigate greenhouse gas emissions. It does so through strengthening cross-border dialogue and cooperation as well as exchange of knowledge and experience on climate action. Hereinafter we list a selection of EUKI projects active on climate change in the BSCP-Region:

Project 1: INVESTIGATE – Improving National GHG Inventories for Organic Soils and Mitigation Potential in Denmark, Finland, Germany, Latvia (and Romania)

The INVESTIGATE project has offered capacity building and knowledge transfer on improving national greenhouse gas (GHG) inventories for organic soils. The GHG mitigation potentials from drained organic soils are little noticed. INVESTIGATE tackled scientific and technical issues with respect to reporting GHG emissions and prepared the integration and application of innovative outcomes and new technologies in national GHG inventories. The project has enhanced expertise sharing and cross-border dialogue, especially in the Baltic region.

<https://www.euki.de/en/euki-projects/investigate-improving-national-ghg-inventories-for-organic-soils-and-mitigation-potential/>

Project 2: Central Eastern European Climate and Energy Policy Scholarship for Journalists in Croatia, Czech Republic, Estonia, Germany, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia

The German-Central Eastern European Bursary gave journalists from Germany and nine Central Eastern European countries the opportunity to spend two months working at a media outlet in another country and reporting about climate and energy issues. With this project the International Journalists' Programme established a unique and sustainable network of journalists who focus on bilateral as well as climate and energy issues. This project was the expansion of its very successful predecessor project which focused on the Baltic States of Estonia, Germany, Latvia, Lithuania and Poland, which were also among the participating countries this time. Given its success, the activities will likely continue in another follow-on project.

<https://www.euki.de/en/euki-projects/ijp-journalism/>

Project 3: Paludiculture in the Baltic Countries – Climate Protection by Productive Use of Rewetted Peatlands in Estonia, Germany, Latvia and Lithuania

This project's work underscored the need for climate-friendly peatland management in the Baltic States. It examined how peatlands can be used in paludiculture after rewetting to replace fossil resources. In every country, the project identified and prioritized potential sites of peatland for climate-friendly moorland management, working together with stakeholders and representatives from the government and the authorities. It also expanded the partners' capacities and knowledge in the field of paludiculture. This included exchanging knowledge with actors across Europe.

<https://www.euki.de/en/euki-projects/paludiculture-in-the-baltics-potential-and-capacities-for-climate-protection-through-productive-use-of-rewetted-peatlands/>

Project 4: Training of Managers for Urban Redevelopment in Lithuania and Germany

This project has supported the Lithuanian government in its endeavor to develop concrete concepts for energy-efficient urban redevelopment and has trained employees of local and national administrations as managers in this field. The project continued the work of a previous German-Lithuanian partnership by further developing, implementing, and establishing a hands-on vocational training programme for 'Managers for Urban Redevelopment' in Lithuania. It included eight thematic trainings, a study trip to Germany, four conferences and individual coaching sessions for urban redevelopment managers to develop concrete rehabilitation concepts.

<https://www.euki.de/en/euki-projects/training-of-managers-for-urban-redevelopment-in-lithuania/>

Moreover, BMBF supports various joint research projects on biodiversity and ecosystems alongside neighbouring countries as a member of the European network BiodivERSA and the European Partnership on Biodiversity under Horizon Europe, BiodivERSA+.

2. Are increased cooperation and the implementation of joint projects planned for the future?

As for the programmes "Interreg B Baltic Sea Region" and "Interreg B South Baltic Sea Region" there is effort to increase the number of projects and foster cooperation, depending on specific project ideas and financial means available.

The EUKI wants to continue to cultivate this type of local cooperation on climate change across borders. To be specific: The EUKI has just closed the 6th call for project ideas in January 2022 and will evaluate all submitted projects in the coming months. The selected new projects may also include additional ones in the Baltic Sea region.

Furthermore, cooperation in the fields of climate change and biodiversity conservation is planned to be intensified with Russia.

3. What effects are expected as a result?

Expected results include GHG emissions reduction, increased climate resilience, increase in environmental and energy efficiency standards, securing and improving the potential for climate protection, strengthened conservation of biodiversity including key habitats, preservation and restoration of degraded ecosystems.

It is the overarching goal of the EUKI to foster climate cooperation within the European Union in order to mitigate greenhouse gas emissions. EUKI projects develop and communicate climate action knowledge and create networks among climate practitioners. These activities can also strengthen the European integration.

The positive effects on climate change cooperation are also expected to show in the Baltic Sea region. Some examples of specific products from EUKI projects are for instance the unique and sustainable network of journalists who focus on bilateral as well as climate and energy issues (see question G1).

For further details on projects in specific EU member states, please refer to the EUKI website at: <https://www.euki.de/en/projects/>

As for the programmes "Interreg B Baltic Sea Region" and "Interreg B South Baltic Sea Region" see examples in section "G.1 International Cooperation".

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

Climate finance in developing countries

Germany actively contributes to the goal of industrialized countries to mobilize 100 billion USD annually from 2020 for climate mitigation and adaptation in developing countries and emerging economies. In 2020, the German Government provided around 5.09 billion euros for international climate finance based on budgetary resources, including gift equivalents from the German development bank KfW development loans. Therefore, Germany is one of the largest donors internationally in the realm of climate mitigation and adaptation. It significantly exceeded its 2020 climate finance target of 4 billion euros based on budgetary resources.

Supporting enhanced climate ambition in partner countries

In 2016, Germany initiated the Global Nationally Determined Contributions Partnership (NDCP) in cooperation with other partners to support the coordinated implementation of the Paris Climate Agreement. The NDCP aims to support the development and implementation of their members' concrete nationally determined contributions (NDCs). With the use of more than 500 million euros to date, Germany contributes to NDCP as its largest donor. 66 of 80 supported developing and emerging countries have already been able to submit a more ambitious NDC.

To counteract the adverse effects of the COVID-19 pandemic, Germany aims at supporting its partner countries' economic and social reconstruction in a manner that is socially just, climate resilient and climate neutral. To this end, NDCP advisors were sent to 21 member countries to provide on-the-ground support to facilitate the creation of sustainable recovery packages in line with the "Recover Better" approach. In addition, Germany has so far provided a total of 80 million euros for the World Bank's Green Recovery Initiative.

Climate protection projects and initiatives in partner countries

The German government is stepping up its commitment to work with selected climate policy pioneers around the world to increase ambition in combating the climate crisis. To this end, Germany launched the so-called Partnerships for Climate and Development (P4CliDev/P4). Their aim is to support committed partner countries in implementing their climate goals in line with the Paris Agreement (especially concerning their NDCs), while at the same time contributing to achieving the Sustainable Development Goals of the 2030 Agenda. By consistently linking climate and development goals, the objective is to

demonstrate that climate-focused transformative change will move a society forward, instead of slowing it down. Among its partner countries are countries hosting climate mitigation flagship projects and initiatives, such as Rwanda, but also major emitters like South Africa.

South Africa, Germany, the United Kingdom, the United States, France as well as the European Union are jointly entering an ambitious partnership to support South Africa in its energy transition. The partnership will specifically focus a socially just phase-out of coal combustion.

A transformation of the energy system needs to be based on investments in clean energy technologies that already achieve higher profits and create more sustainable jobs than fossil fuels. The partnership therefore has set itself the goal to provide additional funding for technological innovations, including amongst others green hydrogen. Overall, the partnership is supposed to prevent the emission of up to 1.5 gigatons of CO₂ over the next 20 years. However, such a transition must also be implemented in a socially just way. Effective investments in social infrastructure must therefore address the challenges faced by local communities, particularly including mine workers and vulnerable groups, such as women and minors. The Just Energy Transition partnership builds on the existing energy partnership between Germany and South Africa, which has, since 2013, served as a platform for policy dialogue and project implementation in the fields of renewable energy transition, energy efficiency, power sector reforms, just transition, and green hydrogen.

Energy-related emissions are responsible for nearly three-quarters of total global greenhouse gas emissions. This is why emission reductions in the energy sector is one of the most significant areas of support in German development cooperation. In 2020, the German Ministry for Economic Cooperation and Development (BMZ) commissioned 1.18 billion euros from the German development bank KfW for the energy sector, out of the bank's total commitments of 1.45 billion euros. The overall volume of energy projects commissioned by the BMZ in the area of technical cooperation amounts to around 668 million euros. One of the priorities of German development policy targeting the energy sector is to support partner countries and organizations based on the African continent, with its rapidly growing energy needs and vast potential for an energy transition. This is, amongst others, reflected in reform partnerships, concluded with particularly development-oriented and ambitious partner countries, in the context of the "Marshall Plan with Africa". The energy transition in these countries is also supported instruments such as the "Africa Green Baseload Facility" belonging to the Sustainable Energy Fund for Africa (SEFA), which is managed by the African Development Bank and provides financing for projects that promote renewable energies and energy efficiency. Germany is one of the largest donors to the SEFA, with commitments totalling 150 million euros.

Another example of support is through initiatives such as the initiative "Green Citizen Energy", which has been implemented in nine partner countries since 2019 (Ethiopia, Benin, Côte d'Ivoire, Ghana, Mozambique, Namibia, Zambia, Senegal and Uganda). With the "Green Citizen Energy for Africa" initiative, Germany is improving the conditions for decentralized energy supply in rural areas. Here, Germany is picking up on current trends in the energy market (falling costs for renewable energy technologies and batteries, increasing willingness of investors

to invest in the energy transition), while at the same time relying on the enormous natural resources and growing awareness of the positive effects of the energy transition in African countries. Citizens and companies are involved in the process.

As an example, in the framework of the "Green Citizen Energy" initiative, 30 community health centres in Ghana will be electrified with climate-friendly solar systems by mid-2022. Around 65.000 people will benefit from improved health services. New refrigerators for vaccines will allow an adequate storage of jabs and will allow for wider vaccination campaigns.

Biodiversity finance

In order to realise international goals, the German Government has continuously increased its financial contribution for the global conservation of biodiversity in recent years: from an average of 194 million euros between 2006 and 2010, its contribution rose to an average of 527 million euros between 2011 and 2015 and then increased further between 2016 and 2020 to an average of 633 million euros. This means that Germany has surpassed its international obligations to date: at the 12th CBD Conference of the Parties in 2014, the contracting parties had agreed to double international financial flows by 2015 at the latest against a baseline of average contributions between 2006 and 2010, and to continue increasing them by at least the same amount until 2020. In 2020, Germany supported the international conservation of biodiversity through contributions amounting to 796 million euros in total. The National Biodiversity Strategies and Action Plans of the partner countries and their strategies for mobilising resources are the basis for the support provided.

In addition to providing partner countries with bilateral support, Germany also supports various multilateral organisations that are geared towards conserving biodiversity, for example the Global Environment Facility (GEF). Roughly one third of GEF funds are being used to assist selected CBD contracting states in meeting their international commitments for the conservation of biodiversity. Since the GEF was founded, Germany has contributed on average between 11 and 13% of its overall budget, making Germany its third-biggest donor. Moreover, Germany supports various other organisations that likewise promote measures for conserving biodiversity, for example the international Forest Carbon Partnership Facility the Central African Forest Initiative, the multi-donor PROGREEN Global Partnership for Sustainable and Resilient Landscapes, the Biodiversity Finance Initiative the Biodiversity and Ecosystem Services Network and the initiative for territories and areas conserved by indigenous peoples and local communities (ICCAs).

Biodiversity conservation projects and initiatives in partner countries

With its African Forest Landscape Restoration Initiative (AFR100), Germany supports the efforts of its partner countries to restore productive forest landscapes and reduce the pressure to utilise remaining areas of primary forests. Under the framework of this initiative, at least 100 million hectares of forests or tree-rich African landscapes are to be restored by 2030.

Via the project to support territories and areas conserved by indigenous peoples and local communities (ICCAs), Germany supports indigenous peoples and local communities in 45 countries, assisting them in preserving their traditional living

environments and lifestyles, and in conserving biodiversity on some 8 million hectares of land, including by supporting up to 600 small-scale projects. The goal is for indigenous and local knowledge, and the ICCAs to be taken into account and recognised in urban planning processes.

With the new International Alliance against Health Risks in Wildlife Trade, Germany contributes to working with government organisations, civil society and research institutions to mitigate the risks to environmental, human and animal health in the wildlife trade sector. The guiding principle is the One Health approach. Zoonoses can thus be warded off better while conserving biological diversity at the same time.

With the REDD Programme for Early Movers, Germany and other donors have so far contributed in Colombia, Brazil and Ecuador not just to saving 74 million tonnes of CO₂, but also to biodiversity conservation by preserving forests. In 2015, Germany was among the founding members of the Central African Forest Initiative (CAFI), which was set up to support policies for forest protection and climate action in the Congo Basin. Forest protection means for CAFI above all poverty alleviation. CAFI fosters measures like: agroforestry, improved farming practices, participatory land use planning, family planning and good governance reforms.

Via the Seagrass Ecosystem Services Project in five Indo-Pacific countries (Indonesia, Malaysia, Philippines, Thailand, Timor-Leste), Germany nurtures the habitat of many animals and supporting the preservation of an important carbon sink. Through participatory approaches and sustainable business models, the project is fostering local involvement and investments in nature protection.

In Guatemala, Germany supports a project for business models for a socially compatible restoration of natural, biodiverse forests in cooperation with the private sector. Forest land has been restored through biodiverse agro-forestry systems. More than 900 hectares of restored land is being used for sustainable value chains for cocoa, honey and breadnut trees, creating income opportunities for the local population.

In Costa Rica and the Dominican Republic, Germany is funding a project for mainstreaming biodiversity in supply chains for food crops. On 79 plantations for pineapples and bananas, with a total area of 18,885 hectares, biodiversity protection is being improved. In Costa Rica, the development of a green label has been agreed upon with the environmental protection agency. The label will be awarded to operations where production meets high biodiversity-friendly standards.

The International Climate Initiative (IKI) is the most important instrument utilised by the German Government to support international climate action and biodiversity conservation. The IKI supports solution strategies in developing and emerging countries that seek to achieve sustainable change. IKI assists its partner countries to implement the Nationally Determined Contributions. Such development includes measures for adaptation to the impacts of climate change and for improving resilience to the unavoidable consequences. In relation to biodiversity, IKI supports partner countries in their efforts to achieve the targets agreed upon in the framework of the Convention on Biological Diversity with the aim of countering and reversing the dramatic losses incurred by natural habitats

and species diversity all over the planet. In the same light, the IKI looks forward to supporting its partner countries in implementing the new global biodiversity framework expected to be adopted at the upcoming Conference of Parties in China. To obtain IKI funding, proposed projects must be based in countries on a list prepared by the Development Assistance Committee. To date, IKI has approved funding for more than 750 climate and biodiversity projects in over 60 countries worldwide, with a total funding volume of 4.5 billion euros (2008–2020).

The Federal Ministry for Economic Cooperation and Development (BMZ) currently promotes the conservation and sustainable use of biodiversity in over 90 countries with more than 400 million euros annually. This makes Germany one of the largest bilateral donors worldwide for biodiversity and climate within the framework of international cooperation. The BMZ aims to remain one of the largest donors in this field. Contributions to multilateral institutions, such as the Global Environment Facility the World Bank, the UN Development Programme, the UN Environment Programme the Food and Agriculture Organisation and regional development banks, are to play a greater role in achieving the target framework in the coming years. Through its bilateral and regional engagement, the BMZ supports its partner countries, among other things, in expanding and tapping (new) sources of finance and in reducing environmentally harmful subsidies.

H. Adaptation

- 1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?**
- 2. If that is the case, could you indicate its main objectives, policy tools and measures?**

Questions 1 and 2 are answered together:

Yes, the Federal Government has adopted the German Adaptation Strategy (DAS).

Main objectives, policy tools and measures (adapted from the Second Progress Report on the German Strategy for Adaptation to Climate Change, DAS):

The aim is to ensure that the existing objectives in the various sectoral policy fields can be achieved under the new conditions created by climate change. The German Adaptation Strategy provides a policy framework for Germany's adaptation to climate change and facilitates a cross-sectoral approach by the federal government.

In Germany, climate change adaptation is an ongoing long-term task and is addressed within an institutional and methodological framework agreed at political level. Scientific research programmes and processes for participation and consultation have been set up, along with a continuous reporting system.

Adaptation to climate change is based on the precautionary principle: the aim is to prevent or minimise damage to people and the environment and build the capacities of state and non-state actors alike to handle the impacts of climate change. The coronavirus pandemic and climate change demonstrate, with increasing clarity, the interconnectedness and vulnerability of all spheres of life and the economy in Germany.

It is therefore becoming increasingly important, now and in future, to build resilience to climate impacts and other crises through preparedness over the long term and crisis management in the short term. This enhanced resilience will also contribute to achieving other important objectives that society has set itself, such as global and national sustainable development goals, greenhouse gas neutrality and the halting of biodiversity loss through enhanced protection of nature and the environment. For that reason, it is important to rely on nature-based solutions wherever possible, primarily because they offer great benefits from a precautionary perspective, but also because they safeguard basic, robust health and provisioning services, thus maintaining the functionality of the system as a whole even when individual elements are temporarily unavailable.

Principles and objectives of German Strategy for Adaptation to Climate Change (DAS):

The long-term objective of the DAS is to reduce the vulnerability of natural, social and economic systems to the impacts of climate change and to improve the adaptive capacity of these systems and take advantage of any opportunities at the same time. In order to identify action options, 15 fields of action are considered; these are (in alphabetic order): agriculture; biological diversity; the building sector; energy industry; financial services industry and insurance; fishery; forestry and forest management; human health; soil; tourism; trade and industry; transport and transport infrastructure; water regime; flood management and coastal protection; and cross-sectional topics: spatial, regional and physical development planning, and civil protection and emergency preparedness.

The work is supported and approved at federal government level under the auspices of the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection within the Interministerial Working Group on Adaptation to Climate Change (IMAA). The IMAA is made up of representatives from nearly all the federal ministries who coordinate activities and continuously set new goals to establish the conditions for climate change adaptation in Germany. The structures for cooperation have proved their worth. In addition, the Conference of Environment Ministers of the Federation and the Federal States has established the Standing Committee on Adaptation to Climate Change Impacts as part of the Federation-Länder Working Group on Climate, Energy, Mobility and Sustainability. The Standing Committee is the main coordination mechanism for cooperation with the Federal States and is the forum through which strategies and measures adopted by the Federal State administrations feed into work on the DAS.

The following principles, set forth in the DAS, were devised to provide guidance for the further development of the adaptation process and federal government action:

- openness and cooperation;*
- approach based on knowledge, flexibility and the precautionary principle;*
- subsidiarity, self-provision, adaptive capacity and proportionality;*
- integrated approach and consideration of climate change impacts in plans and decisions;*
- acting in the face of uncertainty;*

- *international responsibilities.*

Key outcomes and updates of the DAS are approved by Cabinet decision and published as IMAA reports (e.g. progress reports).

The DAS reporting cycle

Based on the methodologies agreed in the IMAA, a reporting system has been established for the process of planning climate change adaptation in Germany. The process can be divided into four phases based on the adaptation policy cycle:

1. Understand and describe climate change: The Monitoring Report provides an overview of the observed impacts of climate change and the adaptation measures already introduced in Germany. This provides a compact overview of the changes that can already be observed as a result of climate change using measured data.

2. Identify climate impacts and characterise vulnerabilities: The climate impact and vulnerability analysis (KWVA) identifies which fields of action and regions are particularly at risk from climate change and where there is a need for action. Reference periods are: the present, near future (2031-2060) and distant future (2071-2100). The KWVA was developed for the first time in 2015, the second KWVA was published in summer 2021.

3. Develop and implement measures: The Adaptation Action Plans (APAs) specify the current and future measures taken at the federal level to adapt to climate change. Among other things, they are based on the scientific findings and results of the KWVA. The APAs underpin the DAS by defining specific activities at the federal level and identify links with other national strategy processes. The APAs describe the measures to be implemented by the ministries within their respective spheres of responsibility.

4. Evaluation – observe, assess and develop adaptation: The strategy process and implementation of the DAS are evaluated on a regular basis. The first external evaluation was conducted in 2018. Evaluation of the DAS is performed in accordance with a methodology approved by the IMAA. The results of the evaluation were published as a scientific report in November 2019 and also underwent a review by the ministries; details of this review are included in a Progress Report. The Progress Reports set out practical steps for the further development and implementation of the German Adaptation Strategy. The report continues the process of outlining the framework for action on climate change adaptation in Germany.

The Monitoring Report is currently updated every four years; the climate impact and vulnerability analysis is updated every six years. The evaluation is conducted at four-yearly intervals. The DAS was updated in the 2015 and 2020 Progress Reports and approved by the Cabinet. Together with the Progress Reports, the measures identified in the Action Plans are currently updated every four years.

The DAS, APA and Progress Report in review

The German Adaptation Strategy (DAS) was adopted by the Federal Government in 2008. In order to flesh out the objectives laid down in the German Adaptation Strategy, the Federal Cabinet subsequently adopted the first Adaptation Action Plan (APA I) in 2011. The APA I underpins the German Adaptation Strategy with specific activities to be carried out by the federal government and identifies links

with other national strategic processes. In December 2015, the Federal Government adopted the first DAS Progress Report and the second Adaptation Action Plan (APA II). The second Progress Report and third Adaptation Action Plan were adopted in October 2020.

In its coalition agreement dating from November 2021, the parties forming the German Government agreed to prepare a Climate Change Adaptation Act, which would mandate, among others, the development of a precautionary adaptation strategy which will now also include concrete and measurable targets.

I. Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

The German Government implements different initiatives to increase involvement of socio-economic actors. In 2015, the then Federal Ministry for the Environment set up a comprehensive ex ante dialogue and participation process in order to give representatives of the federal states (Länder) and local authorities, business and industry and civil society associations, and the general public the opportunity to play an active role in developing the Climate Action Plan 2050 (the national Long-Term Strategy) and make suggestions for specific measures. A comprehensive participation process is also planned for updating the Climate Action Plan.

Since 2015, the Federal Government has been running the Climate Action Alliance, in which more than 200 associations and other institutions from business, civil society and science are members. It supports the federal government in achieving the climate protection goals for Germany. It was evaluated in 2021; a reform and continuation has not yet been decided.

Scientific support for climate protection policy is provided primarily by the Expert Council for Climate Issues and the Science Platform Climate Protection.

National Forum and Dialogue Fora on Biodiversity:

A series of dialogue fora were established from the end of 2007 in order to raise awareness about the National Biodiversity Strategy with its fields of action and measures; and to set their implementation in motion. These dialogues aim to bring the various actor groups into the implementation process. They include national dialogue fora with particular interest groups, such as business, conservation organisations and others as well as fora at the Länder (regional) level.

The National Forum on Biodiversity is an important part in this dialogue process. This involves the annual invitation of many different national actors to exchange views on the current state of the implementation process and encourage advances in their respective fields of action. The National Forum on Biodiversity thus offers one of Germany's most important platforms for exchanging scientific knowledge

and practical experience on the implementation of the National Biodiversity Strategy. Both formats will be continued as soon as the new NBS adopted.

Examples of National Dialogue Fora:

- *National Youth Congress: Every two years, the congress brings together motivated youth to learn and discuss about a specific biodiversity-related topic. In 2021/22 the issue is "Nature and Agriculture". Around 60 youth from different backgrounds (conventional agriculture, sustainable agriculture, nature protection) are part of this year's congress and will develop their own ideas about the issue. Based on these ideas, the participants will develop their own small (funded) projects. (<https://www.jugend-natur-landwirtschaft.de/>).*
- *Dialogue Fora with Religious Communities: In 2015, nine religious communities signed a declaration "Religions for Nature Conservation", in which they state their common understanding of key challenges in nature conservation. Since then, the initiative coordinated and organised regular meetings, events and workshops in the context of religion and nature. (<https://abrahamisches-forum.de/projekte/religionen-fuer-biologische-vielfalt/>)*
- *Platform for Dialogue and Action on Business and Biodiversity: The platform was established 2013, initiated by the Federal Ministry for the Environment. The overall aim was to support business implementation of the targets in the National Biodiversity Strategy. The platform is supported by a network of business federations, nature conservation organizations and administration. It focuses on voluntary action in industry and service sectors, dialogue, information and awareness raising:

 - annual national high-level Dialogue Forum
 - online events for specific issues like e.g. supply chain, voluntary commitments, sustainable finance
 - brochures, tools, platform for good practices
 - competitions (i.e. on supply chain and biodiversity)
 (<https://www.business-and-biodiversity.de/themenprojekte/plattform-unternehmen-biologische-vielfalt/>)*

Consultation process during National Biodiversity Strategy development process: During the development process of the new National Biodiversity Strategy, a broad stakeholder consultation process will take place.

The BMBF Research Initiative on the Conservation of Species is planning to more pronouncedly include various stakeholders in future activities.

The National Monitoring Centre for Biodiversity actively involves all monitoring actors (see question F.2) and also takes into account citizen science approaches.

2. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

Yes, the young generation is consistently involved in several processes. Examples are the National Youth Congress (see above), involvement of youth ambassadors during the UN-Decade of Biological Diversity (2011-2020), (planned) dialogue

youth platform "nature protection" or the consultation of youth representatives within the NBS development process. Moreover, in 2021 Germany published its first representative "Youth Nature Awareness Study".

Climate change and biodiversity are topics that have a great impact on the future and are therefore of major importance for young people. The previous government developed an overall youth strategy to draw more attention to the interests of young people with several lighthouse initiatives in the field of climate change and biodiversity. The Ministry for the Environment conducts a dedicated study on youth and environment every second year, which is accompanied by a youth council in every single step from study design to its presentation.

Within the framework of the Climate Action Alliance (see answer to question I.1), youth representation is guaranteed and young people and their organizations participate actively in the discussions of new policy measures. The Ministry for the Environment also actively supports initiatives by young people such as the Local Conference of Youth (LCOY).

3. Are there plans to increase such initiatives in the future?

It is the overall objective to further streamline youth participation and to enable young people to speak in their own interest at the various occasions and fora. Youth participation requires further empowerment and demands a willingness to listen and to be open to different views and perceptions. We will also involve young people intensively for example in updating the Climate Action Plan 2050 (see answer to question I.1). Experience shows that youth participation allows for new perspectives and improves the policy results.



Hamburg

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4 October 2021



BSPC Working Group on Climate Change and Biodiversity (CCB)

Intergovernmental survey

Adopted by the BSPC WG CCB on 4 October 2021

The governments of the BSPC member parliaments are kindly asked to send statements and answers to the following issues and questions to their respective parliaments until 28 February 2022:

- I. General information on the measures and strategies in the BSPC member states and regions

Climate change

Could you give a policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures? The report should preferably be structured according to the following policy areas:

1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);
2. Critical sectors where the need for additional measures is imminent;
3. Current and planned mitigation measures;
4. Measures and strategies for adaptation to climate change.

1.– 4.: In 2019 Hamburg adopted an update of its climate plan and a new climate protection act. According to this plan CO2 emissions are to be reduced by 55 percent by 2030 in comparison with 1990, and by at least 95 percent by 2050 in order to achieve climate neutrality. The climate plan sets reduction targets for the sectors "transport", "private households", "trade, commerce and services" and "industry" and contains tangible measures for 2020 – 2030. The Hamburg climate protection act creates a binding legal framework. The Hamburg Climate Plan also outlines the actions needed to protect citizens from impacts of climate change and to keep the urban infrastructure intact. It thereby mainly concentrates on the impacts of changing precipitation patterns, including cloudbursts, the adaptation to

increasing heat waves and sea level rise. For details, see [first-revision-hamburg-climate-plan.pdf](#)

The plan is currently being revised to be brought in line with the new national climate goals.

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?
2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine?
3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.

Biodiversity

1.:

Species and biotope protection

From flowing waters to extensively used grassland areas and forests, Hamburg offers habitats for many species, including rare ones as dormouse, kingfisher, brook lamprey, white-tailed eagle and peregrin falcon. Nearly 10 % of the Hamburg area is under nature protection. But parks, tree-lined gardens and green roofs can also be important biotopes.

The nature conservation policy in Hamburg focuses on the development of the biotope network. A species and biotope protection map with its accompanying explanatory report is an essential, legally binding component of the landscape program as a planning instrument. ([Bebauungspläne online Stadt Hamburg - hamburg.de](#))

It describes development goals for all areas of the city and specifies measures for protection, maintenance and development of the natural habitats including forests, moors, heaths or grasslands as well as residential areas and the harbour. Hamburg strives to build a strong biotope network as a strategy to safeguard rare species and habitats and to improve ecological connections.

The overall goals are:

- Preservation of valuable biotopes
- Restoration of near-natural habitats
- Preservation of not substitutable habitats
- Preservation and development of site diversity
- Protection of microhabitats and special habitats
- Safeguarding the needs of migratory species
- Biotope development also on urbanizations

FFH-Strategy:

36 habitat types and 80 species, which are protected under European law as rare and endangered natural assets can be found in Hamburg. Due to urbanization the majority of these assets are not in good condition. The nature conservation measures helpful for improving the status of the European protected species have been compiled in the "Strategy for improving the conservation status of FFH habitat types and species in Hamburg". At the core of this concept lie detailed profiles of each FFH habitat and FFH species in Hamburg,

data on their status and a comprehensive list of potential nature conservation measures inside and outside the protected areas. Examples are the enlargement and networking of heaths or more wilderness in forests or the Elbe floodplain. A diverse, intact nature also is important for recreation and leisure. In the last six years species protected by European law could be rediscovered in Hamburg (e.g., the beaver and the white-tailed eagle).

The reports should also include the following aspects:

- Each country's views on the root causes and drivers of the problem;
- National targets and how they have been met so far;
- Concerning the HELCOM BSAP implementation: what has helped in their implementation and/or why have some not been met, with concrete examples from each country
- Legislative measures: best practice examples on progressive legislation as well as the role of taxation and how far both helped in achieving the objectives
- Other support measures that can help in achieving the objectives.
- Has the COVID-19 pandemic had any impact whatsoever on achieving the measures?
- Are there concrete figures on what impact measures to combat the pandemic had on the volume of greenhouse gas emissions (transport, economy)?
- Are prosperity and an ecologically stable and sound environmental condition for future generations considered as a fundamental right in the decision-making processes?

II. Legal basis of the measures and strategies in the BSPP member states and regions

1. What are the main provisions to combat climate change?
2. Is there a climate protection law?
3. What are the main provisions on biodiversity?
- 1.-3.: *Please see answer to I*

4. Is there a law protecting biodiversity?

Yes, the Hamburg Act on the Implementation of the Federal Nature Conservation Act

III. Specific areas and aspects

A. Maritime areas and protected zones

1. How exactly are maritime areas protected?
2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?
3. What actions has your country taken to create functioning coastal ecosystems?
(Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.)

1.-3.: More than 90 % of the National Park "Hamburg Wadden Sea" area is strongly protected according to the Hamburg National Park Law.

B. Eutrophication

(Eutrophication is a major threat to biodiversity in the Baltic Sea and has a negative impact on both ecosystem function and ecological services. Mitigating eutrophication is essential for the protection of biodiversity.)

1. What actions does your country take to fulfil the BSAP and other directives?
2. Which objectives of the Baltic Sea Action Plan are planned to be realised in your country by when and by which measures?
3. How can we speed up the work?

1.-3.: To be answered by the German Federal Government as contracting partner of HELCOM

C. Sea-dumped munitions

1. Are there areas in your territorial waters that are contaminated with ammunition?
2. What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?

1.-2.: Does not apply to Hamburg.

D. Towards zero pollution

(Pollution harms our health and our environment. It is the largest environmental cause of multiple mental and physical diseases and of premature deaths, especially among children, people with certain medical conditions and the elderly. In addition to affecting people's health, pollution is one of the main reasons for the loss of biodiversity. It reduces the ability of ecosystems to provide services such as carbon sequestration and decontamination. Therefore, these questions are being asked.)

1. Is your government following a zero-pollution action plan for air, water and earth?
 2. What time horizon is planned for which intermediate steps and goals?
 3. Which measures in this direction have already been initiated or are to be realised?
- 1.-3.:*

Air:

The Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe sets binding air quality targets, implemented into German law by the Federal Immissions Control Act. It sets limit values for SO₂, NO₂, PM₁₀, PM_{2.5}, Pb, benzene, and CO, target values for O₃, arsenic, cadmium, nickel, and benzo(a)pyrene. In Hamburg, all target and limit values are met with one exception: the annual average for NO₂.

The Hamburg Air Quality plan from 2017 lists the following key measures:

- *Expansion public transport system*
- *Optimizing cycling infrastructure*
- *Low-emission and zero emission vehicles*
- *Modernization of busses and rail*
- *Reduction of emissions from shipping and port logistics*
- *Energy transition (renewable energy, decarbonization of heat supply, energy efficiency)*

The implementation is ongoing.

Water:

As required by the EU Water Framework Directive, Hamburg is participating in the management plan for the Elbe River basin and the associated action plan that has been

adopted recently for the period of 2022 - 2027. The EU-Directive aims at establishing a good ecological status of all water bodies. Most measures of the action plan focus on improvements in waterbody structure which improve habitats, reduce nutrients and pollutants, and increase structural diversity.

The implementation is ongoing.

Soil:

Decades of industrial use have left traces in Hamburg's soil and groundwater.

Numerous sites pose hazards to people and the environment, which are systematically eliminated as part of contaminated site management. In Hamburg, areas suspected of being contaminated have been recorded, investigated and, if necessary, remediated since 1979. The register lists 1540 suspected contaminated sites, 5321 sites for which the suspicion of danger has already been eliminated and 235 sites that are still to be clarified. 521 sites are identified as contaminated and 708 are remediated and can be used again. Measures within the framework of hazard prevention are intended to ensure that humans are not exposed to critical soil contamination on sensitively used areas as playgrounds, residential areas, parks, and recreational areas as well as agriculturally used areas and allotments.

4. What concrete projects for the avoidance of plastic pollution is your government supporting?
 - *The Hamburg Environmental partnership – an initiative of the City of Hamburg and the private sector – joined the initiative “Plastic Free City” (Plastikfreie Stadt).*
 - *The administration is to follow binding guidelines for sustainable public procurement.*
 - *The app “Zero Waste Map” helps Hamburg's citizens to shop without packaging waste.*
 - *The City of Hamburg works with private coffee shops and cafés in an alliance against to-go coffee cups*
 - *The public waste management utility Stadtreinigung Hamburg takes part in the annual “World Clean-up Day”*
 - *The City of Hamburg supports the hotel and catering industry in fulfilling the requirements of offering reusable packaging alternatives entering into force in Europe in 2023.*
5. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?

Many single-use plastic products have been banned in the EU since July 3, 2021. These include drinking straws, stirrers, balloon wands and disposable tableware made from conventional plastic and "bioplastics". To-go cups and disposable containers made of Styrofoam may also no longer be produced and marketed in the EU.

E. Economy

1. What are the investment priorities of the state to reduce CO₂ emissions?

The national priorities are to be outlined by the federal government.

The implementation of the Hamburg climate plan requires considerable financial resources, up to 2030 a total volume of around 2 billion euros is assumed. Hamburg will not be able to provide these financial resources on her own but will also need financial support from the federal government. Significant projects are already being planned within the respective ministries or public enterprises (e.g., expansion of public transport) and therefore cannot be estimated separately. An equally substantial proportion of the projects is financed by private stakeholders, in particular by business and industry.

For public investments the cost-efficiency principle under the state budgetary regulation applies in all areas. Priority should be given to measures that contribute most to the CO₂ reduction and achieve the best cost-benefit ratio. Hamburg's public enterprises have to aim for CO₂-reduction paths that are economically viable for each company and socially acceptable for the customers of these companies. Furthermore, additional funds from the Federal Government are required for cities and municipalities in order to meet the enormous financial challenges of climate mitigation.

2. What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?

The Hamburg climate action plan outlines mitigation measures for the time period up to 2030 and – as yet – does not include CCS and CCU.

3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

In Germany, the use of coal will be phased out by 2038 at the latest. Hamburg will be even faster and wants to phase out coal usage in its district heating by 2030 at the latest.

4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

The North German Hydrogen Strategy is the result of intensive cross-state cooperation in the North German region involving stakeholders from industry, science and administration.

Northern Germany has unique regional advantages for the development of a green hydrogen economy:

- *high and optimal generation capacities for onshore and offshore wind power with potential for expansion*
- *suitable underground formations for hydrogen storage*
- *seaports as logistics and value creation centres, e.g., for import and distribution of green hydrogen as well as export of hydrogen technologies and components*
- *maritime companies and scientific expertise*
- *industries with extensive experience in handling hydrogen*
- *six northern German "real laboratories of the energy transition", which are building up know-how*

For now, hydrogen should be used in sectors with the least options to cut carbon emissions. By 2035, the green hydrogen economy should supply all customers interested in green hydrogen. To achieve a competitive price for green hydrogen, the regulatory framework has to be reformed, and support programs for financing are to be established. At least 500 megawatts of electrolysis capacity are to be installed in northern Germany by 2025, and at least five gigawatts by 2030.

Hydrogen hubs are to bundle production, distribution and use, e.g. in mobility and industry. For a sufficient supply of green hydrogen for mobility and industry, the North German potential of renewable energy production will not be sufficient, imports via pipeline or the North German seaports are necessary.

In the mobility sector a network of hydrogen refuelling stations is to be established. The five northern German states will strive to exceed the minimum quotas for the procurement of clean road vehicles resulting from the Clean Vehicles Directive.

Cooperation between industry and science will be strengthened. Cross-national exchange between licensing authorities and optimized licensing procedures will help accelerate investment in hydrogen production, distribution and use. Appropriate structures will be established together with all stakeholders and coordinated by a ministerial working group.

The Hydrogen market ramp-up is supported by the European Union via the IPCEI Hydrogen Program (important projects of common European interest). Germany participates with overall 62 projects, which triggers investments at round about 33 billion euros in this sector.

F. Innovation

1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?
2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?
3. What effects are expected from current support measures

1.-3.: *In Hamburg Universities, research institutes and federal authorities have joint forces and formed the network ClimaCampusHamburg focusing on climate, climate change and climate consequences.*

Twelve Hamburg institutions are currently involved in KlimaCampus Hamburg. They conduct basic research, such as the Max Planck Institute for Meteorology, the University of Hamburg and the Helmholtz-Zentrum Geesthacht, or they work in the applied field, such as the Technical University of Hamburg-Harburg and HafenCity University.

In addition, there are federal authorities: the Maritime Meteorological Office of the German Meteorological Service, the Federal Maritime and Hydrographic Agency and the Federal Waterways Engineering and Research Institute. Other partners in the network are the Hamburg Institute of International Economics and the Institute for Peace Research and Security Policy, the Climate Service Center Germany (GERICS) and the German Climate Computing Center.

The cooperation of the partners is accompanied by the Ministry for Environment, Climate, Energy and Agriculture (BUKEA) and the Ministry for Science, Research and Equality (BWFG) of the Free and Hanseatic City of Hamburg. The BUKEA coordinates Hamburg's climate policy, which includes adaptation to climate change as an essential component. Climate research, as one of the major research foci in Hamburg, is particularly promoted by the BWFG.

G. International cooperation

1. In which fields are there concrete cooperation and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

Hamburg works in a wide range of EU Projects together with other European cities and regions. Examples:

- *MySMARTLife aims at making the three lighthouse cities of Nantes, Hamburg and Helsinki more environmentally friendly by reducing the CO₂ emissions of cities and increasing the use of renewable energy sources.*
 - *RECONNECT Regenerating Ecosystems with Nature-based solutions for hydro-meteorological risk reduction (Partners from Austria, Belgium, Bulgaria, Croatia, Denmark, France, Germany, Italy, Netherlands, Poland, Serbia, Spain, Sweden, Switzerland, UK)*
 - *MOLOC Low Carbon Urban Morphology (Partners from Italy, Poland, Romania)*
 - *Land-Sea - Sustainability of the Land-sea System for Eco-tourism (Partners from Italy, Spain, Bulgaria)*
2. Are increased cooperation and the implementation of joint projects planned for the future?
 3. What effects are expected as a result?

2.-3.: The Hanseatic City of Hamburg holds a long tradition in international cooperation. Its added value for regional and local development is strongly recognised and systematically used. Hamburg has forged strong and close links with cities & regions all over Europe that are beneficial for all parties involved and is participating in a variety of European projects (INTERREG, Horizon, LIFE, CEF etc.)

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

Hamburg is working with its partner cities in developing countries (Leon, Nicaragua and Dar-Es Salaam in Tanzania, mainly in the field of the sustainable use of biowaste and wastewater infrastructure and treatment. The scale of the projects cannot be compared to the efforts on national level.

H. Adaptation

1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?
2. If that is the case, could you indicate its main objectives, policy tools and measures?

1.-2.: The Climate Adaptation Transformation Path is part of the Hamburg Climate Plan (see answer to I). It follows the overall goal of developing Hamburg into a climate-resilient city including protection from the direct effects of climate risks, e.g. through disaster management (including storm surge warnings and risk communication) and health protection (including heatwave warnings); further development of the urban infrastructure to adapt to climate change, e.g. preventing flooding due to cloudbursts, measures to secure the supply of drinking water and electricity. Climate change will have a wide range of effects on life in Hamburg, including the water regime and urban climate, the tree stock and green spaces. In the long-term challenges will arise in flood protection, an existential matter for Hamburg, which must be confronted with the most recent up-to-date scientific knowledge. This applies not only to storm surge protection which must be adjusted to the anticipated rise in sea level but also to inland flood protection. All the rest of the critical urban infrastructures must also be adapted to climate change.

Adaptation tasks in essential public services

- *Water management framework plan*
- *Comprehensive implementation of tried and tested rain infrastructure adaptation measures*
- *Storm surge protection facing rising sea levels*
- *Adapted inland flood protection*
- *Operational capability / disposal capacity of wastewater removal*
- *Security in drinking water and energy supply*
- *Civil protection: disaster reduction and disaster management*

- *Development of green network (heat prevention and promotion of natural water cycles)*
- *Roof and façade greening*
- *Maintaining and developing trees in the city*
- *Developing guidelines for building requirements*

I. Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

In 2003 the Hamburg Senate launched the Environmental Partnership ("UmweltPartnerschaft") a network of currently around 1,250 private sector companies. Active partners in the network voluntarily do more for environmental and climate protection than is required by law. Together with the Hamburg Chamber of Commerce, the Hamburg Chamber of Crafts, the Industrial Association Hamburg, and the Harbour Business Association the network supports private enterprises in implementing new environmental protection measures.

