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INESPO

Innovative instruments for energy saving policies

DURATION OF THE PROJECT
15/12/2009-31/01/2012

BUDGET
344.313€

KEYWORDS
Energy savings, innovative instruments, policy measures

CONTEXT

The growing energy consumption in Belgium and Europe raises many concerns regarding, amongst others, security of supply, environment, climate change, volatility of prices, and energy poverty. To bend this trend, increasing renewable energy production will most likely not suffice.Energy savings will therefore be one of the most essential topics to address in the coming years.
The household sector has been identified for its important share of final energy consumption and considerable energy savings potential. So far, policies and measures have mostly focused on **energy efficiency** for housing and domestic appliancesalthoughmany studies point at the crucial role of **behaviour** in order to achieve energy savings in the household sector. Taking this into account, specific policies and measures should be directed at realising energy savings through **behavioural changes**.
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PROJECT DESCRIPTION

INEPSO focuses on lowering household energy consumption by promoting behavioural changes. The desired behavioural changes encompass both “everyday life” actions and energy efficient investment decisions. However, behavioural changes are a complex issue and new instruments are needed in order to promote the desired behaviours.The **INESPO** project aims at creating such innovative instruments that will be based on the integration of White Certificates and/orComplementary Currencies systems with Smart Metering Systems.

White certificates are tradable documents certifying that a certain reduction of energy consumption has been attained. **Complementary currencies** represent some unit of value that can be exchanged in parallel with, and sometimes converted into national currencies. Perhaps the best known example of complementary currencies system is the “Air Miles” where miles can be earned and exchanged against a variety of services of products. Although this is a purely commercial example, complementary currencies systems are recognised as a powerful motivation instrument, and are increasingly used for inducing local behavioural changes to reach particular social, or, in this case, environmental goals.

Smart metering systems combine the registration of gas and electricity usage with an information and communication infrastructure. As many European member states think about the deployment of such infrastructure, it may also be used to support the complementary currencies / white certificates system for providing information to the end user, as well as for estimating or validating the amount of saved energy.

In the innovative instruments, white certificates and/or complementary currencies schemes will thus be used to promote the desired behaviours, while smart metering systems provide the necessary data and increase the feedback on energy consumption. The creation of such innovative instruments might also contribute to a positive internal and external evaluation of the desired behaviours.

The three main objectives of **INESPO** are:

1. designing innovative energy saving instruments for the household sector, based on the re-design and integration of white certificates and complementary currencies with smart metering systems;
2. assessing those innovative instruments regarding their social acceptability, as well as their energy saving potential, economic and climate aspects (CO_2 savings);
3. providing policy-makers and other stakeholders with scientific advice on the potential and implications of integrating those instruments into climate change and energy saving policies.

As white certificates and complementary currencies integration with smart meters does not exist yet, the project will work in parallel on the practical/technical aspects of these instruments and on their social acceptability. The system design of the white certificate/smart meter and complementary currencies/smart meter instruments will be a critical step in the project.
The team that is carrying out the INESPO project is composed of

1. Université Libre de Bruxelles (ULB) - Centre for Economic and Social Studies on the Environment (CEESE) - Bernard Lietaer, an external consultant will be advising the CEESE in the field of complementary currencies
2. KatholiekeUniversiteit Leuven (K.U.L.) - Electrical energy and computer architectures (Electa)
3. KatholiekeUniversiteit Leuven (K.U.L.) Research Institute for Work and Society (HIVA)

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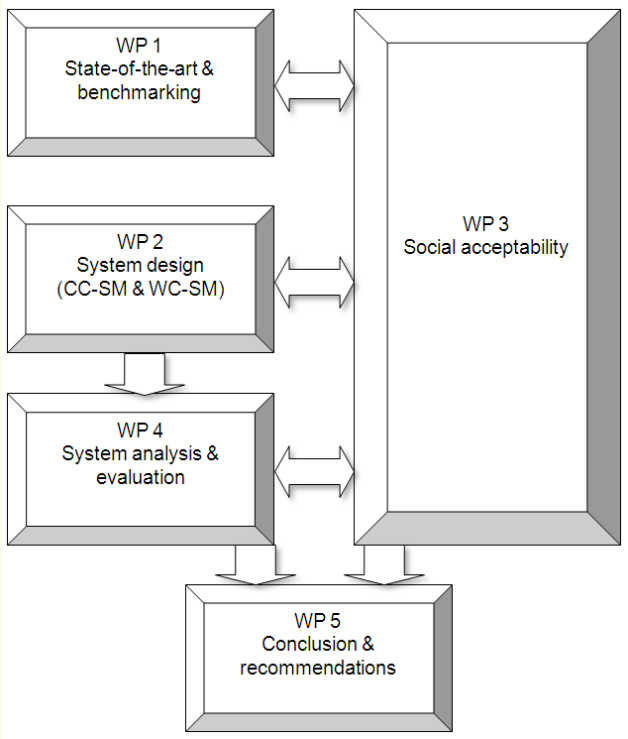
The organisation of the work packages is shown in the following figure.



WP1

The first step will study white certificates, complementary currencies, and smart meters separately. This first Work Package (WP1) will include bibliographical research, identifying and interviewing key actors, then benchmarking and analysing the gathered data. The CEESE will carry out WP1 for white certificates and complementary currencies systems. Electa will carry out WP1 regarding smart meters. HIVA will study existing Policies and Measures in the field of energy savings.

This first phase will lead to **positioning INESPO** and the deliverables will consist in research papers on the topics investigated.

WP2

The second phase (WP2) will be dedicated to the design and development of different white certificates/smart Meter and complementary currencies/smart Meter models, taking into account a realistic set of options. This system design phase will be carried out by the CEESE, in collaboration with Electa for the smart meter integration. The deliverables of this **designing INESPO**phase will consist in a design document, containing two major architectures that rely on the smart metering infrastructure for both white certificates and complementary currencies schemes.

WP3

The social acceptability of the approach will be assessed in work package 3 (WP3) and will be carried out by HIVA. The input from HIVA will also be integrated in the system design phase (WP2).

This **INESPO social acceptability** phase will lead to research papers based on the result of the interviews and focus groups.

WP4 and WP5

Before concluding and making final recommendations (WP5), economic and environmental aspects will be assessed and a multi-criteria analysis will be used to compare the relevance and the effectiveness of these instruments for new Policies and Measures focused on energy savings in the Belgian household sector (WP4).All partners will contribute to those two work packages.

This **INESPO architecture evaluation and conclusion and recommendations** phases will lead to research papers, as well as a summary of the overall project findings and guidelines for defining efficient policies and measures.

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CONTACT INFORMATION

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COORDINATION OF INESPO

The project is coordinated by the CEESE.

Partners

The team that is carrying out the INESPO project is composed of

1. Université Libre de Bruxelles (ULB) - Centre for Economic and Social Studies on the Environment (CEESE). The main roles of the CEESE will be related to complementary currencies and white certificates. The CEESE will play a key role in designing the new instruments based on the integration of complementary currencies / white certificates and smart metering systems.The CEESE is also coordinating the project.
2. KatholiekeUniversiteit Leuven (K.U.L.) - Electrical energy and computer architectures (Electa). The main roles of Electa will be related to smart metering systemsElecta will work on the smart metering part of the system design. .
3. KatholiekeUniversiteit Leuven (K.U.L.) Research Institute for Work and Society (HIVA).The main roles of HIVA will be related to the social acceptability and motivational aspects. HIVA will work on the social acceptability of the system design.

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