

material efficiency schools energy saving
consumers industry transport carbon dioxide
wood chips traffic properties public sector
recycling biomass renewable energy solar energy climate change
energy efficiency energy auditing
service sector hydro power wind energy cooperation

A competitive approach

- Tools of steering energy efficiency in Finland

Managing Director Jouko Kinnunen, Motiva

Energy Efficiency 2009

Vilna 24.11.2009

heat pump environment municipal sector construction

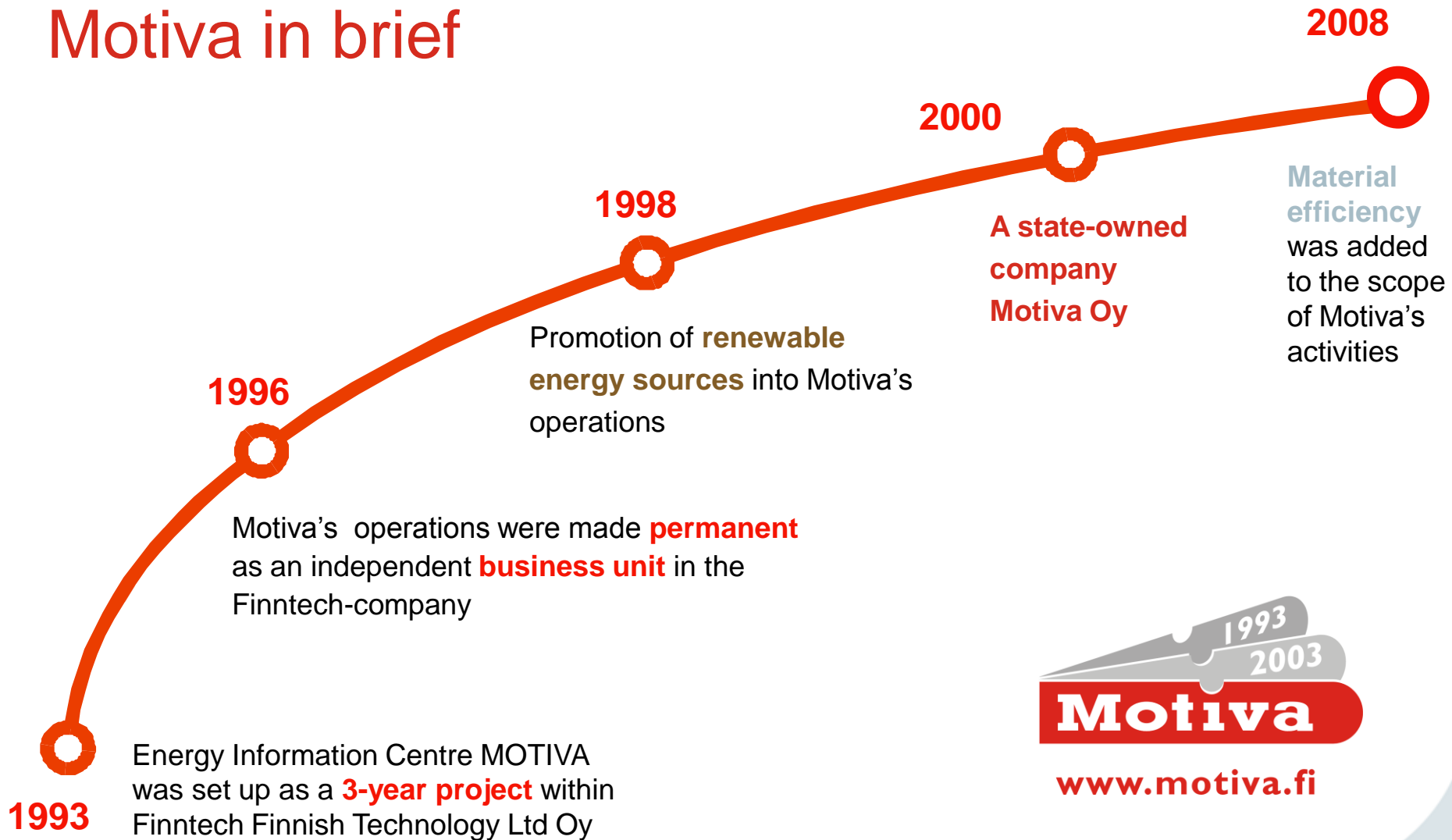
Content

- Motiva Oy in brief including key activities
- Energy Consumption in Finland
- Energy Efficiency Agreements
- Energy Audits
- Communication Activities

