Focus on Energy end-use efficiency and energy services

In order to increase energy savings and to reduce greenhouse gas emissions and energy dependency, the Commission proposes a Directive that counts on the promotion of energy end-use efficiency and energy services. Mechtild Rothe, Member of the European Parliament, comments as rapporteur the amended version of the Directive.

From their side, three members of Fedarene, Berliner Energieagentur, Tipperary Energy Agency and SODEAN, the Energy Agency of Andalusia outline how they are contributing to the development of the energy services and are involved in the implementation of energy efficiency in the public building sector and sometimes in unexpected places.

Energy Services behind bars?

Energy services are promoted as a means to overcome financial and know-how restraints against energy efficiency investments. Especially for the public sector this is considered to be one of the most effective tools to enhance energy efficiency in the public building sector.

With this discrepancy in mind, already ten years ago, Berliner Energieagentur developed the “Energy Saving Partnership”, a model for energy performance contracting especially designed for public buildings.

Siemens invested about 2.7 million in the modernisation of the technical plants. Thus, a CHP plant was installed in the facility. Other tools concern the use of energy saving and self-ballasted lamps, the optimisation of the control lighting of the outer walls and the installation of water saving fittings. The investment is refinanced through part of the energy savings over a period of 12 years. Already today, JVA Tegel directly benefits from 27% of the savings. This equals annu- al budgetary savings of more than 160,000 Euro. Berliner Energieagentur supported and advised the correctional facility at all stages of the project.

With JVA Tegel Berliner Energieagentur set up an Energy Saving Partnership Number 17 in Berlin. Since 1996, a total of more than 400 public buildings have been integrated into the model. Through these partnerships every year Berlin is saving in almost 8 million Euro of its energy costs and achieves annual budgetary savings of about 2 million Euro.

Another important “side-effect”: CO₂ emissions are reduced by more than 40,000 tons per year.

The Berlin “Energy Saving Partnership” is one of the numerous examples proving that the barriers to the implementation of energy services can and could in the past indeed be overcome with energy agencies playing a moderat- ing role. The market volume for energy services exists, what remains to be improved is the underlying framework conditions.

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This project has been initiated by the Seville City Council in order to promote the generation of green energy and the dissemination of renewable energies.

The Seville City Council has the objective of contributing to the conservation of the environment through the renewable and clean generation of energy, in addition to collaborating with the different energy plans (regional, national and international (Kyoto)).

SODEAN, the Society for the Energy Development of Andalusia of Junta de Andalucía and IDAE also promote the same objectives and manage subsidy programmes for renewable energy projects.

The project has consisted of the installation of PV systems with grid connection in 22 public schools in Seville. These systems will allow the generation of green electricity and the dissemination of the photovoltaic technology throughout the younger population. These 22 installations have a total peak power of 130,592 Wp, and will generate an estimated electricity production of 176,000 kWh/year. This energy will be injected to the general electricity grid and will prevent the emission of contamination.

The overall investment of this project has been €873,289. The Andalusian Regional Government, through the Prosol Programme managed by SODEAN, has provided a subsidy of 45% of the investment, and IDAE has provided a subsidy for a further 25% of the investment. The remaining 30%, 261,987, will be financed by Gamesa Solar.

Gamesa Solar will manage these installations until the payback has been completed, in about a 4 year period, sending the electricity generation of these systems to the Electric Company of Seville (Sevillana de Electricidad). This energy sale will originate benefits of €70,400/year.

The most interesting matter in this project is the particular financing mechanism used through the third party financing. In this case, the photovoltaic installer of the installation has financed the cost of the installation until its payback. Gamesa is the owner of the installation during the first 4 years until this company pays off its investment through the energy sale to the electric company. Afterwards, Gamesa will transfer the property to the owner of the buildings, the Seville City Council, and from that moment the Seville City Council will send the generated energy and will obtain the benefits of the sale.

Implementing Energy Services in Local Authorities

Energy Agencies have been evolving in Ireland to expand the range of energy services they offer, to private and public organisations. The sustainability of local and regional energy agencies, in Ireland in particular, depends on them being able to provide appropriate services to their clients.

The Tipperary Energy Agency has been providing an Energy Management Service (EMS) to North and South Tipperary County Councils since 2001. This service has been multi-functional and based on agreements between all parties. A core driver behind the service has been the need to balance the Councils wish to support the Agency’s work while also achieving value for money for its investment.

The EMS service has to date involved:
- detailed monitoring and targeting,
- alternative energy supply negotiations with a view to cost savings and purchasing of green power,
- detailed energy audits of water treatment and pumping stations and implementation of energy saving measures,
- analysis of energy efficiency of public lighting in North Tipperary,
- development of a (140kW) CHP installation.

To date the Agency has achieved savings of approximately €350,000 in total and reduced CO₂ emissions by 700 tonnes. The total energy spend within the Councils is €3 million.

A detailed work programme to the end of 2007 and beyond, has been implemented and includes new and innovative energy projects.

The Agency has assigned a dedicated Senior Consultant to work with key individuals in each Local Authority. Successful implementation is dependent on commitment by the Local Authority staff to the activities.

