



Motiva

Annual Report 2010

Motiva

www.motiva.fi/en

Providing expertise on material and energy efficiency

For almost 20 years Motiva has provided a wide range of services and expertise aiming to promote the sustainable use of energy and materials, and increase the use of renewable energy sources.

Motiva helps clients to reach their goals using suitable tools and models. Our work involves advisory services, training, consulting, networking, campaigning, publishing useful information, and monitoring measures and their impacts.

Motiva particularly supports the Finnish authorities' efforts to implement the national climate and energy strategy and the EU energy services directive. We also provide services for local authorities, businesses, organisations and consumers. Motiva's expertise is increasingly needed by everyone who wants to build a more resource-efficient society.

Motiva and Motiva Services

Motiva Oy - provides services for the Finnish authorities

Established in 1993 as the national energy information centre

Incorporated on 1.11.2000

Owned by the Finnish State (100%)

Managing Director: Jouko Kinnunen

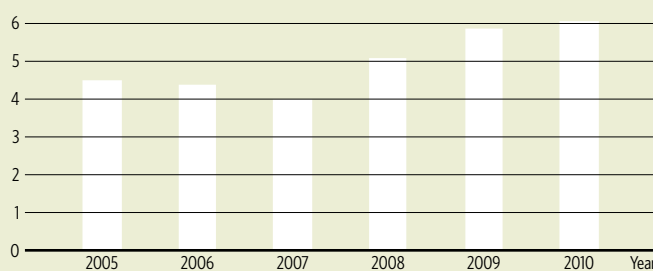
Motiva Services Oy - provides services for businesses, local authorities and organisations in Finland and abroad

Established 12.12.2008

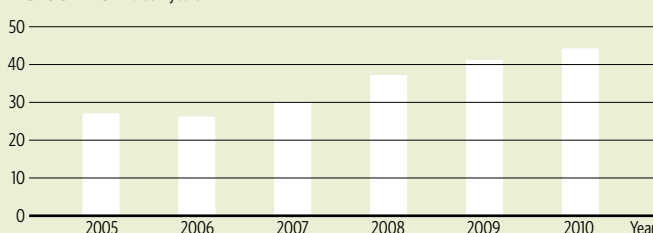
Owned by Motiva Oy (100%)

Managing Director Petri Väisänen (Osmo Nojonen until 15.08.2010)

Turnover Million euros



Personnel Person-years



ACTIVITIES

Energy efficiency agreements

- Development
- Support for implementation
- Monitoring

Energy audits and analyses

- Development
- Advice for clients
- Training for auditors
- Monitoring of results and quality

Green technologies

- Accelerating adoption

Managing energy use

- Management systems
- Continuous improvement

Renewable energy

- Increasing sustainable use
- Accelerating the adoption of technologies

Material efficiency

- Efficient use of materials

Monitoring and impact analysis

- Impacts of programmes and measures

Environmental labelling

- Nordic Ecolabel (Swan)
- European Ecolabel

Advice and communications

- Influencing attitudes and behaviour
- Spreading good practices
- Purchasing services
- Coordination of energy advice for consumers
- Coordination of mobility management

Training

- Training programmes
- Events

Independent expertise on effective resource use

A set of measures to enhance energy efficiency were initiated by the Finnish government in early 2010 to complement the national climate and energy strategy. These new measures fit in well with our own strategic plans to expand Motiva's work.

Motiva helps the authorities to realise Finland's energy and climate policies and build a more resource-efficient future. An independent expert body can play a vital role in such work. Advice and good examples can help everyone including businesses, local authorities and consumers find cost-effective solutions.

Our offerings now include a wider range of services both in our existing fields and in new areas. To achieve this expansion we have recruited new expert personnel.

More resources are now available for mobility management. Motiva has been assigned to coordinate energy advisory services throughout Finland. Providing businesses with advice on energy efficiency agreements is one of our main growth areas. We have also been developing material efficiency audits together with pioneering companies.

Motiva's internet-based communications have also expanded. Our web services now include information on our purchasing services, E10 petrol, energy efficiency agreements and consumer advice.

At the end of 2010 the government submitted a major natural resource report to Parliament, proposing many measures that fit in well with our work on material efficiency. We hope that these measures will be incorporated in the programme of the government to be elected in April 2011.


The demand for our expert services is increasing. A lot is being done to improve energy efficiency and the use of renewable energy in sectors not covered by emissions trading. It is vital that sufficient financial resources should continue to be earmarked for this work.

Our subsidiary Motiva Services Oy has again achieved positive results. From the beginning of 2011 activities related to environmental labelling will be run by Motiva Services Oy, leading to further expansion.

I wish to thank our clients and our own highly professional staff for their contributions to everything we have been able to achieve together. We aim to continue serving our clients effectively and reliably.

Managing Director Jouko Kinnunen





Energy efficiency agreements for all

Since the 1990s various kinds of voluntary energy efficiency agreement schemes have been run in various sectors in Finland to promote energy efficiency. The current agreement schemes, which will run until 2016, cover manufacturing industry, energy producers, services, property management, municipalities, the oil industry, goods transportation, public transport and farming.

The parties to these agreements include sectoral associations, individual firms, organisations and the ministries of Employment and the Economy, Transport and Communications, the Environment, and Agriculture and Forestry. Energy efficiency agreements cover about 70% of total energy consumption in Finland.

