New drive in energy efficiency improvement

Improved energy efficiency enhances several energy policy objectives adopted by the EU and its Member States. First, energy efficiency is recognised to be the fastest and most cost-effective response in the battle against climate change. An additional environmental benefit is improved air quality, in particular in densely populated areas.

Second, debate on security of supply issues has intensified due to Europe’s growing import dependency, tightening demand-supply situation in several countries and numerous large-scale blackouts which occurred over a short period of time. By 2030, on the basis of present trends, the EU will be 90% dependent on imports for its requirements of oil and 80% dependent regarding gas (DG TREN www-pages).

Third, high level of energy efficiency provides economic benefits such as direct savings and competitive advantage. The EC estimates the savings potential at €60 billion (DG TREN www-pages). Energy efficiency also improves living conditions and enhances social equality by reducing fuel poverty. One of the main factors behind the renewed interest in energy efficiency, however, is the need to respond to high energy prices. These political and market drivers have created a great momentum for energy efficiency improvement.

Important strategic papers dealing with energy efficiency have recently been issued by the EC, namely the ‘Green Paper on Energy Efficiency - Doing More with Less’ (2005) and the ‘Energy Efficiency Action Plan’ (2006). Among other policies and measures, these papers emphasize the importance of raising energy efficiency awareness. The Green Paper on Energy Efficiency states that information dissemination and education are two under-used tools for enhancing energy efficiency. In the Energy Efficiency Action Plan one of the priority actions (Priority Action 8) is raising energy efficiency awareness.

The action taken at the EU-level does not stop at strategic level but has taken the form of new legislation. The policy setting is defined by several important legislative initiatives all having direct or indirect impact on energy consumption of consumers, namely:


- Directive on the energy performance of buildings 2002/91/EC: The Directive was enacted because the buildings sector accounts for 40% of the EU’s energy requirements and offers the largest single potential for energy efficiency. The directive aims to ensure that building standards across Europe place a high emphasis on minimising energy consumption.

- Framework Directive for the setting of eco-design requirements for energy-using products 2005/32/EC (“Eco-design Directive”): It is estimated that over 80% of all product-related environmental impacts are determined during the design phase of a product. Against this background, Eco-design aims to
improve the environmental performance of products throughout the life-cycle by systematic integration of environmental aspects at a very early stage in the product design.

- Directives on minimum efficiency requirements for household electric refrigerators, freezers and combinations thereof (96/57/EC), new hot-water boilers fired with liquid or gaseous fuels (92/42/EC) and ballasts for fluorescent lighting (2000/55/EC).

- Directives on energy labelling of domestic appliances: household electric refrigerators, freezers and their combinations (94/2/EC, 2003/66/EC), household electric ovens (2002/40/EC), household air-conditioners (2002/31/EC), household dishwashers (97/17/EC, 1999/9/EC), household lamps (98/11/EC), household washing machines (95/12/EC, 96/89/EC), household combined washer-driers (96/60/EC) and household electric tumble driers (95/13/EC).

- Regulation on a Community energy-efficient labelling programme for office equipment (2422/2001/EC).

The European Commission has announced that the minimum energy efficiency requirements and the energy labelling scheme of domestic appliances will be updated and extended to new appliance groups. Minimum energy requirements, energy labelling and the eco-design directive as well as unilateral agreements by trade associations all aim to ensure that the energy-using equipment offered to the consumers are increasingly energy efficient. However, regulation and technological development do not diminish the role of the consumer. The consumer still needs to make educated choices and be able to use the equipment efficiently. This requires behavioural change programmes both among the end-users and vendors. Furthermore, in some cases also removal of financial barriers and removal of the worst performing products from the market are necessary. These needs have been addressed in several cases.

Increased use of renewable energy sources entail some similar benefits as energy efficiency such as reduction of import-dependency and reduced CO\textsubscript{2} emissions - however, depending on the local circumstances, sometimes with higher cost.

The European Commission's White Paper for a Community Strategy sets out a strategy to double the share of renewable energies in gross domestic energy consumption in the European Union by 2010 (from the present 6% to 12%). The main features of associated the Action Plan include internal market measures in the regulatory and fiscal spheres; reinforcement of those Community policies which have a bearing on increased penetration by renewable energies; proposals for strengthening co-operation between Member States; and support measures to facilitate investment and enhance dissemination and information in the renewables field. (DG TREN www-pages). The Directive on the promotion of the electricity produced from renewable energy source in the internal electricity market (2001/77/EC) establishes indicative targets on member countries for the share of renewables in electricity production in 2010. This directive, however, only concerns consumers in an indirect way by enhancing the availability of “green electricity” in the market, although it does
seek to remove barriers to the implementation of microgeneration at the household and community level.

While the number of EU acquis addressing energy efficiency is increasing also Member States have developed their own policies and measures. Extensive information can easily be acquired from the MURE-database (http://www.isis-it.com/mure/) or from the measures database of the International Energy Agency (http://www.iea.org/textbase/effi/index.asp).