

# Climate Dialogues 2020

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## Multilateral Assessment

A compilation of questions to - and answers by -

Finland

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by the UNFCCC secretariat

**Question by** United States of America at Monday, 07 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Progress on achieving target

Under the European Union effort-sharing decision, Finland has a target of reducing its emissions by 16 per cent below the 2005 level by 2020. Is it likely that Finland will meet that target?

**Answer by** Finland

Finland expects to meet its target of reducing its emissions under the Effort Sharing Decision (ESD) by 16 per cent below the 2005 level by 2020.

As described in Section 4.4 of Finland's BR4, Finland has met its annual targets under the ESD for the years 2013 to 2017 with domestic measures. This is foreseen also for the years 2018 to 2020. This assumption is supported by inventory data for 2018 and preliminary inventory data for 2019, which have become available after the submission of Finland's BR4. Finland's national total emissions in 2019 were 26 per cent lower than in 1990 and the ESD emissions 14 per cent lower than in 2005, the base year for the ESD target. For the years 2016 and 2018 Finland has used left-over allocations to meet the annual targets and according to the preliminary data for 2019, this is the case also in 2019.

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**Question by** United States of America at Monday, 07 September 2020

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Use of biofuels

Under the act to promote the use of biofuels, the annual minimum share of biofuels had to be 6 per cent in 2011–2014 and then gradually raising to 20 per cent in 2020. Does Finland expect to reach 20 percent in 2020?

**Answer by** Finland

Finland expects to meet this target for biofuels in transportation as it is enforced by legislation.

The legislation allows for annual variation in the share biofuels in transportation. This has resulted in fluctuations in the annual shares. Finnish biofuel production, also import and export of biofuels, have grown substantially in recent years. The biofuel markets influence the annual shares of biofuels in domestic consumption but not fulfilling the target.

Question by United States of America at Monday, 07 September 2020

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Fugitive emissions

While most of Finland's energy sector emissions have decreased from 1990-2017, fugitive emissions have increased. Is there a plan to reduce fugitive emissions?

Answer by Finland

In Finland, fugitive emissions in the Energy Sector are a minor source. The emissions fluctuate from year to year (range for the fluctuations is 0.12 to 0.18 million tonnes of the CO<sub>2</sub> eq. during 1990 to 2018). The highest emissions were reported for 2017, the lowest in 2018. Although the annual fluctuations are small in tonnes of CO<sub>2</sub> eq., they seem large when expressed as percentage changes. New facilities/processes, extension of pipelines and longer maintenance periods are factors increasing the annual emissions. Disturbances and incidents can also cause increased emissions. These vary much depending on the year. In 2017, the higher emissions were largely due to equipment failures, disturbances and a longer maintenance period in a petrochemical unit, which lead to increased flaring. Two new LNG terminals started operation in 2016. These have also increased the fugitive emissions in recent years but less than the exceptional situation at the petrochemical unit in 2017.

Prevention of fugitive emissions from oil and gas is achieved through appropriate operation, maintenance and equipment standards. Due to the minor importance of the emissions, additional measures to mitigate the emissions are not planned presently.

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Question by Republic of Korea at Monday, 07 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Mitigation actions

One of the reasons for the decreased emissions despite the growth in energy consumption in Finland is nuclear power, and additional power plants will be added in the 2020s. Are there any plans to build additional nuclear power plants to meet the GHG reduction targets?

1. Promotion of bio-energy is an important contributor to GHG emission reduction in Finland, are there any problems that arise with the expansion to bio-energy (e.g. discharge of pollutants)? What policies and actions does Finland take to resolve the problem?

### Answer by Finland

1.

Finland's electricity market is deregulated and market-based. Power plant investment decisions are made by power companies and not the state. Nuclear power plant projects need, however, a positive decision-in-principle by the Parliament. The Government is not aware of any plans to build additional nuclear power plants in addition to those that are in the process and mentioned in BR4.

It is also worth noting, that more than 80% of the generation in Finland is already carbon free (ie. based on renewables and nuclear). Coal is phased out from 2029 and the use of peat is decreasing due to reduced competitiveness. In the 2030's the GHG emissions from electricity are expected to be very small.

2.

The use of wood-based fuels in Finland is mainly based on industrial side streams and residues. Such energy fractions are created in connection with forest management work and felling for there is no demand in the forest industry processes.

The sustainability of the use of biomasses is regulated in the revised Renewable Energy Directive ( *RED II* ). Member States must bring into force the laws, regulations and administrative provisions by 30 June 2021 derived from the directive and Finland has started the implementation process. Finland has legislation and monitoring systems in place to minimise the risk of unsustainable forest biomass use. There is multiple different laws ensuring the sustainability of forest management in Finland. The most important is the Forest Act and other relevant acts are the Forest Damages Prevention Act, The Timber Measurement Act and The Act on the Placing on the Market of Timber and Timber Products.

