

annual review
2009

MOTIVA

Promoting the efficient use of resources

Motiva has been working for almost 20 years to promote the efficient use of energy in Finland, and recently also to promote material efficiency. Motiva's expertise is widely applied in implementing the EU energy services directive and Finland's national climate and energy strategy. Motiva's experience and knowhow are extensively exploited in various fields within Finland and internationally.

Our goal is to be a recognised, renowned and reliable agency able to provide expertise on the effective use of energy and materials throughout society. Our guiding values are expertise, reliability and impartiality.

At the end of 2008 Motiva Oy set up a new subsidiary company Motiva Services Oy, whose role is to offer services based on Motiva Oy's expertise to corporate clients, Finnish municipalities, and clients abroad. Motiva Oy works as a government agency, and our most important clients are Finnish ministries and other governmental authorities.

Strategic targets for 2010–2012

- To expand steadily by exploiting the agency's existing structure
- To prioritise the provision of advisory services related to energy and material efficiency
- To strengthen the Motiva brand
- To ensure that our personnel remain motivated, satisfied, and keen to use their initiative
- To manage our finances so as to ensure our operations remain viable and our turnover increases

The Motiva group

- Turnover: 5.9 million Euros in 2009
- Personnel: 41 employees as of 31.12.2009

Motiva Oy

- Established in 1993 as the Finnish Energy Information Centre
- Operated as a limited company since 1.11.2000
- Owned by the Finnish State (100%)
- Provides services for government authorities
- Managing Director: Jouko Kinnunen

Motiva Services Oy

- Established on 12.12.2008
- Owned by Motiva Oy (100%)
- Provides services for companies and associations
- Managing Director: Osmo Nojonen

Our services

Energy efficiency agreements

- development, support for implementation, monitoring

Energy audit and analysis activities

- development, customer advice, auditor training, quality control and monitoring of results

Pro-environmental technology

- accelerated introduction

Management of energy use

- management systems, constant improvement

Renewable energy

- increase in sustainable use, accelerated introduction of various technologies

Material efficiency

- efficient use of materials

Monitoring and impact assessment

- impact of programmes and measures

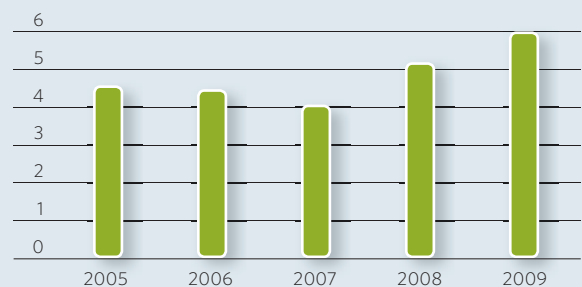
Advisory services and communications

- influencing attitudes and user habits, good practices

Education and training

- training programmes and events

Motiva's turnover, million €



Motiva's largest single client is the Ministry of Employment and the Economy.



GROWING DEMAND

for impartial expertise

Finland's official climate and energy strategy was finalised during 2009. This government strategy was duly processed by Parliament, the work of the energy efficiency committee as completed, and towards the end of the year parliamentarians discussed the major government foresight report on climate and energy policy. It is now time for all of us in Finland to roll up our sleeves and get on with the business of reducing emissions.

Motiva's services have been increasingly in demand due to the need to implement the national climate and energy strategy. Our new subsidiary Motiva Services Oy, set up specifically to serve enterprises and associations, achieved good results in terms of the targets set for its first year of operations. The tough economic climate was most significantly reflected within Motiva's activities by a lengthening in the time taken by new clients to make decisions.

Our well-established and fruitful collaboration with the Ministry of Employment and the Economy has now expanded to cover material efficiency along with energy issues. We received positive feedback concerning contributions of expertise from Motiva in many contexts, including the work of the government's energy efficiency committee and our own provision of information for use in the media.

Our other important achievements during 2009 included the completion of an energy programme for Finnish farms (Farm Energy Programme), the adoption of new reporting systems of energy efficiency agreements, the publication of Finland's first wind atlas, new

demand for our expertise from Finland's development cooperation partner countries, and broader cooperation with the Ministry of the Environment on issues including measures to promote the energy efficiency of housing and construction.

Motiva's finances are in a healthy state. This gives us an opportunity to take on more staff, to continue developing our work, to renew our internet services, and to provide more advisory and training services for small and medium-sized enterprises and consumers.

Developments in material efficiency audit methods, new international assignments, new steering policies for the transport sector, and the growing need to coordinate consumer advice services will all bring new demand for the expert consulting and training services provided by Motiva and its subsidiary.

Our goal is to meet the existing needs of our clients while also working in the forefront of efforts to develop new means to mitigate climate change and use natural resources as efficiently as possible without harmful impacts.

I would like to express our thanks and support for all of our valued clients, our expert staff and our other partners and stakeholders, both in Finland and abroad, at a time when we are well placed to look to the future.

March 2010,

Jouko Kinnunen



Jan Pechal/Alamy

A KEY ROLE in implementation and monitoring

By the end of 2009 around 350 enterprises had joined the energy efficiency agreement for businesses, while 70 municipal authorities had signed up to an agreement for the municipal sector. Agreements for businesses now cover more than 510 industrial facilities around Finland, more than 320 energy facilities and more than 2,700 premises within the service sector.

