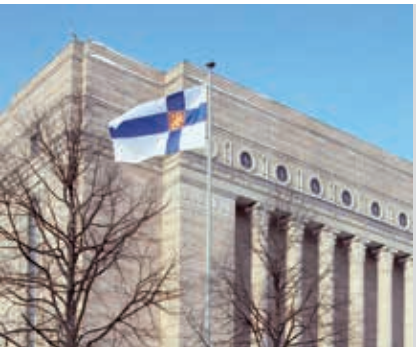

Finnish Climate Change Policies – A Summary of Audits

National Audit Office of Finland

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— A Summary of Audits

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Foreword

In 2008–2011, National Audit Office of Finland (NAOF) conducted a series of audits related to climate and energy policy. The objective of these audits was to examine whether the central government had a clear idea about the climate and energy policy objectives as well as the types of policy instruments and their cost-efficiency.

Five performance audits were carried out as a part of the thematic examination:

- Emissions trading – flexible mechanisms under the Kyoto protocol (2009), follow-up audit (2011)
- The state's role in increasing the supply of lots and creating a more compact urban structure (2010)
- Promoting renewable energy (2010)
- Support for energy and climate technology (2011)
- Mitigating climate change – The preparation and implementation of the national climate and energy strategy (2011).

This publication summarizes the main findings of above mentioned audits.

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1 Conclusions

On the basis of audits conducted, the National Audit Office of Finland states that it is possible to increase the efficiency of the use of central government funds allocated to climate change mitigation and improve climate policy performance. Effectiveness in funds usage has been reduced by issues including vagueness in the target-setting concerning the largest central government climate expense category: support for energy and climate technology. Efficiency is also reduced by contradictions between policy objectives mitigating climate change and those increasing emissions. For example, the central government seeks to cut down transport emissions while at the same time providing various types of support to private vehicle use for other reasons.

On the basis of findings made by the National Audit Office, Finland's view on climate and energy policy objectives is in line with EU policies. New policy instruments have been introduced alongside normative and information steering and traditional economic instruments. These include emissions trading and the feed-in tariff (price guarantee) for renewable energy. There is not, however, enough information available about the cost-efficiency of the various policy instruments and measures.

The National Audit Office found differences between the sectors in climate policy implementation. Increased use of renewable energy has been the area showing the fastest rate of implementation. Increasing the share of renewable energy may not, however, necessarily be the most cost-efficient way to cut down emissions. Transport biofuels are counted as emission-free, but their global and full-lifecycle effects may turn out to be poor from the climate protection perspective. Some of the climate policy performance problems are to do with the EU climate and energy policy, which seeks to reduce greenhouse gas emissions while at the same time increasing the share of renewable energy. Finland could, however, use its national leeway by, for example, tightening its energy efficiency target, which would certainly result in emission reductions.

In the opinion of the National Audit Office, the information base concerning climate policy should be improved. More information is needed particularly about the cost-efficiency of the various measures. This would improve the preconditions for climate policy effectiveness. On the basis of the audits conducted, the transparency of climate policy and the use of central government funds allocated to climate policy must be increased. Attention must also be drawn to the clarity of strategy documents. Broader stakeholder and civil society participation in climate and energy policy formulation is important as climate change cannot be stopped by central government action alone.

Finland seems to be able to reach the objectives set for the Kyoto period (2008–2012), but reaching the targets set by the EU by 2020 appears to be a bigger challenge.

2 Summary of Audit Findings

2.1 Climate and energy policy closely interlinked

Climate change and efforts to mitigate it has become a major global challenge with national and local implications (Figure 1.). Human activity has resulted in global warming, and this is forecast to lead into difficulties in issues including global food production. Various extreme weather phenomena, such as floods and storms, will also increase. In addition to human and social consequences, climate change also has major economic impacts as global gross domestic product is anticipated to remain considerably lower if climate change is not mitigated. On the other hand, significant amounts of money are allocated to climate change mitigation efforts around the world. It is important from the public finances perspective to establish whether or not value for money is obtained: whether or not the funding results in any genuine mitigation of climate change.