Motiva Oy

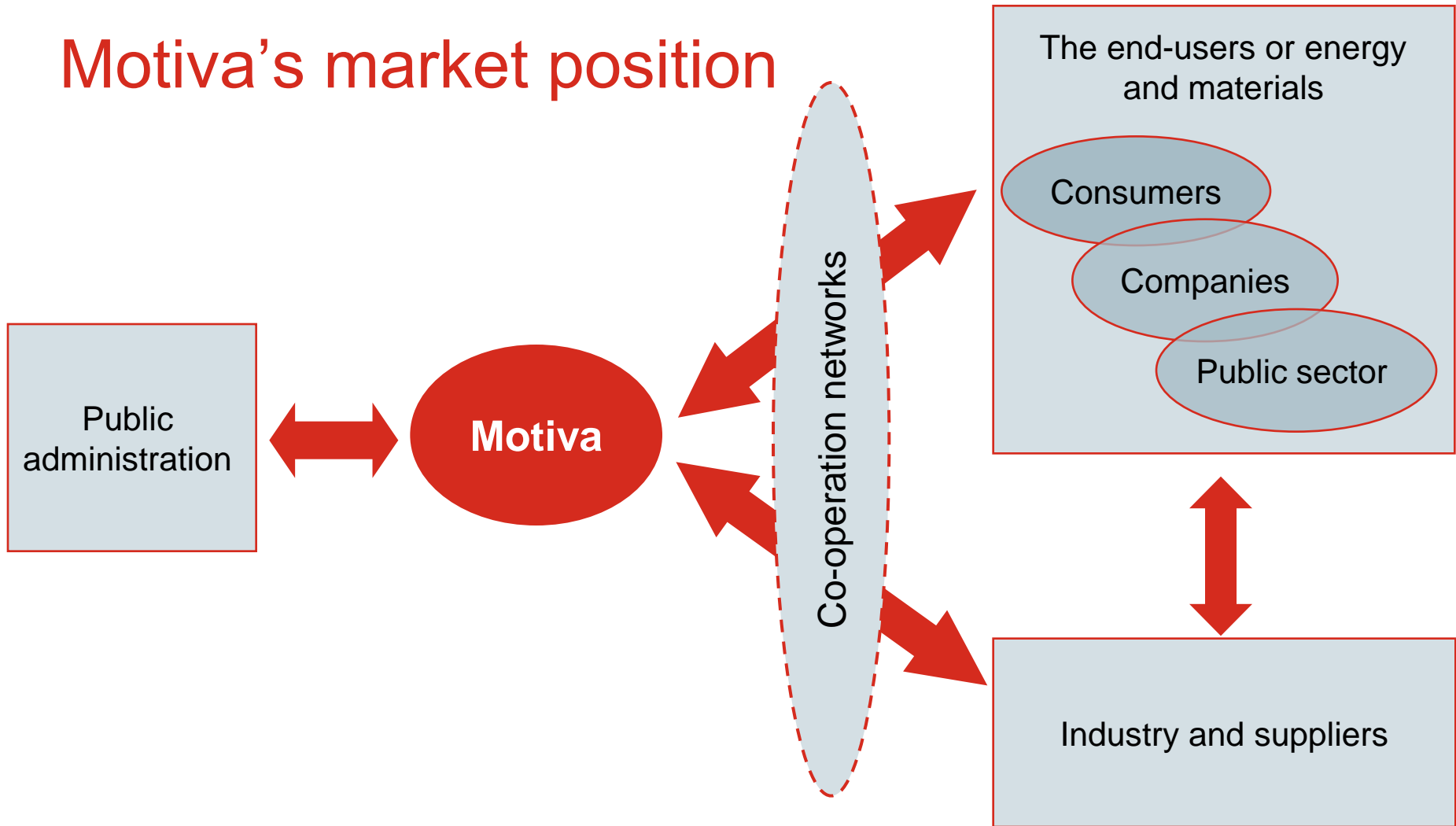
An expert company promoting efficient and sustainable use of energy and materials.

Motiva in brief



www.motiva.fi

Motiva's market position



Key activities

- Adviser for policy preparation
- Energy efficiency agreements
- Energy auditing
- Material efficiency auditing
- Communication aiming attitude change
- Advice services for environmentally sound public procurements

Target groups

- Industry, power stations, district and local heating
- Service sector including municipalities
- Properties and buildings
- Households and consumers
 - children as a special group
- Energy use, management, audits and methods, tools and solutions (competence networks – business activity)

