

National Methane Action Plan

Finland

4.10.2022

National Context

Finland is a **parliamentary republic** with a Head of Government (the Prime Minister Sanna Marin, appointed in 2019) and a Head of State (the President Sauli Niinistö, appointed in 2012). The country is divided into 19 regions and 70 sub-regions. The central government is based in Helsinki and the local governments in the 311 municipalities (towns and cities). Finland has been an EU member country since 1 January 1995, and part of the Euro area since 1 January 1999.

In February 2022, Finland's **population** was approximately 5,5 million.

The current **Finnish Government comprises 12 ministries**. Each ministry is responsible for the preparation of matters within its mandate and for the proper functioning of administration. These ministries are:

- Prime Minister's Office
- The Ministry for Foreign Affairs
- Ministry of Justice
- Ministry of the Interior
- Ministry of Defence
- Ministry of Finance
- Ministry of Education and Culture
- Ministry of Agriculture and Forestry
- Ministry of Transport and Communications
- Ministry of Economic Affairs and Employment
- Ministry of Social Affairs and Health
- Ministry of the Environment

According to the Finnish Constitution (731/1999) **legislative powers** are exercised by the Finnish Parliament, the **governmental powers** are exercised by the President and the Government, and the **judicial powers** are exercised by Courts of Law. Legal instruments are drafted by the Government and prepared by the Ministries. All courts are independent in exercising their jurisdiction. General courts include district courts, courts of appeal and the Supreme Court as the final instance. Administrative courts are the Administrative Courts and the Supreme Administrative Court as the final instance in administrative judicial procedure matters. Special courts include the Market Court, the Labour Court and the Insurance Court.

The **gross domestic product (GDP)** of Finland was 251.4 billion euros in 2021. The Finnish economy is relatively strong, but the growth outlook will be negatively affected by the war in Ukraine, the rising inflation and the tightening monetary policy. The Finnish GDP is expected to reach an overall growth of 1.5% for 2022. The next year is expected to be more difficult.

The most important sectors of **Finland's economy** in 2020 were industry (20.3%), public administration, defence, education, human health and social work activities (20.6%) and wholesale and retail trade, transport, accommodation and food services (14.0%). Intra-EU trade accounts for 55% of Finland's exports (Germany 14%, Sweden 10% and the Netherlands 7%), while outside the EU 9% went to the United States and 5% to China. In terms of imports, 72% come from EU Member States (Germany and Sweden 17% and the Netherlands 9%), while outside the EU 10% came from Russia and 4% from China. The geopolitical situation is altering the balances currently.

Building Block 1: Inventories

Methane Emissions Profile in Finland

Methane accounts for 8% of Finnish greenhouse gas (GHG) emissions (CO₂-eq) whereas CO₂ accounts for 80%. Methane also acts as a precursor for ground-level ozone. Overall, methane emissions have almost halved between 1990–2020 due to prior policy interventions in key sectors, further decline is expected, although scope remains limited.

