

Statement

of the German Renewable Energy Research Association – *ForschungsVerbund Sonnenenergie (FVS)* – on the European Strategic Energy Technology Plan (SET Plan)

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Preamble

The German FVS welcomes the creation of a European Strategic Energy Technology Plan, as it constitutes a necessary measure for promoting and preparing a system change within Europe's energy supply by increased research and development actions.

The share of renewables must increase considerably to build a cornerstone within the next few years and decades. Consequently, the SET Plan is aimed at promoting this development as its main focus.

1. Required compatibility and continuity

The SET Plan shall amplify currently existing positive developments for renewable energy usage in Europe and concentrate on continuity. Evolutionary technological development and continuous market increase are parameters to target especially for close-to-the-market technologies as these are of utmost importance - bearing in mind the urgency of this issue.

The European Commission emphasises with good reason "the paramount importance of giving a clear signal to industry, investors, innovators and researchers" regarding the agreed upon expansion of renewable energies to at least 20% of the total EU energy consumption by 2020.

But, FVS regrets that the Commission's present draft on the SET Plan reveals neither adjustment to the proposal of the Commission regarding the climate action and renewable energy package of 23 January, 2008 nor to the results of the EU technological platforms. Therefore, FVS calls for a crucial increase in cooperation.

2. Take advantage of experts and expertise of European Technology Platforms

International expert groups of these platforms have done a remarkably competent job. The results acquired and hence the resulting dynamics should be used for further "strategic planning". Within this planning context, the importance of these technology platforms should not remain restricted as simply support within the preparation phase of industry initiatives. Results which have already been obtained, especially those of the "Strategic Research Agenda" have to be considered in a more proactive way within the ongoing strategic development and planning process.

The experts of the technology platforms should therefore be represented in the new Steering Group of the European Community for Strategic Energy Technology. This ensures that the "Renewable Energy" and "Energy Efficiency" areas, which form the biggest contribution to achieve the EU energy and climate objectives, are represented in an adequate way.

3. Boosting R&D financing

FVS appreciates the objective of mobilising funds for additional financing of research and research infrastructure and in this context promoting education and training. From FVS's point of view, the increased budget for renewables of 100 million euros per year that has been decided during the 7th EU Research Framework Programme should be applied in a target-oriented way both for the very necessary demonstration of close-to-the-market technologies and for amplified basic research.

The Intelligent Energy Europe Programme also provides funds of approx. 104 million euros from 2007 to 2013, which should – at least partly – be used for handling questions regarding the renewable energy sector.

Furthermore, FVS welcomes the proposal of establishing a European Energy Technology Information System focussing on spreading knowledge for harnessing both existing energy potentials and state-of-the-art technology.

4. Requirements on future energy technologies

The energy sector's industrial revolution claimed in the SET Plan must fulfil three requirements of future energy technologies in terms of sustainability:

- They must be environmentally friendly, i.e. CO₂ free or CO₂ neutral.
- They must take advantage of domestic energy sources in order to secure a high energy supply.
- They must be applied in an economically efficient way.

These requirements mean

4.1 Promoting sustainability

The SET Plan should lay its emphasis on creating a sustainable energy supply as the basis for transforming the system for yielding a secure and sustainable energy supply for Europe. Renewables, above all, have already triggered this industrial revolution, but, what they need during the transition period is political and financial support.

4.2 Renewable energy as an emphasis within energy technologies

It is not enough to simply develop low-carbon energy technologies, but, it is of great importance to provide financial means especially for technologies within the renewable energies realisable on a short- and medium-term basis. Renewables hold the best energy-related and technical potential of all known energy supply options. They alone can provide the necessary resources and, applied extensively, can therefore achieve the EU climate and energy objectives by 2020. Besides being of great social acceptance, they are environmentally friendly, globally applicable and have ecological value. Renewables are domestic energy sources enabling a gradual reduction and full replacement of coal, fossil oil, natural gas and nuclear energy usage - particularly on the energy and thermal energy market.

This is why renewable energy technology R&D must be made an essential emphasis of the SET Plan.

4.3 Expanding energy grids, developing smart grids

FVS welcomes the aim of establishing a uniform, intelligent European high-performance energy grid in order to include renewable and decentralised energy sources, since there are energetic and economic advantages in developing more decentralised energy supply structures all linked via backbone networks. With the help of information and communication technologies, load or supply fluctuations can be balanced even over great distances and additional energy supply can be involved (for example hydropower from Scandinavia, wind power from Portugal and solar energy from North Africa) via these networks.