The Tipperary Energy Agency is also now providing and offering a range of energy services to other public and private organisations. These services range from initial feasibility studies to full energy management services. In doing this, the Agency is balancing its client base and building on its expertise. This is vital given the opportunities that will develop for Agencies in relation to the EU ‘Buildings’ and ‘Energy Services’ Directive.

Other Energy Agencies in Ireland have been recognised for their work in provision of appropriate energy services. Some examples include:

- Kerry Energy Agency receiving an award from Sustainable Energy Ireland for its work in Public Sector Energy Awareness;
- City of Dublin Energy Management Agency and Galway Energy Agency winning substantial contracts dealing with energy upgrades in social housing.

Finally, the Association of Irish Energy Agencies is supporting its members with training and information in the area of energy services.

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Mechtild Rothe (SPE) has been a Member of the European Parliament since 1984. She is a member of the Committee on Industry, Research and Energy and has, among other things, been the rapporteur of the European Parliament for the Green and White Papers on renewable energy as well as for the Directive on the promotion of electricity produced from renewable energy sources in the internal electricity market. She is currently the rapporteur for the proposed Directive on energy end-use efficiency and energy services.

The European Commission’s proposed directive on energy end-use efficiency and energy services envisages a 1% savings target for all Member States.

Fedarene: Critics object that a uniformly binding target would not offer sufficient flexibility. Why do you consider the binding character of the target to be necessary?

Mechtild Rothe: It is extremely important that binding targets are set. They are an important political instrument for creating a stable framework and providing planning and investment security. Above all, they ensure that the Member States really do introduce concrete measures for saving energy and promoting a market for energy services. All Member States can achieve the savings target proposed by the Commission - and the Member States who have already been very active can also include previous savings measures. The Directive also gives the Member States enough flexibility in implementing the targets. It is left to them to determine the measures to be taken to make the savings and in which areas. There is enough potential in all areas. The savings potential even allows for higher targets, so that as a rapporteur for the European Parliament I have proposed even more ambitious targets. What's more, I consider the annual targets to be too inflexible and have therefore proposed three-year targets until 2015. It is clear that even with this Directive, some Member States will continue to be more active and innovative than others - and of course there is absolutely nothing wrong with that.

Fedarene: How will the Directive contribute to ensuring that there is effective competition between different providers of energy services, energy efficiency programmes and energy efficiency measures?

Mechtild Rothe: High quality energy efficiency measures and, in particular, energy efficiency services are the main prerequisites for increasing the efficiency of the energy end-use. The Directive’s prescribed savings targets and the resulting initiatives in the Member States will in themselves promote an energy service market. An increase in demand - including with the help of an energy efficiency fund - leads to increasing supply and stimulates the market. The important thing is that there is no market imbalance between power supply companies and independent providers, and that all the actors have the same opportunities. In order to ensure this, I have suggested among other things abolishing the requirement of power supply companies to offer free energy audits and the possibility of refinancing them with tariffs.

Fedarene: Critics object that a uniformly binding target would not offer sufficient flexibility. Why do you consider the binding character of the target to be necessary?

Mechtild Rothe: The Directive repeatedly underlines the cost efficiency of energy efficiency measures. There is enormous potential for energy savings with low transaction costs in all Member States. In addition, the Directive obliges the Member States to lift barriers that impede efficient implementation of energy efficiency measures and energy services and thus also generate costs. The planned provision of model contracts and standardisation reduce the transaction costs. However it is also very important to make energy savings in areas with comparatively high transaction costs, such as in the domestic sector and with small and medium-sized enterprises. Here the existing buildings alone offer enormous saving opportunities. The proposed energy efficiency fund can also provide support in these cases.

Fedarene: How will the Directive contribute to solving this problem?

Mechtild Rothe: The Directive has shown itself to be practicable and not disadvantageous. A bottom-up system offers clarity and comparability that cannot be matched by the top-down method or by hybrid forms from both systems. Nevertheless, it is essential to develop a clear, non-bureaucratic and transparent bottom-up system that is harmonised across Europe and is based on the already existing systems - and I have also emphasised this in my report on the Directive proposal. However, it is also necessary to permit simplifications of the bottom-up system, and here I have also suggested amendments.

Fedarene: What role do local and regional energy agencies play in the implementation of energy services and efficient energy end-use?

Mechtild Rothe: They play a very important role. They are already providing comprehensive information and advice on energy efficiency, whereby their regional anchoring is decisive. For instance they can also approach local companies and suggest energy efficiency measures. The energy agencies that I know from Germany carry out unbelievably important and innovative work.
100% RENET - Renewable energies, an advantage for the development of rural areas: concepts and European experiences

The aim of 100% RENET project is to give the participating areas a strong impulsion for achieving their goal of a 100% RES-based energy supply. This is planned to be done through solving a number of RTD problems they are facing, thereby improving the regional and EU-wide environmental, social and economic situation. First, visible results in these areas should motivate similar areas in Europe to follow their example.

