

Case Study 19

Municipal energy conservation agreements in Finland (1997-2005/2007)

Finland



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Project co-funded by the European Commission within
THE SEVENTH FRAMEWORK PROGRAMME
THEME ENERGY.2007.9.1.2
Energy behavioral changes



Changing Behaviour



Work package 2

Development of the conceptual model: Analysis of success factors,
underlying models and methods in target group interaction

Case Study 19:

Municipal energy conservation agreements in Finland (1997-2005/2007)

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March, 2009

Grant agreement no: 213217

Project acronym: CHANGING BEHAVIOUR

Project full title: *Contextualising behavioural change in energy programmes involving intermediaries and policymaking organizations working towards changing behaviour*

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Summary of the case

The energy conservation agreements (or the voluntary agreements on energy conservation) are framework agreements, under which sector associations undertake to promote energy conservation and encourage their membership to join in the energy conservation agreement scheme. Companies and communities subscribing to the agreements undertake to carry out energy audits or analyses in their own properties and production plants, to draw up an energy conservation plan, and to implement cost-effective conservation measures. Energy conservation agreements contain action programmes agreed between ministries and sector associations, aiming at improving energy efficiency in the sectors covered by the agreements.

The first voluntary energy conservation agreements were signed in Finland in the early 1990s, but the activity really took off in 1997, when the national Energy Conservation Programme was updated. This is when the principal industry associations of the economy decided to join in.

The majority of the voluntary energy conservation agreements signed mainly in 1997 were due to expire at the end of 2005. Based on evaluation of the agreement scheme and feedback received from the field, it was decided that the agreements would be extended by two years.

The municipal energy and climate agreement is the only one of the agreements also explicitly covering use of renewable energies. In the other agreement sectors, attention has been drawn to renewable energies by relevant questions attached to annual reporting.

The new agreement scheme (2008) for the municipal sector has two alternative agreement models. Large and medium-sized municipalities can join a bilateral energy efficiency agreement between the Ministry of Employment and the Economy and the municipality in question. Small companies can adhere to an energy programme managed by Motiva Oy, which the municipality can join by signing the accession document. The energy efficiency agreement with the Ministry of Employment and the Economy can be signed by a town or municipality with more than 5,000 inhabitants and federations of municipalities with energy consumption exceeding 20,000 MWh per year. Towns or municipalities with 5,000-20,000 inhabitants and federations of municipalities with energy consumption between 5,000-20,000 MWh per year can choose between an energy efficiency agreement or an energy programme.

The agreement scheme is also often referred to as the Energy Efficiency Agreements, term I, II and III. In this term I is from 1992 to 1995, term II 1997-2007 and term III 2008-2016. (Energy conservation agreements - progress review 2005, Motiva 2006, Motiva website 2008)

Step 1: Context of the programme

National context

The energy intensity per capita is rather high in Finland. This is due among other things to the climate, long distances to be covered, transport, and energy intensive industry. Energy conservation has been practiced for a long time and for more than twenty years the aim has been to produce as much electricity as possible from combined heat and power plants (CHP), where Finland ranks among the international top countries.

In 1990s, Finland has focused more and more in climate change and other issues concerning the energy efficiency and greenhouse gasses. This has also been noticed in national strategies. The Ministry of Trade and Industry set an energy conservation commission to develop energy conservation agreements and to find ways to expand them in different sectors. These agreements were also one procedure in the national Energy Conservation programme. Voluntary agreements were started already in 1992/1993, but only a few companies or community signed it back then (one was the city of Helsinki). These agreements have been more of a pilot projects.

In 2005, eight energy conservation agreements signed by ministries and various associations were in force. Four of the agreements were signed in 1997 between the Ministry of Trade and Industry (The Ministry of Trade and Industry has ceased operations as from 1 December 2007. Its responsibilities have been transferred to the Ministry of Employment and the Economy that started its operations as from 1 January 2008), the Confederation of Finnish Industry and Employers TT (since 1.1.2005 Confederation of Finnish Industries, EK), the Finnish Energy Industries Federation Finergy, the Finnish District Heating Association and the Finnish Electricity Association Sener (since 1.1.2005 Finnish Energy Industries).

The new municipal sector energy and climate agreement signed in the autumn of 2002 follows on from the municipal energy conservation agreement. An agreement with the Finnish Association of Building Owners RAKLI was signed in 1999, and extended in the autumn of 2002 to cover also public sector real estate. The extended agreement replaced the co-operation programme for public property units signed in 1997 and expired at the end of 2002. The ministry responsible for these agreements has also been the Ministry of Trade and Industry. In March 2001, the Finnish Bus and Coach Association also signed an energy conservation agreement. At the start of 2005 the agreement terminated, when it was integrated with the more extensive public transport agreement, with the Finnish Public Transport Association also becoming a signatory. With this, the agreement encompassed also local services of the national railways, tram services and the metro, in addition to bus transport. The ministry responsible for the public transport agreement is the Ministry of Transport and Communications. In November 2002, the agreement to cover municipal and non-profit housing properties of the Federation of Housing Property Owners and Developers ASRA was signed. This sector is under the governance of the Ministry of the Environment.