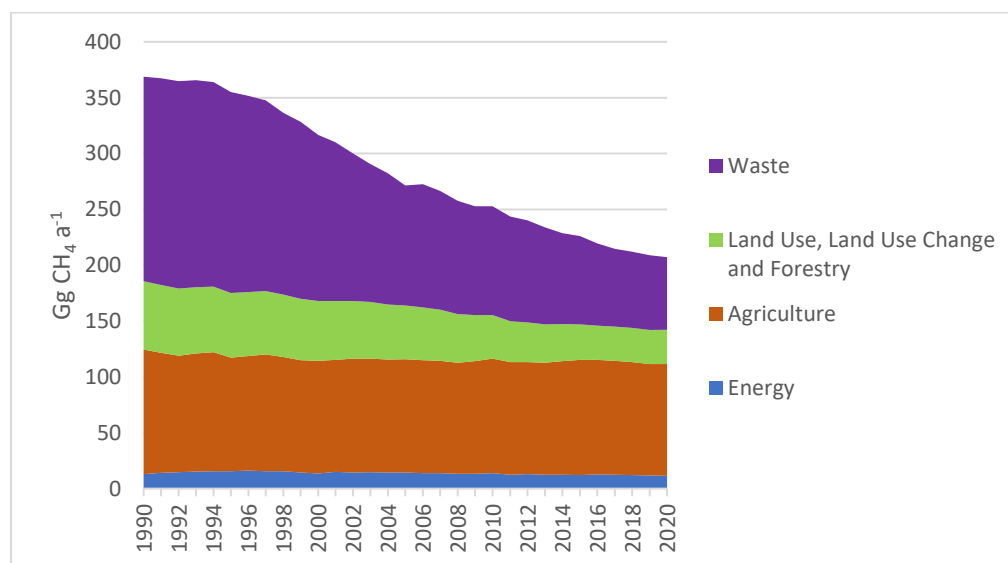


Figure 1. Methane emissions in 1990–2022 in Finland by aggregated sectors (Statistics Finland, 2022).

Agriculture, waste and land use (incl. land use, land use change and forestry, LULUCF) sectors are the biggest sources of methane emissions in Finland (Fig 1). Main sources by sector (% in 2020) are: agriculture (49%, incl. enteric fermentation, manure management); waste (31%, incl. landfills, wastewater treatment, composting and digestion); energy (5%, incl. combustion, fugitive); and LULUCF (15%) (drainage and rewetting and other management of organic and mineral soils: managed wetlands, drained organic forest soils, open burning).

Methane emissions have decreased by 44% from the 1990 level. This is mainly due to the improvements in waste treatment and a contraction in animal husbandry in the agriculture sector. Overall, methane emissions are also projected to continue to decline with existing policy measures (-12% in the 2020's).

Agricultural emissions are mostly dependent on the number of domestic animals, where a slight decrease is expected after 2020 (Fig 2). Disposal of solid waste is the biggest contributor to emissions in the waste sector.

Disposal of solid waste has been the biggest contributor to emissions in the **waste sector**. Due to restrictions in waste disposal to landfills, the emissions have been decreasing since the 1990s. In 2016, disposal of organic waste to landfills was restricted heavily. However, current landfills remain as emission sources. Methane emissions from anaerobic digestion have slightly increased as the method has become more prevalent, whereas GHG emissions from composting have correspondingly decreased because of its declining prevalence. The emission trends in wastewater treatment have been relatively stable.

Emissions from **land use** (mostly from forest lands) are expected to remain at current levels. Agriculture-related methane emissions were projected to keep growing slightly until 2020, after which they were expected to take a downward turn. However, the emissions from LULUCF are expected to remain relatively constant. The methane emissions from the LULUCF sector are marginal and climate measures should focus on reducing CO₂ emissions due to peat degradation (i.e. developing and adapting new management measures, carefully planned rewetting of drained peatlands). There is currently work on developing criteria and process on rewetting of drained peatlands so that the methane emissions would be minimized.

Finland is not an oil producing country but there are minor methane emissions from the distribution network and end use. Finland's methane emissions **in the energy sector** are hence very small, less than 5%, of which oil and gas account for less than 1%. According to the UNFCCC emission inventory of Finland the fugitive emissions; solid fuels, oil and natural gas and other emissions from energy production are less than 1 percent of total anthropogenic methane emissions.

The methane emissions from the natural gas transmission network are monitored, based on the environmental permit under the Environmental Protection Act (527/2014), where the measuring of methane emission is obligated. The data on methane emissions is transmitted to the Statistical Center of Finland under the Greenhouse Gas Protocol. Further, the Finnish Safety and Chemicals Agency (TUKES) is monitoring the methane emissions under the Natural Gas Regulation. In the EU a Methane Regulation COM(2021)805 is under preparation on monitoring and reporting of the methane emissions in the energy sector. Finland is in favor of this new regulation at large. Emissions in the natural gas distribution network are mostly from compressor stations along the pipeline. Only minor flaring connected to process disturbances occurs in the two refineries. Finland has a modern gas distribution network, which is under one main operator (Gasgrid Finland Oy). Methane emissions from oil refining result from evaporation during the refining and storage of oil and from processing of liquified natural gas (LNG). Some of the emissions from gas transmission are caused by the normal running of older compressor stations in the transmission network. Another source of emissions in transmission is the emptying of pipelines during maintenance breaks and extension work. The emissions of distribution originate from leaks from valves in certain old pipeline types. Emissions from natural gas distribution were at their highest in 1994 and have declined 89% since. The emissions from distribution depends on the amount of exhaustion of natural gas from distribution pipelines. Exhaustions are done during the maintenance and extension works. These emissions have decreased due to better maintenance and renewal of pipelines.