The sustainability of forest management is assessed and monitored on the basis of Pan-European Criteria and Indicators for Sustainable

Forest Management: The National Forest Inventory (NFI), the monitoring system for forests and forest resources, produces diverse information on Finnish forests. NFI results are widely used in assessing the sustainability of forest management.

Emissions such as dust and NO<sub>x</sub> to air from combustion plants are regulated by national legislation based on the Industrial Emissions Directive (*IED*) and on the Medium Combustion Plant Directive (*MCP*) . Emission limit values in environmental permits are based on the Best Available Techniques (*BAT*) . Guidelines for good combustion practices are provided in order to reduce dust and black carbon emissions from small-scale wood combustion.

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[Question by Australia at Monday, 07 September 2020](#)

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Policy measures investments

On page 79 of the report, the investment needs for policy measures are presented. Does Finland have more information on which of these are to be public or private investments?

[Answer by Finland](#)

Unfortunately, we are not able to provide a specific breakdown on how the investment needs are divided between the public sector and private sector.

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[Question by Australia at Monday, 07 September 2020](#)

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Environmental Strategy for Transport 2013-2020

On page 47 of the report, it states “in the updated programme, Environmental Strategy for Transport 2013 – 2020, the target is also that 50 per cent of new cars sold will be able to use alternative fuels in 2020”. Is this target on track to be met?

[Answer by Finland](#)

In 2020 (January-August), 66.4% of first-registered passenger cars were petrol-powered and 15.4% diesel-powered. Newly registered passenger cars using alternative fuels thus accounted for 18% of all newly registered passenger cars. However, it should be noted that diesel cars are counted as using alternative fuels insofar as they are refueled with 100% renewable diesel. Based on these numbers, the target that 50 per cent of new cars sold will be able to use alternative fuels in 2020 will not be met.

Finland’s new national targets for the use of alternative fuels are as follows:

- Finland’s entire passenger car fleet would be almost emission-free in 2050.
- As the entire Finnish car fleet has been renewed very slowly in the past, only about once every 15-20 years, the target is for all new passenger cars and vans sold in Finland would be suitable for the use of alternative propulsion as early as 2030.

- The target for 2025 is that alternative fuels would power 50% of new passenger cars and vans.
- The target for 2020 is 20%.

The updated 2020 and 2025 targets are likely to be met.

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#### Question by Japan

at Monday, 07 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Outreach on policies and measures progress on Climate Change

Japan recognizes that the dissemination of information on the progress of each policy and measure towards achieving the 2020 and 2030 emission reduction targets, as reported in the BR, is very important from the perspective of raising awareness about climate change. Please share any outreach measures you are implementing to publish and communicate the progress of main policies and measures towards the target in 2020 and 2030. Also, if you publish the information online, please provide the URLs of them.

#### Answer by Finland

Under the Climate Change Act, the Government submits to Parliament an Annual Climate Report that contains information on emissions and the achievement of emissions reduction targets. The report also contains information on policy measures and an assessment of the implementation of the adaptation measures included in the adaptation plan. The purpose of the report is to allow both Parliament and the public to discuss current issues of national climate policy.

The Annual Climate Report submitted in June 2020

(<https://julkaisut.valtioneuvosto.fi/handle/10024/162359>, see Annex I) examines the meeting of emission reduction obligations in periods 2013–2020 and 2021–2030 in the effort-sharing sector (non-emissions trading sector) and the development of total emissions in relation to the national carbon neutrality target for 2035. The report includes qualitative information on individual policy measures and their status of the implementation. The focus is mainly on effort sharing sector but the report also includes information on the most recent policy measures in the emissions trading sector.

Climate change is firmly anchored in the education and public awareness policies and practices of the Finnish Government, and these policies and practices are continuously being developed. Training and public awareness policies are considered in several sectors and by many actors. Climate change issues are included in the education given on sustainable development in Finland's compulsory basic

education system. Many school subjects deal with sustainable development and climate change, and they are also dealt with as a cross-curricular theme. In addition, after basic education level, climate change issues are included in the upper secondary level education. Universities and polytechnics provide climate change education as a part of different degree programmes. Some universities also offer postgraduate studies in climate change. Teaching related to climate change is closely tied to research in this field. Universities, polytechnics and several training institutes also provide continuing education programmes and vocational training in climate change and related issues, e.g. energy efficiency and environmental technology, for individuals and companies.

Communication about climate change is performed by several ministries and government research organisations, each within the sphere of their own tasks and responsibilities. Many of the Government organisations provide training for various stakeholders. The Finnish Meteorological Institute has, for example, organised a climate change course for journalists since March 2006. To date, the course has been attended by about 300 journalists specialising in the economy, science and the environment. There are several best practises of climate change information provided as free web based material. To name just two here: the website [Climateguide.fi](http://Climateguide.fi) pools practical, studied and reliable information on climate change into one address and in a uniform format. The purpose of the website is to support society and citizens in mitigating climate change, and in adapting to it. There is also an on-line multidisciplinary study and teaching module on the basics of climate change. It contains written material, video lectures and interviews, assignments, tests and a guide for teachers that will help anyone familiarise themselves with the basics of the climate change.

