

Public consultation on the Renewable Energy Strategy¹



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Section J: Technology development

The SET plan presents the strategic framework to accelerate the development and deployment of cost-effective low carbon technologies in the perspective until 2020. For a limited number of technologies industrial initiatives were set up according to two criteria, their large-scale availability by 2020 and the willingness of industry to engage in public private partnerships.

1. For a first set of renewable technologies, namely wind, solar, bio-energy, the SET Plan aims at a cost-competitive market roll out of renewable energy by 2020. It also aims at enabling integration of renewable energy into the electricity grid and smart cities and communities. In your view, what would be the remaining key challenges of these technologies to be addressed by research and innovation in view of the 2050 objectives?

- Technology performance and cost-competitiveness
- System integration
- Industrial manufacturing and supply chain

¹http://ec.europa.eu/energy/renewables/consultations/20120207_renewable_energy_strategy_en.htm

- Other (please specify)

["Smart cities and communities" is not "a technology". Smartness can apply to many things besides energy. At a DG Energy workshop on smart cities and communities on 23 January, ubiquitous wifi emerged from the discussion as one of the cornerstones of smart cities.]

The three challenges identified are important. Furthermore, we underline that the overall goal of the EU's science and technology policy for renewables should be to maintain the EU's leadership in high-performance RES technology.

Other:

- Education and training. The profile of the renewable energy industry has increased greatly in the last decade. There can be few engineers or researchers who are still unaware of it. As 2050 approaches, the challenge faced by the renewable energy business will be the challenge faced by engineering-based industries generally: how to attract more people, particularly schoolchildren, to careers in science or engineering.
- Minimisation of lifecycle environmental impact.

2. Which additional measures and/or instruments should be developed to address these technologies and their remaining challenges and to ensure that the EU innovation fabric is geared to supporting the significant deployment up to 2050?

The recommendations below apply also to the period to 2020. As 2050 approaches, R&D policy will evolve with the energy mix and the companies involved in the energy sector.

On average, EU-funded projects should be smaller and there should be more of them. "Smaller" means fewer participants per project and less budget per project. Externalisation of the management of the research framework programme should enable greater resources to be devoted to project oversight. The EC and its Framework Programme are as relevant to small projects as they are to large by virtue of being the only bureaucracy (*pace* EUREKA, COST) specifically designed to fund transnational research in Europe – a valuable European facility for projects of all sizes.

The EC should pilot "first-come first-served" calls, as detailed in the EUREC Agency input to the public consultation on the CSF for Research and Innovation. These would allow organisations with an idea for a research project that is aligned with an EII's Implementation Plan to receive funding from the EC outside of the normal process of calls for proposals, providing the consortium meets a set of carefully-chosen eligibility criteria.

Horizon 2020 abolishes many rules and in so doing allows Directorates to shape annual Work Programmes according to their wishes. Each Directorate could implement a different refund rate for projects (subject to the maxima laid down in the Rules of Participation), different rules on IP and on

“first exploitation”. Above all, Horizon 2020 allows them largely to determine their own funding instruments. Abolishing rules is not in itself consistent with simplification. Rules help to make a funding programme intelligible, imposing structure.

The EC should make a special effort to explain well in advance of the start of Horizon 2020 (for example in the SET Plan revision planned for the start of 2013) how its proposed debt and equity funding instruments will dovetail with Horizon 2020 grants. Such combined funding is the principal mechanism by which large-scale, low-risk demonstration should be funded. Because the Horizon 2020 proposal proposes earmarking risk capital for the energy “Societal Challenge” while proposing no such earmarking for any other area of research, the use of risk capital is expected to be pioneered here.

3. In your point of view, which technologies other than those covered by the current industrial initiatives should be given priority in the post-2020 perspective? Please justify with reference to the criteria mentioned above, i.e. large-scale availability and willingness of industry to engage in public private partnerships?

Given priority for what? We interpret the question as “In your point of view, which technologies should be next in line for being launched as EILs?”

What is important now, rather than deciding on new areas in which to launch EILs, is for the EC to articulate the consequences and advantages of being “launched”.