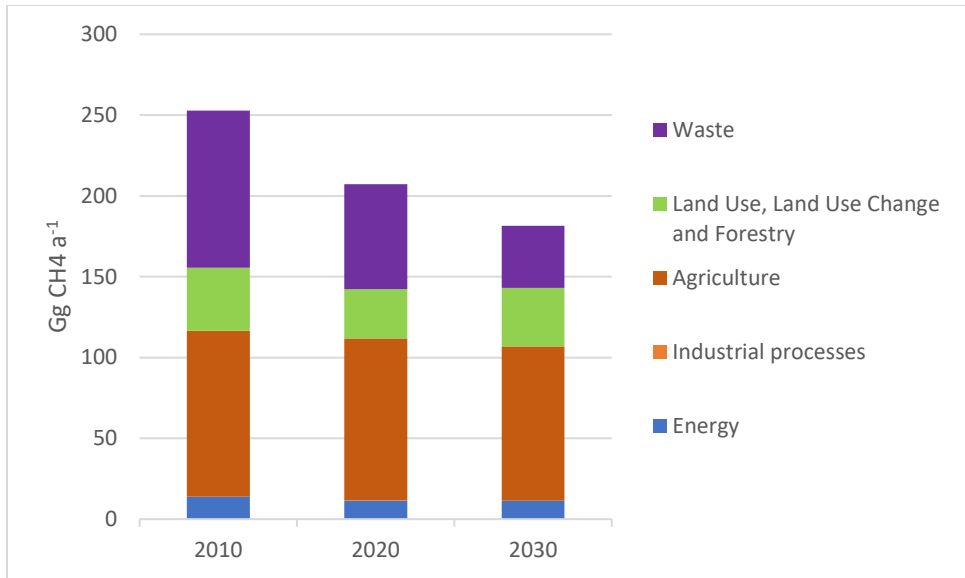


Figure 2. Projected development of emissions in the WEM scenario of the Carbon Neutral Finland 2035 project, Carbon neutral Finland 2035 – measures and impacts of the climate and energy policies, Synthesis report – conclusions and recommendations (2021).

Building Block 2: Mitigation measures

Overview

Finland does not have a separate strategy or action plan for methane. Instead, it is addressed **as part of the sectoral strategies** of i.e. the energy, transport and agriculture sectors as well as the overarching climate and air pollution strategies that consider all greenhouse gases.

EU's regulatory framework (European Green Deal, "Fit for 55")	EU Climate Law (EU) 2021/1119 Effort Sharing Regulation (EU) 2018/842 & sectoral policies EU Methane Strategy COM(2020)663 & EU Methane Regulation COM(2021)805 The Farm to Fork Strategy COM(2020)381
Finnish Climate Act (609/2015), revised in 2022 (423/2022)	General framework for Finnish climate policy Planning system for climate change policy; Annual Climate Report Emission reduction goals 2030/2040/2050; climate neutrality 2035
Medium-term Climate Change Policy Plan*, revised plan ready in 2022	A policy action plan to implement the Government Programme (carbon neutrality target of 2035 as well as EU's climate targets), particularly in the "effort sharing" sectors (non-ETS).
Climate Plan for the Land Use Sector*, new plan ready in 2022	A policy action plan focusing on emission reductions from the agriculture, forestry and land use sector.
National Energy and Climate Strategy, revised strategy ready in 2022	A policy action plan to implement the Government Programme (carbon neutrality target of 2035 as well as EU's climate targets), particularly under the industrial and energy sectors, incl. under the "Emission Trading Scheme (ETS)" of the EU.
Long-term Climate Change Policy Plan*, i.e. the Energy and Climate Roadmap 2050	A strategic-level guide on the way toward a carbon- neutral society
Finland's Strategy for Arctic Policy 2021	Does not explicitly address methane, but highlights climate change mitigation and adaptation as one of the strategic priorities.



*Components of the climate change policy planning system required by the Climate Act (423/2022)

Figure 3. National regulatory strategies & key action plans relevant for methane.