Most of Finland's municipalities have a climate strategy or are in the process of preparing one. Several municipalities are actively promoting climate change awareness among their citizens through providing consumer advice and organising events, discussion forums and campaigns. In addition, the NGOs run climate change or energy related campaigns, some of which have received a great deal of publicity.

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**Question by** New Zealand at Monday, 07 September 2020

**Category:** Progress towards the achievement of its quantified economy-wide emission reduction target

**Type:** Before 07 September

**Title:** The role of the built environment and land-use planning in meeting the 2020 target

The BR4 suggests that improvement of the built environment, including the transport systems, plays a key role in reducing greenhouse gas emissions. Page 56 suggests the most significant solutions that concern cutting emissions in the urban structure are associated with sustainable urban development: the urban structure and effective functioning of urban sub-regions, coordination of land use and transport, creating preconditions for renewable energy production and enabling a low-emissions lifestyle. What parts of Finland benefitted from land-use planning towards achievement of the 2020 target? What practical challenges were faced by some parts of the country?

## Answer by Finland

The greatest effects and benefits of the development of the built environment have appeared in large urban areas and agglomerations, especially in areas with a growing population and economic activities.

The MAL agreements (agreements on land use, housing and transport) between the state and the largest urban areas have guided, and continue to guide, the sustainable development of land use, housing and mobility in Finland. The MAL agreements set targets for the development of land use and housing production. The MAL agreements also cover the development of key transport networks of urban areas. The core aims of MAL agreements are related to the construction of carbon-neutral urban areas and the promotion of sustainable modes of transport. The goal is also to increase housing production.

The objectives set out in the MAL agreements have been well achieved. Due to the MAL agreements, the urban structure has condensed and housing production has increased. Indeed, all urban areas have achieved the contractual targets for housing production and population growth.

In Finland's four largest urban areas, the development of land use, housing and transport systems has produced the following results:

- In Helsinki region, the development of land use has focused especially on areas that are easily accessible by sustainable transport.
- In Tampere region, the development of land use has focused on local centers and the public transport zones of the urban structure. The population has grown in the local centers and especially in their peripheral zones. On the other hand, the number of jobs in the local centers has decreased, particularly in the major centers in the region.
- In Turku region, the population has grown, especially in the region's core urban areas. On the other hand, outside the core urban areas, population growth has slowed and fewer apartments are now being built.
- In Oulu region, the development of housing has focused on complementary building as almost all municipalities in Oulu metropolitan area have several zoning projects related to the consolidation of local centers. Strong efforts are also being made to focus construction on urban areas that have local detailed plans.

Urbanization and the development of land use, housing and transport systems in major urban areas have accelerated internal polarization. For example, the consolidation of land use or the development of sustainable public transport systems in sparsely populated areas has not been possible on the same scale as in larger urban areas.

Finland's population density on 1 January 2019 was 18.2 inhabitants per square kilometer. Compared to the rest of Europe, Finland is a relatively sparsely populated country, as the average population density in the EU as a whole is about 117 inhabitants / km<sup>2</sup>. Long distances lead to challenges related to the development and accessibility of transport services in sparsely populated and rural areas. However, efforts have been made to meet these challenges, for example, by developing various public transport experiments.



Issues related to the pricing of energy used in transport have posed challenges. Increases in fuel taxes aimed at reducing greenhouse gas emissions emerging from transport may increase the cost of mobility and thus weaken the accessibility of services, especially in remote areas.

Regarding various modes of transport, the development of the rail network will be very beneficial for the three major urban areas (Greater Helsinki, Tampere and Turku) and trackside cities. However, the indirect effects of infrastructure projects are difficult to assess. The results of the past projects have also been somewhat surprising. For example, the opening of the Kerava – Lahti railway line in 2003-2006 led to an increase in traffic volumes on the Helsinki – Lahti motorway, according to 4-tie Ltd. Although trackside cities are growing, trains carry not all of the traffic they generate.

Therefore, the benefits of transport projects seem to generate more not only traffic in the transport system but also CO2 emissions—at least outside urban areas.

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[Question by New Zealand](#) at Monday, 07 September 2020

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Removals from LULUCF

Could further detail be provided on why removals from LULUCF under the “With Measures” scenario are projected to decline through time?

[Answer by Finland](#)

The level and trend in the sink of the LULUCF sector are determined by the Forest Land sink. Carbon stock changes in the living biomass of trees comprises most of the Forest land sink. In the With Measures scenario, the volume of roundwood removals increased up to 80 million cubic meters, meaning also increase in the total tree biomass removed from forests for forest industry and energy use by 2025. At the same time, the increment of the trees did not increase by the same rate. The assumption of the volume of roundwood removals is based on the assumption for the development of Finnish forest industry.

