Mitigating climate change
The preparation and implementation of the national climate and energy strategy

The long-term climate and energy strategy that was prepared in 2008 sets out Finland's climate policy according to EU objectives. These call for Finland to reduce emissions in the non-emissions trading sector by 16% by 2020. In addition Finland must increase the share of renewables in overall energy consumption to 38% and increase biofuels' share of transport fuels to at least 10%.

Considerable amounts of money have been and will be allocated to mitigating climate change. According to estimates, in 2020, energy and climate policy will affect the economy and total production particularly through rising energy costs, and as a result national product will be about one per cent lower than in comparative calculations. On the other hand auctioning emission allowances is expected to generate revenues of 50 billion euros a year for the EU member states.

The audit evaluated the quality of the preparation of the national climate and energy strategy and the consistency, effectiveness and cost-efficiency of its implementation from the viewpoint of mitigating climate change. In addition. tentative findings were made concerning the strategy's effectiveness and performance. Data included the results of focus group discussion, policy documents and other written materials, budget proposals, the results of an online survey and interviews.

Preparation of the strategy

The preparation of the national climate and energy strategy was organized with the help of a network consisting of officials from different ministries. The ministerial working group on energy and climate policy was responsible for political steering. However, it did not include the minister of transport despite this sector's importance for climate issues. Preparation was efficient but extensive participation possibilities were not provided. The relatively rapid completion of the strategy process, nevertheless, made it possible to begin implementing the EU's objectives quickly. The strategy's transparency was weakened by the fact that the materials that

were prepared during strategy execution are not easily accessible. The transparency of climate and energy policy is also reduced by the structural inconsistency and complexity of the strategy document.

The strategy was prepared on a sectoral basis. The emission reduction target was also broken down into sectoral targets, though there appear to be differences in the possibilities to achieve these targets. Particularly in agriculture, achieving the sectoral emission reduction target appears unlikely. The information base used in preparing the strategy also varied in different sectors. Shortcomings in the information base concerned the number and cost-efficiency of the alternatives that were examined. Alternative scenarios were not prepared and little information was available particularly on the cost-efficiency of policy instruments and on effectiveness evaluations.

Climate-based funding

Presently, neither budget proposals nor the final central government accounts clearly indicate what items are directly or indirectly linked to the implementation of climate policy. In the audit, a calculation was made of climate-based funding, and it was noted that increasing the transparency of funding, for example, through the use of a separate climate budget would help Finland in reporting to the EU and the UN climate agreement.

The audit indicated that climate and energy funding has doubled from 2008 to 2011. In 2011, the funding totalled circa 550 million euros. This differs from the amount reported by Finland to the European Commission (790 million euros). The difference is mainly due to the fact that the National Audit Office handled appropriations as separate from authorizations for funding in coming years. On the basis of the audit, the core expenditure supporting climate policy accounted for about 15 million euros. The biggest part of funding, circa 45 per cent, was for research, development and innovation activities. About 40 per cent of funding was aimed at supporting renewable energy.

Mitigating climate change is affected not only by appropriations supporting this purpose but also by funding that acts contrary to climate objectives. The Kyoto Protocol requires that Parties gradually reduce or eliminate market distortions, tax incentives, tax and customs exemptions and state aids that have an impact contrary to the convention's objective in all sectors that cause greenhouse gas emissions. This is also important from the viewpoint of central government finances. On the basis of the audit, the climate impacts of tax subsidies, for instance, have not been studied systematically. Tax deductions for commuting costs, which ex-

ceeded all the money allocated for climate purposes in 2008, currently favour private motoring and increase traffic emissions.

Implementation of the strategy

About 360 person-years went into preparatory and implementation work related to climate and energy policy in 2010. About one-fourth of this was linked directly to the preparation of international and domestic climate and energy policy and 35 per cent concerned research institutes' activities. One risk factor identified in the audit is that there are only few experts in a specific area of greenhouse gas emissions inventory and reporting work. The production of information plays a key role in preparing for international climate negotiations, among other things. In monitoring the national climate and energy strategy, improvements must be made with regard to reporting and evaluating the impacts and effectiveness of policy measures as well as the publicity of monitoring materials.

Cross-sectoral cooperation in implementing the strategy has been good, as has the division of labour between the Ministry of Employment and the Economy, which is responsible for national preparation, and the Ministry of the Environment, which is responsible for international preparation, for the most part. In the future, it would be advisable to re-evaluate administrative solutions. According to the audit there are grounds to consider the establishment of an energy agency with several functions.

The audit evaluated sectoral implementation with respect to renewable energy, transport, agriculture and land use. The use of renewable energy has been promoted systematically by increasing appropriations for this purpose and implementing legislation concerning the EU renewable energy target. The achievement of the renewable energy target is in Finland currently dependent on traditional forest industry by-products. This involves a risk, if forest industry production in Finland were to decline. There is also a long-term risk that international emissions accounting may change in a way that energy wood and some other biofuels would no longer counted as having zero emissions. Considering these risks, few new openings have been made in the national climate and energy strategy regarding renewable energy.

A number of emission reduction measures have been taken in the transport sector but they appear inadequate, since growth in the volume of transport has counterbalanced reductions in emissions. In agriculture, there is little information on means to achieve reductions. Furthermore, the most efficient known measure, which would be to prohibit farming on peatlands, has not been viewed as a viable option for agricultural policy

reasons. In land use and community structure, emissions are mostly indirect but this sector has an important effect particularly on transport emissions. The effectiveness of measures is reduced especially by financial incentives that run contrary to the objective.

Tentative evaluations of the strategy's effectiveness and performance

The audit also made tentative findings concerning the strategy's effectiveness and performance. According to the Kyoto Protocol, Finland's obligation is to bring emissions down to their 1990 level in 2008-2012. It appears likely that this target will be achieved. The implementation of Finland's climate policy can be considered adequate from the viewpoint of the Kyoto objective, although its effectiveness is partly due to the economic downturn. Evaluation is hampered by shortcomings in information concerning cost-effectiveness, however.

According to the EU's effort sharing decision, Finland must reduce emissions in the non-emissions trading sector by 16% by 2020. In the national climate and energy strategy this target has been divided into subsectors. The sub-sectoral targets are not binding so if the target is not achieved in one sector, compensation can be made with reductions in another sector. The audit indicated that, in agriculture, transport and land use, measures up to now appear inadequate, which can make achieving the 2020 target challenging. The achievement of the target will also be influenced by the introduction of new policy instruments and, to some extent, by the business cycle.

Another key EU obligation is to increase the share of renewables in overall energy consumption to 38%. Achieving this target appears challenging. Since increasing renewable energy has been set as a separate target by the EU, measures aimed at increasing the share of renewable energy may not necessarily reduce greenhouse gases in the most efficient way possible. On the other hand, Finland has used national leeway by raising the target for biofuels from the 10% set by the EU to 20%, with second-generation transport biofuels counting double. From the viewpoint of real reductions in emissions, the effectiveness depends on the raw material from which biofuel is produced, however. Although biofuels are counted as emission-free, in reality their total life-cycle emissions vary. From the viewpoint of reducing greenhouse gas emissions, tightening the energy efficiency target could have been more effective than raising the biofuel target.