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REPORTING ON A NATIONAL SYSTEM FOR POLICIES AND MEASURES AND PROJECTIONS UNDER

ARTICLE 13(1)(A) OF REGULATION (EU) NO 525/2013 AND ARTICLE 20 OF IMPLEMENTING REGULATION (EU) NO 749/2014

FINLAND

This description covers the information on Finland's national system for reporting on policies and measures and for reporting on projections of anthropogenic greenhouse gas emissions pursuant to Article 13(1)(a) of Regulation (EU) No 525/2013 (MMR) as it is in place for the time being. Finland's report on policies, measures and projections in 2019 pursuant to Article 13 and 14 of the MMR has been prepared according to the arrangements described hereafter.

Arrangements for reporting on policies and measures and reporting on projections have been stable in Finland for several years. The latest addition in the reporting practices comes from the national Climate Change Act that entered into force in 2015. The Act contains a provision on a Medium-term Climate Change Policy Plan adopted by the Government once every government term. The plan includes an action plan that proposes the measures for reduction of anthropogenic greenhouse gas emissions and mitigation of climate change in the sectors outside emissions trading, and projections of greenhouse gas emissions and the effects of policy measures on the emissions. The first Medium-term Climate Change Policy Plan was finalised in 2017. The Act also introduces new national yearly reporting to the Parliament in the form of an annual report. The Ministry of Environment coordinates the preparation of the Medium-term Climate Change Policy Plan and the annual climate change report and all relevant ministries are involved in the work.

As regards the obligation pursuant to Article 12 of the MMR, Finland complies with the deadline according to the Article to set up, operate and continuously improve the national reporting system. In case there would occur some changes in the national reporting system described hereafter, Finland will submit the information on that to the Commission as provided in the MMR.

(a) information concerning the relevant institutional, legal and procedural arrangements, including the designation of the appropriate national entity or entities entrusted with overall responsibility for the policy evaluation of the Member State concerned and for the projections of anthropogenic greenhouse gas emissions;

(b) a description of relevant institutional, legal and procedural arrangements established within a Member State for evaluating policy and for making projections of anthropogenic greenhouse gas emissions by sources and removals by sinks;

The Government and Parliament make the major decisions concerning Finland's energy and climate policy. Since 2003, the Finnish governments have appointed a ministerial working group on energy and climate policy with representatives from all government parties and chaired by Minister of Economic Affairs. The ministerial working groups have been responsible for preparing and updating the national strategies on energy and climate policy, completed in 2001, 2005, 2008, 2013 and 2016.

The roles and responsibilities of the ministries and other authorities are determined in a Government Resolution on the Obligations of Climate Policy Activities of Government Authorities approved in 2003. According to the government resolution, the ministerial working group has a network of officials acting as its preparatory body. The Ministry of Economic Affairs and Employment chairs the network of officials and is in charge of the overall coordination and compilation of the strategy work. Each sectoral ministry is responsible for the preparation concerning its respective remit.

The network of officials comprise representatives from the Ministry of Economic Affairs and Employment, the Ministry of the Environment, the Ministry of Transport and Communications, the Ministry of Agriculture and Forestry, the Ministry of Education and Culture, the Ministry for Foreign Affairs, the Ministry of Finance and the Prime Minister's Office.

In terms of the reporting on policies and measures and projections referred to in Articles 13 and 14 of Regulation (EU) No 525/2013 (hereinafter referred to as “the Reporting”), the Ministry of Economic Affairs and Employment is responsible for overall co-ordination, compilation of information and submission to the European Commission. The sectoral ministries are responsible for the projections and impact assessments concerning their own field. The network of officials gives the final approval concerning the information in the reporting tools and paper report to be submitted.

A specific working group (hereinafter referred to as “the PAMs working group”) is established for each round of the Reporting to carry out the work. The working group consists of experts from the Ministry of Economic Affairs and Employment, Ministry of the Environment, Ministry of Transport and Communications, Ministry of Agriculture and Forestry and Ministry of Finance.

