

UNOFFICIAL TRANSLATION

GOVERNMENT DECISION-IN-PRINCIPLE ON THE PROMOTION OF SUSTAINABLE ENVIRONMENTAL AND ENERGY SOLUTIONS (CLEANTECH SOLUTIONS) IN PUBLIC PROCUREMENT

1. Goal of the Government decision-in-principle

The goal of the Government decision-in-principle on the promotion of environmental and energy solutions (hereinafter referred to as cleantech solutions) in public procurement is to reduce energy and material consumption and adverse environmental impacts for the entire lifecycle of the product, service or building as well as to create incentives for the creation and implementation of new cleantech solutions.

Cleantech solutions are products, services, processes and systems, which promote the sustainable use of natural resources and reduce adverse environmental impacts. Solutions that are defined as cleantech solutions shall be better and more effective in terms of their environmental impact than typical alternatives for the duration of their lifecycle. This often means a reduction in costs for the entire the lifecycle.

The goal of the decision-in-principle is to promote the creation and implementation of cleantech solutions as first references. First references are new or essentially improved cleantech solutions.

Cleantech solutions include, among others, those which improve material and energy-efficiency and enhance processes, solutions and services which have less impact on the state of the environment, and measurement and monitoring solutions. The applicability of cleantech solutions shall always be assessed on a case-specific basis in procurements.

The public sector shall promote cleantech solutions, placing an emphasis on the creation and implementation of first references in all its procurements, but particularly in construction, the energy sector, transport and waste management. In order to achieve the goals laid out in the decision-in-principle and attain as much influence as possible it is vital that the governmental and municipal sector adhere to the goals and principles of the decision-in-principle.

The decision-in-principle supports the goal defined in the Programme of Prime Minister Jyrki Katainen's Government, which is to: " make the future Finland a carbon-neutral society, to propel Finland to a leading position in environmental technology, and to develop the nation into the most environmentally conscious society in the world."

This decision-in-principle replaces the Government decision-in-principle on the promotion of sustainable choices in public procurement (8 April 2009), and contains primarily the same principles related to sustainable procurements as well as specified targets for key procurement areas.

2. Government principles and goals for taking cleantech solutions into consideration in all public procurements

The Government requires that, in all government procurements, the goal is a comprehensive solution, which promotes energy and environmental goals and utilises cleantech solutions in the most economically advantageous way.

Government procurement units shall take into consideration in all procurements the following principles:

- energy and environmental perspectives are taken into consideration in all procurements
- new alternatives are investigated and attention is given to the use of cleantech solutions, placing an emphasis on the creation and implementation of first references

- the database of the advisory service on sustainable public procurement is used
- lifecycle cost accounting and, wherever possible, calculators are used to determine ways of reducing costs and improving energy and material efficiency.

In addition, Government procurement units shall comply with the following goals in all public procurements:

- Waste management procurements are made in the order of priority specified in the Waste Act, in order to prevent the generation of waste and promote its reuse. Waste management procurements shall be aimed at the implementation of cleantech solutions, with an emphasis on the creation and implementation of first references in the prevention, sorting, collection, transport, recycling and processing of waste. In addition, lifecycle cost accounting shall be used in order to reduce costs and adverse environmental impacts for the entire lifecycle of waste management.
- When purchasing electricity, attention shall be given to the origin of the electricity and every effort shall be made to purchase, in particular, electricity generated using renewable resources. A third-party certification on the origin of electricity shall be provided for monitoring purposes.
- In the new construction of a building for public use, the goal shall be a near-zero energy building after 2017. In renting facilities, the goal shall be an energy efficiency rating of at least D. In renovation work, the goal is to reduce energy consumption by 15%, as specified in the energy consumption requirement in the Decree on Renovation Construction (4/2013). In renovation projects, special attention shall be given to preventing the generation of waste and recycling demolition waste. In renovation projects, special attention shall be given to preventing the generation of waste and recycling demolition waste. In special cases (e.g. for technical, operational or financial reasons or protected buildings) a lower target may be accepted. In new construction and renovation projects, preparations shall be made for the installation of electric vehicle charging points as well as for building-specific energy measurement. The basis for building plans shall be the healthiness, safety, adaptability and space efficiency of the building. In new construction, material shall be taken into consideration as part of the building's lifecycle carbon or environmental footprint. In heating and cooling, every effort shall be made to use existing district heating and cooling networks as well as other forms of renewable energy. Greater attention shall be given to building quality in planning as well as to the management and oversight of construction work in order to ensure that set health, safety, energy and environmental targets are met. In construction and building procurements, at least 10% of the total expenditure for surface construction of the building shall go to cleantech solutions, such as environmentally-friendly material choices and solutions that promote material and energy efficiency. In property management and maintenance service procurements, attention shall be given to the energy-efficiency expertise of service providers and an effort shall be made to ensure the proper functioning of building utility systems.
- The energy consumption of public sector transportation and personal transportation shall be reduced 10% from 2012 levels by the year 2015, by using smart logistics solutions, employer-provided commuter tickets and remote and teleconferencing technologies. The procurement of vehicles and transportation services and the leasing/renting of vehicles shall promote the improvement of transportation efficiency and emissions reductions, such as by requiring transportation service providers to sign an energy efficiency agreement and implementing new motive power solutions. In 2015, employer-provided vehicles for normal use, shared vehicles for official business and rental vehicles procured by governmental organisations shall, on average, produce no more than 100 g/km in carbon dioxide emissions or the percentage of new motive power solutions used (e.g. electric, ethanol, natural gas or hybrid) shall account for at least 30% of all vehicles in use. New vehicle information services shall be implemented in order

to monitor and optimise the energy consumption of vehicle use and reduce greenhouse gas emissions. In addition, all users of government vehicles shall be given training in economical and anticipatory driving.

- The criteria used for receiving an environmental label or products with the highest energy-efficiency ratings shall be used as the economic benchmarks in the procurement of energy-related products. In addition, the most energy-efficient and low-consumption lighting systems shall be procured for interior and exterior lighting.
- In service procurements, an effort shall be made to reduce environmental impacts during the lifecycle, such as by giving attention to the criteria set for Nordic or EU environmental label services. Procurement units shall also, if possible, request that service providers submit an environmental management programme and an environmental management plan for the service in question.
- Kitchens and food services shall procure foodstuffs that are in accordance with nutritional recommendations, organically produced, rich in vegetables or seasonal. In institutional kitchens, 10% of the food served shall be organic by the year 2015 and 20% by the year 2020. In institutional food services, an effort shall be made to systematically reduce food waste and improve energy efficiency.

The Government recommends that all other public procurement units comply with the above-mentioned principles and goals.

3. Measures promoting the achievement of Government goals

3.1 Government administration as the example setter in environmental management

In order to promote sustainable and innovative solutions and operating models, it is vital that the organisation's management is committed to set goals and leads by example. Energy-efficiency plans made in accordance with the Government decision-in-principle concerning energy-efficiency as well as environmental plans used by some ministries offer a goal-oriented tool for measuring and reducing the energy and environmental impacts of operations and procurements.

- **Ministries and the agencies and departments under them shall enhance the management of environmental affairs by taking into consideration the goals specified in this decision-in-principle in their energy-efficiency plans and environmental management plans.**
- **Ministries and the agencies and departments under them shall continuously improve their operations by developing intergovernmental co-operation in the management of energy-efficiency and environmental affairs as well as by enhancing peer support and assessments.**

3.2. Establish a sustainable procurement advisory service

In promoting sustainable and innovative solutions, one of the most important factors is to increase the professionalism of the procurement function and improve the level of expertise.

- **A sustainable procurement advisory service, which promotes cleantech solutions and is based on the network principle, shall be established. The advisory service offers all procurement units free assistance in procurement planning, by providing information on best practices and developing procurement tools and models in co-operation with procurers and other actors. The Ministry of Employment and the Economy, Ministry of the Environment and Motiva serve as the responsible organisations.**

3.3. Improve the systematic approach to cleantech solution procurement

Making sustainable procurements and purchasing new, innovative solutions requires long-term, strategic procurement planning, broad-based procurement expertise as well as political and government official support for practical procurement operations.