As an independent body, the Climate Advisory Council advises the Hamburg Senate and the administration on the implementation of the Hamburg Climate Protection Act and the Climate Plan. In addition, the expert body sees itself as a source of impetus for climate policy.

The Energy Transition Advisory Council provides a forum for regional stakeholders to influence the energy transition policy of the Free and Hanseatic City of Hamburg. The committee includes representatives from environmental associations and initiatives, chambers of commerce, business and tenants' associations, trade unions and works councils, academia, as well as the parliamentary parties and the city administration.

The Nature Conservation Council is an honorary body of experts anchored in the Hamburg Nature Conservation Act and appointed by the Senate at the suggestion of the Hamburg Environmental Authority. It represents the interests of nature conservation and landscape management in public and advises the responsible authority.

2. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

Hamburg has supported initiatives such as the climathon, a worldwide 24-hours hackaton, aiming especially at young people. It brings together different actors in order to jointly develop solutions for more climate protection and climate justice

3. Are there plans to increase such initiatives in the future?



Latvia

I. General information on the measures and strategies in the BSPC member states and regions

Climate change

Could you give a policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures? The report should preferably be structured according to the following policy areas:

1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time - concrete measures to achieve the goals).

Latvia has committed to reach climate neutrality at national level by 2050. The government has approved the number of documents essential to move forward the climate change agenda.

At the beginning of 2020 Latvia submitted to the European Commission Latvia's strategy for achieving climate neutrality by 2050.

Latvia is fully committed to the enhanced EU's greenhouse gas (GHG) emission reduction target of at least 55 percent in 2030 compared to 1990 for the EU to become climate neutral by 2050.

At the beginning of 2020, Latvia have submitted to the European Commission National energy and climate plan 2021-2030 (NECP)¹. The long-term objective of NECP is to promote the development of a climate-neutral economy by improving energy security and public welfare in a sustainable, competitive, cost-efficient way, based on market principles. NECP includes targets, where many of the numerical targets are set by EU legislation, such as the GHG emissions reduction target for non-ETS sectors (-6% in 2030 comparing to 2005), the target for the share of RES in energy consumption in transport (7% in 2030), the share of advanced biofuels and biogas in energy consumption in transport (3,5% in 2030), the interconnection target (60% of total generation capacity), where the EU legislation makes it obligatory to set targets, including specific conditions applying to the targets.

2. Critical sectors where the need for additional measures is imminent.

Transition to renewable energy, especially wind and solar energy, improving energy efficiency, modernisation of power infrastructure and increasing electricity inter-connection are measures for greater GHG emission reduction in energy sector as it is one of largest GHG emission sectors in Latvia. We believe various measures, solutions and methods like innovative renewable energy technologies and digitalization of energy systems can ensure new job creation, increase national competitiveness, energy security, independence and accelerating transition towards climate neutrality.

Innovations and technologies related to tackling climate change is a key factor in developing new policy initiatives in various sectors. More active involvement and cooperation of science and business is needed to achieve climate targets through synergies

¹ https://energy.ec.europa.eu/system/files/2020-04/lv_final_necp_main_en_0.pdf

between different financial instruments, public support mechanisms and private financial resources.

Emission reduction in non-ETS sectors – transport, agriculture and “small” energy will be the substantial challenge for Latvia in the coming years. It is also necessary to promote lifestyle changes and to raise public awareness regarding mitigation and adaptation to climate change.

In addition, transitioning towards climate neutrality cannot take place without a significant shift in investment flows and financing.

3. Current and planned mitigation measures.

The Government of Latvia approved the National Energy and Climate Plan 2021- 2030 (NECP)² in January 2020. NECP outlines policies and measures that will enable Latvia to attain the targets specified in the adopted Government documents and adopted in the EU for 2030, to systematically set the course for achieving climate neutrality by 2050. NECP covers objectives of all the dimensions of Governance Regulation³ as well as policies and measures required to reach them.

Also, in accordance with the Governance Regulation all Member States must report to Commission information on their national policies and measures or group of measures and their national projections of anthropogenic greenhouse gas emissions. Latvia has prepared and submitted this report to European Commission in 2021. The information available online⁴ and describes policies and measures in depth.

The main sectoral policies and measures included are:

Energy sector

- *Renewable energy:*
 - *Preferential feed-in tariffs for RES electricity and CHP electricity producers;*
 - *Investment support to promote RES, by-products and waste use for bioeconomy development;*
- *Energy efficiency:*
 - *Investment support programme for district heating systems, 2014–2020;*
 - *Investment support programme to increase energy efficiency in multi-apartment buildings, 2014–2020;*
 - *Investment support programme to increase energy efficiency in public sector buildings, 2014–2020;*
 - *Investment support in the manufacturing industry sector to promote energy efficiency and RES use;*

Transport sector

- *Biofuel Mix Obligation Requirement;*
- *Fuel economy rating labelling on new passenger cars;*

² https://energy.ec.europa.eu/topics/energy-strategy/national-energy-and-climate-plans-necps_en

³ the European Parliament and of the Council Regulation (EU) No. 2018/1999 of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013

⁴ <https://reportnet.europa.eu/public/country/LV>

- *Annual taxation of vehicles;*
- *Electric vehicles charging infrastructure development programme;*

Industrial processes and product use sector

- *Promoting the use of best available industrial process technologies;*
- *In last year's work on collaboration between institutions to manage and reduce f-gases;*
- *We have also participated in informative actions in Baltic states;*

Agriculture sector

- *restricting nitrogen use in nitrate vulnerable zones;*
- *fertilization planning;*
- *requirements for the collection, storage and disposal of manure;*
- *integrated farming (crop rotation, soil tests, field monitoring, etc.);*
- *the introduction of leguminous plants on arable land to fix nitrogen and sequester carbon;*
- *organic farming;*
- *biogas production from animal manure;*
- *and the application of precision fertilization and livestock feeding;*
- *as well as the renovation of existing amelioration systems or construction of new ones;*

Waste management sector

- *Increase preparation of Refused derived fuel;*
- *Increase biological waste treatment;*

Forest-related measures are intended to improve overall forest management. Some measures, such as the regeneration of forest stands after natural disturbances, pre-commercial thinning and the reconstruction of drainage systems are planned measures, to be implemented from 2021 onward, at which point any mitigation contribution could count towards the 2030 target, consistent with the EU regulation on land use, land use change and forestry (LULUCF). In terms of the impact of LULUCF measures, the largest mitigation impact is expected to come from pre-commercial thinning.

4. Measures and strategies for adaptation to climate change.

Regarding climate change adaptation policy, on 17 July 2019 Cabinet on Ministers of Latvia approved the Latvian National Plan for Adaptation to Climate Change until 2030 setting out more than 80 concrete actions on adaptation to be implemented in the future. Adaptation actions will help the population and economy of Latvia better to adapt to climate change and thus reduce the loss and damage caused by climate change.

The adaptation activities are based on risk and vulnerability assessment and identification of adaptation measures in six areas: landscape and tourism, biodiversity and ecosystem services, civil protection and disaster management, construction and infrastructure planning, health and welfare, agriculture and forestry. Adaptation activities also include actions such as enhancing the early warning system, developing a set of possible solutions to abate coastal erosion, improving urban rainwater systems and developing green infrastructure.

Biodiversity

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?

The long-term framework of national policy in the field of sustainable development is set by the Sustainable Development Strategy of Latvia until 2030 (the Strategy) that was approved by Parliament in 2010 as the main national long-term development planning document. In the field of sustainable management of natural values and ecosystem services, the Strategy declared that the objective for Latvia is to become the EU leader in the preservation, increased and sustainable use of natural capital. Under this priority, the following long-term actions are envisaged: management of natural capital, creation of market instruments, capitalisation of natural assets, and promotion of a sustainable lifestyle.

The Environmental Policy Strategy (EPS) for 2014 - 2020 is a medium-term policy planning document that covers environmental aspects of sustainable development. The EPS provides for goals, targets and actions in the field of the environmental protection, nature conservation and climate change policies and takes into account regional development issues, maritime spatial planning and other aspects of spatial development planning. In the field of biodiversity EPS sets the goal – to ensure quality of ecosystems, balancing of nature conservation and socio-economic interests as well as to further promote “green” country image for Latvia.

The draft Environmental Policy Strategy for 2021 – 2027 currently being coordinated, in the field of biodiversity sets the goal – to conserve and restore ecosystems and biodiversity. Maritime Spatial Plan (MSP) for internal sea waters, territorial sea and exclusive economic zone of Latvia 2030 is a national level long-term spatial development planning document that defines the use of the sea, considering a terrestrial part that is functionally interlinked with the sea and co-ordinating interests of various sectors and local governments in use of the sea. MSP is approved in 2019.

As noted into EU Environmental Implementation Review 2019 Latvia has pioneered a mapping and assessment of ecosystems and their services assessment for its marine waters, including internal marine waters, territorial waters and exclusive economic zone. An analysis of the benefits of marine ecosystem services is also carried out as part of the marine assessment. The assessment was performed in 2016 as one of the steps for implementing an ecosystem-based approach in development of the national MSP.

The system of nature protection in Latvia is mainly regulated by two laws, namely, the Law on Species and Habitats Protection and the Law on Specially Protected Nature Territories. Based on these laws, the Cabinet of Ministers has adopted several supporting regulations. In general, legislation on nature conservation in Latvia is in line with the EU Directives and includes the provisions of the CBD and other conventions. Additional specific nature protection requirements are included in sectoral (e.g. forestry, agriculture, fishery, spatial planning, building) legislation.

Funding for the nature conservation activities is provided by national and EU funds. Apart from the general funding from the state budget, nature related projects have been supported also from national funds earmarked for specific purposes, e.g. environmental, fishery, forestry funds. Compensatory payments from the national and EU funds are

provided for the restrictions of the economic activity in the protected areas (mainly forestry restrictions). EU Cohesion funds provide funding for the development of the nature management plans and implementation of them, mainly focusing on the development of the tourism infrastructure and habitat restoration. Latvia has been successful in attracting funding from the EU LIFE program, which in the past has been very significant funding source for the nature conservation activities.

In 2017 the National Conservation and Management Programme for Natura 2000 sites (2018-2030) was developed for a programmatic approach to the long term conservation and management of the Natura 2000 network. The Programme describes and prioritizes the management actions to be taken within each protected area and measures the necessary financing. The estimated habitat restoration and management costs for coastal habitats and heaths, rivers and lakes, grasslands, mires and spring habitats and forests are 33 078 980 euro or 39 694 776 euro (including administrative costs needed for carrying out restoration and management measures). In 2021 Latvia pursuant to the Habitat directives has elaborated and submitted the Priority Action framework for Natura 2000 network 2021-2027. Annual estimated costs for the appropriate management of the Natura 2000 network as well as support and compensatory payments by far surpasses costs estimated in the National Conservation and Management Programme for Natura 2000 sites (2018-2030).

The recent Habitats Directive's Article 17 report (2019) (<http://cdr.eionet.europa.eu/lv/eu/art17/envxwalvg/>) on the status of species and habitats shows that only 11% of habitat types of the EU importance are in a favourable conservation status in Latvia.

According to the Article 17 Habitats Directive's report, 90 % (7 of 8) of marine and coastal habitats in the Baltic Sea and Boreal regions in Latvia are in an inadequate conservation status. 10 % (1 of 8) are in an unknown conservation status. The main threats to marine and coastal habitats are tourism and leisure activities, urbanization, expansive and invasive species, overgrowing due to the lack of regular management and changes in agricultural practices, pollution, eutrophication, fragmentation and isolation, changes in sediment flow.

2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity - terrestrial as well as marine?

Grasslands

Semi-natural grasslands (meadows and pastures) are among the most diverse and richest habitats, yet at the same time increasingly threatened. Grasslands host 520 plant species (one-third of Latvia's flora), including 40% of all protected plant species. Numerous bird species breed in semi-natural grasslands or use them as nesting and feeding grounds. Many grassland flora and fauna species are decreasing while habitat loss and degradation increase. Grasslands' coverage has significantly declined since the mid-20th century, when they represented around 13% of the territory. As a result of agricultural land expansion, natural grasslands have shrunk to around 0.3% of the land area.

Forests

Forests are an important source of biodiversity, with old stands especially providing valuable habitats for animal and plant species. The largest forests are in the northwest, on the Kurzeme Peninsula; along the banks of the Daugava; and in the northeast, where conifers (pine and spruce) predominate. Birch, aspen and alder are the main deciduous species. The typical representatives of Latvian forest fauna are game animals. Protected species are brown bear (~20 individuals), dormouse and northern birch mouse. There is large diversity of bird species: out of 330 wild bird species, more than 100 can be found in forests. Latvian forests are nesting areas for 5% of the world population of black stork. Intensive forest management has replaced old forests with younger ones, with negative effects on biodiversity.

Wetlands, bogs and peatlands

Bogs are a type of wetland, which refers to land that is covered or saturated by water for all or part of the year. Peatlands are wetlands drained for peat extraction. There are 8 protected bog habitats and more than 50 protected plant species – mostly orchids and sedges. Storks and herons are usually found in marshes and meadows. Bogs are organic carbon sinks. The large majority of bogs (70%) are in pristine condition, while the remainder are affected by peat extraction and drainage.

Inland waters

Latvia's 12 400 rivers and over 2 000 lakes host 2 680 algae, 1 614 invertebrate, 40 fish and 3 lamprey species. Salmon and trout are examples of specially protected species, and 27 habitats are protected. More than half of inland waters originate in neighbouring countries, which leaves them exposed to transboundary pollution and accidents (EEA, 2015), hazards to which freshwater species are particularly vulnerable. Other threats to biodiversity are eutrophication, hydroelectric power stations and poaching.

Coastal and marine areas

Coasts offer wide diversity of habitats and species. Seven marine and more than 40 coastal areas are Natura 2000 sites. The greatest biodiversity is found in coastal areas where benthic algae grow. The main threats to biodiversity in coastal areas are habitat degradation (due to tourism and recreational activities), habitat loss (due to housing development), expansion of invasive species and low environmental awareness. In marine areas, eutrophication and invasive species are the biggest challenges.

3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.

In Latvia, the main pressures on habitats and species are natural system modifications, which entail fragmentation and degradation of ecosystems as a result of human activity, including dam construction, changes of hydrological regime and land reclamation. Other threats are resource use (e.g. intensive forestry), pollution, agricultural expansion, urban development and climate change.

For grasslands the main threats include the intensification of the agriculture activities from the one hand and abandonment from the other.

The main threats to biodiversity in coastal areas are habitat degradation (due to tourism and recreational activities), habitat loss (due to housing development), expansion of

invasive species and low environmental awareness. In marine areas, eutrophication and invasive species are the biggest challenges.

The reports should also include the following aspects:

- Each country's views on the root causes and drivers of the problem

Government of Latvia has set the climate change as one of state priorities. Thus, contribution of climate related targets should aim towards the process of joint multilateral efforts and cooperation. As these challenges require far-reaching policies it is necessary to continue collaboration between scientists, decision makers and sectors catalysing new ways in the climate agenda and engaging the scientists and community to explore and assess solutions to tackle climate change as one of the major global challenges.

As in-depth transformation of the economy and society is needed, it is important that the transformation is just and fair, leaving no one behind. Transition towards climate neutrality must be aligned with the significant investment flows and financing.

Regarding the challenges of decarbonisation in different sectors of the economy, the transition to climate neutrality could be the most difficult for both financial and technological reasons. The energy sector has the greatest potential in the short and medium term to implement decarbonisation measures. It is important to strengthen cooperation on climate neutrality and resilience through various channels. The close cooperation and coordination with different sectors as well as at the EU level should continue.

- National targets and how they have been met so far.

Latvia has a national target of limiting its emission growth to 17% above the 2005 level by 2020 for sectors under the ESD and is on track to achieve that target. According to the 2021 report on policies, measures and GHG projections, projections⁵ [with existing measures] Latvia's GHG emissions in non-ETS sectors in 2020 will be about 12% below annual emission allocation for 2020.

According to the 2021 report on policies, measures and GHG projections in scenario with additional measures in 2030, Latvia will decrease its emissions about 11% compared to 2005. Regulation No. 2018/842 sets Latvia a non-ETS target to reduce its emission to -6% in 2030 comparing to 2005. Regulation No. 2018/842 proposal⁶ has the 17% GHG emission reduction target for non-ETS sector for Latvia in 2030 (compared to 2005).

- Concerning the HELCOM BSAP implementation: what has helped in their implementation and/or why have some not been met, with concrete examples from each country.

Latvia is a Contracting Party to the Convention on the Protection of the Marine Environment of the Baltic Sea Area (1992) since 1994. Participation in the Helsinki Commission (HELCOM) activities is an advantage and opportunities for information and knowledge exchange and joint projects and actions provided by the Convention and

⁵ Submitted to EC in April 14 2021

⁶ Set by EC in July 14 2021 un fit for 55 package <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A555%3AFIN>

strategic Baltic Sea Action Plan (BSAP). Through regional cooperation in the HELCOM it is possible to harmonise marine environment monitoring programmes and to develop environmental status assessments and joint action plans and cooperate on other marine issues. Participation in the HELCOM gives us targets, advice and access to common tools, experience, and knowledge, and supports implementation of the EU Marine Strategy Directive.

Development of legal basis for marine environment protection and sustainable management. We have developed a regulatory basis for comprehensive assessment of marine waters and systematic long-term planning of the necessary actions. In 2010 Latvian Parliament (Saeima) adopted Marine Environment Protection and Management Law. There was no comprehensive legal framework for the protection of the marine environment in Latvia until the adoption of the Law. The Law contributed to the development of regulation in the areas of previously unregulated sea use, such as offshore building, as well as set the basis for maritime spatial planning. Besides, it initiated a reiterative process of monitoring and assessment of marine waters and planning of the activities for the achievement of good status of marine waters.

Maritime Spatial Plan (MSP) 2030 was approved by the Government on May 14, 2019. MSP process and related activities has brought together stakeholders interested in the use of the sea. Discussions and exchange of opinions have also given opportunity to learn from each other and strengthened the understanding for need to care about the environment. Through the Latvian MSP and participation in HELCOM/VASAB MSP working group Latvia implements the BSAP actions regarding ecosystem-based MSP in the Baltic Sea Region, inter alia, in a transboundary context.

Investments: To curb eutrophication Latvia has invested a lot in reduction of nutrients pollution coming from point sources. Since year 2000, more than €850 million has been invested in the development of water and wastewater management infrastructure, corresponding to 71% of all environmental investments. The total amount of wastewater has also decreased significantly during the last 20 years. In the last years we are concentrating on reduction of pollution from individual wastewater collection or treatment systems by issuing a new regulation on their operation, registration, and maintenance.

However, currently diffuse sources (runoff from agricultural and forest lands) are the main contributors to the nutrient pollution, especially nitrogen, like in other HELCOM and European countries. Both river basin management plans and Common Agricultural Policy support mechanisms included in the Latvian Rural Development Programme/CAP Strategic Plan propose measures to reduce impacts from diffuse sources. However, as many of these measures are voluntary, reduction of pollution from diffuse sources remain a challenge.

To boost policy decisions on a best available scientific knowledge, marine scientific research has developed during the last 10 years - Latvian Institute of Aquatic Ecology (LIAE) has participated in or led more than 40 international and national research projects devoted to issues of marine environment and sustainability of marine resources. Currently LIAE is carrying out a broad 5-year research study (2017-2022) "Improvement of knowledge in the field of marine environment" funded by the European Maritime and Fisheries Fund (EMFF). This focused research will result in new knowledge about marine ecosystem and impacting factors, as well as social and economic aspects. Another recent LIAE project is "Research of marine protected habitats in Latvian Exclusive Economic

Zone (EEZ) and determination of the necessary conservation status in Latvia" (LIFE REEF) project, which aims to define justified conservation status of protected habitats and contribute to comprehensive management system of marine protected areas in Latvian EEZ. In such a way Latvia contributes to the development of effectively managed and ecologically coherent network of marine protected areas in the Baltic Sea.

Overall, the BSAP (2007) can be considered to have been partially implemented in Latvia: almost fully in maritime affairs, response activities and biodiversity segments, but still problems remain regarding eutrophication and hazardous substances. The status of the Baltic Sea is affected by combination of climate change and anthropogenic activity. If we cannot tackle the climate change with full force due to its scale, then we must work to reduce the anthropogenic impact to the lowest possible level. Challenges, such as increasing amount of marine litter, both macroscopic and microscopic size, as well as spread of alien species causing changes in local habitats and impacting local species through predation and competition, remain and will be addressed also by implementation of the updated BSAP (2021).

- Legislative measures: best practice examples on progressive legislation as well as the role of taxation and how far both helped in achieving the objectives.

Greening tax system, introducing an effective carbon tax on fossil fuels, while introducing an appropriate support system for vulnerable consumers, will facilitate the transition to greater use of renewable energy resources and contribute to both GHG emission reductions and climate neutrality.

At a local level promoting municipal participation in the initiatives of domestic and international "municipalities learn from municipalities" (such as the Mayors Covenant of Mayors), taking into account their potential in mitigating climate change and sharing experiences must be mentioned.

Climate action at local level reveal impressive success stories, including cities initiatives to undertake even more ambitious climate targets than expected and capable of setting carbon neutrality targets.

In Latvia several municipalities/cities have developed their climate change adaptation strategies. Within Covenant of Mayors, 23 municipalities/cities have committed to develop Sustainable Energy (and Climate) Action Plan (SECAP). Action plan describes the steps towards its 2020 or 2030 targets. Other municipalities have developed their climate change adaptation strategies or included climate change adaptation parts in SECAPs or development programs. The main task for local governments is to assess which climate change risks are already causing and in the future will cause the greatest threat to the residents of the region, entrepreneurs and infrastructure.

- Other support measures that can help in achieving the objectives.

Education and development of skills, research, innovation and digital transformation will have a far-reaching role in transitioning to climate neutrality and also post-Covid recovery, therefore investments for these areas are crucial.

- Has the COVID-19 pandemic had any impact whatsoever on achieving the measures?

COVID -19 has presented immense challenges for government. Primary among these is how we recover from the pandemic, stimulate economic growth and create employment while ensuring we also address the linked challenges of tackling climate change.

Last year the Government of Latvia has endorsed several initiatives to ensure that economic recovery from challenges posed by COVID-19 crisis is in line with climate objectives. It includes allocation of funding to municipal investment projects aimed at increasing energy efficiency in multi-apartment buildings, creating public infrastructure and promoting business development in order to create new green jobs.

- Are there concrete figures on what impact measures to combat the pandemic had on the volume of greenhouse gas emissions (transport, economy)?

One of the challenges in projecting the transport sector's performance is to assume the duration and depth of the impact of the Covid-19 pandemic. The greatest short-term impact is on passenger transport in international aviation, and it is assumed that transport will return to pre-crisis levels by 2025.

Domestic passenger transportation by public transport has declined due to the Covid-19 pandemic, and it is assumed that passenger transportation by private cars will return to baseline levels faster than by public transportation.

To assess economic growth and prepare GHG projections The Ministry of Economics in 2020 has prepared a base scenario for economic growth and a corresponding macroeconomic forecast. The scenario was developed in line with the settings of the structural policy of Latvia, as set out in the policy documents – “Sustainable Development Strategy of Latvia until 2030”, “Latvia's National Development Plan for 2021-2027”. It also takes into account the impacts of the Covid-19 pandemic and analyses the processes that drive the development of the global economy. The baseline scenario expects the economy return to growth in 2021, following the fall due to Covid-19 crisis in 2020, as the global pandemic will gradually end and government measures will be effective for economic recovery. In the medium term, Latvian companies will also be able to adapt relatively successfully to the changes caused by the Covid-19 crisis, for example in relation to the expected change in consumer behaviour.

- Are prosperity and an ecologically stable and sound environmental condition for future generations considered as a fundamental right in the decision-making processes?

According to Article 155 of The Constitution (Satversme) the State shall protect the right of everyone to live in a benevolent environment by providing information about environmental conditions and by promoting the preservation and improvement of the environment.

The practice of the Supreme Court of the Republic of Latvia (the Senate) has firmly established the notion that the application for the protection of public interests in the field of environmental protection in Latvia is very extensive that also calls for public involvement. Section 9, Paragraph three of the Environmental Protection Law, in particular the objectives of the law ensure the preservation and restoration of the

environment, as well as the sustainable use of natural resources, provides for the right of any person and groups (associations, organizations) on environmental issues. The legislator has emphasized a compelling and sensitive area in which enhanced legal protection is needed.

II Legal basis of the measures and strategies in the BSPC member states and regions

1. What are the main provisions to combat climate change?

Development and implementation of innovations and technologies related to tackling climate change is one of the key factors in developing new policy initiatives. More active involvement and cooperation of science and business is needed to achieve climate targets through synergies between different financial instruments, public support mechanisms and private financial resources. Private and public finance mobilized for climate change mitigation and adaptation needs to be channeled down for sustainable initiatives. It is important to scale up investments towards sustainable, green and digital economy to provide innovative, low-carbon solutions.

Climate policies should create incentives and appropriate signals for businesses, encouraging different sectors to develop, innovate and increase employment opportunities for better and greener jobs.

2. Is there a climate protection law?

Currently Latvia is developing new Latvia's Climate Law with the aim of providing basis for further national climate policy, setting conditions, including on monitoring and measuring of the policy implementation, related to regulation on greenhouse gas emissions.

The main activities on climate change adaptation are mostly related to climate change monitoring, in order to facilitate the integration of climate change adaptation aspects into the different policies and planning processes.

3. What are the main provisions on biodiversity?

The Law on Environmental Protection (2006) encompasses aims and principles of nature protection policy and the main tools for their implementation. It creates conditions for public information and participation in decision making, defines environmental monitoring and state control in the field of environmental protection and sets responsibility and compensation for environmental damage. The aim of the law is to secure conservation and restoration of environmental quality and provide sustainable use of natural resources. Environmental and nature protection policy is based upon the following principles: the 'polluter pays' principle, the precautionary principle and the principle of assessment.

The Law "On Specially Protected Nature Territories"⁷ specifies:

1) the basic principles for the system of specially protected nature territories;

⁷ <https://likumi.lv/ta/en/en/id/59994-on-specially-protected-nature-territories>

2) procedures for establishment of specially protected nature territories and securing their existence;

3) procedures for administering controlling and registering specially protected natural territories;

4) combination of state, international, regional and private interests in regard to the establishment, preservation, maintenance and protection of specially protected nature territories. It also defines specially protected nature territories as geographically set areas.

The Law on Specially Protected Nature Territories contains the list of Natura 2000 sites in Latvia.

To ensure protection of the specially protected nature territories and conservation of their natural values, the law gives a mandate for the development of regulations for protection and use of the protected territory. The law provides for General regulations which apply to all specially protected nature territories unless individual regulations are developed. They also determine specific requirements for protection and use of the particular territory. General regulations set uniform conditions for economic activities and the so-called "code of conduct" to be complied with in all the protected territories belonging to the same category. Specific conditions for a specific territory may be set and deviations from the general regulations may be allowed only by means of individual regulations. The individual regulations set conditions and determine activities that are necessary for conservation of natural values, but do not impact application of other legislative acts of a general character, e.g. regulations in the field of construction, fire safety, etc. Functional zoning of the certain territory that foresees different requirements for its protection and use is also included in the individual regulations, if necessary. Both general and individual regulations are approved by the Cabinet of Ministers.

Site management plans may be developed to coordinate interests of environmental protection, use of natural resources and sustainable development of the region, as well as to ensure preservation of the natural value of the territory and to establish favourable protection status for those endangered species and habitats, the protection of the territory of which is or would be established. The plan includes scientific information about the protected territory, justification for its functional zoning, where necessary, and determines unified management measures for the whole territory that allow its protection goals to be achieved. Provisions of the site management plan can be included in the individual regulations. Site management plans are elaborated according to the Regulations of the Cabinet of Ministers (<https://likumi.lv/doc.php?id=164588>).

Law on the Conservation of Species and Biotopes⁸ aims at:

1) ensuring bio-diversity through the conservation of fauna, flora and biotopes (habitats);

2) regulating the conservation, management and supervision of species and habitats;

3) promoting the preservation of populations and habitats in accordance with economic and social preconditions, as well as cultural and historical traditions;

4) regulating procedures for the determination of the specially protected species and habitats;

⁸ <https://likumi.lv/ta/en/en/id/3941-law-on-the-conservation-of-species-and-biotopes>

5) ensuring the performance of the necessary measures in order to maintain the number of populations of bird species living in the wild pursuant to the requirements of ecology, science, culture and taking into account the requirements of economic activities and recreation or in order to facilitate the approximation of the population of these species to the referred level.

The law refers to specially protected habitats and plant, fungi, lichen and animal species, including birds, their habitats and specimen in all stages of development. The scope of this law is also set on international trade with specimen of endangered wild animal and plant species.

4. Is there a law protecting biodiversity?

The system of nature conservation in Latvia is mainly regulated by two laws mentioned above, namely, the Law on the Conservation of Species and Biotopes and Law "On Specially Protected Nature Territories".

III. Specific areas and aspects

Maritime areas and protected zones

1. How exactly are maritime areas protected?

Seven marine protected areas are established in Latvian territorial waters. All these areas are included in the Natura 2000 network and HELCOM MPA network. Latvian marine protected areas are established by the regulations of the Cabinet of Ministers. Main provisions for protection of MPAs are set in the general or individual regulations on the protection and management of the area. Three out of seven MPAs have individual regulations. Management plans for three MPAs were elaborated and approved in 2009.

EU LIFE program project "Research of marine protected habitats in EEZ and determination of the necessary conservation status in Latvia" (LIFE REEF) has been started in 2020 to define justified conservation status of the protected habitats and contribute to a comprehensive management system of marine protected areas in Latvia. Project objectives include assessment of the effectiveness of the MPA network within the Latvian marine waters and development of the management plan for all MPAs, development of an action plan for limiting invasive marine species and development of mitigation measures to reduce seabird and marine mammal bycatch in coastal fisheries.

2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?

Large-scale zero-use zones in marine conservation areas have not been established in Latvian territorial waters. The establishment of such zones will be assessed in the ongoing LIFE REEF project activities which include identification of potential marine protected sites and development of proposals for new MPAs and development of the management plan for all MPAs.

3. What actions has your country taken to create functioning coastal ecosystems? (Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.).

Coastal protection zone has been established in order to decrease the effects of pollution in the Baltic Sea, to preserve the protective functions of the forest, to eliminate the development of erosion processes, to protect the coastal landscapes, to ensure preservation and protection of coastal natural resources, including resources necessary for leisure and tourism and other territories important for society, and the balanced and the continuous utilisation thereof. The protection zone of coastal dunes the width of which shall be not less than 300 metres in the direction of land, counting from the place where the natural land vegetation begins. The sea protection zone which includes the beach and the part of sub-continental shelf from the beginning of the continuous natural land vegetation up to the 10 metres isobath. Development of new constructions is strictly limited within both zones by the law.

In 2021 EU Cohesion Fund project has started aimed at restoration of habitats. The project includes restoration of terrestrial coastal habitats such as grey dunes and wooded dunes.

Eutrophication

(Eutrophication is a major threat to biodiversity in the Baltic Sea and has a negative impact on both ecosystem function and ecological services. Mitigating eutrophication is essential for the protection of biodiversity.)

1. What actions does your country take to fulfil the BSAP and other directives?

Regarding eutrophication and nutrient inputs to the sea, the Environmental Policy Strategy for 2021-2027 (the main environment policy planning document in Latvia) envisage further improvement of wastewater collection and treatment; accordingly, a support from the EU funds for the modernization of wastewater treatment plants and the development of sewage sludge management (treatment) infrastructure is planned. However, it shall be considered that nutrient pollution caused by wastewater discharge significantly impacts just 7% of surface water bodies (52 out of 768), while nutrient pollution caused by diffuse sources that include agricultural activities significantly impacts 31% of surface water bodies (238 out of 768). It is to be hoped that the measures provided for in the Strategic Plan of the Common Agricultural Policy for Latvia will contribute to the reduction of diffuse pollution from agricultural activities; however, due to voluntary nature of these measures it is not always easy to target them towards the most impacted waters.

The Ministry of Environmental Protection and Regional Development of the Republic of Latvia is also taking measures to encourage more people to transfer wastewater to centralized sewerage systems, which ensures their proper treatment, by means of

regulation, a loan program for local governments and informative support to local governments that are in charge for registration and supervision of de-centralised wastewater collection and treatment systems.

2. Which objectives of the Baltic Sea Action Plan are planned to be realised in your country by when and by which measures?

The Environmental Policy Strategy for 2021-2027 envisages several relevant courses of action: RV31. "Recovery of the marine ecosystem through sustainable use of marine resources and implementation of the Marine Strategy", RV 33 "Promote the sustainability, quality and efficiency of wastewater management", RV34 "Reduction of nutrient loads at sea in line with HELCOM objectives", RV37 "Ensuring adequate response to marine pollution in accordance with HELCOM requirements". There are several measures to be implemented under each course of action, the institutions responsible for them and the deadlines for implementation are also indicated. The timeline of the actions covers the period between 2022 and 2027.

3. How can we speed up the work?

By speeding up adoption of various policy papers and legislation that determines the course of action, obligations, and funding. However, we shall be aware that even if all the envisaged measures would be implemented timely, changes in the Baltic Sea are slow. According to scientists, it can take up to 50 years for the desired state of the marine environment to be achieved. In addition, the effects of climate change, such as rising water and air temperatures, may hamper marine recovery.

Sea-dumped munitions

1. Are there areas in your territorial waters that are contaminated with ammunition?

Yes

2. What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?

We believe that this issue cannot be resolved by a single country. The issue of submerged chemical weapons is being addressed within the framework of the International Convention for the Protection of the Environment of the Baltic Sea Area (hereinafter - HELCOM), which has established an expert group on Environmental Risks of Dangerous Submerged Facilities (SUBMERGED). The updated Baltic Sea Action Plan approved on 20 October 2021 also provides for coordinated and international action.

Cabinet of Ministers Regulation Nr.1171 (12.12.2010) "Regulations Regarding the Procedures for Using Latvian Waters and Navigation Regime Therein" prescribes the procedures for utilisation of Latvian waters, navigation regime therein, also the territories, where diving is prohibited and restricted. For co-ordination of research and retrieval of ship wrecks and other activities envisaged in Latvian waters; for diving in restricted areas

that are indicated in the annex of these regulations a relevant permit shall be obtained in accordance with the regulatory enactments.

Towards zero pollution

(Pollution harms our health and our environment. It is the largest environmental cause of multiple mental and physical diseases and of premature deaths, especially among children, people with certain medical conditions and the elderly. In addition to affecting people's health, pollution is one of the main reasons for the loss of biodiversity. It reduces the ability of ecosystems to provide services such as carbon sequestration and decontamination. Therefore, these questions are being asked.)

1. Is your government following a zero-pollution action plan for air, water and earth?

Latvia takes into account a zero-pollution action plan for air, water and earth when drafting the relevant legislation. We are working to reach air, water and earth targets set at the EU level. Various measures and additional funding are planned for the next 10 years to reduce air and water pollution.

2. What time horizon is planned for which intermediate steps and goals?

The work is proceeding according to the timetables set by the European Commission and based on their initiatives.

3. Which measures in this direction have already been initiated or are to be realised?

The measures will be initiated and realised according to upcoming European Commission legislative initiatives.

4. What concrete projects for the avoidance of plastic pollution is your government supporting?

Latvia is supporting a range of different research projects, concerning plastic pollution, recently Ministry of Environment of Latvia has received approval of LIFE IP project "Waste to Resources Latvia - boosting regional sustainability and circularity", which foresees a range of activities also concerning plastics. But speaking of more general governmental level support – the main activity here is transposition of Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment into national legislation - Law on the Reduction of Consumption of Products Containing Plastic.

5. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?

Latvia has prohibited use of sticks to be attached to and to support balloons and with respect to fireworks, Latvia has set a tax within Natural resource tax law - A taxpayer shall calculate and pay the tax for fireworks marketed in the Republic of Latvia or used for ensuring of his or her economic activity by applying the tax rate in the amount of three per cent from the purchase value of such fireworks. The taxpayer shall ensure accounting of fireworks marketed and used for ensuring of his or her economic activity in order to justify the calculation of the tax.

Economy

1. What are the investment priorities of the state to reduce CO2 emissions?

In Latvia, in accordance with the Law "On Pollution", the financial resources obtained by auctioning the European Union's emission allowances are used to mitigate climate change and ensure adaptation to climate change. A specialized financial instrument – Emission Allowances Auction Instrument (EAAI) is aimed solely for achieving climate policy goals and operational strategy for the EAAI has been developed. The aim of the EAAI is to identify opportunities for action and to set priorities for the use of auctioning revenues for both climate change mitigation and adaptation.

Given the wide range of uses of auction revenues set out in the Law "On Pollution" and the limited amount of funding, the EAAI Strategy aims to set priority directions for the use of auction revenues. The need to reduce GHG emissions and the main investment directions has been identified in various sectors of the economy, for example, in the energy sector, the use of renewable energy sources in individual, local and district heating and cooling, the efficient use of energy resources, including the modernization of production processes; but in the transport sector – increasing the number of low-emission and zero-emission vehicles, as well as improving energy efficiency and promoting the use of renewable energy technologies. Separate measures to attract investment have also been identified in the waste management, agriculture and LULUCF sectors. Priority is given to implementation of the activities that have the highest possible GHG emission reduction potential and the lowest possible GHG emission reduction costs; aimed at reducing GHG emissions from non-ETS activities; has the potential to be widely used to contribute to climate change mitigation and adaptation; as well as promoting the change of consumption and lifestyle habits and the transfer of knowledge, skills and positive results in the field of climate change mitigation and adaptation.

The use of auction revenues for the above-mentioned purposes is ensured by organizing open calls for project applications. By the end of 2021, five open project application regulations have been approved within the EAAI – "Reduction of greenhouse gas emissions in protected architectural monuments of national importance" (the available funding – € 9 million), "Reducing greenhouse gas emissions - low energy buildings" (the funding available – € 23 million), "Reducing greenhouse gas emissions through smart urban technologies" (the available funding – € 8 million), "Reducing greenhouse gas emissions by developing the construction of self-sufficient energy buildings" (the available funding – € 10 million) and "Reducing greenhouse gas emissions in the transport sector - support for the purchase of zero-emission and low-emission vehicles" (the available funding – € 10 million).

2. What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?

Carbon capture, utilisation and storage could be an important measure for achieving climate neutrality, because not all produced GHG emissions could be offset by carbon sequestration alone. In addition, captured carbon dioxide can be used as feedstock in industrial production (e.g. in production of synthetic fuels). Due to legislative restrictions in Latvia carbon capture and storage was forbidden. Legislative changes (Climate law of Latvia) are planned that would allow carbon capture and storage for ES ETS operators in geological structures in Latvia.

3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

There are no running coal power plants for production of electricity in Latvia, coal is mainly used in heat production – in local boiler houses and heat plants. Coal consumption has dropped remarkably - by 93.6% in 2016 compared to 1990. Comparing to other EU member states, Latvia's coal consumption is one of the lowest. There are no specific limitations anticipated regarding the coal consumption but general aim towards the increased use of renewables is set.

4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

There is no specific national strategy developed for the use of hydrogen in Latvia, we support use of green hydrogen produced using renewable resources.

Innovation

1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?

One of state financial programmes to promote innovations in climate protection is Emission allowances auctioning instrument, which one of purpose is to develop innovative environmental and climate protection solutions that contribute to tackling global climate change, adapting to the effects of climate change, contributing to the reduction of greenhouse gas emissions.

Latvia has established support programs and mechanisms to support innovation development, actively promoting the implementation of EU funds, including the Renewal Fund, and grant programs (Horizon Europe, LIFE), the Norwegian Financial Mechanism and investment projects to support development of innovative technologies and green innovation. The emphasis has been put on developing and implementing green technologies in synergy with digitalisation (information and development and use of communication technology products). The support covers a wide range of sectors, including climate change topics, such as smart urban development, energy efficiency, renewable energy, the circular economy, transport, manufacturing and other sectors.

2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?

An important factor is the involvement of the education and science sector, as well as the public and private sectors, and their interaction at the stages of the technological development chain, using both state support and project partners participating in support programs of various EU financial instruments, foreign financial instruments as well as mobilizing private sector financing.

During 2014.-2021. several research and innovation projects are funded through the financial instruments mentioned above in area of sustainable horticulture and agriculture, sustainable and resilient forestry and research on biodiversity protection.

Horizon 2020 projects (2014-2020):

- *Sustainable Integrated Management FOR the NEXUS of water-land-food-energy-climate for a resource-efficient Europe;*
- *Energy management competition for local authorities for uptake and enhance of Sustainable Energy and Climate Action Plans;*
- *Contract Solutions for Effective and lasting delivery of agro-environmental-climate public goods by EU agriculture and forestry;*
- *Resilient Farming by Adaptive Microclimate Management;*
- *Towards climate-smart sustainable management of agricultural soils;*
- *A socio-ecological evaluation of wetlands restoration and reintroduction programs in favor of the emblematic European pond turtle and associated biodiversity: a pan-European approach.*

3. What effects are expected from current support measures?

Form current support mechanisms expected effects are improvement of energy efficiency, increased use of renewable energy resources, reduction of energy and fossil fuels consumption, reduction of GHG emissions, that contribute tackling global climate change.

