

## **SUSTAINABLE ENERGY AND RENEWABLES**

### **A draft policy paper of nrg4SD**

#### **1. Background**

Renewable Energy has an important role to play in the international response to climate change. The targets set under the Kyoto Protocol are essential if the world is to address this challenge. Regions have a central role to play in putting in place actions and policies to make this a reality.

The transition towards renewable energy technologies must be part of a package of measures including steps which increase energy efficiency. Efficiency measures are most promising for reducing greenhouse gas emissions in the short term. Potentials for increasing energy efficiency exist in the building sector, housing, electricity generation and distribution, industry and transport.

The founding Gauteng declaration commits all members of the Network to prepare sustainable development strategies for their Regions. Moreover, the working programme adopted by the Network at the Fremantle conference in September 2003, emphasises the commitment of the Regions towards mitigating and adapting to climate change.

#### **2. Renewables Policy and Climate Change**

An analysis of the causes of climate change shows that while it is impossible to avoid it at all because of emissions from the past there are opportunities for mitigating its pace and thus its effects. Climate change is caused by increasing levels of CO<sub>2</sub> and other gases in the atmosphere that reinforce the natural greenhouse effect and thus lead to climate warming. The main source of CO<sub>2</sub> emissions is the burning of fossil fuels either for electricity generation, heating and cooling, industrial processing or transport.

One of the main tasks, however, is to switch from fossil fuels to renewable energy sources. The substitution of fossil fuels by renewable energy technologies is not only necessary for stabilizing greenhouse gas emissions and thus the protection of the natural basis of human life on earth. There is also a strong economic argument for switching to renewable energies: As the world's reserves of fossil fuels are finite, renewables are the only way to achieve long-term energy security.

Renewable energy technologies are based on the use of wind, solar, biomass, geo thermal and tidal energies. Hydropower also belongs to this group, and together with nuclear energy it is the only non-carbon emitting energy source with a noteworthy contribution to world total primary energy supply. Nuclear energy, however, faces serious security and safety problems and causes nuclear waste with lasting risks for thousands of years. Therefore it cannot be part of a sustainable energy strategy. Small hydropower plants are uncontroversial, but hydropower based on large dams often causes high social and environmental costs. Regarding the other renewable energy sources, wind and solar energy are the most evolved and diffused technologies today. Biomass use is important in the rural areas of most countries, but in order to make it a sustainable source, massive improvements in the management of the resource base (woods or plantations), the production of charcoal and in the energy efficiency of stoves especially in LDC are necessary.

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%. Some ambitious Regions have committed themselves to raise their share up to 18% in 2010 and 40% in 2020. The Regions represented in the Network should set targets to increase substantially the share of renewable energy sources in their total energy consumption. Member regions on average will achieve a share of at least 15%, based on differentiated contributions depending on the differing conditions in each region by 2012. Those regions that already have achieved a share above 15% today will increase it by another 10% by 2012.

Regions from developing countries are confronted with quite different conditions with regard to the introduction of renewables. Therefore, their main contribution for mitigating climate change in the short term is through the increase of energy efficiency and thus reducing CO<sub>2</sub> emissions. However, Regions with growing economies and energy demand should open their energy policy for renewable energy technologies. The members of the Network coming from developed countries will support these efforts.

At present, the diffusion of renewable energy technologies depends not only on political commitments, but on further improvements of their conversion efficiency and cost reductions. Experience has shown that progress in this respect is best achieved when research and development efforts are combined with market deployment and learning-by-doing.

Thus, public policies have a very important role to play in the promotion of renewable energy technologies. The setting of prices, regulation of energy markets, taxation and support for market deployment and research and development are fundamental for improving the incentives in favour of renewable energies and efficiency technologies such as co-generation and gas

and steam power plants. As a rule, it is the responsibility of national governments to create the framework conditions necessary for such fundamental changes in the energy supply matrix.

### **3. Action for regional governments**

Regional governments and associations of regional governments are encouraged to follow and refer to these guidelines when preparing their own strategies. Member regions will be guided by this policy note in developing and refining their own strategies and will share best practice in taking the principles forward.

Regional governments should pursue partnerships to share best practice and develop practical support. Regional governments have a very important contribution to make when it comes to the implementation of national public policies and the application of the instruments designed for these purposes. Regional governments and their agencies are much closer to energy end users in households as well as the private and public sectors. Regional governments can play a pioneer's role by setting higher targets and more ambitious goals than those set on national level. They can apply a number of instruments in order to support the implementation of these goals, for inducing technical change and promoting renewable energy technologies:

- Definition of energy policy goals and specific targets, e.g. promotion of energy efficiency, increasing the share of renewable energies to be achieved within certain time frames,
- Definition of rules, regulations and policies,
- Creation of agencies and platforms for the promotion of renewable energies in households, industry, transport and the public sector,
- Creation of financial instruments, incentives, such as tax incentives and grants, outreach and voluntary programmes,
- Identification of innovative solutions on local level as well as together with the private sector and other stakeholders,
- Urging their national governments to ratify the Kyoto Protocol,
- Showing leadership in our Regions through public procurement and especially management and commissioning of buildings,
- Introduction of tools in order to measure the level of total energy consumption following international standards, if not in place already,

- Increasing substantially the share of renewable energies to meet the targets set in this paper by 2012,
- Promoting awareness and education as well as encouraging uptake of new technologies,
- Ensuring that the structure of energy supply facilitates innovative and renewable technologies.

Cardiff, March 24<sup>th</sup>, 2004