

PU Europe comments on the public consultation regarding the Communication on energy technologies and innovation

BOOST THE DEVELOPMENT OF ENERGY TECHNOLOGIES IN SUPPORT OF ENERGY POLICY

The EU support to the development of the energy technologies should ensure that a portfolio of cost effective energy technologies is proposed in support of the implementation of energy policies.

Furthermore the EU support to the development of the energy technologies should target those sectors and actions which will ensure a wide replication potential and impact at European level.

Bringing to the market new solutions is challenging. It requires not only technology push efforts to turn new ideas into commercial products but also demand-side measures to support their diffusion into the market.

What is your opinion on the priority of the proposed approaches for the development of energy technologies at EU level?

Please rate importance from 1 (not important) to 5 (very important)

	1	2	3	4	5
1. Energy systems			X		
a) Electricity networks and integration of renewable and distributed energy sources , active demand, storage (in general)				X	
b) Regional electricity networks in combination with supply energy technologies (in geographical boundaries of clusters of Member States)			X		
c) Pan European transmission electricity networks together with storage (including power to gas)		X			
d) Local energy networks(power/ heat-cool supply) in combination with supply technologies and local storage (in local/city conditions)				X	
2. Energy efficiency					X
a) Through Smart Cities and Communities					X
b) Through energy efficiency in buildings and /or industries					X
3. Energy technologies as of SET Plan			X		
a) Wind				X	
i) Onshore			X		
ii) Offshore				X	
iii) Manufacturing techniques		X			
b) Solar				X	
i) Photovoltaics				X	
ii) Concentrated Solar Power				X	
iii) Manufacturing techniques		X			

c) Carbon Capture and Storage	X			
d) Bioenergy			X	
i) Biofuels			X	
ii) For electricity (CHP)			X	
e) Nuclear	X			
f) Hydrogen and fuel cells				X
4. New emerging technologies – combinations of technologies				
a) Ocean			X	
b) Storage (not limited to Pumped Hydro, Hydrogen ,batteries, etc)				X
c) Hybrid systems			X	
d) Geothermal (electricity)			X	

Please give the justification for your selected approach and your ranking regarding the R&D EU support in the areas listed above.

Future energy technologies should meet two major targets: drastically reduce greenhouse gas emissions and stimulate sustainable growth. This must be combined with a high level of supply security and affordability. Energy efficiency can achieve all this at a negative cost for society. Investments in energy efficiency stimulate economic activity, create local jobs, increase government income, decrease energy bills and diminish dependency in fossil fuel imports. The positive aspects are particularly true for the energy efficiency of buildings that are currently responsible for around 40% of energy consumption in the EU and about 36% of all CO₂ emissions in the EU.

In parallel, further efforts are necessary to increase the yield from renewable energy technologies. In this context, developing performing storage capacity technologies will be of paramount importance.

Research should accompany the move to decentralised energy generation which require the development of local networks.

Energy technology development

Energy technology development can be also fostered by appropriate non technological measures, the "market pull" instruments. Industrial demonstration projects are also confronted with non-technological obstacles. According to your experiences which of the following measures represent major bottlenecks in the implementation of these projects? Please rate the importance from 1 to 5.

	1	2	3	4	5
1. Lack of business models			X		
2. Public Procurement difficulties				X	
3. Permit/authorisation delays			X		
4. Public opposition				X	

Please specify for the obstacle(s) you rated highest to which technology(s) is linked.

Public works contracts are usually awarded to the lowest price offer. This is counterproductive to energy efficiency as the life cycle (energy) performance of a building is often of secondary importance. There is some hope that the draft revised Public procurement directive will change this, but the ambition level of the Commission is low and that of Member States is likely to be even lower.

Public opposition also remains a problem for the deep energy renovation of buildings. It is often perceived as a cost rather than an investment in making a building future-proof. More awareness raising is required to shows that energy efficient renovations can be carried out with minimal disruption, at cost-effective prices and with a good return on investment. Research should focus on "industrialising" building renovation to decrease costs while guaranteeing savings.

Energy technology development can be also fostered by appropriate non technological measures, the "market pull" instruments. What are the key regulatory issues that impact on the deployment of these innovative technologies?"

Buildings offer a huge savings potential, but the supply chain remains extremely fragmented with millions of small enterprises on the supply side and hundreds of millions of building-users / owners / investors as decision makers on the demand side. Experience has shown that major changes have only occurred when legislation was put in place. The sector therefore needs a strong long-term regulatory framework in the form of a binding sectoral target for the renovation of buildings in the EU (renovation rate, interim goals for energy consumption per m² and year etc.).

ENERGY TECHNOLOGIES AND THEIR IMPACT ON POLICIES

All technologies are needed but commitments and progress so far has been uneven. In some areas the progress appears to be promising, but others have experienced delays. The EU support to the development of the energy technologies should target those sectors and actions which will ensure an impact at European level. This can be achieved through the creation of a critical mass for these technologies and solutions and through the transferability of the generated know-how. The potential for deployment of various technologies and their contribution to energy, environment and industrial policies varies in time.

Investments in the development of energy technologies

The estimation of the investments in the development of energy technologies showed that Member States dedicate 85% of their energy R&D budget to research activities while demonstration activities account for approximately 15%. At EU level under the 7th Framework programme for energy 50% of the budget was allocated to research and 50% to demonstration activities. On which type of activities do you think that EU should focus its support for the development of energy technologies? Please rate the importance from 1 (not important) to 5 (very important).

