Greece must embrace renewable energy to meet Kyoto targets

Unlike most other EU Member States, Greece was allowed a limited increase in greenhouse gas (GHG) emissions under the Kyoto Protocol (25 per cent by 2012 compared with 1990 levels). However, at current rates of increasing emissions, it is unlikely to keep within this limit. Recent research suggests that measures promoting renewable energy supply (RES) power generation, combined heat and power (CHP) and energy efficiency could help Greece meet its Kyoto target.

Economic growth is driving an increase in GHG emissions in Greece. The energy sector is the biggest emissions contributor: energy consumption has risen at a rate above the EU(15) average. While per capita energy use is among the lowest in the EU(15), energy use is inefficient. Greek buildings, for example, have high heating and cooling demands. To help minimise emissions, major energy sector changes are needed.

The Greek government has implemented the National Action Plan to reduce GHG emissions. It proposes two major ways to improve energy provision. These are:

• The promotion of renewable energy technologies (RET), with potential to cut emissions by 6.4 tonnes of CO₂ equivalent
• The further penetration of natural gas in the national energy system, which could further reduce emissions by 3.9 tonnes of CO₂ equivalent

Reducing energy consumption, using cleaner energy sources and increasing the exploitation of RETs are key priorities. Other elements of the National Action Plan to reduce GHG emissions include promoting energy efficient appliances and structural changes in the agriculture and chemical industries.

The Greek Ministry of Development's OPC¹ (operational programme ‘competitiveness’) offers a powerful financing instrument to implement RETs investments. The OPC has been considered as a means to modernise the Greek energy system, improve national economic competitiveness, and monitor and target the country's environmental commitments. Despite a decade of powerful incentives and abundant wind and sunshine, the installed power of RETs in Greece remains low compared to some EU countries. Investments in RETs through the OPC were delayed due to:

• A complex legislative framework
• Delays in the implementation of infrastructure projects concerning the transmission grids
• Some residents opposing RET schemes close to their homes
• An unwillingness to change by some entrepreneurs

Of those RET investment projects that have been implemented, wind energy systems are popular because wind is plentiful in Greece, there is a high cost-benefit ratio for state-of-the-art wind generators and favourable buy-back rates are provided by the state. New legislation should help increase the popularity of photovoltaics.

RET investment successfully implemented during 2000-2006 is estimated to have achieved only half of that required to meet the energy sector's share of the national targets for GHG reduction. To fully achieve the 2010 target, additional investment of some Euros 740million will be needed. It seems unlikely that the target will be achieved on time.

1. The OPC is partly financed by the European Fund of Regional Development and the European Social Fund: http://en.antagonistikotita.gr/epan/site/Home/t_section

Additional information: With LIFE support, the ETRES project (LIFE03 ENV/GR/000219) helped pave the way for the application of EU climate change and renewable energy policies in the Greek electricity sector (see project summary, website, layman’s report). For more interesting LIFE projects, see the brochure “LIFE and Energy: Innovative solutions for sustainable and efficient energy in Europe”.


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