

<i>Title of the measure:</i>	FIN17 Municipalities' Energy Efficiency Agreement
-------------------------------------	---

General description

Municipalities' Energy Efficiency Agreement is part of the Finnish energy efficiency agreement scheme applied in most sectors of the economy. The most recent agreement was signed in October 2016 for the period from 1 January 2017 to 31 December 2025. It is the successor of previous energy efficiency agreement and programme for municipalities for the period 2008-2016 and energy conservation agreement for the period 2007-2007 (see Historical data). The agreements in 2008-2016 were aligned with the need to implement the Energy Services Directive (ESD) and those for the period 2017-2025 take into account the needs for implementation of the Energy Efficiency Directive (EED).

Signatory parties, joining the agreement and agreement structure

The signatory parties to the agreement are the Ministry of Employment and the Economy, the Energy Authority, and the Association of Finnish Local and Regional Authorities.

The Participant (a city, municipality or joint municipal authority) signs the participant-specific Energy Efficiency Agreement. The Participant joins the Agreement once the Energy Authority has checked the participant-specific accession details and the Agreement has been signed.

The energy production, transmission and distribution owned partially or fully by the participants fall outside the scope of this agreement. However, the participants commit themselves to contributing that these operations are included in the appropriate Action Plan for Energy Production and/or Energy Services of the Energy Efficiency Agreement for Industries. However, if the energy use and operations of the energy production, transmission and distribution owned partially or fully by the participant are such a small scale that including them in the Energy Efficiency Agreement for Industries separately would not be appropriate, the participant can include the said energy use and operations in this agreement.

Targets of the agreement

The target of the Agreement is to contribute to ensuring that the energy savings targets set nationally and in the EED are met during the EED implementation period 2014–2020. In addition, a target of the Agreement is to have a significant national effect on achieving the EU energy efficiency target for 2030. The Agreement scheme also supports the implementation of several other obligations set out in the EED.

The target is to include the highest possible share of the energy use of, and within the control of, the municipalities, cities and joint municipal authorities within the scope of the agreement. Measured by population, the coverage target for 1 January 2017 is at least 50%, and by 31 December 2018, at least 75%.

In addition, a target of the agreement is that the public sector serves as an example of promoting energy efficiency and the use of renewable energy sources by actively informing the residents and other actors in the region about the possibilities and results related to energy efficiency and the use of renewable energy. This also contributes in the reduction of Finland's greenhouse gas emissions.

Targets of the participants

As a general rule, the Participant of the Agreement sets an indicative energy savings target of at least 7.5% for 2017–2025 and an intermediate target of 4% for 2020, on joining the agreement.

A participant that has participated in the previous agreement period (2008–2016) and wants to use the savings that are reported into the monitoring system of the agreement scheme and implemented during the



period of 2014–2016, must set an indicative energy savings target of at least 10.5% for 2014–2025 and an intermediate target of 7% for 2020.

In the accession details of the Participant's Energy Efficiency Agreement, the Participant's indicative energy savings target is presented as the amount of end-use energy (MWh) in 2020 and 2025. The data used in the calculation of the target is the data from the latest calendar year available.

Obligations

The Participant commits itself to the continuous improvement of energy efficiency and to certain other actions, whenever it is technically economical and possible, taking health, safety and environmental aspects into consideration. Continuous improvement of energy efficiency requires the management's commitment, good organisation of the operations under the agreement, and planning and implementation of actions.

The Participant appoints a person in charge of the agreement. This person ensures that the implementation of the agreement and the related tasks are organised and resourced, so that implementing the actions in accordance with the execution of the agreement and achieving the set targets is possible.

The Participant draws up an action plan in accordance with the execution of the agreement, or updates the existing plan. The action plan shall be approved of by the responsible organ of the Participant and submitted to Motiva within one year of joining the agreement. The action plan presents how the Participant organises the execution of the agreement. It is intended that the execution of the Agreement is included in the Participant's continuous operations and programmes, and it should not be separate from the Participant's other operations.

The target is to gain energy efficiency as one of the criteria in all public procurements in which the selection of a more energy efficient appliance, system or procurement entity will result in more advantageous end result in its overall economy.

Another the target is that the energy efficiency and life-cycle costs of the implementation alternatives are taken into account as one selection criterion in decision-making related to the construction of new buildings and renovation.