- **Ministries and the agencies and departments under them shall draw up goals and procurement principles that promote the inclusion of cleantech solutions. These shall be integrated as part of the organisation strategy, environmental management programme, energy-efficiency plan or other, equivalent plan.**
- **The Government encourages the municipal sector to include goals and principles which promote cleantech solution procurement in their municipal, service or procurement strategies.**

3.4. Encourage municipalities be forerunners in the promotion of cleantech solutions

The promotion of cleantech solutions requires municipalities, which serve as forerunners in utilising new cleantech solutions in the development of services, thus showing the way to other municipalities. Key focus areas are resource efficiency, the utilisation of renewable energy and smart city ecosystems.

- **The Ministry of Employment and the Economy shall help municipalities or innovation hubs in becoming internationally significant cleantech solution references.**
- **The Ministry of Employment and the Economy and the Ministry of the Environment promote innovative public procurements for the development and implementation of cleantech solutions in municipalities which are committed to serving as forerunners. In addition, the possibility of initiating a pilot phase in municipalities which reduce greenhouse gas emissions outside the emissions trade sector as part of a national climate policy, for example, through utilising procurements, shall be investigated.**

3.5. Development of economic and other incentives for the promotion of innovations through public procurements

Economic and other incentives, which are adequate and right, are a key requirement for the promotion of new, innovative solutions through public procurements. The system should work so that organisations have the incentive to improve the long-term productivity and quality of public services through procurements.

In addition to economic incentives, it is vital that the public sector encourages and appreciates organisations and people working to effect change in their respective fields.

Funding, such as through Tekes programmes and regional development fund instruments, shall be allocated for preparing and developing the procurement of cleantech solution references.

The Government recommends that, when procuring large-scale cleantech solutions, procurement units should consider requiring that solution providers certify the performance of their products or services, such as by participating in the EU Environmental Technology Verification (ETV) pilot programme.

4. Monitoring the Government decision-in-principle

Using the principle of integration, each administrative field takes into consideration the goals and measures of the decision-in-principle in accordance with its respective area of authority.

Decision-in-principle measures shall be implemented within the framework of Government-approved appropriations and grants issued by Parliament.

The Ministerial Working Group on Energy and Climate Policy regularly assesses the implementation of the decision-in-principle. If necessary, the Ministerial Group issues recommendations on improving implementation of the decision in connection with these assessments.

Appendix 1

Basis of the Government decision-in-principle

1. Promoting cleantech solutions and energy and environmental goals in public procurements

Public sector procurements are vital to the national economy. Procurements should be used more for the realisation of social goals and as a strategic tool for developing public services.

Although procurements play a special role as a promoter of well-being in the provision of public services, they are also important in driving business innovation as well as the achievement of energy and environmental goals. The procurement of cleantech solutions is also one way to cut costs and improve the quality of public services through the utilisation of new operating approaches and technologies.

In 2009, the European Commission ordered a study to assess the impact of environmental considerations on total procurement costs and greenhouse gas emissions. Cash savings in ten of the most important product groups was estimated to be 1% and the amount of greenhouse gases decreased by no more than 25%. The biggest savings were realised in buildings and transports that use less energy. EU reports examining the possibilities of procurements to reduce adverse environmental impacts also show that, in addition to the sample impact, procurements have major environmental impacts, particularly in construction, transportation and food service.

Promoting cleantech solutions through public procurements requires sufficiently ambitious goals, a high level of expertise in procurement and new operating approaches. Setting long-term public procurement goals and planning their realisation creates favourable conditions for innovation. The procurement of environmentally-friendly and innovative solutions and taking lifecycle-duration impacts or lifecycle costs into consideration should be set as a procurement goal in the planning phase. Support from management is important for the procurement function to succeed, as the procurement of new solutions often involves greater risk than using existing solutions on the market.