Climate Change Act

The Finnish Climate Change Act (423/2022) lays the foundation for national work on climate change in Finland. Finland aims to be **climate neutral by 2035** and the world's first fossil-free welfare society. The national Climate Change Act was reformed in 2022 to ensure that the climate neutrality target, as well as international and EU climate targets will be reached. The Act includes new emission reduction targets by 2030 and 2040 and the emission reduction target for 2050 was updated. The emission reduction targets are **-60% by 2030, -80% by 2040 and at least -90% but aiming at -95% by 2050**, compared to the levels in 1990. The most important steering instruments under the Act are the **national climate change policy plans**. The planning system considers CO₂-eq emissions, **but methane is an integral part of the plans**. The Act lays down provisions on **four national climate change policy plans**:

- The Medium-term Climate Change Policy Plan
- The Climate Change Adaptation Plan
- The Long-term Climate Change Policy Plan; and
- The Climate Plan for the Land Use Sector

The Act applies to the authorities and obliges the ministries to draw up the climate change policy plans. Moreover, Finland has very recently revised the key components of the climate policy framework to reflect the new goals. **The strategies are expected to influence also future emission estimates of methane.**

Medium-term Climate Change Policy Plan

The Government approved and gave to the Parliament the Report on the Medium-term Climate Change Policy Plan on 2 June 2022. Finland's second Medium-term Climate Change Policy Plan applies to the effort sharing sector, i.e. sectors outside emissions trading scheme, except for the land use sector, and defines the measures to ensure that Finland's emissions reduction target for the effort sharing sector in the EU will be achieved. The effort sharing sector comprises the emissions from transport, agriculture, building-specific heating, non-road mobile machinery, waste management and F-gas emissions and some emissions from industry and energy consumption outside the emissions trading system. The EU proposed emissions reduction obligation for Finland's effort sharing sector for 2030 is 50% compared to the 2005 level, while the Government Programme has set an objective of making Finland climate neutral by 2035. The current measures are not sufficient to attain these objectives. The Medium-term Climate Change Policy Plan studies the actions needed to close the gap and how the emissions of the effort sharing sector can be reduced to make carbon-neutrality achievable. A Medium-term Climate Change Policy Plan must be created once every government term.

National Climate and Energy Strategy

On 30 June 2022, the Government submitted its' national climate and energy strategy to Parliament as a report. The strategy is a comprehensive action plan for the medium term, which Finland will use to meet the EU's obligations for 2030 and to achieve the national climate target for 2035. The European Climate Law (EU) 2021/1119 from June 2021 sets a legally binding target of net zero GHG emissions by 2050, a new target for 2030 of reducing net GHG emissions by at least 55% compared to levels in 1990. The strategy covers all GHG emissions in the emissions trading, effort sharing and land use sectors as well as the carbon sinks of land use and other sectors. The strategy was prepared in coordination with the

Medium-term Climate Change Policy Plan for the effort sharing sector and the Climate Plan for the Land Use Sector.

Energy and Climate Roadmap 2050

Finland has drawn up a strategy called Energy and Climate Roadmap 2050. This long-term strategy provides guidelines to reduce 80-95% of GHG emissions by 2050. The roadmap concentrates on the energy sector, which produces 80% of GHG emissions.

National Air Pollution Control Programme

The EU's revised NEC directive (2016/2284) lays down the obligation to prepare a National Air Pollution Control Programme (NAPCP) for member states. The NAPCP comprises the actions for realizing the emission reduction commitments laid down in the directive for emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds, fine particulate matter and ammonia. The NAPCP includes a description of the current state of Finland's air pollution control (emissions, air quality, effects) and an estimate on the amount of pollution, the effects caused by it and what measures must be implemented by 2030. The Finnish National Air Pollution Control Programme was published in 2019. National Air Pollution Control Programme 2030 will go through a review in 2026 (mid-term) and in 2031.

