

CHANGING BEHAVIOUR

EC FP7 Project

Research and development of energy saving practices in Finland and Estonia



Eva Heiskanen, National Consumer Research Centre, Finland
Tiit Kallaste, Stockholm Environment Institute-Tallinn, Estonia

Structure of the presentation

- Background on the CHANGING BEHAVIOUR project
- Research and development of energy saving practices in Estonia and Finland
 - Barriers to energy saving and energy efficiency
 - The role of intermediary organisations: current expectations
 - Intermediary organisations in Estonia and Finland
 - How do intermediary organisations help to overcome barriers?
- Implications for developers of energy saving technologies

CHANGING BEHAVIOUR: The project

- National Consumer Research Centre, Finland
- Energy research Centre of the Netherlands ECN, Netherlands
- University of Salford, SURF Centre, UK
- OEKO Institut e.V, Germany
- Central European University, CEU, Hungary
- SEI-Tallinn, Estonia
- Cowi Baltic, Lithuania
- Energy Service Company Enespa Ltd, Finland
- Manchester Knowledge Capital, United Kingdom
- GreenDependent Sustainable Solutions Association, Hungary
- Ekodoma, Latvia
- Verbraucherzentrale Nordrhein-Westfalen e.V., Germany
- Centre for Renewable Energy Sources CRES, Greece