According to a company survey commissioned by the Ministry of Employment and the Economy, public procurements are an important or potential market area for 60-70% of companies operating in the environmental sector. At present, however, public procurements are still not adequate drivers of innovation or fail to promote the adoption of new operating approaches or technologies. Chosen procurement procedures, few calls for tenders and shortcomings in the expertise of procurement personnel have led to a situation where the importance of price is emphasised at the cost of qualitative competitive factors. The grade given to government and municipal procurement units for the functionality of public procurement markets falls somewhere between "below average" and "satisfactory". (Pekka Lith, Cleantech sector offering and public procurement of products in Finland, 2012)

In public procurements, there should be more of a move toward looking for new solutions and away from being content with existing approaches and technologies. This would be furthered by using competitive dialogue on a more frequent basis than previously. Emphasising new methods and practices could increase the opportunities for young, growth-oriented companies and their desire to participate in bidding processes for public procurement. Some companies seek more transparency in procurement bidding processes. On the other hand, pared-down procurement procedures and pilot-type projects are better suited to small enterprises, thus allowing them showcase their expertise.

As specified in the Act on Public Contracts (348/2007): "Contracting authorities shall endeavour to organise their procurement procedures as economically and systematically as possible, in as appropriate combinations as possible, taking environmental considerations into account." In addition, energy and environmental impacts must be taken into consideration for central government IT and office equipment procurements (Regulation (EC) No 106/2008 of the European Parliament and of the Council) as well as vehicle and transportation service procurements (Act on Consideration for the Energy and Environmental Impact of Vehicles in Public Procurement 1509/2011). In addition, the

Energy Efficiency Directive (2012/27/EU), which entered into force at the end of 2012, requires that member states set goals concerning the energy-efficiency of public procurements.

The Act on Public Contracts of 2007 clarified the possibilities for taking both environmental considerations and innovation into account in all procurements. It also prescribes a new procedure called competitive dialogue, which can be used for procurements that are more challenging than routine procurements. This procedure allows greater flexibility to purchase innovative solutions. The current comprehensive reform of EU public procurement policy is intended to improve taking innovative solution into consideration in public procurements through innovation partnership.

According to Eurostat calculations, the value of public procurements in Finland in 2010 was approximately EUR 35 billion, which is approximately 19.4% of the Finnish GDP. A majority of the procurements (nearly 75%) were those made by municipalities, joint municipal authorities and other municipal organisations. The value of procurements made by on-budget agencies and departments was just over 25 %. Not all public procurements are subject to the Act on Public Contracts – exceptions include internal procurements made by municipal organisations, rents paid for premises and procurements key to national security.

2. Government principles and targets for taking cleantech solutions into consideration in all public procurements

The goal of the Government is to improve the systematic implementation of cleantech solutions in the public sector. This is one way to reduce the consumption of energy and materials as well as environmental impacts for the entire lifecycle of products, services or buildings, thus creating incentives for the creation and implementation of new cleantech solutions. Sectors which are crucial to achieving these goals are construction, energy, transportation and waste management.

The goal of the Government is to have the public sector devote at least EUR 300 million to procurements of first cleantech solution references each year. This represents approximately 1% of the total value of public procurements and would effectively double the current public research, development and innovation funding for cleantech solutions.

The decision-in-principle is an obligation for Government procurement units and a recommendation for other procurement units. The decision-in-principle will be applied to all procurements, not only those subject to applicable national legislation.

The general objective of the decision-in-principle is that all government procurements must strive to find a comprehensive solution, which promotes energy and environmental goals and utilises cleantech solutions in an economically advantageous way. In planning procurements, Government procurement units must use lifecycle accounting and calculators, give attention to the implementation of cleantech solutions and take energy and environmental considerations into account by no later than 2015.

In addition to these general goals and principles, the Government has also set specific goals for certain sectors, which are crucial to achieving goals.

