

## Launch of the world's first comprehensive global energy strategy for tackling climate change

**Brussels, 25th January 2007:** Renewable energy, combined with efficiencies from the 'smart use' of energy, can deliver half of the world's energy needs by 2050, according to one of the most comprehensive plans for future sustainable energy provision, launched today. The report: *'Energy [R]evolution: A sustainable World Energy Outlook'*, produced by the European Renewable Energy Council (EREC) and Greenpeace International, provides a practical blueprint for how to cut global CO<sub>2</sub> emissions by almost 50% within the next 43 years, whilst providing a secure and affordable energy supply and, critically, maintaining steady worldwide economic development. Notably, the plan takes into account rapid economic growth areas such as China, India and Africa, and highlights the economic advantages of the energy revolution scenario. It concludes that renewable energies will represent the backbone of the world's economy – not only in OECD countries, but also in developing countries such as China, India and Brazil. "Renewable Energy will deliver nearly 70% of global electricity supply and 65% of global heat supply by 2050."

"The Energy Revolution scenario comes as the world is crying out for a roadmap for tackling the dilemma of how to provide the power we all need, without fuelling climate change," said Sven Teske energy expert of Greenpeace International. "We have shown that the world *can* have safe, robust renewable energy, that we *can* achieve the efficiencies needed and we *can* do all this whilst enjoying global economic growth *and* phasing out damaging and dangerous sources such as coal and nuclear," he continued. "Renewable energies are competitive, if governments phase-out subsidies for fossil and nuclear fuels and introduce the 'polluter-pays principle'. We urge politicians to ban those subsidies by 2010."

However, the report also highlights the short time window for making the key decisions in energy infrastructure. Within the next few years governments, investment institutions and utility companies have to act. Within the next decade, many of the existing power plants in the OECD countries will come to the end of their technical lifetime and will need to be replaced, whilst developing countries such as China, India and Brazil are rapidly building up new energy infrastructure to service their growing economies.

Arthouros Zervos, president of the European Renewable Energy Council (EREC) said: "The global market for renewable energy can grow at a double digit rate till 2050, and achieve the size of today's fossil fuel industry. With wind and solar markets worth US\$ 38 billion and doubling in size every three years. We therefore call on decision makers around the world to make this vision a reality. The political choices of the coming years will determine the world's environmental and economic situation for many decades to come. Renewable energy can and will have to play a leading role in the world's energy future. There is no technical but a political barrier to make this shift."

The report was developed in conjunction with specialists from the Institute of Technical Thermodynamics at the German Aerospace Centre (DLR) and more than 30 scientists and engineers from universities, institutes and the renewable energy industry around the world. It provides the first comprehensive global energy concept which gives a detailed analysis of how to restructure the global energy system based only on a detailed regional assessment for the potential of proven renewable energy sources, energy efficiency and the utilisation of efficient, decentralised cogeneration. The Energy [R]evolution scenario is compared in the report to the effects on CO<sub>2</sub> emissions (and, thereby climate change) of carrying on with a 'business as usual' scenario, that scenario being provided by the International Energy Association's breakdown of 10 world regions, as used in the ongoing series of World Energy Outlook reports.

**A copy of the Energy [R]evolution: A sustainable world energy outlook report can be downloaded at:**

**[www.energyblueprint.info](http://www.energyblueprint.info), [www.greenpeace.org](http://www.greenpeace.org), [www.erec.org](http://www.erec.org) For more information please contact:**

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**Notes:**

The *Energy [R]evolution* Scenario describes a development pathway which transforms the present situation into a sustainable energy supply, within a single generation. Exploitation of the large energy efficiency potential will reduce primary energy demand from the current 435,000 PJ/a (Peta Joules per year) to 422,000 PJ/a by 2050. Under the 'business as usual' scenario there would be an increase to 810,000 PJ/a, and a quadrupling of electricity costs. This dramatic reduction is a crucial prerequisite for developing a significant share of renewable energy sources, compensating for the phasing out of nuclear energy and reducing the consumption of fossil fuels.

1. The report was commissioned by Greenpeace and EREC from the Department of Systems Analysis and Technology Assessment (Institute of Technical Thermodynamics) at the German Aerospace Centre (DLR).

2. The report develops a global sustainable energy pathway up to 2050. The future potential for renewable energy sources has been assessed with input from all sectors of the renewable energy industry around the world, and forms the basis of the Energy [R]evolution Scenario.

3. The energy supply scenarios adopted in this report, which both extend beyond and enhance projections by the International Energy Agency, have been calculated using the MESAP/PlaNet simulation model. This has then been further developed by the Ecofys consultancy to take into account the future potential for energy efficiency measures.

4. The Energy [R]evolution Scenario describes a development pathway which transforms the present situation into a sustainable energy supply through the following mechanisms:

- Exploitation of the large energy efficiency potential will reduce primary energy demand from the current 435,000 PJ/a (Peta Joules per year) to 422,000 PJ/a by 2050. Under the reference scenario there would be an increase to 810,000 PJ/a. This dramatic reduction is a crucial prerequisite for achieving a significant share of renewable energy sources, compensating for the phasing out of nuclear energy and reducing the consumption of fossil fuels.

- The increased use of combined heat and power generation (CHP) also improves the supply system's energy conversion efficiency, increasingly using natural gas and biomass. In the long term, decreasing demand for heat and the large potential for producing heat directly from renewable energy sources limits the further expansion of CHP.

- The electricity sector will be the pioneer of renewable energy utilisation. By 2050, around 70% of electricity will be produced from renewable energy sources, including large hydro. An installed capacity of 7,100 GW will produce 21,400 Terawatt hours per year (TWh/a) of electricity in 2050.

- In the heat supply sector, the contribution of renewables will increase to 65% by 2050. Fossil fuels will be increasingly replaced by more efficient modern technologies, in particular biomass, solar collectors and geothermal.

- Before biofuels can play a substantial role in the transport sector, the existing large efficiency potentials have to be exploited. In this study, biomass is primarily committed to stationary applications; the use of biofuels for transport is limited by the availability of sustainably grown biomass.

- By 2050, half of primary energy demand will be covered by renewable energy sources.