International processes

Finland is active in several international processes concerned with methane, including the following:

- Signatory to the Global Methane Pledge (GMP) since 2021
- Climate & Clean Air Coalition (CCAC) partner since 2012
- Global Methane Initiative (GMI) partner since 2008
- The Arctic council – Framework for Action on BC and Methane
 - Managed by Arctic Council's Expert Group on Black Carbon and Methane; includes reporting of emissions and policy
 - Action of methane
- Working Groups (i.e. the Arctic Monitoring and Assessment Programme AMAP, Arctic Contaminants Action Programme ACAP) and their Expert Groups address methane science and demonstration projects
- Economic Commission for Europe (UNECE)CLRTAP
- World Bank Global Gas Flaring Reduction Partnership (GGFR)
- Beyond Oil and Gas initiative (BOGA) – Finland has a "Friend" status since 2021

Methane is considered particularly in connection with the Arctic Council work, the UNFCCC as well as the Climate and Clean Air Coalition (CCAC).

Sector specific national strategies and regulatory instruments

Agriculture and LULUCF

Common Agricultural Policy (CAP) for the period 2023–2027 is carried out by national CAP strategic plans. The Finland's Strategic CAP Plan consists of direct support and certain sectoral support measures as well as Mainland and Åland rural development interventions. Finland's CAP Plan and its intervention logic have been carefully considered, since 2017, in cooperation with stakeholders. The identified needs are based on current state and SWOT analyses. The selection of interventions and measures has been guided by the diversity and scope of the climate and environmental challenges facing agriculture and the need to simultaneously ensure the environmental protection activities of agriculture that requires a long-term perspective and new emphases, taking into account the long-standing challenging economic situation in agriculture. Compared to the previous programming period the Finnish CAP Plan has increased in the environmental and climate ambition.

The agreement on reform of the CAP was adopted in 2021. The regulations will apply from 1 January 2023. In its CAP strategic plan, each EU country will be obliged to display a higher ambition on environment and climate action compared to the previous programming period (no “backsliding”) and will be required to update the plan when climate and environmental legislation is modified. In Finland's CAP strategic plan, there are, for example, actions related to the planning of livestock feeding, nutrient recycling, biogas investments, and advice and training of producers, which aim to influence greenhouse gas emissions from agriculture.

In the Medium-Term Climate Change Policy Plan measures targeted to agriculture are partly the same as mentioned in the CAP. However, the plan also includes other national measures that are currently implemented or adopted in Finland. Enteric methane emissions from ruminants can be reduced by changing feeding methods of dairy cows. Using rapeseed cake in the feeding of dairy cows might reduce methane emissions by approximately 10% per litre of milk if the cows are fed predominantly with roughage (grass). On average, however, more than 40% of the feed of dairy cows is concentrated feed, rapeseed cake would mostly replace the currently widely used rapeseed meal, and the actual reduction of methane emissions is likely to be 3 to 5% per cow.

Of the feed additives that reduce enteric methane production, research has advanced furthest with regard to 3-NOP (3-nitrooxypropanol), which has recently been approved in the EU as a feed additive for dairy cows and cows for reproduction. In the best-case scenario, this additive may reduce methane emissions from dairy cows up to 25 %, but at the same time, it means permanent cost to farmers.

The Ministry of Agriculture and Forestry is funding studies and projects develop feeding solutions applicable for Finnish grass roughage based feeding that reduce greenhouse gas emissions from bovines enteric digestion. The projects should seek solutions for reducing greenhouse gas emissions related to cattle feeding in Finnish feeding systems and, in particular, enteric methane emissions produced in rumen fermentation. The projects should also enhance knowledge about the means for reducing emissions that are already available or will be introduced within the next 5 to 10 years, as well as incentives and steering instruments through which the introduction and use of such means can be promoted. The projects will start in autumn 2022.

The Government has strongly highlighted the role of manure management and nutrient recycling as part of the overall sustainability of agricultural production. Various incentive schemes are available for research, experiments, advice and investments in streamlining manure management and nutrient recycling. The purpose is to create the conditions for a well-functioning market of organic fertilisers and thereby ensure efficient recycling and use of nutrients. An experimental nutrient recirculation programme will run over the period 2020–2022 as a continuation of the programme that ran in 2016–2018. The support scheme for biogas investments and new manure processing techniques set out in the Government Programme was launched in December 2020. Another subsidy scheme for the production of biogas based on nutrient cycles is also being prepared.

The Government adopted a report on Climate Plan for the Land Use Sector on 8 July 2022. The plan specifies the means by which climate emissions from the land use sector can be reduced and carbon sinks and reservoirs strengthened.

