

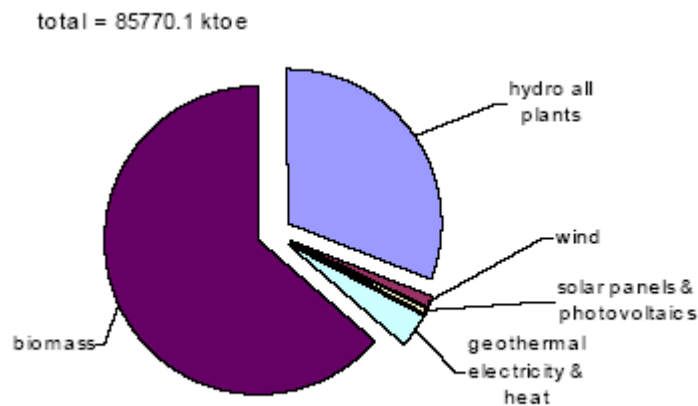
European Union Perspective and Developments in Renewable Energy

INTRODUCTION TO EU STRATEGIES FOR RENEWABLE ENERGY USE

- EU energy policy places a high priority on increasing the contributions that renewable energy make towards improving security and diversification of energy supply, environmental protection and social and economical cohesion
- The European Parliament has identified energy efficiency and savings as first priority. It called for the promotion of an 'intelligent' approach to energy use, making Europe the most energy efficient economy in the world (OJ C 176/29 L, 26.6.2003)
- In 1997, the European Parliament agreed to target a doubling the share of renewable energies in gross domestic energy consumption - from 6% to 12% by 2010
- Individual Member States have widely different current levels of renewable energy use, and have different national targets to 2010
- The Commission adopted Community guidelines on State aid for environmental protection as an important element of the renewable use strategy (Official Journal C37, 3/2/2001)

TYPES OF RENEWABLE RESOURCES OF INTEREST IN THE EU

- More than half (84 Bn €) of total investments in renewable energy is targeting biomass projects (ECOTEC 2002): 17% Biogas (livestock production, sewage treatment, landfills; 33% Agricultural and forest residues; 50% Energy crops
- By 2010, electricity production from biomass resources will reach 230 TWh, with heat production from biomass = 75 Mtoe (ECOTEC 2002)
- In 2001, Member States agreed national (non-binding) targets fro electricity production from renewable sources in the EU from 13.9% in 1997 (3.2% excluding large hydro) to 22.1% by 2010 (12.5% excluding large hydro)
- It is estimated that a significant unexploited potential exists with wood and agricultural residues (straw etc.) to be used for renewable energy production



Source: Eurostat

Biomass contribution (%) to total renewable energy production in the EU in 1998 (ECOTEC 2002)

- EU goal is to have 20% substitution of conventional fuels by alternative fuels in the road transport sector by the year 2020 (The Commission Green Paper Towards a European Strategy for the Security of Energy Supply)

Program in Forest Systems & Bio-Energy, CFR, University of Washington

- EU is promoting the use of biofuels as part of pursuing sustainable farming and forestry practices to create new opportunities for sustainable market based rural development that would improve the livelihood of rural communities by opening new markets for innovative agricultural products (OJ 220/C 32 E/1)
- EU mandates all Member States to place a minimum proportion of biofuels/other renewable fuels on their markets, i.e. setting national targets. A minimum of 2% of all transport fuels should be renewable by 12/31/2005, and 5.75% by 12/31/2010 (OJ 220/C 32 E/1)
- Biomass resources are expected to produce > 80% of the total additional renewable contributions by 2010 in EU countries (Commission White Paper)
- EU actively pursues a list of products to be considered as biofuels produced from biomass: bioethanol, biodiesel, biogas, biomethanol, biodimethylether, bio-ETBE, bio-MTBE, synthetic biofuels, biohydrogen (OJ 220/C 32 E/1)

MECHANISMS TO STIMULATE RENEWABLE ENERGY PRODUCTION IN THE EU

- EU 2010 targets for renewable energy production requires considerable investment from public and private sectors. Total investment are estimated as ~ 165 Bn € between 1997-2010 (ECOTEC 2002).
- A wide range of different support mechanisms are being used to stimulate renewable energy use including: quota systems, feed-in tariffs, green certificates or a combination of these mechanisms
- Most EU States recognize political support is necessary to overcome the barriers preventing a more rapid adoption of renewable energy systems and offer subsidies for renewable energy, in the face of competition from fossil fuels, so external costs are not all directly passed to the end user of the energy
- European Union require its Member States to report on annual basis the share of biofuels of total transport fuels (OJ 220/C 32 E/1)
- The Commission adopted Community guidelines on State aid for environmental protection due to its link to renewable resource uses (Official Journal C37, 3/2/2001).
- Member States are called upon to guarantee at least 12% of the global budget of their energy sub-programmes for supporting renewable energy sources. This was estimated to result in regional investments of ~ 487 M€ (2000-2003) for renewable resources.
- An EU-wide study in 1999 estimated renewable energy has the potential to create over 900,000 new jobs by 2020, including 515,000 jobs in the biomass energy sector alone.

Job creation estimates from Trade Associations (ECOTEC 2002)

Sector	Employment	Trade Association
Wind	190,000-320,000 by 2010 if 40GW wind power installed	(EWEA) European Wind Energy Association
Solar PV	100,000 by 2010, if 3 GW of solar PV installed	(EPIA) The European Photovoltaic Industry Association
Biomass	1,000,000 by 2010, if biomass potential is fully exploited.	(AEBIOM) The European biomass Association
Solar	250,000	(ESIF) The European Solar Industry Federation

Reference

ECOTEC. 2002. Renewable energy sector in the EU: its employment and export potential. A final report to DG Environment. C1961.

Ragnhildur Sigurdardottir, President CAPEIntl Iceland (raga@capeintl.org)