Energy efficiency agreements are an important tool for reaching targets set out in Finland's national climate and energy strategy and government policies promoting energy efficiency. The agreements also play a key role in Finland's implementation of the EU energy services directive, which covers uses of energy not included in the emissions trading scheme, and obliges all EU member states to reduce their energy use by 9% by 2016.

Prioritising product planning

Motiva conducted a questionnaire survey during autumn 2010 to assess the views of companies, expert organisations and administrators on current levels of environmental management skills and the need for improvements. More than 80% of the survey's 227 respondents stated that managing environmental issues and creating environmentally friendly products are both vital preconditions for economic success. More than 90% felt that the need for product-centred environmental management expertise will grow.

A new national network of expertise in this field was set up at the end of 2010. The network will enhance and disseminate the know-how needed to enhance material efficiency through product planning. Another goal is to encourage closer cooperation between businesses and the authorities on the shaping of product legislation.



Businesses

Efficiency the key to success

Businesses in Finland have made a good start in terms of improving their energy efficiency, but there is still a lot to be done. Motiva helps firms to adopt new operating models that integrate energy efficiency into their management and routine work. A similar process has now begun for material efficiency.

To boost their energy efficiency, businesses need to control and systematically monitor their energy use and consider energy issues in all of their operations. This work must be continuous and long term, with the commitment of the whole organisation and sufficient resources made available. Commitment at management level is particularly vital.

Energy efficiency is closely linked to material efficiency which is rapidly being recognised as a vital issue due to scarcities and the increasing costs of natural resources.

From audits to actions

Motiva's energy audit scheme provides information on firms' energy use and identifies potential savings that can be achieved through practical actions. Energy audits also facilitate the management of energy efficiency and enable continuous improvements.

The numbers of audit subsidies and reports have also increased considerably. Energy efficiency agreements signed in 2008 have clearly encouraged these processes. Improving and ensuring the quality of energy audits has been one of the cornerstones of Motiva's work during 2010.

Existing models for energy audits are supplemented with additional guidelines as necessary. During 2010 more detailed guidelines were prepared for audits and improvements of steam condensate transfer systems. Guidelines for audits of ski-resorts were also completed.

Motiva's energy audits for transport chains have particularly been useful for industrial and commercial firms procuring transportation services. Related supplementary guidelines have been drafted for incorporation into other energy audit guidelines during 2011.

A total of 118 people participated in training provided for new energy auditors. In all 87 auditors gained auditing qualifications during 2010 - more than half of them in the field

Businesses

Efficiency the key to success

6 of HVAC systems and a third working with electrical systems. Altogether more than 1,500 qualified energy auditors have received such training since 1994. Energy audits were promoted at various events, during company visits and in articles in the press. A seminar was held to collect feedback from auditors on new auditing tools.

Tools for improving energy efficiency

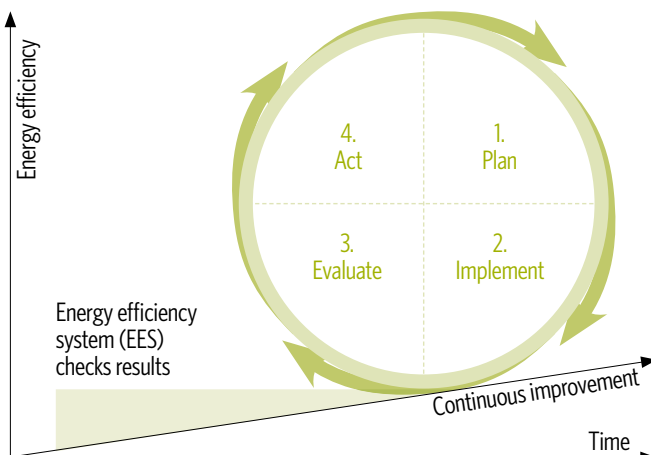
Energy efficiency agreements enable businesses to define goals and frameworks for improving their efficiency and saving on energy costs.

Schemes for energy-intensive sectors require participating companies to adopt energy efficiency systems (EES) designed jointly by Motiva and industrial firms to help all kinds of businesses to integrate energy efficiency into their management systems, from the shaping of strategies to practical implementation.

Two brochures were published during 2010 to support businesses adopting EES systems. Around 60 people participated in training on EES internal auditing processes, including representatives of chemicals, metals, foodstuffs and energy businesses.

A widely-based working group coordinated by Motiva has initiated and monitored schemes designed to promote continuous improvements in businesses' energy efficiency. The group includes representatives of firms working in energy-intensive industries.

Energy efficiency rising steadily



Motiva also closely monitors the development of international energy standards. Finland's present standards will only need to be altered slightly to harmonise them with the European EN 16001 standard and the international ISO 50001 standard.

A boost for SMEs' energy efficiency work

Motiva is increasingly providing advice for firms with EES schemes in the plastics, technology, foodstuffs, chemicals, tourism and catering sectors, using funding from sectoral associations and the Ministry of Employment and the Economy. Such advice is particularly needed by smaller firms.

Advice sessions held around Finland during 2010 attracted more than 200 participants. Motiva's energy efficiency advisor also received around a hundred enquiries and regularly visited companies. More than 2,000 people used our related extranet service.

Articles published in sectoral periodicals and two new booklets on energy efficiency in ski-resorts and commercial kitchens also spread useful advice on ways to save energy.