Method of working

to bind

methods

technologies

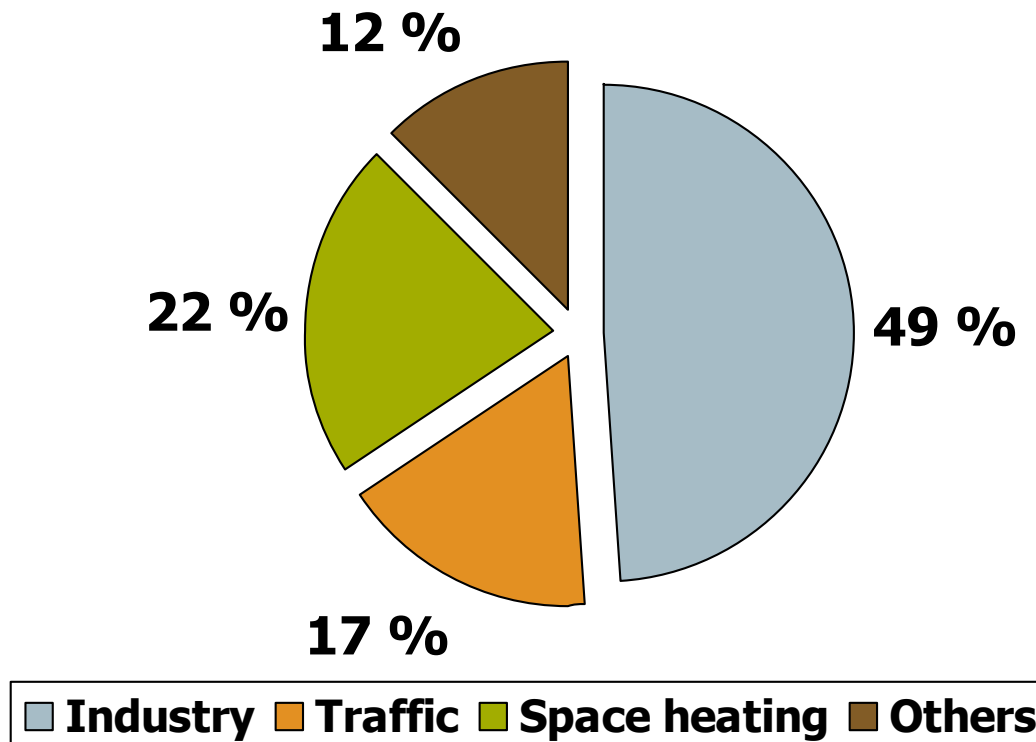
communication

into an efficient entity.

Motiva produces, refines and disseminates information, develops methods and boosts the introduction of advanced technology.

Energy Consumption in Finland

- Total energy consumption in Finland is 1,492 PJ (petajoules)



Energy Efficiency Agreements 2008–2016

– responsibility in Ministry of Employment and the Economy

ENERGY EFFICIENCY AGREEMENT CONFEDERATION OF FINNISH INDUSTRIES (EK)