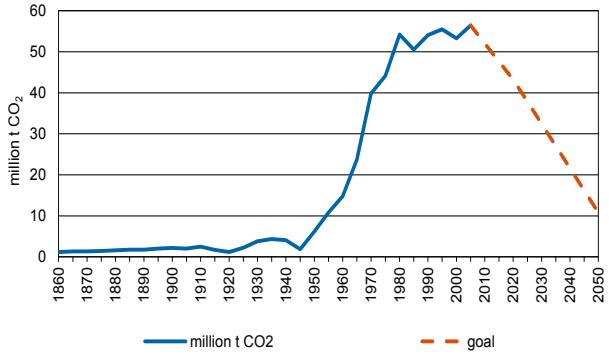

Figure 1. The development of Finland's CO_2 emissions and the reduction goal according to Government Foresight Report on Long-term Climate and Energy Policy. Source: Lyytimäki et.al. (2011). Avainindikaattorit ympäristönsuojeluun.

International agreements have been signed in response to the climate change challenge. According to Finland's current Government Programme, Finland's long-term goal is a carbon-neutral society. The impacts of climate change can be reduced by making cuts in emissions and adaptations to changing conditions. Emission reductions can be achieved by controlling emissions and increasing the amount of sinks, such as forests, that absorb carbon. The National Audit Office's climate and energy audits focused on emission reductions.

Five performance audits have been conducted under the climate and energy audit theme. These cover the flexible mechanisms under the Kyoto Protocol, community structure, promoting renewable energy, support for energy and climate technology, and the preparation and implementation of the climate and energy strategy. An expert workshop was organised to support the thematic reporting, with around twenty key planning officials and researchers participating. The objective of the audit theme was to examine whether the central government had a clear idea about the climate and energy policy objectives as well as the types of steering instruments used and their cost-efficiency.

Climate and energy policy are closely interlinked. Climate policy aims to reduce greenhouse gas emissions, but energy policy also has other objectives. These are related to issues such as employment and industrial policy and energy self-sufficiency. The multiple objectives of energy policy were taken into consideration in the audits, but the main focus of this report is on greenhouse gas emission reductions and whether or not funds allocated to climate policy provide value for money from this perspective.

2.2 Efforts made through EU emissions trading and other measures nationally

Finland's climate policy can be divided into emissions trading within the EU, in which emission reductions take place within the EU emissions trading scheme (EU ETS), and into measures outside the scheme. Large industrial facilities and energy production plants included in the EU ETS account for around half of Finland's greenhouse gas emissions. Emissions trading and actions taken outside the scheme are not, however, totally independent from each other. For example, central government support to renewable energy also affects activities in the emissions trading sector.

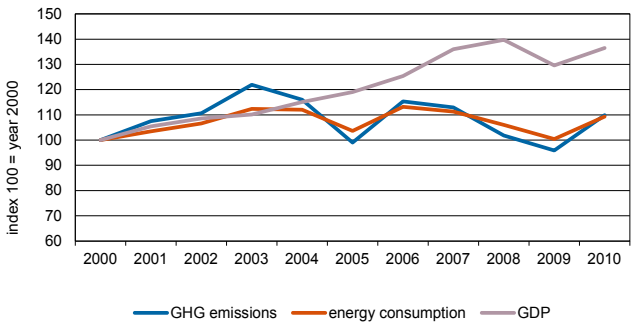

Figure 2. Development of economy and emissions in Finland in 2000-2010. Source: Statistics Finland (2011).

Finland's greenhouse gas emissions are characterised by major annual variations influenced by issues including economic trends, weather conditions and availability of hydropower in the Nordic electricity market (Figure 2). For example, in 2009 emissions were reduced, mainly due to the economic downturn, but increased again in 2010 as the economy recovered. Economic trends have a particular impact on emissions of the EU ETS sector (Figure 3). According to preliminary data published by Statistics Finland, in 2011 emissions were reduced on the year before by 6.4% in the EU ETS sector but only by 0.9% in the non-EU ETS sector. The reduction in energy sector emissions was mainly due to a decrease in coal and natural gas consumption and an increase in electricity net imports.