Later on, voluntary energy conservation agreements have played a crucial role in implementing energy efficiency under the Climate Strategy (2001) and the updated Energy Conservation Programme (2003-2006). (Energy conservation agreements - progress review 2005, Motiva 2006)

Specific context of the programme

The municipal sector in Finland has been struggling with economic issues since the depression in early 1990s. This has also had an effect on how the agreement scheme has been accepted. On one hand it has been an initiative to seek new options to find ways to lower the costs. On the other hand, some municipalities have not been very eager to commit in a long-

term agreement. This is due to a fact that many municipalities have been forced to reduce their services for example by shutting down schools. This has affected their willingness to make investments in the buildings. Also there have been a lot of fusions between municipalities from the 1990s, which may have also been a reason to ignore the possibility to sign the agreement. In 1992 there were 460 municipalities in Finland and in the end of 2007 there were 416 municipalities. The number will continue to decrease in the future also.

One of the main “tools” in these agreements has been subsidies for energy audits (use of the Motiva model) and the investment subsidy. The Ministry of Trade and Industry has been supporting energy audits and analyses of buildings since 1992 and they have been a good basis on the agreement. The agreements had a term that at least 80 % of the buildings of the municipalities must go through an energy audit of some kind.

Step 2: Focus of the programme

General issues

This analysis focuses on the Energy Efficiency agreement term II (1997-2007). Term I was from 1992 to 1995 (which did not actually end in 1995) and term III is the new, still on-going period (2008-2016). These terms have been partly invented afterwards to simplify the phases. So there has been term I also in the municipal sector before term II, but there was only one participant, the city of Helsinki. The agreement scheme really took off in 1997.

In 2002, the agreements changed from Energy Conservation Agreements to Energy and Climate Agreements. Municipalities who had signed the agreement before 2002 had also a chance to continue with old agreements. The agreements were due to expire in 2005, but after the evaluation of the agreement scheme in 2005 it was decided that there would be an extension for two years. Term III started after this extension in 2008. (Väisänen, 2008)

Timeline of the development of the agreement scheme

Energy efficiency agreements, term I

1992

- energy audit programme and subsidy scheme
- industrial energy efficiency action programme

1993

- public sector energy efficiency programme
- first Motiva energy audit model
- City of Helsinki energy efficiency agreement
- Rautaruukki Oy Raahe steel works energy efficiency action programme
- operation of Motiva launched

1994

- energy audit programme monitoring system

1995

- building energy audit model
- industrial energy audit and analysis models

Energy efficiency agreements, term II

1997

- industrial, energy sector and municipal sector energy efficiency agreements
- oil-heated properties energy efficiency programme Höylä I
- public property cooperation programme for promotion of energy efficiency

1998

- energy inspection model
- two-phase energy analysis model for process industry

1999

- energy efficiency agreement monitoring system
- property and building sector energy efficiency agreement
- truck and van transport sector energy efficiency agreement
- post-acceptance energy audit model

2000

- follow-up energy audit model
- first annual reports of individual agreement sectors

2001

- district heating audit model
- bus transport energy efficiency agreement
- interim evaluation of industrial and energy sector agreements

- evaluation of oil-heated properties Höylä I programme
- 2002
- evaluation of public sector energy efficiency agreements
 - evaluation of truck and van transport energy efficiency agreement
 - municipal sector agreement continues as energy and climate agreement
 - public sector properties included under property and building sector agreement
 - residential property sector energy efficiency agreement
 - oil-heated properties energy efficiency programme Höylä II
 - energy audit model for residential apartment blocks
- 2003
- energy analysis model for power plants
 - integration of renewables to energy audits
 - truck transport energy efficiency programme
- 2004
- regional audit on renewable energy
- 2005
- overall evaluation of industrial, energy sector, municipal sector and property and building sector
 - evaluation of bus and coach transport energy efficiency agreement
 - new energy efficiency agreement for public transport
 - extension of industrial, energy sector, municipal sector, property and building sector and truck and van transport sector agreements to the end of 2007
- 2006-2007
- development and piloting of tools and procedures for next generation efficiency agreements

Energy efficiency agreements, term III

- 2008
- launch of next generation agreement scheme

(Energy Efficiency Agreements in Finland 1997-2005 - results of an expert evaluation, MTI and Motiva, 2006)