Goals for 2010

- to maintain and enhance monitoring systems for energy efficiency agreements and energy audits
- to contribute to the implementation of the EU energy services directive in Finland
- to collaborate in efforts to support the implementation of the energy services directive around Europe

Playing a central role in wide-ranging collaboration

Motiva participates in the drafting, marketing and development of energy efficiency agreements, while also helping the enterprises and associations involved in such agreements to fulfil them. We are also leading the development of a new system for monitoring their implementation. This work involves developing new tools and

Energy efficiency agreements extensively adopted in Finland

Schemes administered by the Ministry of Employment and the Economy:

- Energy efficiency agreements for businesses
 - Industry, service sector, energy sector
- Energy efficiency agreement and energy programme for the municipal sector
- The Höylä III energy efficiency agreement
 - Oil-heated properties, distribution of oil heating and transportation fuels

Schemes administered by the Ministry of the Environment:

- Energy efficiency agreement for the property sector
 - Rented housing associations

Schemes administered by the Ministry of Transport and Communications:

- Energy efficiency agreement for goods transport and logistics
- Energy efficiency agreement for public transport

Schemes administered by the Ministry of Agriculture and Forestry

- Energy programme for farms

compiling summaries of the annual reports submitted by parties to agreements.

Motiva additionally conducts and develops the monitoring work required under the EU energy services directive, and works with the Ministry of Employment and the Economy to evaluate related impacts.

A new energy programme for Finland's agricultural sector

Motiva has also been deeply involved in the preparation of a new energy programme for Finland's farms (Farm Energy Programme), which the Ministry of Agriculture and Forestry launched in January 2010. The programme will help farms to contribute better to society's wider efforts to save on energy consumption. An agreement has been made with the ministry concerning the running of the programme until the end of 2011.

Motiva's role in helping the authorities to implement the new programme involves providing information for farms and their energy planners, briefing planners, and conducting related monitoring and reporting.

A new energy planning service for Finnish farms has already been set up, with specialist training initiated for the energy planners who will work with farms.

Monitoring facilitates continuous improvements

The annual reporting required for energy agreements initiated in 2008 has now for the first time been channelled through a new

internet-based monitoring system, which is the first of its kind anywhere in the world. The system enables the impacts of energy saving measures realised by municipalities and enterprises to be closely monitored.

The monitoring systems set up for energy efficiency agreements and energy audits have been designed to provide much of the information needed to help Finland fulfil its national energy-savings targets defined under the EU energy services directive. This information will also be used in the advisory services provided for businesses.

Evaluating the impacts of different measures

Motiva conducts evaluations of the impacts of other energy-saving measures in terms of energy savings and carbon dioxide emission reductions, while also contributing to the related statistical record-keeping through participation in related monitoring and working groups.

Motiva has actively contributed at EU-level to the international harmonisation of calculation methods for energy efficiency measures, providing personnel and expertise on behalf of the Ministry of Employment and the Economy for related projects and working groups. We have also participated in the development of international standards for such calculations by CEN. Motiva is also Finland's national representative in an EU-wide project set up to support the implementation of the energy services directive, and the leading partner in one of the five main elements of this work.

Government energy efficiency committee report released

The broadly-based energy efficiency committee set up under the Ministry of Employment and the Economy completed its wide-ranging assessment report in June 2009. Motiva contributed considerably to the extensive work of the committee and its working groups, also working as an expert secretary for the committee as a whole. Motiva's vital role included the provision of assessments of the impacts of the energy efficiency enhancement measures proposed by the committee.

The report particularly focused on ways to improve energy efficiency in sectors not covered by the emissions training scheme, including spatial planning, buildings, transport, households, agriculture, certain industries, and services provided by the public and private sectors.

The committee's report includes a total of 125 proposed measures, and emphasises that new values, attitudes and behaviour patterns will need to be adopted throughout society.

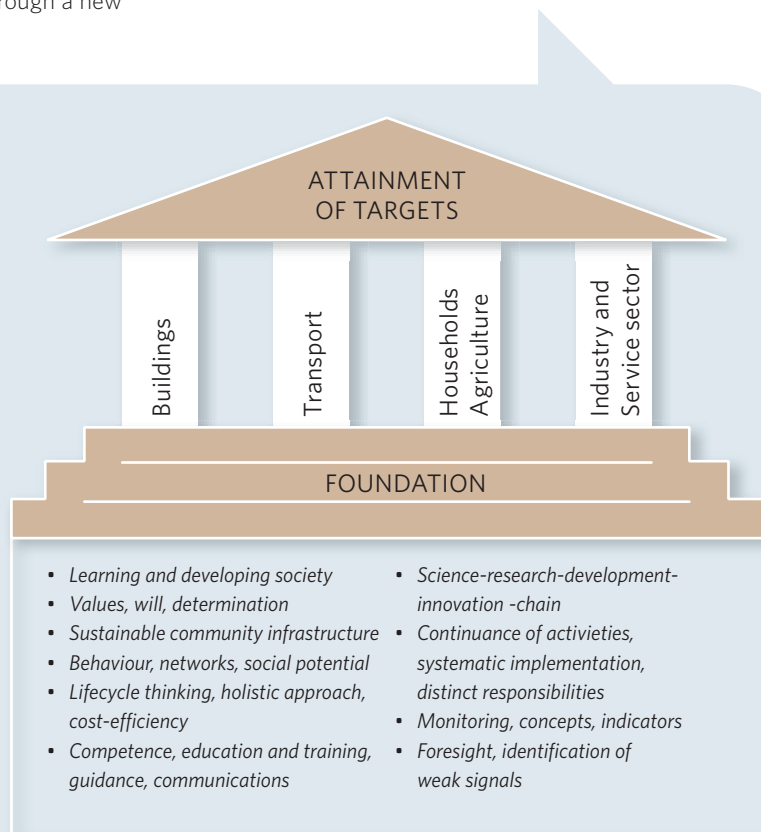




Photo: Alamy/Alamy

CONTINUOUS IMPROVEMENTS wanted

Finnish enterprises are widely involved in the implementation of agreements defined to enhance energy efficiency. The emphasis in this work is shifting away from goal-oriented planning towards continuous improvements.