Energy sector

Gasgrid Finland Oy company operates the distribution network. Gasgrid Finland has a certified quality, environmental and safety management system. Potential gas leaks are detected via various methods. A centralized 24 hour guidance system exists that monitors the condition and operation of the distribution network. An odor additive has been added to the gas, which helps the detection of leaks throughout the network. The leak management system is equipped with alarms as well as automated safety and remote guidance equipment. Valve stations have been established every 8 to 32 km, which enables the resuming of the distribution in case of emergencies. All guidance and alert information are conveyed via link stations to the central control room. Several techniques and devices enabling early and efficient detection of fugitive leaks. The operators follow actively the development of detection methods. The operators are obliged by law to obtain an environmental permit for their operations.

The operators are obliged by law to obtain an environmental permit for their operations. On 15 December 2021, the Commission presented a proposal to regulate methane emissions reductions in the energy sector, COM(2021)805. The proposal covers direct methane emissions from the oil, fossil gas and coal sectors and from biomethane, once it is injected in the gas network. The Regulation would not require direct revisions in Finnish legislation.

Finland is also preparing a National Biogas Programme. In October 2019, the Ministry of Economic Affairs and Employment appointed a working group to prepare a national biogas programme for the medium term. Final report of the biogas working group was submitted to the Ministry of Economic Affairs and Employment in January 2020.

Waste

The National Waste Plan to 2027 “From Recycling to circular economy - The National Waste Plan to 2027” was approved by the Government in March 2022. The National Waste Plan includes both a plan to reduce the volume and harmfulness of waste and a waste management plan. The vision of the plan is e.g. reduce the generation of waste and increase recycling while reducing greenhouse gas emissions. The plan does not include direct methods for emissions reduction.

Methane emissions from landfills have decreased by more than 60% in the period 1990–2018 because: (1) the landfilled amounts of municipal solid waste have decreased following the increasing energy use of

wastes and following the restriction of landfilling of organic waste from 2016 onwards (Decree on Landfills (331/2013)) and (2) the amounts of recovered methane have increased significantly, especially at the beginning of 2000 following the regulations of landfill gas recovery (Council of State Decree 861/1997 on Landfills). The decreasing trend has continued to 2020, although old landfills remain as emission sources.

Wastewater is also a source of methane. The European Commission is currently reviewing the Sewage Sludge Directive (86/278/EEC), and based on the evaluation, the Commission will consider measures to limit GHG emissions from wastewater and sewage sludge.

The Government Decree on Landfills (331/2013) restricted the disposal of organic waste to landfills from 2016 onwards. The waste legislation sets additional targets for recycling and recovery of certain other waste streams (municipal waste, construction and demolition waste, packaging waste, waste paper, waste from electrical and electronic equipment, batteries as well as end-of-life vehicles).

The EU Landfill directive (1999/31/EC) regulates use and characteristics of a landfill site. The foremost aim is to prevent environmental damage of landfills. Pretreatment requirements also serve to minimize the amount of waste ending up on the landfills. Methane emission-relevant part of the legislation is section 4 of Annex I, requiring all landfills receiving biodegradable waste to collect gas. In addition, the document guidance on landfill gas control helps authorities and operators in their effort of effective methane collection.

Sector	Main policy interventions	Expected future policy interventions/processes
Waste	<p>From 2016 onwards the restriction of landfilling of organic waste</p> <p>Separate collection of biodegradable waste (EU obligation 2024)</p> <p>Capture and control of landfill gas in place in most operational and out-of-use landfills (according to EU directive 1999/31/EC)</p> <p>Wastewater collection and treatment has been centralized; inefficient plants have been phased-out</p>	<p>Review of EU’s regulatory and policy frameworks (EU methane strategy; 2024 Landfill directive; 2023 Sewage sludge directive) and subsequent revisions of national legislation</p> <p>Implementation of the Strategic Programme for Circular Economy (2021)</p>
Agriculture and LULUCF	<p>Manure management: promoting biogas production and nutrient recycling via incentives for farms and companies;</p> <p>Enteric fermentation: national and international research studies to look into feeds that reduce methane from enteric fermentation</p> <p>Note on LULUCF: relative net-CO₂eq emissions from LULUCF, methane emissions from the sector are marginal</p>	<p>Implementation of EU’s regulatory and policy framework:</p> <ul style="list-style-type: none"> • Effort Sharing Regulation (ESR), EU Methane Strategy, The Farm to Fork Strategy, Reform of the EU Common Agricultural Policy (CAP 2023-2027) • Proposal for a revised on industrial emissions directive COM(2022)156 <p>Climate Plan for the Land Use Sector (new plan ready in 2022). (http://urn.fi/URN:ISBN:978-952-366-388-6)</p>