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[Question by New Zealand](#) at Monday, 07 September 2020

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Mitigation impact of the National Forestry Strategy 2025

Is any work underway to quantify the mitigation impact of the National Forest Strategy 2025?

[Answer by Finland](#)

National Forest Strategy 2025 (NFS) contains several actions that contribute to enhancing of forest sinks and reservoirs. The monitoring of progress is carried out by set of indicators. This set will be used for the whole implementation period of the NFS in order to preserve consistency and comparability of information collected. Quantification of the mitigation impact of the NFS is challenging, Nevertheless, this question will be analysed again during the up-coming update of the NFS starting 2021.

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[Question by New Zealand](#) at Monday, 07 September 2020

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Organic soils target

Could further detail be provided on the target to reduce emissions from organic soils and how the associated estimated mitigation impact was calculated for 2030?

[Answer by Finland](#)

There is no specific numeric target for peatlands but they are part of the effort sharing (N2O) and LULUCF (CO2) general targets The mitigation impact was based on these assumptions: 80% of fields on organic soils are grasslands, half of the grass area has a raised ground water table and 50000 ha of the cultivated peatlands are afforested by 2030.

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[Question by New Zealand](#) at Monday, 07 September 2020

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Manufacturing industry emissions reduction plans

In its report, Finland notes that the manufacturing industry uses 45 per cent of country's final

energy and 47 per cent of the electricity. Can Finland describe any plans it has to support the sector to reduce its energy consumption? What barriers does Finland see to the transitioning of this sector to a less energy-intensive model?

[Answer by Finland](#)

Voluntary Energy Efficiency Agreements between the Government and industry in Finland play the key role in increasing energy efficiency. The Ministry of Economic Affairs and Employment provides energy efficiency investment subsidies to participants of the Agreements based on individual assessments. Energy Efficiency Agreements cover well over 85 per cent of the total energy consumption of industry sector in Finland. Recently 13 sectors, including manufacturing industrial sectors, have prepared their individual low-carbon roadmaps. The roadmaps outline technologies and other possibilities to reduce greenhouse gas emissions, including through energy efficiency measures.

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[Question by New Zealand at Monday, 07 September 2020](#)

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Nature-based solutions

Aside from the Finnish forests, which continue to be a carbon sink, does Finland have any other nature-based solutions planned?

[Answer by Finland](#)

As stated in the Programme of Prime Minister Sanna Marin's Government, during this Government term the land use sector will be even more closely linked to the planning and implementation of the national climate and energy policy. The Government Programme contains a good number of climate measures concerning agriculture, forestry and land use changes that will in future be incorporated into the climate plan for the land use sector.

In the land use sector, greenhouse gas emissions can be reduced especially in the use of peatlands and by preventing the conversion of forests into other types of land (forest loss). Carbon sequestration in forests can be promoted by taking care of forest health and productivity. Afforestation of wastelands is one way to increase the forest area and, through this, carbon sequestration. To preserve carbon sinks and reservoirs, it is also important to prepare for the growing risks, including plant diseases and forest damages.

In agriculture, cultivation methods, techniques, products and services are promoted that contribute to carbon sequestration and storage and reduce emissions.

The aim is to reduce emissions from peatland farming (e.g. perennial ecological grasslands, controlled subsurface drainage), increase carbon sequestration and storage in mineral soils, develop paludiculture and promote the marketing of its products, diversify farming, increase crop rotations and promote high-value added products and promote international initiatives and measures to increase carbon sequestration in agricultural soils (e.g. “4 per 1000” initiative).

During the current EU programming period climate measures have been funded under the common agricultural policy (CAP). The common agricultural policy is currently under reform, and in the new programming period that starts in 2021 as much as 40% of the CAP funding in the EU should be used for climate measures.

### **Forest management methods developed to strengthen forest growth and carbon sequestration**

The aim of climate-sustainable forestry is to maintain and strengthen forest carbon sinks by taking good care of forest management, productivity and health and by promoting diverse methods to grow and treat forests.

A new model for using peatland forests that is based on scientific grounds and can be applied in practice will be developed where a comprehensive approach is adopted on peatland forests, including the wood supply, climate, biodiversity, nature and wildlife management and water protection perspectives.

Measures to promote forest productivity and health and strengthen carbon sinks include, developing continuous cover forestry models to be included in regular forest management practices, promoting mixed-stand forests, increasing forest growth by promoting the use of bred forest reproductive material and especially ash fertilisation of peatlands and strengthening the adaptation of forests and management of climate risks. Synergies and possible conflicts between climate and biodiversity targets and measures will also be considered.

Forest management recommendations will be updated on the basis of the most recent scientific knowledge and practical experiences. The review and further specification of the recommendations relating to climate change adaptation and mitigation is also under way.