	1	2	3	4	5
1. Long term research			X		
2. Applied research				X	
3. Demonstration projects				X	
4. First of a kind industrial activities			X		
5. Market uptake measures to support technology deployment and policy developments				X	

Your individual arguments regarding the option you chose and the corresponding technologies for that choice.

A wide range of building efficiency technologies is readily available today to reduce the energy demand of buildings to zero. More research may be needed to allow their cost-effective integration in different types of existing buildings (applied research).

Unlike renewables technologies, energy efficiency is often "invisible", as hidden in the building envelope, cabling or equipment. Hence, demonstration projects and market uptake measures remain important to show the functioning of these technologies and bring them into the market, possibly supported by a strong regulatory framework.

Financing instruments

What types of financing instruments (grants, prizes, procurement, loans equity) should be used for the different types of activities listed in Question 7?

	Grants	Prizes	Procurement	Debt and equity	Others
1. Long term research	X				
2. Applied research				X	
3. Demonstration projects				X	
4. First of a kind industrial activities				X	
5. Market uptake measures to support technology deployment and policy developments				X	

The development of energy technologies under the Strategic Energy Technology Plan was mainly driven by EU 2020 energy and climate objectives.

Further, the EU internal energy market creates the conditions for a market driven choice of the energy technologies coming from worldwide with positive effects on the competitiveness of EU industry in general (due to lower energy costs). Both cases show that industrial policy dimension should become more visible in the development of the new energy technology policy.

What should EU favour as an industrial policy element in its energy technology policy?

Don't know Reduced energy cost EU technologies leadership

X Economic growth and jobs

International dimension

The international dimension plays an increasing role in the development of energy technologies. The cooperation should take into account the EU position in the respective technology. Different cooperation methods have been tried with different outcomes. According to your experience, which of the proposed partners/sectors has the highest positive impact on the development of EU energy technologies? Please rate your preference from 1 (not important) to 5 (very important).

	1	2	3	4	5
1. Strategic partners for a portfolio of low carbon energy technologies		X			
a) United States of America			X		
b) Japan			X		
c) Korea			X		
d) China		X			
e) Russia	X				
f) Brazil	X				
g) India	X				
2. Sector based cooperation			X		
a) Wind			X		
b) Electricity networks and storage				X	
c) Solar (PV and Concentrated Solar Power)					X
d) Nuclear	X				
e) Carbon Capture and Storage	X				
f) Biofuels				X	
g) Energy Efficiency				X	
h) Marine technologies		X			
i) Hydrogen and fuel cells			X		
3. Individual project based cooperation (bottom –up)				X	

If you gave high preference to the “sector based cooperation” in Question 9 please indicate the technology and corresponding country(s) of cooperation.

Cooperation should be useful in sectors where energy sources can be more efficiently tapped than in the EU. Examples include solar energy (northern Africa), but also wind energy (north Atlantic) and, taking account of the increasing demand, biofuels (if sustainably produced, Russia, south-east Asia). As for energy efficiency, the EU should look to the regions of the world where the need to develop energy efficiency is the greatest and holds the highest potential. For this reason, cooperation with the USA and Japan is the most important in energy efficiency.

STRUCTURE FOR IMPLEMENTING ENERGY TECHNOLOGY POLICY

The Strategic Energy Technology Plan is currently implemented through: European Industrial Initiatives (EII) set-up for 7 sectors identified as energy technology priorities up to 2020, European Energy Research Alliance (EERA) which is the platform joining the leading research institutes in the energy field in Europe and the Steering Group which gives the voice to Member States and European Commission for the overall coordination of the implementation of the SET Plan.

Are you or your organisation a member of or working in collaboration with one of the European Industrial Initiatives (EII) or European Energy Research Alliance (EERA)?

No.

General types of cooperation

The general types of cooperation (Technology Platforms, SET Plan European Industrial Initiatives, Public Private Partnerships, Joint Undertakings, European Energy Research Alliance etc) and contractual arrangements available (collaborative projects, ERANET mechanism, support actions etc) under the 7th Framework programme are good. Please indicate if you agree or disagree on the scale from 1 (fully agree), 2 (agree), 3 (not sure/neutral), 4 (disagree) to 5 (strongly disagree).

	1	2	3	4	5
1. Types of cooperation			X		
1.1. Technology Platforms			X		
1.2. SET Plan European Industrial Initiatives			X		
1.3. Public Private Partnerships			X		
1.4. Joint Undertakings			X		
1.5. European Energy Research Alliance			X		
1.6. Collaborative projects			X		
2. Contractual arrangements			X		

The European Commission deployed the financial support towards the priorities set up by European Industrial Initiatives. Member States allocate their efforts to support research and innovation for energy technologies according to national priorities and conditions. In financial terms European Commission accounts for 20 % of the public investments for research and innovation in energy technologies while Member States for 80%. The European Commission should continue to focus the financial support to contribute to finance projects of EU added value and impact and answering solely to the “excellence” criteria. To what extent do you agree with this statement?

Fully Agree
 Agree
 Not sure

Disagree

Strongly disagree

Please justify your answer in the question above

We fully support the EU policy to support research projects with a European added value. As national support usually stops at borders, it may be difficult to identify appropriate partners in the same country and give a transnational dimension to the work.

We are not entirely sure what is meant by supporting projects “answering solely to the excellence criteria”.