BUSINESSEUROPE

POSITION PAPER

20 June 2007

BUSINESSEUROPE POSITION ON THE EU STRATEGIC ENERGY TECHNOLOGY PLAN

Executive summary

To meet the ambitious targets set by the European Council for 2020 and especially beyond 2020 a SET-Plan can provide an important contribution, if it adequately involves industry as an indispensable part in meeting the challenge of climate change and security of supply.

BUSINESSEUROPE would therefore welcome a SET-Plan provided that it adopts an integrated approach, enabling the market to drive new technologies from basic research to market penetration. An evaluation of the entire value chain of technologies is imperative to identify where more support is needed in order for technologies to progress.

BUSINESSEUROPE finds that a successful SET-Plan needs to hold the following key elements:

- **Develop the right framework** to enable the market to drive technological development and deployment within renewable and other low carbon technologies as well as within energy-efficient technologies
- **Significantly increase public funding** for research, development and demonstration projects (RD&D) as well as for commercialisation of new energy-efficient and low-carbon technologies.
- **Improve the coordination between EU and member states' RD&D efforts** to ensure coherence, focus and integration of the R,D&D efforts. Possible synergies should be identified to optimise the output of EU and member states' efforts.
- **Strengthen the focus on technology-push instruments where funding decisions for RD&D should be science-led**, with an independent evaluation of technological potential, allowing technologies to compete for public funding on fair and transparent terms.
- **Particularly focus on deployment of energy-efficient technologies within all sectors**, since this is the most cost effective way of meeting targets of climate change as well as security of supply
- **Use instruments to promote entrepreneurship** and enable technologies with a market potential. Initiatives to improve entrepreneurs' skills in search of risk capital are one way to bridge the gap between the RD&D-phase and the commercial phase.
- **Apply funding schemes which do not damage the competitiveness of energy-intensive industries**, competing in a global market.
- **Use market-friendly demand-pull initiative**s such as public procurement and technical product standards.

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- **Focus on international co-operation** as a mean to share technological know-how and pave the way for a global climate change agreement.

A SET-Plan needs to be carefully developed to have the needed impact, accelerating the energy technology process. Hence, in the response to the questionnaire BUSINESSEUROPE has advocated a thorough consultation mechanism. BUSINESSEUROPE would like to emphasise once again the very strong limitations inherent in the online consultation which the Commission has finished by the 10 May deadline. This method is inadequate because it can lead to wrong conclusions. The problem can be exemplified by the demand in the questionnaire to select 2020 or 2050 when evaluating technologies within power generation, e.g. CCS, and within transport technologies, e.g. various second generation liquid biofuels. A selection between these two years does not make sense. As the truth will most likely be somewhere in between, this needs a thorough assessment and a continuous development.

BUSINESSEUROPE's specific proposals and recommendations for the SET-Plan are explained in this paper.

1. Introduction

The European Council has decided to lead an ambitious energy and climate change policy. To reach the targets set by 2020 and beyond while safe-guarding business competitiveness, the need to develop a strategic plan for energy technologies is urgent.

Industry is an indispensable part of the solution to identify, develop and deploy the new technologies. When developing and financing a strategy to meet the ambitious targets, it is however imperative to keep in mind that for European industry to be able to be part of the solution, it is necessary to safe-guard business competitiveness for all parts of industry, including the energy intensive industry. BUSINESSEUROPE encourage the EU not to lead an energy and climate policy within the EU which is damaging to industry competitiveness, since this will gradually push - in particularly - energy intensive industry out of Europe. This will not only mean a loss of jobs and welfare in the EU, but also an increase in emissions due to the production outside the EU and transportation into the EU of energy intensive products.

