

## **ACHIEVING CARBON NEUTRALITY**

In the emissions trading sector, the emission reductions still needed to achieve carbon neutrality by 2035 will be implemented within the framework of the Climate and Energy Strategy and in the effort-sharing sector within the framework of the Medium-term Climate Change Policy Plan. The plans will be sent out for comments in autumn 2021. To finalise the plans, the Government will make the following policy outlines.

### **MEDIUM-TERM CLIMATE CHANGE POLICY PLAN**

The Medium-term Climate Change Policy Plan will contribute to reducing greenhouse gas emissions from transport, agriculture, building-specific heating, non-road mobile machinery, F-gas emissions and waste management, i.e. the effort-sharing sector. To achieve carbon neutrality by 2035, additional emission reductions of 4–5 Mt will be needed on top of existing measures.

EU climate obligations also apply to the emission reductions of the effort-sharing sector. Finland is obliged to reduce its effort-sharing sector emissions by 50% from the 2005 level by 2030, which means 5.3 Mt additional emission reductions from sectors outside emissions trading compared with existing measures (HIISSI project's WEM scenario).

Taking these factors into account, the Medium-term Climate Change Policy Plan will decide on a total of at least 5.3 Mt of emission reductions by 2030 and additional emission reductions of at least 2 Mt by 2035.

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<b>Emission reductions (Mt CO<sub>2</sub> eq)</b> (increase compared with existing measures scenario)	2030	2035
Transport	1.2	2.4
Agriculture	0.4	0.1
Building-specific heating	0.7	0.1
Non-road mobile machinery	0.4	0.1
Waste management	-	0.2
F-gases	0.3	0.1
Industry	0.3	0.1
Other emissions	0.3	
Measures in emissions trading sector (one-off flexibility)	0.7	-
Measures in land use sector (LULUCF flexibility)	0.5	-
Cross-sectoral measures (e.g. municipalities, circular economy)	0.3	-
Waste incineration and plastic recycling	0.1	
Promoting biogas	0.1	
		-
<b>Total</b>	<b>5.3</b>	<b>3.1</b>
<b>Target</b>	<b>5.3</b>	<b>2</b>

Of the EU's 2030 emission reduction obligation for the effort-sharing sector, it is possible for a proportion to be implemented in the emissions trading sector and the land use sector. This possibility will be exercised using one-off flexibility (emissions reduced in the emissions trading sector) and LULUCF flexibility (emissions reduced in the land use sector). The climate plan for the land use sector to be completed in December 2021 will include a provision that Finland's EU LULUCF net emission reduction obligation will be exceeded in a manner required by the use of flexibility. Work will continue on a land use category change levy to be outlined in connection with the climate programme for the land use sector.

The EU Commission's 2030 climate package, i.e. the Fit for 55 package, will promote the implementation of national targets. The Commission proposes, among other things, separate emissions trading for transport and for heating of buildings. The impact of these on Finland's climate targets will become clearer as EU legislation progresses. On a preliminary basis, the impact of new emissions trading is estimated, when realised, to be 0.5 Mt in the effort-sharing sector. Of this, 0.3 Mt would be realised in transport and 0.2 Mt in building-specific heating. The new CO<sub>2</sub> limits for cars are expected to yield additional emission reductions in transport.

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The Government is committed to taking the emission reduction measures necessary to achieve the national and EU climate objectives. In March 2022, the Government will evaluate, on the basis of assessments by the ministries, research institutes and the Finnish Climate Panel, whether the emission reduction targets can be achieved with the measures included in the Medium-term Climate Change Policy Plan and, in this context, will decide on binding financial and legislative steering instruments that may be needed to reach the targets. A parliamentary monitoring group will be set up to support the long-term and systematic implementation of the climate objectives.

### **Transport**

By 2030, emissions from transport will be cut by at least half from the level in 2005 with the measures included in the Roadmap for Fossil-free Transport. The aim is to achieve a total reduction of 1.2 Mt by 2030 relative to a scenario where existing measures were to be implemented.