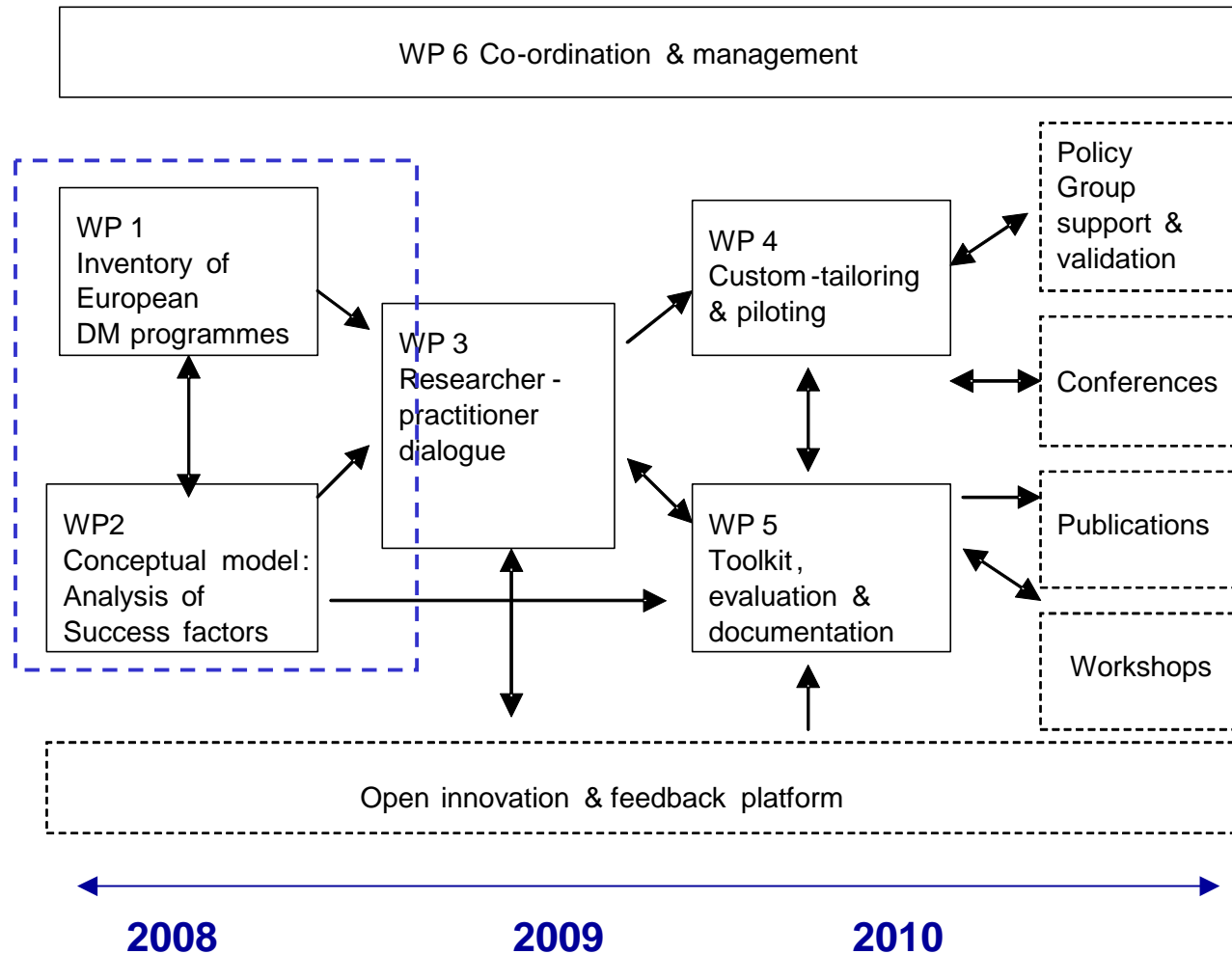


CHANGING BEHAVIOUR: the project

- Background:
 - Energy services directive: Europe could save at least 20% of its present energy consumption in a cost-effective manner – but there are many barriers
- Focus on:
 - Promoting energy efficiency in (a) households, (b) SMEs (c) municipalities (d) other building users (e.g., offices)
 - through demand side measures: informative instruments, auditing, investment support, 3rd party financing, etc.
 - by intermediary organisations: government & other energy agencies, NGOs, consultancies and ESCOs
 - in Old and New Member States
- Aim:
 - develop a toolkit for European energy efficiency practitioners that is sensitive to context, timing and the role of different actors in the adoption of energy efficient technologies



CHANGING BEHAVIOUR: the project



Barriers to energy efficiency for small energy users

- Financial:
 - cost of capital, risks of new technologies, low liquidity of investments
- Organisational:
 - low attention to energy issues, people dealing with energy rarely have much power
 - lack of qualified service networks (including certification)
- Social:
 - difficulty of changing habits and conventions that have emerged during a long period of cheap energy
- Informational
 - invisibility of energy in daily life
 - lack of knowledge about problems and solutions
 - lack of capacity to make sense of available knowledge

Expected role of intermediary organisations

- Previously, it was expected that energy utilities would take the main responsibility for demand-side management– liberalisation has shown the need for new players
- Intermediaries operate between established interests: (e.g., energy utilities, government and customers) and can create new links and practices
- The Energy Services Directive expects a lot from intermediaries:
 - aim to shift the market from toward efficient end-use services (e.g., thermal comfort or illumination)
 - energy sector companies are required to provide, contract or fund energy services or improvement measures
 - level playing field for new operators like ESCOs, installers, energy advisors and consultants to enter the energy market
- Intermediary organisations can help to overcome barriers to energy efficiency

Some examples.

Success projects in Estonia

- The *BEEN* project. Estonian Credit and Guarantee Fund KredEx. Credit support for buildings energy efficiency performance in residential sector. Intermediaries help to get the loan and manage the whole process of renovation of block houses.
- IEE project *SECURE*. III Energy Dialog in Baltic Sea countries on “How to Achieve Changes in Housing Energy Efficiency? *How to achieve 30% of energy saving in residential sector?*”, see website: <http://www.fes.ee/>.
Baltic Sea countries conference in Tallinn on 29-30th of May 2008. (Passiv houses as a future efficient technological solution for energy saving, etc.)
- Laboratory of Energy efficient materials, Tartu University. Energy efficient building. Information dissemination, seminars with hands-on workshops on construction site, etc.

European Union Directives on energy saving and -efficiency

- The Directive 2002/91/EC of the European Parliament and the Council of 16 December 2002 on the energy performance of buildings. This is being implemented.
- The Directive 2006/32/EC of the European Parliament and the Council on the efficiency of final consumption of energy and energy services – to be implemented in Estonia in 2008.
- The Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market. Administrative feed-in tariff approach was used to stimulate RES wider deployment.

For Estonia stimulation of RES-E has high importance as ~92% of power is still produced based on polluting fossil fuel – oil shale. Very high carbon emission coefficient 1.101 kg/MWh!

Recent domestic regulations in energy sector towards the change

- The recent amendment of *Electricity Market Law* in May 2007. RES-E support. The feed-in tariff in wind sector has been raised from 5.17€/100 kWh to - € 7.35 /100 kWh. In peat and biomass based CHP sector the feed-in tariff has almost doubled.

The stimulating impact caused the interest of investors and as a result the significant rise in wind based electricity production was launched. The production of electricity increased from 6.1 GWh in 2003 to 53.9 GWh in 2005, i.e. 8.8 times, and to 76.3 GWh in 2006, i.e. 12.5 times. At present 78 MW of wind capacity is installed, I.e. doubled during last two years. 500 MW of new capacities, incl off-shore are in pipe.