INDUSTRY

SERVICES

ENERGY PRODUCTION

ENERGY EFFICIENCY AGREEMENT AND PROGRAMME MUNICIPAL SECTOR

CITIES

MUNICIPALITIES

JOINT
MUNICIPALITIES

HÖYLÄ III ENERGY EFFICIENCY AGREEMENT

OIL HEATED BUILDINGS

DISTRIBUTION OF THE
HEAT- AND TRANSPORT-
FUELS

UNDER CONSIDERATION

PROPERTY MANAGERS
AND INVESTORS

Other Energy Efficiency Agreements – responsibilities in other ministries

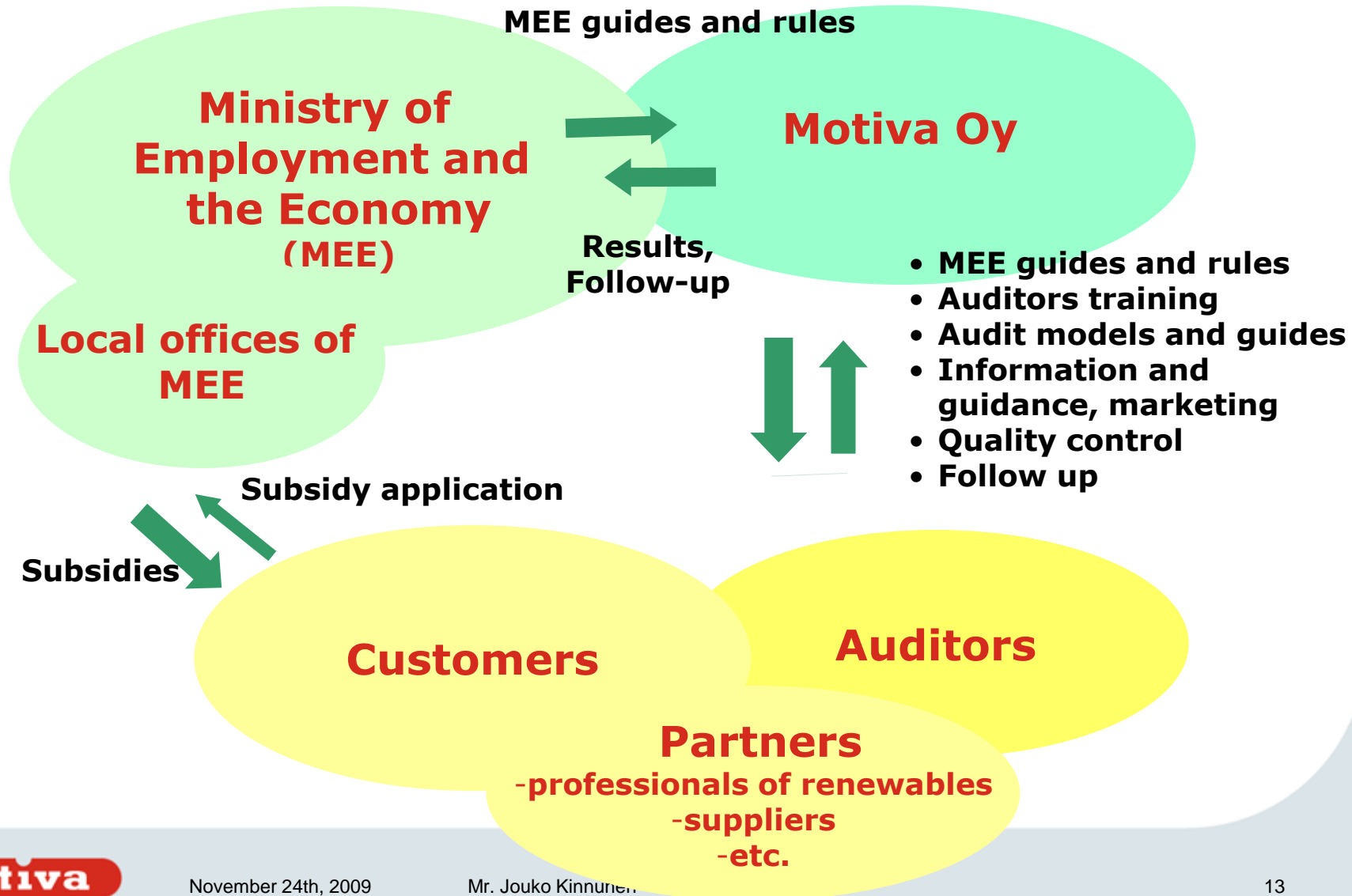
- **Transport** (Ministry of Traffic and Communication)
 - Truck and van transportation 2001-2016
 - Public transport 2001-2016
- **Agriculture** (Ministry of Agriculture and Forestry)
 - Target to start totally new energy efficiency agreement at the beginning of year 2010
- **Housing properties** (Ministry of Environment)
 - Energy saving agreement 2001-2012

Energy Conservation Agreements 1997–2007

Energy Efficiency Agreements 2008–2016

- Voluntary agreements
- A flexible tool to implement the national climate and energy strategies and some EU policies related to the energy efficiency
- An alternative and complementary mean for regulations and taxes
- Benefits for companies/communities to join the agreements
 - flexible instrument to improve energy efficiency and save energy cost
 - energy audits and investments are closely connected to the agreement scheme and subsidised by the government
 - in line with the environment authorities requirements (industry), no need for extra stipulations