There has not been a specific budget for the whole agreement scheme, but in the 2005 evaluation it was stated that in the period of 1996-2003 in all the agreement sectors:

- subsidies had been about 16.1 million euros (audits 9.1 and investments 7.0)
- governmental costs and management 2.9 million euros
- altogether 19 million euros

(Heikkilä et al. 2005)

Initiator and partners

The Ministry of Trade and Industry has been the initiator of the agreement scheme. Municipal agreements were negotiated with the Association of Finnish Local and Regional Authorities, which is also the branch association for the municipal agreements. Motiva (a state-owned limited company, which promotes energy efficiency and use of renewable energy) was also present in the meetings where the terms of the agreements were decided.

Especially Motiva's role in coordinating and carrying out the agreement scheme and as well marketing the agreements and informing partners and participants has been significant. Motiva has also been responsible for analysing the annual reports and collecting data as the scheme has proceeded. (Väisänen, 2008)

Problem definition

The main focus of the whole agreement scheme was to work towards more efficient use of energy and to reduce carbon dioxide emissions. One of the main methods within the voluntary agreements was the governmental funding of different type of investments. Signing the agreement would help in consumption monitoring and to ensure that the subsidies were used properly. Municipalities who signed the agreement were also obliged to make an energy efficiency plan.

Goals and objectives

Objectives of all agreement sectors were:

- To include as much of the sector's energy consumption under the agreement as possible.
- To improve energy efficiency so that normal consumptions are reduced.
- To audit a certain proportion of energy consumption, property volume or stock by the designated date.

Originally there were no numeric objectives for the coverage for the municipal agreements. The Ministry of Trade and Industry and Motiva set an unofficial objective for the public buildings as 60% (in 2003).

More specific objectives for the municipalities who joined the agreement were:

- 80 % coverage of the energy audits
- reduction of specific consumption of heating energy (kWh/m³) from 1990 level -10% by 2005 and -15% by 2010
- stabilising the growth of specific electricity consumption and turning it to decline by 2005
- each municipality would make an energy efficiency plan within one year from signing the agreement

(Heikkilä et al. 2005)

The targets and target group

The targets were generally all the municipalities and joint municipalities in Finland. To ensure maximum effect with minimum costs it was important that the most critical mass would commit to the agreements, meaning most of the biggest cities. Finland has a lot of small municipalities with just a few thousands inhabitants and a small public sector property stock. The management of the agreements would take a relatively large amount of money compared to the benefits.

In 1997 there were 452 municipalities in Finland.

Step 3: Design of the programme

What knowledge and ideas informed the design of the programme?

National Energy Conservation Program (1993) mentions voluntary agreement scheme as a way to promote energy efficiency in different sectors. The first municipal agreement with Helsinki can be considered as a pilot for the agreements. These gave some basis also for the 1997 agreements. The Ministry of Trade and Industry and the Motiva had been working with the energy audits since 1992 and they also gathered information from there. The Association of Finnish Local and Regional Authorities had been collecting statistics about the consumption in municipalities and it helped to set some numeric objectives for the levels of consumption.

Any specific researches were not made for the municipal agreements. (Väisänen, 2008, Latila, 2008)

The intervention methods/instruments and activities used

Energy audits

The Ministry of Trade and Industry has been supporting energy audits and analyses of buildings and production processes since 1992. Energy audits are comprehensive studies of energy consumption representing opportunities for the more efficient use of energy, to be implemented in accordance with separate instructions. At the end of 2007, more than 6,800 buildings used for manufacturing and service production were covered by auditing activities. The annual impact on energy conservation is estimated at approximately 1 TWh. The Ministry of Employment and the Economy will continue this work, which was launched by the Ministry of Trade and Industry. Energy audits supported by the Ministry of Employment and the Economy concern the private and public service sectors, industry and the energy industry (subsidy 40-50% of total costs of audit)

In energy auditing, Finland is an internationally appreciated pioneer. Finland's experiences and know-how have often been put to good use by other countries establishing energy audit programmes. For example, Finland has coordinated two large European Commission SAVE II programme projects and, in the autumn of 2006, organised an international AUDIT '06 conference.

Motiva Oy is responsible for the management of energy audits supported by the Ministry of Employment and the Economy, and its tasks include the promotion and monitoring of energy auditing activities, the training of auditing personnel, and the quality control of auditing measures.

Investment subsidies for measures increasing efficiency

The main focus of MTI energy subsidies is in commissioning of new technology promoting energy-saving and renewable energy sources. However, under certain conditions, enterprises and communities participating in energy conservation agreements may receive investment subsidies for energy conservation measures within the scope of MTI's available funds also for customary energy-saving technology projects. In order to qualify for subsidy, the investments must be quantified in reported energy audits, analyses or other comparable investigations.

