

**Are you and the members of your organisation familiar with the following EU instruments as supporting commercial demonstration projects of innovative renewable energy and/or carbon capture and storage technologies?**

	Do not know how to answer	Yes	Somewhat familiar	No	Not applicable
NER300 under EU ETS	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FP7 / Horizon 2020	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
European Energy Programme for Recovery (EEPR)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Future Innovation Fund under EU ETS	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk Sharing Finance Facility (EIB with FP7 contribution)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
InnovFIN and InnovFIN Energy Demo Projects (EIB with H2020 contribution)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ERA-NET Funding	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Are there other EU instruments you would like to mention in this context providing EU support to such commercial demonstration projects of innovative technologies (in your industry)? If yes, please specify.**

**\* Please also express your opinion on whether you believe the instruments below have successfully helped commercialise technological innovations (in your industry in recent years)**

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
FP7/Horizon2020 grants	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NER300	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
EEPR Offshore Wind	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
EEPR Carbon capture and storage	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EEPR Grid Connections and Networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Risk-Sharing Finance Facility (under FP7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
InnovFIN (under H2020)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
ERA-NET funding	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LIFE Climate Action	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other, please specify	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If possible, please provide specific examples of innovations or breakthroughs that were expected to be commercialised with support of the indicated instruments and/or examples of breakthroughs that have actually been achieved with the support of the indicated instruments. (Note: there is a specific section on NER300 later in this survey).**

- EEPR funding was awarded to the ROAD project in the Netherlands, which would have covered around 50% of the project development (pre-FID) phase and construction costs, with a cap at €180M. As the Final Investment Decision was not taken, due to the two parent

companies pulling out of the project, only a small part of this funding has been spent. While the ROAD project will no longer go ahead in its current form, stakeholders in the region have expressed a wish to redesign the project to enable the transport and storage options identified to be utilised by other emitters in the region. There is strong political support in the Netherlands for a project to continue in some form. If a proposal can be produced, and it was possible to retain the funding, the EEPR funding could still effectively support an EU CCS cluster in Rotterdam.

- The Accelerating CCS Technologies (ACT) programme that forms part of ERA- NET is focused on R&D and therefore will contribute to bringing new products closer to commercialisation however, it does not provide sufficient funding for large scale pilot projects as highlighted in the most recent [call](#).
- InnovFin provides loans or equity financing which, until there is a sufficient business case for CS in Europe, will be unlikely to be accessed. Initial projects will require grant funding and development of transport and storage infrastructure to enable them to reach a Final Investment Decision.
- Others: EU-ETS  
The EU-ETS has been for long the single incentive scheme for commercial CCS projects. In its current design the program is not providing the support needed to undertake large scale projects. In fact, the main reason the parent companies of ROAD could not take FID was due to the collapse in the value price of the ETA, hence creating an insurmountable funding gap.
- Others: Connecting Europe Facility (CEF)
- In the latest call 4 European CCS projects submitted applications for Projects of Common Interest (PCI) status, which if granted, would enable them to access financial support from 2018 through the Connecting Europe Facility. This is a potentially important enabler for establishing pan-European CO2 infrastructure. However, there is an important need to examine how support through the CEF can be combined with other sources of EU funding, including the Innovation Fund, and potentially National funds in order to develop a stronger business case for CCS projects. This should build on the flaws of the "netting" principle, which prevented the NER300 acting as an effective policy for CCS development, by acting against other funding, such as EEPR.

\* To what extent do you believe the following demonstration and overall objectives for CCS, from the initial SET-plan (cf. COM(2009) 519 final) and its Technology Roadmaps 2010-2020 (SEC(2009) 1295), are being or have been met?