Regarding the specific sectors, the responsibilities are as follows:

- the Ministry of Economic Affairs and Employment: energy use of industry, services and households, industrial processes, over-all energy consumption and production. Energy efficiency in these sectors falls under the responsibility of the Energy Authority.
- the Ministry of the Environment: F-gases, waste and energy use in buildings
- the Ministry of Agriculture and Forestry: agriculture, forestry, land use, land use change and forestry –sector (LULUCF)
- the Ministry of Transport and Communications: transport
- the Ministry of Finance: taxation, short-term economic development

The ministries and the Energy Authority can consult expert organisations for acquiring data, assessments of policies and measures and modelling sector-specific projections. Following expert organisations contributed to the Reporting in 2019: Finnish Environment Institute (SYKE), Finnish Transport and Communications Agency, VTT Technical Research Centre of Finland Ltd, Motiva Ltd, Natural Resources Institute Finland (LUKE), Benviroc Ltd and Statistics Finland.

(c) a description of the relevant procedural arrangements and timescales to ensure the timeliness, transparency, accuracy, consistency, comparability and completeness of the information reported on policies and measures and the information reported on projections;

The Ministry of Economic Affairs and Employment is responsible for ensuring the timeliness of the Reporting. No later than six to four months before the deadline of the Reporting, a kick-off meeting between the PAMs working group members is organized to launch the work. A date is set by which the PAMs working group members provide a list of their respective policies and measures to be included in the Reporting, along with a division between the WEM and WAM scenarios. The Ministry of Economic Affairs and Employment then checks the lists to ensure completeness and that there are no overlaps.

Two to three months before the deadline of the Reporting, the PAMs working group members provide their respective information concerning the policies and measures and projections to the Ministry of Economic Affairs and Employment, which compiles all the information into the reporting tools and a single paper report. This schedule leaves sufficient time to perform the remaining QA/QC activities (described under item f).

The Reporting is prepared in a transparent manner. In 2019, the Reporting is based on the latest version of Energy and Climate Strategy¹ and Medium-term Climate Change Policy Plan². Key assumptions and policy measures are described and published in a background report to the Strategy. Furthermore, the Reporting uses publicly available data to a large extent. Not all data can be published, however, due to being confidentially reported by companies. Out of the assumptions, methods and models used by expert organizations in evaluating policies and measures or used in making the projections, many are publicly available or have been described in public sources.

Accuracy is ensured through several measures. First, all the expert organizations providing information are well-established. Second, the Reporting uses publicly available data and commonly agreed assumptions to as large an extent as possible, and most of the methods and models have been used before in national and international reporting. Third, projections follow the greenhouse gas source and sink categorization recommended by the European Commission (based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories and revised UNFCCC CRF tables for inventory reporting). Fourth, effect on mitigation of climate change as well as costs and benefits are assessed for such individual or groups of policies and measures that the assessments can be done in an accurate manner giving practical information, taking into account the reasonable amount of work and available data. Furthermore, the QA/QC procedures (described under item f) are strictly followed.

Consistency and comparability are ensured through several measures. The Reporting is based on Finland's newest Energy and Climate Strategy (2016) and Medium-term Climate Change Policy Plan (2017) and their scenarios. At an early stage of preparing the Strategy and Medium-term Climate Change Policy Plan, a common framework is determined for the baseline scenario. The framework is determined in a collaborative manner between the ministries mentioned under item a), and it is approved by the ministerial working group on energy and climate policy. The framework comprises several parameters related to economic growth, population growth, international climate policy, and price of energy. The framework also includes assumptions on the future use of different sources of energy and waste treatment, among others things.

All ministries use the common framework while contributing to the Strategy and its baseline scenario. Furthermore, under the coordination of Ministry of Economic Affairs and Employment, interrelated assumptions are discussed and decided between the relevant ministries and government agencies. These procedures ensure the consistency and comparability of the assumptions and results between the different sectors in the Strategy.

Common parameters provided by the European Commission for the Reporting (as was the case for the 2019 round in the document "Recommended parameters for reporting on GHG projections in 2019, Final, 15/6/2018") are used whenever applicable. As the Reporting also strongly relies on the latest version of Energy and Climate Strategy and Medium-term Climate Change Policy Plan, the above mentioned strategy-making process improves the consistency and comparability of the information used in the Reporting. In the case that the Reporting requires extending or updating assumptions affecting several sectors, the PAMs working group members agree on these together. Sector-specific assumptions that are not available in the above mentioned sources are selected based on the expertise of the PAMs working group members or the expert organizations and rely on other relevant strategies, plans and research reports as much as possible.