International cooperation

1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

The cooperation and joint projects between the Latvian organisations and institutions (Latvian partners) were possible and implemented within the EU Cohesion Policy Objective 2 “European Territorial Cooperation” (Interreg) programmes 2014 – 2020. The support for the areas related to the climate change and biodiversity was available in the framework of two cross border cooperation programmes:

- *Latvia - Lithuania cross border cooperation programme direction of support “Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure in the way of increase*

integration and efficiency of environmental resource management”, where in result of cooperation of Latvian and Lithuanian partners the progressive environmental improvements, effective integration of environmental, economic and social considerations in the decision-making process, shared responsibility for the environment and promotion of the principles of ecologically sustainable development are having the positive impact on the sustainable management of the environmental resources in the whole Programme area. More information: <https://latlit.eu/supported-projects/>

- Latvia – Russia cross border cooperation programme, which provided support to the joint actions within the field of environmental protection, climate change mitigation and adaptation by promoting the efficient management of nature objects, improving efficiency of the environmental management and by supporting the sustainable waste and wastewater management systems. More information: <https://latruscbc.eu/projects/>

Besides, the cooperation of Latvian partners with other Baltic Sea region partner states took place within the scope of the Interreg Baltic Sea Region transnational cooperation programme 2014 - 2020, which indirectly promoted the positive impact on the climate by supporting the joint projects aimed at efficient management of natural resources (efficient blue growth, renewable energy sources, energy efficiency and clear waters, including reducing the nutrient inflows and decreased discharges of hazardous substances to the Baltic Sea and the regional waters based on enhanced capacity of public and private actors dealing with water quality issues are areas that receive support). As results, the capacity of the public authorities and private practitioners in the defined fields is enhanced in the Baltic Sea region leading to improved management, planning and use of green growth opportunities. More information: <https://projects.interreg-baltic.eu/>.

2. Are increased cooperation and the implementation of joint projects planned for the future?

The scope of the new Interreg programmes 2021-2027 is under elaboration and is not approved by the EC yet. Together with the available funding of the programmes it will be defined the volume of the cooperation in the next period as well as priorities set by the programmes.

3. What effects are expected as a result?

See section “International cooperation” question 1.

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

In 2021, the Ministry of Foreign Affairs of the Republic of Latvia has supported several projects related to sustainable development and mitigation of climate change within the grant programme of development cooperation.

As part of actions to achieve ambitious climate change goals set by Latvia to reach climate neutrality by 2050, it is planned to support developing countries through bilateral and multilateral channels.

In April 2021, Latvia approved the new Development Cooperation Policy Guidelines 2021-2027. Latvia's development cooperation is based on contributing to the implementation of Agenda 2030 and the Sustainable Development Goals (SDG). Climate Action (SDG 13) is one of six Latvia's development cooperation thematic priorities (along with promoting good governance, gender equality, quality education, sustainable economic growth, partnership for the goals). The priority areas (targets) for Climate Action include strengthening of human and institutional capacity on climate change mitigation and adaptation to climate change (13.3); integration of climate change into action policies and planning (13.2). Activities can also concurrently contribute to achievement of other SDGs, including non-priority ones, (for example, SDG 12 Responsible consumption, SDG 14 Life below water, and SDG 15 Life on land).

The Ministry of Foreign Affairs of the Republic of Latvia has supported projects and activities in the field of water-energy-climate change in Central Asia since 2017. All projects are implemented by Latvia's private sector. For instance, Cleantech Latvia implements various projects, such as, "Capacity Building in the Implementation of Investment Projects in the Field of Water Supply and Sewerage in Uzbekistan" (2021)⁹ and "Capacity building of industry associations serving engineering companies in Kazakhstan and Uzbekistan" (2019-2023, European Commission project, co-financed by Latvian MFA)¹⁰. Another active Latvian player in Central Asia is SunGIS with the latest project: "Prototype of portal for the publication and public discussion on the general plan for residential areas in the Republic of Uzbekistan" (2021)¹¹.

Latvian MFA also co-finances other climate-related EU projects that are implemented by Latvian partners. For instance, the EU Aid Volunteers Initiative program to strengthen organizations that support local communities that address sustainable management and protection of rainforests in Ghana and Vietnam (Association "Esi Labs!", 2020).

Sustainable economic growth, including regional development and sustainable agriculture is another important priority area for Latvia's development cooperation. In Eastern Partnership countries, Latvia supports civil society engagement in improving the rural development processes and promotion of efficient models for sustainable local development in Moldova (Association "Risinājumu dabnīca", 2021). Latvia promotes biological agriculture e-assistance for rural exporters in Ukraine ("Latvijas Lauku konsultāciju un izglītības centrs, LLKC, 2020) and sustainable agriculture rural development in Georgia (LLKC, 2017).

⁹ Short description: Strengthening the implementation capacity of investment projects in the field of water management by raising the qualification of the specialists of the investment project implementation group in the field of water supply and sewerage and promoting higher effectiveness in the implementation of investment projects in Uzbekistan

¹⁰ Capacity building of industry associations serving engineering companies, as well as introducing engineering certification to ensure high quality standards in investment projects.

¹¹ In further advancing the use of modern technologies in processing geospatial data and developing geographical information systems that significantly reduce administrative burden and facilitate service availability, a prototype portal is being developed for publishing and publicly discussing master plans of cities and urban settlements of Uzbekistan.

Latvia provides its expertise through EU financed Twinning and TAIEX activities concerning climate action and environmental protection related institutions in partner countries. For instance, strengthening the institutional capacity of the Ministry for Development of Economy, Trade and Agriculture (META) of Ukraine in the field of National Quality (Latvijas Standarts, 2021). Further, strengthening sanitary and phytosanitary (SPS) measures in Azerbaijan (Valsts augu aizsardzības dienests, VAAD, 2020) and in Georgia (Pārtikas un veterinārais dienests, 2020). Also, approximation of national legislation of Ukraine in the fields of state supervision (control) of GMOs in open systems, protection of plant variety rights, and seed and seedling production in line with EU norms and standards (VAAD, 2021).

Along with activities in partner countries, development cooperation also supports public information campaigns in Latvia, for instance, on the global approach to food waste reduction through informal education (Association “Zaļā brīvība”, 2018 & 2019).

Adaptation

1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?

Latvian National Plan for Adaptation to Climate Change until 2030 (NAP) was adopted by Cabinet of Ministers in 2019.

At national level NAP is one of the key documents on adaptation, setting out concrete actions to be implemented in the coming years. Adaptation activities are based on research on risks and vulnerability assessment and identification of adaptation measures in six areas: landscape and tourism, biodiversity and ecosystem services, civil protection and disaster management, construction and infrastructure planning, health and welfare, agriculture and forestry. Adaptation activities include actions such as enhancing the early warning system, developing a set of possible solutions to abate coastal erosion, improving urban rain water systems and developing green infrastructure.

2. If that is the case, could you indicate its main objectives, policy tools and measures?

Priority of NAP is to reduce vulnerability of the economy, infrastructure, construction and environment to impacts of climate change and to promote the use of opportunities created by climate change. To meet this aim, the NAP includes the different adaptation measures and 5 Strategic goals to address climate change risks:

2. *Human life, health and wellbeing protection from the adverse effects of climate change*
3. *The economy adaptation to the adverse effects of climate change, using the opportunities offered by climate change*
4. *Infrastructure and construction are climate-resilient and planned according to potential climate risks*
5. *Latvia's nature, cultural and historical values have been preserved and the negative impact of climate change has been minimized*

6. *Providing information based on scientific reasoning, to facilitate the integration of climate change adaptation aspects into sectoral policies and spatial development planning.*

Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

To promote public awareness and ensure public participation to the transition to the low-carbon economy we have been actively implementing various types of publicity events - public consultations, public discussions (several of them were available online), regional interactive workshops and publications (information for distribution to general secondary and higher education institutions).

At a local level, involvement is important, considering its potential in mitigating climate change and sharing experiences.

Integration of climate policy goals into the public sector are implemented at the national level, for example by ensuring coordinated, integrated, sustainable energy and climate issues within the National Energy and Climate Council.

The Environmental Consultative Council uniting 20 environmental and nature NGOs has been established since 2006 as determined by the Environmental Protection Law. The goal of Council is to facilitate public involvement in the elaboration and implementation of environmental policy. The Environmental Protection Law also determines a mandatory environmental education and education for sustainable development.

Procedure of management plans development for protected territories involves a public consultation and steering group establishment (with representatives of the local population, NGOs, industries, etc), promoting stakeholder participation in decision-making on planning and management of protected territories.

2. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

In Latvia society is increasingly interested in climate change issues. And there is an increasing number of public events (including from business), that support changing habits to minimize the impact on society, environment and climate.

In addition, various youth initiatives are active in Latvia to improve climate policy, such as the Eco Schools, Fridays for Future Latvia and others. UN Youth delegates from Latvia have also an active role in national and international activities in recent years.

3. Are there plans to increase such initiatives in the future?

Latvia is actively working on ways to promote public awareness and ensure public participation, also developing new digital document preparing platforms for easy access. Citizen involvement is crucial to have support in adapting new measures.



Lithuania

I. General information on the measures and strategies in the BSPC member states and regions

Climate change

[Policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures]

The report should preferably be structured according to the following policy areas:

1. National and global climate mitigation objectives

[Strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals]

The Parliament (Seimas) of the Republic of Lithuania ratified the UNFCCC in 1995. The Kyoto Protocol (KP) was signed in 1998 and ratified in 2002. In accordance with the Kyoto Protocol Lithuania has undertaken to reduce its GHG emissions by 8% below 1990 level during the first commitment period 2008–2012 and successfully implemented achieving 56% GHG reduction, while GDP increased by 25%. In 2012 Lithuania together with the other EU Member States and Iceland undertook 20–30% GHG emissions reduction below 1990 level commitment for the second KP period from 2013–2020. It was ratified by the Seimas on 20 October 2015. At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first ever universal, legally binding global climate deal. Lithuania signed the Paris Agreement on 22 April 2016 and ratified on 30 December 2016.

In 2012, to ensure the implementation of the international agreements on climate change and in the EU legal acts defined targets for Lithuania, the Parliament of the Republic of Lithuania approved the National Strategy for Climate Change Management Policy with short-term targets and objectives for climate change mitigation and adaptation until 2020 and long-term indicative target up to 2050. It was indicated that stronger cross-sectoral cooperation between public institutions, research and industry is needed as well as international collaboration on joint climate change adaptation and risk prevention and management. From 2021, Lithuania contributed to reducing GHG emissions by 40% to 2030, by 60% to 2040 – and by 80% to 2050 compared to 1990.

To update climate change policy for the period from 2020, in July of 2021 National Climate Change Management Agenda (hereinafter – Agenda) was approved which replaces the former Strategy (2012). Lithuanian Parliament adopted a National Climate Change Management Agenda on June 2021. The agenda sets short-term (until 2030), medium-term (until 2040) and long-term (until 2050) goals relating to climate change mitigation as well as targets for individual sectors, which use fossil fuels, pollute the atmosphere with CO₂ emissions and have the biggest impact on climate change. The main goals include an 85 % reduction in greenhouse gas emissions by 2040 and a 100 % reduction by 2050, compared to 1990.

The goal of the Agenda is to form a long-term vision of Lithuania's climate change management policy to achieve climate neutrality by 2050. Furthermore, ensure the resilience of the country's economic sectors and ecosystems to the changes caused by climate change and, through sustainable financing and investment, develop a competitive, low-carbon economy and create new green jobs.

The National Energy and Climate Action Plan of Lithuania is under revision and 5 Decarbonisation Working Groups are being set up for an open, effective dialogue and for updating the Plan. Decarbonisation working groups are set up by sector: agriculture and forestry, energy, industry, transport and the waste-circular economy. Members of these groups discuss how Lithuania can move towards climate neutrality and make proposals for additional measures to achieve the climate change mitigation goals by 2030. The Ministries of Environment and Energy bring together the social partners, associations, non-governmental organisations and other interested members of the public in these sectors and invite them to take an active part in the Working Groups.

Lithuania's short-term (until 2030) climate change management policy objectives are enshrined in the priorities of the Government Program approved by the Seimas resolution of 11 December 2020.

The goals are:

- Reduce GHG emissions by 30% compared to 2005, including by absorbing the LULUCF sector through the transition to innovative, low-emission and environmentally friendly technologies and RES in economic sectors:
- In the sectors participating in the EU ETS (energy production and supply sectors, industrial processes) - reduction of at least 50% compared to 2005.
- In non-ETS sectors (transport, industry, agriculture, waste, small energy), reduce by at least 25% compared to 2005, including the absorption of the LULUCF sector, and not exceed the set annual GHG limits for the period 2021-2030. In the Agenda the sectorial goals were also set for the sectors not included in the ETS (Table 1).

Table 1. GHG reduction targets for individual non-ETS sectors in 2021-2030 period, percent

Sector	2016–2018 average emissions compared to 2005	2025 target compared to 2005	2030 target compared to 2005
Transport	+36,2 %	+11,3 %	–14 %
Industry	+23,5 %	+2,2 %	–19 %
Agriculture	+3,2 %	–3,8 %	–11 %
Waste	–36,6 %	–50,6 %	–65 %
Small energy	–3,2 %	–14,8 %	–26 %
Overall national target for non EU ETS sectors			–25 %

Lithuania's climate change mitigation policy's main medium- and long-term targets, considering the goal of neutralizing the EU GHG emissions by 2050 approved by the European Council on 12 December 2019. It includes indicative milestones for 2040 and 2050: by 2040, reduce GHG emissions by 85 % and by 2050, reduce GHG emissions by 100% compared to 1990 (including removals). The goal consists of all the main greenhouse gases and covers all sectors, excluding international maritime and aviation. It also includes up to 20% reductions from the LULUCF sector and carbon capture and use (CCU) technologies. The focus is shifting economic sectors towards innovative, low-emission and environmentally friendly technologies and renewable energy sources.

For sectors participating in the EU ETS, the 2030 target is to reduce GHG emissions by 50% compared to 2005, face out using fossil fuel in the energy sector by 2040 and by 2050, reduce GHG

emissions by 100% compared to 2005 in the industry by using environmentally safe carbon capture technologies.

The implementation of the goals and objectives set in the Agenda, we believe, will create the conditions for achieving the goals of the EU Green Deal. Lithuania's obligations are consistent with the European Climate Law and other legal acts of the EU climate change and energy policy goals until 2030. The development of a climate-neutral economy will contribute to reducing GHG emissions (implementation of environmental requirements) and promote sustainable financing and investment to modernize the country's economic sectors and introduce innovative technologies. Additionally, it is believed that it will increase business competitiveness, create new jobs, improve ambient air quality, and protect human health. As a result, it might save the state and municipal budgets on fossil fuel imports, heating and cooling costs for public buildings and households.

2. Critical sectors where the need for additional measures is imminent

- **The transport sector** according to the National GHG Inventory Report emits the most GHGs (in 2020, about 44% of the GHG emissions of the non-EU ETS sectors). Almost 96% of transport emissions, or 30% of the country's total GHG emissions in the road transport sub-sector, have been increasing over the last seven years (except for 2020). This growth is influenced by the rapid increase of the density of transport routes, the number of road vehicles. In total transport sector emissions have increased by 45% over the 2005-2020 and transport remains the most challenging sector in terms of required emission reductions of non-ETS sector by 2030. Due to its high socio-economic sensitivity, the transport sector is the biggest threat to unsuccessfully reducing GHG emissions. Decisions to limit the use of fossil fuel cars might be delayed, leading to rising fuel consumption and GHG emissions. Sustainable urban mobility plans that focus only on developing physical infrastructure and not on behavioural change, avoiding bans and restrictions, would run the risk of not changing the population's habits that choose a private car for 90% of their travel to alternatives or sustainable mobility. An urban network of practical, convenient and competitive public transport services is difficult to achieve. Insufficient development of alternative fuels infrastructure would not increase the demand for clean vehicles and jeopardize the achievement of RES targets in the transport sector.
- **Energy sector** is the second largest GHG emissions source in Lithuania with 28.1% share of the total emissions in 2020. Emissions of GHG from energy sector have decreased by 35.1% from 8,934.7 kt CO₂ eq. in 2005 to 5,671.5 kt CO₂ eq. in 2020. This decrease is mostly related to changes of energy balance structure and increasing contribution of RES into the country's primary energy balance. During the period 1990-2020-primary energy supply from renewable sources increased by 5 times with an average annual growth of 5.4%. In Lithuania, about 66% of buildings are classified in energy efficiency level C, are very inefficient, and slow modernization and renovation can have severe economic and social consequences in the long run, especially in the residential sector.
- **The agriculture sector** is Lithuania's third-largest emitter (about 32% of the non-ETS sectors in 2020). Financial support from the state and EU funds mainly focuses on financing intensive farming methods. As a result, farmers lack the competence, knowledge, motivation, and incentives to switch to new technologies and implement environmentally friendly production practices that reduce GHG emissions. Within the

agriculture sector, the share of emissions from livestock is decreasing due to constant decline in the total livestock population, while emissions from crops production (agricultural soils) are increasing, primarily due to growing consumption of synthetic nitrogen fertilizers use. During the mentioned period, livestock production had less favourable conditions for development than crop production in the overall agricultural policy through direct payments provided to the farmers. Finally, there is no farm-level accounting system for emissions and removals in the agricultural sector that provides an economic incentive for operators to reduce their emissions by comparing them.

3. Current and planned mitigation measures

The current and planned measures are listed in the [National energy and climate plan](#).

These measures include:

- **Macroeconomic factors** (The GDP grew moderately and reached an average of 3%, with stronger economic growth recorded in 2017. Compared to 2016, real GDP change was 3.9% of GDP. The GDP changes were driven mainly by the growth in the value added in the services sector and industry between 2015 and 2017. In 2005-2016, Lithuania achieved rapid economic growth and a reduction in GHG emissions. Between 1990 and 2017, GDP grew by 45% and GHG emissions fell by 58%.)
- **Developments in sectors and technologies** (Technology will play a central role in achieving Lithuania's energy policy goals. Lithuania's main objectives in the development of new energy technologies are to reduce existing RES costs and establish better conditions for efficient use of energy, so that Lithuanian industry remains innovative and competitive. Their implementation requires accelerated development of RES, such as biofuel production technologies, wind and solar energy, as well as carbon capture and storage technologies. All this should be achieved together with a better use of energy in conversion processes, buildings, industry and transport. In view of the impact of existing policies on the energy sector until 2040, measures to improve energy efficiency (EE) and promote RES are planned, with the biggest changes anticipated in the energy production and transport sectors.)
- **Energy sector** (Existing policy measures will lead to very rapid penetration of RES technologies in the energy sector. In addition to accelerating the development of conventional RES technologies through energy production support schemes, the use of RES enabled energy consumers to become prosumers in 2015. At present, there are almost 3,000 such prosumers in Lithuania with a total installed capacity of almost 23 MW.)
- **Transport sector** (In the transport sector, the existing policies and measures will be continued, aiming at a 10% share of biofuels blended in mineral fuels in 2020 (up from 4.33% in 2018), a reduction in excise duties on biofuels, a reduced fee for the connection of biogas production facilities to gas systems, and guarantees of origin for gases produced from RES. These measures will not have a tangible impact on the reduction of energy consumption, but will contribute to the reduction of greenhouse gas emissions. Without additional policy measures, energy consumption in transport would remain virtually unchanged in 2040 and the renewal of the old and polluting Lithuanian passenger car fleet would take time. In the heavy

transport subsector, liquefied and compressed natural gas are seen as an alternative to fuel. In the rail and bus subsectors, intelligent solutions are being implemented and partial electrification is planned.)

- **Agricultural sector** (Technological progress on Lithuanian farms is not significant, but there are opportunities to apply technologies developed and proven in other countries, such as organic or other environmentally sustainable production; to reduce the use of mineral fertilisers in crop production; to replace fertilisers with other products developed according to new technologies and safer for the environment; to change animal feed rations; to improve the genetics of existing dairy cattle using ECOFEED cattle; to use more advanced techniques and equipment and to apply advanced technologies for manure storage and management, etc.)
- **Industry sector** (Existing policy measures in the industrial sector are designed to encourage a shift from fossil fuel use to RES use and energy efficiency improvement. This presents a possibility for energy-intensive businesses to benefit from reduced payments for services in the public interest in the electricity sector related to the production of electricity from renewable energy sources, while undertaking to perform energy audits and to implement some of the recommendations resulting from the audit and the programme to promote energy audits in industrial enterprises. In order to successfully expand and compete on both the domestic and international markets, industrial companies are themselves, without additional incentives, introducing measures to increase EE with a payback period of up to 3 years. The promotion of technological progress in the industrial sector takes place through measures to promote the digitisation of production processes, such as robotics, artificial intelligence solutions, deployment of Internet of Things systems, etc. The industrial F-Gas subsector in the EU already has a variety of efficient GHG abatement technologies in commercial refrigeration and air conditioning. The use of these technologies is expected to continue to further reduce the negative environmental impacts of the sub-sector.)
- **Waste management sector** (Existing policy measures in the waste management sector are designed for the reduction of landfilling of municipal waste and for waste recycling. New landfills for solid waste disposal, compliant with EU environmental requirements, and mechanical and biological treatment facilities for biodegradable waste have been established, waste-water treatment projects are in progress and waste incineration capacities are being developed. Landfill gas is used for power generation or other purposes.)
- **Household sector** (Existing policy measures focus on three main factors affecting energy efficiency in households: buildings, technological equipment and appliances, and consumer behavior. Under the Programme for the renovation/modernisation of multi-apartment buildings, 2,941 multi-apartment buildings were renovated up to 2018, leading to estimated energy savings of 857 GWh. A renovated multi-apartment building must achieve at least the energy efficiency class C and, at the same time, reduce its energy demand by 40%, and the technological equipment installed must ensure that the required indoor climatic conditions are maintained. As the implementation of the measure continues, the long-term estimate is that at least 1000 multi-apartment buildings will be renovated each year. Reducing energy consumption is strongly influenced by the widespread use of RES technologies in households, in particular heat pumps.)

- **Trends in the global energy market** (The global climate and energy trends reflect visible changes in energy production and consumption. Achieving the long-term objectives of the Paris Agreement commits States to contribute to reducing greenhouse gas emissions by providing a vision for the development of non-greenhouse gas energy production in their national strategies. Lithuania attaches great importance to energy security, integration and digitisation of energy markets, the diversification of energy sources and production, development of a smart grid, expansion of EE and promotion of RES.)

4. Measures and strategies for adaptation to climate change

The current and planned measures are listed in the [National energy and climate plan](#)

Biodiversity

1. Policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems

Action Plan on Conservation of Landscape and Biodiversity for the 2015-2020 is the key strategic document dedicated to the implementation of the targets, objectives, tasks, and measures in the area of landscape and biodiversity. The Plan focuses on: 1) the conservation of protected species and habitats; 2) the management of invasive species; 3) the sustainable use of fauna, flora and genetic resources; 4) the mapping of ecosystems and their services and their integration into decision-making process; 5) the conservation and management of landscapes.

Maintenance of ecosystem stability as well as conservation and sustainable use of biodiversity are among the main priority areas of the National Environmental Protection Strategy, adopted in 2015. The Strategy stipulates the objective to halt the loss of biodiversity, the degradation of ecosystems and their services and, when possible, to restore them.

National Progress Plan 2021–2030, which was adopted by the Government of Lithuania on 9 September 2020, includes biodiversity targets with indicator values for 2025 and 2030:

Preserve and restore biodiversity, the condition of ecosystems, their services as well as landscape values, and ensure the sustainable use of natural resources:

- Change in the conservation status of species of European Community importance found in Lithuania (share % of the difference between species whose status has improved and those whose status has deteriorated out of all species)
- Change in the conservation status of habitats of European Community importance found in Lithuania (share % of the difference between habitats whose status has improved and those whose status has deteriorated out of all habitats)
- Share of natural and semi-natural areas compared to whole country area, %
- Ratio of forest fellings to timber volume net increment in the forests available for timber supply
- Forest stand area

- Fish stock status index (lakes and ponds)

Lithuania is finalizing the Development Programme for Environment and Climate 2030 (one of the most important national strategic document for the decade) to be adopted by Government. The Programme will also focus on different environmental areas, including biodiversity issues. The Programme will support achievement of biodiversity target stipulated in National Progress Plan 2021–2030. National institutions are working intensively on planning of measures for the implementation of the Programme.

2. Name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity (terrestrial as well as marine)

Terrestrial:

The Governmental Programme especially focuses on forests and wetlands.

These ecosystems in our climate zone are critical for biodiversity conservation and in combatting climate change.

Our priority is to develop a National Agreement on Forests in 2022. It will determine long-term forest policy and ensure sustainable use and protection of natural forests habitats and rare species. The Agreement will enable to increase significantly the country's forest cover, strengthen the resilience of forests to climate change and the role of forests in managing climate change, improve the status of forest ecosystems, protect biodiversity, promote the economy of forest services.

Lithuania plans to expand forest land, in the next four years forests will cover more than 35 % of Lithuania's territory.

We are planning to restore degraded wetlands for their valuable services at the moment working on identification of degraded wetlands in Lithuania.

Our commitment by 2024 is to enlarge national coverage of protected areas to reach 20 %, a quarter from which would be strictly protected.

Marine:

Main strategic documents that set policy objectives and targets are Water Sector Development for 2017–2023 Programme, adopted by Lithuanian Government in 2017 (hereinafter the Programme), and its Implementation Plan. Documents cover all water-related issues:

- River Basin Management;
- Marine environment;
- Floods;

- Drinking water supply and sewage treatment.

The goals and objectives that are set in the Programme:

1. To improve the status of surface waterbodies and groundwater (*domestic, elaborated in accordance with international commitments*):

- to reduce pollution of waterbodies from agricultural pollution sources;
- to reduce the negative impact of hydromorphological changes on surface waterbodies
- to improve the status of lakes and reservoir;
- to reduce pollution of waterbodies from point source.

2. To achieve and / or maintain good environmental status of the Baltic Sea (*domestic, elaborated in accordance with international commitments*):

- to reduce the input of nutrients that increase eutrophication into the Curonian Lagoon and the Baltic Sea;
- to ensure that the exploitation of commercially exploited fish populations do not exceed safe biological limits, and to preserve the structure of the Baltic Sea foodweb;
- to reduce the release of hazardous substances into the marine environment;
- to maintain favourable conditions for wintering seabirds in their wintering grounds, to reduce their mortality due to oil spills and by-catches in commercial fishing gear;
- to reduce the risk of the invasion of new non-indigenous species for the Lithuanian Baltic Sea area;
- ensure that economic activities at sea do not have a significant adverse effect on seabed habitats, and to prevent them from deterioration of condition and degradation;
- to reduce the impact of marine litter on the coastal and marine environment;
- to ensure that noise and other forms of energy emitted into the marine environment as a result of anthropogenic activities do not exceed levels that have an adverse effect on aquatic fauna.

3. To reduce the risk of floods and their consequences throughout the country (*domestic, elaborated in accordance with international commitments*):

- to improve flood prevention and reduce floodplains.

4. To provide the country's population with high-quality drinking water supply and wastewater treatment services and to reduce environmental pollution with wastewater (*domestic, elaborated in accordance with international commitments*):

- to develop and renovate drinking water supply and wastewater collection infrastructure;
- ensure that individually treated wastewater do not pollute the environment;
- to reduce environmental pollution by surface wastewater;

- to increase the efficiency of drinking water supply and wastewater treatment companies, to improve the quality of services provided.

5. More effectively implement requirements of water protection and usage (*domestic, elaborated in accordance with international commitments*):

- better implementation of river basin-based management;
- strengthen state control over environmental protection in the water sector.

Regarding halting loss of biodiversity, Lithuania already **banned cod fishing** in the Lithuanian marine waters. It is planned to monitor impacts of fishing on biodiversity as well as to take control and **enforcement measures** and to oblige the fishing industry to use more environment-friendly and effective deterrent tools preventing bycatch of wintering seabirds and marine mammals. It is very important to continue **clearing fish migratory routes in rivers** that are important for fish spawning. In Lithuania was started the **free flow river projects** with recent successful demolition of the Salantai dam which led to 46 km of freed river flow.

Lithuania has adopted the **National Waste Prevention Program**, which emphasizes the reduction of the amount of plastic packaging waste and its impact on the environment. The deposit system for single-use packaging of beverages was successfully introduced in Lithuania in 2016. 93 % of the plastic packaging of beverages participating in the deposit system was collected in 2019. At the beginning of 2019 Lithuania banned a free of charge distribution of lightweight plastic bags at the points of sale. And we will continue our efforts to **prevent plastic litter** in the frame of EU and global initiatives.

There are also **Natura 2000** sites that have been designated as important sites for birds and benthic reef habitats in the EU. Seaside Regional Park, Curonian Spit National Park, Karklė Thalassological Reserve.

3. Outline briefly where and how biodiversity is most at stake in your country at the present time

The process of habitat and species loss has intensified primarily due to changes in agricultural practices, especially the disappearance or change of traditional land use forms in **agriculture**, the disturbance of the natural hydrological regime, and increase in pesticide and fertilizer use. As a result, in Lithuania the European farmland bird index has decreased by 24 points since 2009 compared to 2018 (https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_bio2&lang=en), while in 2014-2018 9 % of grasslands and similar habitats have been lost to agricultural land. Other major pressures include the spread of **invasive alien species, urbanisation, and climate change**.

The pressure from **fishing in Baltic Sea** on commercial species has been reduced significantly since 2010 except for Eastern Baltic herring. The fishing of Eastern cod was prohibited from 1 of June 2019 due to the poor state of this stock. Baltic sprat quota was reduced by 45 %, the quota of salmon – by 70 % since 2010. Only quota of herring was increased by 21 %. In the Baltic Sea coastal area fishermen have been exchanging static nets for more environmentally friendly fishing traps – the proportion of catches made by using fishing traps has increased from 10 to 60 %.

Among the policy measures, **amendments to the Forest Law and fishing permits reviews**, and the surrounding discussions, have been of key importance. Efforts to ensure more continuous and comprehensive biodiversity monitoring have been improving: a major habitat and species survey has been carried out in 2013-2018, while the integrated **LIFE project NATURALIT**, started in 2018, aims to improve efficiency of management, surveillance and analysis processes towards achieving and maintaining favourable conservation status of species and habitats of Community interest. Furthermore, NATURALIT also aims to ensure integration and implementation of the nature conservation measures into other sectors, especially agriculture, forestry and tourism. Efforts to increase biodiversity mainstreaming have also been highlighted during the development process of the Lithuania's new **Comprehensive Territorial Plan** which was adopted in 2021.

Since 2010 and especially in recent years, there has been a marked shift **in public awareness** regarding biodiversity and habitats loss, partially as a result of improved access to nature in protected areas as well as several widely publicised cases of destruction of urban green spaces and cutting of natural forest areas. This increased awareness, among other things, has also led to a greater public participation in decision-making processes.

4. **Has the COVID-19 pandemic had any impact on achieving the measures?**

COVID-19 crisis has highlighted the close and indisputable links between human health and the health of animals, plants, and whole ecosystems, In Lithuania many people spent their free time in nature, for example, visiting protected areas during lockdown. However, the Covid-19 pandemic had not significant impact on implementing or achieving biodiversity measures in Lithuania. We admit taking urgent actions to protect and restore of biodiversity and well-functioning ecosystems and their services is critical to prevent or reduce the future health crises.

5. **Are there concrete figures on what impact measures to combat the pandemic had on the volume of GHG (transport, economy)?**

There are no concrete figures on what impact pandemic had on the volume of GHG.

The analysis of the GHG projections showed that CO2 emissions from the transport sector will increase until 2023 as the sector is developing rapidly. Subsequently, due to expected improvements in vehicle efficiency, sustainable urban mobility plans and changes in the use

of vehicles, GHG emissions in the transport sector are projected to decrease. The road transport sector accounts for 95% of total GHG emissions from transport, 80% of which is accounted for by passenger cars.

6. Are prosperity and ecologically stable and sound environment condition for future generations considered as a fundamental right in the decision-making processes?

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II. Legal Basis of the Measures and Strategies in the BSPC Member State and Region

1. What are the main provisions to combat climate change?

In June 2021, the National Climate Change Agenda was adopted, setting out sectoral goals and targets for climate change mitigation and adaptation. We are committed to reducing GHG emissions by 70 % by 2030 compared to 1990 levels. The agenda also includes an ambitious goal for 2050 - to make the Lithuanian economy circular and climate-neutral. In order to make this goal a reality, an update of the National Energy and Climate Action Plan is being launched. In order to achieve a qualitative result, the Ministry of Environment of the Republic of Lithuania together with the Ministry of Energy of the Republic of Lithuania established decarbonisation working groups for agriculture and forestry, energy, industry, transport and the waste-circular economy sectors, in which representatives of business, science and non-governmental organizations will agree on new or updated GHG reduction measures.

2. Is there a climate protection law?

Lithuania has approved National Climate Change Management Law in July of 2009 (updated in 2021) with the provisions of principles for allocating emission allowances, assignment of allowances to projects, economic penalties for non-compliance by those participating in the ETS, financial instruments, including the framework of Climate Change Programme, monitoring and accounting system of GHG, licensing of the users of F-gas, etc.

3. What are the main provisions on biodiversity?

Lithuania has created a system of multifunctional protected areas. The system of Lithuanian protected areas includes not only natural territories, but also those of cultural heritage value, as well as urbanized (in many cases residential) territories. A significant part of Lithuania's protected areas also consists of private property areas with different levels of economic activity restrictions. As a result, such a complex system of protected areas requires more resources compared to the management of more specialized protected area systems.

Lithuania has achieved both of its targets related to the extent of the protected areas. In 2019, 17.64 % of Lithuanian terrestrial territory has been classified as protected areas and / or European ecological network Natura 2000 (compared to 15.7 % in 2013) and 18.2 % of Lithuanian marine

territories has been classified as protected areas and / or European ecological network Natura 2000 (compared to 2.4 % in 2012). In addition, since 2010 86 Sites of Community importance, also 7 Special Protection Areas and 89 Special Areas of Conservation (as per EU biodiversity directives) have been established. Furthermore, 172 state reserves and 4 biosphere polygons – national protected areas – have also been established during this period. Conservation objectives for the protection of natural habitats and animal and plant species of European Community importance were determined for 117 areas of importance for the protection of habitats. 57 nature management plans for the maintenance of protected areas were approved. Lastly, an interactive map available to the public has been created, in which it is possible to monitor where new nature management areas are planned, what measures are planned and what activities have already taken place.

4. Is there a law protecting biodiversity?

The Law on Environmental Protection (*No I-2223 adopted by the Parliament on 21.1.1992, as last amended on 4.11.2021*) regulates field of environmental protection, establishes the main rights and obligations in preserving biological diversity, ecological systems, and landscape characteristics of the Republic of Lithuania, ensuring a healthy and clean environment, and sustainable use of natural resources.

The Law on Wild Flora and Fungi (*No VIII-1226 adopted by the Parliament on 15.06.1999, as last amended on 24.9.2020*) regulates the relations of protection and use of wild flora and fungi in order to preserve the diversity of wild plant and fungi species, natural communities and habitats, to ensure the sustainable use, protection and restoration of wild plant and fungi resources, conservation of wild plant and fungi genetic resources, also establishes the procedure for the use, protection and restoration of wild flora and fungi.

The Law on Wild Fauna (*No VIII-498 adopted by the Parliament on 6.11.1997, as last amended on 24.9.2020*) regulates the use and protection of animal species living or temporarily present in the natural environment, observed during migration or at other times, their habitats, also regulates the captivity of wild animals originating from other natural areas and their other uses.

The Law on Protected Species of Fauna, Flora and Fungi (*No VIII-499 adopted by the Parliament on 6.11.1997, as last amended on 24.9.2020*) regulates the use and protection of protected species of fauna, flora and fungi living or temporarily present in the natural environment observed during migration or at other times, their habitats, sets measures for the protection and research of protected species.

The Law on Environmental Monitoring (*No VIII-529 adopted by the Parliament on 20.11.1997, as last amended on 5.11.2020*) sets the basic requirements for environmental monitoring. Environmental monitoring is coordinated and performed by the Environmental Protection Agency. The State Service for Protected Areas is responsible for the monitoring in protected areas. The entities performing economic activities are obliged to carry out biodiversity

monitoring if such a requirement is set out in the report of the Environmental Impact Assessment of the proposed economic activity.

The Law on Environmental Protection State Control (*No IXI-1005 adopted by the Parliament on 1.7.2002, as last amended on 11.11.2021*) establishes the authorities and officials responsible for the environmental state control, describes their legal status, legal framework and principles for actions, and regulates the process of state environmental control. Officials responsible for environmental state control are entitled to impose fines for non-compliance with legal acts and lodge an action to the court to seek compensation for damage to biodiversity.

The Law on Protected Areas stipulates an integrated approach to the protection of natural and cultural values in state parks. The Lithuanian Sea coastline is protected under the Law on the Sea Coastline that provides for strict restrictions on economic activities and a strict procedure for the planning of activities on this coastline. Here new construction is only allowed in exceptional cases, with approval of the Government of the Republic of Lithuania. The spatial policy of landscape protection on a national scale is defined by the National Landscape Plan adopted in 2015, which lays down the principles and priority directions for the formation, protection, management, and planning of landscape. Specific restrictions on economic activities according to different types of protected areas are established in the Law on Special Land Use Conditions of the Republic of Lithuania, adopted in 2019 (last amended 20.11.2021). The impact of the planned economic activity on Natura 2000 territories is assessed in accordance with the provisions of the Law on Environmental Impact Assessment of the Proposed Economic Activity.

The largest financial resources used for the development and protection of the system of protected areas are: EU structural funds (establishment of protected areas, planning, installation of infrastructure, nature management), Lithuanian Rural Development Fund for 2014–2020 programme (compensatory payments for agricultural land and forests), EU LIFE program (innovative nature management, LIFE integrated project NATURALIT, started in 2018).

Lithuania applies specific economic instruments for sustainable use of natural resources. These include **tax on game resources, licence fees on recreational fishing and payments for commercial fishing quotas**. The revenues accumulated from tax on game resources are allocated to state budget and to budgets of municipalities and used for conservation and restoration, scientific research, monitoring of game resources, implementation measures against poaching, compensation for damage caused by wild animals. Licence fees on recreational fishing generated EUR 1.8 million in 2020 EUR 1.7 million in 2021 and revenues are allocated to Environment Protection Support Programme. From 2016 the fishing opportunities (quotas) allocated to Lithuania are subject to a system of transferable fishing concessions (long term of 15 years rights-based allocation of quotas system). Rights-based approaches to fisheries management have shown potential for promoting biologically sustainable and economically viable fisheries in several parts of the world and were proved as a good tool to achieve the balance between the fishing capacity of the fishing fleet and the fishing opportunities. The basis for calculation of transferable fishing concessions are historic catch levels.

In May 2015, the Protected Areas Administrations have introduced voluntary **entrance fees to the protected areas**. EUR 282,000 was collected in 2019. The generated income is used for the protection and management of protected areas and for nature education as well.

In order to protect biodiversity of forests and prevent the reduction of forest land because of land-use changes, Lithuania has introduced specific forestry legislation where in cases of land-use change, all **forest owners must plant new forest** on their own land or pay compensation, which is used to plant and maintain new forests

The Lithuanian Rural Development Programme for 2014-2020 (RDP) foresees payments for measures aimed at **agri-environmental protection and climate**, protection of forest ecosystems and compensations for restrictions of agricultural and forestry activities in protected areas (Natura 2000), Water Framework Directive-related payments. These measures promote environmentally friendly farming systems in areas of particular natural sensitivity, support for biodiversity, and landscape restoration and conservation. Link to Lithuanian RDP: <http://zum.lrv.lt/lt/veiklos-sritys/kaimo-pletra/lietuvos-kaimo-pletros-2014-2020-m-programa/programa-2>. The draft of National Strategic plan for 2021-2027 period (the new instrument in EU Common Agriculture Policy) is submitted to the European Commission for the review.

III. Specific Areas and Aspects

1) Maritime areas and protected zones

- **How exactly are maritime areas protected?**

Maritime areas are included in the Natura 2000 network. Specified conservation objectives shall be established in the established marine protected areas on the basis of measures for their implementation and for the conservation, maintenance or restoration of native or bird species. Conservation objectives are set for each site, depending on the habitat type, protected species, to lists of sites approved by national legislation. In marine protected areas, it must be guaranteed that the ecological value that has been included in the Natura 2000 network will not be impaired. Monitoring and research of native and protected bird species is carried out in protected areas, and information on their diversity and information is collected. The use of the sites shall be maintained at the previous levels, provided that it does not have a negative long-term effect on natural habitats and species. The aim is not to restrict economic activities if they are carried out in accordance with the requirements of legal acts, and new plans and projects are prepared and implemented after a proper prior assessment.

4 independently protected areas:

- Baltic Sea Thalassological Reserve (140.27098985 km²);
- Baltic Sea Biosphere Reserve (319.59346414 km²);
- Sambijos Plateau Biosphere Reserve (250.41071357 km²);
- Klaipėda-Venspilis Plateau Biosphere Reserve (319.49309903 km²);

and

- Marine part of the Curonian Spit National Park (Neringa Thalassological Reserve 125.37671098 km²);
- Part of the Seaside Regional Park (Karklė Thalassological Reserve 30.99876466 km²).

The total area of protected areas in the sea is about 1186.14 sq. Km. (or 18.5% of the total area of the country's territorial sea and exclusive economic zone).

The protection of these areas is regulated by the Law on Protected Areas, the Law on Special Land Use Conditions, and individual regulations. Together, these listed marine protected areas are Natura 2000 sites protected under the Habitats and / or Birds Directives.

In order to reduce the impact of climate change on the shores of the Baltic Sea and the Curonian Spit a Coastal Zone Management Program for the period 2021–2030 m. is being prepared.

The project will assess the effectiveness of the Baltic Sea shore management measures and the condition of the shore. Based on the existing coastal monitoring and newly conducted research, the current condition of the Curonian Spit and the mainland part of the Baltic Sea coast is currently being evaluated.

The studies will provide recommendations on the optimal coastal management measures, taking into account the compatibility of the coastal protection measures applied in other countries and the economic assessment of the proposed coastal management measures. Experts from foreign countries whose shore management measures affect the shores of Lithuania, or which may be affected by the shore management applied in Lithuania will be consulted in the preparation of the program. Based on the results of the research, a Coastal Zone Management Program for the period 2021–2030 m. will be developed to preserve or restore the inherent characteristics of the coast and increase its resilience to the effects of climate change.

- **Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?**

There are certain prohibitions, such as no construction, no trawling. Individual activities are prohibited. Prohibited activities in each marine protected area are enshrined in the regulations approved by the Minister of Environment of the Republic of Lithuania. These prohibited activities may include the pursuit of economic or other activities that would impair the chemical composition of the water, alter hydrodynamic processes, alter the conditions of underwater habitats, or otherwise significantly impair the condition of protected species or habitats, seabed management, subsoil works or other habitat transformation. would significantly worsen their condition, hunt waterfowl, build certain types of nets, etc.