Looking at material and energy efficiency together

Increasing material efficiency has become a key target across the EU and in Finland. The natural resource report submitted to Parliament during 2010 will support the work that Motiva has been doing on material efficiency since 2008.

Material use can directly or indirectly account for 50% or more of a company's variable costs. Improvements in material efficiency are often as cost-effective as investments in energy efficiency. In collaboration with consultants and pilot companies Motiva is devising a framework for material audits, also exploiting previous experiences with energy audits. The aim is to help firms find ways to enhance their material use and enjoy the related cost savings while creating environmental benefits. We hope to complete a common material audit tool for use in all sectors by the end of 2011.

The first Motiva material audit was run in 2009 at Oras Oy's tap and shower appliance production plant in Rauma. Development work then continued in collaboration with Uponor Finland Oy at the company's Forssa heating system production plant, where a detailed analysis of material flows and costs identified nine areas for improvement.



Information on agreements

In December 2010 Motiva launched a new web service providing information on energy efficiency agreements and their annual results. Parties to agreements also have their own extranet service.

Energy and material efficiency are today increasingly being considered together as overall "resource efficiency".

New energy efficiency scheme for farms

In January 2010 a six-year programme was launched to help farms to improve their energy efficiency and use more renewable energy. All Finnish farms and market gardens may participate in the programme.

The programme's most publicised measure is an energy planning service for farms, which involves collaboration between trained planners and farmers on reviews of farms' energy use and the drafting of farm-specific energy plans. Motiva is helping to implement the energy programme of the Ministry of Agriculture and Forestry by training planners and inspecting plans. Model energy audits for farms are also under development.

Farmers may also review their farms' energy use and draft energy plans themselves, with help from a special booklet provided for this purpose.

International demand for Motiva's expertise

During 2010 Motiva was involved in energy auditing projects in Panama and Nicaragua, and an extensive energy efficiency management scheme for major industrial firms in South Korea. Finnish expertise is also in demand within the EU.

Motiva represented Finland in the preparation process for the new ISO 14051 standard for material flow cost accounting (MFCA), due to be finalised by autumn 2011. The standard's calculation methodology will be applied in Motiva's own material audit models.

The project Bioenergy Promotion (2009-2011) aims to increase the use of bioenergy in countries around the Baltic Sea. Motiva is running the project's internal and external communications and leading one work package.

The KIS-PIMS project (Knowledge Intensive Services in the Planning, Installation, Maintenance and Scrap services, 2008-2011) is being run within the EU's Competitiveness and Innovation Programme (CIP) to develop innovative new renewable energy services. In Finland 39 companies have expressed interest in developing such services, and 16 of them have applied for development funding from Tekes.

Carefully planned purchases

It is well worth considering energy and material efficiency in all aspects of a business's work. During 2010 Motiva launched a new purchasing service to encourage environmentally friendly and cost-effective choices.

Pioneering the natural resource economy

In December 2010 the Government submitted a natural resource report to Parliament setting out a vision of Finland as a responsible forerunner in the intelligent natural resource economy. Motiva contributed to this report, which encompassed themes previously addressed in Finland's national natural resource strategy and other existing natural resource and sectoral strategies.



ESCO scheme creates savings

The oil-fired heating system at Vehmasmäki School in Eastern Finland has been replaced by a ground source heat system. The tender for the scheme involved bidders making commitments to achieve certain levels of annual savings. They were able to propose municipally-financed schemes, ESCO projects or combinations thereof. In cost comparisons that also accounted for energy subsidies and funding costs, ESCO services proved to be the best option. The ESCO scheme's costs and investments are repaid from the consequent cost savings. More information on ESCO services is available from Motiva's procurement service.

The public sector Leading to sustainable purchasing

The national and local authorities play a key role in pioneering energy and material efficiency. Motiva supports related programmes and agreements, and also provides services and tools that can be used to identify savings and favourable purchases.

Finnish and EU policies call on the public sector to set an example by enhancing energy efficiency. This should involve setting clear goals. Energy issues must be integrated into all kinds of management work and other activities. Important areas include the energy management of properties and responsible purchasing policies.

Identifying practical measures

Two kinds of agreements help to identify potential energy savings in the municipal sector: energy efficiency agreements between municipalities and the Ministry of Employment and the Economy; and an energy programme designed for municipalities with fewer than 5,000 residents, run by Motiva.

The agreement scheme was publicised at municipal events around Finland, and local council representatives received an electronic publication. During 2010 a total of 11 municipalities signed agreements and one joined the Motiva programme.

Exchanging knowhow and experiences

A meeting for energy efficiency contact people working within municipalities in property management and construction was held in November. Almost 50 participants from municipalities met representatives from Motiva, the Ministry of Employment and the Economy and regional energy offices to share their knowhow and experiences. Similar meetings will also be held in future.

An ABC for green purchasing

Responsible purchases of goods and services can significantly reduce energy use and emissions – especially in the public sector, where annual purchases amount to more than 20 billion euros.

Motiva's new web service for purchasers primarily targets experts responsible for public sector purchases. It provides guidance on purchases favourable due to their overall economy, innovativeness, or environmental impacts.

Guidelines on energy efficient purchases have been provided for sectors including IT equipment, ESCO services and lighting. Motiva is the national coordinator for the EU-wide SCI Network web service in Finland. This service aims to promote energy efficiency in public sector construction and related projects.