The companies that have signed up to agreement programmes covering the energy and energy-intensive industrial sectors have committed themselves to adopt their own energy efficiency systems. During the first year of such systems, companies carry out planning and documentation work, and integrate their energy efficiency systems with their ISO 14001 environmental management systems. Planned practical measures related to processes, communications, awareness raising and improving measurements are then implemented in subsequent years.

The Finnish Central Organisation for Motor Trades and Repairs (AKL) has defined its own programme of action and joined the wider energy efficiency agreement scheme. One of its aims is to expand coverage of the agreement to include motor vehicle dealers', mechanics', servicers' and inspectors' energy use.

Goals for 2010

- to support and develop the implementation of energy efficiency agreements
- to oversee a transition between the creation of energy efficiency systems to the implementation of measures
- to provide enhanced advisory services on energy efficiency

Training, advice and tools for SMEs

Planning plays a vital role in energy efficiency work. Last year for the first time an energy efficiency seminar was organised specifically for planners from factories and design offices.

Motiva has participated in the monitoring and implementation of energy efficiency agreements for various sectors, supporting trade associations and the Ministry of Employment and the Economy. Since the beginning of 2009 we have been providing advice on energy efficiency issues for SMEs working in the chemicals, plastics, foodstuffs, technical, tourism and restaurant industries, in collaboration with the respective industrial associations. Such advisory services are now available to a total of 174 enterprises with 502 premises.

Energy efficiency seminars organised for these purposes attracted a total of around 200 participants. Advice has also been provided by phone, by email, and through web pages set up for each sector.



Kimmo Haimi

Exchanging experiences internationally

Motiva's involvement in international cooperation includes active participation in events related to energy and material efficiency, through presentations and contributions to workshops, for instance, as well as the wide-ranging exchange of information and experiences. Motiva has recently provided information on issues related to energy audits in response to enquiries from countries including Hungary, India, Kosovo and Chile.

Finland can also itself gain from other countries' useful know-how related to energy and material efficiency. A delegation of Japanese scientists, business experts and technology development specialists recently came to Finland, having been invited by Motiva and Finpro to participate in a mutually beneficial exchange of ideas and experiences. Sharing information in this way can result in new innovations.

Emeritus professor Kunio Yoshida of Tokyo University

A new energy management toolkit particularly designed with industrial companies in mind has been set up, and will be further developed on the basis of users' experiences. Motiva has also contributed to the production of guidelines for purchasers of compressed air systems.

Audits indicate scope for continuous improvements

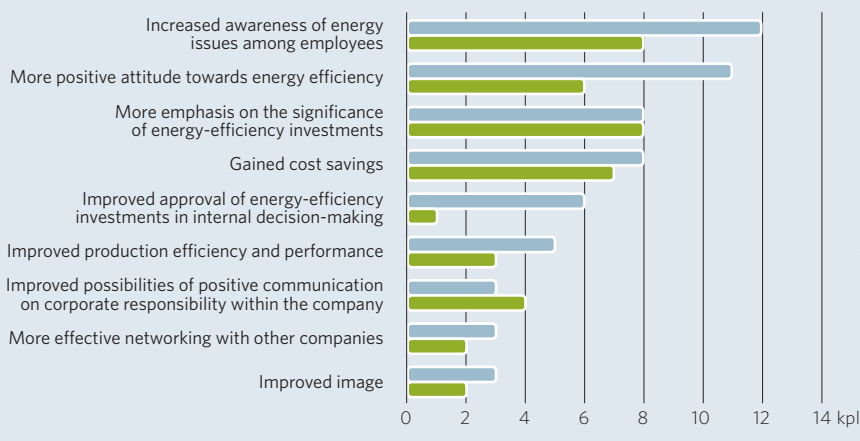
A lot of Motiva's work involves developing energy auditing procedures. During 2009 the emphasis was on re-training staff responsible for energy audits, and on improving the quality of audits. A total of 117 participants attended the first of the revamped energy audit training sessions.

One important element of such developments concerns the need to design new analyses and guidelines to meet clients' new needs. One example of such work is the drafting of additional guidelines for energy efficiency inspections of downhill-skiing centres, to complement conventional energy auditing models.

Exporting Finland's energy auditing expertise

Motiva has been involved in a three-year project run by VTT the Technical Research Centre of Finland to support the creation and implementation of Vietnam's national energy efficiency programme, by building up Vietnamese know-how and capacities through joint projects, technology transfers and training. Motiva has particularly contributed its know-how to develop energy auditing skills and enhance related training.

Motiva has been working since 2007 to train the local authorities in St Petersburg and the surrounding Leningrad Oblast, and apply Finnish expertise to meet Russia's requirements. This three-year project has involved jointly organised training sessions for energy auditors, where Finnish auditing models and procedures have been presented to Russian participants. These transferred good practices will be applied in implementing Russia's new legislation on energy-saving.



The energy-efficiency system bears fruit

During 2009 Motiva compiled a survey of the attitudes of enterprises within the energy and energy-intensive industry sectors concerning the benefits of adopting energy efficiency systems. Respondents felt that such systems had increased their employees' awareness of energy issues, created more positive attitudes, and highlighted the importance of investments in energy efficiency.