- **What actions has your country taken to create functioning coastal ecosystems?**

4 Important Bird Areas and 4 Habitat Important Areas have been established. A Priority Action Program is being developed to implement measures to maintain or restore marine

Natura 2000 sites to good status. Contributes to the implementation of the Baltic Sea Action Plan. 2017 The Water Development Program for 2017–2023 has been approved, which contributes to the implementation of national and EU and international legislation that obliges to improve the integrated management of water bodies (marine and inland waters).

The protection of seabirds.

The number of seabirds in the Baltic Sea continues to decline. The current measure "Criteria for the selection of sites of importance for the conservation of birds in the light of the latest information on the state of seabird populations" is no longer sufficient. Therefore, it is necessary to supplement the selection criteria that overlap with the economic activity. And to strengthen the use of protected areas for economic activities." It is important to ensure the good condition in the areas, that is, both the level of nutritional resources, the level of disturbance (anthropogenic hazards), the risk of death in fishing gear, and so on. By-catches of seabirds in fishing nets are one of the main factors contributing to their extinction in the Baltic Sea. In Lithuania alone, between 1,500 and 3,500 protected seabirds die every year in fishing gear. In order to reduce by-catches of seabirds in fishing gear, it is necessary to ensure that measures are taken to repel birds. Measures may be underwater, surface or fisheries regulation. We are prepared to establish a data sharing system to collect data on the detection of non-native species and the further spread and impact of invasive species (environment, economy, human health). A unified data management system that is accessible to all stakeholders and ensures fast and efficient data availability.

Improving the pollution incident response system.

The current incident response system is focused on oil spills, there is no national response system for incidents of pollution by hazardous and noxious substances at sea, adequate response capabilities and modern pollution response equipment. National legal regulation (procedures) for aerial pollution monitoring is required in accordance with the provisions of HELCOM Recommendation 12/8 "On periodic aerial monitoring of the Baltic Sea area", providing for periodic aerial monitoring with integrated aircraft, integrated remote sensing sensors and common data processing and transmission systems the use of EMSA CleanSeaNet satellite monitoring data and the use of unmanned aerial vehicles. pollution sampling procedures by helicopter or drone.

Improving port sediment testing and handling procedures.

Review of the Minister of Environment of the Republic of Lithuania in 2002 February 26 order no. 77 "On the Approval of the Environmental Normative Document LAND 46A-2002" Rules for Excavation in the Waters of Sea and Seaports and Disposal of Excavated Soil "and the terms used therein. Update the requirements for mandatory chemical testing of soil properties (with possible exemptions, subject to a sufficient amount of scientific information to support the quality of the soil to be excavated, in particular for TBAs, PAHs and PCBs). To update the procedures of soil management and classification, providing for the possibilities

of purposeful use of soil - in the restoration of beaches, agriculture, construction works (the use of soil for these works is regulated by this and other legal acts), as well as providing additional alternatives for soil management class IV pollution.

2) Eutrophication

- **What actions does your country take to fulfil the BSAP and other directives?**

- A) Evaluate the impact of pollution from external and internal pollution in the Curonian Lagoon on the water protection objectives of the Curonian Lagoon and the Baltic Sea and the effectiveness of measures to achieve good status, quantify the basin's maximum pollution load from the basin (continental), internal pollution (bottom sediment, port) and the levels of pollution entering the coast, taking into account the transformation of biogenic compounds (atmospheric nitrogen fixation, denitrification, etc.) Evaluate the development (dredging) of the port in order to set water protection objectives for good environmental status. The effectiveness of measures (and their combinations) in removing pollutants from the Curonian Lagoon will be assessed;
- B) To install a pilot dreisen cultivation system in the Curonian Lagoon in order to evaluate the effectiveness of eutrophication reduction and to provide recommendations for the expediency of commercial-scale systems;
- C) To carry out research on the littoral macrozoobenthos community in the Curonian Lagoon and to prepare an ecological status assessment system according to the quality element of macrozobenthos;
- D) To prepare reed mowing plans on the shores of the Curonian Lagoon, to ensure their implementation and to assess the removal of nutrients from the Curonian Lagoon.

- **Which objectives of the Baltic Sea Action Plan are planned to be realized in your country when and by which measures?**

In order to prepare and approve a program of measures to achieve and / or maintain the good state of the Baltic Sea environment in accordance with the requirements of the Marine Strategy Framework Directive 2008/56 / EC, the Ministry of Environment shall review measures to improve the state of the marine environment. In the I quarter, approved until 2022 May 31. The report is scheduled to be submitted to the European Commission by this year June 31st. Once the legislation has been adopted and published, we will notify it to the European Commission via the National Notification System for National Implementing Measures (Themis) and inform the European Commission in writing.

- **How can we speed up the work?**

By carefully following deadlines in the directive.

Sea-dumped munitions

- **Are there areas in your territorial waters that are contained with ammunition?**

According to the Helsinki Commission (HELCOM), at least 40,000 people drowned tons of ammunition in the Baltic Sea. On our seabed lie chemical-filled artillery shells, aviation bombs, wooden and metal containers, and in the Skagerrak, - entire ships with the same cargo. The largest known chemical weapons "graves" in the Baltics are located on the island of Bornholm and in the Gotland Basin, at a depth of about 75-120 meters. True, we do not know all the exact numbers, types of chemical munitions and their specific coordinates. The problem was first investigated in 2003 with the research of the sunken chemical weapons area by the scientific ship "Vėjas". Bottom sediment samples were taken for arsenic testing, which includes chemicals such as Clark I and II, adamsite, lysite, and others. Arsenic was detected, but its concentrations were not as high as in other parts of the Baltic Sea. The study concludes that water depth, direction and velocity of water currents, temperature, oxygen concentration are factors that may prevent the development of harmful substances, but they need to be monitored and further investigated.

Further research took place in the framework of various international projects, in which the Environmental Protection Agency was also a project partner in CHEMSEA, MODUM, DAIMON projects. The projects involved scanning the seabed with modern technology, identifying and classifying more and more objects on the seabed, and detecting chemical weapons or other munitions at sea. Samples of water, bottom sediments and marine organisms (fish, mollusks) were also taken, as well as concentrations of chemical weapons substances and their decomposition products. Biological research is also being carried out to determine whether a chemical weapon affects the marine ecosystem and the organisms that inhabit it. In the case of offshore economic activities (fishing, gas pipelines, wind farms, etc.), specific coordinates and detailed information on chemical weapons graves are essential for the safety of all, both at sea and for us.

The results of the research carried out in Lithuanian waters showed that the chemical weapon in the Lithuanian economic zone does not pose a significant risk at present - although traces of chemical weapon substances were detected, only at great depths and their concentrations were low compared to other parts of the Baltic Sea. However, the problem may increase in the future as research has shown that chemical weapons materials can accumulate in marine organisms, including fish. The removal of a chemical weapon from the seabed should be considered on a case-by-case basis, taking into account the risks, the quantities of the weapon buried, the degree of corrosion of the objects, the release of materials into the environment, etc. This requires detailed information, which is what the ongoing research is aiming for, so we must continue to monitor the sinking of chemical weapons in the Baltic Sea

- **What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?**

At this moment dumped munition is laying safely underneath the layer of sludge.

3) Towards zero pollution

- **Is your government following a zero-pollution action plan for air, water and earth?**

Main developments that the country is aiming to achieve in this decade are established in National Progress Plan for 2021–2030. The plan inter alia sets strategic goals of air pollution mitigation. It is aimed to reduce air emissions of five main pollutants, to achieve emission ceilings set in NECD and even further decrease emissions of PM_{2.5} and SO₂, as well to improve air quality, that at least 30 % of cities shall comply with WHO recommended limit values by 2025 and at least 40 % – by 2030.

The Program of the Eighteenth Government with its implementation plan declare that until 2030 harmful air pollution in Lithuanian cities and towns shall be halved. To achieve such ambition Government will support municipal and public initiatives to measure and improve air quality in urban areas: establishment of low-emission zones in urban centers, switching to cleaner heating solutions, planning new industrial zones to concentrate them further away from residential areas, and applying stricter pollution standards to existing industrial facilities in urban centers. The program also states that each year 1,000 apartment buildings shall be renovated, and cities and towns will be renewed through the new European Bauhaus initiative.

To perform green transformation in energy sector the main priority shall be given to the rapid growth of electricity production from renewable energy sources. The goal is to achieve that by 2025 30 % of electricity would be produced from renewables and by 2030 this share shall increase to 50 %. Moreover, government proposes changes for agricultural regulatory and financial incentive framework to promote more sustainable farming and use of resources. The promotion of organic farming will be performed not only by incentives, but also by the changing needs of consumers.

Within the framework of Green Deal government is aiming to create all conditions for the involvement of society, science, and business, to propose diverse and effective ways to involve the society in decision-making and use society to identify and eliminate environmental problems.

- **What time horizon is planned for which intermediate steps and goals?**

It is foreseen to implement sectorial measures according to the time frame set in the related legislation.

- **Which measures in this direction have already been initiated or are to be released?**

In 2019 adopted National Air Pollution Plan provide list of measures for achieving set goals of air pollution reduction. Measures are directed to reduce air pollution from relevant sectors. To reduce air emissions from residential heating financial incentives are provided for households to replace old stoves with heating pumps or eco-design compliant pellet boilers, as well incentives are available for households to install solar panels or acquire them remotely.

Incentives are also provided for industry when modernizing pollution abatement equipment of combustion plant, identifying and removing NMVOC leakages and other initiatives to reduce air pollution from various activities. Also, education campaign is undergoing through various media to increase public awareness on good practice of heating. On municipal level Vilnius city adopted ban on coal and peat use from mid-2023. In 2022 review of air quality standards is foreseen, taking into account WHO recommended limit values and upcoming Commission proposal for Directive on Cleaner Air.

There are also several incentives for renewing vehicle fleet. Subsidies are given for scrapping old vehicles and purchasing electric bicycles and scooters, low emission non-diesel vehicles or yearly public transport tickets. Low emission mobility is also promoted by providing subsidies for new and used electric cars. To manage national car fleet pollution, new annual taxation mechanism for polluting cars is under consideration.

- **What concrete projects for the avoidance of plastics pollution is your government supporting?**

Lithuania is continuing to support the deposit-refund system. The introduction of a deposit-refund system for single-use plastic and glass bottles and metal cans proved to be very successful, achieving its 2020 objective of 90 % collection already in 2017. There are specific plans to further improve and optimize the separate collection system: by the end of 2021, it is planned to optimize the collection points network and continue providing individual households with separate collection containers.

In the 2017 Special Eurobarometer 468 on attitudes of EU citizens towards the environment, 88 % of Lithuanian people said they were concerned about the effects of plastic products on the environment (EU-28 average 87 %). 89 % said they were worried about the impact of chemicals (EU-28 average 90 %). There is a support for circular economy initiatives and environmental protection action in Lithuanian society.

Resolution No 1133 adopted by the Lithuanian government on 21 July 2010 stipulates that contracting authorities and contracting entities must ensure that at least 45% of procurement includes environmental criteria in both 2017 and 2018 and that at least 50% includes environmental criteria in both 2019 and 2020. The Minister of Environment Order No D1-508 of 28 June 2011 sets minimum and comprehensive environmental criteria for 30 products such as paper, office supplies, products from recycled plastics, publishing and printing related services, event management services and others.

Drones and satellite information will be used to identify areas of concern more effectively on the Lithuanian and Latvian coasts. After analyzing it, scientists will present their proposals for innovative pollution management measures.

- **Has the state banned fireworks, plastic confetti and other environmentally harmful activities to minimize the environment footprint? If so, what environmentally harmful activities has the state prohibited?**

There are no bans on national level of such activities. Firework activities are regulated and requirements on market and use are established to minimize health risks. For example, use of fireworks prohibited from 22 P.M. until 8 A.M., except during holidays. With steady increase of public awareness, the use of unsafe fireworks and related injuries had decreased in recent years. Also, municipalities introducing alternative entertainment events replacing or reducing use of fireworks. Some municipalities during New Year celebration had introduced temporal restriction of use in particular territory.

4) **Economy**

- **What are the investment priorities of the state to reduce CO2 emissions?**

Investment priorities focus on the most GHG emitting sectors (transport, agriculture). Priorities are given to the financing of measures for the introduction of renewable energy sources, energy saving, replacement of fossil fuels with renewable sources, and less polluting technologies.

More information can be found in the National Energy and Climate Action Plan: <https://am.lrv.lt/lt/veiklos-sritys-1/klimato-kaita/nacionalinis-energetikos-ir-klimato-srities-veiksmu-planas-2021-2030-m>

- **What is the role of carbon capture, utilization and storage in achieving climate neutrality in the government's strategy?**

The National Climate Change Strategy provides for:

23. National climate change mitigation targets for 2050: 23.1. reduce GHG emissions by 100 % compared to 1990; up to 20% of emissions from all sectors of the economy have moved to innovative, low-emission technologies, environmentally friendly technologies and the use of RES. By covering natural absorbents in the CCMT sector and by using environmentally sound carbon capture and recovery (CCU) technologies to offset emissions in sectors where no technological emission reductions have been identified. Lithuania focuses on environmentally safe technologies for carbon capture and further use, as geological storage of CO2 in Lithuania is prohibited by the Law on the Depths of Lithuania.

- **Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?**

Lithuania has joined the Carbon Abandonment Alliance: <https://www.poweringpastcoal.org/members>

We do not have a separate coal phase target at national level. However, in the National Climate Change Agenda, we have set targets for the phase-out of fossil fuels in individual sectors:

<https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/7eb37fc0db3311eb866fe2e083228059?positionInSearchResult>

- **What is the strategy of the state regarding the use of hydrogen in the next 10 years?**

According to the National Climate Change Strategy it is foreseen:

- to find technological solutions in the implementation of pilot projects for the production of green hydrogen that would contribute to the balancing of surplus electricity from RES;
- to adapt the existing natural gas network infrastructure for the transportation of hydrogen and biogas, giving priority to gas from RES until 2024.

5) **Innovation**

- **Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?**

Up to 20% of emissions from all sectors of the economy have moved to innovative, low-emission technologies, environmentally friendly technologies and the use of RES. By covering natural absorbents in the CCMT sector and by using environmentally sound carbon capture and recovery (CCU) technologies to offset emissions in sectors where no technological emission reductions have been identified.

- **Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?**

We aim to promote biodiversity research that is relevant to public policymaking. Particular attention is paid to research into the state and changes of ecosystems and their services, habitats and species, especially protected species, the effects of climate change on these areas, the spread and management of invasive species, and research into national plant genetic resources.

- **What effects are expected from current support measures?**

Based on the results of research, national legal regulations for the conservation of biological diversity are established, improved, or changed, the decision-making process is applied, and the practice of research-based biodiversity conservation measures is applied.

6) **International Cooperation**

- **In which fields there concrete cooperations and joint projects with neighboring countries in the areas of climate change and biodiversity?**

Partnership project “Baltic Expert Network for Greenhouse Gas Inventory, Projections and Policies and Measures Reporting (BENGGI)” (SEED Project S91, partners - Estonia, Latvia, Lithuania). Project activities were implemented during **2016-2018**. This network was established in order to improve the quality of inventory and projections preparation under EU and UNFCCC. Networking would allow acquiring necessary knowledge and sharing experience between experts.

- **Are increased cooperation and the implementation of joint projects planned for the future?**

IFE OrgBalt “Demonstration of climate change mitigation potential of nutrients rich organic soils in Baltic States and Finland”. The project is implemented from August 1, 2019, until August 31, 2023.

- **What effects are expected as a result?**
 - Improve the knowledge base for the assessment, monitoring, projection and implementation of effective climate change mitigation measures in the management of nutrient rich organic soils;
 - Enhance the capacity of national and local authorities to apply the obtained knowledge in practice in the TCM climate zone;
 - Contribute to the demonstration of innovative climate change mitigation technologies, systems, methods and instruments that are suitable for being replicated, transferred or mainstreamed for management of nutrient rich organic soils in TCM climate zone in Europe and beyond its borders;
 - Contribute to sustainable land use, agriculture and forestry by creation of tools and guidelines for implementation of climate change mitigation measures in nutrient rich organic soils, as well as socio-economic analysis of the initiated actions.
- **To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?**

Since 2014, the Ministry of Environment through National Climate Change Programme has been financing climate related projects in developing countries. Annually we dedicate 2 mln. Euros for the installation of the solar power plant projects in developing countries. Lithuanian companies invest in Georgia, Moldova, Azerbaijan, and African countries, such as Mali, Nigeria. These projects we regard as promotion of eco-friendly technologies for reaching climate goals and as an opportunity to promote Lithuanian production.

7) Adaptation

- **Has your state or region adopted a climate change adaptation strategy, policy, or roadmap?**

Lithuania adopted a "Strategy for National Climate Management Policy 2013-2050" in 2012. It was an integrated strategy which covers both adaptation and mitigation and had been replaced by National Climate Change Management Agenda (hereinafter – Agenda). In Agenda are the goals and objectives for till 2030 and long-term directions until 2050. To implement the Strategy, in 2013 the Government approved the Action Plan on the implementation of the goals and objectives for 2013-2020 of the Strategy. In 2019 Lithuania adopted National energy and climate action plan for 2021-2030 (NECP) and from 2020 the Action Plan is incorporated in the NECP. There are no sectoral adaptation plans in Lithuania.

The goal of Lithuania's policy on adaptation to climate change is to reduce the current and foreseeable vulnerability of the country's natural ecosystems and economic sectors, to strengthen adaptive capacity, to cost-effectively mitigate risks and damage and to maintain and increase resilience to climate change, with a view to securing a favourable environment for public life and sustainable economic activity so, as to ensure food production is not endangered.

- **If that is the case, could you indicate its main objectives, policy tools and measures?**

In implementing this goal, it will be aimed by 2030:

1. to apply flood protection measures to all residents in flood-prone areas;
2. the share of climate-related economic losses in a country's GDP does not exceed 0.08 % per year;
3. the proportion of dangerous, natural disasters and catastrophic meteorological events predicted is at least 90 % of the actual events;
4. the climate change adaptation goal will be pursued through adaptation measures in climate-sensitive areas such as agriculture, energy, transport, industry, forestry, ecosystems and biodiversity, landscape, public health, water resources and the coastal zone, urbanised areas, etc., in line with the main short-term directions by 2030;
5. adaptation actions at local level: to promote regional cooperation, active involvement of municipal authorities and the local community in the planning and implementation of climate change adaptation measures;
6. more systematic adaptation: coherence and synergies between climate change mitigation and adaptation measures;
7. data-driven solutions: to increase knowledge and research on climate change impacts, vulnerability and adaptive capacity, promote RDI;
8. open data: to collect and disseminate information on ongoing climate change, the resulting damages and the magnitude of losses, to provide information to stakeholders and the public and to share best practices and examples.

In Agenda targets had been set by 2030 and key long-term directions for adaptation to climate change by 2050 also adaptation targets and objectives for 2030 in individual sectors most vulnerable to climate change.

The current and planned measures are listed in the [National energy and climate plan](#).

8) Involvement of citizens and stakeholders

- **Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry; scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity?**

The National Climate Change Committee was established in 2001. It consists of experts from academia, government, and non-governmental organizations (NGOs) and has an advisory role. The main objective of the Committee is to advise on the development and implementation of the national climate change management policy.

The National Energy and Climate Action Plan (NECP) of Lithuania is under revision. 5 Decarbonisation Working Groups are being set up for an open, effective dialogue and for updating the NECP. Decarbonisation working groups are set up by sector: agriculture and forestry, energy, industry, transport and the waste-circular economy. Members of these groups discuss how Lithuania can move towards climate neutrality and make proposals for additional measures to achieve the climate change mitigation goals by 2030. The Ministries of Environment and Energy bring together the social partners, associations, non-governmental organizations and other interested members of the public in these sectors and invite them to take an active part in the Working Groups.

Before Decarbonisation Working Groups Ministry of Environment had Climate Social Fridays, where the first Friday of the month was meeting with stakeholders to discuss different climate topics. The events were open to everyone.

- **Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?**

There are no current initiatives to involve young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity.

- **Are there plans to increase such initiatives in the future?**

Activities of the Decarbonization Working Groups will be extended to Climate Social Fridays to have a forum to include social partners into decision-making processes.



Mecklenburg- Vorpommern

Intergovernmental survey

Adopted by the BSPC WG CCB on 4 October 2021

The governments of the BSPC member parliaments are kindly asked to send statements and answers to the following issues and questions to their respective parliaments until 28 February 2022:

I. General information on the measures and strategies in the BSPC member states and regions

Climate change

Could you give a policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures? The report should preferably be structured according to the following policy areas:

1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);

Reply:

The state of Mecklenburg-Vorpommern is currently drafting a Climate Protection Act. It will include the existing targets aimed at covering the state's entire energy demand for electricity, heat and mobility from renewable sources by 2035 and achieving net greenhouse gas neutrality by 2040. It will be broken down by sectors and interim targets and measures should be set accordingly. By 2030, the state administration is to be organized in a CO₂-neutral way with the help of regular monitoring.

2. Critical sectors where the need for additional measures is imminent;

Reply:

Currently, there is no need for additional measures.

3. Current and planned mitigation measures;

Reply:

To mitigate climate change, numerous climate protection measures and campaigns to reduce CO₂ emissions and improve resource efficiency are being supported. The State Energy and Climate Protection Agency Mecklenburg-Vorpommern GmbH (Landesenergie- und Klimaschutzagentur Mecklenburg-Vorpommern GmbH) advises municipalities, companies and citizens on the topics of energy efficiency, renewable energies and climate protection.

4. Measures and strategies for adaptation to climate change.

Reply:

The Climate Protection Act should also include the development of a strategy for adapting to the effects of climate change and the establishment of an advisory service, especially for municipalities.

Biodiversity

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?

Reply:

Questions in relation to the national biodiversity strategy are to be answered by the Federal Government due to this area lying within federal responsibility.

Mecklenburg-Vorpommern has published a state-specific biodiversity strategy as well as a mid-term report on the implementation of relevant measures on the website of the State Office for the Environment, Nature Conservation and Geology (Landesamt für Umwelt, Naturschutz und Geologie, LUNG). This mid-term report also includes an update of the measures to be undertaken. The mid-term report, as well as the associated fact sheets, provide more detailed information on the status of ecosystems.

The publications are available online: <https://lung.mv-regierung.de/insite/cms/umwelt/natur/biodiversitaet.htm>.

2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine?

Reply:

All protected areas and protected biotopes are of particular importance for the protection of biodiversity. This applies both on land and in the sea. These areas are designated as priority and reserved areas for nature conservation and landscape management in the Mecklenburg-Vorpommern State Development Program (Landesentwicklungsprogramm, LEG) and in regional spatial development programs, where appropriate.

In addition, all areas subject to support or compensation measures in the sense of nature conservation are of particular importance.

3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.

The reports should also include the following aspects:

- Each country's views on the root causes and drivers of the problem;
- National targets and how they have been met so far;
- Concerning the HELCOM BSAP implementation: what has helped in their implementation and/or why have some not been met, with concrete examples from each country;
- Legislative measures: best practice examples on progressive legislation as well as the role of taxation and how far both helped in achieving the objectives;

- Other support measures that can help in achieving the objectives;
- Has the COVID-19 pandemic had any impact whatsoever on achieving the measures?
- Are there concrete figures on what impact measures to combat the pandemic had on the volume of greenhouse gas emissions (transport, economy)?
- Are prosperity and an ecologically stable and sound environmental condition for future generations considered as a fundamental right in the decision-making processes?

Reply:

With regard to national goals and their implementation to date, the overall responsibility lies with the Federal Government.

For Mecklenburg-Vorpommern, the above-mentioned mid-term report on the implementation of the state's biodiversity strategy published by LUNG Mecklenburg-Vorpommern in 2017 shows where and how biodiversity in Mecklenburg-Vorpommern is endangered the most. The causes are manifold. Structural diversity in the landscape, land sealing, use of pesticides, and input of pollutants into soils and water bodies count among the most important ones. Factors such as light pollution have an additional damaging effect on insects, for example. The preservation of biodiversity is not sufficiently seen as the responsibility of society as a whole.

The COVID-19 pandemic is leading to a reduction in funding for nature conservation and, as a result, to the delay and endangerment of urgently needed measures to preserve biodiversity.

II. Legal basis of the measures and strategies in the BSPC member states and regions

1. What are the main provisions to combat climate change?

Reply:

Currently, there are no binding provisions to combat climate change in Mecklenburg-Vorpommern. A state-specific Climate Protection Act is planned.

2. Is there a climate protection law?

Reply:

Currently, there is no climate protection law in Mecklenburg-Vorpommern.

3. What are the main provisions on biodiversity?

Reply:

Since biodiversity protection is a cross-sectional task, it is covered in those areas of law that have an influence on the use and natural development of land and water, on the number and diversity of organisms and on genetic diversity. There are federal and state regulations governing these areas of law, which are subject to concurrent legislation under Article 74 of the German Basic Law.

Nature conservation law is essential for biodiversity protection. Here, the Mecklenburg-Vorpommern Nature Conservation Implementation Act (NatSchAG M-V) supplements the Federal Nature Conservation Act (BNatSchG). Chapter 3 of NatSchAG M-V contains regulations on the protection of certain parts of nature and landscapes (Art. 20 to 36 BNatSchG), while Chapter 4 NatSchAG M-V contains regulations on the protection of wild animal and plant species, their habitats and biotopes (Art. 37 to 55 BNatSchG).

4. Is there a law protecting biodiversity?

Reply:

The state of Mecklenburg-Vorpommern has not enacted a separate biodiversity law. As shown in Section II.3., corresponding regulations are contained in other acts with environmental relevance.

III. Specific areas and aspects

A. Maritime areas and protected zones

1. How exactly are maritime areas protected?

Reply:

The designation of marine protected areas can be based on different legal frameworks, such as global international conventions, regional marine conventions, European law or national law.

In Mecklenburg-Vorpommern, marine protected areas have been designated in accordance with the Habitats Directive as well as the Birds Directive; these protected areas also meet the requirements of the EU Marine Strategy Framework Directive (MSFD).

Two marine areas are designated as parts of national parks in accordance with the state Nature Conservation Implementation Act (Naturschutzausführungsgesetz Mecklenburg-Vorpommern).

2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?

Reply:

Marine areas within the coastal waters of Mecklenburg-Vorpommern are protected through the designation of protected areas in accordance with the Habitats and Birds Directives. Furthermore, there are two national parks in Mecklenburg-Vorpommern, which include marine areas in their respective protected areas.

In addition, these areas have also been designated as HELCOM Marine Protected Areas (MPAs). This means that around 50% of Mecklenburg-Vorpommern's coastal waters are designated as marine protected areas.

3. What actions has your country taken to create functioning coastal ecosystems?

(Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.)

Reply:

In order to achieve good environmental status of the seas as a goal set by the EU Marine Strategy Framework Directive, Member States have drawn up corresponding programs of measures. These are currently being updated and are to be implemented accordingly by Mecklenburg-Vorpommern in regard to the Baltic Sea.

For areas covered by the Habitats Directive, management plans featuring measures required to achieve the relevant protection goals have also been drawn up.

Measures to achieve good environmental status of the Baltic Sea are also defined in the Baltic Sea Action Plan (BSAP) within the framework of the Helsinki Convention. These measures are also being successfully implemented by Mecklenburg-Vorpommern, among others.

In addition, the current spatial development program of Mecklenburg-Vorpommern takes into account environmental protection and nature conservation issues. Thus, protected areas are designated as priority and reserved areas.

Important marine biotopes such as seagrass meadows and other marine macrophyte populations, reefs or sublittoral sandbanks are subject to statutory biotope protection (Art. 30 BNatSchG). This means that actions that could lead to their destruction or significant or lasting impairment are not permitted.

For example, the "restoration of marine boulder and stone beds" is foreseen as a possible compensation measure for disturbing the integrity of the coastal sea within the framework of the legal treatment of interventions in the coastal sea of Mecklenburg-Vorpommern (HzE marin).

B. Eutrophication

(Eutrophication is a major threat to biodiversity in the Baltic Sea and has a negative impact on both ecosystem function and ecological services. Mitigating eutrophication is essential for the protection of biodiversity.)

1. What actions does your country take to fulfil the BSAP and other directives?

Reply:

Mecklenburg-Vorpommern implements measures to achieve the eutrophication-related objectives of the HELCOM Baltic Sea Action Plan, the EU Marine Strategy Framework Directive, the Water Framework Directive and other water-related directives (e.g. Nitrates Directive, Urban Wastewater Directive) within the scope of its responsibilities and possibilities. Programs of measures and management plans under the Water Framework Directive for the four river basin districts in which Mecklenburg-Vorpommern has a share lie at the heart of measures to reduce nutrient inputs to water bodies. They were updated in December 2021 for the third management period (<https://www.wrrl-mv.de/wrrl-dokumente/bmu/>). The amended Fertilizer Ordinance is also very important in relation to combating eutrophication of water bodies. In addition, the national program of measures under the Marine Strategy Framework Directive for the North Sea and the Baltic Sea contains various complementary measures to reduce nutrient inputs via the atmosphere and through sea-based activities (<https://www.meeresschutz.info/berichte-art13.html>). The 2016 program of measures is currently being updated for the second management period (2022-2027).

2. Which objectives of the Baltic Sea Action Plan are planned to be realised in your country by when and by which measures?

Reply:

Actions and measures contained in the Baltic Sea Action Plan show considerable overlaps with both WFD and MSFD measures. The implementation of WFD and MSFD measures by 2027 should help reaching the targets of the eutrophication segment of the Baltic Sea Action Plan. Thus the Baltic Sea Action Plan (target year 2030) would also be fulfilled.

3. How can we speed up the work?

Reply:

Implementation can be accelerated through an increased utilization of funds.

C. Sea-dumped munitions

1. Are there areas in your territorial waters that are contaminated with ammunition?

Reply:

The coastal waters of Mecklenburg-Vorpommern include areas contaminated with munitions. The state maintains an ammunition cadastre. All available information on the explosive ordnance situation in Mecklenburg-Vorpommern is centrally managed and evaluated by the Munitions Salvage Service of Mecklenburg-Vorpommern (Munitionsbergungsdienst Mecklenburg-Vorpommern) through the ammunition cadastre. Areas contaminated with explosive ordnance are divided into categories based on the Federal Government's guidelines on explosive ordnance clearance: https://www.bfr-kmr.de/kapitel_5.2.html.

At the beginning of 2020, more than 800 areas were listed in Mecklenburg-Vorpommern's ammunition cadastre.

Even though on land several thousand hectares have already been cleared of munitions in recent decades, the following areas are still contaminated:

Category 1: 44 areas	approx. 1,000 ha;
Category 2: 278 areas	approx. 7,000 ha;
Category 3: 297	areas approx. 45,000 ha;
Category 4: 165	areas approx. 37,000 ha;
Total: 784 areas	with approx. 90,000 ha.

Recent research on shooting ranges off the state's Baltic Sea coast has identified around 75 shooting ranges dating from 1871 to the present day, which – partly overlapping and changing multiple times over the decades – cover a total area of approx. 15,000 km². Around 8,800 km² (880,000 ha) lie within the 12 nautical mile zone off Mecklenburg-Vorpommern. These areas are listed in category 3 in the state's ammunition cadastre.

(As of February 2020)

2. What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?

Reply:

It is planned to develop such a strategy under the leadership of the Federal Government with the involvement of German coastal states.

The joint Federal/State Working Group North Sea and Baltic Sea (Bund/Länder-Arbeitsgemeinschaft Nord- und Ostsee, BLANO) has updated its overall assessment titled "Munitions Contamination of German Marine Waters" upon request of the Conference of Environment Ministers. The assessment points toward an increased hazard potential for the marine environment. The BLANO Expert Group on Munitions in the Marine Environment (EK MiM) is currently updating its report titled "Munitions Contamination of German Marine Waters - Inventory and Recommendations" from 2011. On behalf of the Conference of Environmental Ministers, the German coastal states are currently preparing a "screening" for ordnance-typical pollutants inside and outside areas contaminated by munitions in German coastal waters.

D. Towards zero pollution

(Pollution harms our health and our environment. It is the largest environmental cause of multiple mental and physical diseases and of premature deaths, especially among children, people with certain medical conditions and the elderly. In addition to affecting people's health, pollution is one of the main reasons for the loss of biodiversity. It reduces the ability of ecosystems to provide services such as carbon sequestration and decontamination. Therefore, these questions are being asked.)

1. Is your government following a zero-pollution action plan for air, water and earth?
2. What time horizon is planned for which intermediate steps and goals?
3. Which measures in this direction have already been initiated or are to be realised?

Reply:

There is no information on pursuing a zero-pollution action plan for air, water, and earth.

4. What concrete projects for the avoidance of plastic pollution is your government supporting?

Reply:

Problem awareness and the willingness of consumers, industry and the public sector to take conscious action is a prerequisite for decreasing the use of plastics and thus generating less plastic waste. Therefore, comprehensively educating relevant stakeholders and providing them with guidance for action is seen as a special task. In Mecklenburg-Vorpommern, comprehensive activities and initiatives are already being carried out by municipalities, while measures on the topic of "plastic waste" are being supported by the state.

In 2018, the supreme waste management authority signed a cooperation agreement with the non-profit association "Die Multivision e. V." for jointly implementing the REdUSE project, in order to, among other things, raise awareness about the necessity and possibilities of waste avoidance.

The non-profit association "Die Multivision e. V." aims, among other things, at raising interest for sustainable resource and circular economy among young people and providing them with a deeper understanding of the overall context as well as showing practical possibilities for action and solutions.

The cooperation initiative aims at raising awareness about waste avoidance and resource protection, especially among children and young people from economically weak regions in Mecklenburg-Vorpommern, and to jointly developing ways to reduce waste in their specific environment. To this end, the association selected schools from local centres and small towns according to the criteria drawn by the Ministry of Economics and now enables its students to participate in the project free of charge. Following a thematic preparation, a total of three events tailored for different age group took place at ten locations in Mecklenburg-Vorpommern from January to March 2019.

In Mecklenburg-Vorpommern, such cities as Greifswald, Stralsund, Rostock and our state capital Schwerin have set the goal of reducing waste from disposable coffee cups. These initiatives, jointly conducted by city councils and local coffee providers, can bring about a

reduction in food packaging within the service packaging segment. These collaborative measures of local administrations and businesses for waste avoidance are very effective.

Further examples of measures implemented by local administrations and businesses in Mecklenburg-Vorpommern:

- Doing more with less for the sea (Weniger fürs Meer)

Responsible organisations: Rügen Tourism Association, Rügen Tourism Center, Southeast Rügen Biosphere Reserve and the Hanseatic City of Stralsund

Project aiming at the avoidance of single-use plastics and stronger environmental awareness on Rügen and in Stralsund

- o 1,500 reusable drinking bottles

- o 10,000 beach ashtrays distributed in 2019

- o deposit system with 25,000 reusable cups from 40 partners

- o weekly garbage collections in the main season in Baabe

- o student company "Share & Repair" working on the issue of upcycling and reusable packaging at the CJD Christophorus School Rügen

www.wenigerfuersmeer.de

- Disposable plastic bans by statute

Responsible authority: City of Parchim

- o from 2019

- o using reusable plastics or biodegradable tableware from alternative resources for food and beverages distribution ("Martinimarktsatzung")

Responsible authority: Hanseatic City of Rostock

- o in public facilities, on traffic areas of the city as well as on municipal markets, food and beverages are to be served in reusable or compostable containers. If wastewater discharge is not possible, recyclable disposable packaging is also permitted (waste statute).

- Fireworks-free beaches

Responsible organisations: Kaiserbäder Ahlbeck, Heringsdorf and Bansin on the island of Usedom

- o fireworks-free beach sections since 2018

- o additional trash bins on the beach

- o per kilogram of trash, donation of 50 cents to the NABU project "Seas without plastic".

- Baltic Sea Ashtray (Ostsee-Ascher)

Responsible organisations: Coastal Union Germany EUCC-D with Rostock & Warnemünde Tourist Office

o since 2016

o collection boxes for cigarette butts in 10 highly frequented beach sections in Warnemünde and Hohe Düne

o combination of opinion poll, information boards and distribution of ashtrays

www.eucc-d.de/ostsee-ascher.html

- No plastic for the fish (Keine Plastik bei die Fische)

Responsible organisations: Environmental Agency and Tourism Center Rostock & Warnemünde

o since 2017/2018

o campaign carried out by the city administration including various projects for coastal and environmental protection

o Großmarkt Rostock GmbH's own reusable system for beverages at all of its events

o voluntary transition to biodegradable tableware made of corn starch, palm leaves, sugar cane, wood or cardboard at 14 out of 21 beach catering establishments in Warnemünde, disposal via special waste bins

<https://www.rostock.de/aktiv/strand-meer/umweltmanagement-am-strand.html>

- Introduction of a reusable cup deposit system

Responsible authority: Hanseatic City of Greifswald

o accelerated introduction of a deposit cup system through the assumption of system charges during a one-year test phase

- Refilling instead of throwing away

Responsible authority: Hanseatic City of Rostock

o avoidance of disposable cups

o raising public awareness

o school canteens, the Rostock streetcar company and the Rostock sailing club RSC 92 equipped with reusable cups

- Non-smoking beaches

Responsible organisation: Ostseebad Göhren

o since 2009

- Beach trash cans

Responsible organisations: Kaiserbäder Ahlbeck, Heringsdorf and Bansin on Usedom

o waste bins in the form of giant fish cans (in a humorous way, guests are encouraged to dispose of garbage in these bins)

- #WIRFUERBIO

Responsible organisations: waste management companies from northern Germany – including the Hanseatic City of Rostock and Stadtentsorgung Rostock

o since 2018

o information and education campaign to banish foreign materials, especially plastic (plastic bags), from organic waste bins

<https://www.wirfuerbio.de/>

- Plastic-free city of Rostock

Responsible authority: association of Rostock companies committed to actively reducing single-use plastics in businesses

<https://plastikfreiestadt.org/initiative/>

Projects on marine litter funded by Mecklenburg-Vorpommern

Program for the "Promotion of measures for environmental education and raising environmental awareness and projects relating to environmental protection"

[https://www.lung.mv-](https://www.lung.mv-regierung.de/insite/cms/umwelt/nachhaltige_entw/lls_umweltbildung.htm)

[regierung.de/insite/cms/umwelt/nachhaltige_entw/lls_umweltbildung.htm](https://www.lung.mv-regierung.de/insite/cms/umwelt/nachhaltige_entw/lls_umweltbildung.htm)

- Deutsches Jugendherbergswerk LV M-V e. V. Rostock - "Plastic diet – raising awareness and developing initial measures to avoid (marine) litter in youth hostels in Mecklenburg-Vorpommern" (2017-2019)
(<https://www.eucc-d.de/aktuelle-projekte/articles/Plastik-Di%C3%A4t.html>,
<http://umweltbildung.mvnet.de/foerderprojekt/67>)
- NABU Rügen e. V. - "Nature Trail Prora" (2017-2019)
(<https://www.jugendherbergen-mv.de/presse/neuer-nabu-naturlehrpfad-fuer-prora/>,
<http://umweltbildung.mvnet.de/foerderprojekt/31>) incl. an information board on marine litter
- Caritas Mecklenburg e. V. - "Film project: More brains in the head – less waste in the bin" (2018)
(see page 26: [https://www.amt-wittenburg.de/export/sites/amt-wittenburg/.galle-
ries/Amtsblatt-2018/Ausgabe-04-14.04.2018.pdf](https://www.amt-wittenburg.de/export/sites/amt-wittenburg/.galleries/Amtsblatt-2018/Ausgabe-04-14.04.2018.pdf),
<http://umweltbildung.mvnet.de/foerderprojekt/70>)
- Kunst- und Kulturverein "Quelle" e.V. - "Art project on waste prevention" (2017)
([https://www.svz.de/lokales/parchimer-zeitung/hier-sprudeln-viele-kreative-ideen-
id16982881.html](https://www.svz.de/lokales/parchimer-zeitung/hier-sprudeln-viele-kreative-ideen-id16982881.html))

- Schulverein der Regionalen Schule Altenkirchen e. V. - "Signposts promoting waste avoidance at the coastal outcrops of the Wittow peninsula" (2017) (<http://umweltbildung.mvnet.de/foerderprojekt/40>)
- NABU RV MM e. V. Rostock - "Fascinating Baltic Sea – no sea like any other" (2016-2017) incl. the sub-topic: microplastics and pollution in the Baltic Sea (<http://umweltbildung.mvnet.de/foerderprojekt/20>)
- EUCC - Die Küsten Union Deutschland e. V. - "Interactive online information platform on marine litter on the Baltic Sea coast" (2016-2017) (www.meeresmuell.de, <http://umweltbildung.mvnet.de/foerderprojekt/14>)

This list provides just a few examples of projects supported by the state and is not exhaustive.

5. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?

Reply:

In order to reduce plastic waste, the following legislative procedures have been carried out by the federal legislator, in particular:

- the amendment of the Closed Substance Cycle Waste Management Act 2020,
- the amendment of the Packaging Act 2020 by including a ban on putting lightweight plastic carrier bags on the market,
- the enactment of an ordinance banning the marketing of certain single-use plastics products and products made of oxo-degradable plastics in 2021,
- the enactment of a Single-Use Plastics Labelling Ordinance 2021.

No bans on the above-mentioned products have been introduced so far.

E. Economy

1. What are the investment priorities of the state to reduce CO₂ emissions?

Reply:

Programs submitted for the current funding period of the European Regional Development Fund focus on improving energy efficiency and establishing local smart energy systems and grids.

In the energy sector, the further expansion of renewable energies and the establishment of power-to-X technologies are the declared goals of the State Government. The expansion of solar and wind energy on land is to be significantly accelerated, as is the expansion of offshore wind energy and floating photovoltaic systems. The expansion of wind energy will play a key role in this regard (Point 97 of the 2021–2026 Coalition Agreement).

Green industrial zones are to be designated and new ones, in which the energy supply follows sustainable criteria, are to be created (Point 94 of the 2021–2026 Coalition Agreement).