The subsidy rate of customary conservation investments since 2002 has been 15-20 % at most. The minimum size of projects qualifying for subsidy is 25,000 euros and the maximum subsidy for one company is usually 150,000 euros per annum. Smaller savings investments may be combined so that the above minimum project size is fulfilled.

Priority in subsidising customary energy-saving measures is given to projects that conserve electricity. Subsidies for power conservation are considered only if the concurrent energy saving is significant or reduction of emissions is otherwise notable. Subsidies are not granted for alternative heating methods, except in cases where the upgrade is for renewable energy sources. Subsidies are granted for investments with a repayment term excluding interest exceeding 2 years. (Ministry of employment and the economy website, 2008)

ESCO projects

Since 2002, some of the projects granted investment subsidies have been so-called ESCO projects. ESCO projects have been assimilated to new technology. The share of ESCO projects of total investment subsidies granted to energy conservation agreement enterprises and communities in 2002-2005 has been approx. 15%.

Participation

Overall participation of the agreement scheme is following:

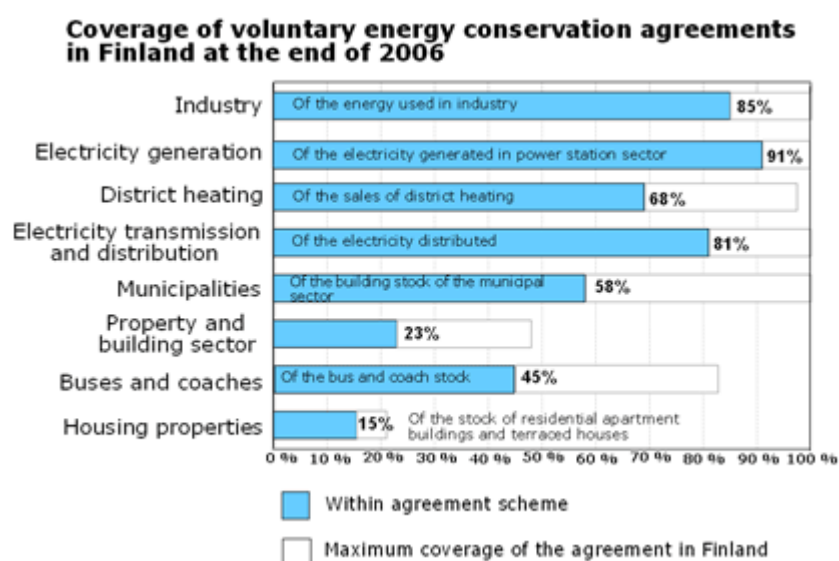


Figure 1: Coverage of voluntary energy conservation agreements in Finland at the end of 2006 (Energy conservation agreements - progress review 2005, Motiva 2006)

The figure does not show the national railways local services, tram services or metro covered by the public transport agreement signed in 2005. The coverage of these areas both in terms of those participating and the sector in the whole of Finland is 100%.

In addition to the agreement sectors shown in the figure, there is in force an energy conservation programme for truck and van transport covering almost 70% of truck and van deliveries, and the Höylä II energy conservation programme of oil-heated properties covering more than 15% of energy used on heating domestic, service and agricultural buildings. The programmes cover the whole of these sectors and operators do not join individually, as is the case in the agreement sectors shown in the figure.

In the municipal agreements more specifically at the end of 2005 the agreement was in force with 70 municipalities and 15 joint municipalities.

The most important issue is that most of the big cities committed to the agreements.