Comprehensive energy audits that apply to all energy use systematically implement should be conducted in order to find out economically viable energy-saving possibilities in buildings and other operations.

Monitoring of the Participant's energy use should be organized so that the monitoring data is utilised systematically in order to maintain a good level of energy efficiency and to avoid unnecessary energy consumption.

It should be ensured through training and communication, that the personnel has the necessary information and skills related to their own tasks and operations and the preparedness for the efficient use of energy and energy conservation.

The Participants are encouraged to increase the share of renewable energy sources used in the area of the municipality, and especially in the municipality's own operations.

The target is to increase the co-operation between the participants and other actors in the municipality sector, and the co-operation with the regional council and the energy service organisations in the region (for example, energy agencies), in order to efficiently implement the targets of the Agreement, and to ensure and promote the execution of the agreement, consumers' energy advice services, and energy efficiency communication.



Monitoring

The participants report by the end of March each year on the previous year's energy use, on the related efficiency measures, and on the realisation of any other activities related to the Action Plan into the monitoring system of the Energy Efficiency Agreement scheme to the extent required by the system.

Monitoring reports related to the Action Plan on the execution of the agreement and on the monitoring of the implementation of the targets, related to the Action Plan, are compiled from the data reported annually by the participants.

Impact evaluation (methods and results)

Methods

Data on energy savings is collected from annual reporting. Overlap with energy audits is removed.

If saving measures were implemented during the previous agreement periods (1997-2007; 2008-2016) and the savings are still valid, they are taken into account in the calculation of savings.

Results

Savings reported in NEEAP-4: 221 GWh/a in 2010, 366 GWh/a in 2016 and 366 GWh/a in 2020.

Savings estimate for 2016 account for 1.2% of energy consumption by the service sector corresponding to 'high' impact level.

Measure Impact Level		
<input type="checkbox"/> low	<input type="checkbox"/> medium	<input checked="" type="checkbox"/> high

Interaction of measures

See also MURE descriptions of the following measures:

- FIN3 (Tertiary) Energy Auditing Programme in the Service Sector
- FIN2 (Tertiary) Model for regional survey of the potential for increased use of renewable energy sources

Historical data

Energy efficiency agreement and programme for municipalities 2008-2016

A new initiative in the municipal sector was launched in December 2007. It consists of two schemes. Large and mid-sized municipalities can sign bilateral Energy Efficiency Agreements (KETS) with the Ministry of Employment and the Economy. Small municipalities can join an Energy Programme (KEO) administered by Motiva Oy (a state owned expert company promoting efficient and sustainable use of energy and materials and the use of renewable energy sources) by signing an accession document. The latter is governed by a framework agreement signed by the Ministry and the Association of Finnish Local and Regional Authorities.



The municipalities join KETS or KEO according to the following classification:

- Energy Efficiency Agreements are available for cities, municipalities and joined municipalities with population exceeding 20 000 and energy consumption exceeding 20 000 MWh/a.
- Energy Programme is for municipalities with population below 5 000 or joined municipalities with energy consumption below 5 000 MWh/a.
- Cities and municipalities with population of 5 000-20 000 and joined municipalities with energy consumption of 5 000-20 000 MWh/a can choose either the Agreement or the Programme.

Energy Efficiency Agreements (KETS) for large and medium-sized municipalities

Energy saving target and operational targets for the municipality

The target for each participant is an indicative energy saving of 9% for the period 2008–2016.

In addition to energy saving target, the agreement includes several operational targets:

