Session SBI45 (2016)

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Question by Israel at Wednesday, 31 August 2016

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

Type: Before 31 August

Title: Implementation of energy efficiency technologies & impact on GHG emissions projections

(CTF Table 3)

According to the Finland BR (page 28) "*The calculation of energy savings from energy efficiency agreements is based on energy-saving measures reported as implemented in the annual reports of companies and communities who have joined the agreements."*

Regarding energy efficiency audits, the report states that "*the impact calculations of the energy audits makes use of information on the energy-saving potential of the measures proposed during energy audits, which is input into the energy audit database. Information on the implementation of these proposed measures is gathered through energy efficiency agreement's annual reporting from all those who have signed up to the energy efficiency agreement.*"

1. **EE measures - Actual vs. Planned performance:**

   It is unclear whether the savings are monitored over time, or based on the energy-saving potential proposed when entering into the agreement / performing the energy audit.

   In certain cases, there could be significant differences between the ex-ante (forecasted / modelled / estimated) energy savings and their ex-post (actual) value – after the technology is installed, with actual savings potentially lower than the projected value. Furthermore, the actual value can only be assessed if it is monitored continuously and over a long period of time.

   Given that there could be changes between projected and actual energy savings, how were these differences taken into account in forecasting national electricity consumption and the associated GHG emissions in the "with measures" projection?

2. **EE measures - Persistence of installed EE measures:**

   In what manner were implemented energy efficiency technologies and their impact on future GHG emissions integrated into the country's GHG emissions projections.? In particular: a) In forecasting the resulting nationwide electricity consumption following implementation of these technologies ("with measures" projection), were the associated savings assumed to last only for the useful life of the relevant technology, or was it is assumed that savings, once achieved, would last throughout the forecasting period (i.e, assuming that once the end of the useful life has been reached, the technology would be replaced by with an appliance with similar performance)? and b) Was potential degradation of energy efficiency technologies over time included in the GHG projections for 2030?

Answer by Finland, Thursday, 27 October 2016

1. Both estimations, ex-ante and ex-post, are done. Ex-post is also one kind of an estimation, because the exact savings cannot be calculated precisely. The ex post estimation is based on a comprehensive and robust data collection and auditing system, but there are many other variables (GDP and its structure, sell of devices / machines, etc.) effecting the use of energy/electricity that needs to be considered in the ex ante estimations. Therefore, straight comparison between ex ante and ex post estimations is not possible. The acquired knowledge of this phenomenon is helping us in making the ex-ante estimations more realistic, closer to the ex-post path rather than idealistic. So yes, these differences were taken into account with the best expert judgement in the forecasting and estimation of associated emissions.

2 a) Normally, the adopted technology (with a certain energy efficiency) stays unless it is replaced by a better, more efficient one: incandescent lamp by halogen / energy saving lamps and eventually LED. So yes, savings are assumed to last throughout the forecasting period, if otherwise is not shown or reasoned.

2 b) The potential degradation of energy efficiency technologies is built-in in the historical development and behavior, and thus partially also effecting the future. But no direct degradation parameter is used.

Question by Brazil at Wednesday, 31 August 2016

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

Type: Before 31 August

Title: Estimates of mitigation impacts

In “CTF Table 3 Progress in achievement of the quantified economy-wide emission reduction target: information on mitigation actions and their effects”, a significant number of mitigation actions were listed. Congratulations for that. However, there is no mitigation impact estimated/available for some of the actions. Please, inform the reasons for not reporting mitigation impacts of those actions. What are the difficulties?

Answer by Finland, Thursday, 27 October 2016

Finland has continuously developed the evaluation of effect of policies and measures. However, there are limitations in preparing the estimates for all the policies and measures, due to methodological challenges, for example. The challenges in impact assessment related e.g. to crosscutting measures, economic measures and measures related to increased awareness of the general public. Please also note that for some measures in table 3 impacts have been estimates for a group of measures (measures for F gases and Waste).

Question by Israel at Wednesday, 31 August 2016

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

Type: Before 31 August

Title: Information on mitigation actions and their effects

CTF Table 3

The table includes a list of implemented policy measures and their projected impacts in terms of GHG mitigation (tCO2e per year). A better understanding of some of the policy measures included in Table 3 would be helpful:

a. Could Finland add some contextual information (or disclose where such information is available) related to the key policy measures and specifically to the costs related to these measures, the actual energy savings (electricity, fuel etc.) which result from the reported GHG mitigations for each policy measure, as well as information related to planned reductions vs. actual reductions achieved.
b. In addition, is their information about barriers to implementation of such policy measures ?