■ Energy production
■ Energy-intensive industry



Plugi/Zani Välttalo

INCENTIVES for renewable energy

Motiva worked throughout 2009 to promote the use of renewable energy in many ways. Focuses of this work included renewable energy audits in municipalities, wood pellets for heating, energy enterprise, solar energy, wind energy and small-scale hydropower. A new incentive for entrepreneurs in this field was devised in the shape of a prize that will be awarded annually to recognise the year's best actions to promote renewable energy.

A new brochure *Renewable Energy in Finland*, featuring key Finnish players and targets, was published in English, Finnish and Swedish.

Heating and energy enterprise

Motiva has been working to promote the use of wood pellets to heat family homes. A phone-in advisory service set up in collaboration with the Finnish wood pellet energy association has functioned well.

In the beginning of 2009 Motiva published a guide to inform potential users about the advantages of wood pellet heating.

To promote new business Motiva has also been organising training sessions for heating companies and bioenergy advisors.

Goals for 2010

- to identify more opportunities to use renewable energy in the context of energy audits
- to promote various forms of distributed energy production
- to actively publicise issues related to transport biofuels
- to run certification training for fitters of renewable energy heating systems
- to continue with international cooperation

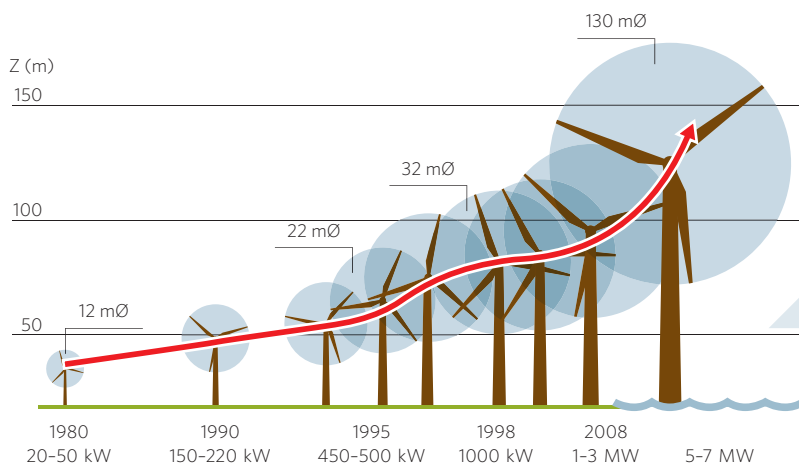
A booklet was also published to explain how nutrients from wood ash can be recycled to fertilise forest soils. Research examining ways to increase the use of organic ash was continued, and Motiva also contributed to the revision of standards for solid fuel boilers.

Fully revised editions of a popular series of guides on alternative home heating systems were also published during 2009.

The EU renewable energy directive requires heating equipment fitters to participate in training organised through a national scheme which is now under preparation in Finland, with certification training due to commence by 2012.

Wind, sun and small-scale hydropower

The two-year Finnish Wind Atlas project, run in collaboration with the Finnish Meteorological Institute, culminated in the publication of a groundbreaking internet-based national wind atlas that models wind conditions all around Finland. The atlas has been designed to facilitate the planning of wind power facilities and provide valuable information for planners and wind turbine constructors.



Finnish Wind Atlas

The size, the diameter of the rotors and the hub height of wind turbines have significantly grown in the last twenty years – and are still growing. To estimate the production rate of a wind turbine, it is vital to be able to determine the wind speed and wind load design at both hub height and the whole rotor area. The new Finnish Wind Atlas contains information on wind conditions at heights from 50 to 400 meters.

www.windatlas.fi
(also in Finnish and Swedish)

Source: Finnish Wind Atlas

Motiva ran a special wind power tour to publicise issues related to the construction of wind power facilities, visiting six localities around Finland. Representatives from wind power companies were actively involved in the tour seminars, which attracted more than 200 interested participants and considerable coverage in the local media.

Work has commenced on a website that will provide information and advice about planning and legal issues related to the construction of wind power facilities. Produced in collaboration with Finnish Energy Industries and the relevant ministries, the site will be launched during 2010 at www.tuulivoimaopas.fi.

A report designed to promote the use of solar energy was also completed, and its proposals will be used in the drafting of a solar energy action plan. A new guide featuring solar power applications was completed and widely distributed at Finland's largest housing fair in summer 2009.

The Finnish association of small-scale hydropower producers also compiled a new guide book during 2009.

International cooperation

Nordic co-operation continued with the result of the English-language website (www.nordicenergysolutions.org), launched at the beginning of the year, containing extensive information about Nordic energy expertise.

Motiva was also actively involved in the Working Group of the European EnR network for renewable energy.

Motiva is taking part in the Bioenergy Promotion project (2009–2012), which aims to strengthen the development towards a sustainable, competitive and integrated Baltic Sea Region in the field of sustainable use of bioenergy. Motiva's main task is the responsibility for communications in co-operation with the Norwegian partner in the project. In November 2009, Motiva organised an international seminar on the implementation of renewable energy action plans of various countries.

Motiva is involved in the European KIS-PIMS initiative, which promotes the growth of innovative services in renewable energy. Motiva actively provides marketing and advice on funding alternatives for companies.



Kimmo Hämmi

Annual prizes to recognise the year's best actions to promote renewable energy

This new award aims to increase awareness of favourable developments in renewable energy in Finland. The first three annual prizes were awarded at the SavExpo energy-savings event in September to recognise praiseworthy achievements in three different fields: renewable energy production (St1, Biowin); the use of renewable energy (Kiilto); and measures to promote renewable energy (Finnish Heat Pump Association).

The prize-giving jury, which included representatives from Motiva and our partners, chose to focus on the visibility, innovativeness and impact of activities rather than technical inventiveness.