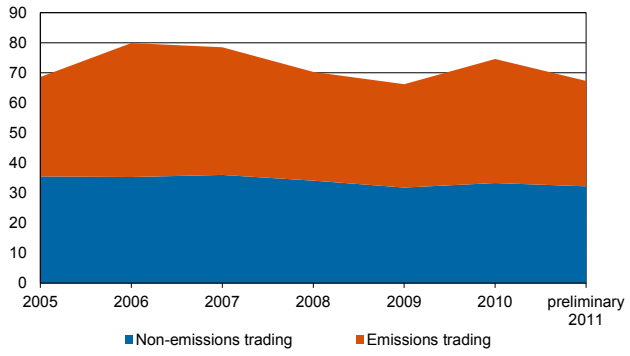

Figure 3. Greenhouse gas emissions in EU-ETS and outside the scheme in Finland in 2005-2010. Source: Statistics Finland (2011).

Emissions not included in the EU ETS are less influenced by the economic situation. The European trend appears to be that emissions from large individual sources included in the EU ETS have been cut down while emissions from the transport sector in particular have increased. Reducing non-EU ETS emissions is the responsibility of the government. Therefore the audits conducted by the National Audit Office of Finland focused on the non-EU ETS sector.

2.3 Kyoto mechanisms aim to stimulate cost-efficient emission reductions

The Kyoto Protocol supplements the United Nations Framework Convention on Climate Change and entered into force in 2005. The objective set for Finland was to stabilise emissions at the 1990 level of 71 million tonnes of carbon dioxide equivalent (tCO2e) in 2008–2012 (Figure 4). The Kyoto obligations can be met through domestic emission reduction measures and by buying emission permits under the flexible mechanisms of the Kyoto Protocol. These mechanisms comprise the Joint Implementation (JI) projects, the Clean Development Mechanism (CDM) and international Emissions Trading (ET). The mechanisms aim to increase the cost-efficiency of emission reduction measures by targeting action at areas where it is the most optimal from the economic perspective. Finland's starting point is to use the Kyoto project-based mechanisms mainly to supplement and secure the cost-efficient implementation of the emission reduction action taken by the non-EU ETS sectors.

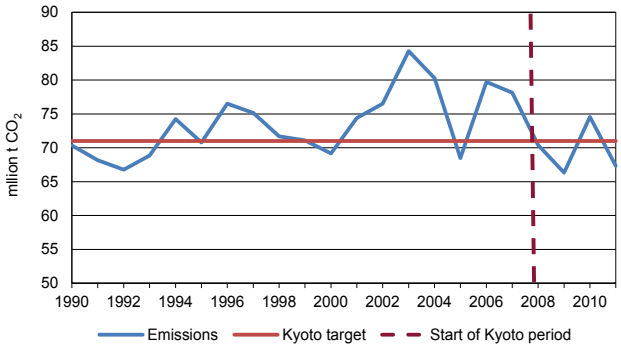

Figure 4. Development of Finnish greenhouse gas emissions in 1990-2011 against Kyoto target. Data for 2011 is preliminary. Source: Statistic Finland (2012).

The National Audit Office has assessed the success of the procurement programme implementing the acquisition of units under the Kyoto flexible mechanisms. The audit found that purchasing activities have been satisfactory but could be improved. Some problems in the organisation of purchasing activities and shortcomings in the monitoring of implementation were noted in the audit. It is important from the mechanism purchase effectiveness perspective that the unit costs of emission unit purchases are lower than the costs of other emission reduction policies. According to the audit, the evaluation of procurement costs had not been uniform in all respects. Some essential expenditure items had not been taken into consideration in bilatral purchases. Carbon funds in particular would have required more detailed calculations on yield and cost expectations.

Follow-up on the audit shows that the Ministry of Employment and the Economy, Ministry for Foreign Affairs and Ministry of the Environment have developed their activities as recommended by the audit. The practical implementation of the measures is, however, yet to be completed in some respects. This, however, is largely due to the fact that the Kyoto commitment period is drawing to its close and the specific details of the second period are not yet available.