To classify policies and measures under the WEM and WAM projections, a cut-off date is agreed by the PAMs working group. Across the different sectors, the reported policies and measures that are implemented on or before the cut-off date belong to the WEM projection and those implemented after the cut-off date or being in planning phase to the WAM projection.

In order to ensure completeness, early on, the PAMs working group members provide a list of their respective policies and measures to be included in the Reporting, along with a division between the WEM

¹ <http://julkaisut.valtioneuvosto.fi/handle/10024/79247>

² <http://julkaisut.valtioneuvosto.fi/handle/10024/80769>

and WAM scenarios, to the Ministry of Economic Affairs and Employment. In 2019 this was done through a web-based tool which made the process of providing data accurate and smooth. The Ministry of Economic Affairs and Employment then checks the lists to ensure completeness and that there are no overlaps. Furthermore, the projections follow the greenhouse gas source and sink categorization recommended by the European Commission (based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories and revised UNFCCC CRF tables for inventory reporting).

(d) a description of the overall process for the collection and use of data, together with an assessment of whether consistent processes for collection and use of data are underpinning the evaluation of policies and measures and the making of projections as well as the different projected sectors in the making of projections;

Much of the data used in the Reporting is published by Statistics Finland, a public authority specifically established for statistics, which has rigorous QA/QC procedures and whose data is of very high quality. Other data is collected by the well-established expert organizations listed under item a) from a variety of sector-specific sources, for example from government databases and studies by consulting companies, research organizations or business associations.

A specific example of sector specific sources is evaluating the impacts of energy audits and voluntary energy efficiency agreements for industry, energy sector, municipalities, private services, property and building sector and oil heated buildings by Motiva. Well-functioning monitoring system for the voluntary Energy Efficiency Agreement (EEA) scheme as well as for Energy Audit Programme (EAP) has had a central role to reveal the results, create trust and credibility and get long-term top-level commitment.

In energy audit program's monitoring system in Phase 1, the client submits a subsidy application with general data to the competent authority (since 2017 to Business Finland (former Tekes)), previously to the regional Centre for Economic Development, Transport and the Environment). The energy audits are then performed by qualified auditors in accordance with official guidelines. In Phase 2, the client submits an audit report with detailed data. In both phases, the data is passed on to Motiva, who performs quality control of the audit reports and stores the data of the proposed measures in their database. Energy audit programme monitoring system has been in operation since 1994, and contains information on over 7,000 reported audits and over 45,000 proposed measures.

Voluntary EEA scheme has its own monitoring system where data is gathered in EEA's annual reporting. The joint companies and municipalities (near 600) are delivering over 3,200 annual reports (every site delivers its own report) including a lot of information on the implemented energy efficiency measures as well as other measures which are supporting continuous improvement in energy efficiency and which fulfil obligations in the EEA scheme. Motiva performs data control and checks and enquires additional data where necessary.

Databases for these two policy measures (EAP and EEA) have been connected since 2008. This allows via EEA annual reporting information easily a possibility to gather feedback data related to the implementation of the measures proposed in energy audits. This feedback data is utilized in Phase 3 in EAP monitoring system and in EAP's impact evaluations. The connection with these two central energy efficiency policy measures (EAP and EEA) in Finland also makes it easily possible to avoid double counting in impact assessments for these two policy measures. Due to these rigorous procedures, the evaluation of the impacts of energy audits and voluntary energy efficiency agreements is based on exceptionally extensive and high-quality input data.

The expert organisations and ministries providing data or using it in making assessments of policies and measures and modelling sector-specific projections for the Reporting are listed under item a). They are some of the best modellers of their own sectors in Finland. Mostly the same organisations using the same models also prepare calculations and information for Finland's greenhouse gas emissions inventory or

energy statistics, which are compiled by Statistics Finland with rigorous QA/QC procedures and very high standards for quality.

The Reporting is based on Finland's Energy and Climate Strategy and Medium-term Climate Change Policy Plan, their scenarios and the common framework determined for baseline scenario, as is described in detail under item c). This increases the consistency in the collection and use of data. On the other hand, different reporting requirements between various reporting obligations under the UNFCCC and EU may lead to unequal results for the same policies and measures.

Based on the procedures described above, it is fair to assess that relatively consistent processes for collection and use of data are underpinning the evaluation of policies and measures and the making of projections as well as the different projected sectors in the making of projections.