BUSINESSEUROPE also wishes to underline that industry is dependent upon a well functioning energy market. So when meeting the ambitious targets set, through the elements developed in the Strategic Energy Technology (SET) Plan, it is imperative to keep in mind that the SET-Plan should also be a Plan which ensures sufficient energy supply and the development of a well-functioning European energy market - developing this in a way which:

- Gives Europe's business and citizens access to competitive, sufficient and clean energy
- Secures a diversified energy portfolio which is robust against uncertainties in the future costs and performance of individual technologies, climate change regulation and supply of energy from countries outside EU

- Secures European business is in the lead on the fast growing market for cleaner and more efficient energy technologies

To fullfil these preconditions, making sure that the development of low or zero carbon technologies are deployed, it is essential to ensure the energy grid is developed and can actually absorb the way in which future energy is produced, transmitting energy from where it is produced to where energy is demanded.

2. European Energy Research - A need for more funding, focus and coordination

Europe as a whole (European Commission and its Member states) puts more public resources in non-nuclear energy research than its competitors, especially in the area of renewable energies. But still EU is not in the lead compared to the US and Japan.

The research scope of the EU and the member states appears very wide and multi faceted. This is mainly linked to the fragmented nature of European research, the wide difference of cultures and national circumstances between Member States and the institutional nature of the European Union. Resources are therefore spread over a very large range of themes. This clearly appears through the wide schemes of issues dealt with.

In the biomass sector, aside from the European Commission which carries out an important research efforts the most active countries are Finland, Netherlands and Sweden. However each country develops its own technology leading a very much fragmented research area, potentially leading to sub criticality.

Compared to US Department Of Energy's civilian research budget of around USD 3.5 billion a year, (a budget which will probably be increased in 2007 to USD 4.4 bn and even more in the coming years) it is impossible for the European Commission to lead a likewise proactive role in making strategic choices and in implementing them as the US DOE can do. It is therefore important to draw the lessons to be learned with respect to the role of the Commission in fostering energy research.

A balance has to be achieved between the necessary application of the subsidiarity principle and the legitimacy of Member States to carry out the actions they assume are the best according to their specific circumstances and the necessity to optimise European research efforts, avoid duplication of efforts and have an EU research strategy which satisfies the global EU objectives of competitiveness, security of supply and environmental leadership. A number of activities and tools such as ERA Nets, Technology Platforms, Joint Technology Initiatives and Joint Implementation of Research programmes can support this process but more is needed.

Keeping this balance in mind, BUSINESSEUROPE recommends that public funding of RD&D within energy-efficient and low or zero carbon technologies is increased and spent in a way which ensures less fragmentation, more focus and coordination within the investments made, in order for successful technologies to reach the market. The

European Commission needs to take the role of coordinating activities across member states and across various DGs.

3. BUSINESSEUROPE'S views on the crucial technology push elements of a Strategic Energy Technology Plan of actions

First and foremost, it would be important if the SET-Plan could manage to set clear European RD&D strategies containing roadmaps and milestones (short term, medium term and long term), bringing a wide range of clean and energy-efficient technologies all the way to the market.
In funding such research strategies, EU and member states should not pick technological winners. Deciding whether a project is to receive funds for RD&D should be science-led but within the RD&D strategies of the SET plan, with an independent evaluation of technological potential, allowing technologies to compete for public funding on fair and transparent terms. The evaluation should be performed by an independent body external to the European Commission (for example expert stakeholders from academia and industry), according to the following guidelines:

1. Determine a common consistent methodology to assess technology potential.
2. Rank technologies according to long term potential to contribute cost effectively to objectives of EU energy policy – sustainability, security, competitiveness.
3. Determine most effective application of EU investment, according to development status of technologies and specific barriers to entry.
4. Publish results in terms of cost effectiveness of future gains from early investment and include risk assessment.
5. Recommendations are advisory in nature and comprise the main technical input to the SET-Plan by the European Commission.
6. Deviations in the SET-Plan from the independent recommendations should be explicitly and transparently acknowledged and documented.

The European strategies ought to be complemented by national strategies in a way that maximises synergy between the two levels but at the same time allows for flexibility between the two levels.

BUSINESSEUROPE recommends further:

Improved coordination of activities between member states and the EU level

A wide variety of institutions and programmes already exist on both national and EU level which in one way or the other plays a role in promoting new energy technologies.