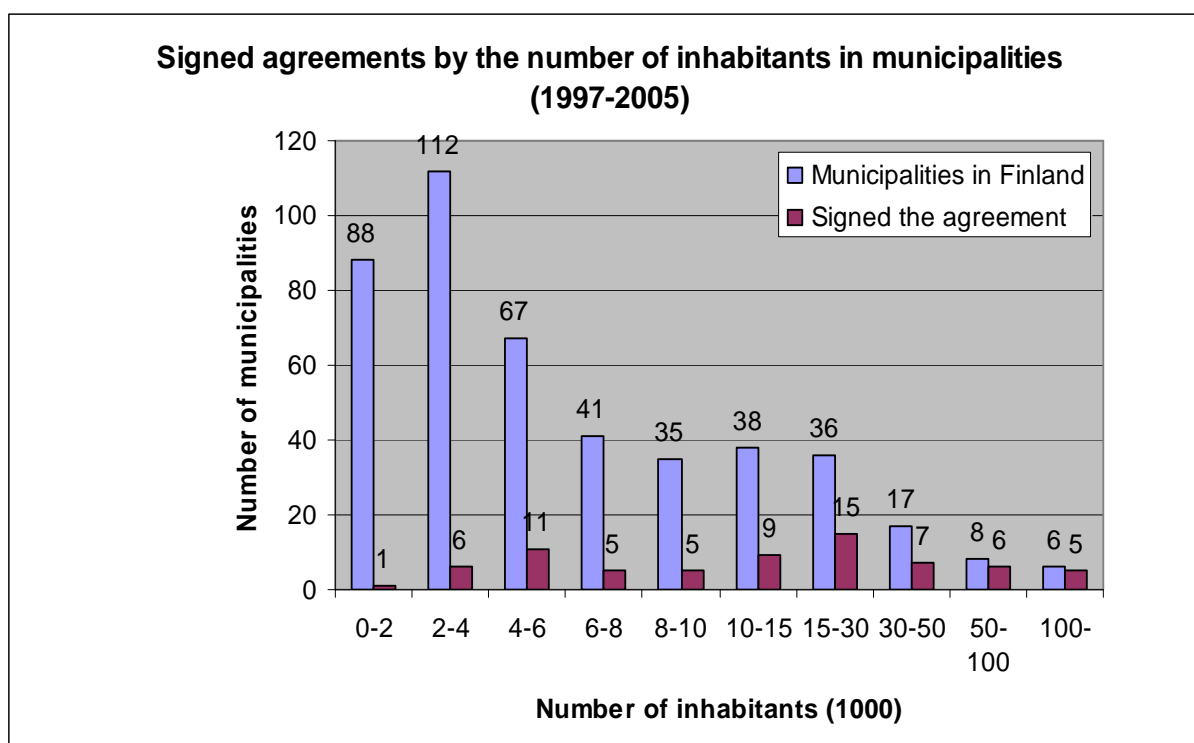


Figure 2: Signed agreements by the number of inhabitants in municipalities 1997-2005 (Ruokojoki et al., 2006)

Coverage in the numbers of consumption

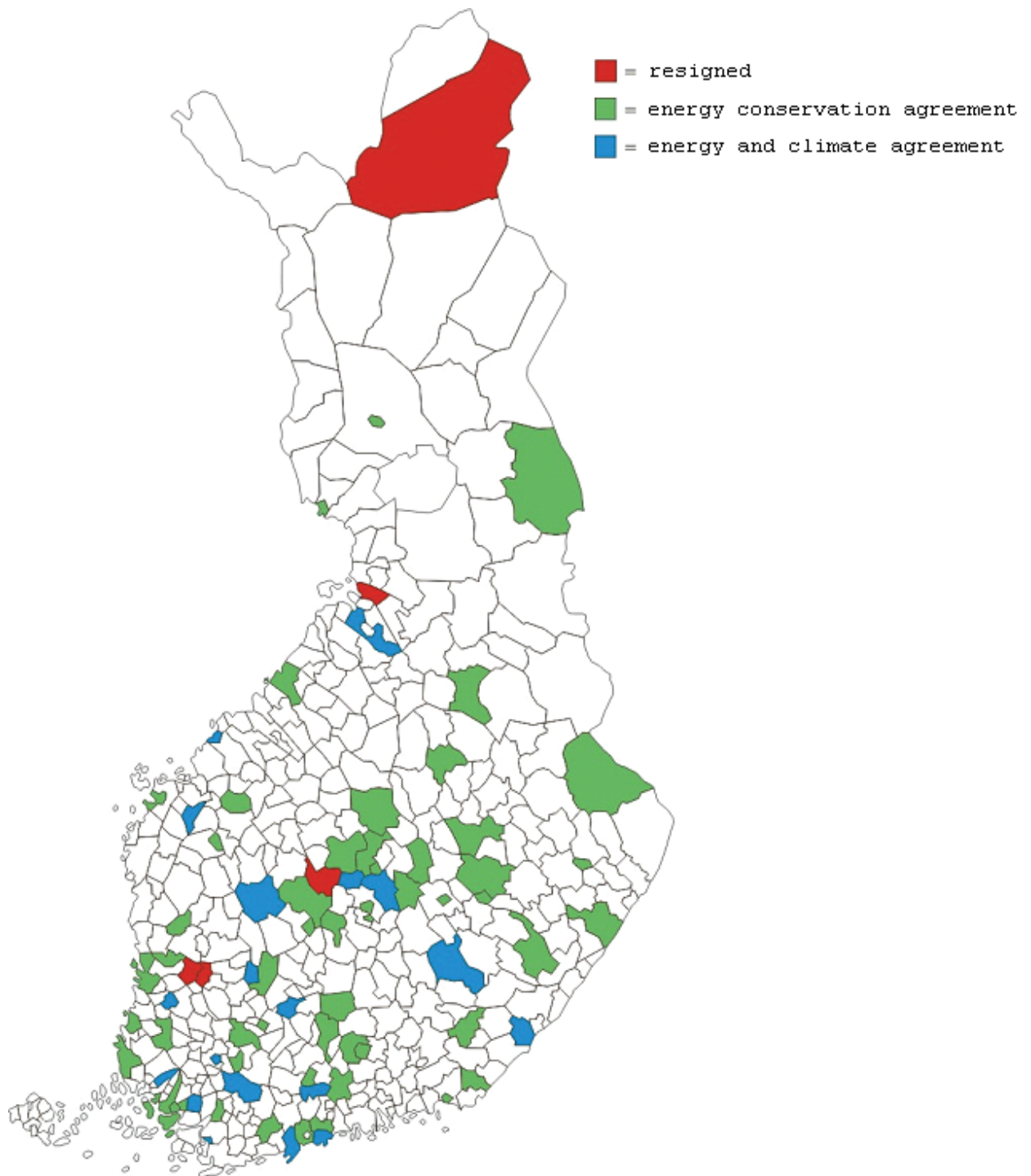
According to Statistics Finland, total energy consumption of Finland was 1,487 PJ in 2004 (of which transport accounted for 195 PJ). The total energy consumption includes both the energy end-usage (industry, transport, heating of buildings, others) and losses, mainly associated with electricity and district heating production, transmission and distribution, and other losses linked to e.g. oil refining. The end-user group ‘others’ includes e.g. domestic households, agriculture, services and public consumption, and electricity consumption of building construction.