Finland’s forest area can be increased through afforestation. The aim is that from 2021 onwards a land owner would, subject to certain conditions, be eligible for financial support for the afforestation of wasteland. The government proposal concerning financial support for wasteland afforestation was circulated for comment until 6 July and it is to be submitted to Parliament in October 2020. The act is due to enter into force at the beginning of 2021. The support would be granted by the Forest Centres and the application is to be opened in the beginning of March 2021. Areas considered suitable for afforestation are arable parcels excluded from agricultural use and former peat production areas. The measure is not intended for the afforestation of agricultural lands used for cultivation. Afforestation of meadows, pastures and clearings that are important in terms of their environmental and nature value is also not eligible.

Because of the large forest area we have in Finland, forests are still being converted into built-up area and agricultural land (forest loss). The emissions from forest loss are quite high in Finland. Efforts are made to reduce the clearing of forest into agricultural land by developing the processing and utilisation of animal manure (incl. the biogas programme) and planning and advisory services. With respect to built-up areas, a charge to be collected for land use changes and other possible steering instruments are being considered.

Wetlands can be used for water protection and flood control and as game animal habitats. Carbon dioxide emissions caused by the decomposition of peat can be reduced by raising the water level in drained areas. The climate impacts, including carbon dioxide, nitrous oxide and methane emissions, also depend on the initial situation, e.g. whether the peatland is nutrient rich or nutrient poor. The set of measures includes a study on the climate benefits of rewetting low yielding drained areas that are not in active use, how such rewetting should be done and how these areas could be used e.g. in flood mitigation.

In this set of measures studies are conducted on the introduction and functioning of the carbon markets and responsible and sustainable carbon leasing in the land use sector. The ways to provide different operators and stakeholders with reliable information on the climate impacts and effectiveness of different kinds of measures that promote carbon sequestration and reduce emissions are also being considered.

To support the implementation in the land use sector, a research, development and innovation programme will be launched, an information programme for the sector will be drawn up to promote the use of data sets, and communication, interaction and competence will be strengthened.

Climate measures are implemented across the different sectors and they are linked to several other Government strategies, programmes and projects (e.g. National Forest Strategy 2025, common agricultural policy, Climate Food Programme, set of measures concerning the nutrient cycle and development programme on arable land structure).

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**Question by** New Zealand at Monday, 07 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Rural Development Programme

The Rural Development Programme (2014 – 2020) was implemented in 2015, with a view to support climate change mitigation and adaptation in the agricultural sector. What has progress been like for this programme, and what were the lessons learnt?

**Answer by** Finland

More measures than before potentially reducing agricultural emissions were available for the farmers but the most efficient measures have not taken widely into use. In the latest assessment report (<http://urn.fi/URN:ISBN:978-952-326-919-4> only in Finnish) it was suggested that targeting of the funding should be narrower and regionally specific. Specific attention should be paid to the terms and attractiveness of measures like raised ground water table that have a high mitigation potential per area.

The Rural Development Programme (RDP) included many measures to limit agricultural greenhouse gas emissions and to increase carbon sequestration in arable land. According to the evaluation report of the RDP's results for environmental targets (<http://urn.fi/URN:ISBN:978-952-326-822-7>) the impact of these measures has so far been limited, as the agricultural greenhouse gas emissions have nationally remained almost unchanged during the 2000's. However, declining trend in ammonia emissions from agriculture has been achieved.

The content of organic carbon in soils is still decreasing. According to national monitoring program of agricultural soils (Natural Resources Finland, Luke) the trend of the soil carbon content is still downward. Cultivation of catch crops had the biggest effect within RDP in slowing down the downward trend.

The impact of the Rural Development Programme on nitrous oxide emissions was about 490 kilotonnes CO<sub>2</sub> equivalent per year. Balanced use of nutrients has had the greatest impact. However, the calculation was based on the assumption that without this measure nitrogen fertilisation would have been at the maximum level allowed by the Nitrates Decree, which is likely to be somewhat unrealistic. Measures under the environment payment scheme that influence soil carbon concern the recycling of nutrients and organic matter, use of organic cover and catch crops, and perennial environmental grassland on peaty soil. The most effective one in terms of carbon sequestration is catch crops. The total impact of the Rural Development Programme has been 100,000–200,000 tonnes CO<sub>2</sub> per year, which is 1.4 to 2.8% of the total emissions from the category 'agricultural soil'. The measures under the Rural Development Programme to mitigate GHG emissions are in the right direction, but further and more effective actions are needed and the method for measuring the outcome needs to be specified.

Agricultural and food sector has started the adoption to climate change. Several measures of RDP supported the ability of producers to manage risks and act resiliently. Future challenges still exist to promote diversified production lines and increase the viability of farm businesses. Taking care of soil fertility and water management will also be needed.

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**Question by** New Zealand at Monday, 07 September 2020

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Energy taxation

BR4 states that energy taxation is a key instrument of the Government's energy and climate policy. Is the taxation from the energy sector earmarked for particular projects, or invested in climate change mitigation work?