For an integrated European SET-plan to become successful in promoting new low-carbon and energy-efficient technologies it is vital that the SET-plan creates a clear framework for how the new technologies can be promoted at both national and EU level and how the right synergies between the two levels is achieved. Such an approach would clarify the division of labour between the national and EU level.

Likewise there is a need for coordination at the EU level, where several support schemes exist. E.g. it seems vital for the development of a coherent European support structure that the "Intelligent Energy - Europe" (IEE) programme under the new

Competitiveness and Innovation Programme (CIP) is closely linked to successfully demonstrated technologies under FP7.
If Knowledge and Innovation Communities (KICs) in the field of energy are established within the umbrella of the European Institute of Technology, the KICs are to be coordinated with other initiatives in the field.

BUSINESSEUROPE recommends that a SET-plan identifies the institutions and programmes across the EU working to promote new energy technologies. This activity is crucial in order to make sure that, the activities the EU and national programmes promote, are well coordinated. This should lead to improved synergies of developing new, clean technologies across European member states.

Funding of Basic Research, Application Oriented Research and Demonstration Projects

Basic research is a prerequisite for the development of future ground breaking technologies and many new energy technologies rely on substantial basic research before they will be of interest to industry.

BUSINESSEUROPE therefore emphasises the crucial importance of sufficient funds being raised at both national and EU level to fund basic research within energy technologies to reach a level comparable to other regions such as the US and Japan.

Nevertheless to address the European paradox (weak transfer of excellent European research results into marketable products, services and processes) it is of utmost importance to fund application oriented research.

An important step in the commercialisation of new energy technologies is a successful demonstration of new technologies. It is much easier to attract potential investors when it is demonstrated that the technology is functioning as planned. It is therefore crucial that sufficient national and European funds are allocated to demonstration. In FP7 the funds allocated for energy research are split equally between DG Research and DG Tren.

BUSINESSEUROPE recommends a general increase of the budgets additional to FP7 to be raised for energy-technology research and a dedication of the increased budget to demonstration projects.

BUSINESSEUROPE recommends that the European Investment Bank's (EIB) loans are allocated to large light house demonstration projects. The Commissions and EIB's participation in funding such projects would send a strong signal to private companies and investors that Europe is focusing on these technologies.

Furthermore, BUSINESSEUROPE recommends that for all known technologies light house projects are identified.

Finally, EU state aid rules can hinder public financing of demonstration projects, therefore BUSINESSEUROPE recommends to further develop the state aid rules, allowing to invest in the infrastructure and installation, shifting state aid away from

funding operation costs towards funding the investment in demonstration (proto-type investments).

Increased RD&D focus through mission oriented research

It is important that national and EU research programmes are targeted towards realising national and EU strategies. National and EU research programmes could therefore be mission oriented and address specific issues that should be solved in order to follow the initially mentioned roadmaps which ought to be set out for each technology. BUSINESSEUROPE recommends the EC to consider defining a certain share of the funds for energy research under FP7 to be reserved for this mission oriented funding.

The mission oriented research should be conducted in cooperation between public research institutions and private companies.

In order to drive forward the mission oriented research several different research teams consisting of both public research institutions and private companies must compete trying to fulfil the mission set. Each individual member states do not have the resources and number of research communities to allow for this kind of competition, but the EU as a whole has the level of resources and number of research communities that could make competition possible.

In developing the idea of mission oriented research BUSINESSEUROPE recommends that the Commission collects evidence from other regions outside the EU such as the US, who has a long tradition in conducting mission oriented research in competition between research teams.

Facilitate clusters and partnerships (Triple Helix Approach)

European Technology Platforms (ETPs) and Joint Technology Initiatives (JTIs) are promising examples of EU-driven technology-push instruments. Once the first JTIs are running, BUSINESSEUROPE recommends that this establishment procedure is evaluated to find out whether it is satisfactory. Given the fact that technologies are developing rapidly, the procedure for establishing JTIs must keep the same pace.