Purchasing and consumption of electricity. The public sector is a major purchaser and consumer of electricity. In Finland, as in the rest of the world, the energy production sector is the biggest producer of greenhouse gas emissions. In addition to climate change, energy production is a major contributor to several other environmental problems, such as acidification, a decline in biodiversity and a decrease in non-renewable natural resources.

Construction. The manufacture of construction materials, construction work and building account for approximately 40% of the world's greenhouse gases, 40% of the world's energy consumption and 40% of the waste. All buildings and related equipment account for approximately one-third of Finland's energy consumption. Buildings presumably account for the same percentage of greenhouse gases. Greenhouse gases produced by the consumption and production of energy have a significant impact on lifecycle environmental loads. Energy consumption during operation accounts for the highest level of

consumption. Decisions made during the design and construction phases can have a decisive impact on environmental impacts and costs during the lifecycle of the building.

Construction also consumes a large volume of non-renewable resources. By increasing the use of domestic, local, renewable and environmentally-friendly raw materials in construction and as a source of energy in buildings, it is possible to reduce the carbon footprint of construction. Substitution can also be used to achieve benefits in the reduction of greenhouse gases. Renewable materials can replace energy-intensive materials, such as steel, aluminium, concrete and plastic.

According to the ERA 17 (Energy-Smart Built Environment 2017) action plan, every effort will be made to take the environmental impacts of manufacturing different building materials and construction work into consideration in the Finnish building code by the year 2017. By increasing the use of renewable materials in construction, it will be possible to gain greater environmental benefits than by improving the energy-efficiency of buildings alone.

Energy-related products. The largest group of equipment and services used by the governmental sector is comprised of travel expenses, heating, electricity and water, low-value machinery, equipment and vehicles as well as computer equipment and auxiliary devices. There are no central figures available for this in the municipal sector. In addition to the procurement price, lifecycle costs must also be calculated for energy-consuming equipment.

Transportation. In addition to the energy consumption of buildings, public sector energy consumption and CO² emissions are primarily related to the procurement of electricity, fuels and public transportation services. The greatest opportunity for reducing emissions is to set requirements for the primary energy source used by electricity producers as well as to adopt low-emission forms of transportation and alternative fuels. Transportation emissions and other environmental impacts caused by government employees can be decreased by reducing the amount of travel and adopting video conferencing and other similar technologies.

Food. Because one of every three meals consumed by Finns is prepared by a commercial kitchen, institutional kitchens bear a large part of the responsibility for the healthiness and environmental impact of food. Defining the sustainability of foodstuffs is not clear-cut. However, there is a general understanding that organic production has a positive impact on biodiversity and consumes less energy. According to studies, organically produced food is also healthier. Many studies also recommend including more vegetables in the diet, for both environmental and health reasons.

Services. Services represent the largest percentage of all procurements made by the public sector. Services account for nearly 50% of all government and municipal procurements. Assessing the environmental impacts of services and setting general targets that include concrete environmental considerations is difficult. Procurement units can require an environmental report on the environmental measures taken in providing a given service. In this case, the operator can demonstrate that it meets the requirements for environmental management by adopting an environmental and quality management system.

The environmental sector accounts for some 60% of services in public procurements. In service procurements related to environmental management, the largest fields are sewerage, the collection, transport or processing of waste, cleaning, the administration of environmental affairs, monitoring pollution and remediation/restoration services. Another key field is comprised of knowledge-intensive business services (KIBS), such as technical engineering services and environmental research and development services. The value of construction contract notices was third.

Waste management. In Finland, municipalities are responsible for taking care of municipal waste. Efficient waste management requires close municipal co-operation. Efficient regional units—waste management organisations in the form of limited liability companies and joint municipal authorities—have been established for this purpose. These have the possibility and resources to engage in long-term co-operation, in accordance with tightening environmental requirements. The collection, transport, processing and recovery systems of these waste management organisations encompass all of Finland. Municipal waste management authorities work in close co-operation with industrial and producer groups

where waste management is concerned. Waste management organisations bid out and purchase a majority of the services from private enterprises, in accordance with public procurement procedures.