	and climate measures should focus on reducing CO2 emissions due to peat degradation (i.e. developing and adapting new management measures, carefully planned rewetting of drained peatlands)	Climate-friendly Food Programme (https://mmm.fi/en/climatefriendlyfoodprogramme) “Catch the Carbon” research and innovation programme. (https://mmm.fi/en/climate-plan-for-the-land-use-sector/research-and-innovation-programme)
Energy sector	Modern gas distribution network, under one main operator; centrally controlled leak, detection and repair system; valve-stations every 8-23 km interval Finnish National Air Pollution Control Programme 2030 (FAPPS) introduces measures to promote efficient combustion in the residential stoves.	Commission proposal for a regulation on methane emissions reduction in the energy sector, COM(2021)805. National Biogas Programme (tbc) Mid-term review of the FAPPS 2030 Continued engagement in international initiatives

Building Block 3: Methane Mitigation Targets

Finland does not currently have any methane-specific reduction targets. However, methane is one of the GHG gases the Finnish Climate Change Act applies to.

Section 2(1) of the Finnish Climate Change Act enacts that:

The objective of the Act and the climate policy planning system based on it is to contribute to ensuring that:

- 1) anthropogenic greenhouse gas emissions decrease and the removals by sinks increase so that, at the latest by 2035, Finland has reached a situation where its greenhouse gas emissions are at most equal to the removals and that the removals continue to increase and emissions decrease after that as well;
- 2) the combined anthropogenic greenhouse gas emissions to the atmosphere from the effort sharing and emissions trading sectors decrease by at least 60 per cent by 2030 and by at least 80 per cent by 2040 compared to the 1990 levels;

According to section 6(1) of the Act, GHG’s refer to:

- 1) greenhouse gas means carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, nitrogen trifluoride and other gaseous components of the atmosphere, both natural and anthropogenic, which absorb and transmit infrared radiation;

Building Block 4: Policy Implementation Pathways

Policy Implementation Framework

In Finland, the tasks and responsibilities related to methane are handled by several different Ministries, Agencies, research and expert organizations as well as regional and local authorities. There are regular contacts between the different authorities to ensure coordination concerning inventories, policy development and follow up of measures.

Table 1. List of actors related to methane issues, their tasks and responsibilities.

Actor	Task related to methane
Ministry of the Environment	<ul style="list-style-type: none"> • Overall responsibility for regulation related to air quality, pollutants and waste management. National focal point for Global Methane Pledge, the Global Methane Initiative, the Climate and Clean Air Coalition (CCAC) as well as the Convention on Long-range Transboundary Air Pollution (UNECE CLRTAP) and. Responsibility on methane work under the Arctic Council and its' working groups. • National Coordinator of the national Medium-term Climate Change plan focusing on the sectors outside the emission trading scheme. • UNFCCC • Overall coordination of international processes related to Short-Lived Climate Pollutants.
Ministry of Economic Affairs and Employment	<ul style="list-style-type: none"> • Overall responsibility for energy policy and coordinator of energy and climate strategies. Responsible for the Emission Trading Scheme (EU ETS). Funding for innovations in low emission energy production.
Ministry of Agriculture and Forestry	<ul style="list-style-type: none"> • Overall responsibility for forestry management, including coordination of bioeconomy strategy development and the development of agriculture and rural policies and innovations.
Ministry for Foreign Affairs	<ul style="list-style-type: none"> • Overall coordination of Finnish participation in international Arctic policies and the Arctic Council, including the chairmanship. Financial support for international cooperation with projects reducing emission of BC or methane.
Governmental research and expert organizations	<ul style="list-style-type: none"> • Finnish Environment Institute (inventories and scenarios, reporting on emissions from waste management). • Natural Resources Institute Finland (inventories and scenarios, reporting on emissions from agriculture and forestry) • Statistics Finland (overall coordination and reporting of GHG emissions, including methane). • Finnish Meteorological Institute FMI (atmospheric measurements and modelling, climate modelling). • VTT (modelling of energy use and energy projections).
Universities	<ul style="list-style-type: none"> • Research related to methane measurements, emissions, climate and health impacts, international regulatory frameworks.
Municipalities, cities, the Helsinki Region Environmental Services Authority HSY	<ul style="list-style-type: none"> • Local strategies and regulation of air quality and implementation of air quality standards and waste management.