Energy Audit Partners



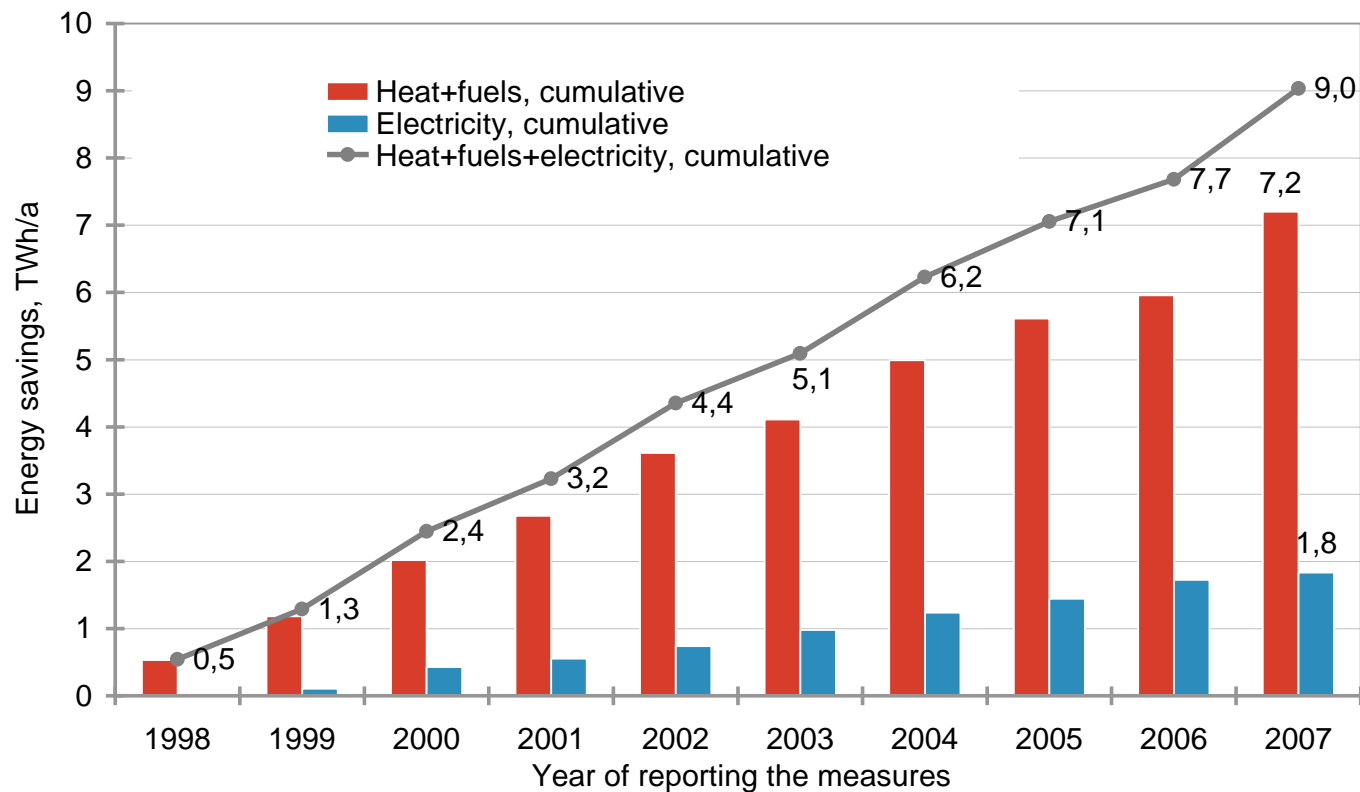
Energy Audits

- Comprehensive study
 - Heating/electricity/fuels/renewables/water costs and energy consumption
- Results:
 - Break down of consumption
 - Better understanding about energy costs, energy consumption etc.
 - Proposals for saving measures
 - Justification
 - Economy (savings, investments...)
 - Impact on CO₂ emissions
 - Other effects and impacts

Energy Auditing in Finland

- Since 1992
- The Energy Department of the Ministry of Employment and Economy is the Administrator (subsidies)
- Motiva Oy as an operator (procedure, guidance, development, marketing)
- Audits are done by private consultants
- Audit models for industry, power plants, district heating, buildings, logistics, municipalities
- Scope: energy efficiency, renewables, material efficiency in the near future

Cumulative energy saving impact of implemented energy efficiency measures concerning industrial, energy, municipal and property and building sectors