Energy consumption of companies and communities signed up to energy conservation agreements currently in force, excluding transport, covers about 66% of Finland’s total energy consumption, when the share of transport has been excluded (1,292 PJ).

The share of the municipal sector, property and building sector and the housing property sector agreement participants of Finland’s total energy consumption totals well under 10%.

Commitment

Those municipalities who have signed the agreement have been quite committed to it also. In 2005 only four municipalities and one joint municipality had resigned the agreement. The one joint municipality actually signed the agreement again in 2006.



Picture 1: Signed and resigned municipalities in Finland at the end of 2005 (Ruokojoki et al., 2006)

Communication

Communication before signing the agreement and after it was mainly between Motiva/MTI, the Association of Finnish Local and Regional Authorities and persons/contact men in municipalities who were responsible for carrying out the agreements. For few years there were quite actively meetings between these, but after that it phased down. Most of the communication was with telephone and e-mails.

Learning, evaluation and monitoring

Most of the learning is being used in designing the next term agreements. One misstep in the original agreements was that the whole monitoring system was designed and build not until 1998-1999. This brought some extra work in evaluating the tangible meanings of the terms in the agreements.

Reports have been made annually. Motiva collects all the information about the energy audits. A larger evaluation was made in 1996, which included the whole period from 1997 to 2005.

Step 4: Process of the programme

Interaction between the different participants

Interaction was pretty much as the communication mentioned in step 3. In the first years there were some seminars to promote the agreements. A lot of interaction relied in e-mail correspondence in first couple of years, but this seemed to not have the impact that was hoped. After Motiva signed a spokesperson to promote the agreements in municipalities the dialogue got better.

A lot of the interaction has been made within so called normal activities, e.g. Motiva deals with the municipalities in many different types of occasions.

The participants have been able to give feedback for the MTI and Motiva and they have considered them in evaluations. One disadvantage has also been the fact that many of the municipalities entrusts all the information and know-how to only one or few persons in the municipality. This makes them quite vulnerable in case there are personnel changes.

Reaction of the project manager to issues/problems

There has not been a type of problems that would have required any enormous measures. The agreements are being revised between different periods of terms. In the beginning of term II it was noticed that the marketing procedures did not have right type of an impact and this was adjusted successfully. In the beginning of 2000 Motiva made a new marketing plan. They also paid more attention in contacting participants personally.

Step 5: Outcome of the process

Objectives/goals/outcomes

Some of the municipalities accomplished their objectives quite well; some did not perform so well. Most of the failures were because the municipality did not act as the terms expected them to.

Coverage of about 60 % was pretty much what was expected by Motiva/MTI and it has been considered quite adequate.

Energy audits play a central role as tools of efficiency agreements. They provide companies and communities with information on their energy consumption, its critical points and savings potential. The energy efficiency agreements have clearly increased demand for energy audits and analyses. During the course of the efficiency agreement scheme 1998-2005, on average 90% of government audit subsidies granted were related to projects of companies and communities participating in the scheme.