From the left Mika P.A. Anttonen (St1), Okariina Rauta and Timo Määttä (Motiva Oy) and Mika K. Anttonen (St1).



Oras Oy/Mika Mäkelä

NEW WAYS to increase material efficiency

Raw material prices are rising due to growing demand coupled with shortages of natural resources. Material audits can help companies to achieve savings in their purchasing, energy, labour and waste management costs, while also reducing their environmental impacts.

Motiva can provide impartial expertise, guidance and training to help companies develop new ways to improve their material efficiency. We also spread useful information and ideas through our networks. Our experience of energy auditing has provided a robust basis for expanding such work to also promote material efficiency.

Active involvement in international development work

Motiva has also contributed to the international standardisation of methodology for cost-analyses of material flows, which is due to

Goals for 2010

- to complete the new material auditing model by spring 2011
- to further develop advisory services for public sector purchasing
- to launch a new national network of expertise on product-centred environmental management
- to continue intense international collaboration on key issues

be completed in 2011. The standardized method has already been applied in developing Motiva's own material auditing procedures. It can be used to generate more detailed information than conventional cost calculations, thus facilitating the targeting of measures to improve material efficiency to achieve maximum overall benefit.

Motiva's involvement in the standardisation working group of the ISO's environmental committee has given us many useful contacts around the world, enabling us to exchange ideas with experts from countries including Germany and Japan, who have a wealth of experience in material auditing and cost-analyses.

A Natural Resource Strategy for Finland

Motiva also helped to draw up Finland's new national Natural Resource Strategy, published in April 2009. This wide-ranging strategy sets out a vision, goals and the concrete steps that need to be taken to promote the sustainable use of natural resources.



Stockphoto/Luergen Bosse

Advice on public sector purchasing decisions

Environmental impacts and energy implications are already important factors behind purchasing decisions made by organisations in the public sector. Demands are increasingly being made related to the energy consumption footprint and environmental labelling of purchased goods and equipment.

Motiva provides useful guidance for public sector organisations who wish to save on costs and environmental impacts when making acquisitions related to environmental technologies. Motiva also produces information and tools that promote energy and material efficiency and the use of innovative purchasing procedures in public sector acquisitions.

Finland is the first country to prepare such a comprehensive strategy for natural resource use. But at present there are still few legislative controls in Finland to steer improvements in material efficiency. The new strategy sets out clear guidelines to encourage various sectors to enhance their material efficiency.

The strategy was drafted under the leadership of the Finnish Innovation Fund Sitra, by an expert group that also included politicians, administrators, business figures, researchers, non-governmental organisations and the media. Motiva's participation in this work as an expert organisation enabled us to help shape the strategy, and to strengthen our extensive contacts with influential figures and organisations. Motiva is also named in the strategy as a key organisation responsible for implementing the strategy in the fields of product-centred developments and the resource efficiency of enterprises.

Auditing model tried and tested

Motiva aims to create a common material efficiency auditing tool for application in all sectors by 2011. The related development work is being conducted together with expert consultants and pilot companies. The first trials were run at Oras Oy (metal product industry) and Uponor Oy (plastic product industry).

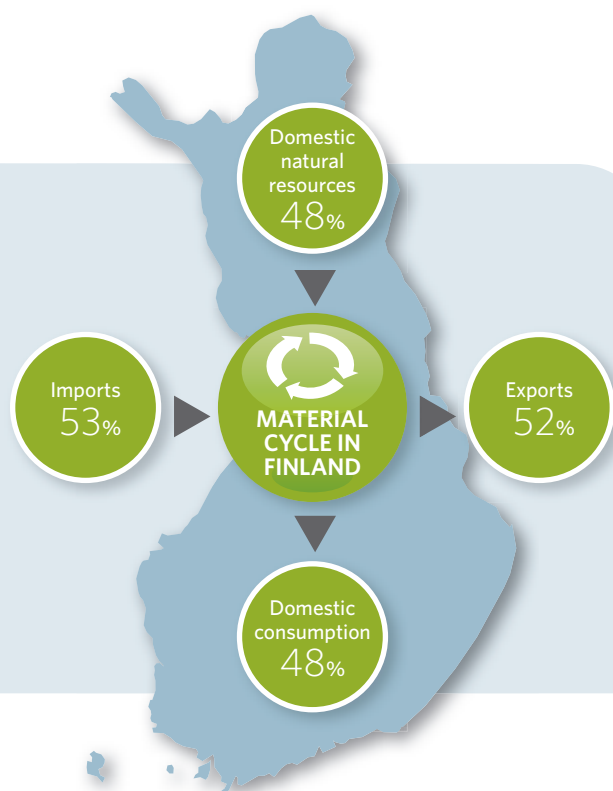
The resultant auditing model should also be able to account for the indirect costs of material streams, including energy costs and labour costs.

During 2009 various publications were produced to publicise the potential benefits of material efficiency auditing, and to encourage companies and consultants to participate in development work.

Material flows in Finland 2005

Society's material flows start from natural resources and end up back in the natural environment or in the structures and infrastructures we build. Finland must strive to reshape material cycles within the national economy both to reduce environmental impacts, and to create added value. It is important that the new national Natural Resource Strategy should be effectively implemented, since Finland does not yet have robust legislative tools or incentives to promote material efficiency. This diagram illustrates material flows in Finland in 2005, including the use of energy sources.