2. What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?

Reply:

Carbon capture possesses particular importance in various power-to-X technologies, in which different gaseous and liquid energy carriers are generated, used, and stored from renewably produced hydrogen and carbon.

3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

Reply:

The German Federal Government has agreed on a coal phase-out by 2038. By signing the Coalition Agreement of the Federal Government, the coalition partners have agreed to "ideally" complete the coal phase-out by 2030. In view of the current situation in connection with the crisis in Ukraine, the current and future security of energy supply in Germany and Europe is being reassessed.

4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

Reply:

In Germany, the National Hydrogen Strategy provides the framework for the production, transport, use and further use of hydrogen and thus for corresponding innovations and investments.

In Mecklenburg-Vorpommern, one of the aims will be to build up the highest possible production capacities for green hydrogen. Among other things, ports are to be supported in their development into industrial locations for the use and production of hydrogen from renewable energies. In this regard, a contribution is to be demanded from the Federal Government and the EU (Point 95 of the 2021–2026 Coalition Agreement).

Improvements in the legal framework conditions, which the coalition partners have set as their goal at the federal level, are a prerequisite in this regard.

F. Innovation

1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?

Reply:

The former Ministry of Education, Science and Culture of Mecklenburg-Vorpommern had funded the project "Wetscapes (Material conversion processes at peatland and coastal sites

as a basis for land use, climate impact and water protection)" with approx. 5 million euros from the European Social Fund as part of the state's research excellence program. The project included research on the sustainable and gentle cultivation of degraded and rewetted peatland sites and ran from 1 January 2017 to 31 March 2021.

A separate program, which exclusively supports innovations in the sphere of climate and biodiversity protection, does not exist within the area of responsibility of the Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern. The promotion of research and development (R&D promotion) plays a central role in the advancement of innovations in general. Support for projects in the area of research, development and innovation is addressed in the corresponding state guidelines. In the funding period 2021–2027, R&D funding will focus on renewable energy and hydrogen technologies.

2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?

Reply:

The aforementioned "Wetscapes" project brought together various disciplines at the universities of Rostock and Greifswald as well as other partners from Mecklenburg-Vorpommern. It bundled internationally significant expertise in the area of peatland research in Mecklenburg-Vorpommern. The project looked into peat, plant and water systems that make up the peatland ecosystem and their interaction with the (microbially controlled) nutrient cycles. Furthermore, it looked into the gas exchange with the atmosphere.

In the area of renewable energy and hydrogen technology, the topics of hydrogen production from renewable energies and the development of a hydrogen infrastructure for efficient storage and handling are being addressed. Moreover, this area deals with the expansion of renewable energies as well as the creation of robust grid connections and the development of components for feeding volatile energy sources into the power grid. The topics of power-to-X, alternative fuels and the development of emission-free, energy-efficient drive technologies and systems as well as the integration of biomass into the energy system also count among the focal points.

3. What effects are expected from current support measures?

Reply:

Within the framework of the "Wetscapes" project, it was possible to prove that the preservation or rewetting of peatlands in Mecklenburg-Vorpommern has a considerable influence on their climate balance. This applies not only to the emission of CO₂, but also methane and climate-damaging nitrogen compounds (so-called nitrous oxide). The rewetting of peatlands thus constitutes one of the main priorities of future-oriented climate (protection) policy in Mecklenburg-Vorpommern.

Additionally, support measures aim at ensuring security of supply and freedom from emissions as well as decarbonisation of industrial processes with a view to economic conditions. The state should be able to use the generated electricity locally in order to secure high-quality jobs in the state as well as to create new future-oriented jobs.

The Federal Government is responsible for the development of federal programs and for national research projects. Federal programs for biodiversity and mitigating greenhouse gases in the landscape, e.g., through peatland restoration, should be further expanded.

G. International cooperation

1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

Reply:

International cooperation primarily takes place at the federal level. Therefore, reference is made to the Federal Government's overall responsibility.

2. Are increased cooperation and the implementation of joint projects planned for the future?

Reply:

International cooperation primarily takes place at the federal level. Therefore, reference is made to the Federal Government's overall responsibility.

3. What effects are expected as a result?

Reply:

International cooperation primarily takes place at the federal level. Therefore, reference is made to the Federal Government's overall responsibility.

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

Reply:

International cooperation primarily takes place at the federal level. Therefore, reference is made to the Federal Government's overall responsibility.

H. Adaptation

1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?

Reply:

Adaptation strategy in general

Currently, the state of Mecklenburg-Vorpommern does not have an overall strategy for adapting to the consequences of climate change. Its development is to become part of the future Climate Protection Act.

Water strategy

In the Coalition Agreement for the 2021–2026 legislative period of the State Parliament Mecklenburg-Vorpommern, the coalition partners have stipulated: "Municipalities, companies, private individuals and the State must better prepare for heavy rainfall events, floods, storm surges, heat waves and droughts. We will develop a comprehensive water strategy for Mecklenburg-Vorpommern and amend the State Water Act" (Point 219). The Ministry for Climate Protection, Agriculture, Rural Areas and the Environment is currently preparing a draft of the water strategy.

Coastal protection

In recent centuries, sea levels have been rising at a comparatively constant rate. To take rising sea levels into account, a so-called "climate surcharge" of 0.50 m for a period of 100 years has so far been taken into account in the planning of coastal protection facilities. More specifically, this means that the height of a newly planned dike with a service life of approximately 100 years, for example, is planned 0.50 m higher than the specified design value.

Climate change and associated global warming are accelerating sea level rise. To adapt to this acceleration, the five northern German coastal states have adopted a so-called "precautionary measure" of 1.0 m based on the IPCC report (SROCC 2019). This precautionary measure also considers sea level rise over a 100-year period (related to the year 2000 or the current review period). In the opinion of the coastal states and LAWA, the findings of the current IPCC report (AR6) confirm that the selected precautionary measure of 1.0 m continues to represent a plausible basis for precautionary planning in the area of coastal protection.

In Mecklenburg-Vorpommern, the overarching coastal protection strategy was (and is being) revised based on these findings. In all new planning, the above-mentioned precautionary measure is taken into account in accordance with the service life of the planned structures. In addition, construction reserves for subsequent adaptations are provided and/or area precautions are taken, if possible. The above-mentioned strategies should also be considered in local coastal protection concepts (at the municipal level, incorporation into B-plans, etc.). In addition, the coastal protection strategy will undergo a wholesale revision by 2024 on the basis of ongoing scientific research on the local effects of rising sea levels.

In addition, climate change effects are taken into account in flood risk management planning, i.e. in the implementation of the EU Floods Directive. Moreover, hazard and risk maps are reviewed and adapted every six years and on-demand (FGG-Oder, Warnow-Peene, Schlei-Trave).

2. If that is the case, could you indicate its main objectives, policy tools and measures?

Reply:

Water Strategy

The key points for the water strategy currently being prepared are as follows:

- protection against coastal storm surges,
- adaptation to rising sea levels
- adaptation to the decline of cliffs,
- protection against flooding along watercourses,
- adapting settlements and infrastructure to climate extremes,
- regeneration of the water balance, renaturation of water bodies,
- protection and sustainable use of water bodies,
- reorientation of agriculture,
- adapting the legal framework,
- devising funding instruments,
- improving the knowledge base,
- training the next generation,
- launching a dialog and communication process.

Coastal protection

The goal is to ensure that technical flood protection remains effective in the future and is implemented in all new construction projects in the form of technical measures (e.g., building elevation) or area preservation, and to improve flood risk management. Respective measures include adapting the coastal protection strategy, local coastal protection concepts and ultimately land use planning in municipalities.

It has also been determined for the Elbe River area that the flood discharge statistics will be reviewed every 6 years if the flood risk of at least HQ50 occurs at a gauging station. By 2023, heavy rainfall risk maps are to be drawn up for the entire area of Mecklenburg-Vorpommern in cooperation with the Federal Government.

I. Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

Reply:

In Mecklenburg-Vorpommern, environmental associations (e.g. NABU, WWF) and foundations (e.g. the Baltic Sea Foundation or the Foundation for Environment and Nature Mecklenburg-Vorpommern) represent important partners in the implementation of large-scale nature conservation projects and in the field of environmental education. Various public events were held in preparation of the biodiversity strategy Mecklenburg-Vorpommern.

In the context of the development of the new Climate Protection Act, a broad involvement of the expert community as well as the general public is planned.

2. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

Reply:

For Mecklenburg-Vorpommern, initiatives in the area of "Education for Sustainable Development" should be mentioned here. Several initiatives are listed online: <https://www.regierung-mv.de/Landesregierung/lm/Umwelt/Nachhaltige-Entwicklung/>.

3. Are there plans to increase such initiatives in the future?

Reply:

In the future, the work of the Council for Environment and Sustainability Mecklenburg-Vorpommern (Rat für Umwelt und Nachhaltigkeit Mecklenburg-Vorpommern, RUN) will be supported and promoted.

Due to the tight financial situation in the environmental sector, it is unclear to what extent ongoing initiatives in Mecklenburg-Vorpommern can be maintained. There is a lack of financial and human resources to strengthen them. Therefore initiatives heavily depend on voluntary work.



Norway

4 October 2021



BSPC Working Group on Climate Change and Biodiversity (CCB)

Intergovernmental survey

Adopted by the BSPC WG CCB on 4 October 2021

The governments of the BSPC member parliaments are kindly asked to send statements and answers to the following issues and questions to their respective parliaments until 28 February 2022:

- I. General information on the measures and strategies in the BSPC member states and regions

Climate change

1. *National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);*

Norway's Nationally Determined Contribution (NDC) under the Paris Agreement has been set at reducing emissions by at least 50 and up to 55 percent by 2030 compared to 1990-levels. Furthermore, Norway has set as its long-term climate target to become a low emission society in 2050, which is equivalent to reducing emissions by 90 – 95 percent compared to 1990-levels. Both the NDC and the long-term climate target have been established by law in the Norwegian Climate Change Act sections 3 and 4, respectively.

Through the European Economic Area Agreement the EU Emissions Trading Directive (EU ETS) and other EU climate change legislation (Effort Sharing Regulation and Regulation on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF)) also apply to Norway, the latter for the period

2021–2030. Norway has been an integral part of the EU ETS since 2008. The ETS sets a European cap on emissions from industry, power production, petroleum production and aviation.

In addition to Norway's international commitment under the Paris Agreement, the Government has established a national target for transition of the economy, aiming to reduce domestic emissions by 55 per cent by 2030 as a step towards transforming Norway into a low emission society.

2. Critical sectors where the need for additional measures is imminent;

Transport

In 2021, emissions of greenhouse gases in the transport sector were 16.2 million tonnes of CO₂ equivalents. Emissions from the transport sector account for about a third of the total greenhouse gas emissions in Norway. In recent years, more vehicles and vessels with low or no emissions are being phased in. There is also more climate-friendly fuel in fossil vehicles and vessels which are put into use. Another important element in reducing emissions is in coordinated area and transport planning, which facilitates a reduced need for transport and a transition to more environmentally friendly transport. The policy apparatus includes measures impacting prices as well as financial support. As technologies mature, the possibility of setting regulatory requirements is assessed.

Agriculture

In 2021 (preliminary numbers), emissions from the agricultural sector totalled 4.6 million tonnes of CO₂ equivalents. This corresponds to about 9.3 per cent of Norway's total greenhouse gas emissions. The Government and the agricultural organisations have signed a letter of intent to enhance removals and reduce emissions of greenhouse gases in the sector by a total of 5 million tonnes of CO₂ equivalents in the ten-year period 2021–2030. The letter of intent applies to all mitigation measures for agricultural activities whose effects can be accounted for in the sectors agriculture, transport, heating of buildings and LULUCF (with the exception of forestry) in Norway's official greenhouse gas inventory. The letter of intent forms the basis for climate-related work in this sector.

Norwegian agricultural policy is developed on the basis of cooperation between the central government and the agricultural industry to achieve politically determined objectives. Assessments of the measures and instruments in climate-related work in the sector form part of the negotiations of the annual agricultural agreements. The main measure is financial support to farmers for improving production systems and resource use, such as improvements in fertiliser application and storage and increased use of manure for biogas production.

Industry and energy supply

Greenhouse gas emissions from industry and mining were 11.8 million tonnes of CO₂ equivalents in 2021. The vast majority of this originates from around 50 point sources in industry, and they are mainly subject to the EU Emissions Trading System. The Norwegian government will ensure that the polluter pays by increasing taxes on non-quota emissions. In addition, the government supports innovation and technology development throughout the value chain, from research to market introduction of new technologies and solutions, and works to promote green industry. Through 'The green industrial initiative' the

government will facilitate the development and use of low- and zero-emission technology to increase the speed of green transition in the industry sector.

Petroleum

In 2021 emissions of greenhouse gases from petroleum activities were 12.2 million tonnes of CO₂ equivalents. These emissions make up about a quarter of total Norwegian greenhouse gas emissions. The main mitigation measures are mandatory emission quotas and CO₂ taxation. Because of these measures the cost of greenhouse gas emissions in the petroleum sector is much higher than in most other sectors.

Land use, land-use change and forestry (LULUCF)

The LULUCF sector is covered by Norway's climate agreement with the EU. Under this agreement, Norway has an obligation to ensure that emissions from the LULUCF sector do not exceed removals over the period 2021–2030, calculated on the basis of the accounting rules of the EU's LULUCF regulation. (Often referred to as the 'no debit' rule). The projections indicate that Norway is likely to have total annual net emissions (i.e. a gap to the 'no debit' rule) of approximately 6.7 million tonnes of CO₂ equivalents from forests and other land use in the period 2021–2025. The largest emission drivers are deforestation and managed forest lands. The projections are very uncertain and may change.

The main measure to increase CO₂ removals is financial support to encourage forest activities that enhance removals, such as higher planting densities, forest tree breeding and fertilisation. The main measures to reduce emissions are national guidelines on spatial planning. Spatial planning processes should be used to promote the development of compact towns and urban areas and reduce emissions from land-use change. The potential for densification, transformation and re-use of areas and buildings should be used before new areas are developed.

3. Current and planned mitigation measures;

Norway has a broad variety of domestic greenhouse gas mitigation measures. Reference is made to the general overview of mitigation actions and their effects in Norway's reporting under the UNFCCC, especially section 4.1 in the Fourth Biennial Report.

Further information on mitigation measures is provided above under 'Critical sectors where the need for additional measures is imminent'.

4. Measures and strategies for adaptation to climate change.

See answer provided under "H Adaptation".

Biodiversity

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?

The white paper "Nature for life – Norway's national biodiversity action plan" from 2015 describes the policy for safeguarding biodiversity in Norway. The policy is designed to contribute to achieving biodiversity targets at both national and international levels. The white paper describes biodiversity-related challenges and threats and policy

instruments to deal with them. The government will take steps to ensure sustainable use of Norwegian nature and prevent the loss of species and ecosystems. It will also work continuously to secure the conservation of a representative selection of Norwegian nature. The government will ensure that the instruments and measures used are effective and clearly targeted. The action plan defines paths for achieving three national targets for safeguarding the Norwegian biodiversity:

- (1) Norwegian ecosystems will achieve good status and deliver ecosystem services.
- (2) No species or habitat types will become extinct or be lost, and the status of threatened and near-threatened species and habitat types will be improved.
- (3) A representative selection of Norwegian nature will be maintained for future generations.

The three targets are set at a national level, but all levels of government have to take into account national biodiversity targets 1 and 2.

Norway aims to develop comprehensive management systems for all ecosystem types. This is already in place for the following ecosystems: marine, fresh water and wetland. The government will continue with terrestrial ecosystems. Furthermore, the Ministry of Climate and Environment has started working on the development of ecosystem accounting. The government has also appointed a commission to look into nature related risks and how these affect different industries and sectors.

2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine?

Regarding terrestrial biodiversity, the largest amount of threatened species and nature types exists in the southern part of the country, especially in the lowlands and along the coast. Forests and semi-natural areas like hay meadows, coasts and wetlands are especially important for threatened species. There are ongoing processes to protect more of the areas where these threatened species live, as they are also under-represented in the current network of protected areas. The Norwegian network of protected areas cover 17.6 percent of the mainland. Mountain areas dominate in the protected areas, with 34 percent in 2020, while 5.2 percent of forests, 12 percent of open lowlands, 16 percent of wetlands, 14 percent of freshwater areas and 3.5 percent of oceans are protected.

The King in Council can make regulations designating specific habitat types as selected. Status as a selected habitat type entails that one should take special account of areas of selected habitat types so as to avoid reduction of the range of habitat type or deterioration of the ecological status of these areas. Eight such selected habitat types have been established in accordance with chapter VI in the Nature Diversity Act: species-rich hay meadow, species-rich hay marsh, hollow oak, calcareous lime forests, calcareous lake, coastal heathland, dry calcareous grassland in boreonemoral zone and olivine forest. The Ministry of Climate and Environment has just organised consultations on a proposal to establish two new selected habitat types: coral reef seabed and raised bog, and the ministry will now consider the comments.

3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.

In the Norwegian red list for ecosystems and habitat types from 2018¹, 48 percent of the 258 assessed ecosystems types are red listed. There are threatened habitat types in all ecosystems, but most of them are in the ecosystems cultural landscapes and forest. Most threatened species are associated with forests, cultural landscapes and mountains, and to a lesser extent with wetlands and marine and coastal waters. Land use and land use change is the most important threat to species and habitats. The Norwegian red list for species from 2021² shows that approximately 90 percent of the species on the list are threatened because their habitats disappear or are changed.

II. Legal basis of the measures and strategies in the BSPC member states and regions

1. *What are the main provisions to combat climate change?*
2. *Is there a climate protection law?*

Questions 1 and 2 are answered together.

In June 2017 the Norwegian Parliament adopted the Climate Change Act, which establishes by law Norway's emission reduction targets for 2030 and 2050. The purpose of the act is to promote the long-term transformation of Norway in a climate-friendly direction. The act will have an overarching function in addition to existing environmental legislation. The Climate Change Act introduces a system of five-year reviews of Norway's climate targets, following the same principle as the Paris Agreement. In addition, the act introduces an annual reporting mechanism. The government shall each year submit to Parliament updated information on status and progress in achieving the climate targets under the law, and how Norway prepares for and adapts to climate change. Information on the expected effects of the proposed budget on greenhouse gas emissions and projections of emissions and removals are also compulsory elements of the annual reporting mechanism.

Norway also takes part in a climate agreement with the EU and Iceland. The Norwegian Parliament gave its consent to the agreement in 2019, and the EEA Joint Committee Decision was adopted in October 2019. The main regulations comprising EU's climate legislation from 2021-2030 are implemented in the EEA Agreement (Annex XX and Protocol 31).

The EFTA Surveillance Authority (ESA) and the EFTA Court are responsible for monitoring and enforcing compliance. They do this through reviews of emission inventories and other reports Norway is required to prepare. If Norway does not meet its obligations, ESA can bring a case before the EFTA Court, which may find Norway to be in breach of the EEA Agreement. Applicable EU-legislation also provides for sanctions that may be applied to ensure that countries, including Norway, meet their emission commitments.

3. *What are the main provisions on biodiversity?*
4. *Is there a law protecting biodiversity?*

Questions 3 and 4 are answered together.

The main legislation on biodiversity in Norway is the Nature Diversity Act. The purpose of the act is to protect biological, geological and landscape diversity and ecological processes through conservation and sustainable use, and in such a way that the environment provides a basis for human activity, culture, health and well-being, now and in the future, including a basis for Sami culture. The act applies to Norwegian land territory, including river systems, and to Norwegian territorial waters.

¹ [Norsk rødliste for naturtyper \(artsdatabanken.no\)](https://artsdatabanken.no/norsk-roedliste-for-naturtyper)

² [Rødlista 2021 - Artsdatabanken](https://artsdatabanken.no/roedlista-2021)

Relevant provisions relating to biodiversity are however found in various parts of the Norwegian legal system. Reference is made to e.g., the Planning and Building Act and the regulations on impact assessments. Reference is further made to sector specific legislation like the Forestry Act, the Land Act, the Wildlife Act, the Act relating to Salmonids and Fresh-Water Fish etc. and the Water Resources Act and the water regulations.

III. Specific areas and aspects

A. Maritime areas and protected zones

1. How exactly are maritime areas protected?

“Marine protected areas” may be established in territorial waters pursuant to the Nature Diversity Act. Likewise, marine areas may also form part of e.g. national parks and nature reserves established in accordance with the Nature Diversity Act. In June 2022, the government announced that it will develop a new law covering the Exclusive Economic Zone and other maritime zones under Norwegian jurisdiction, facilitating the establishment of marine protected areas in all waters under Norwegian jurisdiction outside the territorial waters. Additionally, Norway makes use of other area-based conservation measures, importantly pursuant to the Marine Resources Act. A number of coral reefs are thus protected against fisheries practices that may harm the corals (e.g. bottom trawling).

2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?

Marine protected areas established pursuant to the Nature Diversity Act, as a starting point, should be protected against all activities that may harm the conservation values and objectives identified. Within this framework, coastal fisheries, as well as e.g. recreational activities and transport/shipping, would normally be permitted, as these activities would not be considered harmful to the conservation values. Consequently, large scale areas where no activities are permitted are not in place, nor currently in the pipeline.

3. What actions has your country taken to create functioning coastal ecosystems?

An integrated approach to ocean management is at the core of Norwegian marine policies. This is also a key pillar in the work and recommendations of the High Level Panel for a Sustainable Ocean Economy (Ocean Panel), which is co-chaired by the Norwegian Prime Minister. Norway has developed, and regularly updates integrated management plans for all Norwegian sea areas. The purpose of the management plans is to facilitate value creation while also maintaining natural diversity. Further information about the management plans can be found at:

<https://www.regjeringen.no/en/topics/climate-and-environment/biodiversity/innsiktsartikler-naturmangfold/forvaltningsplaner-for-havomrada/id2076485/>

An integrated plan for the conservation of areas of special importance for marine biodiversity was launched in 2021. Currently, conservation processes have been finalised for 18 out of 36 areas that since 2004 have been identified as candidates for marine protection. Further, most of the remaining areas are in the pipeline for protection, with conservation processes ongoing. The plan also includes new initiatives for restoration of

marine areas, starting with a pilot project in the Skagerrak–Oslofjord area. An English version of the plan is available at:

<https://www.regjeringen.no/en/dokumenter/meld.-st.-29-20202021/id2843433/>

Due to a particularly high pressure on the ecosystems in and near the Oslofjord, a cross sectoral action plan was launched in March 2021. The plan presents 63 measures. The goals include that the fjord will achieve good environmental condition, important values of nature will be restored and biological diversity in the fjord will be maintained.

B. Eutrophication

1. *What actions does your country take to fulfil the BSAP and other directives?*
2. *Which objectives of the Baltic Sea Action Plan are planned to be realised in your country by when and by which measures?*
3. *How can we speed up the work?*

Questions 1-3 are answered together.

Discharge of nutrients and organic materials is one of the main influences on Norwegian water courses and coastal waters. The main sources of nutrients to coastal waters are agricultural runoff and discharge of wastewater.

Norway regulates the discharge of nutrients through requirements in acts and regulations. The Pollution Control Act and the Pollution Regulations set requirements regarding the treatment and discharge of wastewater. The Regulations related to Organic Fertilisers set requirements regarding the use and storage of fertiliser. The Regulations related to Organic Fertiliser are under revision. These are important instruments for achieving the goals set out in the Water Management Plans under the EU Water Framework Directive.

The River Basin Management Plans are currently being reviewed and updated for 2022-2027. The River Basin Management Plans set out measures to reduce the nutrient discharge from different sources in order to achieve good ecological status. The Ministry of Climate and Environment has set national guidelines for the work of updating the plans. The guidelines emphasise that increased efforts are required in order to achieve good ecological status. Regarding wastewater, the guidelines state that all municipal wastewater treatment plants shall comply with the treatment requirements set out in the Pollution Regulations in order to achieve good ecological status in 2027, and at the latest in 2033. This will require upgrades of the infrastructure and wastewater treatment plants in many municipalities. Regarding agriculture, the guidelines state that the County Governors and municipalities shall set stricter requirements regarding environmental measures where this is necessary to achieve the goal of good ecological status. The County Governor can also set requirements regarding e.g. buffer zones and routines for soil tillage.

Norway is also increasing efforts to protect the Oslofjord, which is severely affected by eutrophication. The two main sources are discharge from wastewater and agricultural runoff. As previously mentioned, a cross sectoral action plan for the Oslo fjord was launched in 2021. The plan presents 63 measures. The Norwegian Government is working actively to follow up the plan and has in addition focused specifically on agriculture, wastewater and fisheries. For example, the government has signalled that the municipalities around the Oslofjord must expect stricter wastewater treatment requirements going forward, including removal of nitrogen. The County Governor of Oslo

and Viken has recently set new environmental requirements for agriculture, including requirements regarding reduced autumn ploughing.

C. Sea-dumped munitions

1. *Are there areas in your territorial waters that are contaminated with ammunition?*

Yes. An overview of known historical dumping sites are available through the OSPAR Commission. New encounters with munitions are also reported to the OSPAR Commission on a yearly basis, see [ODIMS - Submission: OSPAR Munition Encounters - 2020](#).

2. *What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?*

The government is concerned about the potential impact on the environment from dumped munitions. Norway engages in research on environmental effects from munitions nationally and internationally. A recent study by the Norwegian Defence Research Establishment looked into levels of substances related to munitions in fish and shellfish caught in known dumping sites. Traces of substances from ammunition were found at all four dumping sites tested. The report suggests that fishing within dumping sites should be prohibited, mainly because of the potential risk for unwanted detonations but also due to the possibility for contamination. A dumping site for chemical weapons in Skagerrak has been surveyed, and the risk of accidents e.g. related to fisheries has been reduced through marking the dumping area (danger area) in sea charts.

D. Towards zero pollution

1. *Is your government following a zero-pollution action plan for air, water and earth?*

The Norwegian government does not have a zero-pollution action plan covering all areas of pollution. Nevertheless, we do have plans dedicated to several of the relevant areas, such as a chemicals action plan covering the period from 2021-2024, as well as priority areas for clean-up of contaminated sites.

Our most important tool in the zero-pollution action, which is used to protect the environment from pollution to air water and soil, is our national Pollution Control Act. Within this we have several legislations and policies, and also some that are implemented based on EU regulations. The main rule of our national Pollution Control Act is that all pollution is prohibited. Pollution which can be harmful can only take place under permission and terms granted by the pollution control authorities.

2. *What time horizon is planned for which intermediate steps and goals?*

The Norwegian government has ambitious goals to reduce pollution. The overall national goal is that pollution should not harm people's health or the environment, which means minimizing the risk of harmful pollution and continuously working to achieve zero pollution. For some areas there are more specific goals, such as for chemicals, contamination sites in soil and seabed, nutrient salts, radioactivity and the petroleum sector.

In our national plan for chemicals, the goal has been to continuously reduce emission from harmful chemicals. In 2021 this goal was replaced and given more focus with a new goal: The use and emission from chemicals included on a national priority list shall stop.

In addition Norway, as an EEA member, takes part in the EU Action Plan "Towards a zero Pollution Ambition for air, water and soil – building a Healthier Planet for Healthier People".

3. Which measures in this direction have already been initiated or are to be realised?

Strict requirements set out by the national pollution authorities as well as voluntary measures have contributed to a significant reduction over the past years in pollution originating from big and traditional emission sources. This work will continue and is set out in relevant plans for specific areas. These national initiatives in combination with European initiatives set out by EU and its Green Deal, will ensure that the already efficient work towards zero-pollution will become even more targeted over the next years.

4. What concrete projects for the avoidance of plastic pollution is your government supporting?

Norway has over several years taken an active role to end plastic pollution at both national, regional, and global level – and we support a wide range of projects to avoid plastic pollution. This includes amongst others:

To support policy making in Norway, the Norwegian Environment Agency has prepared a knowledge base for identifying sources of marine litter and the dispersion of microplastics. This formed the basis for the assessment of means and measures both for marine litter and microplastics prepared in 2016. In 2020, the agency provided updated assessments of means and measures.

From July 2021 we have a new national regulation to reduce microplastics emissions from artificial turfs. We are also following the ongoing work in the EU related to restriction of microplastics, including unintentional release. As regards the EU directive on single use plastics, we have banned several plastic products and introduced labelling requirements. We will also continue the work of reducing consumption and promoting greater awareness and will encourage the private sector to develop a Norwegian "plastic pact".

Norway has recently adopted new regulations to improve separate waste collection and recycling of plastic waste and to implement the recycling targets in the EU directive on packaging and packaging waste. Norway has established schemes for Extended Producer Responsibility (EPR), several of which are relevant to plastics. We are in the process of updating the schemes and of creating an effective framework for the EPR for several products, including tobacco products amongst others. This work in progress includes an EPR scheme for packaging, with the ambition to ensure economic incentives to design better packaging that more easily can be reused or recycled, and new EPR schemes for certain single use plastic products and for plastic gear in fisheries and aquaculture. For some products it will include financing of clean-up, and awareness raising measures.

Norway's return schemes for bottles and beverage containers have produced good results. Norway has an environmental tax on plastic bottles and drinking cans. Bottles

and cans get a lower tax depending on the return percentage. This provides incentives for the industry to establish return systems for bottles. The plastic bottles are subject to a deposit fee, which the consumers get back when they return the bottles. Around 90 percent of plastic bottles are returned in Norway today. To promote the market uptake of recycled plastic materials, requirements for a mandatory minimum content of recycled plastic in beverage bottles will be introduced. From 2025, PET bottles must contain at least 25 percent recycled plastic, and all plastic beverage bottles must contain at least 30 percent in 2030.

The centre against marine litter (Marfo), which from 1 January 2022 was established as an administrative body under the Norwegian Ministry of Climate and Environment, contributes significantly to strengthen and disseminate knowledge on clean-up, and on marine litter from fisheries and aquaculture. The centre manages a scheme where volunteers can apply for funding to cover costs related to clean-up of marine litter.

Norway launched a new Norwegian Plastics Strategy in August 2021. The action plan describes action taken and action that is underway to reduce plastic litter and plastic pollution across the entire life cycle of plastics in Norway – including the above-described measures – as well as Norwegian priorities internationally. It addresses measures to reduce plastic pollution across various value-chains and sectors, both from land-based and sea-based sources. The strategy also includes measures on clean-up of marine litter.

Since 2014, Norway has taken a leading role in international efforts, under the auspices of the UN Environment Programme, to promote the need for a new, legally binding, global agreement to end plastic pollution. A decision to start negotiations was taken in March and the first meeting will take place in November. Further, Norway has taken the initiative to establish a development programme against marine litter and plastic pollution, as well as the World Bank's Blue Economy Program, PROBLUE, which also targets marine litter.

5. *Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?*

The concrete mentioned products are not banned in Norway, but we have several ongoing processes aiming to reduce the environmental impact of disposable plastic items and promote the development of a more circular economy. Certain single-use plastic products are banned, including plastic cotton swabs, plastic straws, and disposable plastic cutlery, as part of our implementation of the EU's directive on single-use plastics.

E. Economy

1. *What are the investment priorities of the state to reduce CO₂ emissions?*

The Norwegian Government will mobilise as much private capital for the green transition as possible, through programmes offering risk relief on investments. This will include loans, guarantees and equity supporting hydrogen, carbon capture and storage (CCS), offshore wind, and green transition and cuts in climate gas emissions in existing industries (process industry, maritime sector and the forest and bioeconomy sector).

2. *What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?*

The Norwegian Government's CCS strategy spans a wide range of activities, from research, development and demonstration to large-scale projects and international work promoting CCS.

In 2021 parliament made an investment decision to launch a full-scale capture and storage project in Norway. The project is called "Longship" and includes CO₂ capture from two industrial sources, transportation by ships and pipelines and a sub-seabed storage site in the North Sea. Longship will reduce emissions from Norwegian industry and support technology development. The project's main objective is to accelerate the development and deployment of CCS technology internationally.

3. *Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?*

Coal is used in very limited quantities in Norway. The government recently announced that the Norwegian Environment Agency has been tasked with conducting a review of a possible ban on the use of all fossil fuels for the production of energy in the industrial sector by 2030.

4. *What is the strategy of the state regarding the use of hydrogen in the next 10 years?*

The Norwegian government will support the building of a value chain for hydrogen produced with low or no emissions of climate gases as well as measures to develop the market for hydrogen in Europe.

F. Innovation

1. *Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?*
2. *Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?*

Questions 1 and 2 are answered together.

Main programmes to promote innovations in climate mitigation and adaptation are described in [Norway's Climate Action Plan for 2021–2030](#) which was presented in a white paper to parliament in 2021. These programmes are designed to encourage the research and innovation sector to play a leading role in Norway's transition to a low-emission society and in preventing biodiversity loss. A wide range of areas are supported, through the following programmes:

- 1) [Green Platform initiative](#): Substantial funding is being granted for the development of climate-related and environmental solutions through industry-oriented funding instruments.
- 2) The Research Council of Norway invests in research and innovation [through 16 portfolios](#). Many are relevant for climate and biodiversity, like

Energy, transport and low emissions, Land-based food, the environment and bioresources, and Oceans.

3) [Pilot-E](#): In the past few years, the Pilot-E scheme, administered by the Research Council, Innovation Norway and Enova, has been successfully fast-tracking new energy solutions from research to deployment.

4) European cooperation: Norwegian [participation in Horizon Europe](#) is a very important way of strengthening Norwegian research and restructuring the business sector for the transition to a low-emission society by 2050. Norway is participating in the planning of Horizon Europe, and the government is focusing on making use of opportunities to give the Norwegian business sector, public sector and research institutions access to European funding for climate and biodiversity-related research and innovation.

3. What effects are expected from current support measures?

Effects are measured in the annual reports and other evaluations. Expected effects in the long run are reduced emissions and protection of biodiversity.

G. International cooperation

1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

There is a Nordic project on Nature-based solutions 2020-2024 where experiences, resources and examples are systematised and presented. Norway leads the steering group of this project and will use the results as they become available.

2. Are increased cooperation and the implementation of joint projects planned for the future?

There are currently no concrete plans.

3. What effects are expected as a result?

The Nordic project is expected to result in improved policy making.

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

Norway recognizes the critical need for support to developing countries with respect to both climate mitigation and adaptation. In the period 2019-2020 Norway has continued to provide a wide range of financial, technological and capacity-building support to developing countries in order to build their capacity to reduce carbon emissions and to support adaptation to take action against the negative effects of climate change. The Norwegian public climate finance amounted to USD 734 million in 2019 and USD 706 million in 2020.

Norwegian climate finance is mainly concentrated in three areas; reducing emissions from deforestation and forest degradation, renewable energy, and climate adaptation including risk reduction and food security. Norway has long emphasized the strong inter-linkages between climate change and development. Norway has made a wide range of financial contributions related to the implementation of the UNFCCC, including through multilateral

institutions such as the Global Environment Facility, the UN Environment Programme, The Green Climate Fund, The Intergovernmental Panel on Climate Change and the UNFCCC Secretariat, as well as other financial institutions that fund climate change adaptation, mitigation, capacity building and technology cooperation programs in developing countries.

In 2021, USD 467 million of Norwegian aid was marked with the Rio marker bio-diversity as main or significant target.

H. Adaptation

1. *Has your state or region adopted a climate change adaptation strategy, policy or roadmap?*
2. *If that is the case, could you indicate its main objectives, policy tools and measures?*

The Norwegian Parliament adopted the first White Paper on climate change adaptation (CCA) in 2013 outlining national policies and guidance for adaptation in Norway. The paper provides an overview of the implications of climate change for Norway and sets out a framework to facilitate the development of adaptation strategies and identification of effective adaptation measures across sectors and administrative levels.

The white paper upholds that everyone – individuals, business and industry and the authorities – is responsible for assessing and addressing the impacts of climate change in their areas of competence. In line with this principle, all ministries have responsibility for the consideration of climate change within their sector. The Norwegian Environment Agency supports the Ministry of Climate and Environment in the work on climate change adaptation, and is the coordinating agency. The Environment Agency assists the Ministry in the follow-up of the white paper and in policy-making. In its role as coordinating agency for climate change adaptation, the Environment Agency works to ensure that actors at local, regional and national level are taking account of and adapting to climate change. The Environment Agency works to strengthen climate adaptation efforts in Norway, among other things by increasing the knowledge base for climate adaptation. The Agency has a particular responsibility for disseminating and sharing knowledge and experience, contributing to competence and capacity building, and facilitating cooperation between different public administration levels, sectors and actors in the field.

Several actions, measures and principles are presented in the white paper, among other things strengthening the knowledge of climate change adaptation through closer monitoring of climate change, continued expansion of climate change research and the development of a national centre for climate services. Further, that knowledge about impacts and consequences of climate change and adaptation needs in Norway will be updated regularly. Updates will be considered when substantial new knowledge is available, particularly related to the assessment reports of the IPCC.

It is also stated in the white paper that as a precautionary approach assessments of impacts of climate change should be based on figures from the high end of the range of national climate projections. However, when decisions are made in individual cases, climate change considerations and underlying assumptions about the degree of climate change must be weighed against other public interest considerations, the lifetime of the development in question and its importance to society.

Moreover, the white paper emphasises the important role of municipalities, pointing to the local character of climate change impacts that puts municipalities on the front line in dealing with climate change. As a follow-up of actions identified in the strategy, a committee has evaluated legislation related to stormwater. In addition, central government planning guidelines on climate change adaptation came into force in 2018. The government has recently started to work on a new white paper for climate change adaptation.

I. Involvement of citizens and stakeholders

1. *Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)*
2. *Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?*
3. *Are there plans to increase such initiatives in the future?*

Questions 1-3 are answered together.

In general, citizens, organizations, industries and other relevant actors are involved through public consultations where everyone can comment. In some cases, there are also consultative meetings with stakeholders. Rules for involving different actors are also given in different sector laws and laws such as the Planning and Building Act, and regulations on environmental impact assessment, as well as the Espoo convention.

The Ministry of Climate and Environment has a grant scheme for municipalities wishing to adopt a municipal plan for biodiversity. The adoption process follows the rules set out in the Planning and Building Act, and therefore involves civil society through mandatory consultations.

The Sami act codifies the obligation of national and regional authorities to consult with the Sami Parliament and other Sami parties in all decisions that can directly affect Sami interests. This is an adaption of the consultation right and -duty in the ILO Convention 169 on the rights of indigenous peoples and tribes. The act describes the nature of matters that should be subject to consultations, and also who holds the right to be consulted. The act further contains rules concerning the procedures for the conduct of consultations. The objective of the consultation procedure is to discuss in good faith and reach agreement on issues where Sami interests are affected.

October 2022:

The Norwegian answer to the new question of the BSPC WG:

To what extent does the war in Ukraine and related changes in political priorities have an impact on climate policy goals and their implementation?

is as follows:

The war in Ukraine has not changed Norway's priorities regarding climate. Norway stands by its ambitious climate targets, and there is a heavy focus on developing and implementing climate policies. This Government has recently established, in addition to the international commitment under the Paris Agreement, a national non-legally binding target for transition of the economy to reduce domestic emissions by 55 percent by 2030 as a step towards transforming Norway into a low emission society.

We see that the war in Ukraine demonstrates that the need for responsible energy exporters such as Norway is greater than ever. Europe will rely more on oil and gas from other producers in the near term — but less and less over time as its efforts to decarbonize accelerate.



Poland

Polish answers to the questionnaire in italics



BSPC Working Group on Climate Change and Biodiversity (CCB)

Intergovernmental survey

Adopted by the BSPC WG CCB on 4 October 2021

The governments of the BSPC member parliaments are kindly asked to send statements and answers to the following issues and questions to their respective parliaments until 28 February 2022:

I. General information on the measures and strategies in the BSPC member states and regions

Climate change

Could you give a policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures?

Despite the transformational changes that have taken place in recent years, Poland faces the challenge of making massive investments to build a new energy system in the coming decades. "The Energy Policy of Poland until 2040" (PEP2040), adopted by the Council of Ministers in February 2021, presents a vision for the reconstruction and transformation of the Polish sector, in a way that puts Poland on a path towards climate neutrality, while respecting national circumstances. According to projections of the PEP2040, the use of coal will be declining. One of the pillars of Poland's energy transition will be to ensure that it is just, by providing new development opportunities for the regions and communities most negatively affected by the transition, while providing new jobs and building new industries that are helping to transform the energy sector. A just energy transition relies not so much on the mere defense of "high-carbon" coal jobs, but on offering attractive alternatives for them linked to the

deployment of modern and low-carbon technologies. However, the proposed pace of change must be balanced so that it is tailored to national circumstances and addresses all identified challenges.

Mitigating climate change in Poland will be possible also by reducing greenhouse gas emissions to the atmosphere. This goal can be achieved through the development of the use of renewable energy sources, including geothermal energy. One of government documents concerning the development of renewable energy sources in Poland is 'Strategy for Responsible Development until 2020 (with a perspective until 2030)', which was adopted by the Council of Ministers in 2017. The 'Strategy for Responsible Development until 2020 includes a strategic project entitled 'Development and use of geothermal potential in Poland'. The project started in 2017 and will be continued until the end of June 2024. The aim of the project is to create conditions for the promotion and development of renewable energy based on geothermal sources and to use the existing potential of Poland's geothermal resources. The project mainly includes the geothermal tasks of the Polish geological survey, which provide knowledge about geological and geothermal conditions in Poland, which is important for the development of geothermal energy. In addition, the project also includes geothermal tasks performed by Polish scientists in cooperation with foreign experts under The Norwegian Financial Mechanism and the European Economic Area Financial Mechanism (i.e. the so-called EEA and Norway Grants). From 2016 to 2019 the National Fund for Environmental Protection and Water Management in cooperation with the Ministry of Climate and Environment, periodically announced the call for applications in the priority programs which was to provide financial support for the drilling of new geothermal wells. In total, in 2016-2019, the minister responsible for the environment gave positive opinions for 11 projects of this type. So far, 5 of these projects have finished successful. This will allow the communes to proceed to the next stages of the investment, i.e. construction of a geothermal heating plant, construction of an injection well. In 2020, at the initiative of the Chief National Geologist, to increase the dynamics of geothermal development in Poland, a new priority program of the National Fund for Environmental Protection and Water Management was launched. A title of this program is 'Accessing thermal waters in Poland'. The purpose of the program is to co-finance the geological works related to the prospecting and recognition of geothermal water deposits in order to make them available for heating. During the first call for proposals carried out in 2020 co-financing was obtained by 15 communes. A total amount of funding was PLN 230 000 000. Thanks to the co-financing, new geothermal holes will be created and they will be used in heating plants to reduce the using of fossil fuels and improve air quality. At the beginning of 2022, another call for proposals in this program was launched.