Once the progress of EU-level transport measures and both phases 1 and 2 of the roadmap are known by autumn 2021, the Government will assess and decide, in this context, on the possible need for additional national measures for transport. To this end, the Government will continue to prepare various alternative measures, including national emissions trading for fossil fuels and a transport tax model based on kilometres and road categories, in case other national measures and solutions at EU level together are insufficient. The assessment of additional measures will also take into account the progress of Finland's carbon neutrality objective in other sectors and, with regard to other measures, the cost-effectiveness of emission reductions, the impact on competitiveness as well as regional and social fairness and the precise impact assessments carried out to support this work.

The car tax on all-electric vehicles will be abolished, with a corresponding increase in the basic tax in vehicle taxes for all-electric vehicles. In addition, funding will be allocated to charging and distribution infrastructure and to procurement and conversion subsidies. In total, approximately EUR 75 million will be allocated to measures of the Roadmap for Fossil-free Transport.

A study will be made of the economic, environmental and energy policy effects of removing 100% biodiesel from the scope of the distribution obligation, taking into account the availability of sustainable raw material as well as other biofuel objectives.

Regional public transport will be developed by identifying regions willing to organise commuter train traffic and the prerequisites for its expansion.

### **Agriculture**

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Emissions from agriculture are divided between the land use and effort-sharing sectors. In the effort-sharing sector, emissions will be reduced by 0.4 Mt by 2030 compared with the existing measures scenario.

National implementation of the new CAP period will be outlined after a consultation round. In this context, the necessary emission reduction measures will be added, while ensuring profitable food production and overall sustainability.

The proportion of climate-friendly feed will be increased, for example through the blending obligation and tax incentives. The piloting and introduction of recycled fertilisers will be promoted through incentives and guidance, and the piloting programme for nutrient recycling will be continued. The most effective steering instruments will be assessed, taking into account cost impacts and the availability of sustainable raw materials. In the 2022 Budget, EUR 0.7 million will be allocated to the development of feed and the necessary studies, and EUR 1.0 million to the piloting programme for nutrient recycling.

Protein self-sufficiency will be promoted.

Wetland cultivation and paludiculture, in which raising the water level restricts the decomposition of peat and soil emissions, will be promoted. The goal is to have an area of at least 30,000 hectares in wetland cultivation.

Measures that increase costs to agriculture will be compensated in accordance with the Government Programme.

Carbon sequestration markets and incentives will be encouraged to promote climate measures in agriculture. To boost carbon sequestration, ecologically, economically and socially sustainable ground rules for the carbon sequestration market will be promoted nationally and internationally.

In addition, the emission reductions allocated to the sector will be implemented within the framework of the Medium-term Climate Change Policy Plan, for example by the following means: reducing the need to clear new fields; promoting permanent grass cover, extensive use of catch crops and soil improvement plants; minimum land cover and winter vegetation cover; grassland and set-aside support; controlled subsurface drainage; investment and management support; establishment, cultivation and management of wetlands; peatlands into climate wetlands, wet cultivation of peatlands, wet grassland and reed canary grass etc.; maintaining and monitoring a high water level; afforestation support for unproductive land in 2021; grass instead of annual plants, increase carbon in fields; precision cultivation.

### **Building-specific heating**

The use of fossil oil in heating will be phased out by the early 2030s. A process to stop using fossil oil for heating in central government and local government facilities

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will be implemented by 2024. An action programme to phase out oil heating will be finalised and implemented.

The aid intensity of the aid payable to municipalities for phasing out oil heating will be raised temporarily for the period 2022–2024. The possibility of extending the aid to joint municipal authorities will be examined.

To promote changes of heating methods in low-income households, the preparation, with Housing Finance and Development Centre of Finland (ARA) funding, of a programme up to 2030 supporting the phasing out of fossil oil heating, for example through a loan or leasing procedure, will be explored.