Answer by Finland, Thursday, 27 October 2016

a.
The impacts and related costs are estimated at different level depending on the specific policy measures. It is not always possible or meaningful to estimate the effects separately for each policy and measure. The impact and cost estimation estimations are often based on projects by various research and other organisations (the projects have often been funded by the ministries). The results are mostly reported in Finnish, therefore references to a limited number of relevant studies are included in the second Biennial report.

b.

For major policies an environmental assessment is done, important measures are also often commented by stake-holders before implementation. The assessments and commenting provide information on possible barriers of implementation.

Question by Brazil at Tuesday, 30 August 2016

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

Type: Before 31 August

Title: CTF Table 3

Regarding mitigation actions referred to in “CTF Table 3 Progress in achievement of the quantified economy-wide emission reduction target: information on mitigation actions and their effects”, are there any current estimates of mitigation impacts since the respective years of implementation?

Answer by Finland, Thursday, 27 October 2016

Finland is currently preparing new national energy and climate strategy and climate plan for non-ETS sector until 2030 (KAISU). The effects of policies and measures are evaluated in these processes. The results will be available for the preparation of the 3rd Biennial report and the 7th National Communication of Finland.

Question by Brazil at Tuesday, 30 August 2016

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

Type: Before 31 August

Title: Nuclear energy

What is the current situation of nuclear energy (power plants, generation, etc.) and what are the plans of Finland for the nuclear energy sector in its projections for GHG emissions in the future?

Answer by Finland, Thursday, 27 October 2016

There are currently four units with a total capacity of 2,6 GW and generation of 22,3 TWh/a.

In the projections, it is assumed that Finland’s fifth nuclear power plant unit (1600 MW, Olkiluoto 3) will be completed in late 2018 and one additional nuclear power plant unit (1200 MW, Hanhikivi 1) will be operational in the mid-2020s. In the projections, the two oldest units (Loviisa 1 and Loviisa 2, 490 MW resp. 500 MW) are assumed to stay operational until 2027 and 2030, respectively.

Question by Brazil at Tuesday, 30 August 2016

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

Type: Before 31 August

Title: Wind power generation

The results for wind power generation reported in Figure 4.1 and Table 4.2 show that this sector has the widest gap between its results and its projections for 2020, 2025 and 2030 (0.8 TWh produced in 2013, and 6 or 7 TWH estimated for the future years). Does this result fit the expected trend of the projection? Is the government planning new actions to push forward the sector?

Answer by Finland, Thursday, 27 October 2016

There is a feed-in premium-scheme in place for 2500 MVA wind power. The scheme is fully booked and most of these wind farms will be in operation by late 2017. Already in 2015 the wind power production was 2,3 TWh. The Government is currently preparing its energy and climate ctrategy and is in that process evaluating the future need for policy measures on renewable energy. The energy and climate strategy will be published by the end of 2016.

Question by China at Monday, 29 August 2016

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

Type: Before 31 August

Title: transport emission

It is impressive that transportation emission of Finland has almost been stable since 1990. We noticed that dozens of mitigation actions have been implemented to reduce emissions from transportation sector. Could

Finland identify the most effective approaches and provide information about further plans to control transportation GHG emissions?

Answer by Finland, Thursday, 27 October 2016

The most effective measures in reducing the transportation sector's greenhouse gas emissions have been a) promoting the use of biofuels b) renewing of the vehicle fleet (passenger cars and vans) and c) influencing modal splits and curbing the growth in the vehicle kilometres. According to the national act on promotion of the use of biofuels for transport (446/2007), it is expected that biofuels will account for 20% of all fuels consumed in transport in 2020. Two main factors behind the fleet renewal developments are the binding CO_2 standards for passenger cars and vans, and the CO_2 differentiated car taxation in Finland. The global economic downturn during recent years has partly decreased the demand for transport and thus promoted the emissions reduction.

Finland will further focus on improving energy efficiency of the transport system, passenger cars, vans and heavy duty vehicles as well as promoting the use of biofuels and alternative propulsion methods. The specific measures will be discussed as part of preparations for a new national energy and climate strategy. This work will be finished by the end of 2016.

Question by China at Monday, 29 August 2016

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

Type: Before 31 August

Title: projections

As pointed out in TRR, emission projection in 2020 were relied on large set of assumptions (i.e. Energy price, population growth, economy growth and etc.). Was sensitivity analysis conducted? Could Finland provide more information regarding this?

Answer by Finland, Thursday, 27 October 2016

Sensitivity analysis has been conducted with regard to economic growth assumptions. The industry in Finland is very energy intensive and consequently the projections are most dependent on the assumptions on economic growth. The sensitivity analysis is described in Chapter 5.6 of the 2nd Biennial Report.

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Session closes at 28-10-2016

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