2.4 Preparation of climate and energy strategy not transparent enough

The EU outlined policies for the post-Kyoto period to 2020 in the climate and energy package published in 2008. At the EU-wide level greenhouse gas emissions must be reduced by 20% and the share of renewable energy sources in final energy consumption must be increased to 20%. The legally binding target for Finland in the non-ETS sectors is to achieve a 16% reduction in emissions from the 2005 level and to increase the share of renewable energy to 38% of final energy consumption. In addition, the EU has set a 10% minimum target for biofuels in transport to be achieved by each Member State. Published in 2011, the EU low-carbon Roadmap calls for an 80% reduction in emissions by 2050. This is also the long-term vision included in Finland's Foresight Report on Long-Term Climate and Energy Policy.

Finland adopted the targets set by the EU in the 2008 Climate and Energy Strategy. According to the National Audit Office's findings, the preparation of the Climate and Energy Strategy was organised efficiently, but the opportunities offered for participation were not very extensive. Transparency was reduced by the fact that there was no easy access to the materials produced during the strategy formulation work. The strategy document is also difficult to understand.

Energy production accounts for around 80% of Finland's greenhouse gas emissions

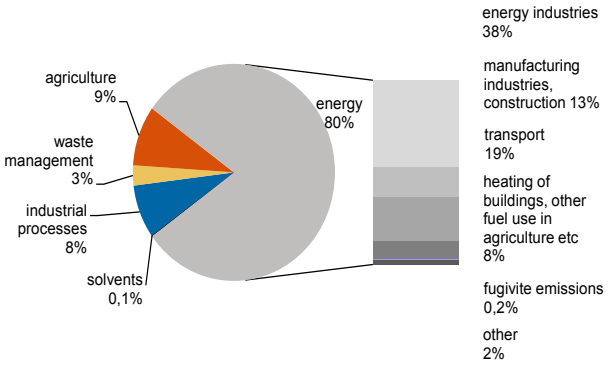

Figure 5. Greenhouse gas emissions by sectors in Finland. Source: Statistics Finland (2011).

(Figure 5). Consequently, the Climate and Energy Strategy has a strong focus on the energy sector, and the strongest role in the process was played by the largest actors in the energy sector. The strategy does not, however, contain innovative initiatives on issues such as decentralised energy production. Moreover, the strategy lacks new initiatives seeking synergies between fields such as climate policy and public health.

In the National Audit Office's view, the transparency of climate and energy policy formulation should be increased. Because the success of climate policy also depends of consumers, the citizen's perspective could help better ensure effective policy implementation. Deeper dialogue could also build bridges between central government policy steering and municipalities' practical climate action; there is currently a rather large gap between the two.

2.5 More cost-efficiency data required

According to the National Audit Office's findings, the climate policy information base varies from one sector to another. Data on production-based emissions is more easily available than data on emissions relating to consumption. It would be important from the consumer perspective to have access to information not only to support policy-making but also to facilitate decisions made by consumers.

In the Climate and Energy Strategy formulation process the shortages in the information base were to do with the number and cost-efficiency of the alternatives examined. The cost-efficiency of the various policy instruments was not systematically evaluated in the formulation of the Climate and Energy Strategy. Many challenges are associated with the generation of cost-efficiency data. The assessment of efficiency is affected by issues including the chosen perspective, target-setting and period. For example, the cost-efficiency of the energy use of peat is poor as regards reductions in greenhouse gas emissions but at the same time it helps reach other objectives. Individual policy measures also have combined effects that can be mutually supportive or conflicting.

Hundreds of billions is spent every year globally on supporting the production and use of fossil fuels. Future price forecasts are uncertain, particularly regarding oil. Opportunities to implement measures found cost-efficient may also be limited. According to research, as regards renewable energy sources, increasing the share of forest chips is, for example, a lot more cost-efficient for the state than the emission reductions achieved through the use of wind power or biogas reactors. The potential of forest chips is, however, limited, so other renewable energy sources will also be needed to reach the target. Alongside these, the cost-efficiency of transport biofuels is particularly low if their global impacts are taken into consideration.