The distribution obligation for light fuel oil will be increased up to 2030 and the inclusion in this of biogas and electric fuels examined. The aim of the increase is an estimated emission reduction of 0.5 Mt. The magnitude of the obligation will be examined together with the distribution obligation for transport fuels, taking into account the limited nature of the sustainable raw material base and cost implications. (Applies to building-specific heating, non-road mobile machinery and industry)

To foster the replacement of heating systems away from the use of oil as a form of heating, the tax credit for household expenses will be raised from EUR 2,250 to EUR 3,500 and the compensation percentage from 40% to 60%. The change is temporary and will be in force from 2022 to 2027.

In addition, the emission reductions allocated to the sector will be implemented within the framework of the Medium-term Climate Change Policy Plan, for example by the following means: energy grants for residential buildings; energy support for heating solutions based on renewable energy sources; securing funding for investments in the phasing out of oil heating in the new period of the Rural Development Programme beginning in 2023; examining the easing of the terms of the guarantee for the renovation of state-owned housing corporations, in particular for the phasing out of oil heating; a guarantee scheme for financing the improvement of the energy efficiency of buildings in declining areas.

### **Non-road mobile machinery**

Cost-efficient emission reductions from non-road mobile machinery and its electrification will be promoted on the basis of an ongoing study under the Government's joint analysis, assessment and research activities, and the possibility of using electricity- and gas-operated mobile machinery particularly in agriculture, and support for this, will be investigated.

In addition, the emission reductions allocated to the sector will be implemented within the framework of the Medium-term Climate Change Policy Plan, for example by the following means: zero-emission construction sites and the maintenance and expansion of green deals in the non-road mobile machinery industry; examining the extension of the obligation to register mobile machinery; reforming the mobile

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machinery (TYKO) emission model; expanding the mobile machinery training project and improving mobile machinery expertise in Finland; promoting the extension of EU regulations to the CO<sub>2</sub> emissions of mobile machinery.

### **Industry and other emissions**

The emission reductions and electrification of small-scale industry and energy production will be supported using EU funding instruments, including regional development funds.

In addition, the emission reductions allocated to the sector will be implemented within the framework of the Medium-term Climate Change Policy Plan, for example by the following means: aid for electrification and hydrogen technology; non-combustion measures in district heating, industrial roadmaps and energy efficiency measures.

### **Waste management and F-gases**

The emission reductions allocated to the sector will be implemented within the framework of the Medium-term Climate Change Policy Plan, for example by the following means: reforming the EU F-gas Regulation and enhancing its implementation; management of ODS and F-gas banks and developing guidelines; improving the energy efficiency of institutional kitchens using natural refrigerants; avoiding equipment containing F-gases in public sector procurement; promoting the introduction of alternative technologies and enhancing the recovery of F-gases through training and information.

### **Cross-sectoral measures (e.g. municipalities, consumers, circular economy)**

Food waste will be halved by 2030, for example via the Climate Food Programme. Finland's carbon neutrality target for 2035 and the circular economy will be supported through public sector procurement. The possibility of including an obligation to take climate, environmental and social considerations into account in the objectives of procurement legislation will be explored. Innovative public sector procurement and green deals will be leveraged to create incentives for low-emission measures and reduce risks.

### **Promoting the circular economy**

The strategic programme to promote the circular economy will be implemented. An obligation to prepare climate plans at municipal, sub-regional or regional level will be added to legislation. The 2022 Budget will allocate EUR 4.4 million to fund climate and circular economy solutions.

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By March 2022, a package will be prepared with a binding target of reducing emissions from waste incineration by a third. A voluntary agreement, i.e. green deal, will be prepared to reduce greenhouse gas emissions from municipal waste incineration plants. The aim of the agreement is to turn emissions from waste incineration on to a downward path by impacting the entire waste value chain. CCS/CCSU technologies will be piloted to reduce CO<sub>2</sub> emissions in connection with waste incineration.

To increase demand for recycled plastic, an obligation for the plastics industry to use recycled plastic will be examined. Support will be given to research, development and production investments in chemical recycling of plastics. A green deal will be developed with industry to promote plastic recycling.

The tax base for waste tax will be broadened from the beginning of 2023. More precise details will be decided on in the spring 2022 government spending limits discussion, taking into account a study under preparation. The need to promote the target through a waste incineration tax will be assessed.