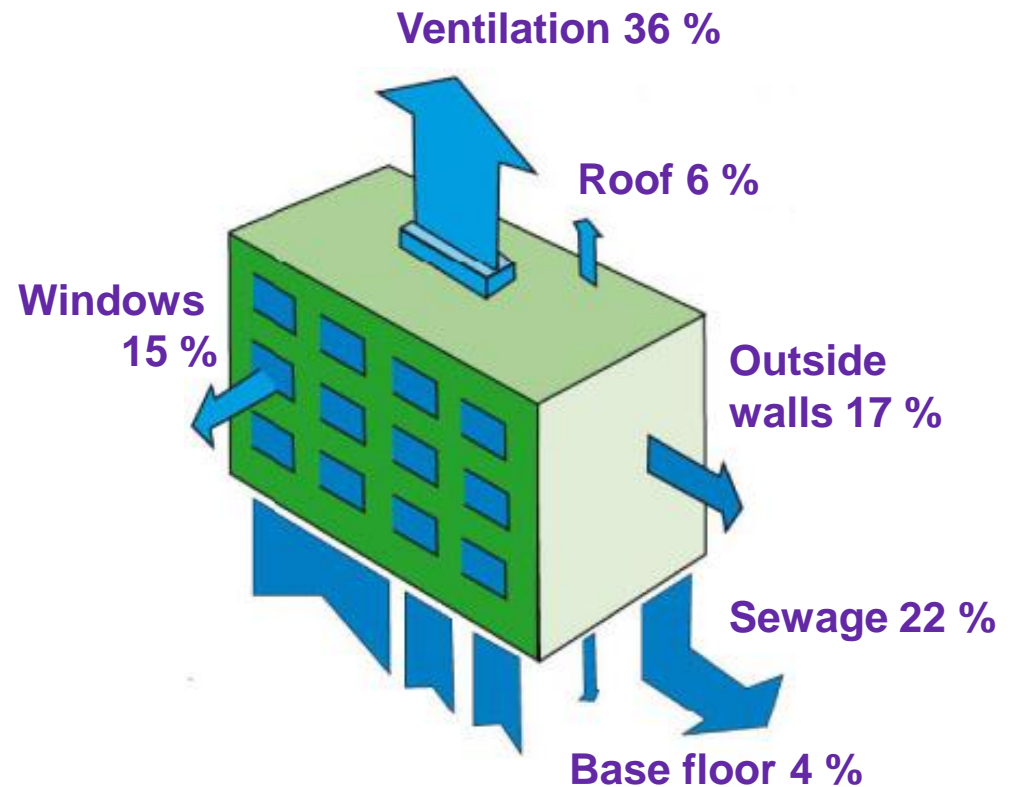


Cumulative energy saving impact of implemented energy efficiency measures concerning industrial, energy, municipal and property and building sectors

- Of the total energy conservation impact (9 TWh/a) the share of industry is 80% and power plant sector 14%
 - Over 465 million euros investments to carry out these measures
 - Cost savings approx. 170 million euros per year
- Share of electricity of the total energy savings per year 20%
- Carbon dioxide emissions reduced almost 3 million tonnes per year

Energy Consumption of Finnish Buildings: Potential for savings

- Savings potentials in service sector buildings:
 - heat 14,4 %
 - electricity 6,8 %
 - water 5,8 %
- Cost savings 9,9 %, close to 12 million Euros per year



Energy savings by energy audits

- **Service sectors and industry***
 - Annual savings 1 TWh** and 30 M€ in 2005
 - Cumulative savings 8,5 TWh and 270 M€ (1992-2005)
- **Average realised savings in the municipal sector service buildings**
 - 9 % in heat and fuels
 - 5½ % in electricity
- **Average realised savings in the private service sector buildings**
 - 12 % in heat and fuels
 - 4 % in electricity
- **Average realised savings in industry***
 - 6...9 % in heat and fuels
 - 3...5 % in electricity

* Process industry not included

**Lifetime for savings in these calculations 6 years
(ESD needs are under consideration)

Growing demand for communication

- Motiva as an information source
 - **Consumers** – information is needed for living, renovating and building of houses, for purchasing of vehicles, household appliances or a heating system for a single family house etc.
 - **Media** – cooperation with media is a central part of Motiva's communications
 - **Expert organisations in energy sector** – associations, companies, local energy agencies etc.
 - Many projects and information campaigns in collaboration with them

Communication – Motiva's way

- Motiva communicates through
 - ongoing projects
 - information campaigns
 - customer service (via internet, telephone, e-mail, events, etc.)
- Motiva coordinates national communication networks

Information Activities

1/2

- Energy information is disseminated for different target groups using versatile means and channels
- Publications
 - more than 200 available
 - Motiva Xpress Newsletter, 4 times/year
 - Brochures and Leaflets
 - Reports and Fact Sheets
- Internet
 - www.motiva.fi
 - key information resource



Information Activities

2/2

- Media activities
 - Contact point for the media
 - Press releases (nearly 50/year)
 - Articles
- Events, campaigns, fairs and seminars
 - Energy Awareness Week
 - Annual theme week in October, since 1997
 - Climate Change Communication Campaign
- Attitudes and consumption behaviour
 - Energy knowledge for consumers and schools, education materials



Information campaigns and tailored web portals

- For instance:
 - for ecodriving
 - for building a single family house
 - for information dissemination of the building certificate (EPBD)
 - for energy efficiency agreements
- www.energiansaastoviikko.fi
- www.motiva.fi/energiatehokkuussopimukset
- www.ymparisto.fi/energiatodistus
- www.energiatehokaskoti.fi
- www.easyrider.fi
- <http://www.transec.fi/>