Source: ENVIMAT 2009, Finnish Environment Institute





Comma/Juice Images

MAKING ENERGY EFFICIENCY

an everyday issue

Goals for 2010

- to promote energy efficiency in construction and housing
- to coordinate projects related to energy advice for consumers
- to develop and market tools to help buyers choose favourable motor vehicle models
- to initiate the development of a sustainable mobility network and related guidance
- to support the implementation of energy efficiency agreements in the municipal and property sectors

Motiva has been actively involved in the preparation of a framework agreement for the property sector, designed to enhance the efficiency of energy use. The agreement was signed in December 2009 by the Ministry of the Environment, the Ministry of Employment and the Economy, and the Finnish Association of Building Owners and Construction Clients (RAKLI). A new action plan for associations providing rented apartments was also initiated in the

beginning of 2010, with nine signatory associations participating in its first phase.

Helping municipalities to save on energy and costs

Motiva has actively striven to market the municipal sector's energy efficiency agreement and energy programme, targeting municipali-



Plugi/Barbro Wikström

Better energy advice for consumers

A report submitted to the Ministry of Employment and the Economy in June 2009 by a working group set up by the Finnish Innovation Fund Sitra with Motiva's participation described how a comprehensive new system for advising consumers on energy issues could be built up to meet the great demand for such advice, while also ensuring the quality and relevance of the information provided.

In September a project funding application process was launched under Motiva's coordination. From the 60 applications received, the Ministry of Employment and the Economy selected 14 projects related to energy advice for consumers for funding during the period 2010-2011.

As the organisation coordinating advice for consumers on energy issues, Motiva will contribute to the project's steering, coordination, information exchanges, monitoring and impact analyses.

ties that have not yet signed up. This resulted in 12 more municipalities joining the energy efficiency agreement and four more signing up to the energy programme. By the end of 2009 the agreement covered municipalities that are home to almost 60% of Finland's total population.

A new publication highlighting ways to save on external and internal lighting has been distributed among all of Finland's municipal authorities. A guide to energy efficiency in catering kitchens has also been produced for distribution in spring 2010. The information in these guides supplements the Ministry of Employment and the Economy's recommendations for the energy efficiency of public contracts.

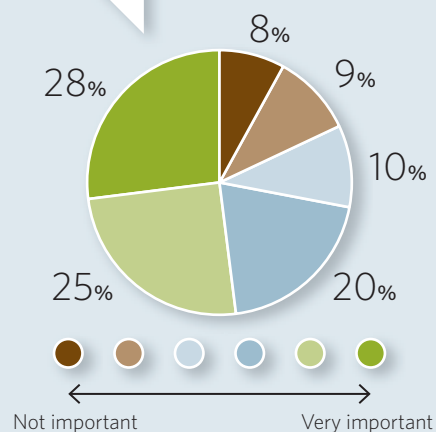
Boosting the energy efficiency of buildings

A two-year project designed to promote energy efficiency in housing and construction was launched in 2009, based on a preliminary report drafted by Motiva for the Ministry of the Environment. Motiva will particularly seek to publicise the energy certification scheme for buildings, and continue collaboration on the existing Energy Efficient Homes scheme, while also contributing to the ministries' communications work on current issues including new building regulations and the implementation of EU directives related to buildings and the energy labelling of equipment. A booklet highlighting the main regulations related to energy efficiency has already been produced for construction firms, property developers and planners.

Survey on energy certification

A survey of property managers and other professionals revealed high levels of satisfaction with the current energy certification system for buildings. Respondents stressed the importance of including suggestions for measures that can improve energy efficiency in the certificates.

How important are the energy efficiency recommendations in the energy certificate for existing buildings?



Since the beginning of 2009 it has become compulsory to present energy certificates during the sale and rental of existing buildings in addition to new buildings, although small single-family homes and housing cooperatives with up to six homes are not included in this requirement. This change has generated considerable demand for related information among consumers, and particularly among professional property agents. New web pages provided by Motiva on behalf of the Ministry of the Environment to meet this need attracted almost 40,000 visits during 2009. E-mail responses were sent to more than 400 enquiries, and a parallel phone-in advisory service dealt with 430 calls.

The energy classification scheme for windows, originally launched in 2006, was expanded, resulting in increased demand for energy-labelled products. Finnish window manufacturers currently provide almost 500 window models covered by the labelling scheme.

Bringing energy efficiency into spatial planning

Energy and material efficiency have also become key issues in spatial planning, especially in the context of construction develop-

ments. Motiva has frequently been called on to assess whether planning decisions are in line with sustainable development, particularly in the contexts of the energy consumption of new buildings in planned residential areas and choices of materials and equipment for road construction and lighting.

Motiva has been involved in various development projects including the planning of major new residential areas and urban centres in Vantaa, Siuntio and Porvoo.

Advice for car dealers and drivers

Preparations were made during 2009 for the enforcement of new regulations on energy labelling of cars from March 2010. Motiva was invited by vehicle dealers to organise training sessions where sales staff were instructed about how to provide car buyers with guidance and energy labelling details for car models.

Experts from Motiva were also asked to help plan and create web pages covering environmental issues for the Finnish Vehicle Administration. Motiva additionally collaborated with the Automobile and Touring Club of Finland on a tyre pressure campaign run as part of the wider HÖYLÄ III fuel-saving programme.

Energy and building services technology invests in energy efficiency

A number of good results were gained in the Elvari co-operation project on effective energy use in electric heating. In addition to Motiva, several companies and organisations in energy and building services technology are involved in the project.

According to a survey conducted, more than one-third of Finnish people have not carried out any energy-saving measures. A Do it Yourself home survey for consumers was produced for analysing the energy consumption of a detached house in terms of electric heating and other energy consumption.