- Organisation of operations in compliance with the agreement and the municipality's management systems: The promotion of energy saving and the use of renewable energy sources should be included as part of the municipalities' current or future management systems. This will be achieved by appointing a contact person in each joining municipality and, where appropriate, an organisation in charge of the agreement procedure with responsible persons for each administrative branch or operating unit. Also an action plan presenting the measures of improving the municipality's energy use must be drawn up by 31 December 2008, however, not later than within one year of joining the agreement.
- Intermediate targets and early actions in energy saving: The municipality shall set intermediate targets for 2010 and 2013 when it joins the agreement. It also needs to report its early actions (measures implemented 1991–2007) and of the level of permanency of their impacts throughout the agreement period of 2008–2016.
- Public procurement: The municipality shall include the energy efficiency guidelines of public procurement as part of its procurement guidelines and instruct the personnel responsible for procurement in the use of these guidelines.
- Planning control taking energy efficiency into account: The energy efficiency and life-cycle costs of the implementation alternatives must be taken into account in decision-making related to construction, land use and traffic management.
- Implementing energy audits and the energy saving measures detected in them: At least 80% of the municipality's building volume shall undergo an energy audit. Follow-up audits will be carried out on buildings with an abnormal change in energy consumption and commissioning audits in all sizeable new buildings and buildings that have undergone extensive renovation or the use of which has changed to a significant effect. By 2013 energy saving possibilities outside the building sector (such as outdoor lighting, water management, transport) will be reported. Appropriate and cost-effective measures shall be implemented.
- Use of new savings guarantee and/or funding procedures in the implementation of investments: ESCOs will be used when the lack of funding prevents the implementation of an investment that has been estimated to be cost effective. Administrative and other obstacles for the use of ESCOs shall be removed.
- Consumption monitoring and key figures describing energy efficiency: The monitoring data should be utilised systematically. It will also be necessary to develop key figures, on the basis of which it is possible to estimate the changes in energy efficiency. By 2013, at least 80% of the energy use of buildings will be monitored on monthly bases and at least 90% of the overall energy use of the municipality will be subject to monitoring.
- New operating models: New operating models to promote energy conservation will be developed and introduced. The municipality shall launch trial projects promoting energy conservation and participate in joint development projects with other agreement municipalities. It shall also

- introduce cost-effective operating models to promote the efficiency of its energy use, such as in the management of the electricity consumption of its office equipment and lighting.
- Training and communication: The municipality shall ensure that its employees have the necessary information and skills related to their own tasks and operations regarding efficient use of energy and energy saving. Furthermore, the energy performance certificates of buildings, where such a certificate has been drawn up, shall be displayed.
 - Introducing renewable energy sources: The municipality shall chart the possibilities of increasing the use of renewable energy sources. Use of renewables can be increased, e.g., by using them more in buildings, in local energy production and purchasing electricity and heat produced with renewable energy. Training and communication measures and development projects should be implemented as deemed appropriate.

Energy Programme (KEO) for small municipalities

Energy saving target

The target for each participant is an indicative energy saving of 9% for the period 2008–2016. Within two years from joining the programme, the municipality establishes a target for increasing the use of renewable energy.

Actions taken by the municipality

In addition to energy saving targets, the agreement includes actions for the municipality:

- Organisation of the operations related to the Energy Programme: Energy efficiency and promotion of renewables should become a permanent part of the decision making process in the municipality. A person in charge of the Programme shall be nominated. Within a year of joining the programme, the municipality will prepare an action plan for improvement of energy efficiency and within two years another one for the promotion of renewables. Annual monitoring of the progress in relation to the plans should be organised.
- Early actions related to energy efficiency improvement: Interim targets will be established for 2010 and 2013. Early actions implemented in 1991–2007 will be reported in 2010. Information on early actions will be used to determine the starting point of energy efficiency in the municipality at the beginning of 2008.
- Consumption monitoring: The municipality shall organise annual monitoring of electricity and heat consumption of each individual building latest by the time it issues its second annual progress report. As appropriate, monthly monitoring will be organised in buildings for other energy use (e.g. street lighting). Corrective action will be taken a necessary based on the monitoring data.
- Public procurement: Energy efficiency will be included as a criterion in public procurement. In this respect, guidelines issued by the Ministry of Employment and the Economy will be applied. In procurement, future energy costs will be considered in addition to investment costs. Use of ESCO services should be considered when, e.g., financing need makes it necessary. Urban planning and traffic planning shall be used to improve energy efficiency of the urban structure.
- Use of renewable energy sources: The municipality shall chart the possibilities to increase the use of renewables by 2013 by using the Model for regional survey of the potential for increased use of renewables (see MURE description number FIN2/Tertiary). Targets for the increased use of renewables shall be set for years 2013 and 2016. Renewables will be taken into use in municipal buildings to the degree possible. Use of renewables in energy production will be promoted.
- Implementing energy audits and the energy saving measures detected in them: At least 80% of the municipality's building volume shall undergo an energy audit by the end of 2013. The municipality shall implement appropriate and cost-effective energy saving measures detected in

them. Due attention will be paid to the possibilities to prepare building energy performance certificates in connection with the energy audit.