Cleantech solutions are products, services, processes and systems, which promote the sustainable use of natural resources and reduce adverse environmental impacts. Due to the scope of the definition, the Government decision-in-principle does not individually list all the recommended cleantech solutions, which must be instead assessed on a case-by-case basis compared to typical solutions and their environmental impacts.

First references are cleantech solutions that can be developed and implemented within a reasonable amount of time or a solution that has already been developed, but which has not yet been implemented or only implemented in a few places.

This decision-in-principle replaces the Government decision-in-principle on the promotion of sustainable choices in public procurements (8 April 2009).

3. Measures promoting the achievement of Government goals

3.1 Government administration as the example setter in environmental management

In order to promote sustainable and innovative solutions and operating models, it is vital that the organisation's management is committed to these goals. Enhancing environmental management is one way to achieve this goal.

Energy-efficiency plans made in accordance with the Government decision-in-principle concerning energy-efficiency as well as environmental plans used by some ministries offer a goal-oriented tool for measuring and reducing the energy and environmental impacts of operations and procurements. These plans and programmes should encourage the implementation of new operating practices and innovations.

The implementation of energy-efficiency plans and environmental programmes should be monitored more systematically. It is wise to include monitoring in the budget planning and management of ministries and the agencies and department under them.

The networking of experts responsible for energy-efficiency plans and environmental programmes as well as the comparison of various administrative functions must be enhanced, thus encouraging continuous improvement, realising productivity savings and increasing influence.

3.2. Establishment of a sustainable procurement advisory service

In promoting sustainable and innovative solutions, one of the most important factors is to increase the professionalism of the procurement function and improve the level of expertise. Public procurements that promote innovation require special expertise, which is not possible or sensible to develop for each procurement organisation. This explains the need for actors, which can centrally develop methods and models based on good practices, help procurement units to realise practical procurement procedures as well as develop and provide procurement training. What is also needed are tools, criteria and guidelines, which are easily accessible.

Various organisations (e.g. VTT - Technical Research Centre of Finland, Tekes - Finnish Funding Agency for Technology and Innovation, Syke - Finnish Environment Institute, Motiva Oy, universities) possess a great deal of expertise in cleantech solutions and research, development and innovation. In the future, it will be vital to increase the level of co-operation and networking between these organisations as well as encourage procurers to take advantage of their expertise.

A networked procurement advisory service will be established to support sustainable procurements and cleantech solutions. The advisory service offers all procurement units free assistance in procurement

planning, by providing information on best practices and developing procurement tools and models in co-operation with procurers and other actors.

3.3. Improve the systematic approach to cleantech solution procurement

Making sustainable procurements and purchasing new, innovative solutions requires long-term, strategic procurement planning, broad-based procurement expertise as well as political and government official support for practical procurement operations. This includes determining the organisation's medium and long-term needs in such a way that allows the requirement and provision of new solutions. The systematic aspect of procurements can be further improved by specifying goals and procurement principles that promote the inclusion of cleantech solutions. These goals and principles must be included as part of the procurement organisation's relevant strategies.

3.4. Encourage municipalities be trendsetters in the promotion of cleantech solutions

The promotion of cleantech solutions requires municipalities, which serve as trendsetters in utilising new cleantech solutions in the development of services, thus showing the way to other municipalities. The Ministry of Employment and the Economy and the Ministry of the Environment promote innovative public procurements for the development and implementation of new cleantech solutions in municipalities which are committed to serving as forerunners. The solutions may be especially related to the development of resource-efficient and smart city ecosystems as well as the production of local, renewable energy.

In the Innovative Cities (INKA) programme, the Ministry of Employment and the Economy supports the establishment of innovation hubs, which are selected in a separate bidding process to serve as internationally important cleantech solution references. In addition, growth agreements signed by the Ministry of Employment and the Economy and larger urban areas in 2013 specify priority policies for the development of urban areas.