In the opinion of the National Audit Office, cost-efficiency data is important from the viewpoint of political choices and for the achievement and monitoring of climate policy success. It also increases policy predictability as improved cost-efficiency data may reduce the need for rapid changes in direction. Policy continuity is emphasised in the emissions trading sector in particular, but it is also important for choices made by consumers. Regardless of the challenges relating to cost-efficiency data, the National Audit Office finds it necessary to pay sufficient attention to the economic impacts and cost-efficiencies of emission reductions in the future.

2.6 Determined efforts made to promote renewable energy

According to the targets set by the EU, Finland is to raise its share of renewable energy sources to 38% of final energy consumption from the current rate of around 30% (Figure 6). The achievement of this objective calls for government support. Increases in renewables also involve other objectives, such as increasing energy independence, addressing employment and regional policy issues and supporting the sector's technology exports.

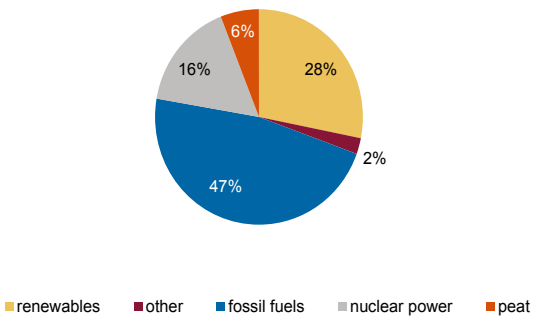

Figure 6. The share of renewable energy compared to other energy sources in Finland in 2010. Source: Statistics Finland (2012).

According to the National Audit Office's findings, the most rapid progress in the implementation of the Climate and Energy Strategy has been made in efforts to increase the share of renewables, with support measures taken including the introduction of the feed-in tariff. Implementing the feed-in tariff through budgetary funding is, however, an expensive solution from the central government finances perspective. The construction of wind power has not – regardless of the feed-in tariff – taken off in accordance with the objective set due to land use disputes.

In the National Audit Office's view the promotion of renewables can help reduce dependence on energy imports. To some extent the increased use of renewables also decreases greenhouse gas emissions. These issues also raise reservations. The net effect of renewables usage on greenhouse gas emissions varies from one form of energy to another and also depends on the level of emissions from the renewable energy production chain. Therefore the percentage targets originating from the EU primarily ensure an increase in the share of renewable energy, but their impact on greenhouse gas emissions remains unclear. The National Audit Office regards it as important to clarify the costs and emission impacts of the various types of support as carefully as possible and to present any alternative calculations in a transparent manner.

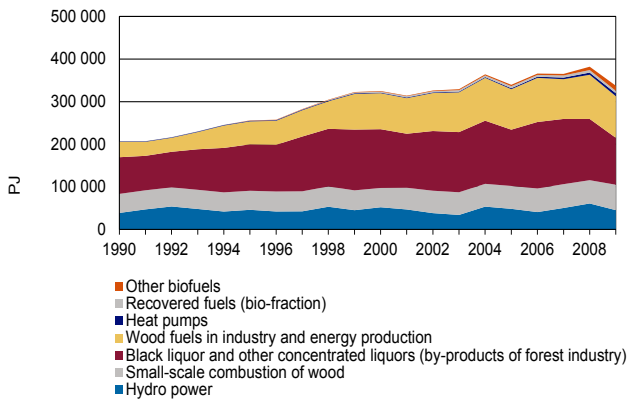

Figure 7. Renewable energy sources in Finland in 1990-2010. Source: Statistics Finland (2011).

There are also risks related to increases in the share of renewable energy. Forest industry by-products are the biggest and most cost-

efficient way to produce renewable energy (Figure 7). Surplus of energy consumed by forest industry facilities can be used by energy plants and other properties. A contraction of the forest industry would have negative effects on efforts to increase the share of renewable energy sources. Another risk, albeit unlikely over the short term, is the potential change in international emission calculation methodology resulting in the biofuel emission factor being changed from zero to some degree of emission source.