Renewable energy audits worthwhile

Using more renewable energy is vital for sustainability. It can also create jobs and increase local energy self-sufficiency. One good way to identify scope for such developments is to commission renewable energy audits.

Motiva markets such audits among municipalities, and also provides related advice. Our audit brochure has been revamped, and a new audit evaluation form has been prepared to enable municipalities to submit feedback on consultants' work and reports.

Boosting bioenergy use

Motiva encourages the wider use of bioenergy by running training and seminars for bioenergy advisers and heating businesses. We also develop new bioenergy business models.

A new brochure has been produced to support district heating enterprises. We have also produced a video spotlighting wood energy and its benefits for regional economies. A report prepared for Motiva by the University of Oulu assesses opportunities for new heating enterprises.

Clean wind power on the way

Motiva, the Ministry of the Environment, Finnish Energy Industries, the Ministry of Employment and the Economy and the Finnish Wind Power Association have jointly published an internet service designed to help Finnish wind power firms deal with construction permit processes, environmental impact assessments and planning processes.



Web services for energy efficient homes renewed

Motiva continued to coordinate a campaign encouraging the construction of low-energy homes. The scheme's website was revamped in time for launching at a seminar for home-builders run by Motiva. The site compiles basic information on building methods and features examples of low-energy and passive houses. Motiva's experts provided personal advice for home-builders and owners at this seminar and at the national housing fair held in Kuopio.

Properties and construction

Finding favourable solutions

Efforts are widely being made to reduce the environmental impacts of Finland's buildings. Motiva provides services to encourage energy efficiency in homes and other buildings, and to promote sustainable spatial planning. Energy efficiency agreements speed up useful actions.

Choices made in spatial planning and construction have impacts that last for many decades in terms of energy consumption levels and climate and energy targets.

Recent trends have been promising. A system of energy certification for buildings has been adopted. Requirements on heat insulation have been toughened. New buildings are becoming more energy efficient, and low-energy houses are more widely constructed. But the increasingly complex technical aspects of buildings mean that users must have the right information and capabilities to make the most of opportunities to save energy.

Advice on energy certificates in demand

During 2010 Motiva completed a two-year energy efficiency project covering buildings and domestic energy use on behalf of the Ministry of the Environment. One aim of the project has been to publicise the new obligatory energy certificates. The project has also helped Finland to implement the EU energy performance of buildings directive.

Many professional builders and home-owners have obtained advice from Motiva's telephone email and internet enquiry services. Frequently asked questions and their answers appear on the website together with up-to-date information on energy certificates.

In spring 2010 the Ministry of the Environment, Motiva, FISE (Qualification of Professionals in Building, HVAC and Real Estate Sector), the Property Sector Training Foundation and the Finnish Association of HVAC societies held a networking conference on energy certificates. The event proved highly popular and this work will be continued.

Support for agreements and programmes

Motiva was actively involved in the preparation and expansion of the property sector's energy efficiency agreement for 2010–2016 and a related programme of action for rented apartment housing. The property and construction sector are now also covered by a system for monitoring agreements and a new web service providing information on energy efficiency agreements.

Promoting the small-scale use of renewable energy

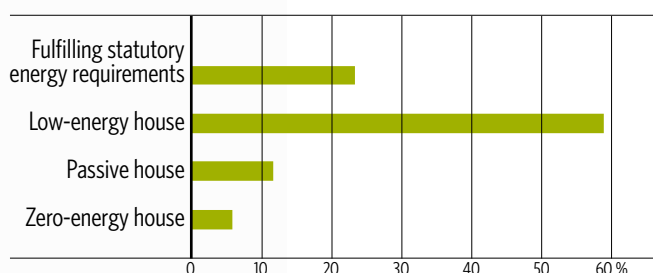
Motiva and the Finnish Association of Wood Pellet Energy ran a campaign during 2010 to increase awareness of the benefits of pellet heating among people planning to build homes. The association also provided a helpline service commissioned by Motiva.

Since 2009 Motiva has overseen the development of a training system for equipment installation workers to meet the requirements of the EU renewable energy directive. Important actions have included the planning and organisation of pilot training schemes led by the vocational adult education centre Amiedu. Renewable energy associations and the TTS training institute have also been involved in this scheme.

Constructors ready to invest in energy efficiency

A questionnaire survey conducted by Tekes and Motiva at a major housing fair in Kuopio indicated that most people building their own homes would be prepared to pay more for solutions that enhance their energy efficiency.

Q: What kind of house are you planning or building?

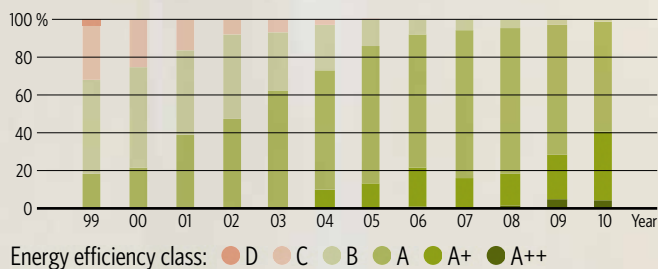


Better advice for consumers

Fourteen pilot projects launched in the beginning of 2010 with funding from the Ministry of Employment and the Economy and Sitra, the Finnish Innovation fund, have enabled Motiva to further enhance the advice we provide for consumers on energy issues. Through these schemes national, regional and local expert actors have advised households on issues related to the running of homes, domestic appliances, construction, renovation and transport. A new call for complementary pilot projects in regions not covered by energy advice schemes was launched in December. New pilot projects are expected to be running in the first quarter of 2011.