The SET Plan should therefore stress the necessity of an integrative strategy in terms of energy networks to guarantee best possible connections and exploitation of technologies and innovations such as “Smart Grids”, energy accumulators or forecast methods for renewably produced energy. This type of strategy allows fully harnessing the potential of decentralised energy conversion and feeding.

5. Introducing new technologies to the market

In his review report of “The Economics of Climate Change”, Sir Nicholas Stern spoke of “the greatest and widest-ranging market failure ever seen”. In order to open the market for new technologies and structures, external costs of greenhouse gas emissions must be internalised, monopoly structures must be prevented and all energy suppliers must be guaranteed free network access.

Considering these factors, FVS supports clear changes in the SET Plan, and the following must be taken into account:

5.1 Using instruments similar to the German Renewable Energy Sources Act (EEG)

Europe-wide

Without market introduction and accompanying research, the charm of large-scale demonstration projects will vanish quickly. However, the EEG has greatly proved to be a sustainable innovation accelerator, not only because it is extremely appropriate to close the gap between supply and demand (“valley of death”) being opposed to an area-wide market introduction of low emission energy technology. For investors as well as private households, the key element of the EEG is an attractive feeding tariff, which can be divided according to system size and type of renewable energy used. Long-term and sustainable framework and especially remuneration allow necessary demand in the first place. The essential reliability concerning investment planning is therefore given for the suppliers, thus enabling the advance of renewable energies in energy-relevant dimensions.

FVS is therefore in favour of using instruments similar to those of the EEG EU-wide to accelerate technology development and support sustainable market penetration.

5.2 Continuous development processes guarantee cost reduction

The SET Plan often refers to breakthroughs and mission-oriented projects, but, the development so far shows that these planned breakthroughs rarely exist. Even where there are successfully planned breakthroughs, any market introduction nevertheless requires an ongoing development process with a broad basis. Cumulated production volume has proven to be an essential factor for reducing the cost of renewable energies. This means that dynamic growth in production volume leads to fast cost reduction.

5.3 Decentralisation is the driving force of change

The EU key technology challenges of the SET Plan accentuates centralistic supply approaches. These include site-dependent offshore wind parks, solar thermal power plants and fuel production from biomass. On the other hand, using photovoltaic, low-temperature solar thermal energy, biomass in particular with coupled heat and power production and geothermal applications in decentrally structured supply systems, can clearly be superior to central supply structures with regard to allocation cost and energy efficiency.

The SET Plan also traces existing energy-related innovation failings back to the fact of current centralistic structures within the energy sector, which are, moreover, at least partly responsible for long lead times from actual innovation to distribution on the mass market. A decentralised approach restricts the control exerted by renowned companies in the energy sector on the transformation of the energy landscape in Europe. It is, however, this restructuring that represents the driving force of change. In order to give the required impetus, the balance between centrality and decentrality of energy supply must be strengthened. This should be explicitly expressed in the plan in this manner.

5.4 Retaining an industrial policy advantage

The expansion of renewables has already led to the establishment of a growth industry with considerable positive influence on labour market development. The companies of the EU member states are international leaders increasingly generating their sales through exports. With global expansion of renewable energies, competitive pressures, however, are increasing. Therefore, Europe can only retain its top position as a prime mover in the global innovation competition if it offers technologies that are technically and economically highly efficient. This would entail market development and research cooperating closely.

5.5 Solar thermal energy and solar construction must be designated key challenges

In the listing of key challenges within the SET plan there is there no mentioning at all of investigating low-temperature solar thermal energy and solar construction (optionally with geothermics). Furthermore, neither the overall sector of applying renewable energy for heating and cooling purposes nor the production of solar process heat is considered in the plan. And all this in spite of the fact that after the successful cost reduction thanks to research and market introduction, a great amount of CO₂ can be saved in a cost-efficient way. And even though the energy and climate plan of the EU Commission from 23 January 2008 plans a clear expansion of renewable energy usage in the heating market.

6. Promoting research cooperation and technology transfer

FVS welcomes the objective of allowing developing and newly industrialising countries better access to modern energy technology and services. What we need are more jointly planned, partnership-oriented research efforts enabling to leapfrog CO₂ intensive developments (environmental leapfrogging), above all in those countries which have no established energy infrastructure. This way, the economic development in these countries can be connected with a climate-friendly energy production, which is useful and necessary from Europe's own perspective.

About the ForschungsVerbund Sonnenenergie

The German Renewable Energy Research Association / ForschungsVerbund Sonnenenergie (FVS) is a cooperation structure of research institutes working in all fields of renewable energy. The approximately 1500 employees of member institutes represent nearly 80% of Germany's research capacity for renewables and constitute the largest network of experts in the field of renewables in Europe.

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