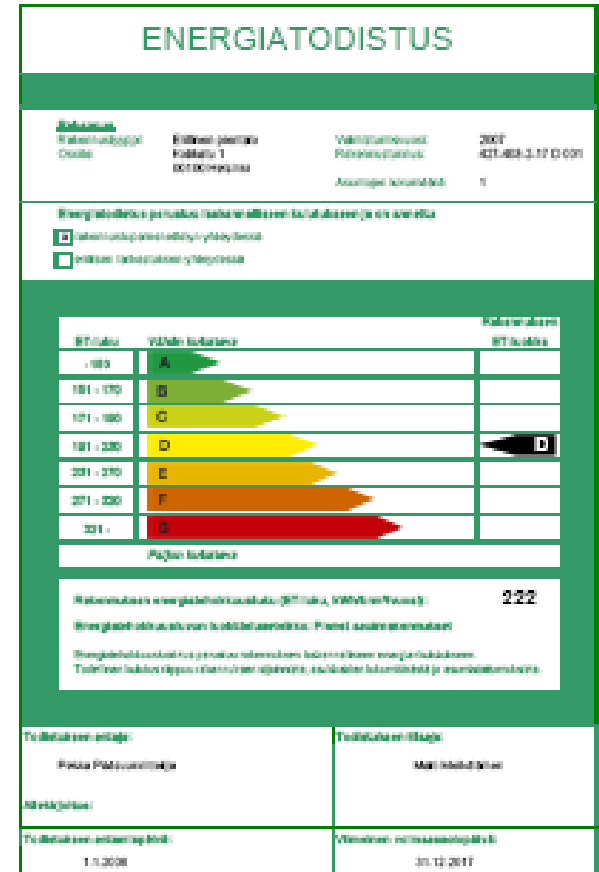
Energy efficient homes

- Campaign
 - www.energiatehokaskoti.fi
 - www.lampputieto.fi (www.lighting.fi)
- Energy labelling of windows
 - www.energiaikkuna.fi
- Motiva Oy
 - www.motiva.fi
- Work Efficiency Institute
 - www.tts.fi/kodinenergiaopas
- Guides from Motiva:
 - Good and energy-efficient house
 - Heating systems of houses
 - Energy Guide for Households

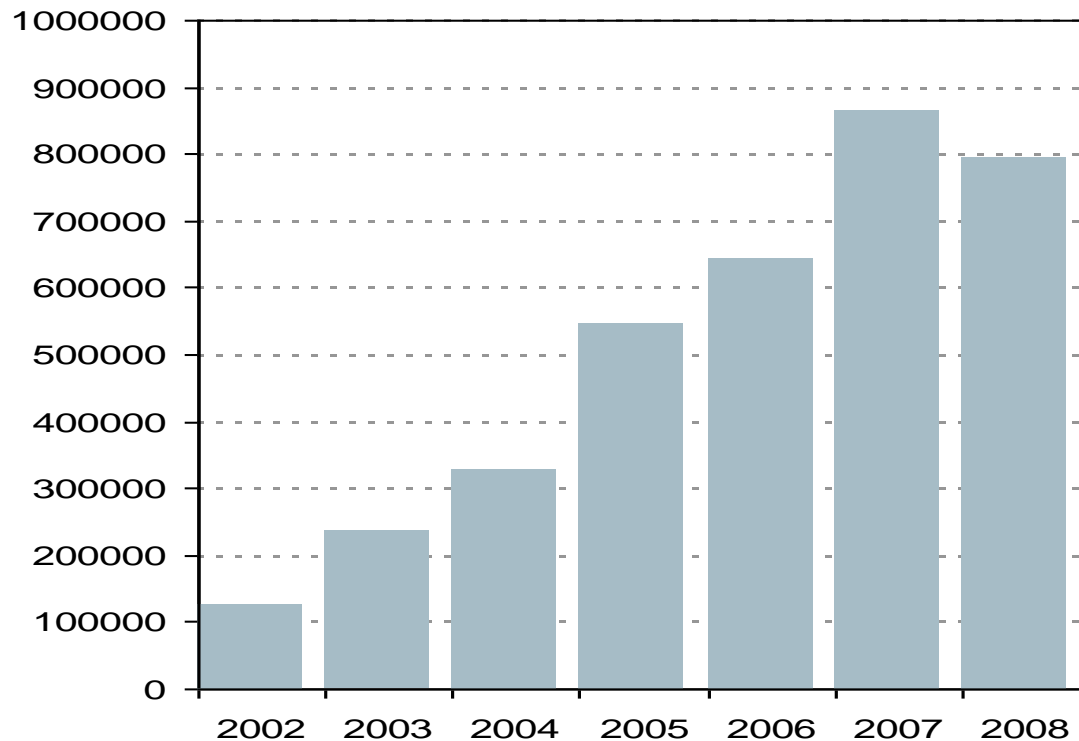


Energy certificate for Buildings

- to be used at the occasion of new building, selling or leasing
- to contain
 - an estimate of the energy efficiency of the building
 - reference values
 - proposals for the improvement of the energy efficiency
- to be valid for 10 years