Energy categories of fridge-freezers on the market

Appliances on sale in 14 outlets in the Helsinki area
(data compiled annually in Aug-Sept)



Among kitchen appliances energy efficiency has improved most in refrigerators and freezers, even though such appliances have recently become larger and more technically complex. Most of the refrigeration appliances sold in Finland are class A. As yet there is little evidence of consumer demand for appliances of the most efficient class A++.



Energy use in homes

Helping households save energy

Households can help to mitigate climate change by using less energy. Motiva provides information and tools to encourage consumers to change their behaviour and make favourable purchasing choices.

13

Everyone can save energy by changing their consumer behaviour, for instance by using domestic appliances optimally and by choosing products that are durable and use less energy. Using heat and electricity produced from renewable energy sources is a good way to reduce greenhouse gas emissions.

Motiva's role coordinating energy advice

It is vital to meet consumers' growing need for independent advice on energy issues. In December 2010 the Ministry of Employment and the Economy appointed Motiva to serve as a permanent national coordination centre for energy advice.

In this work we will utilise our existing advisors and networks, ensuring that they have access to the latest information and tools. This work also involves monitoring and assessing the impacts of advice on actual energy consumption.

Our web service featuring energy advice for consumers will be the most important communication channel in this work. It will help users to enhance their energy use, use more renewable energy, and contact expert advisors. We also provide advice through our telephone and email services, and through visits. The training of energy advisors will be enhanced.

Food projects

Food accounts for almost a third of the environmental loads related to consumption patterns. Wasting less food could greatly reduce the environmental impacts along foodstuffs production chains. The two-year FOODSPILL project, launched in January 2010, focuses on the amounts of food wasted, the reasons behind this waste, its impacts, and how such waste can be prevented.

This is the first such study in Finland, and few have been conducted elsewhere. The project is funded by MTT Agrifood Research Finland, the Ministry of Agriculture and Forestry, the Finnish Solid Waste Association, Motiva and several foodstuffs businesses. Motiva is also contributing to the project's publicity work.

Energy use in homes

Helping households save energy

This work will help to implement the national climate and energy strategy and other policies on energy efficiency and consumer issues.

Making the most of heat pumps

The Elvari efficient electric heating programme, coordinated by Motiva, has assessed the savings that can be achieved when air-source heat pumps are installed in electrically heated Finnish homes. Monitoring conducted between 2004 and 2010 revealed considerable scope for savings. In a fifth of all surveyed homes energy consumption was reduced by as much as 20%, but in a quarter of the homes assessed savings were less than 10%, and total energy consumption actually increased slightly in a tenth of the homes.

It is essential that pumps are installed professionally and that people learn how to use them optimally. Motiva has produced a handbook with tips on how air-source heat pumps should be used to save energy.

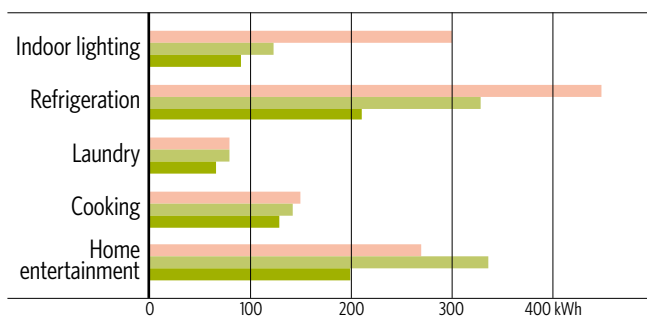
It is also often possible to use air conditioning appliances more efficiently. Motiva's new booklet on energy efficient air conditioning provides useful advice for users and servicers.

Energy-saving options

The TTS institute has examined how much electricity households can save by purchasing energy efficient domestic appliances, IT equipment, entertainment electronics, lamps and digiboxes.

Energy consumption in a typical single-person household

- 2006 - total electricity consumption 1,250 kWh
- 2010 - total electricity consumption 1,012 kWh, if appliances replaced by new versions with average energy efficiency (entertainment electronics include digiboxes)
- 2010 - total energy consumption 643 kWh, if the most energy efficient appliances installed



Guidance for purchasers

Motiva launched a new web service in 2010 to help people purchase and use electrical appliances so as to save energy. A related printed publication has been produced for distribution in retail stores, at consumer events, and through energy advice projects.

The booklet also covers ecodesign and energy labelling issues. The criteria for energy labelling have been altered for many types of appliances, and in future more products including televisions and circulation pumps will also be classified according to their energy efficiency. Energy labelling schemes so far cover eight product groups.

The new website and publication complement the eco-design website run by the Finnish Safety and Chemicals Agency (TUKES) for equipment manufacturers and importers.

Top ten appliances

Help for people buying domestic appliances is also available through Motiva's Topten-Suomi website, which lists the most energy efficient products and provides tips on their use. During 2010 new sections opened on the Topten site for cars, tumble-dryers and LED lighting. Information on energy saving light bulbs was updated, adopting a classification system based on lumen values.