It is clear on the basis of the audits that the EU renewable energy target overlaps with the emission reduction target. The obligation to increase the share of renewables may reduce the steering effect of emissions trading. It may also affect the opportunity to opt for more cost-efficient measures as the renewables objective has to be promoted at the same time. Therefore the partly contradictory objectives set by the EU are reflected in national climate policy. National leeway is, however, available in many issues. The EU has set the indicative target of increasing energy efficiency by 20% by 2020. Finland's own target for increased efficiency is 11% of the final consumption of energy. In the National Audit Office's view the national leeway could have been used for increases in energy efficiency, which is a cost-efficient emission reduction method. Energy efficiency and energy savings can help reduce not only greenhouse gas emissions but also the renewables obligation level as this is calculated on the basis of final energy consumption.

2.7 Emission reduction effects of transport biofules questionable

According to the audits conducted, the biggest efficiency risks from the viewpoint of emission reductions are to do with increases in biofuels for transport. The use of biofuels reduces dependence on oil and seeks to cut down greenhouse emissions. Although biofuels are statistically classified as zero-emission fuels, in practice their lifecycle emissions vary depending on the production method.

Finland has raised its national bioenergy target from the 10% set by the EU to 20%, with advanced second-generation biofuels counting double. The risk in the production of first-generation grain ethanol and traditional rapeseed diesel in particular is that increases in their use have hardly any impact towards reductions in greenhouse gas emissions. The global increase in biofuel demand also appears to compete with food production, which raises food prices and aggravates the food crisis. Biofuels also involve risks relating to biodiversity and social problems to do with land use. The National Audit Office considers that sufficient attention should be paid to the above factors when making decisions on increases in the use of biofuels for transport. The National Audit Office also regards it important to take cost-efficiency and efficiency in the reduction of greenhouse gas emissions into consideration in efforts to promote renewable energy.

2.8 Traffic and emissions increased by urban sprawl

One of the climate and energy policy objectives and land use objectives is to achieve an integrated urban structure and reduce the need for transport. According to the National Audit Office's findings, urban sprawl of Finland's largest growth centres has continued regardless of the objectives adopted. Urban sprawl results in increased dependence on cars as households outside the built-up areas often need two cars. Opportunities for the provision of well-functioning public transport are poor in sprawling urban areas. The provision of local services near residents is also difficult.

In sparsely populated areas construction decisions are made on the basis of individual permits, with no systematic planning taking place on the basis of land use plans. Impacts accrue over the long term, and it may be difficult to discern the link between individual permit decisions and the overall development of urban communities. Consequently, the impacts of the steering of urban structures are – unlike many other policy instruments – long-term in nature. If urban sprawl is allowed to take place, the areas will be tied to a carbon-intensive structure for a long time.

Urban sprawl has a negative effect on the sustainability of public finances as dispersed structure generates higher costs than a more compact structure. Dispersed structure increases infrastructure construction and maintenance costs as well as costs arising from the provision of basic welfare services. At the same time residential costs in dispersed settlements are increased by transport costs in particular. The potential rise of oil price in particular as well as increases in transport costs pose a risk to car-dependent households. Indirect cost pressures are also experienced by the central government via issues including central government transfers to local government, but there is very little structured data available about them. Larger traffic volumes increase the costs payable by the central government for greenhouse gas emission reductions.

In the National Audit Office's view, the steering of urban structure in the outskirts of growing urban areas has been a failure. One of the reasons for this is Finland's rather extensive basic construction rights and the non-coordination of municipal land use planning in regional issues. There is also room for improvement in cooperation between municipality-driven land use planning and the transport system planning carried out by the central government. According to the audit conducted, the state does not have a horizontal approach to the development of the urban structure, which weakens the capacities to reach the emission reduction targets set.

2.9 Support to climate technology yet to provide much value for money

According to the National Audit Office's calculations, in 2011 around 550 million euros or around one per cent of budget appropriations was allocated to costs relating to climate change. Central government funding doubled in 2008–2011 (Figure 8). The biggest increases were seen in appropriations relating to research and development and the promotion of renewable energy. The amount of funding alone is not an indicator of efficiency, however.

