

## **Comments on the Green Paper: “Towards a Sustainable Energy Future for Ireland”**

From the Sustainability Task Force of the Royal Institute of the Architects of Ireland.

### Summary

The following comments reflect concerns regarding energy use in the building sector and consequent environmental impacts. In energy terms, the importance of buildings in our economy and society cannot be overstated. There is scarcely a human activity that does not involve the use of a building of one type or another and the energy required to heat, light, ventilate and sometimes air condition our buildings accounts for more than 40% of total national energy use. A significant amount of additional energy is also used in the construction of our buildings and in the manufacture and transport of their materials and components. With our very high levels of construction sector activity by EU standards, the building sector accounts in all for around 50% of total annual energy use.

The focus of this submission is largely on demand-side energy issues – on measures to minimise energy use and on the use of energy from environmentally acceptable sources that replace or minimise the use of non-renewable and environmentally polluting sources such as fossil fuels. There is a particular emphasis on building integrated systems for heat and electricity production from ambient energy sources, such as passive solar building design, active solar systems for heat and electricity production and, increasingly.

It has been amply shown in a wide range of energy demonstration buildings in the European Union and worldwide that considerably improved standards of thermal and visual comfort and indoor air quality can be provided economically and with complete reliability in buildings that emphasise energy conservation and the use of energy from renewable sources in their design and operation.

While it is recognised that the Green Paper must focus on a broad range of energy issues and that there is inevitably an emphasis on supply-side energy measures, it is hoped that due emphasis will be given to demand-side energy issues for the building sector in pursuit of the overall goals of the national policy on environmentally and economically sustainable energy use and security of supply.

### Specific comments:

- Future energy policy should encourage the use of waste heat from electricity generation stations to supply heating or hot water needs in adjacent domestic, commercial, institutional and industrial buildings or facilities, wherever practicable.
- Funding should be made available to establish the most cost-effective short and medium term measures to:
  - reduce energy consumption in the building sector including, in particular, energy conservation measures that can be applied to the existing building

stock (this issue in new buildings being covered largely by the Building Regulations);

- support the use of energy from local, renewable sources; and
- support the use of group or district heating and electricity supply systems.

- Future energy policy should support the removal of impediments to the wider use of small and medium scale electricity generation such as from wind, micro hydro and photovoltaic installations. This would require an easier regime for connection to the national grid, subject to reasonable technical requirements, and the payment of a reasonable price for electricity supplied, such as exists in many other EU Member States.

- Future energy policy should support a widespread change from electric heating in buildings (such as with electric storage heaters, panel heaters and immersion heaters for hot water) to more environmentally sustainable means of space and hot water heating.

- An emphasis not on how to meet ever increasing, unconstrained energy demand but on providing for future energy needs on a basis of rational use of energy.

- Electricity generation fuel mix diversification: Implementation of a policy that supports the installation of offshore and on-shore wave power electricity generation. Please refer to recommendations of Technology Foresight group on Energy.

- Electricity generation and transmission: location of future generation plant in reasonable proximity to locations of major energy demand to reduce transmission losses but also to allow for the use of waste heat from electricity generation to be used to heat buildings and provide heat for industrial processes locally.

- Security of energy supply can, to a large extent, be improved by reductions in the demand for energy from each sector of the economy, but especially the building sector, through the implementation of rational energy use measures.

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