



EREC and its members:

- EPIA (European Photovoltaic Industry Association),
- ESHA (European Small Hydropower Association),
- ESTIF (European Solar Thermal Industry Federation),
- EUBIA (European Biomass Industry Association),
- EUREC Agency (European Renewable Energy Research Centres Agency)
- EWEA (European Wind Energy Association)
- AEBIOM (European Biomass Association) and
- EGEC (European Geothermal Energy Council),

as well as its associate members:

- EU- OEA (European Ocean Energy Association)
- EREF (European Renewable Energy Federation)
- eBIO (European Bioethanol Fuel Association)

representing the European renewable energy industry, trade and research sector welcome the consultation on the Strategic Energy Technology Plan (SET-Plan). It is absolutely necessary to increase R&D and market penetration activities to accelerate technological developments in the energy sector. Therefore the SET-Plan may be an important instrument to help reaching the ambitious goals mentioned. In this perspective, it is crucial to set the right priorities in order to optimize the RES development in the EU.

Select technologies relevant to Europe's energy challenges

According to the Commission, "the strategic element of the plan will be to identify those technologies for which it is essential that the EU as a whole finds a more powerful way of mobilising resources in ambitious result-oriented actions to accelerate development and deployment." EREC sees renewable energies as prime technologies in this respect. In line with its treaties, the EU has to respond to security of energy supply, economic growth, sustainable development, climate change, employment and technological development. Renewable energy technologies in combination with energy conservation and energy efficiency technologies have a positive effect on all of these goals.

EU Heads of States and Government have made an important step in the right direction in agreeing on a binding overall target of 20% as a share of energy consumption to come from renewable energy sources by 2020. The SET-Plan is a very good occasion for the EU to show consistency and efficiency. Therefore, EREC and its members believe the SET-Plan should have as highest priority the further development of renewable energies accompanied by energy efficiency measures.

RES Potential to ensure Security of Supply

After increasing its turnover more than tenfold from 1.5 billion EUR in 1990 to 20 billion EUR in 2006, the European renewable energy industry has only just begun to reveal its enormous potential for growth: EREC and Greenpeace recently published “The energy [r]evolution” scenario providing a practical blueprint on how to half global CO₂ emissions, while stabilizing the energy demand at about today’s level and at the same time guarantee sufficient economic growth up to 2050 and beyond. Under this scenario, **half of the primary energy demand would be covered by renewable energy sources by 2050**. Reaching the 20% binding renewable energy target agreed on by EU leaders is crucial to tap this huge potential. The SET-Plan should also make a valuable contribution to this target.

However, this implies several elements:

First, it is of utmost importance to better take into account the potential of the renewable **heating & cooling sector**. The energy discussion focuses very often on electricity. However, almost 50% of the final energy consumption in Europe is used for the heating needs of buildings, of industrial processes and for domestic hot water production. In this perspective, renewable heating sources (solar thermal, geothermal, biomass) have a huge potential for growth as emphasised by the European solar thermal industry’s recently set objective: 1 square metre of collector area for every European by 2020– which would amount to 320 GWth of installed capacity. The potential of the heating & cooling sector should be further reflected in the SET-Plan’s considerations.

Second, the European Commission outlines in this strategy paper the overall European current position that “by 2020 technology advances will enable the 20% renewable market penetration target to be met”. The European Commission should use all further statements and evaluations actively in underlining the importance of the market-based support mechanisms, which enable the rapid uptake of installed capacities for renewable energies. The Commission should also ensure that stable market conditions are maintained in order not to create investor insecurity hereby risking slowing down market penetration.

Third, to fully beat RES potential, the SET-Plan should also ensure **technological diversity** in the renewable energy sector: each technology should have the potential to further develop its capabilities. Hydropower for instance -despite being a mature technology in comparison with other renewable energy sources - has untapped potential in the developing of new plants (e.g. pumped storage plants), of multipurpose plants (electricity production combined with drinking water supplies, waste treatment plants, irrigation channels), but also in the upgrading of old ones (increasing efficiency). Another fast developing renewable energy source is ocean energy whose development has grown exponentially over the last 5 years. At present, several large-scale installations are either being tested in real sea conditions or are under development. By 2010 at least several MW of installed capacity will be available to deliver electricity to the grid. Each MW leading to an increase of 10 – 20 jobs in coastal regions.