This service now covers five main product groups: domestic appliances, lighting, office equipment, construction and motor vehicles. It is funded by the Ministry of Employment and the Economy and the EU's Intelligent Energy Europe (IEE) EuroTopten PLUS project.

More information on lamps

It is easy to improve the energy efficiency of indoor lighting through good planning and the choice of the right types of lamps. Motiva coordinates an information service that helps consumers to choose lamps and safely dispose of used lamps.

During 2010 new information was added to the service on topical issues including the labelling of lamp packages, how to plan lighting, and various aspects of energy lamps. Our home lighting handbook provides tips on energy efficient and attractive outdoor and indoor lighting.

Training for shop assistants

Motiva, the electrical safety centre STEK and organisations in the lighting sector ran a web-based course during 2010 to give stores' sales staff the information they need to advise customers looking for suitable lamp models.

By the end of the year 29 retail chains had incorporated this material in their training, meaning that it reached more than 800 salespeople around Finland. More than 500 salespersons completed the course and its final test. Feedback indicated that about 90% of the participants felt that the course will help them in their work, and that the retail chains also greatly appreciated the material and the project.

An EcoDesign exhibition organised in connection with the Habitare interior design and furnishings fair featured eco-lamps. Motiva provided the exhibition planners with guidance on the planning of ecological lighting. The guidelines were also published in the exhibition catalogue.

Seven training sessions were additionally organised around Finland to inform energy companies' energy advisors about issues related to lamps.

The right lamp in the right place

In accordance with the EU ecodesign directive incandescent lamps and certain inefficient halogen, fluorescent and discharge lamp models will no longer be sold from 2016.

Many different kinds of lamps are today available for homes, from energy-saving small fluorescent bulbs to LED and halogen lamps. New legislation enacted in Finland in September 2010 obliges lamp suppliers to label packages with information about energy efficiency, brightness, colour, speed of illumination, dimmability, temperature when in use, and expected lifespan.





Latest research findings

The TransEco research programme (2009-2013), coordinated by VTT Technical Research Centre of Finland, aims to improve the energy efficiency of road transportation and increase the use of renewable energy produced using advanced biofuels or green electricity. Motiva is in charge of the project's communications work.

Transport and mobility Planning centred on people

The transport sector today faces many changes and challenges. Emissions must be reduced, and increasing amounts of renewable energy must be used. Motiva works to promote environmentally friendly trends in transportation and take advantage of favourable opportunities.

About a fifth of Finland's carbon dioxide emissions are derived from transport. Road transportation particularly uses energy and generates emissions. Alternative solutions must be sought with the help of new technologies and innovations.

Mobility management up and running

In 2010 Motiva started to coordinate a national mobility management programme on behalf of the Finnish Transport Agency and the Ministry of Transport and Communications. The scheme will encourage environmentally friendly modes of transportation. Incentives will include services enabling people to efficiently switch between different modes including private cars and public transport.

Advice can play an important role in this work. The programme kicked off in autumn 2010 with 13 new projects initiated, aiming to manage mobility on a local scale in different parts of Finland. A related brochure has been produced to promote smart choices.

An expert network known as LIVE was set up to promote the programme and related collaboration and the exchange of information. LIVE also connects Finland to the international network European Platform on Mobility Management (EPOMM). The Finnish Transport Agency joined EPOMM in 2010. Motiva coordinates the LIVE network and serves as Finland's EPOMM contact point.

Car-sharing on the rise

Motiva commissioned a survey during 2010 to assess potential for the shared use of cars in the metropolitan areas of Helsinki, Tampere and Turku. This survey forms part of the European Momo car-sharing project. It was also funded by the Ministry of Transport and Communications, the Finnish Transport Agency, Helsinki Region Transport, Helsinki City Planning Office and the City of Tampere.

Commercial traffic in pole position

Improvements in energy efficiency are extremely important for commercial transportation businesses with high mileage. Businesses can reduce their environmental impacts by using the best possible vehicles and ensuring that drivers drive economically.

Firms can also achieve savings by joining energy efficiency agreements. Agreements for goods transportation, logistics operations and public transport also apply to rail, metro and tram traffic.

Information on E10 petrol in demand

E10 petrol containing up to 10% ethanol by volume first came on sale in Finland in the beginning of 2011. Motiva, the Finnish Petroleum Federation and the Finnish Information Centre of Automobile Sector jointly published an E10 web service providing information about the suitability of E10 for different types of cars. The website was launched in May 2010, and visited by more than a million times before the new petrol hit the market.

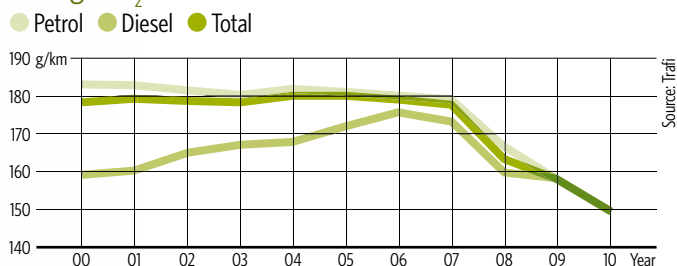
Greener motoring

Motiva publicises information on economical and environmentally friendly driving techniques, and encourages car-buyers to compare the environmental impacts of alternative models.