Ministry of Climate and Environment is currently developing another government document called "Long-term Program for the Development of Use of Geothermal Resources in Poland", which will be a road map for the development of geothermal energy use in Poland.

Moreover, carbon dioxide capture and geological storage (CCS) is a bridging technology to contribute to climate change mitigation. It consists of the capture of carbon dioxide (CO₂) from industrial installations, its transport to a storage site and its injection into a suitable underground geological formation for the purposes of permanent storage. Legislative work is currently in progress to facilitate activities in the field of carbon capture and storage. The changes will cover a number of legal acts, in particular the Geological and Mining Law.

In addition to above mentioned, the Ministry of Climate and Environment has established the Polish National Strategy for Adaptation to Climate Change with

the perspective by 2030, which is now being updated. Furthermore, plans for adaptation to climate change in cities above 100,000 have been developed under the MPA44 initiative. The main objective of this is to assess the vulnerability to climate change of the 44 largest Polish cities and to plan adaptation actions that are appropriate to the risks identified.

In order to strengthen the climate dimension of urban policy, Poland is currently working on a draft law amending laws. Numerous tasks are also carried out in the field of adaptation to climate change: Climate-friendly cities initiative, Strategic adaptation plan for sectors and areas sensitive to climate change, conducting actions from the National Fund for Environmental Protection and Water Management (NFOŚiGW) in the field of optimization of financial tools directly dedicated to co-financing environmental projects aimed at increasing retention or combating drought – e.g. "My Water". Department of Air Protection and Urban Policy in the Ministry of Climate and Environment carries out tasks related to the evaluation of the Polish National Strategy for Adaptation to Climate Change with the perspective by 2030, including:

- supervision of preparation and implementation of air quality programmes and short-term action plans in the country;*
- conducting actions from the NFOŚiGW in the field of optimisation of financial tools dedicated directly to co-financing environmental projects aimed at improving air quality such as the "Clean Air" Priority Programme and the "Stop Smog" Programme.*

In addition, Ministry of Climate and Environment is involved in the programming and implementation of instruments supporting eco-innovation and the development of environmental technologies, including eco-construction, as part of the GreenEvo — Accelerator of Green Technologies Programme and the "Home with Climate" initiative and the Minister's tasks in defining quality requirements for solid fuels in households or combustion installations with a rated thermal input of less than 1 MW

The report should preferably be structured according to the following policy areas:

1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);

Key strategic documents which are now implemented:

- **Strategy for Responsible Development** - defines a new model for the development of the country in its economic, social and spatial dimensions until 2020 and with an outlook until 2030. The specific objectives which it sets out include e.g. support for measures to reduce the emissions of greenhouse gases and air pollutants as well measures related to energy efficiency.*
- **2030 National Environmental Policy** - specifies further and operationalises the provisions of the Strategy for Responsible Development until 2020 (with an outlook until 2030). Its aim is to ensure Poland's environmental safety and a high quality of life for all its citizens. It strengthens the Government's actions to build an innovative economy while complying with the principles of sustainable development. Its specific objectives are set out in response to the most important challenges in the field of the environment, in a manner enabling the issues of*

environmental protection to be coupled with the economic and social needs related to health, economy and climate. The implementation of the environmental objectives is to be supported by horizontal objectives related to environmental education and to the effective functioning of environmental protection instruments. The 2030 National Environmental Policy will provide the basis for investing European funds under the financial perspective 2021–2027. The Strategy also supports the implementation of Poland's international objectives and commitments, including those at the EU and UN levels, particularly, in the context of EU 2030 climate and energy policy objectives and the Sustainable Development Goals set out in Agenda 2030.

- **Energy Policy of Poland until 2040" (PEP2040)** – The objective of PEP2040 is energy security - while ensuring the competitiveness of the economy, energy efficiency and reduction of the impact of the energy sector on the environment - taking into account the optimal use of own energy resources. It contains strategic decisions regarding the selection of technologies for building a low-emission energy system in Poland. The policy takes into account the scale of challenges related to the adaptation of the national economy to the EU regulatory conditions related to the 2030 climate and energy targets, the European Green Deal, the economic recovery plan after the COVID pandemic and the striving to achieve climate neutrality as a contribution to the implementation of the Paris Agreement, according to national potential. The low-emission energy transformation provided for in PEP2040 will initiate broader modernization changes for the entire economy, guaranteeing energy security, ensuring a fair distribution of costs and protection of the most vulnerable social groups.
- **National Energy and Climate Plan for 2021-2030 (NECP)** - presents the assumptions and objectives as well as policies and measures designed to implement the five dimensions of the Energy Union. i.e. energy security; the internal energy market; energy efficiency; decarbonisation; and research, innovation and competitiveness. The NECP provides for the implementation of the EU climate policy targets set out for Poland (a 7% GHG emission reduction relative to 2005 levels in the non-ETS sectors). Moreover, it specifies the target for the RES share in the final gross energy consumption at the level of 21-23% in 2030 and the target for energy efficiency improvement of 23% by 2030 relative to projections. It also addresses the issue of the share of coal in Poland's energy mix and indicates that its share in electricity production is to be reduced to 56-60%. The final version of the NECP was submitted to the European Commission in December 2019.

2. Critical sectors where the need for additional measures is imminent;

The term *strategic intervention area* is used for planning state interventions with an integrated nature (combining investments, soft projects, i.e. investments in human resources and/or regulatory solutions), undertaken under various policies with regard to selected types of areas in the country. In this context, environmental policy plays a significant role due to the fact, that the goals of The 2030 National Environmental Policy were formulated in response to the most important trends in the environmental area identified in a diagnosis, in a manner enabling harmonization of issues related to environmental protection with economic and social needs.

According to a definition provided by the SOR, strategic intervention areas are areas with a characteristic set of social, economic or spatial conditions and

features, deciding about the occurrence of structural development barriers or permanent, activatable development potentials within them. Among them, there were indicated medium cities losing their social-economic functions, as well as areas at risk of permanent marginalization. There is a close relationship between marginalization processes and environmental quality problems, as well as limited access to resources. Good quality of the environment (pure water, air, landscape assets) and access to infrastructure (sewage systems, water supply systems) is an important indicator of the inhabitants' quality of life, as well as a necessary condition for the development of tourism in the given area. On the other hand, access to resources determines, e.g. industrial development.

For environmental policy, special intervention areas also include areas in which indicators of environmental status depart from the accepted standards, or for which the extent of provision of infrastructure departs from the standards (e.g. cities listed among the most contaminated in terms of air quality according to the WHO).

Among other areas requiring intervention of environmental policy one should list those with particular natural assets. Protected areas should be an important element of social-economic development of regions characterized by great natural wealth. Support should involve determining the potential and indicating the possibilities of utilizing natural resources of both existing and planned protected areas, for a social-economic development. The existence of a protected area in a given region (such as, e.g. a national park) should facilitate the acquisition of funds by local community for the development of nature-friendly tourism and services related to it. Other forms and types of economic activity which do not affect the environment negatively also deserve support and promotions.

3. Current and planned mitigation measures;

One of the key direction of intervention in The 2030 National Environmental Policy is climate change mitigation. Strategic projects and actions included in this direction are:

- reducing the emission of greenhouse gases into the air (i.e. by supporting investments related to: an increase in production of energy from renewable sources, the development of low-emission and zero-emission transport, actions involving reduction of energy losses);
- developing the policy of reducing the emission of GHG from sectors not included in the emissions trading scheme;
- modification of sustainable forest management in order to increase the carbon sequestration capacity of forests;
- development of methodological bases for managing the capturing of CO₂ in forestry as part of the execution of climate policy.

The effectiveness of the implementation of those projects will be monitored with i.e. change rate of greenhouse gas emissions (1990=100), percentage of residents of Polish cities covered by urban adaptation plans.

National programmes implemented by the National Fund for Environmental Protection and Water Management (NFOŚiGW) - summary of mitigation measures in the climate area

Contracts concluded in the years 2010-2022 (until 15 February 2022) from national funds (NFOŚiGW)

NO	Area	Name of priority programme	Form of co-financing	Number of contracts	Value of the NFOŚiGW contracts (thousand PLN)
1	<i>Adaptation to climate change</i>	<i>Climate change adaptation and mitigation of environmental risks</i>	<i>subsidy</i>	<i>184</i>	<i>86 415</i>
2		<i>Climate change adaptation and mitigation of environmental risks</i>	<i>loan</i>	<i>147</i>	<i>644 347</i>
3		<i>Not applicable</i>	<i>subsidy</i>	<i>7</i>	<i>7 691</i>
4		<i>Off-programme</i>	<i>subsidy</i>	<i>5</i>	<i>13 242</i>
5		<i>Prevention of environmental risks and mitigation of their effects</i>	<i>subsidy</i>	<i>282</i>	<i>687 215</i>
6		<i>Counteracting environmental threats and mitigating their effects</i>	<i>loan</i>	<i>2</i>	<i>5 432</i>
7	<i>Adaptation to climate change OPI&E co-financing</i>	<i>Co-financing of projects implemented under Measures 2.2 and 2.5 of the Infrastructure and Environment Operational Programme</i>	<i>loan</i>	<i>2</i>	<i>6 625</i>
8	<i>Biodiversity</i>	<i>Not applicable</i>	<i>subsidy</i>	<i>3</i>	<i>791</i>
9		<i>Protection and restoration of biodiversity and landscape diversity</i>	<i>subsidy</i>	<i>819</i>	<i>383 237</i>
10		<i>Protection and restoration of biodiversity and landscape</i>	<i>loan</i>	<i>20</i>	<i>7 933</i>
11		<i>Outside the programmes</i>	<i>subsidy</i>	<i>2</i>	<i>344</i>
12		<i>Co-financing of Priority axis V of the Infrastructure and Environment Operational Programme - nature protection and shaping of environmental attitudes part 1) For potential beneficiaries of OPI&E</i>	<i>subsidy</i>	<i>35</i>	<i>7 771</i>
13		<i>Co-financing of Priority axis V of the Infrastructure and Environment Operational Programme - nature protection and environmental attitudes part 2) For National Parks - beneficiaries of OPI&E</i>	<i>subsidy</i>	<i>6</i>	<i>965</i>
14	<i>Biodiversity (forests)</i>	<i>Protection and sustainable development of forests</i>	<i>subsidy</i>	<i>70</i>	<i>41 619</i>

15	<i>Biodiversity co-financed by OPI&E</i>	<i>Co-financing of Priority axis V of the Infrastructure and Environment Operational Programme - nature protection and shaping of environmental attitudes.</i>	<i>subsidy</i>	<i>55</i>	<i>20 601</i>
16	<i>Mitigation</i>	<i>Agroenergia</i>	<i>subsidy</i>	<i>298</i>	<i>74 549</i>
17		<i>Agroenergia</i>	<i>loan</i>	<i>58</i>	<i>8 417</i>
18		<i>Energy efficient construction Part 1) Reducing energy consumption in buildings</i>	<i>subsidy</i>	<i>288</i>	<i>1 246 096</i>
19		<i>Energy efficient construction Part 1) Reducing energy consumption in buildings</i>	<i>loan</i>	<i>72</i>	<i>30 250</i>
20		<i>Energy efficient construction Part 2) PUSZCZYK - Low emission public buildings</i>	<i>subsidy</i>	<i>2</i>	<i>10 471</i>
21		<i>Energy efficient buildings Part 2) PUSZCZYK - Low emission public buildings</i>	<i>loan</i>	<i>2</i>	<i>15 706</i>
22		<i>District heating</i>	<i>subsidy</i>	<i>24</i>	<i>143 237</i>
23		<i>District heating</i>	<i>loan</i>	<i>27</i>	<i>192 170</i>
24		<i>Clean air</i>	<i>subsidy</i>	<i>66</i>	<i>9 022 548</i>
25		<i>Clean air</i>	<i>loan</i>	<i>16</i>	<i>174 564</i>
26		<i>Efficient use of energy Part 1) Subsidising energy and electricity audits in enterprises</i>	<i>subsidy</i>	<i>67</i>	<i>12 374</i>
27		<i>Efficient use of energy Part 2) Subsidisation of investment tasks leading to energy savings or increased energy efficiency in enterprises</i>	<i>loan</i>	<i>9</i>	<i>227 845</i>
28		<i>Energy use of geothermal resources</i>	<i>subsidy</i>	<i>8</i>	<i>51 929</i>
29		<i>Energy Plus</i>	<i>loan</i>	<i>31</i>	<i>1 840 708</i>
30		<i>eVAN - Electric Vehicle (N1)</i>	<i>subsidy</i>	<i>28</i>	<i>2 608</i>
31		<i>GEPARD II - Low-carbon transport Part 2) Electromobility development strategy</i>	<i>subsidy</i>	<i>215</i>	<i>9 155</i>
32		<i>GEPARD II - low-emission transport Part 3) Silesia - basin of zero-emission public transport</i>	<i>subsidy</i>	<i>4</i>	<i>56 960</i>
33		<i>GEPARD II - low-emission transport Part 3) Silesia - basin of emission-free public transport</i>	<i>loan</i>	<i>3</i>	<i>6 500</i>

34	<i>Intelligent energy networks.</i>	<i>subsidy</i>	5	41 951
35	<i>Elimination of low emissions to promote energy efficiency and development of distributed renewable energy sources.</i>	<i>subsidy</i>	11	102 313
36	<i>My electrician</i>	<i>subsidy</i>	240	25 125
37	<i>My electricity*</i>	<i>subsidy</i>	116919	558 413
38	<i>Not applicable</i>	<i>subsidy</i>	88	239 019
39	<i>Climate protection</i>	<i>subsidy</i>	1	368
40	<i>Protection of valuable nature areas Part 3) Support for the activities of the Białowieża National Park from the resources donated by the EcoFund</i>	<i>subsidy</i>	3	10 726
41	<i>Polish Geothermal Plus</i>	<i>subsidy</i>	5	48 305
42	<i>Polish Geothermal Plus</i>	<i>loan</i>	5	77 502
43	<i>Improvement of energy efficiency Part 4) Energy-saving investments in small and medium-sized enterprises</i>	<i>subsidy</i>	3	8 058
44	<i>Improvement of air quality Part 1) Co-financing of the development of air protection programmes and short-term action plans</i>	<i>subsidy</i>	1	34
45	<i>Improvement of air quality Part 2) KAWKA - Liquidation of low emissions supporting the growth of energy efficiency and development of dispersed, renewable energy sources</i>	<i>subsidy</i>	11	137 457
46	<i>Improvement of air quality in the most polluted communes - pilot project</i>	<i>subsidy</i>	3	16 070
47	<i>Improvement of air quality. Part 3) LEMUR - Energy efficient public buildings</i>	<i>subsidy</i>	24	1 575
48	<i>Improving air quality. Part 3) LEMUR - Energy efficient public buildings</i>	<i>loan</i>	35	82 100
49	<i>Improvement of air quality. Part 5) Public buildings with improved energy efficiency standard</i>	<i>subsidy</i>	27	44 216

50		<i>Improving air quality. Part 5) Public buildings with improved energy efficiency standard</i>	<i>loan</i>	28	57 839
51		<i>Outside programmes</i>	<i>subsidy</i>	8	14 299
52		<i>Outside programmes</i>	<i>loan</i>	1	27 174
53		<i>Programme for projects in the field of renewable energy sources and high-efficiency cogeneration facilities Part 1)</i>	<i>loan</i>	19	277 465
54		<i>Programme for Renewable Energy Sources and High Efficiency Cogeneration Part 2) implemented by wfośigw</i>	<i>loan</i>	4	17 512
55		<i>Programme for projects in the field of renewable energy sources and high-efficiency cogeneration facilities Subsidies for partial repayments of the capital of bank loans for the purchase and installation of solar collectors for natural persons and housing communities</i>	<i>subsidy</i>	7 banków (67 363 instalacji u beneficjentów)	449 568
56		<i>Implementation of projects financed by a donation from the Government of the Kingdom of Sweden.</i>	<i>subsidy</i>	2	2 013
57		<i>SOWA - outdoor lighting</i>	<i>loan</i>	22	107 517
58		<i>SYSTEM - Support for environmental protection and water management measures by external partners Part 3) Prosumement - a subsidy line for the purchase and installation of micro-installations of renewable energy sources</i>	<i>subsidy</i>	25	86 683
59		<i>SYSTEM - Support for environmental protection and water management measures by external partners Part 3) Prosumement - a co-financing line for the purchase and installation of micro-installations of renewable energy sources</i>	<i>loan</i>	25	145 435
60		<i>Green Investment Scheme (GIS) Part 5: Energy management in buildings of selected entities of the public finance sector</i>	<i>subsidy</i>	165	588 022

61	<i>Green Investment Scheme (GIS) - GEPARD - Zero-emission public transport</i>	<i>subsidy</i>	<i>7</i>	<i>25 775</i>
62	<i>Green Investment Scheme (GIS) - GEPARD - Zero-emission public transport</i>	<i>loan</i>	<i>3</i>	<i>13 835</i>
63	<i>Green Investment Scheme (GIS) - Kangaroo - Safe and environmentally friendly route to school</i>	<i>subsidy</i>	<i>19</i>	<i>40 779</i>
64	<i>Green Investment Scheme (GIS) - Kangaroo - Safe and environmentally friendly route to school</i>	<i>loan</i>	<i>13</i>	<i>5 374</i>
65	<i>Green Investment Scheme (GIS) Part 1: Energy management in public buildings</i>	<i>subsidy</i>	<i>347</i>	<i>499 427</i>
66	<i>Green Investment Scheme (GIS) Part 1: Energy management in public buildings</i>	<i>loan</i>	<i>222</i>	<i>455 738</i>
67	<i>Green Investment Scheme (GIS) Part 2: Agricultural biogas plants</i>	<i>subsidy</i>	<i>18</i>	<i>82 490</i>
68	<i>Green Investment Scheme (GIS) Part 2: Agricultural biogas plants</i>	<i>loan</i>	<i>16</i>	<i>116 175</i>
69	<i>Green Investment Scheme (GIS) Part 3: Biomass-fired combined heat and power plants</i>	<i>subsidy</i>	<i>2</i>	<i>13 330</i>
70	<i>Green Investment Scheme (GIS) Part 3: Biomass-fuelled combined heat and power plants</i>	<i>loan</i>	<i>2</i>	<i>23 076</i>
71	<i>Green Investment Scheme (GIS) Part 4: Construction and conversion of electricity grids to connect renewable wind energy sources</i>	<i>subsidy</i>	<i>9</i>	<i>43 397</i>
72	<i>Green Investment Scheme (GIS) Lot 6 SOWA - Energy efficient street lighting</i>	<i>subsidy</i>	<i>31</i>	<i>74 668</i>
73	<i>Green Investment Scheme (GIS) Part 6) SOWA - Energy efficient street lighting</i>	<i>loan</i>	<i>20</i>	<i>43 772</i>

74		<i>Green Investment Scheme (GIS) Lot 7) GAZELA - Low emission urban transport</i>	<i>subsidy</i>	<i>1</i>	<i>65 850</i>
75		<i>Making thermal water available in Poland</i>	<i>subsidy</i>	<i>15</i>	<i>229 216</i>
76		<i>Support for entrepreneurs in the field of low-emission and resource-efficient economy Part 3) E-CUMULATOR - Ecological Battery for Industry</i>	<i>loan</i>	<i>1</i>	<i>45 000</i>
77		<i>Support for entrepreneurs in the field of low-emission and resource-efficient economy Part 1: Energy/electroenergy audit of an enterprise</i>	<i>subsidy</i>	<i>13</i>	<i>2 342</i>
78		<i>Support for entrepreneurs in the field of low-emission and resource-efficient economy Part 2: Increasing energy efficiency</i>	<i>loan</i>	<i>4</i>	<i>59 948</i>
79		<i>Support for dispersed renewable energy sources Part 1) BOCIAN - Increasing the share of dispersed renewable energy sources</i>	<i>loan</i>	<i>5</i>	<i>23 002</i>
80		<i>Co-financing of the development of air protection programmes and action plans.</i>	<i>subsidy</i>	<i>1</i>	<i>40</i>
81		<i>Co-financing of the development of air protection programmes and action plans.</i>	<i>subsidy</i>	<i>8</i>	<i>651</i>
82		<i>Co-financing of the development of air protection programmes and action plans:</i>	<i>subsidy</i>	<i>2</i>	<i>98</i>
83		<i>Green car - co-financing the purchase of an electric passenger car (M1)</i>	<i>subsidy</i>	<i>175</i>	<i>3 018</i>
84		<i>Green public transport (Phase I)</i>	<i>subsidy</i>	<i>26</i>	<i>560 282</i>
85		<i>Green public transport (Phase I)</i>	<i>loan</i>	<i>8</i>	<i>65 020</i>
86	<i>Mitigation of OPI&E co-financing</i>	<i>Support for projects implemented under subheading 1.1.1, measures 1.2, 1.5 and 1.6 of the Infrastructure and Environment Operational</i>	<i>loan</i>	<i>61</i>	<i>584 058</i>

		Programme 2014-2020			
87		Co-financing of Priority Axis IV of the I&E OP - undertakings adjusting enterprises to the requirements of environmental protection	loan	2	100 000

4. Measures and strategies for adaptation to climate change.

The 2030 National Environmental Policy

The key direction of intervention in Policy is adaptation to climate change and the management of the risk of natural disasters. Strategic projects and actions included in this direction are i.e.:

- implementing flood risk management plans for catchment areas, reviewing and updating them;
- development and implementation of a plan for counteracting the effects of droughts and development of its updates;
- preparation and implementation of the Retention Development Programme,
- protection against marine erosion and flood from the sea;
- developing green and blue infrastructure of urbanized areas;
- limiting occupation of land and soil sealing.

The effectiveness of the implementation of those projects will be monitored with i.e. capacity of small retention facilities, surface area of parks, green areas and housing estate-based greenery in cities, surface area of parks, green areas and housing estate-based greenery in cities as percentage of their total surface area, length of the shoreline protected in a year against erosion and flood from the sea.

New Financial Perspective including the European Funds for Infrastructure, Climate, Environment Programme 2021-2027 (FEnIKS)

The draft of the programme provides support, among others, under second policy objective as well for specific objective 2.4 dedicated mainly to climate adaptation.

Specific objective 2.4: Supporting climate change adaptation and disaster risk prevention and resilience, including the ecosystem approach (planned allocation EUR 2,071 million) focuses on support to the following areas:

- implementation of actions identified in the urban climate change adaptation plans, including sustainable and climate adapted rainwater management systems and development of green and blue infrastructure, including solutions based on nature;
- supporting small retention systems and renaturalization of transformed water courses and their valleys (e.g. by increasing the spacing of flood banks) and renaturalization of water-dependent areas with the use of natural ecosystem mechanisms (nature based solutions);
- ensuring flood safety and preventing drought through construction, reconstruction or renovation of water facilities and accompanying infrastructure;

- measures relating to adapting forests to climate change by strengthening resilience to the threats posed by such change;
- development of environmental monitoring and risk management systems by means of improving environmental forecasting and warning systems;
- educational activities.

Infrastructure and Environment Operational Programme 2014-2020 (OPI&E 2014-2020)

Operational Programme Infrastructure and Environment 2014-2020 (I&E OP) is the largest of the EU cohesion policy programme in Poland. Under the OPI&E 2014-2020, the area of adaptation to climate change is supported under Measure 2.1 – adaptation to climate change together with protection and increasing resilience to natural disasters, in particular natural disasters, and environmental monitoring. The aim of the measure is to increase the amount of retained water and to improve the efficiency of recognition and response in situations of natural threats and serious failures.

The measure implements projects aimed at strengthening resilience to hazards related to climate change and increasing the capacity to prevent and respond to natural hazards to which Poland is particularly vulnerable, i.e. floods and droughts.

In view of the need to ensure proper strategic planning in water management, support is also directed at developing (or updating) strategic and planning documents required by law. In addition, in accordance with the focus of horizontal measures indicated in the Strategic Adaptation Plan for Sectors and Areas Sensitive to Climate Change by 2020, it is possible to support the development or updating of climate change adaptation plans in cities with population over 100,000 inhabitants and smaller cities with specific population density.

Under this measure, preference is given to projects that make maximum use of natural methods to reduce flood risk, as well as those in which the technical measures will be duly justified and the applied solutions will meet environmental requirements. Technical measures focused primarily on tasks restoring natural water retention and securing urbanised areas where natural flood protection methods cannot be applied.

Therefore, the support is mainly directed at activities related to environmental water storage, which is the best form of water resources storage and is one of the measures for reducing flood risk. Projects aimed at the restoration of natural floodplains, in addition to their primary objective of contributing to adaptation to climate change, will in many cases also contribute to the restoration of valuable ecosystems and thus have a positive impact on biodiversity conservation.

In addition, support is provided for tasks aimed at combating icing hazards, which will contribute to reducing the danger of flood phenomena (flash floods). Support is also provided for projects concerning rainwater management in urban areas, which will improve their resilience to flooding and inundation and enable them to retain water and use it in dry periods. The implemented measures will concern the collection of rainwater, also as a result of separation of combined sewerage into sanitary and rainwater systems, its treatment, retention and discharge into the ground and surface waters, as well as its use on site, e.g. for irrigation of green areas and fire-fighting purposes.

In the project type concerning sustainable rainwater management in urban areas, the value of the contribution from the EU funds amounted to PLN 1,224,649,633.90 and 61 projects were co-financed. Support is also provided for measures related to removing soil sealing or sealing and replacing it with water-permeable reinforcement. These activities can be carried out as a component of

comprehensive rainwater management projects and as separate projects that combine sealed or sealed areas of different sizes, dispersed throughout the city, within a single investment.

The projects carried out should strive to maximise the use of natural methods or methods based on natural methods using the natural capacity of retention, management, self-cleaning and drainage of rainwater in a given area. The measure includes also infrastructural activities aimed at strengthening resilience to threats connected with negative effects of climate change on the Baltic coast. The undertaken activities consisted in coastal protection, in particular with the use of natural or hydrotechnical methods supported by natural methods based on biotechnical protection taking into account the need to preserve natural processes of coastal dynamics and existing ecosystems. The actions undertaken increased the stability of the sea shore and prevented its erosion, caused by an increase in the frequency and intensity of storms, wave heights, average temperatures and lack of ice cover, which reduce the resistance of the shore to erosion.

Where it is not possible to ensure the effectiveness of the measures taken using only biological and biotechnical methods, the use of hydro-technical methods shall be acceptable.

The above interventions are complemented by actions in the area of risk prevention and management related to the development and implementation of effective risk management systems and in the area of support for the rescue system. Support is given to projects concerning the construction and improvement of posts for analysing/forecasting natural hazards and failures, as well as investments concerning the purchase of specialist equipment to equip relevant services. Support under the measure also covers the environmental monitoring system.

Particular emphasis is also placed on the implementation of soft measures promoting the establishment of an adequate knowledge base on the effects of climate change and adaptation to it, as well as response to threats related to it, and conducting extensive training activities and educational campaigns in this regard. Support is provided for information and education projects raising awareness on adaptation to climate change and strengthening resilience to it, as well as prevention and mitigation of the effects of natural hazards.

A total of PLN 4,080 million was allocated to the above-mentioned Measure 2.1 of the OPI&E 2014-2020, and 98 co-financing agreements have been signed.

Norway Grants. Business Development and Innovation Programme within the Norwegian Financial Mechanism 2014-2021 (NMF)

The Environment, Energy and Climate Change Programme (2014-2021) is held within EEA financial mechanism with Programme Partners from Iceland, Liechtenstein and Norway.

Programme addresses the challenge of global warming in broad and comprehensive manner.

One of the area **is Environmental status of ecosystems improved**. In 2020, 3 open calls were announced in this area:

- Ecosystem management plans implemented;
- Measures against invasive alien species carried out;
- Activities related to the protection of the environment and ecosystems carried out by the NGOs (Small Grant Scheme).

29 co-financing project agreements with the grant amounting EUR 12,190,929.30 were signed by the end of 2021.

All eligible projects had to be comprehensive, i.e. include activities increasing the resilience of ecosystems to the negative effects of climate change and the

necessity of adaptation to them, as well as complementary awareness-raising campaigns in this regard, held with partners. The objective scope of projects could include the implementation of measures related to:

- implementation of management plans for protected areas (Natura 2000 areas, national and landscape parks, reserves);
- improving the status for species under protection;
- counteracting fragmentation of ecosystems;
- creating / maintaining / clearing ecological corridors to ensure the free movement of species between protected areas;
- protection of natural wetlands as organic carbon reservoirs;
- restoring degraded wetlands to their proper state;
- maintaining good current status of ecosystems;
- removing invasive alien species from ecosystems;
- controlling the occurrence of invasive alien species in ecosystems;
- identification of sources and routes for the spread of invasive alien species;
- elimination of sources and introduction of solutions to reduce spread of invasive alien species;
- mapping and assessment of ecosystems;
- increasing the awareness of ecosystems, their role and the services they provide.

Projects' implementation contributes also to bigger involvement of local communities in environmental protection, and indirectly to reduce CO₂ emissions by restoring the proper condition of wetlands.

Another program area is **Climate change mitigated and vulnerability to climate change reduced**. In 2020, 3 open calls were announced in this area:

1. The implementation of green and blue infrastructure in cities

19 co-financing project agreements with the grant amounting EUR 25,847,668 were signed by the end of 2021. The call supports municipalities' implementation of strategies to mitigate and adapt to climate change. Applicants may apply for funding for measures to increase resilience to climate change and measures to reduce emissions from e.g. transport or other sectors, including revitalisation and creation of green areas and improved water management such as water retention. Educational and awareness measures will be eligible.

Applicants may apply for funding for green and blue infrastructure (related to water management) related to increasing resistance to climate change and reducing greenhouse gas emissions and transition towards electro-mobility. The activities undertaken by the beneficiaries will focus on revitalization and development of green areas through creation of green roofs, introduction of elements greening the built-up areas (pocket parks, green courtyards and street greenery) and better water resources management through water retention (construction of e.g. retention reservoirs, rain gardens and permeable surfaces) and restoration of water courses and reservoirs.

2. Awareness raising activities on climate change mitigation and adaptation carried out by schools

6 co-financed project agreements with the grant amount EUR 3,351,523 were signed by the end of 2021. The call supports schools efforts to enhance students' knowledge on climate change issues, including implementation of small-scale on-site mitigation and/or adaptation measures. The scope of projects should include the implementation of investment measures related to green-blue infrastructure through, among others, underground and above-ground tanks for rainwater, roofs of buildings covered with vegetation, green courtyards and eco-educational space for example sensory or educational paths as well as the use of solar, wind

energy for lighting of the school campus. Projects should be complemented with educational activities that contribute to raising public awareness of climate change mitigation and adaptation.

3. Strengthened implementation of Circular Economy

The call was divided into two stages:

- a. Phase I of submission of project concept notes evaluated by Evaluation Team appointed by the Minister of Climate and Environment;
- b. Phase II of submitting grant application of the best project concept notes (obtain the highest number of points).

The intention of the Programme Operator was to promote not only innovative and replicable projects, but also supporting the document adopted by the Council of Ministers on 10th September 2019 entitled "Roadmap for Transformation towards Circular Economy". Therefore, the submitted projects addresses, among others, sustainable industrial production, sustainable consumption and bioeconomy. The proposed activities relates to saving energy, water and raw materials and increasing the efficiency of their use at each stage of the product life cycle - from obtaining raw materials, through design, production, consumption to waste management, in particular through their reuse.

The broad subjective and thematic scope of this pilot call resulted in submitting 47 projects, representing various sectors, e.g. construction and food industry, which proves the need and growing popularity of the circular economy in Poland. 10 applications were positively evaluated. With the grant award decision on 10th February 2022, 5 projects with the grant amount EUR 2,986,632 were placed on the basic list of projects for co-financing.

All projects will be implemented by 30th April 2024.

Biodiversity

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?

Convention on Biological Diversity

Poland ratified the Convention on Biological Diversity in 1996 and accepted all the obligations arising from its provisions. According to Article 6 of the Convention on biodiversity and with Article 111, passage 1 of the Act of 16 April 2004 on Nature Protection, our country should prepare the programme of conservation and sustainable use of biodiversity, along with the action plan in accordance with their specific conditions and possibilities. The Programme of conservation and sustainable use of biodiversity along with Action Plan for the period 2015-2020 meets these requirements and is a continuation of the National strategy of conservation and sustainable use of biodiversity and the Action plan for the years 2007 - 2013, as well as the same document covering the years 2003-2006. At present, a new program will be soon prepared, until that time the implementation of unfinished or continuous tasks will be continuous.

The National Environmental Policy 2030 (which is available in English at [link](#)) - It is one of the bases for the pursuit of environmental policy in Poland. Under this policy, objectives related to the improvement of the quality of the environment are being implemented including the improvement of the water quality, increase

in forest cover along with the progress in sustainable forest management. In addition, as part of National Environmental Policy 2030, it is planned to increase the number of Natura 2000 areas with planning documents, and to improve the number of common farmland birds in the agricultural landscape.

Strategy for sustainable rural development, agriculture and fisheries 2030 –

The "2030 Sustainable Rural Development, Agriculture and Fisheries Strategy" is the basic strategic document for the agricultural policy and rural development of the country. The document presents the objectives, directions of intervention and actions that should be taken in the perspective of 2030. As part of this set of instruments, activities for the protection of the natural environment and biodiversity related to agriculture and fisheries will be implemented.

Activities of the strategy will be financed from national and external public funds, which include, among others funds from the EU budget for 2021-2027.

New Financial Perspective including the European Funds for Infrastructure, Climate, Environment Programme 2021-2027 (FEnIKS)

The draft of the programme provides support, among others, under second policy objective for specific objective 2.7: Strengthening the protection and conservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all types of pollution. The planned allocation is EUR 340,000,000.

The scope of support, as intended, will include:

- actions aimed at the protection of natural resources in accordance with the provisions of planning documents for protected areas, as well as the continuation of support for the protection of selected species and habitats, primarily in the areas of national parks, nature reserves and Natura 2000 areas;*
- implementation of comprehensive actions for the protection of species with a supra-regional scale of impact;*
- combating against invasive alien species;*
- nature monitoring and supplementing the state of knowledge about the objects of protection of national parks, nature reserves and areas of the Natura 2000 network;*
- development and updating of planning documents for protected areas, in particular Natura 2000 sites;*
- reclamation / decontamination of contaminated or degraded areas.*

Infrastructure and Environment Operational Programme 2014-2020 (I&E OP)

In the area of environmental protection, the Programme serves as an implementation instrument for measures taken under the Programme of Conservation and Sustainable Use of Biodiversity, along with the Action Plan for 2014-2020, Prioritised Action Framework for Natura 2000 for the EU Multiannual Financing Period 2014-2020. Taking into account growing threats to biodiversity, there was establish a series of measures to halt the process of biodiversity loss.

Under II priority axis of the I&E OP, one of the investment priority implementation includes actions within various fields related to protection of particular species and habitats within national parks and Natura 2000 areas, as well as outside the protected areas, e.g. in wildlife corridors and places hosting

endangered species. The development of tools for the management of environmentally valuable areas will also be supported. The implementation will also include modern educational programmes, supplementing the above actions, directed to a wide audience, with the objective to increase social awareness and citizens involvement in the active environment protection and promote pro ecological attitudes.

Support was provided to the following areas:

- *in-situ and ex-situ protection of endangered species and natural habitats, also within the complex supraregional projects;*
- *development of green infrastructure, including the increase in the capacity of land and water wildlife corridors;*
- *development of planning documents according to the directions defined in strategic documents, among others, protection plans and specific protection activities plans;*
- *implementation of management tools related to environment protection, including defining the principles for the control and elimination of non-native species (IAS) and compiling wide area environmental inventories;*
- *supporting the units of ecological education (subordinate to national parks);*
- *undertaking informative and educational activities involving environment protection.*

146 co-financing project agreements with the EU grant amounting PLN 607,282,622 were signed. The total cost value of the projects is PLN 771,071,360.

The intervention is horizontal in character and involves the whole country but particularly concentrated on protected territories, especially the Natura 2000 areas and those constituting the green infrastructure. The I&E OP 2014-2020 investments are mainly localized in rural non-urban areas and significantly affect the rural areas.

It was expected that the improvement of the environment will contribute to enhancing the environmental value of particular regions of the country and will have a significant macro-regional dimension, increasing the attractiveness of the whole Baltic Sea region. The intervention will be thus consistent with the EUSBSR objectives defined according the BIO priority area – Preservation of natural areas and biodiversity, including fishery.

In the context of shipping two important global IMO conventions are connected with the protection of biodiversity. The first convention, the International Convention on the Control of Harmful Anti-fouling Systems in Ships (AFS Convention), manages the anti-fouling systems used on ships to prohibit or restrict the release of biocides into the sea water. The second one, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) aims to prevent the spread of harmful aquatic organisms by establishing standards and procedures for the management and control of ships' ballast water and sediments. Both conventions, ratified by

Poland, contribute to the protection of marine life and biodiversity by minimizing the transfer of invasive alien species (relevant actions in BSAP S7-S12).

2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine?

The Programme of conservation and sustainable use of biodiversity has defined the main objective – improvement of the condition of biodiversity and more complete connection of its protection and the country's social and economic development. In order to achieve the main objective, 7 strategic goals, 19 operational goals and 74 tasks were defined. The strategic goals include:

- *improvement of the knowledge level and increase in activity of the society insofar as biodiversity actions are concerned;*
- *improvement of the nature protection system;*
- *preservation and restoration of natural habitats and population of endangered species;*
- *maintenance and reconstruction of functions of ecosystems being the source of services for human;*
- *increasing integration of operations of the economy sectors with the biodiversity protection targets;*
- *limitation of hazards resulting from climate change and pressure of invasive species;*
- *increase in Poland's participation in the international forum with regard to protection of biodiversity.*

3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.

It is difficult to identify specific places in the country where biodiversity is most at stake. Poland is distinguished by its natural wealth, including relatively rich biodiversity. But the number of areas of high natural value subjected to conservation measures is increasing. The value of nature in Poland is also evidenced by the large area of Natura 2000 areas – areas established in order to protect endangered species and natural habitats on a European scale. This network constitutes about 20% of the country's area.

Serious threats in Poland are currently posed by:

- *abandonment of extensive agricultural use of valuable non-forest areas;*
- *intensification of agriculture;*
- *improperly functioning irrigation and drainage systems having negative influence on preservation of open habitats, including wetlands and wet meadows;*
- *development of transport, tourist, industrial and energy infrastructure (small hydroelectric power plants, wind turbines).*

These factors contribute in particular to secondary succession, fragmentation of habitats, disappearance of habitats of rare species of wetland fauna and flora, and landscape disappearance. Natural factors such as harsh winters for birds are also important.

The reports should also include the following aspects:

- Each country's views on the root causes and drivers of the problem;
- National targets and how they have been met so far;
- Concerning the HELCOM BSAP implementation: what has helped in their implementation and/or why have some not been met, with concrete examples from each country;
- Legislative measures: best practice examples on progressive legislation as well as the role of taxation and how far both helped in achieving the objectives;
- Other support measures that can help in achieving the objectives;
- Has the COVID-19 pandemic had any impact whatsoever on achieving the measures?
- Are there concrete figures on what impact measures to combat the pandemic had on the volume of greenhouse gas emissions (transport, economy)?
- Are prosperity and an ecologically stable and sound environmental condition for future generations considered as a fundamental right in the decision-making processes?

II. Legal basis of the measures and strategies in the BSPC member states and regions

LIFE Programme

It is a programme centrally managed by the European Commission and dedicated to the implementation of EU climate and environment legislation. The Ministry of Climate and Environment coordinates Poland's participation in legislative work, the LIFE Committee and working groups related to the implementation of the Programme. The Ministry of the Environment has delegated to the National Fund for Environmental Protection and Water Management (NFOŚiGW) the function of a LIFE National Contact Point in Poland, which involves conducting information, training and consultation activities on proposals for Polish LIFE beneficiaries. Moreover, NFOŚiGW provides co-financing for LIFE projects to cover a part of own contribution from national funds. The current edition of LIFE covers two areas, which are divided into sub-programmes:

- *Environment area (Nature and Biodiversity sub-programme and Closed Life and Quality of Life sub-programme);*
- *Climate area (Sub-programme Climate Change Mitigation and Adaptation and Sub-programme Clean Energy Transition).*

The allocation for the LIFE Programme for 2021-2027 is EUR 5.43 billion. So far, there has been limited interest from Polish entities in applying to the LIFE Programme and a relatively low uptake of funds as a result of, among others, easier access to Cohesion Policy funds and high competition between LIFE projects submitted by entities from all Member States. Nevertheless, Poland can boast examples of projects awarded by the EC.

Below contracts concluded between 2010 and 2022 (until 15 February 2022) LIFE at the National Fund for Environmental Protection and Environment.

Area	number of contracts	NFOŚiGW grant (PLN)	LIFE grant (EUR)
Biodiversity	43	203 716	67 027

Adaptation to climate change	4	11 114	4 577
Mitigation of climate change	6	33 731	14 117

1. What are the main provisions to combat climate change?

Key strategic documents which are now implemented:

- *Energy Policy of Poland until 2040" (PEP2040);*
- *Strategy for Responsible Development;*
- *2030 National Environmental Policy;*
- *National Energy and Climate Plan for 2021-2030 (NECP).*

2. Is there a climate protection law?

Environmental Law in Poland

The Act of 27 April 2001 - Environmental Protection Law defines the principles of environmental protection, the interaction between its elements and the conditions for using its resources, taking into account the requirements of sustainable development, in particular: the principles of establishing the conditions of protection environmental resources, conditions for introducing substances or energy into the environment, costs of using the environment, obligations of administrative bodies in this regard and provisions on liability for violations of the act and sanctions in this respect. Within the scope of its regulation, the act is an expression of the implementation of a number of EU regulations into the Polish legal system that deal with the issues of broadly understood environmental protection.