Table 1: Ministry of Trade and Industry subsidies for energy audits and investment projects in 98-05 (Energy conservation agreements 2005 brochure, Motiva 2006)

Years 98-05	Ministry of Trade and Industry subsidies for energy audit and analysis projects			investment projects		
	Number of applications	Number of sites	Cost of projects millions €	Subsidies awarded millions €	Number of applications	Subsidies awarded millions €
Municipalities	198	1,416	5.02	2.48	50	1.2
All sectors	675	2,532	26.8	12.1	208	16.5

Monitoring of realisation rate of challenging targets has proved difficult, even though each local authority has been able to determine its targets regarding specific consumption based on their own parameters. Often, the targets set were overoptimistic, and it was impossible to predict energy consumption caused by e.g. increased usage rate of premises, tightening of indoor air quality requirements, increased technology and quantity of equipment. Regardless of saving measures implemented, in most cases specific energy consumption has risen.

Coverage of consumption monitoring

Objective was that 90% of the buildings consumption would be monitored monthly by the end of the year 2010. In the end of 2005 the share was 86% of the heating and 82% of electricity consumption of the buildings (for those who had given the annual report).

Coverage of energy audits

It was set that 80% of the buildings would be audited by 2005 (50% by 2002). Depending on starting point the share in individual municipality could vary. In 2005, in the whole municipal sector the share of audited building stock was 43% (53 million m³). The share of municipalities and joint municipalities who had signed the agreement was 35.3 million m³, which is about 53% of the their heated building stock. Of the largest municipalities, at least in Helsinki and Turku, the audit coverage was already approaching or exceeding the set 80% target in 2005. The agreements have clearly affected the volume of energy audits. Most of the energy audits in municipal sector after the year 1998 have been started by municipalities or joint municipalities who have signed the agreement.

Energy efficiency plan

One objective was that each municipality would make an energy efficiency plan within one year from signing the agreement. In the end of 2005 only 36 plans were made (85 agreements were in force). This has been clearly less than was expected. (Ruokojoki et al., 2006)

Effectiveness

The impact of the energy conservation agreements at the end of 2006 in all sectors

Based on sector-specific annual report data for 2006, the impact of conservation measures implemented in enterprises and communities participating in the agreements by the end of 2006 totalled approx. 7.7 TWh/a (electricity 1.7 TWh/a, heating + fuels 6.0 TWh/a), which is equivalent to the annual electricity and thermal energy consumption of about 380,000 single family houses, calculated on the customary house consumption of 20,000 kWh/a.

81% (6.24 TWh/a) of the energy conservation effect of implemented conservation measures is reported under the industrial conservation agreement. The proportion of the power plant sector of the conservation impact of the implemented measures is 15% (1.14 TWh/a). The remainder, under four percent, of the saving impact of implemented measures was reported in the district heating sector (0.09 TWh/a), **municipal sector (0.08 TWh/a)**, power transmission and distribution sector (0.87 TWh/a) and the property and building sector (0.05 TWh/a).

The annual saving in energy costs achieved through implemented conservation measures across the agreement sectors is approx. 150 million euros, estimated using the average heating and fuel price of €15/MWh and the average electricity price of €35/MWh. In order to implement the conservation measures, corresponding investments or more than 295 million euros have been made in industry, and approx. 70 million euros in the power plant sector.

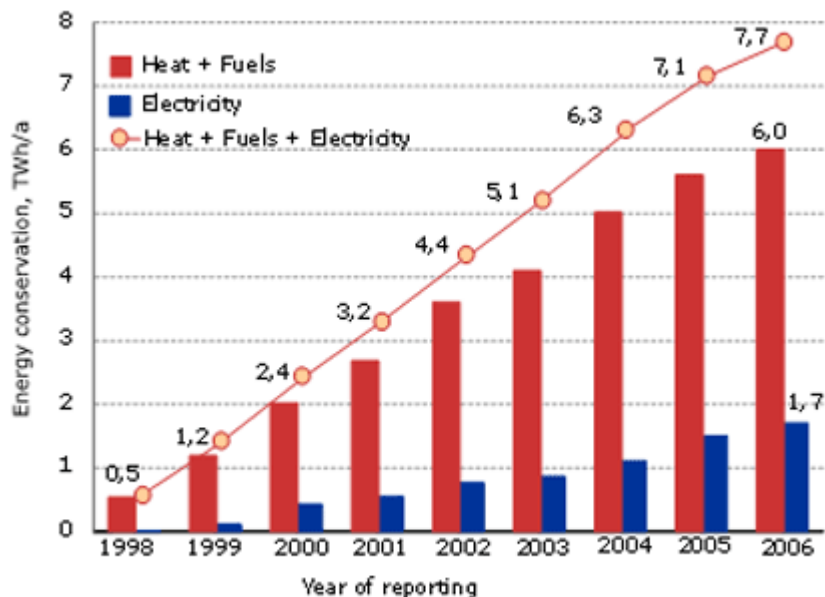


Figure 3: Cumulative energy saving impact of conservation measures reported as implemented by the industrial, energy, municipal and property and building sectors in reporting years 1998-2006. (Motiva website, <http://www.motiva.fi/en/areas/energyconservationagreements/theimpactoftheenergyconservationagreements.html>)