During 2010 Motiva drew up new guidelines for car-buyers on behalf of the Finnish Transport Safety Agency (Trafi), who published this information on their website in February 2011. Motiva's Topten-Suomi web service provides information on the car models with the lowest fuel consumption and emissions.

A group of experts assigned by Motiva granted the Eco-Car 2010 award to the Skoda Octavia 1.6 TDI Greenline on the basis of technical tests run by the Tuulilasi motoring magazine.

Average CO₂ emissions of new cars





Tools for drafting energy efficiency plans

All of Finland's administrative sectors are legally obliged to draw up their own energy efficiency plans by the end of 2012. To facilitate this work, Motiva has produced a special website that includes source data forms, model contents and material for workshops. The materials have been tested through a pilot scheme run at Tekes, the Finnish Funding Agency for Technology and Innovation.

These energy efficiency plans will give national and local government organisations a useful tool for energy management. Municipalities joining the related agreement or energy programme must fulfil their obligations by drawing up detailed plans for improvements in their energy use.

Monitoring and impact assessment

Growing need for expertise

Annual reports submitted by organisations involved in energy efficiency agreements are used to evaluate the impacts of agreements. Motiva's extensive net-based monitoring system provides information for national needs as well as for reporting purposes related to the EU energy services directive.

By the end of 2009, firms and authorities covered by the energy efficiency agreements for the business and municipal sectors carried out measures leading to annual effective energy savings of 1.75 TWh. This corresponds to the energy used to provide heat and electricity for more than 85,000 detached homes.

These savings reduce Finland's annual carbon dioxide emissions by about half a million tonnes, while cutting energy costs by about 60 million euros annually. The reported investment costs of these energy-saving measures totalled about 75 million euros.

Monitoring expanding

Motiva has been running an internet-based energy efficiency agreement monitoring system since 2009. Reports for 2010 covering agreements in the business, municipal, oil and rental apartments sectors have been added to the system. These annual reports covered a total of about 540 firms or organisations with almost 2,000 reporting units. The whole monitoring system covers around 1,700 firms and organisations.

Our energy audit database, first set up in 1992, includes basic information on all audits conducted with support from the Ministry of Employment and the Economy – meaning more than 2,600 projects and approximately 7,800 energy audits or assessments.

Information from the monitoring system may be used by the ministries, sectoral federations and organisations who are involved in the agreements. The system helps Finland to meet reporting requirements related to the EU energy services directive.

The energy efficiency agreement web service, launched in 2010 in three language versions, is open to everyone interested in energy efficiency issues.

Harmonising calculation procedures

There is increasing demand for evaluations of the impacts of measures taken to save energy and increase efficiency, in the context of efforts to reach national and EU energy efficiency goals. Motiva participates actively in related EU processes.

One key issue in the implementation of the energy services directive is the development and harmonisation of the methods used to monitor and evaluate the impacts of measures taken to save energy. Energy efficiency indicator work for the top-down inspection of calculation methods is conducted by organisations including the European Commission, Eurostat, the IEE/ODYSSEE-MURE project and the IEA. Standards for calculating energy savings are also developed by CEN.

In 2010 Motiva and VTT Technical Research Centre of Finland drafted a report on energy efficiency indicators in Finland. The report provides details of the data that must be used to calculate indicators and also explains how indicator results can be usefully analysed.

Concerted action to implement key directives

During 2010 experts from Motiva took part in the EU joint action project Concerted Action – Energy Services Directive (CA ESD). This project has been designed to speed the implementation of the directive at national level by facilitating the exchange of information between EU member states. Motiva led a working group that focused on the national energy efficiency action plans required under the directive, and the related calculation methods.

Motiva also participates in joint action groups working with issues related to the EU directives on the energy efficiency of buildings and on renewable energy. The renewable energy group was formed in 2010, and the work of the group dealing with the energy efficiency of buildings will enter its third phase in 2011.



Educational event for second-graders

Motiva and children's publishers Lasten Keskus organised the 15th annual energy-saving week for second-grade schoolkids at hundreds of Finnish schools during 2010. The event informs children about energy issues in enjoyable ways, using educational materials provided by energy companies, regional energy offices and the municipalities. The materials were distributed among almost 13,000 children and more than 700 teachers in 2010.

Bulletins, articles and other materials were also produced for everyone involved in the event, which culminated in a competition organised by energy companies for schools in their regions.

Attitudes to wind power surveyed

On Global Wind Day 15.6.2010 the results of a questionnaire survey of attitudes to wind power were published by the Finnish Wind Power Association, Finnish Energy Industries, the Federation of Finnish Technology Industries and Motiva. More than 60% of respondents disagreed completely with the statement that "the recreational use of my neighbourhood would change if a wind park were constructed." Most people also felt there was no justification for claiming that wind power is too noisy. The survey was conducted on Motiva's behalf by market researchers from Taloustutkimus Oy among 500 randomly chosen residents of two coastal towns in Western Finland: Pori and Kemi.

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Communications Information and activities

Over the next few years sustainable development and energy efficiency must become part of everyone's daily lives. Motiva is working towards this goal in many ways.

Motiva creates networks that can help organisations who wish to promote the sustainable use of energy and materials to spread their messages. Campaigns, seminars and other events have been held all around Finland. Our many and varied websites and other publications provide useful information to help everyone find the right solutions.