(e) a description of the process for selecting assumptions, methodologies and models for policy evaluation, and for making projections of anthropogenic greenhouse gas emissions;

The process for selecting assumptions for policy evaluation is described in detail under item c), and making the projections is described under items a), b) and c).

The methodologies and models used in policy evaluation and in making projections are selected by the expert organizations providing the numerical data (listed under item a) based on their expertise. Most of the methodologies and models used for the Reporting in 2019 have been used previously for reporting to the EU and UNFCCC and are listed below and described in more detail in Finland's Seventh National Communication under the United Nations Framework Convention on Climate Change³.

Energy:

- Tampere University of Technology and VTT Technical Research Centre of Finland Ltd: EKOREM model for calculating the energy consumption and greenhouse gas emissions of building stock⁴
- Tampere University of Technology: POLIREM model for calculating the energy consumption and greenhouse gas emissions of building stock⁵
- VTT Technical Research Centre of Finland Ltd: REMA model for forecasting energy consumption for the building stock
- Benviroc Ltd: IMPAKTI model for emission mitigation impact of measures promoting the use of renewable energy
- Motiva Ltd: National Bottom-Up method based on detailed data covering energy efficiency measures in industry, energy sector, private services sector, municipalities and property and building sector.

Transport and machinery:

- VTT Technical Research Centre of Finland Ltd: LIPASTO calculation system for transport sector projections including the following submodels:

³ http://www.stat.fi/static/media/uploads/tup/khkinv/fi_nc7_final.pdf

⁴ Mattinen *et al.* 2014 includes model description, available at: www.sciencedirect.com/science/article/pii/S0959652614005319

⁵ Mattinen Maija, Heljo Juhani 2016. Modeling of Finnish building sector energy consumption and greenhouse gas emissions – specification of POLIREM policy scenario model, Reports of the Finnish Environment Institute 26/2016. <http://hdl.handle.net/10138/164571>

- ALIISA (car fleet)
- LIISA (road transportation)
- MP-LIISA (motorbikes and mopeds)
- RAILI (railways)
- MEERI (waterborne transport)
- A model for leisure and professional boats
- TYKO (machinery, 3 sub models)

F-gases

- The Finnish Environment Institute: A calculation model for F-gas emissions and emission projections from refrigeration and air conditioning equipment in the level of 15 sub sectors, other calculation models for other F-gas sectors

Agriculture

- Natural Resources Institute Finland (former MTT Agrifood Research Finland): Agricultural sectoral model Dremfia, other calculation models
- Motiva Ltd: Energy efficiency measures in agriculture by national bottom-up methodology

Waste

- The Finnish Environment Institute: A scenario tool for projections⁶

LULUCF

- Natural Resources Institute Finland: MELA model for growing stock and drain; Yasso model for mineral soil carbon stock changes in forest land and cropland.

(f) a description of the quality assurance and quality control activities and of the sensitivity analysis for projections carried out.

All the expert organizations providing information for the 2019 reporting are well-established and have their own QA/QC procedures. Furthermore, the ministries and Government agencies are responsible for the quality of information on their respective policies and measures and projections (as described under items a) and b)) and perform further checks where applicable, such as comparison to other estimates.

The Ministry of Economic Affairs and Employment is responsible for collecting and combining all the information and for performing further quality checks. For example, the Ministry of Economic Affairs and Employment compares the sectoral projections to the scenarios of the latest Energy and Climate Strategy as well as compares the compatibility of the WEM and WAM projections with the effects of policies and measures. The Ministry of Economic Affairs and Employment also checks the completeness and that the reporting requirements are met.

Sensitivity analyses for projections are carried out for factors being especially significant in terms of greenhouse gas emissions in Finland, and they are described in detail in the report accompanying each round of the Reporting. For the reporting on projections in 2019, sensitivity analysis was carried out for the economic development. .

⁶ Mattinen, Maija Hildén, Mikael and Jouko Petäjä 2012. Calculations of greenhouse gas emissions of waste sector and F-gases for policy scenarios in Finland. Finnish Environment Institute, Finnish Environment 18, Helsinki. <http://www.ymparisto.fi/default.asp?contentid=410745&lan=en>

After the reporting tools and paper report have been compiled by the Ministry of Economic Affairs and Employment, they are sent to the PAMs working group for approval and afterwards to the network of officials (described under items a and b) for final approval.