### Answer by Finland

Tax revenues from the energy sector are not earmarked for particular purposes. Instead, they accrue to the state budget, from where they are allocated as part of the general public resources towards various public priorities and needs, including climate and energy related priorities and needs.

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### Question by New Zealand at Monday, 07 September 2020

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: EU ETS sector emissions

What was the main driver that caused EU ETS sector emissions to peak in the mid-2000s?

### Answer by Finland

Finland's total national emission showed an increasing trend up mid-2000s and a few years beyond, thereafter the trend has been decreasing. In 2000s, Finland economy grew significantly. This meant also growing emissions, especially in energy and industry, sectors included in the EU ETS. The policies and measures to mitigate the emissions implemented after mid-2000s, such as the implementation of the EU ETS in 2005, have impacted the downward trend in both the total and the ETS sector thereafter. The peaking of the ETS sector emissions in mid-2000s can therefore be attributed to the implementation of the EU ETS. Also implementing renewable energy and energy efficiency measures have contributed to emission reduction in the ETS sector (for more information, see Section 4.2.1 and 4.2.4 in Finland's BR4).

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### Question by New Zealand at Monday, 07 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Renewable energy goal

Finland notes that the Climate and Energy Package 2020 requires Finland to increase its use of renewable energy sources to 38 per cent of final energy consumption by 2020. Can Finland

please elaborate on whether this goal has been achieved, and whether any barriers were overcome to do so? If the goal hasn't been achieved, what were the barriers to its achievement?

#### Answer by Finland

Finland has met and exceeded its renewable energy target of 38 per cent of final energy consumption.

The share of renewable energy sources 40.9 per cent in 2017 (and 41.2 per cent in 2018) of the final energy consumption, which is slightly more than in 2015 and 2016 when the shares were 39.3 per cent and 39.1 per cent, respectively. The most significant part of the renewable energy supply comes from biomass, especially from the side-products of the forest industry (see industrial forest-based fuels and black liquor in Figure 4.1). The remainder of renewable energy supply comes mainly from hydro power and wind power. The National Energy and Climate Strategy for 2030 outlines actions to increase the share of renewable energy further.

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#### Question by New Zealand at Monday, 07 September 2020

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Decreases in agricultural emissions

In its BR4, Finland notes that emissions in the agricultural sector have decreased by about 13 per cent over the 1990 to 2017 period. The report notes that the amount of mineral fertilisers has decreased, being one of the main factors, along with structural changes that increased farm size and decreased numbers of livestock. What were the other factors that led to the decrease in agricultural emissions? What was the cause of the structural changes that led to decreased numbers of livestock?

#### Answer by Finland

Finland joined the EU in 1995. The membership in the EU resulted in changes in the economic structure of the agricultural sector which led to a decrease in the number of farms, to an increase in the average farm size and to a general reduction in the livestock numbers.

Between 1990 and 2019, the number of active farms fell from 130,000 to 47,000. At the same time, the average farm size increased from 17 to 49 arable hectares. The drop in the number of farms also affects the main production sectors on farms, the number of livestock farms has declined.

Between 1994-2014, the average production amount of dairy cows has increased over 2000 liters and over the past decade, the average production amount has increased by 800 liters. The average



production amounts of dairy cows have increased due to advanced animal breeding, feeding, and the competence of entrepreneurs, for example.

A reduction in cattle numbers, especially that of milking cows, have led to a reduction in total emissions from enteric fermentation, approximately 14 per cent compared to the 1990 emissions – despite the fact that changes in feeding have increased the production per animal and also enteric fermentation emissions per animal. However, an increase in the amount of nitrogen in the feed has resulted in an increase in emissions from the manure management. Also, the share of slurry systems in manure management systems has increased which has increased the emissions from manure management.

The reduced use of nitrogen fertilisers and improved manure management resulting from the measures taken by the farmers as part of an agri-environmental programme aiming to minimise nutrient loading to water courses have also decreased the emissions in the agricultural sector. For example, the amount of synthetic fertilisers used has decreased by 40% from 1990 to 2018 and is the most important factor for the reduced emissions. Decrease in CO<sub>2</sub> emissions from liming due to a reduced use of lime is also significant.