Additional Laws enacted in Poland:

- *The Act of February 20, 2015 on renewable energy sources (the RES Act)* – *The RES Act was adopted in order to implement the provisions of Directive 2009/28 / EC on the promotion of the use of energy from renewable sources into the Polish legal system, amending and subsequently repealing directives 2001/77 / EC and 2003/30 / EC.*
- *The Act of July 17, 2009 on the management system for greenhouse gas and other substances emissions* – *act defines in general the principles of managing emissions of greenhouse gases and other substances in Poland as well as the rules of functioning of the institution and the rules of performing tasks related to this management.*
- *The Act of May 15, 2015 on substances that deplete the ozone layer and on certain fluorinated greenhouse gases* – *act regulates the proceedings and competence of authorities in matters of performing obligations under Regulation (EU) No 517/2014 of the European Parliament and of the Council of April 16, 2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006 and Regulation (EC) No 1005/2009 of the European Parliament and of the Council of September 16, 2009 on substances that deplete the ozone layer.*
- *The Act of June 12, 2015 on the greenhouse gas emission allowance trading system* – *act contains provisions regulating issues related to trading in emission allowances for selected greenhouse gases, applicable to all participants of the system, i.e. entities operating installations and aircraft operators .*

- *Act of 11 January 2018 on electromobility and alternative fuels – adopted in Poland in pursuit of the European Union's environmental policy and the development of low-emission and zero-emission transport. Its aim is to encourage the public to use vehicles using alternative fuels (with particular emphasis on electric vehicles), to popularize the charging or refueling infrastructure for such vehicles, and to regulate the functioning of the market for these fuels in transport, especially with regard to electricity and natural gas.*

3. What are the main provisions on biodiversity?

- *Convention on Biological Diversity,*
- *the Act on Nature Protection,*
- *the Programme of Conservation and Sustainable Use of Biodiversity,*
- *Strategy for Sustainable Rural Development, Agriculture and Fisheries 2030,*
- *the National Environmental Policy 2030.*

4. Is there a law protecting biodiversity?

In Poland, biodiversity is protected by the provisions of the Act of April 16, 2004 on nature protection. In its understanding, nature protection consists of the preservation, sustainable use and renewal of resources, creations and components of nature, such as:

- *wild plants, animals and fungi;*
- *protected plants, animals and fungi;*
- *itinerant animals;*
- *natural habitats;*
- *habitats of endangered, rare and protected plants, animals and fungi;*
- *creations of living and inanimate nature and fossil remains of plants and animals;*
- *landscape;*
- *greenery in cities and villages;*
- *trees.*

The act describes the system of nature protection in terms of institutional nature, forms of nature protection, the principles of species and area protection, as well as the system of penalties for breaking the provisions of the act.

III. Specific areas and aspects

A. Maritime areas and protected zones

1. How exactly are maritime areas protected?
2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?
3. What actions has your country taken to create functioning coastal ecosystems?
(*Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.*)

The basic documents on the basis of which protective measures are taken in Natura 2000 areas are plans of protective tasks or plans of protection, while only the latter are prepared in marine areas. At present, work is underway to prepare plans of protection for almost all marine Natura 2000 sites. There are 17 Natura 2000 Areas established in Polish sea areas:

- 8 Special Protection Areas (PLB320009, PLB320002, PLB320011, PLB990003, PLB990002, PLB220005, PLB220004, PLB280010),*
- 8 Special Areas of Conservation (PLH320018, PLH320019, PLH990002, PLH220023, PLH220032, PLH220105, PLH220044, PLH280007) and*
- 1 (PLC990001) which is in the same boundaries a Special Protection Area and Special Area of Conservation.*

The most important sources of threats to marine nature include: fisheries (negative impact on species and the bottom of sea basins), shipping (noise, pollution, possible collisions, introduction of alien species), tourism and recreation (especially mass recreation), eutrophication of waters, exploration and oil and gas extraction, aggregate extraction, military operations, coastal urbanization.

B. Eutrophication

(Eutrophication is a major threat to biodiversity in the Baltic Sea and has a negative impact on both ecosystem function and ecological services. Mitigating eutrophication is essential for the protection of biodiversity.)

1. What actions does your country take to fulfil the BSAP and other directives?

Measures in the updated BSAP are very ambitious and some of them may not even be easy to implement, but the BSAP can contribute to finding the right balance between the protection of the marine environment and sustainable economic activity in the area. That is why Poland has been taking steps to implement the provisions of the BSAP for many years.

The most demanding challenges of water protection against pollution in Poland include protection of waters against nitrates from agricultural sources. The problem of increasing nitrate concentration in water concerns the whole European Union, therefore the EU water law introduces the directive concerning the protection of water against pollution caused by nitrates from agricultural sources, the so-called nitrates directive. On the basis of article 106 of the Water Law Act, in Poland the minister in charge of water management, in agreement with the minister in charge of agriculture, developed in 2018 an action programme to reduce water pollution caused by fertilization of agricultural land with fertilizers (both mineral and natural) containing nitrogen compounds and to prevent further pollution of this kind. In 2022 the Ministry of Infrastructure will work on the review and update of the action programme.

In accordance with EU water legislation Poland has implemented the National Programme for Municipal Wastewater Treatment (KPOŚK). Currently in force there is the fifth update of the Programme, to be implemented in the period 2017-2021. The programme contains a list of investments in wastewater treatment planned by municipal governments for local communities. In the fifth update of KPOŚK are 1587 agglomerations and 1769 sewage treatment plants. As a result of the implementation of the programme 92 899 km of sewage network were built in years 2003-2019. In the same period the construction of 439 new wastewater treatment plants were completed and 1700 treatment

plants were modernized or expanded. To implement the task approximately PLN 68.7 billion was spent in order to finalize the investments. In relations to the future EU financial perspective for 2021-2027, the Ministry of Infrastructure is working intensively on the sixth update of KPOŚK (VI AKPOŚK).

Poland is also finalising an update of the marine water protection programme (aPOWM) that will be submitted to the European Commission. It is a programming document that is subject to a periodical review every 6 years, in line with the provisions of the Marine Strategy Framework Directive (MSFD). It identifies actions that are necessary to achieve or maintain good environmental status (GES) of marine waters. Activities have been planned separately for 11 descriptors, including eutrophication.

The aim of actions aimed at limiting eutrophication is to maintain the decreasing trend of changes in the annual loads of nitrogen and phosphorus introduced into the Baltic Sea through the waters of the Vistula and Odra rivers and the rivers of Przymorze. aPOWM assumes not only the continuation of implementation of selected measures from the marine water protection programme (POWM) in force until 2021, but also initiation of 11 new measures related to wastewater management and the agricultural sector.

Full implementation of the continued and new activities set out in aPOWM may contribute to a significant reduction of nitrogen and phosphorus loads, which is essential in view of the need to achieve the national nutrient input ceilings (NIC) set by HELCOM.

2. Which objectives of the Baltic Sea Action Plan are planned to be realised in your country by when and by which measures?

Given the specific conditions of the Baltic Sea, the fact that it is relatively shallow, has limited circulation and water exchange with the oceans, and is subject to a wide spectrum of anthropogenic, present and historical pressures, the most pressing issues to be addressed relate to eutrophication and hazardous substances.

Therefore, using the available legal instruments, both at the EU and national levels, Poland will pursue the implementation of environmental objectives in the field of improving the condition of the Baltic Sea waters within the time frames specified in the Baltic Sea Action Plan (BSAP).

In the BSAP an action has been stipulated regarding the development of harmonised monitoring programmes at the scale of the Baltic Sea region, based on the updated Marine Strategy Framework Directive and the list of elements of the marine environment to be assessed, in accordance with the updated decision of the European Commission. The Chief Inspectorate of Environmental Protection (GIOŚ) implements the above objective by developing a marine water monitoring programme and subsequent updates of the programme, if such results from the review of the currently implemented programme (Article 351(1) and (13) of the Act of 20 July 2017 - Water Law). The marine waters monitoring program is implemented with the funds of the grant agreement between GIOŚ and the National Fund for Environmental Protection and Water Management.

3. How can we speed up the work?

The implementation of the goals and tasks of BSAP should be carried out jointly. In response to all urgent problems of the Baltic Sea, the focus should be on one

specific overarching action, which is the continuation of close and good cooperation between all HELCOM members.

In this context, the promotion of in-depth, objective knowledge and scientific explanations plays a key role. The practical implementation of BSAP will have a positive demonstration effect, proving that solutions based on scientific knowledge are actually effective.

Therefore, the Science Agenda adopted with BSAP is very important as it communicates scientific needs to funding agencies, can inspire scientists to fill the knowledge gaps and can contribute to increasing the positive interaction between science and policy.

C. Sea-dumped munitions

1. Are there areas in your territorial waters that are contaminated with ammunition?

On the basis of the results of the 2020 State Environmental Monitoring (carried out by the Chief Inspectorate for Environmental Protection), an assessment was performed in Polish territorial waters in relation to chemical munitions. The results of the assessment were published in a study – Assessment of environmental state of Polish marine areas of the Baltic Sea on the basis of monitoring data from the year 2020 against the background of the decade 2010-2019 (available on the website of the Chief Inspectorate for Environmental Protection at <https://www.gios.gov.pl/pl/stansrodowiska/monitoringwod> in the section "Baltic").

Based on the monitoring results no munitions contamination of sediments or organisms was found. The aforementioned study states: "Taking into account the obtained results of current levels of arsenic and iperite in surface layers of bottom sediments and arsenic concentration in fish, it can be concluded that there is no contamination resulting from potential releases from dumped chemical weapons."

2. What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?

The Polish government takes the issue of the potential threat from hazardous materials deposited on the seabed very seriously. Last year, in order to diagnose the situation, an interministerial task force was established, which systematized the existing knowledge on the inventory of hazardous materials deposited in Polish maritime areas, reviewed the existing legal regulations in the aspect of hazardous materials deposited on the seabed, such as wrecks, conventional weapons and CW agents, and familiarized itself with the results of previous national and international research projects in this area.

As a result of the conducted analyses, the interministerial task force recommended establishment of a new task force for hazardous materials dumped in Polish maritime areas, the task of which will be to coordinate cooperation between authorities whose competencies include activities related to monitoring and neutralization of threats posed by dumped hazardous materials.

D. Towards zero pollution

(Pollution harms our health and our environment. It is the largest environmental cause of multiple mental and physical diseases and of premature deaths, especially among children, people with certain medical conditions and the elderly. In addition to affecting people's health, pollution is one of the main reasons for the loss of biodiversity. It reduces the ability of ecosystems to provide services such as carbon sequestration and decontamination. Therefore, these questions are being asked.)

1. Is your government following a zero-pollution action plan for air, water and earth?

In Poland, a number of documents of a planning and strategic character are now in effect. On their basis, among others, detailed measures are implemented to reduce greenhouse gas emissions.

List of the key strategic documents which are now implemented:

- *Strategy for Responsible Development,*
- *2030 National Environmental Policy,*
- *National Energy and Climate Plan for 2021-2030 (NECP),*
- *National Air Pollution Control Programme (NAPCP),*
- *Operational Programme Infrastructure and Environment (POIŚ),*
- *Energy Policy of Poland until 2030,*
- *Polish Nuclear Energy Programme,*
- *National Renewable Energy Action Plan,*
- *National Action Plan on Energy Efficiency for Poland,*
- *National Housing Programme,*
- *National Plan to Increase the Number of Nearly Zero-Energy Buildings,*
- *Sustainable Transport Development Strategy until 2030,*
- *National Urban Policy 2023.*

2. What time horizon is planned for which intermediate steps and goals?
3. Which measures in this direction have already been initiated or are to be realised?

Policies and measures of cross-sectoral nature that have already been initiated in Poland in the energy supply, energy consumption, transport, industrial processes, agriculture, land use, land use change and forestry (LULUCF) and waste sectors:

- *Greenhouse gas emission allowance trading scheme (EU ETS),*
- *Implementation of nuclear energy,*
- *Preferences for electricity generators using high-efficiency cogeneration,*
- *Scheme of certificates of origin for RES (the green certificate scheme),*
- *Auction-based support scheme for RES,*
- *Feed-in tariff and feed-in premium schemes for RES,*
- *Obligation to purchase electricity generated at RES installations with total installed power capacity of less than 500 kW,*
- *Reduction of methane emissions from fuel production and distribution processes,*
- *Research projects to develop coalbed methane,*
- *Preferential loans from the BOŚ Bank – Climate-friendly Credit,*

- *Support for the development of offshore wind power,*
- *My Power Priority Programme,*
- *Energy Plus Priority Programme,*
- *Polish Geothermal Energy Plus Priority Programme,*
- *District Heating Priority Programme,*
- *Agroenergy Programme,*
- *White certificate scheme,*
- *Energy audits and energy management systems,*
- *Clean Air Priority Programme,*
- *Thermal Modernisation and Renovation Fund,*
- *Thermal modernisation relief,*
- *Improvement of the operation of the energy efficiency system of buildings,*
- *Development of road infrastructure, collective transport, zero-emission urban transport, electromobility, vehicles using alternative fuels*
- *Promotion of biofuels,*
- *Requirements for improving the emission factors of vehicles,*
- *Measures for efficient railway transport, maritime shipping, inland waterway transport, air transport,*
- *Limitation of the use of fluorinated greenhouse gases,*
- *Supporting adaptation and mitigation measures in agricultural holdings,*
- *Development of water and wastewater management.*

4. What concrete projects for the avoidance of plastic pollution is your government supporting?
5. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?

E. Economy

1. What are the investment priorities of the state to reduce CO₂ emissions?

Poland is already delivering more than its fair share and is ready to do more to reduce CO₂ emissions. Poland's energy policy until 2040 is to lead to the creation of a low-emission economy, and presents a comprehensive vision of the reconstruction and transformation of the energy sector, in a way that puts our country to the path of achieving climate neutrality.

The investment necessary for the transformation is expected to lead to a new energy system within 20 years. This is a huge financial, technical and social challenge, which will also require the economic remodelling of 6 large mining regions. Poland intends to allocate available funds to the three priorities outlined in the PEP2040: building a zero-emission energy system, a supporting fair (just) transition of coal regions and measures to improve air quality.

We are planning investments to improve energy efficiency in buildings, including companies, and to subsidise the heating sector in the development of energy-efficient district heating systems. In particular, it is necessary to support the development of the use of renewable energy sources in the electricity, heating

and transport sectors. As a consequence of increased RES capacity, there will be a need to develop smart energy systems, including systems adapted to transporting decarbonized gases, such as hydrogen, and storage technologies. The construction of a zero-emission energy system must also be accompanied by investments in the development of various forms of energy storage. Decarbonized gases, such as hydrogen or biogas and biomethane, will play a special role in this respect, as well as the activation of end users. Investment needs in Poland are still enormous. Poland needs investments focused on comprehensive low-carbon solutions that will drive transformation in Poland and ambitious projects tailored to this vision of transformation.

2. What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?

The Minister of Climate and Environment, takes into account the need to reduce CO₂ emissions and is currently working on an amendment to the Geological and Mining Law. The main goal intends to enable the implementation of non-demonstration CCS projects.

3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

Coal accounts for almost 70 percent of Poland's energy mix. The transition to zero- or low-carbon sources must be phased and planned. This is a transition for the next 20-30 years. Poland's energy policy until 2040 presents a comprehensive vision of the reconstruction and transformation of the energy sector and gradually move away from coal. For social, economic and environmental reasons, the restructuring of coal regions will be pursued to ensure that a just energy transition leads to economic empowerment, leaving no one behind and serving future generations.

4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

In order to establish renewable and low-carbon hydrogen production in Poland, the Polish Government adopted the 2030 Polish Hydrogen Strategy on the 2nd of November 2021. The aim of the Strategy is to create and develop a hydrogen economy in Poland in order to achieve climate neutrality and maintain the competitiveness of the Polish industry. The objectives of the Strategy relate to the priority areas of the use of hydrogen: energy & heating, transport and industry, as well as its production and distribution. By 2030 the Strategy aims to achieve installed capacity of the low-carbon hydrogen facilities at 2 GW, up to 1000 hydrogen-powered buses, more than 32 hydrogen refuelling stations and no less than 5 operating hydrogen valleys.

Poland is the third producer of hydrogen in Europe and our production capabilities are estimated at 1.3m tons per year. Having regard that there is no functioning hydrogen market yet, all consumption takes place in manufacturing facilities for the industrial processes purposes.

On the 14th of October 2021 the Polish Hydrogen Sector Deal was signed by more than 120 parties (the number is still growing) representing public administration, academia and the industry. The Polish Hydrogen Sector Deal is a

key executive instrument for the implementation of the 2030 Polish Hydrogen Strategy as well as delivers financial, legal and institutional solutions in order to build hydrogen economy in Poland.

F. Innovation

1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?

"GreenEvo – the Green Technology Accelerator"

It is an innovative program run by the Ministry of Climate and Environment designed to create friendly conditions to disseminate environmental technologies provided by Polish entrepreneurs – in Poland and abroad. Its main purpose is to help Polish small and medium-sized enterprises to enter into international contacts and also to provide them with necessary tools to enable their dynamic development. The actions taken under the program stimulate development in a comprehensive manner and strengthen the position of advanced green technologies in the process of building a circular economy. The GreenEvo program demonstrates that Poland is able to become actively involved in international actions to combat climate change, without a detriment to economic growth, but, on the contrary, supporting it with innovative, green technologies.

Activity areas of supported technologies:

- *water and wastewater management,*
- *waste management,*
- *renewable energy sources,*
- *energy savings,*
- *air protection,*
- *biological diversity conservation,*
- *passive housing,*
- *low-emission transport,*
- *climate protection including technologies designed to reduce greenhouse gas emissions.*

GreenEvo stimulates transition towards a circular economy, by encouraging and promoting ecological innovations and environmental technologies in all key fields of the economy. The implementation of the programme is undoubtedly an important tool in supporting sustainable development, domestically and internationally.

2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?

Activity areas of supported technologies in the GreenEvo programme:

- *water and wastewater management,*
- *waste management,*
- *renewable energy sources,*
- *energy savings,*
- *air protection,*
- *biological diversity conservation,*
- *passive housing,*

- *low-emission transport,*
- *climate protection including technologies designed to reduce greenhouse gas emissions.*

3. What effects are expected from current support measures?

In case of the GreenEvo program aim is the international transfer of green technologies, stimulation the activities of Polish companies which provide environmental and energy efficient technologies and intermediate aim is support for sustainable development of societies.

G. International cooperation

1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?

Poland actively participates in the new Baltic energy market interconnection plan (BEMIP) Working Group for Offshore Wind Energy, established under the Szczecin Declaration on September 30, 2020, under which we offered to be a co-chair of one of the four working areas, which is maritime spatial planning. We are engaging in the Group's activities in order to cooperate in better coordinating maritime spatial planning and environmental assessments for the use of the Baltic Sea offshore wind energy potential, facilitating more effective use of sea space, as well as increasing the availability and interoperability of marine data for planning purposes, impact assessment, licensing and operations.

We believe that the work of this group will in the future lead to a better understanding of offshore wind energy issues in many aspects, and better cooperation that will allow for the rapid development of these projects.

GreenEvo

The Accelerator support technologies in the field of water and wastewater management, waste management, renewable energy sources, energy savings, air protection, biological diversity conservation and climate protection.

Biodiversity

A model example of such cooperation is the SAMBAH project, which was implemented in the years 2009 - 2016 by all the Baltic states, with the exception of the Russian Federation. Its aim was to estimate the abundance and seasonal distribution of the Baltic harbor porpoise - species in danger of extinction.

On the Polish side, the partners in the project were: the University of Gdańsk (with the Marine Station of the Institute of Oceanography as the national coordinator of the project), the Institute of Meteorology and Water Management and the Chief Inspectorate of Environmental Protection. Domestic funding was provided by the National Fund for Environmental Protection and Water Management, the Provincial Fund for Environmental Protection and Water Management in Gdańsk, as well as partners' own funds.

The SAMBAH project is the world's first large-scale project using the hydroacoustic method to study small cetaceans. The obtained data are to be used to develop and implement effective and rational methods of protecting the porpoise population. Thanks to the project, the number of porpoises in the Baltic Sea (less than 500), important in their life cycle and annual areas as well as seasonal migrations, was established. As a result, some Baltic countries enlarged their marine Natura 2,000 areas, and in the following years, legal measures were developed to reduce the unfavorable anthropopressure of fisheries on porpoises

by modifying fishing gear, changing fishing dates and temporarily closing fisheries.

Unfortunately, the European Commission refused to finance the next stages of the SAMBAH project, so currently the only source of knowledge are the national monitoring systems of the Baltic countries.

2. Are increased cooperation and the implementation of joint projects planned for the future?

GreenEvo

Program is funded by National Fund for Environmental Protection and Water Management for the period of 2022 and 2023, and we would like to continue the implementation of the program.

3. What effects are expected as a result?

GreenEvo

Direct aim of "GreenEvo" program is to support Polish entrepreneurs and intermediate aim is to support sustainable development, domestically and internationally.

4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

Geothermal energy

Currently Poland does not directly support developing countries in implementing actions for climate protection concerning geological research in the field of geothermal energy.

The Ministry of Climate and Environment is implementing the strategic project called 'Development and use of geothermal potential in Poland', which includes three geothermal tasks, performed by Polish scientists in cooperation with experts from abroad under the EEA and Norway Grants. While performing these tasks, Polish scientists cooperate with experts from Iceland and Norway. These countries are an excellent example of using of geothermal energy. The established cooperation enables the transfer of knowledge, technology, good practices and experiences ('know-how') about using geothermal energy from the donor countries (Iceland, Norway) to Poland.

CCS

When it comes to foreign cooperation in the field of CCS, the Polish Geological Institute - National Research Institute maintains working contacts with representatives of the scientific community of other countries, e.g. through participation in conferences and seminars for example the BASRECCS research and development network "Baltic Carbon Forum 2019" (Tallinn, Estonia) devoted to the issues of geological storage and use of CO₂ in the Baltic region and in the world, where progress in the field of CCS (/ CCUS) research and technology was discussed.

GreenEvo

Program provides access for developing countries to proven green technologies that contribute to biodiversity conservation and climate protection. Polish companies can deliver effective technologies or products which support activities in the field of water and wastewater management, waste management, renewable energy sources, energy savings, air protection, biological diversity conservation and climate protection.

H. Adaptation

1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?

Yes:

- *The Polish National Strategy for Adaptation to Climate Change with the perspective by 2030;*
- *The Energy Policy of Poland until 2040 (PEP2040);*
- *The 2030 National Environmental Policy.*

2. If that is the case, could you indicate its main objectives, policy tools and measures?

All the documents listed above have already been reviewed in the answers above.

I. Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

Offshore

On 1 July 2020, a letter of intent was signed on cooperation in the development of offshore wind energy in Poland between representatives of the government and industry. As part of the work on the sectoral agreement, 6 working groups were set up and focused on key areas such as research and development, social education and stakeholder cooperation, development of Polish industry and the participation of Polish companies, logistics of port facilities and impact on coastal regions.

Thanks to the enormous commitment and hard work of all participants of the partnership, which is worth emphasizing, pro publico bono, a draft Sectoral Agreement was developed. The solemn signing of the sectoral agreement took place on September 15, 2021 in Warsaw.

'Polish Offshore Wind Sector Deal' was signed by over a 100 parties. The number is still growing and as of today it counts over 170 parties. This Government-

industry collaboration aims to establish a leading offshore wind industry in Poland and to maximise domestic production, development and installation activities. The Sector Deal aims for a share of at least 20-30% of total value in the preparatory, installation and operation stage of offshore wind projects to be produced in Poland by 2025. This share should then increase to at least 45% by 2030 and at least 50% after 2030. For the employment in Poland's offshore wind sector this would mean a total of 30,000 direct and indirect jobs by 2030 and a total of 60,000 direct and indirect jobs by 2040 respectively.

Hydrogen

On the 14th of October 2021 the Polish Hydrogen Sector Deal was signed by more than 120 parties (the number is still growing) representing public administration, academia and the industry. The Polish Hydrogen Sector Deal is a key executive instrument for the implementation of the 2030 Polish Hydrogen Strategy as well as delivers financial, legal and institutional solutions in order to build hydrogen economy in Poland.

Environmental protection

Government and local government institutions as well as universities are in constant contact with the society by promoting the desired pro-ecological behavior, paying attention to various aspects of environmental protection by reminding about wetlands, fish days, etc. Numerous conferences, webinars and meetings are organized. The state provides financing for pro-ecological projects.

An example of the nationwide involvement of stakeholders in the protection of the Baltic Sea is the annual competition for the Farmer of the Year in the Baltic Sea Region, organized by WWF, which has been ongoing since 2009. The aim of the competition is to support and promote pro-environmental activities and attitudes among farmers. Every farm, even those located hundreds of kilometers from the seashore, is located in the Baltic basin. The excess of organic substances used in fertilizers and plant protection products on such a farm ends up in the sea and pollutes it. The end result of pollution and eutrophication is the formation and growth of dead areas on the seabed.

Another valuable initiative illustrating the regional involvement of society in nature protection matters is the WWF Blue Patrol, which has been operating continuously since 2010. The Blue Patrol was created as a part of the project "Support for the restitution and protection of Baltic mammals in Poland", then acted as a part of the action "Protection of marine mammals and birds' habitats", and since 2017 it has been continuing its activity within the action "Protection of sea mammals and birds and their habitats". The patrol cooperates with the Marine Station of the Institute of Oceanography of the University of Gdańsk in Hel and with the Water Bird Research Group KULING. Blue Patrol members are an extremely diverse group. Among them we will find pupils, students, retirees, teachers, officials and entrepreneurs, and therefore representatives of various levels of education and professions. In addition, they promote knowledge about the Baltic fauna by conducting educational campaigns in schools, libraries, offices, as well as during picnics and other events organized around the coast. Thanks to them, tourists and residents of coastal towns can learn about the biology, customs and protection of gray seals, porpoises or birds nesting on beaches - ringed plovers, oystercatchers and terns. These unique species require appreciation today and support.

Cooperation with non-government partners

The Ministry of Climate and Environment has developed a Long-Term Program of Cooperation with non-governmental organizations and entities. The main objective of the Programme is to build partnership between the government administration and non-governmental organizations in the implementation of activities for the protection and shaping of the environment, especially in the field of climate, sustainable development, energy and for the protection and management of the environment, including in particular:

- creating effective channels of communication with NGOs in order to increase their influence on the creation of policies: climate, energy, environment and sustainable development;*
- increasing the efficiency and systematization of cooperation with NGOs;*
- supporting, developing and utilizing the potential of non-governmental organizations in the spheres of activity of the office;*
- promoting good practices of cooperation with NGOs.*

The Program includes, among others, such forms of cooperation:

- social consultations;*
- mutual informing about directions of activities;*
- honorary patronages of the Minister;*
- participation of Ministry representatives in events organized by NGOs;*
- participation of NGOs in preparation of events organized by the Ministry;*
- organization of cyclical meetings of the Minister with NGOs.*

2. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

The Minister of Climate and Environment established on March 30, 2020. Youth Climate Council, which is an advisory body to the Minister with 26 young people between the ages of 15 and 26. The tasks of the Council include:

- expressing opinions on matters covered by the departments of government administration climate and energy, in particular, presenting opinions on planned policy changes, strategies and legislative changes within the scope of the Minister's competence, including proposals of solutions to the scope of the Council's activities;*
- creating and promoting pro-ecological and pro-climate attitudes among young people;*
- increasing the level of knowledge among youth in the field of issues covered by the sections of government administration Climate and Energy.*

The Youth Climate Council conducts a number of educational activities to engage the young generation in pro-ecological activities, affecting climate change and biodiversity. The Council is one of the initiators of the Youth Climate Dialogue, within which it is involved in the work of the Team for environmental education, including climate education, and promotion of ecological living conditions established by the Ministry of Climate and Environment in cooperation with the Ministry of Education and Science. The Youth Climate Council conducted an online broadcast webinar on biodiversity and mangrove conservation together with the Indonesian organization ECCO Foundation.

3. Are there plans to increase such initiatives in the future?

In the future, meetings of the Minister of Climate and Environment and deputy ministers with NGOs are planned, as well as meetings of the ministry's leadership with the Youth Climate Council and other youth organizations.



Schleswig- Holstein

4 October 2021



BSPC Working Group on Climate Change and Biodiversity (CCB)

Intergovernmental survey

Adopted by the BSPC WG CCB on 4 October 2021

The governments of the BSPC member parliaments are kindly asked to send statements and answers to the following issues and questions to their respective parliaments until 28 February 2022:

- I. General information on the measures and strategies in the BSPC member states and regions

Climate change

Could you give a policy-brief report about the measures and national strategies to combat climate change as well as existing and planned adaptation measures? The report should preferably be structured according to the following policy areas:

1. National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);

Schleswig-Holstein's climate protection targets are laid down in the amended Energy Transition and Climate Protection Act 2021(EWKG) (see Question II): With regard to climate protection targets, the amended EWKG builds on the federal government's targets, which were adopted in the Federal Climate Protection Act 2021: the latter requires that, compared to 1990 levels, greenhouse gas emissions be reduced nationwide by at least 65 percent by the year 2030, by at least 88 percent by 2040, and by 2045 to such an extent that net greenhouse gas neutrality is achieved nationally. After 2050, the goal is negative greenhouse gas emissions nationwide. The state of Schleswig-Holstein

supports the federal government's targets and will make an ambitious contribution to achieving them.

2. Critical sectors where the need for additional measures is imminent;
Some measures are implemented with the Energy Transition and Climate Protection Act, see Question II.
Beyond the above-mentioned act, other key measures implemented by the state government are a state-wide regional planning scheme, in which 2% of the state area has been designated for wind energy. Schleswig-Holstein was the frontrunner in granting wind power permits in 2021, so the expansion will make significant progress. Grid expansion also continues to make headway; and the amounts of electricity curtailed due to bottlenecks have fallen in recent years. The state is focusing strongly on sector coupling and flexibility. Funding instruments for the energy transition and climate protection have been scaled up significantly. Priorities include a comprehensive heat transition, support for municipal climate protection, funding for charging stations for electric mobility and implementation of the hydrogen strategy.
3. Current and planned mitigation measures;
See answers to item 2 above.
4. Measures and strategies for adaptation to climate change.
Section 15 of the Energy Transition and Climate Protection Act of Schleswig-Holstein stipulates: "The state government shall draw up a strategy for adapting to climate change and implement appropriate measures".
In 2017, the Ministry of Energy, Agriculture, the Environment, Nature and Digitalization (MELUND) identified climate-sensitive fields of action such as soil and water management in the "Roadmap for Schleswig-Holstein - Adaptation to Climate Change" and established indicators for its monitoring. Furthermore, the climate impacts, challenges, possible measures as well as current activities per field of action are highlighted. The aim of the roadmap for Schleswig-Holstein is to show individual ways in which adaptation to climate change can be managed in the fields of action that are identifiable and particularly relevant for the state. The following are examples of the state government's action in sub-areas and ongoing work processes related to climate change adaptation:
 - *General Plan for Coastal Protection 2012: this plan contains the climate dike concept, which can be used to provide protection in the event of a sea level rise of up to 2.0 m in several construction phases. The update of the General Plan for Coastal Protection was adopted by the state government in February 2022 and contains further climate adaptation measures for protection facilities such as regional dikes and constructional structures in the dike.*
 - *Overall Strategy for the Development of the Baltic Sea Coast 2100: The goal of the strategy to be drawn up by 2024 is a Baltic Sea coast that is adapted to the consequences of climate change in a sustainable and long-term manner by means of appropriate protection measures and climate-adapted or climate-resilient forms of use. In order to achieve this goal, the sectors affected most by climate change, namely coastal protection, tourism and nature conservation are considered in an integrative and holistic approach.*

- *Lowland strategy: The strategy for the lowlands until 2100 is threefold: it intends to investigate the need for adaptation of water management infrastructure and its mode of operation because of climate change and changing societal demands in the lowlands, to develop solutions for implementation and to identify the resources required for this purpose.*

Biodiversity

1. Could you give a policy-brief report about measures and national strategies to protect biodiversity and the integrity of ecosystems?
Various protected areas with varying degrees of protection are designated in SH, in which habitats and species are protected. The Natura 2000 areas (FFH, bird protection) as well as nature reserves (NSG) and the Schleswig-Holstein Wadden Sea National Park are particularly worth mentioning here. Within these areas, but also partly outside of them, extensive measures are carried out to preserve or restore the biotopes and habitats of species. In the biodiversity strategy of the state of Schleswig-Holstein "Course Nature 2030", the essential measures for improving the state of biodiversity in SH are set out.
2. Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine?
The Natura 2000 system of protected areas ("FFH and EU bird sanctuaries") includes both terrestrial and marine areas in which species and habitats of Europe-wide importance are protected. In SH, for example, the habitat types "reefs" and "sandbanks" are protected in the marine area. The habitat type "shallow large marine bay" includes e.g. seagrass beds, which are of major importance for marine biodiversity. In the terrestrial realm, peatlands are of particular importance in SH, for example, and are being increasingly restored to their original state through a peatland protection program and the "Biological Climate Protection" program. Schleswig-Holstein also bears great responsibility for the protection of meadow and shore birds. For this purpose, wet grassland as well as dune and salt marsh habitats are specially protected. Even though SH has a low proportion of forests with approx. 11 percent, these are of great importance for biodiversity and numerous forests are designated as protected areas. Particularly in the woods of the Schleswig-Holstein State Forests, the biodiversity goals in the forest are implemented via natural forest areas, habitat trees and adapted management.
3. It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time.
In SH, habitats with their associated species of nutrient-poor, wet and dry areas are particularly endangered. These are e.g. raised bogs, nutrient-poor lakes, dry grasslands and heaths. Other species at high risk are field species such as skylark, partridge and lapwing, which suffer from too high management intensity and too little structural diversity in the agricultural landscape.

The reports should also include the following aspects:

- Each country's views on the root causes and drivers of the problem;
- National targets and how they have been met so far;
- Concerning the HELCOM BSAP implementation: what has helped in their implementation and/or why have some not been met, with concrete examples from each country;
- Legislative measures: best practice examples on progressive legislation as well as the role of taxation and how far both helped in achieving the objectives;
- Other support measures that can help in achieving the objectives;
- Has the COVID-19 pandemic had any impact whatsoever on achieving the measures?
- Are there concrete figures on what impact measures to combat the pandemic had on the volume of greenhouse gas emissions (transport, economy)?
- Are prosperity and an ecologically stable and sound environmental condition for future generations considered as a fundamental right in the decision-making processes?

II. Legal basis of the measures and strategies in the BSPC member states and regions

1. What are the main provisions to combat climate change?

An Energy Transition and Climate Protection Act (EWKG) has been in effect in Schleswig-Holstein since 2017, which formulates targets and concrete measures as a contribution to achieving the state's climate protection goals. It was revised in 2021. The amended version came into force on Dec. 17, 2021. The amending law can be found [here](#), the consolidated version [here](#), summary information of the ministry MELUND as well as questions and answers [here](#), the bill of the state government can be accessed as [LT-Drs. 19/3061](#).

Key aspects of the amendment are an introduction of mandatory photovoltaic systems for new buildings, for roof renovations of non-residential buildings and for large parking lots as well as an obligation for larger municipalities to draw up municipal heat plans. In addition, the use of renewable energies in the heat supply of existing buildings was mandated as part of an energy-efficient renovation. Climate protection requirements for the state administration were also tightened.

2. Is there a climate protection law?

See answers to part 1 above.

3. What are the main provisions on biodiversity?

see I.1

4. Is there a law protecting biodiversity?

The Federal and the State Nature Conservation Acts as well as the Habitats and the Birds Directives are the main legislation.

III. Specific areas and aspects

A. Maritime areas and protected zones

1. How exactly are maritime areas protected?

In Schleswig-Holstein's Baltic Sea there are the following types of MPA's: FFH sites combined with bird sanctuaries form Schleswig-Holstein's contribution to the Natura 2000 network. The Natura 2000 sites in Schleswig-Holstein are reported as HELCOM MPA's. More information on the Natura 2000 sites can be retrieved at [Umwelt & Naturschutz - NATURA 2000 - schleswig-holstein.de](https://umwelt.naturschutz-natura2000-schleswig-holstein.de) Via the link to the environmental atlas [Umweltatlas](#), a map of all FFH and bird protection areas can be displayed. By using the search functions, information on all Natura 2000 sites in Schleswig-Holstein can be accessed. In addition, there are some nature reserves (NSG) in the Baltic Sea of Schleswig-Holstein. A map and further information on these areas can also be accessed in the Environmental Atlas.

2. Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?

To date, there are no zero-use zones in the Schleswig-Holstein coastal waters of the Baltic Sea. One of the steps which the German program of measures for the implementation of the EU Marine Strategy Framework Directive provides for the Baltic Sea is to create resting and refuge areas for marine species and habitats. This also includes the possibility of zero-use areas.

3. What actions has your country taken to create functioning coastal ecosystems?

(Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.) Information on the state of the Baltic Sea, the burdens to which the sea is exposed and the measures that Germany and Schleswig-Holstein are taking to improve the state of the Baltic Sea are collected in particular as part of the implementation of the EU Marine Strategy Framework Directive. This data can be found at www.meeresschutzinfo.de. Schleswig-Holstein has also been actively involved in HELCOM, the regional agreement for the protection of the marine environment of the Baltic Sea, for many years now and functioned, among other things, as co-host of the last HELCOM Ministerial Conference in October 2021, where the updated Baltic Sea Action Plan was adopted. For more information, see [2021 Lübeck – HELCOM](#).

B. Eutrophication

(Eutrophication is a major threat to biodiversity in the Baltic Sea and has a negative impact on both ecosystem function and ecological services. Mitigating eutrophication is essential for the protection of biodiversity.)

1. What actions does your country take to fulfil the BSAP and other directives?

2. Which objectives of the Baltic Sea Action Plan are planned to be realised in your country by when and by which measures?

3. How can we speed up the work?

Questions 1 - 3 are answered together.

The updated BSAP was adopted in October 2021. Measures to reduce nutrient pollution are mainly implemented through the management plans and programs of measures for the 3rd cycle 2022-2027 of the EU Water Framework Directive [Bewirtschaftungspläne und Maßnahmenprogramme für den 3.](#)

Bewirtschaftszeitraum 2022-2027 as well as through the MSFD program of measures MSRL-Maßnahmenprogramm (the updated version of the MSFD program of measures for the 2nd cycle of MSFD implementation 2022-2027 will be published in mid-2022 at the link provided). Requirements specific to coastal waters can be found in the document "Festlegung der Bewirtschaftungsziele zur Reduzierung der Nährstoffbelastung in den Küstengewässern" ("Setting management objectives to reduce nutrient loading in coastal waters").

C. Sea-dumped munitions

1. Are there areas in your territorial waters that are contaminated with ammunition?
There are areas in Schleswig-Holstein contaminated with munitions as well as munitions dumping areas.
2. What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?
Schleswig-Holstein is working with partners from the other coastal federal states and the federal government on a concept for environmental monitoring with regard to compounds typical of explosives. In addition, a concept for environmentally compatible munitions salvage and disposal is being worked on with the partners. Ammunition blasting is limited to a necessary minimum. Wherever possible, entrenchment and mitigation measures are used. There is an intensive exchange with research projects and the partners at HELCOM.

D. Towards zero pollution

(Pollution harms our health and our environment. It is the largest environmental cause of multiple mental and physical diseases and of premature deaths, especially among children, people with certain medical conditions and the elderly. In addition to affecting people's health, pollution is one of the main reasons for the loss of biodiversity. It reduces the ability of ecosystems to provide services such as carbon sequestration and decontamination. Therefore, these questions are being asked.)

1. Is your government following a zero-pollution action plan for air, water and earth?
*No action plan exists for the area of air pollutants. As soon as the EU specifies its intentions, it will be examined how this plan can be implemented and, if necessary, supplemented in Schleswig-Holstein.
However, climate protection plans and measures that lead to a reduction in combustion processes and their emissions of air pollutants as a whole will also have a positive effect on air quality.*
2. What time horizon is planned for which intermediate steps and goals?
See answer to part 1 above.
3. Which measures in this direction have already been initiated or are to be realised?
See answer to part 1 above.
4. What concrete projects for the avoidance of plastic pollution is your government supporting?
At present, no specific projects are being promoted to prevent environmental pollution from plastics.

5. Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?
The state of Schleswig-Holstein has not issued any such bans.

E. Economy

1. What are the investment priorities of the state to reduce CO₂ emissions?
The funding priorities include the heat transition, electric mobility, expansion of public and bicycle transport, hydrogen projects, energy transition research, energy conservation and climate protection in the economy, inter alia through a focus on ERDF funding, biological climate protection and the energy optimization of state properties.
2. What is the role of carbon capture, utilisation and storage in achieving climate neutrality in the government's strategy?
In Schleswig-Holstein, underground CO₂ storage is expressly ruled out in the entire state, including Schleswig-Holstein's coastal waters, by the Act Regulating Carbon Dioxide Storage (KSpG SH) passed on March 27, 2014. According to the resolution of September 26, 2019, the state parliament also rejects the storage of CO₂ in German coastal waters in the exclusive economic zone (LT-Drs. 19/1736). The environmental ministry MELUND advocates a priority use of biological sinks to compensate for unavoidable residual emissions. CO₂ capture from waste and flue gases and subsequent utilization (CCU) for the production of fuels and chemical feedstocks from CO₂ and green hydrogen is being tested and further developed in the "HySCALE 100" funding project carried out by the companies Holcim Germany / Hynamics Germany / Ørsted Wind Power Germany / Raffinerie Heide before 2030.
3. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?
In Schleswig-Holstein, the use of coal has historically been of minor importance. One of the few existing power plant sites has already converted to natural gas, and at the three other sites still in operation, all operators have concrete investment plans to replace the coal-fired power plants. Schleswig-Holstein is therefore expected to have ended its use of coal well before 2030.
4. What is the strategy of the state regarding the use of hydrogen in the next 10 years?
Green hydrogen plays a crucial role in this further development and the completion of the energy transition. In Schleswig-Holstein alone, we have a demand of at least 1.8 TWh for green hydrogen in the coming years, primarily needed for the production of raw materials in industry and as an energy carrier for alternative drive technologies in the transport sector, especially in logistics. By 2030, the hubs of demand will thus be primarily the industrial and chemical parks on the west coast, as well as refueling stations at municipal transport companies and on logistics axes. The waste heat generated during electrolysis is to be harnessed. Thanks to the abundant supply of electricity from wind energy, SH not only meets the demand for the regional market ramp-up within the state with the hydrogen

produced here, but also supplies other German states. Electrolysis capacities of at least 1 GW can be built in Schleswig-Holstein by 2030. Scientific studies have repeatedly demonstrated that both options are possible for Schleswig-Holstein: a sufficient production of electricity from renewable energy sources for direct electricity applications and the production of green hydrogen for Schleswig-Holstein and national export.