Employees working in customer service in our partner companies must have good knowledge of energy-saving issues to be able to advise their customers. Motiva's expertise was utilised in personnel training events.

www.motiva.fi/elvari





Ploggi

ADVICE, information and training

The use of the Internet for communications and advisory services has further grown. Businesses, municipalities, the media and consumers have all been increasingly visiting Motiva's website to obtain information and advice about energy use, how to exploit renewable energy sources, and how to make the best purchas-

Goals for 2010

- to increase recognition of Motiva
- to increase the share of communications conducted electronically
- to promote energy competence and education on energy issues
- to plan and run communications for various research programmes

ing choices. Our renewed website was launched in spring 2009. Work on the site has since continued, particularly on its expanded Swedish and English versions.

Motiva is still continuing to also meet the need for campaigns in the media and at trade fairs, for publicity campaigns and stunts, and



Matti Rajala



Farewell to the incandescent light bulb

The decision to phase out incandescent light bulbs in line with the related EU directive was highlighted in a campaign jointly run by Motiva, the ministries and lamp manufacturers in August 2009. Lighting accounts for more than a fifth of the total energy consumption of homes, and as much as a third in offices and commercial premises. A new website www.lampputieto.fi has been set up to provide the public with useful information on lighting alternatives and how to safely dispose of used light bulbs.

for printed publications providing guidance for target groups. Campaigns designed to get children to think about energy efficiency and act accordingly from an early age have included the energy-awareness week campaign for second-graders, and the European Kids4Future-project.

Record participation in energy awareness week

Motiva organised Finland's 13th annual national energy awareness week campaign in October 2009. The year's main theme was lighting. A record number of 372 companies participated in the theme week, enabling the campaign to reach an estimated 100,000 employees. Almost 50 public events were held around Finland, and the campaign gained plenty of media coverage.

Motiva also took part in campaigns and events organised by several other organisations during 2009, enabling us to share our expertise and publicity materials more widely.

Research and information work

The Transeco research programme aims to find ways to reduce carbon dioxide emissions and improve the energy efficiency of road traffic. Coordinated by the Technical Research Centre of Finland VTT, the programme has also involved experts from various ministries, government agencies, the municipal sector, compa-

nies and research institutes. Motiva organises the programme's communications.

Motiva is an active participant in the operation of the European Energy Network EⁿR. The network promotes the exchange of information and experiences between its members in energy and climate issues. Motiva's experts are involved in the network's Working Groups, which include Buildings, Labelling & Ecodesign, Renewable energy, and Transport. Motiva chairs the Behaviour Change Working Group.

The network seeks to act in various projects on communication and information exchange related to energy efficiency and renewable energy use, and to help other European organisations, such as the European Commission, in issues related to the energy policy, strategy and programmes.

Energy issues taught at all educational levels

About half of the age group, approximately 25,000 pupils, took part in the traditional Energy Awareness Week for Grade 2 school-children. The energy education material for Grade 2 pupils was acquired by the energy companies in each area. Motiva markets the theme week and organises an annual Energy Competition related to the theme week. The winning entry for the 2009 energy competition was published in the Educa event in January 2010.

The key significance of teaching and education in the promotion of energy saving and energy efficiency not only among children and young people, but also among experts in various industries, was emphasised in the work of the Energy Efficiency Committee. Motiva was involved in the work of the committee of vocational education in energy sector established by the Ministry of Education, including the upper secondary and vocational qualifications in various sectors and the introduction of the framework of European qualifications and expertise in Finland.

Plenty of material on energy education was produced for Motiva's web service, e.g. www.sateenkaarentekijat.fi website aimed for Grade 3 to 6 schoolchildren, including information, teaching material and games on energy and climate

Reliable and impartial information

Motiva's fundamental values include a desire to act as a reliable and impartial expert organisation. Indicators of our prominence in the media include the 50 press releases we have issued, a doubling in the number of contacts taken to Motiva in comparison to 2008, and an increase in the number of mentions in the national media to a total of more than 1,400.

Four thematic issues of the popular MotivaXpress magazine were published in 2009, in addition to 32 other publications, with a total print run of more than 77,000.



EU-wide campaigning

The BEHAVE project (Evaluation of Behavioural Change Programmes) has aimed to provide recommendations to facilitate the realisation of various programmes set up to affect energy users' behaviour. The project evaluated 41 related European projects and produced a set of guidelines for application in financing and implementing programmes, projects and publicity campaigns.

www.energy-behave.net

The Kids4Future project has developed educational and entertaining products for use in schools and on home computers. This three-year project involved pilot schemes run at 21 Finnish schools. Materials and guidance have been provided for teachers wishing to cover energy issues, including Finnish versions of the Rainmaker book series and a related website. **www.rainmakers-eu.eu**

The Euro-TopTenPlus project, launched during 2009, aims to increase demand for energy efficient products by providing information about favourable equipment models and other products for consumers and larger-scale purchasers. Motiva runs the www.topten-suomi.fi web service, one of 16 similar sites around Europe. **www.topten.info**

Motiva is also running the European Momo CarSharing project in Finland, aiming to increase awareness of opportunities for car-sharing, and promote the use of such schemes, especially in the Helsinki metropolitan area. More on the project: **www.momo-cs.eu**.