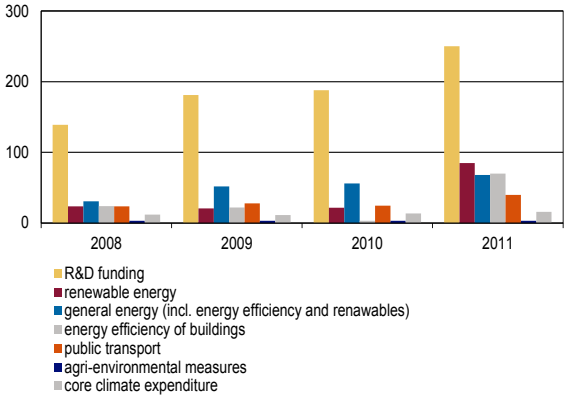

Figure 8. Appropriations supporting climate change action in the 2008-2011 budget proposals.

Research, energy and climate technology and innovation are regarded as a key issue for the achievement of the objectives in the 2008 Climate and Energy Strategy. Between 2008 and 2011, appropriations relating to the climate and energy theme in research, development and innovation increased by almost 80% and formed the largest expenditure item in climate and energy funding.

The largest supporter of research, development and innovation in Finland is the Finnish Funding Agency for Technology and Innovation (Tekes). Tekes provides around half of its support to enterprises, universities and research institutions via programmes. The National Audit Office evaluated five support programmes with a climate and energy focus regarded as the most representative by Tekes. According to the audit, project support provided by Tekes has yet to considerably promote the achievement of climate and energy policy objectives. For example, Tekes aid has – at least so far – not resulted in commercial successes to any noteworthy extent. It should, however, be noted that the commercialisation of innovations in the energy and climate sector may take several years.

The fact that no clear and measurable climate and energy policy objectives have been set for the programmes and projects can be regarded as a key weakness. Climate objectives are nothing but a mention in the programme objectives. Therefore the basic conditions for programme effectiveness are missing from the climate and energy policy perspective. According to the National Audit Office, the ex post evaluations of projects commissioned by Tekes have not achieved their purpose, either. They are too formulaic, often carried out too early, with the questions not covering issues such as greenhouse gas emission effects in conjunction with climate and energy projects. Data on the outcomes of supported projects in relation to the investments made would facilitate comparisons between climate policy instruments.

2.10 Opposite incentives reduce efficiency of spending

In addition to climate funding, climate policy effectiveness would be increased by climate issues also being taken into consideration, where possible, in such use of central government funds that is not directly targeted at climate change. After the financial crisis one of the economic recovery measures used was targeting funds at issues such as the renovation of buildings, which sought to safeguard employment in the construction sector. The 2009 supplementary budget provided budget authority to grant more than 400 million euros for this purpose. The National Audit Office drew attention to whether the use of funds could have been targeted to support issues such as energy efficient construction without compromising on the employment effects.

The effectiveness of climate funding is reduced by such use of funds that steers development to the opposite direction from the climate policy perspective. The Kyoto Protocol also requires the gradual reduction or elimination of such contradicting support or tax incentives. According to the National Audit Office's findings, at the time of the audits no systematic review of opposite support had been carried out in Finland. It is particularly easy to forget the examination of tax subsidies as these do not constitute government expenditure but, instead, revenue not received.

Opposite tax subsidies include reimbursements of energy taxes to industry and agriculture, which are energy intensive as regards the energy efficiency objective. The transport sector also has forms of support that favour private car use and provide an indirect incentive for private car use. These include the company car benefit, tax-free parking benefit provided by the employer and deduction of travel expenses in income taxation. The latter exceeded all the climate costs in 2008. The travel expense deductions are based on a different set of objectives that seeks to increase labour mobility. According to the National Audit Office, the contradictory objectives make it particularly important to have access to up-to-date and calculated data on the societal and central government costs of support, including climate costs.

The National Audit Office finds that a climate budget or climate funding assessment included in the General Strategy and Outlook of the Budget could increase the transparency of climate funding. In the National Audit Office's view the impacts of tax subsidies should also be assessed regularly from various perspectives.