The objective is to do R&D on the change of the energy system of rural areas into a sustainable one, which is based on RES. The work focuses on some of the major missing links - technical, financial, social, structural, etc. - which oppose the straightforward use of local, renewable energy sources in these areas. Best practices of achieving high RES penetration levels in rural areas are developed. An internet-based Virtual 100% RE-NET with information, communication and benchmarking features are developed and tested.

The European added-value of the network approach consists notably in the mutual motivation to engage on the way to 100% RES supply.

Another solution would be to continue on this way, the exchange of know-how, particularly on the societal processes and strategies, which can be used to progress towards 100% RES supply, the exchange of technological know-how, which is developed in different areas in a complementary way, and the future exchange of RES installations (internal market for RES technology).

The workshops and the communication via the Virtual 100% RENET ensure intra-project communication and mutual optimisation of techniques and strategies. In order to optimise project management, a steering committee and an access restricted area in the Virtual 100% RENET, reserved to the project partners, will be established.

Within the framework of this project, RAEE, ESV and BAUM with the support of Fedarene, organise a conference in Lyon on “Renewable energies, an advantage for the development of rural areas: concepts and European experiences”. It will take place during the 3rd Renewable energy Fair in Euroexpo on the 29th of April from 10.00 to 12.30 and 14.00 to 18.30.

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Position paper

Energy services Directive

FEDARENE welcomes the initiative of the European Commission to propose a directive on energy end use efficiency and energy services and FEDARENE points out that the regional actors will play a role for a successful implementation of this directive.

FEDARENE underlines the necessity of mandatory targets for energy efficiency improvements, which will lead to a stable and clear framework for energy efficiency measures.

Whereas the time frame for the directive should be nine years from 2006 until 2015, the mandatory targets for energy efficiency improvements should be at least 3% in the first three years, at least 4% in the next three years, and at least 4.5% in the three years after. For the public sector the minimum target should be at least 4.5% in the first three years, at least 5.5% in the next three years and finally at least 6% in the three years after.

In addition to the overall assessment FEDARENE gives the following comments to certain detailed aspects of the directive:

1. Different target levels for individual member states might be an option, provided that the overall target for the whole union is met. The decision on the different target levels might be decided within one year after entry into force of the directive, if no agreement is reached, the uniform target shall apply for all member states.

2. The Directive shall include provisions that include energy efficiency and environmental criteria in public procurement rules, to allow the public sector to fulfil its energy efficiency target. To enable the public sector to reach its energy efficiency targets, it is crucial that member states provide a regulatory framework and financial instruments for energy savings.

3. FEDARENE acknowledges that energy distribution and retail energy sales companies can play a role in the development of energy efficiency services. The directive has to ensure that a framework for an energy efficiency market is developed that allows market actors to provide energy services and programs and does not give advantages to the energy distribution and retail sales industry.

4. FEDARENE considers that the recovery of costs by energy distribution companies for energy efficiency measures through the distribution tariffs may give an unfair advantage compared to other energy service providers and that cost recovery may only be granted for energy efficiency programs as defined in the directive.

5. FEDARENE welcomes, that funds for the development of the market may be established. Special focus of the funds should be given on enabling activities that help in creating the framework for energy services rather than direct subsidies to individual activities. These funds should be managed by governmental organisations or agencies on regional level.

6. FEDARENE considers that monitoring of the results obtained by the implementation of measures described in the directive is important. The intervals of reporting by the member states on the results must ensure that measures can be imposed if the target levels described above are unlikely to be reached. Reporting should be made in intervals of three years.

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EUBIONET II - EFFICIENT TRADING OF BIO-MASS FUELS AND ANALYSIS OF FUEL SUPPLY CHAINS AND BUSINESS MODELS

VTT is running a European bio-energy network, EUBIONET II, which is funded by the Intelligent Energy Programme. This project will analyse current and future biomass fuel market trends and biomass fuel prices. It will also collect feedback on the suitability of the CEN 335 solid bio-fuel standard for the trading of bio-fuels. An estimate of the techno-economic potential of biomass fuels will be presented up to 2010, based on the existing studies and expert opinions. In forest biomass, co-operation will be also be arranged with forest industry stakeholders in order to find a proper balance between forest industry raw material and bio-energy use. The various partners will analyse, select and describe the most suitable trading and business models for small and large scale bio-fuel supply chains for heat and power production by taking into account the environmental aspects and sustainability. Events and study tours will be organised and information material will be published. The project will run from 2005 to 2007.

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27-30 APRIL 2005 RENEWABLE ENERGY EXHIBITION (LYON EUREXPO)
Rhônalpénergie-Environnement will be present on the agencies stand with the local energy agencies of Grenoble and Lyon.

In the framework of this event, RAEE is also organising three conferences:

- 28/04/2005: Renewable energies: an asset for the development of rural areas. Actions and European experiences (cfr 100%RENET)
- 29/04/2005: Summer comfort and solar air conditioning.
- 29/04/2005: Biofuels: a fast-developing sector (biofuel, bioethanol), transformation of used plant oil and use of pure plant oil fuel.

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