Tackling climate change

The SET-Plan is capable of setting an important signal on international greenhouse gas emissions reductions commitments: it can influence global discussions between developed and developing countries. While the Western world is responsible for the vast majority of greenhouse gas emissions, it is at the forefront of research on clean technologies. The SET-plans shows that Europeans are ready to pay for the learning investment on clean technologies.

Competitiveness of the RES industry

At present **the EU leads the world** in promoting most renewable forms of energy, yet this position must be reinforced. As international competition becomes tough especially from Brazil, Russia, USA, India and China, the EU should reinforce its position within the international landscape. Most of the top 10 world leaders in the wind energy sector, for instance, are EU companies, but India and China are progressing in the ranking (wind turbines suppliers).

Research accompanied by massive investments on industry infrastructures in renewable energy has achieved considerable **cost reductions**. Over the last two decades, 40% of the reduction in the cost of wind energy can be directly attributed to research and development. The 40% average market growth achieved in the last five years in the EU solar photovoltaic electricity sector is due to progressive cost reductions achieved by combination of RTD efforts and economies of scale.

RES industry developments resulted so far in the creation of more than **300.000 jobs** in Europe. More than 200 000 jobs were created in Germany alone: this country managed to put in place a stable market-based mechanism ensuring investor's confidence (feed-in tariffs). An additional advantage is that much of these jobs are located in remote areas, often in peripheral regions contributing that way to the economical development of these areas by generating local turnovers.

The SET-Plan should acknowledge that scenarios for achieving very high penetrations of renewable energy exist. It should additionally acknowledge that the role for conventional capacity in these scenarios will be to supply balancing power and that nuclear capacity and fusion energy, (even if the latter should be successfully demonstrated), are not capable of doing that.

Performing R&D at EU level

We believe that the EU is on the right track as the European Technology Platforms put in place aim to maintain or reach European industry leadership. European Technology Platforms can become powerful drivers for market development. They provide what the Commission calls for in its Communication on the SET-Plan: "a shared and inclusive European vision involving all relevant actors: industry, the research community, the financial community, public bodies, users, civil society, citizens and unions". R&D results may be optimized by achieving faster transfer from laboratory to the industry and allow in such a way for a higher level of penetration to the industrial applications.

The renewable energy industry is suffering from a shortage of researchers, specialised engineers and scientists. The proposed **European Institute of Technology** could be useful in retaining these kinds of jobs in Europe. EREC supports the idea of the first Knowledge and Integration Community (KIC) focusing on renewable energy. This would ensure that the KIC is complementary to existing efforts, encouraging multinationals to provide funding and increasing the probability that at least in this area of research, the EIT becomes an institution with global recognition.

At the EU level, **Framework Programmes** (FP5&6) have also traditionally dedicated little effort to renewable energies. €10 million were for instance attributed to wind energy R&D in the first half of FP6 (only on short term and demonstration projects). In the same period the funding received by CO₂ sequestration was four times higher.

In FP7, more than 50% of the non-nuclear energy research budget of the 7th Framework Programme will go to renewable energy and energy end-use efficiency over seven years. However, renewable energies and energy efficiency still lag far behind nuclear energy in funding. A comparison with the funds available for nuclear energy R&D in the EURATOM

treaty shows that on an annual basis, renewable energy and energy efficiency will receive just 31 % of the sum available for nuclear energy research. The budget for renewable energy projects has to be increased dramatically within FP7.

It is high time for the European Commission to focus decisively on renewable energies if it wants to be consistent with its own objectives. For this reason, we believe renewable energies should be set as the highest priority in the SET-Plan.