PROJECTS AND PUBLICATIONS

2009

Motiva's participation in international projects and published materials in 2009

Motiva's participation in international projects in 2009

- EuropeAid-project: Increasing Public Awareness on Energy efficiency in Buildings for the General Directorate of Electrical Power Resources Survey and Development Administration (EIE) in Ankara, Turkey, 2008-2009
- Finnish Developing Aid Program VIETAUDIT, promotion of Energy efficiency and use of renewable energy in industry, energy and building sectors by capacity building and technology transfer in Vietnam, 2008-2009
- Interreg IV B, Baltic Sea Region Programme: Bioenergy Promotion
- CIP-EIP project: KIS-PIMS - European Innovation Platform for Knowledge Intensive Services in Planning, Installation, Maintenance and Scrap services (PIMS) for renewable energy production system

Publications available in English

- Changing Energy Behaviour - Guidelines for Behavioural Change Programmes
- Energy Awareness Week in Finland
- Energy Efficiency Agreements 2008-2016
- Hey, everything's working! -children's energy book
- Motiva Annual Review 2008 and 2009
- PATE Compressed air efficiently
- Renewable Energy in Finland
- Setting a Trend in Material Use
- The Baltic Sea Region Bioenergy Promotion project 2009-2010

Intelligent Energy - Europe (IEE) Programme

- Active Learning
 - Integration of Active Learning and Energy Monitoring with School Curriculum
www.consortium4al.eu, www.teachers4energy.eu
- BEHAVE
 - Evaluation of Energy Behavioural Change Programmes
www.energy-behave.net
- EMEEEES
 - Evaluation and Monitoring for the EU Directive on Energy End-use Efficiency and Energy Services
www.evaluate-energy-savings.eu
- EPOMM PLUS, EPOMM
 - Partners Learning Urban Sustainability
www.epomm.org
- EURO-TOPTEN PLUS
 - Reducing energy consumption: Making efficient products the normal and best choice for consumers, retailers and manufacturers
www.topten.info, www.topten-suomi.fi
- EU LTA UPTAKE
 - European uptake of successful implementations of industrial LTA's as part of voluntary agreements on energy savings
www.ltauptake.eu
- Kids4Future
 - Creating Actions among Energy Conscious Children by Combining Education, Communication and Energy Knowledge in an Integrated Approach for a Sustainable Future
www.rainmakers-eu.eu
- momo car-sharing
 - More Options for Energy Efficient Mobility through Car-Sharing
www.momo-cs.eu
- ODYSSEE-MURE (EU - 27)
 - Monitoring of energy efficiency in the EU
www.odyssee-indicators.org

All publications available at www.motiva.fi/en/publications

FACTS ABOUT FINLAND

- Capital Helsinki
- Area 338,000 square kilometres.
- Population 5.35 million, 16 inhabitants per square kilometre. In other European countries population density is six times higher on average.
- After the 2009 municipal reform Finland is now comprised of 342 municipalities, of which 326 are located on continental Finland and 16 on the Åland Islands. There are 31 bilingual and 19 Swedish-speaking municipalities.
- Mean temperature in February is -0.2°C in Helsinki and -9°C in Lapland. The energy need for space heating is 20–25 per cent higher in Lapland than in southern Finland.
- One the darkest days of the year, the sun rises in Helsinki at 9:30 and sets at 15:15. In northern Lapland, the sun does not rise at all for 50 days between November and January.

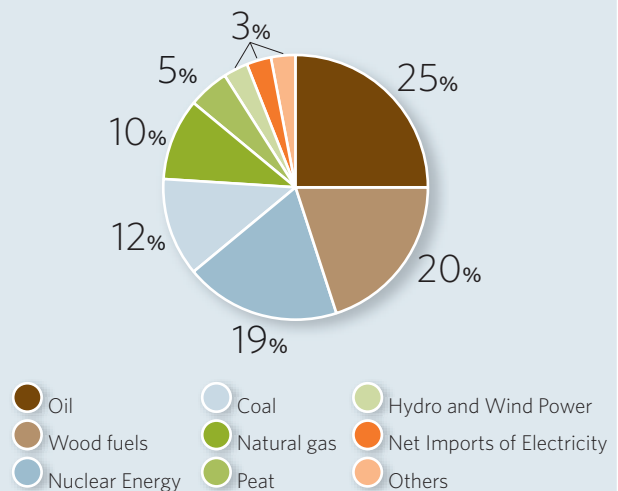
Total energy consumption in Finland in 2009

- Total consumption of energy in Finland amounted to 1.33 million terajoules (TJ) in 2009 (370 TWh), which was 6 percent (82 582 TJ = 23 TWh) less than in 2008.
- The consumption of electricity totalled 87.2 terawatt hours (TWh), which was 3.5 percent less than in the previous year.
- The share of renewable energy in total energy consumption was 26 percent in 2009.
- CO₂ emissions from fuel combustion in 2009 were 52 million tonnes, 3 percent less than in 2008.

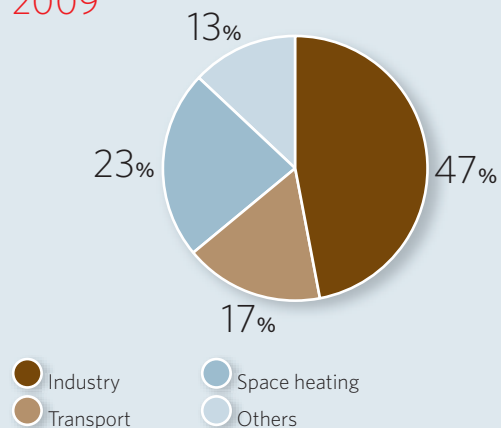
1 TWh = 1,000,000,000 kWh.

The energy consumption of a medium-sized single-family house is about 20,000 kilowatt hours (kWh) a year. One terawatt hour is enough to provide energy for 50,000 single-family houses for one year.

Total energy consumption by energy source 2009*



Final energy consumption by sector 2009*



* Preliminary

Source: www.stat.fi, Preliminary Energy Statistics 2009

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