If the SET Plan has been successful in motivating the Member States to spend more on energy R&D, then there is little evidence for this in the announcements they make surrounding their national funding programmes. They view the SET Plan and its implementation as the EC’s responsibility, with the EC needing to bring forward initiatives to support it.

The action the EC has taken to date (with the blessing of the SET Plan Steering Group), has been marginal rather than game-changing. ERA-NETs will facilitate transnational collaboration but the collaboration might expire with the ERA-NET contract.

After missing the opportunity to use the mid-term review of the MFF to increase funding to renewable energy (alongside the increase in funding to ITER, which was pushed through), the EC should now focus on making the case for EU coordination of the choice of low carbon initiatives that 2009 ETS Directive says “should” be supported with the proceeds from Phase 3 ETS auctioning. In doing so, the EC could help to ensure additionality with respect to Member States’ baseline expenditures.

A decade ago it would have been acceptable for a desk officer periodically to commission a survey of the research needs of a sector via a call topic in a Work Programme, but the RES industry is now so big and multi-faceted that it makes sense for the EC to have a “permanent representation” of energy research stakeholders that it can turn to for up-to-date information. We find this in Technology Platforms, EILs

and the governance of Joint Undertakings. Technologies that have not yet been “given the EII treatment” will grow in importance as 2050 approaches, meaning they too will need to be brought closer to research and innovation policy-making.

The EC should reimburse the time of the experts that sit in these advisory groups (see our [input](#) to the public consultation on the CSF for Research and Innovation) and, in return, specify deliverables with deadlines.

By basing its decisions on the views of stakeholders collected in a systematic way and by helping researchers to access research money more easily, the EC can use existing sources of funding more efficiently. The EC must, however, also increase funding to energy so that wider-ranging and more ambitious R&D strategies can be supported.

4. How successful do you consider the existing measures have been and which have been the main drawbacks? Explain why.

- Very successful, no drawbacks
- Successful but some drawbacks (please specify which)
- Not successful

The period from 2007 to the present has witnessed the sudden appearance of some rather large and blunt funding instruments. EUREC Agency’s [input](#) to the consultation on the EU’s Energy 2020 strategy criticises the lack of coordination between NER300 and the EEPR and says the EEPR “should have awarded funding on the basis of an open and transparent competition rather than to preselected projects”. Our [input](#) to the CSFRI public consultation pointed out that the EIT’s achievements to date have been modest and that, while being open-minded about the EIT’s potential, it is premature to deploy the KIC model on a large scale.

Looking ahead, a feature of Horizon 2020 that may well deter many research centres from participating is the fact that indirect costs will be refunded at a flat rate of 20% of total eligible direct costs. The finances of research centres typically are not compatible with such a scheme: the spending of one euro on project work often results in the spending of significantly more than 0.2 euros on building or equipment maintenance, the supply of utilities, the wages of staff (technical and administrative) that support the overall operation of the research centre, etc.

5. Do you consider that assistance in technology development should be linked to a certain result to be achieved by a certain deadline?

At the micro-level experimental (and possibly one-off) instruments like NER300 already make this link, making the instrument more closely resemble an inducement prize than a form of funding that provides a stable, nurturing matrix for technology development.

At a macro-level it is unwise to be too prescriptive about the action that should be taken if a technology succeeds or fails in reaching a target by a particular date. What is more important is to create a permanent, frequently updated database to track KPIs. SETIS will be useful in this regard, complemented by ERKC to monitor where MS are concentrating their resources. This will ensure that responses to success or failure are well informed, are seen in a wider context and have a greater chance of being appropriate to the situation.

The Horizon 2020 Specific Programme (Energy Challenge section) gives prominence to some KPIs ("The objective for wind energy is to reduce the cost of electricity production of onshore and offshore wind by up to about 20 % by 2020 compared to 2010" – which, incidentally, considering the amount of capacity currently deployed in each case, seems unambitious for offshore wind). The more an objective is given publicity, then if it is not met, the less acceptable it will be for the R&D or deployment policy that was meant to support it to remain unchanged.

As they have been with the EII KPIs, targets should be negotiated between industry, research centres and those responsible for administering public funds to ensure an appropriate level of ambition.