Estimated energy savings

At the launch of the conservation agreement scheme, the total savings potential across the various conservation agreement sectors at the end of 2005 was estimated at around 11 TWh/a, of which the share of electric energy would be about ten percent. Of this savings potential, about half was estimated to be reached by the year 2010.

The cumulative energy-saving impact of conservation measures reported as implemented by the end of 2006, 7.7 TWh/a is already 40% more than originally estimated. The share of electricity from the realised savings reported to date had grown particularly due to the upturn in the power plant sector, exceeding 22% at the close of 2006.

Carbon dioxide emissions

The Climate Strategy and the associated Energy Conservation Programme (2003-2006) set the target of a reduction in greenhouse gas emissions to be achieved through all energy conservation measures at 3-4 million CO₂ tonnes. The energy conservation agreements have been assumed to play an important role in reaching this target.

Indeed, the reduction effects on carbon dioxide (CO₂) emissions of energy conservation measures reported under the energy conservation agreement scheme are considerable. The annual impacts of reported efficiency measures implemented to date on CO₂ emissions are 2.1-2.9 million CO₂ tonnes, depending on whether calculated by using the average coefficient 200 kg CO₂/MWh as the coefficient of CO₂ emissions for electricity, or the coefficient 700 kgCO₂/MWh based on marginal emissions. The average CO₂ emissions coefficient employed for heating and fuels is 290 kg CO₂/MWh, where distribution of implemented savings across different agreement sectors has been taken into account. (Motiva website, 2008)

Follow-up of the programme

In the evaluation that was made in 2005 it was reported that the energy efficiency agreement scheme appeared to have functioned at least well in terms of the targets established for it, with reference to coverage of the agreements, attainment of agreed targets and opinions of agreement parties. The results obtained through the efficiency agreement scheme are also significant. However, sector-specific differences in coverage, commitment of various parties and performance of agreements have been pronounced. Signatories to the energy efficiency agreements list as the most important benefits identification of potential energy savings, development of their own activities, clarification of energy efficiency targets, and the energy subsidies for audits and investments. Benefits related to organisational image also emerged clearly. The agreements have also been instrumental in spawning co-operative networks and exchange of information between operators. Understanding of energy efficiency has increased, as has application of a systematic approach to improving energy efficiency.

It was also clear that future expectations of the energy efficiency agreement system are different and the next generation agreement must be modified so it corresponds to these expectations. Interviews with the participants have also brought out the importance of expert functions related to conservation agreement activity, and a need for increased personal contacts in implementation, reporting and communications.

Energy Efficiency Agreement, term III was launched in 2008.

Step 6: analysis and conclusion

The municipal energy efficiency agreement was selected in case analysis to represent unsuccessful case. After examining reports and interviewing participants this has been disproved.

Even though there have been many objectives that have not been fulfilled, the coverage of the agreements in most important municipalities has been good. It should also be noticed that this has still been voluntary procedure and many municipalities are in lack of both personnel and economic resources.

One issue also is that the whole baseline for energy efficiency in buildings is a bit problematic. The Ministry of Employment and the Economy is responsible for all the energy efficiency, but regulation for building construction is set in the Ministry of the Environment. This could possibly be managed more efficiently if it would happen inside the same organisation. Coordination between the two ministries must be handled properly. After all, the regulations have a massive impact in the energy efficiency of the buildings.

Most important factors have been:

1. Coordination has functioned properly and actively. Ministry of Trade and Industry and Motiva has allocated time and effort in managing and improving the agreement.
2. Monitoring system has been working well (even though initiators have been more pleased than some of the municipalities)
3. There have been enough active participants. Even though the amount of the municipalities who have joined the agreement is not very large, the coverage of the total municipal consumption is good.
4. Energy audit model has been a good instrument in carrying out the agreements (and it was ready to be used also). Subsidies have been substantial enough.
5. There were problems with marketing and interaction in first few years. This was noticed and with better coordination it did not grow to be a very huge obstacle. It was noticed that personal contact face-to-face had to be used more rather than e-mailing occasionally.

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