The national public sector Eco-procurement network is an unofficial forum for forerunners in making sustainable procurements. Operations must be developed so that even administrative sectors making separate procurements can network both in Finland and with cities within the EU.

A few municipalities serve as forerunners and miniature laboratories for reducing carbon dioxide emissions beyond official targets and faster than set timetables. In co-operation with various actors, businesses and stakeholders, Carbon Neutral Municipalities (HINKU) in particular have set a goal to reduce their carbon dioxide emissions by 80% by the year 2030. Municipalities are working to achieve this goal through, for example, land use management, public procurement and providing public services. In its preliminary study on emissions reduction partnerships between the Government and municipalities, the Association of Finnish Local and Regional Authorities (AFLRA) introduces a method, in which the Government pays a cash award for reductions in emissions in sectors that fall outside the emissions trade. The AFLRA, ministries and Tekes are investigating the possibility of launching a pilot programme in municipalities. In the pilot, it would be essential to include the promotion of public cleantech solutions as part of the trial.

3.5. Development of economic and other incentives for the promotion of innovations through public procurements

Economic and other incentives, which are adequate and properly implemented, are a key requirement for the procurement of innovations in the public sector, as the procurement of new types of solutions is challenging for a host of reasons.

New solutions often involve more risk than existing solutions on the market. The risk may be financial, operative, technological, organisational or social in nature. Taking a risk requires that procurer have the support of their own organisation. In addition, it would require the professional specification, management and sensible sharing of the risk among different actors. The procurement of new

products and services can also be more expensive, particularly if the procurement costs are calculated without operating and lifecycle costs.

The public sector currently does not offer enough incentives or, in any case, even the financial possibilities for procuring new solutions. Eliminating these obstacles does not necessarily require additional funds, but rather the system should work so that organisations have the incentive to improve the long-term productivity and quality of public services through procurements.

In addition to economic incentives, it is vital that the public sector encourages and appreciates organisations and people working to effect change in their respective fields.

Funding, such as through Tekes programmes and regional development fund instruments, shall be allocated for preparing and developing the procurement of cities' cleantech solution reference.

Increasing impartial and credible information on the performance of environmental technologies is also an important incentive for the development and implementation of technology. At the beginning of 2012, the European Commission launched its Environmental Technology Verification (ETV) pilot programme. In the ETV programme, a system is established where accredited Verification Bodies verify technologies that have the potential to protect the health of the environment and people. In Finland, the VTT – Technical Research Centre has applied for ETV accreditation. The ETV programme encompasses three technology areas: water treatment and monitoring; materials, waste and resources; and energy technologies. The goal of the ETV programme is to verify and report on the performance of new environmental technologies, thus reducing the uncertainty of end users regarding their function.

4. Growth in the global demand for cleantech solutions

There is a large global need and demand for new solutions that save energy and the environment. The consumption of natural resources has increased by 50% over the past 10 years as have the challenges posed by climate change.

In 2011, the global turnover of cleantech operations was approximately EUR 1,600 billion, a figure which is expected to rise to over EUR 3,000 billion by 2020. Some of the fastest-growing areas are energy-efficiency, clean energy production, water treatment, transportation and waste management.

The world's fastest growing cleantech area is energy-efficiency. The global market for energy-efficiency is expected to grow from approximately EUR 600 billion (2010) to over EUR 1,000 billion by the year 2020. Particularly in environmentally-friendly and energy-efficient construction, public procurements can be used to promote the development and implementation of new energy and material efficient solutions on individual building sites and in the creation of entire urban ecosystems. Based on trials already carried out in Finland, it can be said that innovative built environment solutions are not more expensive than conventional ones.

The clean energy market is expected to nearly triple, climbing from approximately EUR 200 million in 2010 to approximately EUR 600 million by the year 2020. This is primarily due to the finite nature of fossil fuels and ever tightening emissions requirements. It is estimated that, by 2050, as much as 80% of the world's energy will be produced using renewable energy sources, unless nuclear power and coal storage and recovery do not increase their market share considerably. There is a move increasingly away from centralised energy production toward the decentralised production of renewable energy. However, the implementation and promotion of decentralised, small-scale energy production requires that regional energy companies create mechanisms to easily return surplus energy to the grid. This will create new jobs locally, offer companies domestic market references and help regions achieve carbon neutrality.