Other regions apply successful methods to strengthen RD&D and the further commercialisation of new energy technologies. BUSINESSEUROPE encourages the Commission to let these initiatives serve as an inspiration for the SET-Plan. An example can be taken from the above section on "mission oriented funding", the US has had success with mission-oriented funding of new energy technology projects.

BUSINESSEUROPE further recommends that evidence of initiatives at member-state level is collected in order to develop best practices of how to promote innovation.

Bridge the gap from RD&D all the way to market penetration

The 7th Research Framework Programme (FP7) and most national programmes have to a large extend been focused on research and development and to a lesser extend on getting the new technologies all the way to the market. New technologies can only contribute to the EU energy and climate targets, if new technologies are deployed.

To find valid solutions to this problem, something could be learned from other countries outside the EU such as Canada, who has created the Sustainable Development Technology Canada (SDTC)-programme which seeks to bridge the gap between research and commercialisation by supporting demonstration consortia involving representatives form the entire value chain and developing clear business plans for these consortia in order to connect them with investors.

BUSINESSEUROPE recommends that stronger linkages are created at EU and national level between successfully demonstrated technologies and investors.

From experience within venture financing of biotechnology and ICT, evidence is found that entrepreneurs when applying for risk capital could improve significantly in the way they approach venture capitalists, e.g. their business plans need to be developed more carefully, concerning market potential, customers, cash flow projections, management skills etc. From the evidence of biotec and ICT we also know that venture capitalists need to develop skills, putting them in a position where they can truly evaluate the profitability of a specific venture. The market will have to develop, but to push this market development into higher speed, member states should consider how they can promote entrepreneurship, through development of entrepreneurs skills.

Likewise when allocating public funding for new projects it would be worthwhile to consider how to release the public funds in a way similar to the way funds are released from venture capitalists, e.g. setting milestones demanding those to be met, before further release of public funding. This way of funding entrepreneurs would increase the similarity for entrepreneurs between what it takes for them to be funded by public and private investors.

The market will gradually develop and solve the problems, however to speed up this process of market development BUSINESSEUROPE recommends that the Commission develops a forum for venture capitalists and energy technology entrepreneurs to meet and exchange experiences about what barriers they realise when venture capitalists evaluate entrepreneurs and entrepreneurs apply for funds.

More focus on energy efficiency

BUSINESSEUROPE believes that energy-efficient technologies can and ought to play a key role in the SET-Plan. Energy-efficient technologies are faster and technically easier to implement than alternative actions. By implementing more energy-efficient processes and materials within production, transport and households energy-efficient technologies can provide the most cost-effective solutions to obtain the greenhouse gas reduction and security of energy supply demanded.

Energy-efficient technologies can therefore make a significant contribution to reach the greenhouse gas reduction target as well as the renewable energy target by 2020 in a cost-effective way. Saving a kWh is less costly than investing in new capacity to produce a kWh.

BUSINESSEUROPE recommends that the Commission strengthens the existing work on energy-efficient technologies within the existing ETPs, including the 10 ETPs directly related to energy and transport. There is a need to ensure formel coordination of and co-operation on energy-efficiency activities across ETPs to ensure synergies and thereby avoid waste of time and resources. BUSINESSEUROPE recommends a general evaluation of the ETPs, including there energy-efficiency efforts in order to ensure, that synergies from ETPs are obtained efficiently.

4. BUSINESSEUROPE'S views on demand pull elements of a Strategic Energy Technology plan of actions

For Europe to reach the ambitious targets set there is a desperate need to ensure that new, clean technologies are not only developed but also deployed. For this to happen a general behavioural change is needed. The use of market-based instruments to create the right incentive for a behavioural change need to be further explored. Focus on end-user acceptance is important to make sure that deployment of cleaner technologies actually takes place.

BUSINESSEUROPE underlines that some demand-pull instruments can do more harm than good, e.g. initiatives such as taxes and subsidies should not govern the choice of technology.. But other demand-pull initiatives are supportive in moving the new technology onwards to the market.