Electricity production based on wind and hydro energy in Estonia

	2003	2004	2005	2006
Installed production capacities, MW_e				
Hydro energy plants	3.8	4.4	5.2	5.2
Wind parks	2.4	22.8	31.0	31.0
Electricity production, GWh				
Hydro energy plants	12.8	22.4	21.5	13.5
Wind parks	6.1	7.6	53.9	76.3

Long Term Development Plans oriented to energy saving

- The Estonian Electricity Sector Development Plan for 2005-2015 foresees increase of RES-E in particular in wind and biomass sectors. The development plan stipulate a decrease in the utilisation of oil shale. E.g., oil-shale is expected to contribute to 68% of electricity production only in 2015. The Plan is currently updated and the new version will be adopted by Government in December 2008. Wind and biomass sectors, also nuclear are given a lot of attention. General orientation to biomass based CHP plants rapid increase (e.g. Vão (Tallinn), Luunja (Tartu) and Pärnu are being constructed).
- National Energy Efficiency Action Plan (NEEAP) 2007-2013.
- Housing Sector Development Plan
- Operational Programme for the Development of the Living Environment

Major policy initiatives for energy saving in Finland

- Energy Conservation Agreements (industry, electricity production & transmission, district heat, municipalities, building & property, public transport, housing properties + new sectors to be included 2008->) – the main measure for implementing the National Energy Efficiency Action Plan 9% savings
- Ongoing work on energy efficiency:
 - Government Climate and Energy Strategy (due to be presented to Parliament this autumn)
 - Energy Efficiency Committee (>30 organisations from different sectors)(work to be completed in May 2009)
- Overall plan for energy saving and energy efficiency

Some examples.

Projects under way in Finland

- Motiva
 - Projects to promote the implementation of the energy efficiency agreements (energy advice, ESCO development & promotion)
 - Buildings energy label marketing, energy efficient home
- Local developments:
 - Regional energy efficiency agencies – projects on the local level for energy saving and renewable energy taking into account local conditions
 - Climate-neutral municipalities
- Non-governmental:
 - WWF Finland Green Office programme (financed by participants)
 - Energy Expert programme launched by VVO housing association

Examples of intermediary organisations in Estonia and Finland

● Estonia

- Energy Efficiency Competence Centre, EECC
- Credit and Guarantee Fund, KredEx
- Estonian Association for Environmental Management, EKJA
- Local energy consultant companies, e.g. Energiasäästu Büroo OÜ
- Regional Energy Centres, REC
- Tallinn Technical University, Tartu University
- Estonian Green Movement ERL
Estonian Fund for Nature, ELF

● Finland

- Motiva, national energy agency
- Regional energy agencies
- Regional economic development centres
- Local company networks (e.g. Ekokumppanit Oy, Tampere)
- Energy consultancies, energy service companies
- NGOs, e.g. WWF Finland and Dodo ry.
- Universities and research institutes

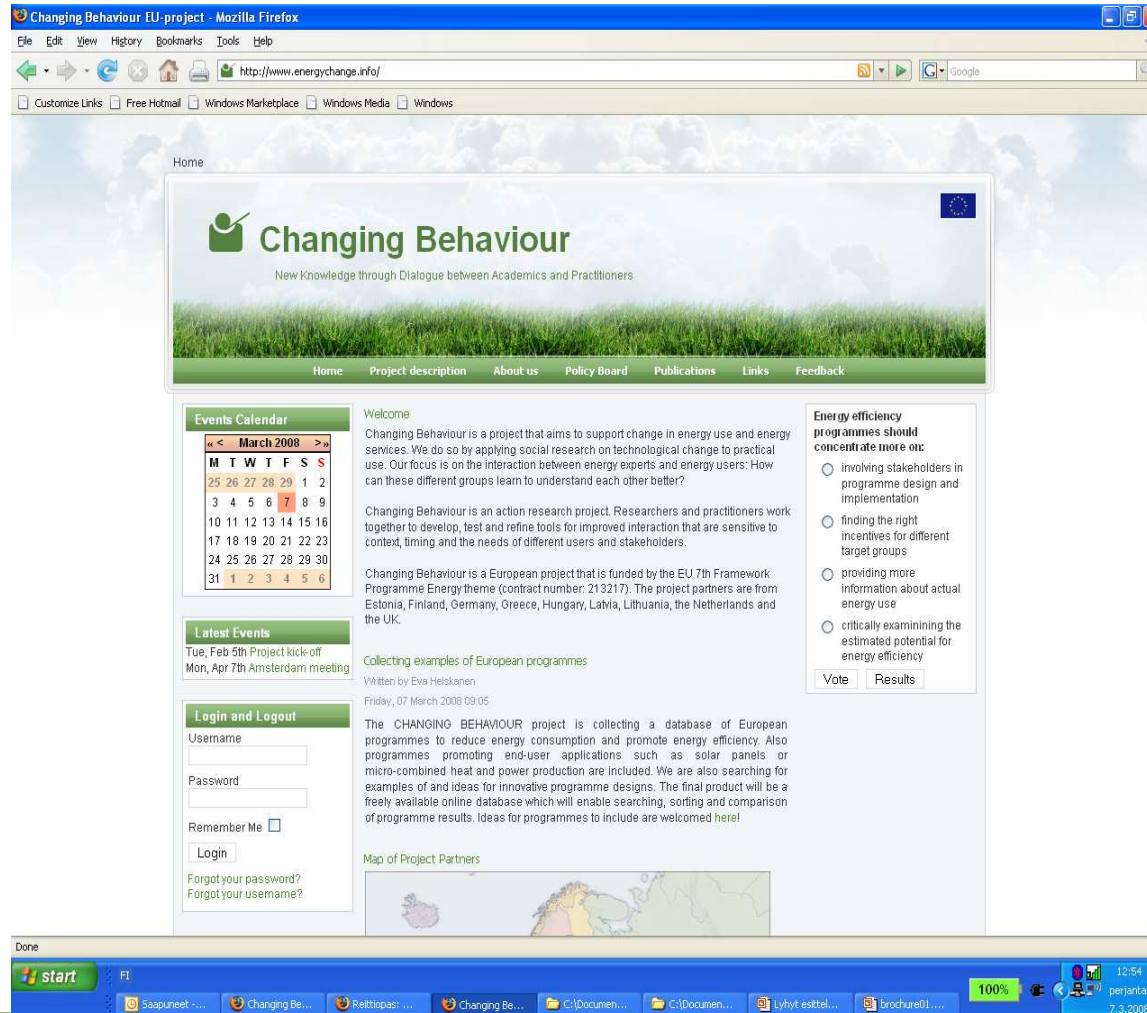
How do intermediary organisations help to overcome barriers?