More details provided in the links below:

<https://stat.luke.fi/maatalous-ja-puutarhayritysten-rakenne>

<https://jukuri.luke.fi/bitstream/handle/10024/535272/e-yearbook-foodandnaturalsource-2015.pdf?sequence=3&isAllowed=y>

[https://jukuri.luke.fi/bitstream/handle/10024/546352/luke\\_luobio\\_73\\_2020.pdf?sequence=1&isAllowed=y](https://jukuri.luke.fi/bitstream/handle/10024/546352/luke_luobio_73_2020.pdf?sequence=1&isAllowed=y)

[https://statdb.luke.fi/PXWeb/pxweb/fi/LUKE/LUKE\\_02%20Maatalous\\_04%20Tuotanto\\_02%20Maito-%20ja%20maitotuotetilasto/03\\_Maidon\\_kokonaistuotanto.px/table/tableViewLayout1/?loadedQueryId=c190a735-4672-4472-9c3d-7b8e83c8db9c&timeType=top&timeValue=29](https://statdb.luke.fi/PXWeb/pxweb/fi/LUKE/LUKE_02%20Maatalous_04%20Tuotanto_02%20Maito-%20ja%20maitotuotetilasto/03_Maidon_kokonaistuotanto.px/table/tableViewLayout1/?loadedQueryId=c190a735-4672-4472-9c3d-7b8e83c8db9c&timeType=top&timeValue=29)

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**Question by** New Zealand at Monday, 07 September 2020

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Emissions reduction ambitions for agricultural sector

As part of their national contribution to the Effort Sharing Decision, has Finland adopted any specific reduction ambitions for the agricultural sector, or for emissions of gases associated with agricultural activities (i.e. CH<sub>4</sub> and N<sub>2</sub>O)?

## Answer by Finland

Agriculture does not have its own specific reduction target but is part of the common Effort sharing target. In addition to the Rural Development Programme, there are aims and campaigns to reduce the amount of food waste and to change the diets healthier both with potential implications on agricultural production structure and GHG emissions.

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## Question by Canada at Monday, 07 September 2020

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Indigenous engagement

How is your national government engaging with Indigenous peoples in the development and implementation of your climate change policies?

## Answer by Finland

Finnish democracy is based on the rule of law, with the Constitution giving every individual strong protection for human dignity, personal integrity and other fundamental rights. Fundamental rights include the linguistic and cultural rights of the Sámi indigenous people that the state has undertaken to respect and promote.

Under the Constitution, the Sámi have the right to maintain and develop their own language and culture and have linguistic and cultural self-government in their region. The self-government is organized in more detail through the Act on Sámi Parliament. The Sámi Parliament, elected every four years, represents the Sámi nationally and internationally. The authorities have an obligation to negotiate with the Sámi Parliament in all far-reaching and important measures, which may directly and in a specific way affect the status of the Sámi as an indigenous people. The participatory rights of the Sámi are one key element of their rights as an indigenous people. The Sámi are the only indigenous people in Finland and they rely heavily on nature and natural resources, which is why the Sámi people are vulnerable to changes in the climate.

The Climate Change Act entered into force in 2015. It is a framework act, meaning that it imposes obligations on the governmental authorities. The Act sets an emissions reduction target for 2050 and lays down a climate policy planning system consisting of three different plans for Finland. The Government programme has multiple demands on how to develop the Climate Change Act in order to reinforce the Act. The Ministry of Environment has set Sámi people as one of the main stakeholder group and it pays special attention to their views during the law drafting process. The Ministry of Environment has already started the official negotiation process with the Sámi

people. In addition, the Ministry has collected feedback through various stakeholder events and a questionnaire. Lastly, a research project focusing on fundamental and human rights aspects of the Climate Change act is already under way. In this project, special emphasis is put on all issues related to the Sámi and people and the results of the project will be used during the law drafting process.

On February 2020, the Government appointed a Climate Policy Round Table to support preparation and implementation of climate measures in Finland. The Climate Policy Round Table will carry out its activities during the current government term. Sanna Marin's Government Programme aims for Finland to be carbon neutral and the first fossil-free welfare society by 2035. The aim of the Round Table is to increase the acceptability of climate policy and make it possible for stakeholders to participate more closely in the national preparation of climate action. Representatives from various sectors of society will be widely involved in its work. Sámi Parliament in Finland, and municipalities are represented in the Round Table.

Currently, there is no specific provisions for Sámi people in the climate policy planning system. However, Sámi people and local level stakeholders have had the same opportunities as everyone else to participate during the preparation of the mid-term climate policy plan and Finland's national energy and climate strategies, for example through public hearings. Also the National Adaptation Plan emphasizes open preparation processes and broad participation of regional and local actors, in order to create adaptation solutions suited to the needs of local actors and to make best possible use of actors' knowledge of local circumstances. However, the need to address vulnerable groups, and Sámi amongst them, in a more targeted way has been identified.

Cooperation between the government and the Sámi people in nature conservation matters is well established and based on both law and practice. The Ministry of the Environment has since 2002 regularly organized meetings concerning nature conservation with the relevant authorities. The Ministry involves representatives of the Sámi Parliament in preparation of matters concerning conservation and sustainable use of biological diversity in the Sámi homeland area. In addition, there is a legal obligation for authorities to negotiate with the Sámi Parliament in all far reaching and important measures which may directly and in a specific way affect the status of the Sámi as an indigenous people. National positions for meetings and working groups under the Convention on Biological Diversity (CBD) are prepared in cooperation with the Sámi Parliament, and representatives of the Sámi Parliament are included in the national delegations to these meetings and working groups.