Particular BUSINESSEUROPE recommendations:

Subsidy mechanisms for renewable energy
The multiplicity of non-coordinated subsidy mechanisms in EU member states stands in the way of competition in an internal market for energy and leads to misdirected incentives to build installations at unfavourable locations. Hence, subsidies for renewable energies should be harmonised European-wide for efficient allocation across Europe. The benchmark for harmonisation must be technology-neutral financing.

Inasmuch, BUSINESSEUROPE welcomes the Commission's approach involving subsidies for research and development today in order to be able to deploy large capacities of renewable energies cost-effectively in the future. By contrast, permanent subsidies place a considerable burden on energy-intensive sectors in particular and put jobs at risk. Subsidies must meet not only the criterion of effectiveness (expansion objectives) but above all that of efficiency.

Product standards and labelling
In particular, technical standard setting and labelling have proven to be strong tools to promote more energy-efficient technologies. When a new technology is developed

several different standards may compete against each other in the beginning (e.g. regarding electronic compatibility). When the technologies have reached a certain level of maturity common European technical standards for the technologies could contribute to reduce the technological and financial uncertainties for the producers and buyers of the new technologies thereby increasing the uptake of the new technology. Ideally standards and labelling should be common on a global level, to allow common global development and therefore a larger base to spread the huge development costs of modern energy-consuming products.

BUSINESSEUROPE recommends that common European - and preferably global technical standards for energy-efficient products (e.g. household appliances) and eco labelling of products should be further promoted to drive forward the common market for more energy-efficient technologies.

Public procurement
The public sector can play a role in developing the energy-efficient technologies that are necessary to meet established targets. Public Procurement when used correctly can assist by creating markets for new energy technologies.

For example public tenders in the public transport arena can use an approach which integrates (i.e. directly links to the objective of the contract) at the very start of a tender the energy-efficient requirements (e.g. energy-efficient and low-carbon emitting technology) they demand, so that bidders know what is required and can structure their bid accordingly.

However BUSINESSEUROPE believes that care must be taken to ensure that in doing so the established Public Procurement rules (outlined in the 2004 procurement directives) are observed and that the Internal Market for procurement is not distorted in pursuit of other objectives.

To industry the principle of “competition for the most economically advantageous bid” is the benchmark for Public Procurement. This benchmark - based on among other things a long-term evaluation of the economy in the bid - allows Public Procurement to be used to promote and boost new energy technologies but this has to be done in such a way that does not distort this principle and is in accordance with the established rules of Public Procurement.

5. Global technology co-operation - a common ground for developing a global agreement

The Commission has chosen a topic on international RD&D co-operation in the questionnnaire submitted on 10 May. BUSINESSEUROPE agrees that this is a crucial topic for several reasons.

The EU accounts for only about 10 percent of global greenhouse gas emissions. To meet the global climate change challenge effectively, EU will have to search for ways to make other nations engage in an effort to develop and deploy cleaner technologies. BUSINESSEUROPE believes that an intensified international cooperation within R,D &

D of low or zero carbon technologies and energy-efficient technologies can pave the way for a global agreement on how to face the climate change challenge.

BUSINESSEUROPE therefore welcomes already established internal co-operation on e.g. Carbon Capture and Storage, and look forward to the outcome and further implementation of e.g. G8 conclusions.

BUSINESSEUROPE recommends that the Commission focus on a number of crucial elements in such an RD&D cooperation. Cooperation should lead to the exchange of technological know-how while ensuring that Intellectual Property Rights are respected. Co-operation should also focus on the development of global codes and technical standards which if fully explored and expanded could stimulate global markets for cleaner technologies. At the same time such co-operation, e.g. linked to the project mechanisms of Joint Implementation and Clean Development Mechanism, could increase the transfer of technologies, especially to developing countries, thereby giving an incentive for developed countries to engage in a commitment to reduce greenhouse gas emissions.

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