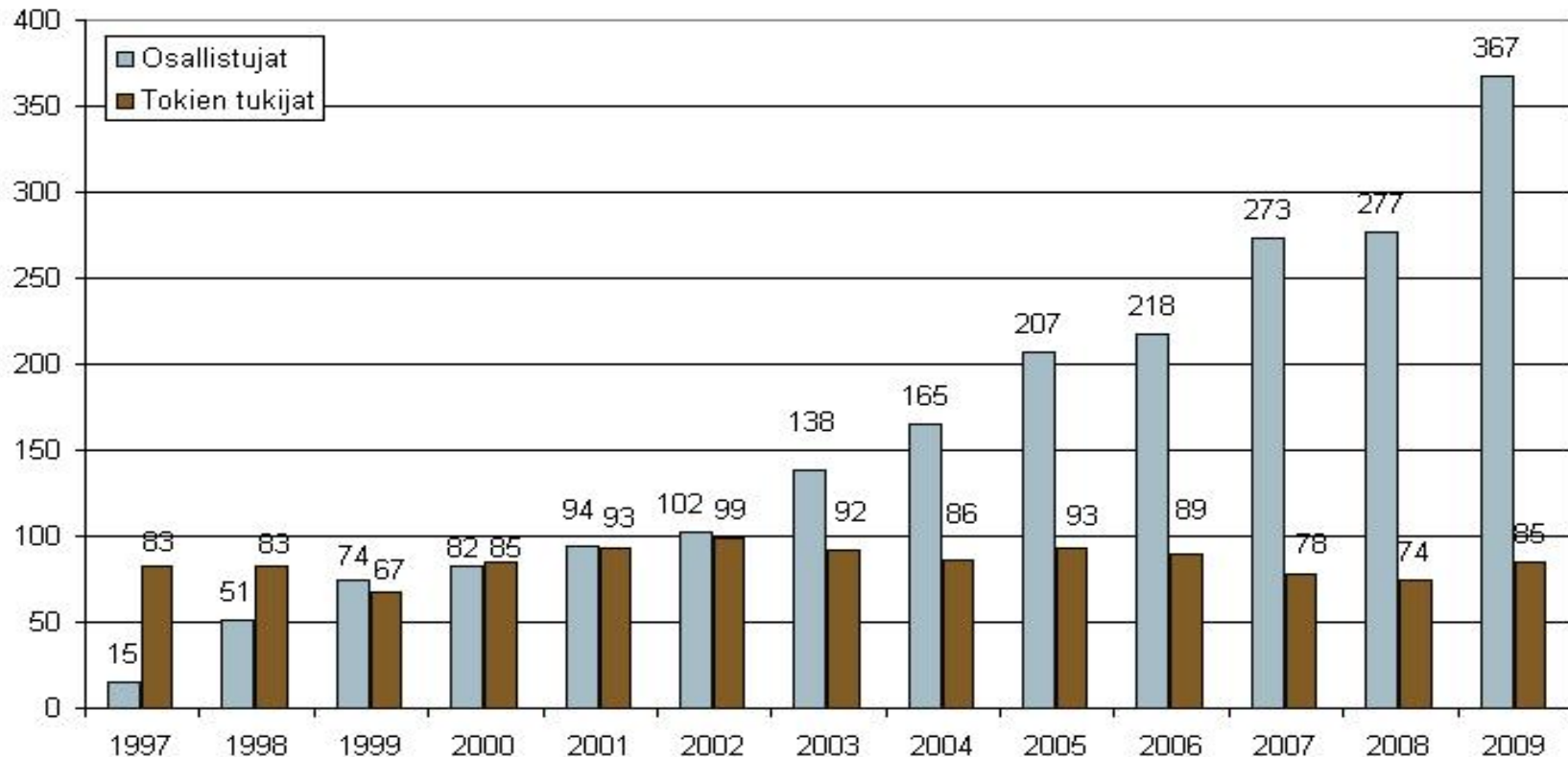
www.motiva.fi – number of visits



- constant growth of number of visitors
- 80% of visits as a consumer
- High-level decision makers also utilize the portal

Energy Awareness Week - Number of Participants

1/2



Annual theme week in October, since 1997

More information
www.motiva.fi/en