Building Block 5: Monitoring, Reporting and Verification

Climate-related matters, methane included, are reported regularly in accordance with national, EU-related and international reporting requirements.

The **Finnish Climate Change Act** contains provisions on reporting and monitoring (sections 15– 18). Methane is included in the reporting and monitoring along with other GHG's that the Act applies to. The reporting and monitoring provisions include:

- **Reports to Parliament on the following documents that it has adopted:**
 - the Long-term Climate Plan;
 - the National Climate Change Adaptation Plan;
 - the Medium-term Climate Plan;
 - the Climate Plan for the Land Use Sector.

- **Monitoring the implementation of the climate policy plans:**
 - The Government shall monitor the implementation of the climate policy plans adequately to determine whether the targets concerning climate change mitigation and adaptation set out in the plans and the objectives will be achieved. On the basis of the monitoring, the Government shall, if necessary, decide on the additional measures required to achieve the targets.
 - The Government shall monitor the adequacy of the objectives 2 on the basis of up-to-date scientific knowledge concerning the progress of climate change and to ensure that the objectives meet the obligations laid down in the international treaties binding on Finland and in the European Union legislation.
 - The realization of the emission and removal projections set out in the climate policy plans shall be monitored on the basis of the data concerning GHG emissions produced annually in the national greenhouse gas inventory system. In addition, information produced in the national system for reporting on policy measures shall be taken into account in the monitoring of the plans.
 - The Government shall provide the public with information on the monitoring results.

- **Revising the climate policy plans**
 - The Government shall revise the climate policy plans in accordance with the decision concerning additional measures. Climate policy plans may also be revised if inadequacies are detected in information of minor importance contained in them.

- **Annual Climate Report**
 - The Government shall submit an Annual Climate Report to Parliament each calendar year. The Climate Change Act contains provisions on what should be included in the Annual Climate Report.

The **content of the Annual Climate Report** has been developed over the years based on the wishes expressed in parliamentary considerations. Climate-related matters are now reported increasingly

comprehensively in the Annual Climate Report, since it now reports the emission trends of the emissions trading and land use sector in addition to the effort sharing sector.

The effectiveness of the policy measures and any new potential measures **are constantly being followed as part of the planning system of climate policy**. The monitoring operations should also keep in mind that external circumstances keep on changing. Technical and social innovations may affect the significance of different policies and measures and their potential to deliver the desired changes in structures and practices. It will be essential to monitor how the anticipated impacts (and those not yet anticipated) develop in order to gain a better understanding of actual developments and to identify critical elements that could justify changing or specifying the policies.

As a party to the UN Climate Agreement (UNFCCC) and an EU Member State, Finland must report its actions related to climate change mitigation and adaptation in many reports. Among the data to be reported are annual trends in GHG emissions, estimates of future emission trends and implemented and upcoming policy actions.

Among the most important reports are the **annual GHG inventory sent to the EU and the UNFCCC secretariat**, and the **Policies and Measures (PAMS)** report submitted to the Commission that discusses climate policies and their implementation. In addition, Finland reports to the UNFCCC secretariat a **National Communication that describes the national implementation of the Climate Agreement** and the **Biennial Report that tracks the progress towards the emissions reduction targets**.

The monitoring of the EU's GHG emissions was based on the **EU's Monitoring Mechanism Regulation (MMR) (525/2013)** until the end of 2021, after which the reporting has been subject to the **EU Governance Regulation (2018/1999)**. In spite of this change between regulations, the reporting system remained essentially the same from 2021 onwards.

This document was compiled as part of Finland's work under the Global Methane Pledge. For further information, please contact Ministerial Adviser Kaarle Kupiainen, Ministry of the Environment (e-mail: Kaarle.kupiainen@gov.fi) or Senior Research Scientist Seita Romppanen, Finnish Environment Institute (e-mail: seita.romppanen@syke.fi).