The market for environmentally-friendly transportation is expected to grow at least 30% by the year 2020 (EUR 260 billion) from the 2010 level (EUR 200 billion). In Finland, there are a great many opportunities to develop environmentally-friendly transportation solutions and increase its global market

share. Finland's specialised expertise is largely based on the application of ICT expertise in transportation solutions. Some examples include logistics optimisation, smart traffic networks, electrically-powered transportation and biofuels.

Growth in the world population and consumption levels is increasing the volume of waste. The global market for waste management is expected to reach approximately EUR 80 billion by the year 2020 from the 2010 level (EUR 60 billion). **In waste management and reuse**, Finnish companies have succeeded in developing some of the most advanced technologies in the world, spanning the entire value chain, from the collection and transport of waste to recycling, waste gasification, biofuel development and landfill placement. The public sector plays a crucial role in introducing new waste processing technologies to the market and, in turn, developing the waste management sector.

5. Impact assessment

Economic impacts

Practical experiences show that new solutions are not necessarily more expensive than those already on the market, particularly when the costs during operation and lifecycle costs are figured into the equation. In addition, the use of new solutions, practices and technologies can improve the productivity and quality of public services.

The long-term planning of procurements as well as the ambitious requirement and development of sustainable, innovative solutions in co-operation with the market will improve the ability of public organisations to meet the future challenges of securing well-being, environmental change and the availability of natural resources. Also from a regional economy standpoint, setting energy, environmental and innovation goals is important. Municipalities at the forefront of energy issues and environmental protection are more attractive when trying to bring new businesses and resident to the region.

Business impacts

Realisation of the Government decision-in-principle provides a significant boost to funding of the Finnish innovation system and, particularly, to the funding of cleantech solution references and bring new technologies to market.

One percent of the money used for public procurements amounts to over EUR 300 million a year. When this amount is devoted to promoting the development and implementation of cleantech solutions, it nearly doubles the current public research, development and innovation budget for cleantech solutions. In addition to direct impacts, public sector procurements also have indirect impacts on companies, such as in the form of reliable references. Public sector procurement also helps in obtaining private venture capital.

The procurement of innovative solutions, particularly in decentralised energy production and implementation, create new cleantech jobs in the region, thus increasing tax revenues. Municipalities taking the lead in adopting innovative solutions enhance their attractiveness as a place for locating new enterprises and research groups, thus bringing in international capital.

Environmental impacts

Setting environmental goals for public procurements makes it possible to promote the development of new solutions and create new markets. Experiences show that, for example, involving various administrative fields and end users in different phases of the procurement process makes it possible to reduce the amount of energy consumed, materials used and emissions produced in construction and transportation as well as achieve financial benefits.

The European Commission ordered a study to assess the impact of environmental considerations on total procurement costs and greenhouse gas emissions. Cash savings in ten of the most important product groups of the seven most advanced EU member states was estimated to be 1% and the

amount of greenhouse gases decreased by no more than 25%. The biggest savings were realised in buildings and transports that use less energy.

6. Monitoring the Government decision-in-principle

Using the principle of integration, each administrative field takes into consideration the goals and measures of the decision-in-principle in accordance with its respective area of authority.

Decision-in-principle measures shall be taken within the framework of Government-approved appropriations and grants issued by Parliament.

The Ministerial Working Group on Energy and Climate Policy regularly assesses the implementation of the decision-in-principle. If necessary, the Ministerial Group issues recommendations on improving implementation of the decision in connection with these assessments. The primary task of the Ministerial Working Group is to draft a long-term energy and climate strategy. The strategy specifies the key goals and practices for Finland's energy and climate policy over the next years, as part of the European Union and its goals. The Ministerial Working Group also oversees the implementation of the energy and climate strategy and its monitoring.