Synergies from networking

Motiva provides a national support centre and partner for Finland's regional energy offices. In 2010 the energy offices helped Motiva to arrange energy advice seminars on monitoring energy use (ENE), surveys of best practices applied in municipal energy efficiency agreements, and events at housing fairs.

Regional energy agencies also carried out consumer advice pilot projects funded by the Ministry of Employment and the Economy and Sitra. In future they will also play an important role in spreading consumer advice at regional level under Motiva's coordination.

Other organisations involved in communications work include the energy savings communicators' network, renewable energy associations, the sectoral associations involved in energy efficiency agreements, energy companies, organisations in the property and transport sectors, bioenergy advisers, and research programme coordinators.

Motiva is also involved in international networks including the European Energy Network (E²R), which brings together energy authorities and organisations from around Europe.

Almost 1.4 million website visits

Websites and services are becoming increasingly important as channels for communications and advice. In addition to our main website www.motiva.fi, we now have 11 thematic web services. Three new sites were launched during 2010, covering purchasing services, E10 petrol and energy efficiency agreements.

Towards the end of 2010 we sought feedback on the effectiveness and quality of our web services from users and

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Communications Information and activities

experts. Our sites' visitors include experts and consumers in roughly equal numbers. They feel that Motiva is truly independent, and 98% of respondents appreciated the usefulness of our web services.

More than 200,000 people visited our main website during 2010, registering almost 400,000 visits and more than 1.6 million page downloads. Our web services in total attracted more than 1.8 million hits from almost 1.4 million users.

Varied communication channels

Other communication channels produced by Motiva include our stakeholder magazine Motiva Xpress, various bulletins, newsletters, reports and brochures. All these publications also encourage readers to visit our websites. Motiva Xpress was published four times in 2010 on paper and in a browsable web version. We issued a total of 65 bulletins, 33% more than in 2009. Users of our online publication ordering service can choose from as many as 290 publications.

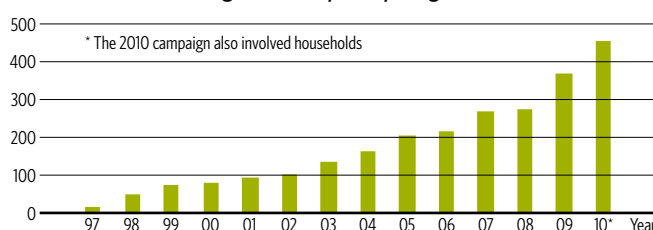
Information on wind power

A special web service produced by Motiva and the Finnish Wind Power Association provides a wealth of information on opportunities related to wind power. Another website jointly produced with the Ministry of the Environment, Finnish Energy

Energy-awareness week revamped

National energy-awareness week, planned and coordinated by Motiva, is held every year in October. In 2010 services for participating firms and organisations were concentrated on the campaign's revamped website, and for the first time individual households were also able to participate. The website provided tips on how to save energy at home, at school, at work, or on the move. The 2010 campaign also expanded to include communications channelled through the social media Facebook and Twitter.

Numbers of firms and organisations participating



Industries and the Ministry of Employment and the Economy primarily aims to help wind power producers and the authorities deal with permit and planning procedures.

Energy issues onto school curricula

Motiva, the Ministry of Employment and the Economy and the National Board of Education have been considering how to integrate energy issues into educational curricula at all levels from primary school to professional training. The current situation has been evaluated and expert opinions have been submitted. This work will go on in 2011.

Motiva collaborates on educational and training work with other partners including the sustainable development education network of the Ministry of Education, science teachers' associations and the United Nations University's Regional Centres of Expertise network on sustainable development, where the City of Espoo plays an active role.

Motiva has also helped Aalto University and the Dipoli Congress Centre to develop a special training scheme for energy efficiency experts.

Since autumn 2010 Motiva has promoted the European Schoolnet's U4energy competition in Finland. The competition is funded through the Intelligent Energy Europe Programme.

Sharing teaching ideas

Motiva participated in the Educa 2010 fair, sharing a stall with the children's publishers Lasten Keskus, where workshops and presentations were held enabling teachers and pupils to demonstrate teaching activities related to energy issues.

Forty teachers shared their ideas and experiences at an educational event with an energy and environment theme held at the Heureka Science Centre.

Motiva's publications during 2010

Motiva released 59 publications altogether. 53 of these are in Finnish.

PUBLICATIONS IN ENGLISH

- Oras discovered savings opportunities through material audit
 - Waste material cost money. Case Uponor
 - Energy-efficient ski resort
 - Annual Review 2009

PUBLICATIONS IN SWEDISH

- Anteckningar om gårdens energiförbrukning. Farm Energy Programme 2010–2016
- Anvisningar för egenkontroll av gårdsbruket. Farm Energy Programme 2010–2016

Motiva's websites

Motiva kept up as many as 12 different websites.

Material in English was published in the following web addresses.

www.motiva.fi/en | www.energyefficiencyagreements.fi

Events run or attended by Motiva in 2010

Motiva attended 18 fairs and events as well as organized 3 press conferences.

There were also 34 varied seminars and workshops organized or attended by Motiva.

A Nordic Consumer Advice on Energy Workshop was held in Helsinki on September 27th and 28th in 2010.

Altogether 8 training events took place during the year 2010. There was a training event related to the Energy Programme for Finnish Farms in Swedish as well in Seinäjoki on the 23rd and 24th of March.



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