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[Question by China](#) at Friday, 04 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Market-based mechanism

In 2017, Finland did not use any units from market-based mechanisms. Does Finland have any plan or preliminary thoughts on using international market mechanism in the future?

### Answer by Finland

Finland has no plans to use international market mechanisms at present.

According to the Programme of Prime Minister Sanna Marin's Government, Finland will assess its carbon neutrality target in 2025. This assessment will take into account factors including new scientific data, technological development and emission reduction commitments of other countries, along with the possibility of using international market mechanisms in meeting Finland's 2035 carbon neutrality target.

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### Question by China at Friday, 04 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Target ambition

According to the TRR, Finland is on track to overachieve its 2020 target. Does Finland have any plan on increase the reduction target with more ambition under the Convention and its Paris Agreement?

### Answer by Finland

Finland is on track to achieve its 2020 target, not on track to over-achieve it.

Finland is committed to EU's joint emission reduction target under the Convention and Paris Agreement. The EU's joint nationally determined contribution (NDC) under the Paris Agreement is to reduce the greenhouse gas emissions by at least 40 % by 2030 from the 1990 level. In September 2020, the European Commission proposed to raise EU's 2030 emission reduction target to at least 55% by 2030. The new 2030 target will also form the basis of discussions on revising the EU's nationally determined contribution to reducing emissions under the Paris Agreement. The EU's long-term goal is to be climate neutral by 2050. Finland supports the proposal of raising EU's 2030 emission reduction target to at least 55 % and is committed to EU's climate neutrality target. In addition, Finland's domestic objective is to be carbon-neutral by 2035 and carbon negative soon after that.

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Question by China at Friday, 04 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Target ambition for low-carbon transition

Finland has achieved the target to increase the share of renewable energy in its final energy consumption to 38 per cent (the share in 2017 was 41 per cent). Does Finland consider formulating any new target with higher ambition to further stimulate domestic low-carbon transition?

Answer by Finland

Finland has set a target of 51% renewable energy of final energy consumption for 2030 in its National Climate and Energy Plan submitted to the EU in December 2019.

The Government aims for Finland to achieve carbon-neutrality in 2035 and to be carbon-negative soon after that. The Government has started the process to outline the policies and measures to achieve this. These will be detailed in the next national climate and energy strategy and medium-term climate policy plan which are expected to be finalised in autumn 2021.

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Question by China at Friday, 04 September 2020

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Emission drivers

In the BR4, Finland reported that total GHG emissions excluding emissions and removals from LULUCF in 2018 were 1.8 per cent higher than in 2017, according to the preliminary estimation. Could Finland explain key factors or drivers for this increase?

Answer by Finland

The growth of approximately 2 per cent of Finland's total national emissions without the LULUCF sector between 2017 and 2018 can be largely attributed to the growth of energy consumption due to growing industrial production. As a consequence, energy production using fossil fuels, mainly peat and natural gas, and also renewable energy grew. The growth the use of peat and natural gas increased the energy sector emissions by 3 per cent.

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Question by China at Friday, 04 September 2020

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 07 September

Title: Emission fluctuation

[1]. According to the Figure 2.1 of BR4 GHGs emission/absorption from the LULUCF sector has varied considerably from year to year (especially in year 2006 and 2009). Could Finland explain the reasons for the fluctuations?

Answer by Finland

The level, trend and the inter-annual variability in the sink for the LULUCF sector are determined by the Forest Land sink. Living biomass comprises most of the Forest land sink. The high fluctuation in net biomass removals in the Forest Land category during the period 1990 to 2018 is mainly caused by the changes in the international market of forest industry products, which affect the amount of domestic commercial roundwood fellings. The other significant factor affecting the trend in forest land sink is the increase in the annual volume increment. Based on the National Forest Inventory (NFI), the increment of growing stock has increased from 77.7 million m<sup>3</sup> at the beginning of the 1990s to its present level of 108 million m<sup>3</sup>.

The roundwood fellings were at a low level in the first half of the 1990's, the lowest drain in the period was in 1991. In the second half of the 1990's, they increased considerably, the highest drain was recorded in 2000 and it continued at the same level until 2005 when the drain decreased 4%. Reasons for the decreasing were slow roundwood markets and the production stoppage in May–June caused by the forest industry's seven-week lock-out. Although, the wood consumption increased in 2006, the drain still decreased 3%. Imported roundwood and the use of roundwood reserve compensated the domestic commercial roundwood fellings. The economic recession due to the global financial crisis started in 2008 was in turn reflected as some 20% lower fellings in 2009 compared to the previous year, resulting in a lowest level of roundwood fellings since the early 1990's. The low levels of roundwood fellings at the beginning of 1990's and mid-2000's and again after the financial crisis in 2008/2009 are the cause of high removals of the LULUCF sector for those periods of time.

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