The Government will launch an analysis, assessment and research project aimed at developing the life cycle emissions assessment of food and other consumer products with a view to directing consumption taxation in ways that allow for impacts on climate and the environment.

The recycling industry will be transferred to the industrial electricity tax category from the beginning of 2022.

### **Promoting biogas**

A premise of the Roadmap for Fossil-free Transport is 2.5 TWh use of biogas. The Government will set as an overall target production totalling 4 TWh. In achieving this target, the focus will be on the utilisation of manure and other agricultural fractions as well as synthetic and organic methane. At the same time, care must be taken to ensure that organic digestate is processed and disposed appropriately such that it does not have a detrimental effect on the condition of waterways. A starting point for achieving the target is the implementation of the national biogas programme.

Compared with the WAM scenario, the increase will yield a total emission reduction of approximately 0.1 Mt across the different components of the effort-sharing sector (industry, mobile machinery, transport, heating). The investments will be funded with, among other things, Finland's sustainable growth and rural development programme financing and by utilising various funding instruments.

How methane emissions from manure could be reduced in biogas production will be explored. Preparation of nutrient cycle compensation will continue with a view to introducing it as soon as possible.

The Government has outlined that biogas will remain tax-free for non-transport use.

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The possibility of introducing 100% biogas in road transport by 2025, for example through a Green Deal procedure, will be explored with industry and fuel distributors, taking into account compatibility with the distribution obligation.

### **Climate and Energy Strategy**

Tightening emissions trading in the emissions trading sector together with the national reforms of energy taxation already agreed as well as measures under the Sustainable Growth Programme will take Finland towards reducing emissions by 6–7 Mt.

The reduction of emissions from industry will be realised mainly on the basis of the implementation of the low-carbon roadmaps for individual sectors. Implementing the roadmaps requires a predictable operating environment that supports low-carbon investments.

To improve the cost-effectiveness of emission reductions, and in particular to meet the obligations of the effort-sharing sector, provision will be made for cross-sectoral flexibility in line with EU provisions.

A subsidy for the electrification of energy-intensive companies will be introduced to promote low-carbon industrial investment.

Data centres, heat pumps and electric boilers that generate heat for the district heating network will be reassigned to the lower electricity tax category II. Data centres outside the district heating network that meet the criteria for energy efficiency and energy utilisation, and building-specific heat pumps of industrial size are also entitled to a reduced electricity tax. The electricity tax reduction also applies to recirculating water pumps in geothermal heating plants. The changes will be brought into effect from the beginning of 2022, provided that the necessary approval has been secured from the European Union.

In the 2022 budget proposal, the most significant investments supporting the green transition are energy infrastructure investments, investments in new energy technologies, investments in low-carbon hydrogen and capturing and harnessing carbon dioxide, and the electrification of industrial processes, for which a total increase of EUR 453 million is proposed. These investments will launch a series of investments whose full emission reduction potential could, when realised, be at least three million tonnes of CO<sub>2</sub> per year from 2026.

One of the goals of the Climate and Energy Strategy is to boost the carbon handprint of Finnish companies. Carbon handprint refers to the positive climate impact of a company's business, such as its products and services.

Investments that require the implementation of low-carbon roadmaps need a predictable and competitive operating environment. The Strategy for the Renewal of Industry, outlined in the mid-term policy review, will be implemented, including the easing of investment permit procedures proposed in the strategy.

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In the influencing of EU affairs, efforts will be made to promote investment, regulations supporting sustainable production of renewable energy and the achievement of climate goals as well as a predictable operating environment. The ex-ante and ex-post evaluation of the legislative impact of the implementation of directives will be enhanced, as proposed by the Finnish Council of Regulatory Impact Analysis.

### **Promoting renewable and low-emission energy**

During 2022, a new energy aid decree will be prepared and aid allocated to proof-of-concept projects for new energy technologies.

With the commercialisation of renewable energy production technologies, direct aid will be allocated primarily to new technologies. Use of different funding instruments will be promoted.

The introduction of non-combustion-based forms of heat production, such as waste and environmental heat recovery and use of geothermal heat, will be accelerated.