2.11 Climate policy effectiveness

Many challenges are associated with the assessment of the effectiveness and performance of climate policy. Key performance issues alongside policy effectiveness are the costs on which the objectives set are reached. Therefore it is important from the central government finances perspective to achieve the emission reductions in the most cost-efficient way. Cost-efficiency must be examined diversely enough: mere short-term examination and a focus on the cheapest measures may not result in the best possible performance over the long term. In addition to climate and energy policy, greenhouse gas emissions are affected by several other factors such as economic trends, energy prices and weather conditions. Therefore only preliminary observations could be made on climate policy performance on the basis of the audits.

On the basis of the audits, Finland appears to be able to reach the Kyoto target (2008–2012) of stabilising emissions at the 1990 level – possibly even without the Kyoto flexible mechanisms. The implementation of Finland's climate policy can be regarded as sufficient as regards progress towards the Kyoto target, although its effectiveness is partly due to the economic situation. Lack of information about whether or not emission reductions have been cost-efficient makes the assessment of performance difficult.

It may prove more challenging to reach the 2020 target set by the EU. The non-EU ETS target of a 16% reduction in emissions is nationally divided between different sectors in Finland's Climate and Energy Strategy. If a sector does not reach the reduction target, this must be compensated for by other sectors. According to the audits, there are sectoral differences in progress made towards the objective (Table 1). Most non-EU ETS emissions come from transport (40%), and the emission reduction target set for it is 15%. According to the audits, the transport sector has systematically implemented several emission reduction measures. Good progress made in the reduction of emissions from new cars has, however, been virtually cancelled out by an increase in the number of kilometres driven, and current measures are not enough to reach to emission reduction target.

The second-biggest non-EU ETS sector emission source is agriculture (15% of emissions), with its emission reduction target set at 13%. It appears to be difficult to reach the target as there is currently hardly any knowledge of efficient emission reduction measures. In Finland, the main source for emissions in the agriculture comes from soils. For agricultural policy reasons, it has not been regarded as possible to employ the most efficient known method: restrictions on cultivation in organic agricultural soils.

At the same time the steering of land use and urban structures lacks the key prerequisites of the realisation of effectiveness as issues relevant to it are administered under several administrative branches and levels. Therefore it may be necessary to use the flexible mechanisms in order to reach the 2020 target.

Implementation aiming at the increase in the share of renewable energy sources has created prerequisites for considerable growth in the use of renewables. The target is ambitious and its achievement depends partly on issues beyond climate and energy policy steering, such as the development of forest industry production in Finland. Any increases in energy consumption will also make it more difficult to reach the objectives. On the basis of the audits, increased energy efficiency could be an efficient way to reduce greenhouse gas emissions and to reach the renewable energy target. It is also possible that the EU will raise the emissions target from 20% to 30%, which would mean an increase in the Finnish non-EU ETS sector target to around 23%.

Table 1. Effectiveness of policies in various sectors. Source: NAOF's audit on Mitigation of climate change. Preparation and implementation of climate and energy strategy (2011).

Sector	Most important policies realized	Most important obstacles	Overall assessment
Renewable energy	Feed-in tariff, biofuel distribution obligation, urging to build wind power, increases in financial support.	Increase in energy consumption, decrease in forest industry's by-products, neglect of small-scale energy production, unclarity concerning the effectiveness of wind power building.	It is challenging to reach the target for renewable energy and it is dependent on the future of forest industry as well as the effectivess of feed-in tariff.
N_2O emissions in the agriculture	Special agreements in agri-environmental measures' support scheme.	Low popularity of special agreements among farmers, lack of knowledge concerning other mitigation possibilities.	According to present knowledge, possibilities for emission cuts are uncertain.
CO_2 emissions in the transport	Car and vehicle tax, energy label, support for public transport.	Increase in traffic volume, slower renewal of stock of passenger cars than anticipated, slow realization in creating a more compact urban structure, slow increase of public transport.	The growth in traffic volume has nullified other emission reduction measures in the sector.
Creating a compact urban structure	Changes in legislation, guidance, instructions.	Opposite incentives in other sectos, such as tax subsides.	Preconditions for realizing the target need a cross-sectoral approach, but currently the target is set only for the Ministry of Environment.

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