- **Training and communication:** The municipality shall ensure that its employees have the necessary information and skills related to their own tasks and operations regarding efficient use of energy and energy saving.

Monitoring and reporting

Monitoring and evaluation was carried out by the state-owned company Motiva Oy. The joining enterprises committed themselves to reporting by the end of February each year on the energy use of the previous year and the related efficiency measures and on the implementation of other activities related into the agreement monitoring system.

Voluntary Climate and Energy Agreement of Municipalities 1997-2007

Energy conservation agreements have been part of the Finnish energy policy since 1992. In the municipal sector the former Ministry of Trade and Industry (from 1 January 2008 Ministry of Economic Affairs and Employment) and the Association of Finnish Local and Regional Authorities concluded a voluntary energy conservation agreement in November 1997. Some changes to the agreement scheme were made in 2002, it was extended by two years in 2005 and finally came into term in 2007.

In 2002, the participating municipalities were given two options, either to continue within the old agreement or to join a new energy and climate agreement. After 2003, new municipalities entering the agreement have been only able to join the energy and climate agreement. Both agreements were planned to continue until the end of 2005. In both agreements, municipalities and federations of municipalities made the agreement directly with the Ministry of Trade and Industry, with the assistance of the Association of Finnish Local and Regional Authorities.

The new agreement concerns own energy consumption of the municipality, the main part of which comes from space heating and electricity consumption in buildings. However, apartment buildings owned by the municipalities are not part of the agreement. Both renewable energy sources (not covered by the old agreement) and increasing the use of combined heat and power production (CHP) have been included in the new agreement.

In 2005, the agreement was extended until the end of 2007 as the planning of new agreement had been delayed. During the extension, the entry of new participants was allowed.

In December 2007, a new energy efficiency agreement and a programme for the municipal sector were launched replacing both the “old” agreement from 1997 and the “new” agreement from 2002.

Coverage

By August 2007, 59 municipalities and 15 federations of municipalities had acceded to the “old” and “new” energy conservation agreements. In comparison, the total number of municipalities in Finland was slightly above 400. Agreements signed by the municipalities and federations cover nearly 50% of the total building stock of the whole municipal sector. Out of the totality, 16 municipalities and 6 federations of municipalities had updated their energy conservation agreement into energy and climate agreements.

Objectives and obligations

A municipality agreed to:

- carry out an analyse concerning the current energy consumption of it
- build or update an energy conservation plan



- implement the measures based on the conservation plan (e.g., energy audits in public service buildings)
- develop the follow-up methods of energy consumption

Target of the project is to decrease the consumptions of heat and electricity in public service buildings of municipalities as follows:

- To reduce the specific consumption of heat with 10% by 2005 and with 15% by 2010 from the 1990 level
- To stop the growth in the specific consumption of electricity and turn it to decrease before 2005

Targets concerning energy auditing and consumption follow-up, as defined in the agreement between the Ministry of Trade and Industry and the Association of Finnish Local and Regional Authorities, are:

- To get 80% of the public service buildings of municipalities audited and followed-up by 2010.
- To get 50% of the public service buildings audited by the end of 2002.

Individual municipalities may have different or additional objectives and targets in their agreements.

The Ministry of Trade and Industry supports and finances the activities of auditing, investing and education of energy.

A municipality is required to prepare a yearly report, including

- details of its energy consumption and the factors affecting it
- implemented conservation measures
- information of the influence of measures in energy effectiveness

The report is sent to Motiva through the Association.

Results

At the end of 2007, 56% (66 million m³) of the building stock of the whole municipal sector was covered by the agreements.

By the end of 2006, energy audits had been conducted in 52% of the building stock owned by the participants corresponding to 44% the whole municipal building stock.

3000 implemented energy efficiency measures were reported by the end of 2006. Energy savings achieved were 70 GWh/a of heat and fuels and 13 GWh/a of electricity. In addition, the municipalities had made decisions to implement numerous further energy efficiency measures. Their energy savings potential was 42 GWh/a of heat and fuels and 12 GWh/a of electricity.

References

Energy efficiency agreements 2008-2016: www.energiatehokkuussopimukset.fi (in Finnish, Swedish and English)

Energy efficiency agreements 2017-2025: <http://www.energiatehokkuussopimukset2017-2025.fi/> (in Finnish, Swedish and English)