Bioenergy production and the availability of sustainable raw material flows will be promoted by, among other things, strengthening supply chains and logistics. Channelling of industrial wood to combustion will be avoided. The energy use of industrial wood will be monitored and the required steering instruments to intervene, if necessary, will be prepared.

In energy production, including renewable transport fuels, the development and commercialisation of new raw materials and production technologies will be promoted through steering instruments and support programmes.

The national biogas programme will be implemented.

Conditions for the construction of offshore wind power will be improved by, among other things, developing administrative processes so that they are clear, transparent and equitable and guarantee sufficient investment security for project developers. At least one offshore wind proof-of-concept project will be implemented. Work will continue on coordinating wind power and territorial surveillance and a reform of the Compensation Act will be evaluated. The aim will be to utilise wind power construction facilitated by the Defence Forces, and the reasons why part of that potential is currently not used will be examined.

In connection with the reform of nuclear energy legislation, the possibility of utilising small modular nuclear reactors (SMRs) as part of electricity and heat production will be assessed, with due attention to safety.

As part of the Climate and Energy Strategy, a national hydrogen strategy will be prepared, which will include promotion of P2X technology, hydrogen production and

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CCSU solutions. Based on the strategy, a Government resolution will be made to promote the hydrogen economy. The goal is to create for Finland a competitive and predictable investment environment for the hydrogen economy. Targets will be set for hydrogen production electrolysis capacity in 2025 and 2030. Use of hydrogen in transport will be piloted, particularly in heavy transport and waterway transport.

In industrial policy, forward provision will be made to support the transition of industry to low-emission production, and to enable fossil-free production, for example in the steel industry. The sufficient supply of affordable electricity nationally will be ensured, and an urgent assessment made during 2021 of the various options to ensure the emergence of adequate hydrogen production and distribution, one option being the establishment of a national hydrogen company to support the development of a hydrogen cluster and infrastructure. The assessment will be prepared jointly by the Ministry of Economic Affairs and Employment, the Prime Minister's Office and the Ministry of Finance.

The tax exemption for small-scale energy production will be continued. The operation of energy communities and new energy community models as well as properties' own energy production will be promoted, taking into account the implementation of the resolution made by Parliament on the Electricity Market Act.

A flexible and intelligent energy system as well as sector integration will be developed.

Investments will be made in developing new technologies and commercialising innovations, particularly in relation to energy infrastructure, new energy technologies, hydrogen and power-to-X solutions, electrification and the circular economy.

An assessment will be made of the need to create a regulatory framework for technical negative emissions, i.e. CO<sub>2</sub> removal solutions.

### **Promoting energy efficiency, the energy market and security of energy supply**

Energy efficiency agreements will be extended beyond the current agreement period 2017–2025. Adequate incentives will be provided to the companies involved in the agreements.

The energy efficiency requirements for new buildings and renovations subject to authorisation will be updated, if necessary, during 2023 at the latest. The implementation of the legislative roadmap for low-carbon construction based on life cycle assessments will be continued. Continued efforts will be made to promote wood construction.

Sector integration will be encouraged and solutions developed that can combine both district heating and properties' own energy production, optimising their use.

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Extensive utilisation of clean electricity production, such as wind power, will be secured and steps taken to ensure that Finland remains a single electricity price area, through adequate national and international electricity transmission connections and efficient licensing processes.

Statistics, spatial data and open data will be utilised in steering energy and climate policy. Emission reductions achieved through digitalisation will be promoted, for example by implementing the ICT climate strategy. A good level of cyber security for energy systems will be ensured.

### **International climate finance**

International climate finance is an important part of Finland's climate policy. Climate finance included in the development cooperation budget has been increased during the parliamentary term. By the end of 2021, the Ministry for Foreign Affairs will prepare a long-term plan for the level and allocation of Finland's international climate finance. At the same time, the possibility of opening up the estimated allocation of international climate finance in the budget proposal will be explored. The implementation of the plan is reported to Parliament annually in connection with the Annual Climate Report. The development policy scorecard to be issued in 2022 will include an overview of the amount, allocation and results of climate finance during the parliamentary term.