- Promoting existing tools and instruments, ensuring the uptake and use of energy efficient technologies
- Provision of unbiased information
- Promotion of systems and schemes for measuring and monitoring energy use
- Benchmarking and transfer of information and best practices from one customer to another
- Provision of locally relevant information, support for local projects
- Linking of different interests
 - e.g., municipality, local service providers, local customers
 - or company management, employees, energy experts, customers & stakeholders
- Particularly important when targeting *small energy users* like households, SMEs, offices (and small municipalities) with low internal competencies

Implications for developers of energy saving technologies

- Need to address barriers to the adoption of (even cost-effective) energy saving technologies:
 - informational, organisational, social, financial
- Technological change also requires change in:
 - information networks
 - supply networks (services, finance, etc.)
 - social and market networks (which providers the energy users interact with)
 - support networks (e.g., certification)
- Involving intermediary organisations can help to promote the adoption of new, sustainable technologies

Thank you!




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Home

 **Changing Behaviour**
New Knowledge through Dialogue between Academics and Practitioners

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Events Calendar

« < March 2008 > »

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Latest Events

Tue, Feb 5th Project kick-off
Mon, Apr 7th Amsterdam meeting

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Welcome

Changing Behaviour is a project that aims to support change in energy use and energy services. We do so by applying social research on technological change to practical use. Our focus is on the interaction between energy experts and energy users: How can these different groups learn to understand each other better?

Changing Behaviour is an action research project. Researchers and practitioners work together to develop, test and refine tools for improved interaction that are sensitive to context, timing and the needs of different users and stakeholders.

Changing Behaviour is a European project that is funded by the EU 7th Framework Programme Energy theme (contract number: 213217). The project partners are from Estonia, Finland, Germany, Greece, Hungary, Latvia, Lithuania, the Netherlands and the UK.

Collecting examples of European programmes
Written by Eva Heiskanen
Friday, 07 March 2008 09:05

The CHANGING BEHAVIOUR project is collecting a database of European programmes to reduce energy consumption and promote energy efficiency. Also programmes promoting end-user applications such as solar panels or micro-combined heat and power production are included. We are also searching for examples of and ideas for innovative programme designs. The final product will be a freely available online database which will enable searching, sorting and comparison of programme results. Ideas for programmes to include are welcomed here!

Energy efficiency programmes should concentrate more on:

- involving stakeholders in programme design and implementation
- finding the right incentives for different target groups
- providing more information about actual energy use
- critically examining the estimated potential for energy efficiency

Vote Results

Map of Project Partners

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CONTACT

**Prof. Eva Heiskanen,
National Consumer Research Centre,
Finland, NCRC
Eva.Heiskanen@ncrc.fi**

**Dr Tiit Kallaste,
Stockholm Environment Institute Tallinn
Centre, SEI-Tallinn
Tiit.Kallaste@seit.ee**