The use of electricity for green hydrogen does not lead to an extension of electricity production from fossil power plants. The existing geological conditions for storage possibilities in salt caverns, and the planned gas import infrastructure also predestine our state to provide hydrogen for all of Germany. This is because our strategic location as a hub for the landing and distribution of electrical energy to and from Norway, Denmark or even Sweden, for example, as well as our integration into the requisite infrastructure for hydrogen transport and distribution are crucial in this context. Schleswig-Holstein can become part of a European hydrogen transport infrastructure, for example, through a north-south link between DK and Lower Saxony/Hamburg, or also by connecting to hydrogen production in the North Sea, as well as import terminals for green hydrogen from low-cost H₂ production regions worldwide.

What is special and innovative in our state is precisely this dovetailing of different sectors and players. The pioneers in Schleswig-Holstein use existing regional infrastructures and close cooperation between the state government and industry leads to regional value creation.

F. Innovation

1. Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent?

The state program "Biological Climate Protection" aims to save up to 717,000 t CO₂ equivalents annually in Schleswig-Holstein by 2030 at the latest through the rewetting of peatlands, the formation of new forests and forest conversion, and the conversion of arable land to grassland. In addition to reducing GHG emissions, the measures will simultaneously generate synergies for biodiversity, water and soil conservation.

To secure peatlands for rewetting measures, the program uses an innovative novel approach to land valuation. The value of a peatland area is based on the potential for GHG emissions mitigation of that area, rather than the agricultural market value as has been the case in the past. This procedure is currently being tested in selected pilot areas. From 2023, it should be possible to apply the procedure to all peatlands in Schleswig-Holstein.

The pilot project "KlimaFarm", funded by the federal Ministry for the Environment and Nature Conservation BMUV, has been investigating economically and ecologically viable peatland-conserving wet grassland management (cultivation of paludiculture) under scientific supervision since December 2021. This project investigates the extent to which biomass obtained from rewetted areas can be used to establish new product and value chains. The focus is primarily on the production of pellets as a raw material for grass paper and vegetable carbon, which can be used, for example, for the production of shipping cartons, building materials or soil improvers.

2. Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity?
The development and testing of alternative forms of use for wetted peatlands that are also economically viable for agriculture in the long term (e.g. extensive grassland use or the cultivation of paludiculture) are a major research focus.
 3. What effects are expected from current support measures?
The state program "Biological Climate Protection" is intended to make a significant contribution to climate protection by avoiding up to 717,500 t of CO₂ equivalents per year in a long-term and sustainable manner. At the same time, the associated measures have a positive impact on biodiversity conservation. Findings from the testing of alternative forms of use for wetland peatlands ("KlimaFarm") are to be harnessed to develop climate-friendly management options for agriculture.
- G. International cooperation
1. In which fields are there concrete cooperations and joint projects with neighbouring countries in the areas of climate change, and biodiversity?
*As part of the STRING cooperation, Schleswig-Holstein is working with member regions in Germany, Denmark, Sweden and Norway to develop a GreenHub and climate-neutral infrastructure between Oslo and the Hamburg metropolitan region. Through the GREAT project (Green Region for Alternative Fuels for Transport), the expansion of electric mobility (fast-charging stations) and liquefied natural gas (LNG) has been realized along the most important routeways from Hamburg to Copenhagen and Sweden.
 No cooperation projects are currently being conducted in the area of biological climate protection.*
 2. Are increased cooperation and the implementation of joint projects planned for the future?
*In 2022, a cross-border hydrogen project is to be launched to establish infrastructures for transport with green hydrogen. The plan is to establish a core network of hydrogen refueling stations between Hamburg and Oslo.
 In the field of biological climate protection, no cross-border projects have been planned so far.*
 3. What effects are expected as a result?
The goal of the STRING cooperation is the joint development of paths towards a climate-neutral future, of future technologies in this field and thus the development of markets and regional value creation in the STRING region.
 4. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?
No cooperation with developing countries is currently ongoing in the field of biological climate protection.

H. Adaptation

1. Has your state or region adopted a climate change adaptation strategy, policy or roadmap?

Yes, a roadmap and legislation.

2. If that is the case, could you indicate its main objectives, policy tools and measures?

See the answer to Question I.4. above.

In the coming years, it will be necessary to examine how the selected fields of action develop under the conditions of climate change, and which measures need to be taken and implemented as a result. In addition, Schleswig-Holstein will continue to develop and implement its strategy for adapting to climate change and establish a climate change impact monitoring system for Schleswig-Holstein.

I. Involvement of citizens and stakeholders

1. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies?)

In the area of biological climate protection, an exchange with stakeholders takes place, for example in the context of information events. In addition, the state program "Biological Climate Protection" and the project "ClimateFarm" are accompanied by public relations work.

The state government involves the business and scientific communities, as well as society in general, in climate protection activities in the state in a variety of ways. For example, the Energy Transition Advisory Council, which meets annually with representatives from parliament, business, the environment, science, the church and local authorities, discusses specific issues relating to climate protection and the energy transition. Programs such as the Energy and Climate Protection Initiative and the "Consumers in the Energy Transition" project provide municipal stakeholders and consumers with information and suggestions for implementing climate protection measures.

The state has been certifying extracurricular learning sites for their educational work in the field of ESD (education for sustainable development) since 2005 as part of the so-called nun-certification (northern German and sustainable). Those certified include, for example, individual volunteers, municipal companies, but also state-owned institutions such as the National Park Center Multimar Wattforum. Among these almost 65 certified learning sites one finds players whose educational work focuses on the field of climate protection and/or on the field of biodiversity (among others, especially with a focus on forest ecosystems or the Wadden Sea) and who address very diverse target groups. Depending on the educational actor, the educational offers are aimed at daycare groups, school classes, adults, senior citizens, people with disabilities, etc.

2. Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity?

The Education Center for Nature, the Environment and Rural Areas offers, among other things, educational formats for children, e.g. the Nature Experience Action

Month or the flowering strip project for elementary schools, which also convey an understanding of biodiversity and climate change.

In the "Jugend wird AKTIV" project, schoolchildren can contribute and implement ideas for environmental protection and resource conservation.

The now-certified educational actors implement the teaching and learning concept of ESD and use this as the foundation of their educational work. ESD comprises, among other things, so-called design competencies with 12 specific sub-competencies, which are intended to enable well-founded consideration processes with regard to sustainable development and are integrated accordingly into the educational work. Depending on the thematic focus of the educational actor, this comes into play in the above-mentioned subject areas.

3. Are there plans to increase such initiatives in the future?

Raising the awareness of the young generation to the topics of climate change and biodiversity through information and education formats will continue to be pursued.

The state strategy for ESD aims to maintain or enhance the quality and number of currently certified actors. In addition, ESD in the state is to be strengthened in principle, which is to be achieved, among other things, through an ESD agency spanning all educational areas and education area-specific goals and measures.

The overarching goal of the strategy is to ensure that ESD is taken into account in all educational areas relevant to the entire educational biography and thus to provide all people with the competencies that contribute to sustainable development in the sense of the UN Agenda 2030.



Sweden

22 February 2021

Our ref. 2021:1458

BSPC WORKING GROUP SURVEY

Introduction

The Baltic Sea Parliamentary Conference (BSPC) is a forum for political dialogue between parliamentarians from the Baltic Sea Region. The BSPC has at present nominated a working group for the marine environment of the Baltic Sea including climate change and the protection of biodiversity. The BSPC working group has agreed on a common questionnaire to be sent to the participating countries. The answers will help the working group in its deliberations and is going to be used as a knowledge-base for the final report of the working group. The Research Service of the Swedish Riksdag has prepared this report on behalf of the Swedish delegation of the BSPC. The report builds upon official documents from relevant ministries and governmental authorities. The Swedish Agency for Marine and Water Management has assisted the Research Service with information about the Swedish implementation of the BSAP.

The Research Service of the Swedish Riksdag has made some minor rearrangements of the original questions, regrouping them to facilitate the preparation of the answers. The questions and additional text from the questionnaire are marked in italics. The questions have sometimes been grouped and answered together in a broader context. Full references, listed according to the footnotes, are given at the end of the document. Each section is preceded by a framed short summary.

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Climate change and energy policies

Could you please summarize your national strategies and measures to combat climate change as well as existing and planned adaptation measures? Is there a climate protection law? What are the main provisions to combat climate change? If you are aware of any best practice examples on progressive legislation as well as the role of taxation, how far has this helped in achieving the objectives? Would you like to mention any other support measures that can help in achieving the objectives? Please consider the following areas and questions (among other subjects of your choice) in your answer:

Sweden has adopted a national climate target to become climate-neutral 2045 the latest and to have negative emissions thereafter. The main mitigation measures are technical developments within industry, CCS, electrification and use of biofuels in transport, increased renewable electricity production, the use of fossil-free hydrogen gas and measures within agriculture. Policy measures include the Swedish climate law, the carbon tax, EU-ETS and incentives for innovation. The adaptation to climate change is mainly the responsibility of a number of governmental agencies, the regions and local public administrations.

1. *National and global climate mitigation objectives (strategy, policy or roadmap aimed at reducing greenhouse gas emissions or achieving carbon neutrality, objectives in terms of reduction and by what time – concrete measures to achieve the goals);*

Sweden has adopted a national climate target to become climate-neutral 2045 the latest and to have negative emissions thereafter. This means at least 85 percent reduction compared to 1990 and the remaining emissions may be compensated by e.g. CCS (Carbon Capture and Storage). The land-use sector (LULUCF) is not included in the calculation of the target¹. There are interim targets of 63 percent reduction at 2030 compared to 1990 and 75 percent 2040 respectively. In addition, there is a separate target for domestic transport, excluding air transport of at least 70 percent reduction until 2030 compared to 2010. The establishment of the climate target timeframes is one example of obligations according to the Swedish climate act (2017:720)².

2. *Critical sectors where the need for additional measures is imminent;*

¹ Sweden has a major carbon sink due to the forestry sector. LULUCF = Land Use Land Use Changes and Forestry.

² The Swedish Climate Act.

3. Current and planned mitigation measures;

The Government presented a climate action plan in December 2019 including supporting documentation from the Swedish Environmental Protection Agency (SEPA). According to SEPA there is a need to take additional measures corresponding to reductions of at least 31-36 Mtons of CO₂ equivalents to be able to reach the 2045 target. The target to 2030 for domestic transport is not going to be met unless additional measures of at least 6-7 Mtons. Sweden has recently introduced a duty to progressively increase the proportion of biofuels in diesel and petrol and planned increased demands on fuel producers and the EU fuel efficiency rules for new cars are going to reduce the emissions with at least 5 Mtons and consequently some additional measures are going to become necessary to reach the target.³

The initiative of the Government, “Fossil Free Sweden”⁴, has shown that there is a potential to reduce the emissions of greenhouse gasses from a few carbon-intensive sectors of the industry with 60-80 percent (10-13 Mtons) until 2045 compared to the situation 2016. These includes plans for “fossile-free” iron and steel production, the use of CCS in the metallurgical industry and increased substitution to bio-fuels and electrification.⁵

4. Measures and strategies for adaptation to climate change. Has your state or region adopted a climate change adaptation strategy, policy or roadmap? If that is the case, could you indicate its main objectives, policy tools and measures?

The Government launched Sweden’s national strategy for climate change adaptation in 2018⁶. It includes Sweden’s climate change adaptation goals, guiding principles for this work, organisation and distribution of responsibilities, monitoring, financing principles and research initiatives.

The responsibilities of state agencies are regulated by the *Ordinance on climate adaptation work on the part of government agencies (2018:1428)*⁷. According to the Ordinance, stated agencies must within their area of responsibility and mandate, initiate, support and evaluate climate adaptation work to protect state property and adapt its activities to a changed climate. The county administrative boards are in turn responsible for the coordination of the regional climate adaptation activities.

³ SEPA, The 2019 Climate Action Plan.

⁴ Fossil Free Sweden.

⁵ SEPA, The 2019 Climate Action Plan.

⁶ SMHI, Climate change adaptation strategy.

⁷ SMHI, Ordinance (2018:1428).

Each year, the agencies shall report to the Swedish Meteorological and Hydrological Institute (SMHI), which according to the ordinance shall analyse these reports, submit a summary analysis to the Government and support the agencies in their work with the ordinance. SMHI also hosts the Swedish National Expert Council for Climate Adaptation⁸ and a study-centre for climate change adaptation⁹.

5. What are the investment priorities of the state to reduce CO₂ emissions?

According to the assessment of the independent body Swedish Climate Policy Council the reductions of national emissions have so far relied on increased use of liquid and solid biofuels and increased energy efficiency and savings in the industry sector. The use of liquid biofuels is stimulated by the compulsory reduction quota (see above). Economic incentives like tax-reliefs apply to solid biofuels. The Swedish government has a high emphasis on price-regulating instruments like the Swedish carbon tax (primarily for sectors outside the EU-ETS system).¹⁰

6. What is the role of carbon capture, utilisation and storage (CCS) in achieving climate neutrality in the government's strategy?

The Government's action-plan from 2019 mentions the CCS-related potential emissions reductions to be 2-4 Mtons in the minerals industry and the Government will support further research to develop the CCS technique. CCS has according to the action-plan the potential to make possible negative emissions after 2045 and before that date also contribute to reach the net-zero target.^{11, 12}

7. Has the state considered or planned a ban on coal usage? If so, what is the plan for implementation?

No, not for the use of coal, but the Government has recently investigated the possibility for a legal ban on prospecting for new sources of coal, oil and natural gas.¹³

8. What is the strategy of the state regarding the use of hydrogen in the next 10 years?

The Swedish Energy Agency finalised a proposal for a Swedish national strategy for non-fossil hydrogen gas, electro-fuels and ammonia in September 2021. The

⁸ SMHI, Swedish National Expert Council for Climate Adaptation.

⁹ SMHI, Nationellt kunskapscentrum för klimatanpassning.

¹⁰ Swedish Climate Policy Council 2020.

¹¹ The Climate Action Plan 2019 section 13.2.

¹² The Swedish Energy Agency, CCS.

¹³ The Government 2021a.

goal of the preliminary strategy is to reach a conversion capacity of 5 GW electricity at 2030 and an additional 10 GW to 2045 (effect in GW used for the conversion of water to hydrogen gas). This corresponds to an increased need for electricity of 60-126 TWh per year and an additional reduction of the emissions with 1,5-3 Mtons CO₂eq to 2030 and 7-15 Mtons in 2045. The proposed measures comprise economic incentives, legal changes, research measures and cooperation. The final strategy has not yet been published by the Government.¹⁴

The protection of biodiversity

Could you please summarize your national strategies and measures to protect biodiversity and the integrity of ecosystems? Is there a law protecting biodiversity, what are the main provisions on biodiversity? If you are aware of any best practice examples on progressive legislation as well as the role of taxation, how far has this helped in achieving the objectives? Would you like to mention any other support measures that can help in achieving the objectives?

Forest is dominating the Swedish landscape and covers about 69 percent of the land area. The relatively pristine forests in the north-west are particularly important for the protection of biodiversity. There is a positive trend regarding the protection of biodiversity in managed forest but forestry still has to improve its degree of nature conservation. More emphasis also has to be given to the protection and restoration of agricultural traditional landscapes. There is a network of marine protected areas along the Swedish coastline and the Swedish Agency for Marine and Water Management is working for the goal to protect at least 10 percent of the marine area as being a functioning coastal ecosystem. The protection of biodiversity is regulated by a high number of different laws and regulations, mostly national implementation of EU legislation.

The protection of biodiversity is one of the main priorities of the Swedish system with environmental qualities objectives, described more into detail in the section “towards zero pollution”. The protection of biodiversity is otherwise regulated by a high number of different laws and regulations, mostly national implementation of EU legislation. There is an ongoing political and legal process in Sweden to find an appropriate balance between different aspects of “using” natural resources and “protecting” the essential elements of biodiversity. The UN SDG goals work as a template for this process.¹⁵

¹⁴ The Swedish Energy Agency, Hydrogen gas.

¹⁵ The Government 2021b.

The Swedish government underlines in the report on the implementation of the 2030 Agenda for Sustainable Development from 2021 that biodiversity loss has not been halted and the rate of species loss has not slowed. The greatest risk is for species that need agricultural traditional landscapes for survival. Forest accounts for 69 percent of Sweden's land area, and the proportion has remained relatively unchanged since 2005. In 2019, 80 percent of forest land had a long-term forest management plan, and more than 60 percent of total forest land was certified by independent, verified forest management certification schemes. According to the report, forestry has a major impact on the Swedish landscape. The environmental considerations of the forestry sector are characterized by a long-term positive trend, but forestry still has to improve its degree of nature conservation and the protection of cultural heritage interests in the management and use of forests.¹⁶

According to the Government's report, Sweden face continuing challenges about the protection of the marine environment regarding eutrophication, hazardous substances and marine litter, loss of biodiversity and unsustainable fishing of certain species. Action to limit emissions and reduce nutrient loads has produced results, but further efforts are needed. The status of fish and shellfish stocks varies in Swedish waters. Achieving the objectives of biologically and socio-economically sustainable fisheries requires extensive work under the EU Common Fisheries Policy as well as the implementation of actions at both EU and national level.¹⁷

Please also consider the following areas and questions (among other subjects of your choice) in your answer:

1. *Could you name some examples of areas, ecosystems, landscapes and habitats of particular importance for the protection of biodiversity – terrestrial as well as marine? What are your national targets and how have they been met so far?*

Regarding terrestrial biodiversity the boreal forest and especially the northern taiga along the northern mountain range between Norway and Sweden is one of the high priority areas. About 2,4 million hectares of the forest in Sweden is formally protected of which 62 percent located alongside the northern mountain range. This area belongs to one of the few unfragmented and relatively untouched areas in the EU. There are for the moment plans and discussions going on to formally protect an additional 140 000 hectares of forest in this area¹⁸. The Swedish forest inquiry "Skogsutredningen" recently estimated the total forested area within this region given priority by the inquiry for formal protection was about 500 000 hectares¹⁹.

¹⁶ Ibid. SDG 15 page 118.

¹⁷ Ibid. SDG 14 page 115.

¹⁸ SEPA, Boreal forest.

¹⁹ The Forest enquiry 2020:73 page 972.

2. *It would be useful if you could briefly outline where and how biodiversity is most at stake in your country at the present time*

See previous sections

3. *How and to what extent are maritime areas protected?*

Sweden has one marine national park in the “Koster area” and a multitude of marine protected areas alongside the whole coast. These areas are either Natura-2000 sites or marine and coastal reserves²⁰.

4. *Have large-scale zero-use zones in marine conservation areas been established in your territorial waters, or is the establishment of such zones planned?*

The use restrictions are different depending on what features are supposed to be protected in the particular area. In the national Koster area, some commercial fisheries are permitted. There are examples of coastal areas where all fisheries have been banned for some period with positive effects on the fish stock. The Government has given the Swedish Agency for Marine and Water Management the mandate in the fisheries regulation to decide about this kind of restrictions where necessary.²¹

5. *What actions has your country taken to create functioning coastal ecosystems? (Well-functioning coastal ecosystems are key for combating climate change. Well-managed areas can store carbon but destroyed ecosystems risk becoming carbon sources. Good management can include restoration of important habitats, e.g., eel grass, limitation of new constructions etc.).*

There are research programmes to gain increased experience about how to best restore coastal areas and coastal ecosystems. One example is the project “Levande vikar” supported by Baltic Waters 2030.²²

The Swedish Agency for Marine and Water Management is working for the goal to protect at least 10 percent of the marine area as being a functioning coastal ecosystem. The agency has made an analysis of the current situation and an action plan to strengthen the functional integrity and connectivity of the protected areas.²³

²⁰ SEPA maps about protected areas and HaV, marine protected areas.

²¹ HaV, Fishing regulations in Marine Protected Areas.

²² Baltic Waters 2030.

²³ HaV, Action plan for marine protected areas.

Baltic Sea Action Plan (BSAP) and eutrophication

Eutrophication is a major threat to biodiversity in the Baltic Sea and has a negative impact on both ecosystem function and ecological services. Mitigating eutrophication is essential for the protection of biodiversity.

1. *Concerning the HELCOM BSAP implementation, what has facilitated the implementation and/or why have some of the targets not been met? (Please give concrete examples from your country).*
2. *What actions does your country take to fulfil the BSAP and relevant EU legislation?*
3. *Which objectives of the Baltic Sea Action Plan are planned to be realised in your country by when and by which measures?*
4. *How can we speed up the work?*

The national implementation of BSAP is facilitated by the supporting related legislative framework of the Marine Strategy Framework Directive (2008/56/EC) as well as the Water Framework Directive (2000/60/EC). The Swedish implementation has recently been summarised and analysed in the national marine strategy and action plan for the North Sea and the Baltic Sea from 2021, implementing the EU Marine Strategy Framework Directive (2008/56/EG). The emissions of nitrogen to the Baltic Proper will have to be reduced with an additional 7 337 tons until 2030 through reduced atmospheric deposition, land-based measures and measures within marine transport.

According to information from the Swedish Agency for Marine and Water Management (HaV), the national implementation of BSAP is facilitated by the supporting related legislative framework of the Marine Strategy Framework Directive (2008/56/EC)²⁴. The Water Framework Directive (2000/60/EC) is also relevant in this respect due to the making of integrated river basin management plans and actions. It may however be underlined that there is a delay between measures and expected effects. The effects of some of the measures take a very long time to be seen – notably e.g. due to the internal recirculation of nutrients like nitrogen and phosphorous in the Baltic Sea.²⁵

The second Holistic Assessment of the state of the Baltic Sea (HOLAS II) summarized the findings such as that there are signs of improvement in the state of the Baltic Sea, but the Baltic Sea Action Plan goals and ecological objectives

²⁴ HaV, MSFD.

²⁵ HaV Marine Environment Protection Unit, personal contact 4 February 2022.

have not yet been reached²⁶. Further development of actions to improve environmental status is of high relevance, and already agreed actions are to be implemented or continued. For measures such as the reduction of nutrient loads it will take several decades before the full effects can be measured in the environment.

The 2021 updated BSAP analysed the existing list of measures in the light of the results from the HOLAS II assessment. Current measures not yet implemented are retained and additional measures are introduced to strengthen the existing efforts and tackle emerging concerns. The total number of measures is 199 divided between measures to protect biodiversity (35), to combat eutrophication (36), to make the Baltic Sea unaffected by hazardous substances and litter (32), to reach a state with only sustainable sea-based activities in the Baltic Sea (68) and a number of horizontal actions (28).²⁷

The HELCOM-explorer database provides a tool to visualise the national implementation of the BSAP²⁸. Sweden has according to the HELCOM explorer fulfilled 188 out of 317 actions in the previous BSAP and not accomplished 35 actions. Regarding remaining actions in BSAP, 41 are considered ongoing, there are no information about 44 actions (mostly HELCOM recommendations), 8 are considered not applicable and there is one action where the target year has been postponed.

The Swedish implementation has recently been summarised and analysed in the national marine strategy and action plan for the North Sea and the Baltic Sea from 2021. The action plan is established according to the provisions of the marine environment regulation (2010:1341), implementing the EU Marine Strategy Framework Directive (2008/56/EG) in Swedish legislation.²⁹

The action-plan refers to different thematic areas and necessary actions are given for the different areas:

Invasive species

The instruction for the cleaning of pleasure boats shall be revised to better take into consideration the risks from releasing the cleaning water from the hulls of pleasure boats. Management plans for marine protected areas shall be updated with instructions for how to minimize the possibilities for invasive species to establish and proliferate in protected marine areas.

²⁶ HELCOM second holistic assessment (Holass II).

²⁷ BSAP 2021 update.

²⁸ HELCOM-explorer database.

²⁹ HaV Report 2021:20.

Impact from fisheries on other species of fish and crustaceans

A number of restrictions for fishing in coastal areas are planned. This includes both temporal and geographical measures and restrictions for certain species assessed to be vulnerable or especially important for coastal fisheries. The effects of trawling on coastal species shall also be studied more into detail.

Eutrophication

Emissions of N and P to the Baltic Proper exceed the targets set by the BSAP. HaV therefore note that a reduction with 19 % of N is needed (7 337 tons) and 28 % of P (199 tons) is needed compared to emissions 2017. There is also a need for a 1 % reduction of P per year (9 tons) to the Kattegatt area. Among planned measures are measures against internal load of P in the Baltic Sea, the introduction of financial support for aquaculture with the target to harvest marine plants in order to remove nutrients from eutrophic coastal areas. Financial support to improved techniques for aquaculture not giving rise to net emissions of nutrients. The most effective measures are however planned within the Water framework directive (WFD) and the river basin management plans. The estimated effects are summarised in the following table:

Table 1. Estimated results in tons/year of emission reductions from the measures planned within the WFD river basin management plans for nitrogen (kväve) and phosphorous (fosfor).

Bassäng	Kvävereduktion [ton/år]	Fosforreduktion [ton/år]
Bottenviken	N/A ⁵¹	0,1
Rottenhavet	350	60
Egentliga Östersjön	700	170
Öresund	1400	30
Kattegatt	1800	25
Skagerrak	65	4

Source: HaV, Report 2021:20.

Additional reductions of atmospheric load of nitrogen due to measures planned under the UNECE³⁰ is estimated to lead to further reduction from Sweden to the Baltic Proper with an additional 3 670 tons to 2030 compared to 2005. One fourth of this has already been implemented in 2017. These measures were believed to be sufficient, including the additional planned 700 tons of nitrogen (see

³⁰UNECE Gothenburg protocol.

table 1) from measures in the river basin management plans. However, despite an especially low river inflow last year there has been no reduction of nutrient load³¹. The long-term reductions most likely therefore have to be higher. An additional reduction with 3 850 tons of nitrogen is therefore needed. Part of this is going to be realized through measures within the area of marine transport.

The integrity of the seabed

A number of measures to affect the construction of trawls and fishery gears are running. There are also several processes to revise relevant legal frameworks in order to reduce negative impacts from fisheries and maritime activities.

Hazardous substances

According to HaV, concentrations of hazardous substances in biota, emissions from riverine inflow and atmospheric deposition are still too high in the entire HELCOM area. There are a high number of ongoing measures like the ratification and implementation of international conventions, notably the Minamata convention, the Stockholm convention and CLRTAP – the UNECE Convention on Long Range Transboundary Air Pollution. There is also an extended cooperation within the OSPAR and HELCOM regional conventions and relevant EU legal frameworks like the REACH regulation.

Marine litter

A number of measures are implemented and ongoing like information activities for the general public, the amendment of municipal plans for waste management to include the area of marine litter, campaigns for beach-cleaning and effective collection and recycling of packaging and plastic waste etc. Some of these measures continue since the introduction 2015 and some of them have been added in the new action plan from 2021.

Biodiversity

To extend existing marine protected areas and add new protected areas where necessary. Revise management guidelines for the protected areas. Develop methods for the restauration of marine protected areas and important habitats like zosteraplains.

³¹ Which means higher concentration in the inflowing water.

Towards zero pollution

Pollution harms our health and our environment. It is the largest environmental cause of multiple mental and physical diseases and of premature deaths, especially among children, people with certain medical conditions and the elderly. In addition to affecting people's health, pollution is one of the main reasons for the loss of biodiversity. It reduces the ability of ecosystems to provide services such as carbon sequestration and decontamination. Therefore, these questions are being asked:

1. *Is your government following a zero-pollution action plan for air, water and earth?*
2. *What time horizon is planned for which intermediate steps and goals?*
3. *Which measures in this direction have already been initiated or are to be realised?*

The Swedish “environmental quality objectives” describe the quality of the environment that Sweden wishes to achieve. The goals cover different areas, from unpolluted air and lakes to functioning forest and farmland ecosystems. The time horizon to achieve the goals is set to “one generation” although the Agenda 2030 target has gained increased attention as well. The Government has implemented the EU directive on the reduction of the impact of certain plastic products on the environment (2019/904). Some additional national measures have been taken, notably: alternative packaging solutions should be offered for take-away food, solutions with multiple-use food containers shall be introduced 2024 at the latest, the use of single-use food packaging should be reduced with 50 percent to 2026.

The Swedish “environmental quality objectives” describe the quality of the environment that Sweden wishes to achieve. There are 16 of them, covering different areas – from unpolluted air and lakes free from eutrophication and acidification, to functioning forest and farmland ecosystems. For each objective there are a number of ‘specifications’, clarifying the state of the environment to be attained. There has been some criticism about e.g. the objective “a non-toxic environment” of being unrealistic and some modifications have been made to operationalize the objective. The ultimate objective however still stands that artificial substances with no natural background concentration should occur at “close-to-zero” concentrations.³²

There are different time horizons for intermediate steps and goals depending on the objective. The different milestone targets are outlined by the Swedish Environmental Protection Agency at the [following link](#).

³² SEPA, Environmental objectives.

The ultimate goals and milestones of the environmental quality objective system are assessed annually by the Swedish EPA in cooperation with the relevant governmental agencies. Every four year a more in-depth evaluation is carried out of environmental action and the prospects of reaching the objectives. Various tools are used to assess progress, including indicators that reflect trends in relation to the different objectives. There are currently around a hundred such indicators, based on regular sampling, emission statistics, questionnaire surveys and other studies of the state of the environment.³³

4. *What concrete projects for the avoidance of plastic pollution is your government supporting?*
5. *Has the state banned fireworks, balloons, plastic confetti and other environmentally harmful activities to minimize the environmental footprint? If so, what environmentally harmful activities has the state prohibited?*

The Government has implemented the EU directive on the reduction of the impact of certain plastic products on the environment (2019/904) including some additional national measures. Alternative packaging solutions should be offered for take-away food. Solutions with multiple-use food containers shall be introduced 2024 at the latest. The use of single-use food packaging should be reduced with 50 percent to 2026. The Swedish EPA and the Swedish Food Agency shall prepare guidance for the use of such food packaging solutions taking into consideration both hygiene and the environment. Fines will be introduced for littering and the Swedish EPA is going to prepare background documents for the decision of the appropriate level of fines for different kinds of litter. Some plastic products will also be banned altogether, notably cleaning sticks with cotton, plastic straws for drinks, plastic cutlery, plates and chop-sticks, stirring sticks, balloon holding sticks and food boxes in expanded PS plastics.³⁴

The Swedish national measures include a ban for single-use mugs containing more than 15 percent of plastics as well as plastic confetti from the 30th of April 2022. The Swedish government will also urge the EU to increase the recycling rate of plastic packaging. In 2020, only 34 percent of all plastic packaging was recycled in Sweden. The recycling rate was higher for PET bottles (partly due to a deposit system). Excluding PET bottles, only 27 percent of plastic packaging was recycled. Sweden has also recently notified a proposal to the European commission that all single-use plastic packaging 2030 the latest shall contain at least 30 percent of recycled plastics. The same target should apply for plastic drinking bottles 2030 and PET bottles should contain at least 25 percent recycled plastics in 2025.³⁵

³³ Ibid.

³⁴ The Government 2021 c.

³⁵ Ibid.

Sea-dumped munitions

Are there areas in your territorial waters that are contaminated with ammunition? What is the government's strategy for dealing with dumped munition to mitigate impacts on the marine environment?

The Swedish government has previously given several assignments to relevant authorities to locate areas with dumped munitions, evaluate the possible risks for the maritime sectors and the general public, and inform relevant groups about the risks. The Swedish Agency for Marine and Water Management is responsible for monitoring the presence of associated chemicals and metabolites in biota.

After the second world war about 50 000 tons of chemical and conventional munitions were disposed of in the Baltic Sea. The dumping sites were marked on the map, but occasionally the hazardous goods were dumped already on the way to the sites. The Swedish armed forces also dumped old ammunition etc. at 25 different Swedish marine areas³⁶.

The Swedish armed forces, the Swedish Coastguard and the Police have jointly been commissioned by the Government to inform the general public about how to deal with the risks related to dumped munitions³⁷. The authorities have produced information material, intended primarily for professionals and others who may more likely come into contact with dumped munitions³⁸.

According to the Swedish Agency for Marine and Water Management (HaV) there have several studies on trace concentrations of chemical warfare agents in biota (2016, 2017 and 2019). Present concentrations are not associated to risks for human health, according to the Swedish Food Agency, but the presence of these substances in biota is in itself a matter of concern. Further studies have been done during 2021 and the results may be used for local restrictions on fisheries.³⁹

³⁶ Miljömålsberedningen SOU 2020:83, page 686-687.

³⁷ Swedish Coastguard, dumped chemical munitions. <https://www.kustbevakningen.se/var-verksamhet/raddningstjanst/miljoraddning-till-sjoss/andra-skadliga-amnen/kemiska-stridsmedel/>

³⁸ See e.g. ([leaflet from the Coast Guard in Swedish](#) and [leaflet from the Swedish Armed Forces](#)).

³⁹ HaV, dumped chemical munitions.

Innovation

Which programmes are used to promote innovations in climate protection and biodiversity, in which areas and to what extent? Which areas are particularly supported in terms of research and development regarding climate protection and biodiversity? What effects are expected from current support measures?

Science and innovation related to climate change is one of the main priorities of Swedish research policy. Research about climate transition and green investments is given priority, involving a variety of different sectors and disciplines.

There is a high number of different funds and research initiatives. The Government recently described the situation, some of the problems and the priorities as follows:

Segregation prevents people from finding work and becoming part of society, and it paves the way for violence and criminality. Sweden's climate emissions remain unsustainably high. People working in the welfare sector lack the necessary resources to be able to provide the best possible education, health care and social services. To tackle these social problems, the Government has established three clear policy priorities:

- Sweden will break down segregation and put a stop to violence and criminality.
- Sweden will accelerate the climate transition and create jobs throughout the country.
- Sweden will take back control over the welfare system and ensure that everyone who works has secure social insurance and pensions.

These priorities apply to the work of the entire Government. Based on their areas of responsibility, every minister will align their work with these priorities and help ensure they are realised.

...Creating jobs by accelerating the climate transition

Sweden is at the forefront of the climate transition, thanks to major green investments and clear policy direction. Our country must take its share of responsibility for reducing emissions, but also show the world how a faster climate transition creates jobs and export opportunities. The Government will push to accelerate the speed of the climate transition while also facilitating more private investment that contributes to reduced emissions, increased exports and new job opportunities. This will reduce Sweden's emissions and create more jobs throughout the country.⁴⁰

⁴⁰ The Government 2021d.

The free portal [techfunding.eu](https://www.techfunding.eu) has gathered relevant information on funding opportunities for business and research. Regarding the themes “energy, environment and climate” several funding opportunities are mentioned, frequently used by Swedish companies and research institutes – please consult:

<https://www.techfunding.eu/energy-environment-and-climate>

Techfunding.eu also mentions the following national funding sources:

The Swedish Energy Agency works for a sustainable energy system, combining ecological sustainability, competitiveness and security of supply. For further information please consult the English pages of the Agency - <https://www.energidirektoratet.se/en/innovations-r--d/business-development-and-commercialisation/>

Sustainable Production FFI, Energy and Environment – please visit <https://www.vinnova.se/en/m/strategic-vehicle-research-and-innovation/sub-programmes-and-strategic-initiatives/energy-and-environment/>

Vinnova, Sweden’s innovation agency. Vinnova promotes sustainable growth by improving the conditions for innovation and by funding needs-driven research collaborations between companies, universities, research institutes and the public sector – Please visit <https://www.vinnova.se/en/apply-for-funding/find-the-right-funding/>

Among many other funding opportunities and projects the **governmental research institute RISE** may be noted – please visit <https://www.ri.se/en>. and <https://www.ri.se/sv/vad-vi-gor/projekt/utveckling-av-en-unik-biodiversitetsdatabas-for-livsmedel>.

International cooperation, the involvement of different stakeholders and social sustainability

The Nordic countries have a long tradition of cooperation in the field of environmental protection. The Nordic Council of Ministers is the main forum for cooperation between governments and the Nordic Council for the cooperation between parliaments. The Programme for Nordic co-operation on the environment and climate 2019–2024 makes up the back-bone for the cooperation in this field. The Swedish international development cooperation agency (Sida) integrates environment and climate-change in all its operations and projects. Swedish publicly-own companies have to take the objectives of Agenda 2030 into consideration according to the instructions from the government. Swedish civil-society actors every second year make a comprehensive assessment of the government's implementation of Agenda 2030. The government has presented an action plan for the benefit of young people and monitors the development for young people regarding health, education, employment, crime, housing, sport, culture and other spare-time activities.

- 1. Are there any joint projects and cooperation with neighbouring countries in the areas of climate change, and biodiversity? Are increased cooperation and the implementation of joint projects planned for the future? What effects are expected as a result?*

The Nordic countries have a long tradition of cooperation in the field of environmental protection. Measures against climate change, climate-change adaptation, risk reduction for toxic compounds, marine protection measures and the protection of marine resources, the protection of biodiversity, sustainable development and circular economy are priority areas. In addition, there are cooperation about regional spatial planning and building. The Nordic Council of Ministers is the main forum for cooperation between governments and the Nordic Council for parliaments⁴¹. Finland, Sweden, Norway. Denmark and Island take part in the Nordic cooperation including the autonomous regions Åland, the Faroe Islands and Greenland⁴².

⁴¹ Finnish Ministry of the Environment, det nordiska samarbetet.

⁴² The Nordic Council and the Nordic Council of Ministers, Nordic co-operation.

The Programme for Nordic Co-operation on the Environment and Climate 2019–2024⁴³ makes up the back-bone for the cooperation and there are five different working groups within the programme⁴⁴:

- Circular economy
- Climate and air
- Chemicals, environment and health
- Biodiversity
- Sea and coast

According to the programme, the Nordic countries will work together 2019-2024 to bring about sustainable development in the Nordic Region, the EU, and internationally. The countries will cooperate for the implementation of international agreements on the environment and climate – in particular the Paris Agreement – and work together to strengthen the EU’s regulatory framework.

2. To what extent does your country support developing countries in their efforts to strengthen climate protection and biodiversity measures?

According to the Swedish international development cooperation agency (Sida) the Swedish development aid to initiatives that had environment as the principal or significant objective was 12,2 billion SEK in 2019. Environment and climate change is one of five perspectives that must be mainstreamed and integrated in all Sida’s operations. The sum of disbursements in 2019 that had climate change action (adaptation or mitigation) as a main objective was 2.8 billion SEK, while the support to programmes or projects that had climate change as a significant (but not main) objective was approximately 5.1 billion. Sida’s biodiversity-related support in 2019 was approximately 3.6 billion SEK.⁴⁵

3. Is your state or region implementing initiatives to stimulate the involvement of socio-economic actors (e.g., industry, scientific community), foundations or citizens (civil society, youth) in its policies in the field of climate action and biodiversity (e.g., via discussion fora or consultative bodies)?

According to the Swedish assessment of the national implementation of Agenda 2030 from 2021,⁴⁶ industry and commercial actors are key for the implementation of Agenda 2030. The government has therefore revised the instructions for publicly own companies with explicit reference to the objectives of Agenda

⁴³ The Nordic Council of Ministers 2018.

⁴⁴ SEPA Nordic co-operation about climate and environment.

⁴⁵ Sida 2020.

⁴⁶ Government Offices of Sweden 2021.

2030. The government has also created a forum for sustainable business to facilitate innovation and investments. The Ministry of Foreign Affairs has also taken the initiative to extend the traditional development cooperation into more elaborate systems of creating more profound relations. Examples of this way of working are the partnerships Swedish Investors for Sustainable Development (SISD) and Swedish Leadership for Sustainable Development (SLSD)⁴⁷.

According to the Agenda 2030 implementation report there is a need for a continuous dialogue between all societal actors and Sweden has got positive experiences from involving existing networks in the representation at the high-level political forum (HLPF). Swedish civil-society actors also cooperate and make a comprehensive assessment of the government's implementation of Agenda 2030 every second year.⁴⁸

4. *Are there initiatives to involve especially the young generation more strongly in opinion-forming processes and decision-making in the areas of climate change and biodiversity? Are there any plans to increase such initiatives in the future?*

A new goal was formulated in the government bill 2013/14:191⁴⁹ “*Emphasis on young people – a policy for a high quality of life, empowerment and influence*”. All young people between 13 and 25 shall have a good quality of life, possibility to decide on how to live and be able to have an impact on the development of society. The governmental policy for young people should be multi-sectorial and a system for the assessment of the policy should be developed. In the bill the Government committed itself to inform the Swedish Riksdag every 3-5 years about the development towards realising the goals. In the written communication 2020/21:105 the Government assess the development considering health, education, employment, crime, housing, sport, culture and other spare-time activities. An updated action plan is also launched in the communication⁵⁰. The Government also refers to the Youth Sector Strategy 2030 of the Council of Europe⁵¹.

Within the Nordic cooperation there has also recently been decided to examine the establishment of a fund for supporting activities with young citizens in order to protect the climate and biodiversity⁵².

⁴⁷ Sida, Swedish Leadership for Sustainable Development.

⁴⁸ Concord 2021.

⁴⁹ Government bill 2013/14:191.

⁵⁰ The Government 2021e.

⁵¹ Council of Europe 2020.

⁵² Nordic Council and the Nordic Council of Ministers 2021.

5. Are prosperity and an ecologically stable and sound environmental condition for future generations considered as a fundamental right in the decision-making processes?

The Government has declared a commitment to the principle that the goals of the Agenda 2030 should be mainstreamed in all other relevant legislation and governance procedures. The principles of the Agenda 2030 should also be integrated in all processes of the governmental administration.⁵³

⁵³ Government bill 2019/20:188 page 26.

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