	Do not know how to answer	Fully	Sufficiently	Insufficiently	Not at all	Not applicable
Build up to 12 CCS demonstration plants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Reduce the cost of CCS to 30-50 € per tonne of CO2 abated by 2020, making it cost-effective within a carbon pricing environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic objective: to demonstrate the commercial viability of carbon capture and storage (CCS) technologies in an economic environment driven by the emissions trading scheme. In particular, to enable the cost competitive deployment of CCS technologies in coal-fired power plants by 2020-2025	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Industrial sector objective: to enable European fossil fuel power plants to have near to zero CO2 emissions by 2020	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please feel free to add comments to your answers to the question above.

- The support programs for CCS have been insufficient to justify investment in large scale projects which would have delivered the transport and storage infrastructure for follow up projects. The main reason for failure has been the expectation that a high EUA would make these projects investable. The collapse of the EU-ETS has eroded the financial basis for these projects making the objectives unachievable.
- This highlights the critical importance of Member State complementary support mechanisms for early CCS projects, e.g. feed-in-tariffs, which can help support investment in early stage projects.
- The objectives of the 2009 SET Plan were focused on delivering CCS in fossil fuel power plants. The new SET Plan reflects the importance of CCS as a decarbonisation tool for industry and the potential for bio-CCS, as well as in the power sector. However, this does not eliminate the limited impact to be expected from the EU-ETS in realising CCS. Industrial sectors benefit of free allowances under the EU-ETS, hence an increase in allowance will create limited incentive and there is a need for complementary support mechanisms to help create the business case for CCS.

\* From your organisation's perspective, which barriers/factors might keep commercial demonstration projects from reaching final investment decision/financial close? Please rate the following reasons.

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
High capital expenses / initial costs	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High technology risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policy/Regulatory uncertainty at EU level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policy/Regulatory uncertainty at Member State level	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulatory barriers on banks (limiting availability of long-term finance)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long timelines for energy innovation investments and market deployment	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low carbon prices to effectively internalise external (climate change) costs	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low carbon prices yielding insufficient revenues for public investments	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low fossil fuel prices	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fossil fuel subsidies	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low electricity wholesale prices	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty to establish Internal Return Rate (IRR) / Demonstrate bankability for innovation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty to obtain permits at national level	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of success stories from public support schemes	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State aid restrictions	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please feel free to add comments to your answers to the question above.

In terms of policy, there needs to be a clear commitment at both EU and member state level to decarbonise by 2050. Incremental targets have worked well for deployment of renewable energy and have driven forward policy and support mechanisms to meet them at the expense of other low-carbon technologies. Similar targets for broader power sector and industrial decarbonisation could drive solutions on a more technology neutral basis.

Currently however the main barrier to commercial CCS demonstration projects coming forward is the lack of a business case. While there is a strategic incentive for EU emitters to invest in carbon capture in the future to avoid stranded assets, currently the price of emitting carbon under the ETS is too low to by itself stimulate investment in capture in most cases.

Under current regulatory and policy frameworks across Europe, significant market barriers and failures exist which discourage and prevent investment in common CO2 transport and storage infrastructure. Key reasons for this have been identified as:

- The lack of a market for transport and storage due to current lack of CO2 being captured, so that any investment has to occur ahead of market demand
- The associated coordination barrier, resulting from the need for storage certainty to take a Final Investment Decision (FID) for building a capture facility, and the need for CO2 supply certainty to take FID for building a storage facility
- Exposure of one part of the CCS chain to failures/underperformance elsewhere in the chain
- Potential uncapped liabilities for key storage performance characteristics

These investment barriers must be addressed in an enduring policy framework that stays in place for a period of 15+ years, or until such time as carbon markets provide an appropriate price incentive to cover both investment and performance risk. Unlike for renewable technologies, subsidies and capital grants alone are not sufficient to make CCS part chain projects investable. Even if there was an existing carbon price incentive, the risks, delivery time, scale and planning of the infrastructure needed just to decarbonise Europe's industrial regions mean additional intervention mechanisms are required to create the right investment conditions.

**\* In its 2009 Communication "Investing in the development of Low-Carbon Technologies" (SET-plan), the Commission stated that in order to mobilise sufficient resources to finance commercial demonstration, it would look, together with the EIB, for new ways to combine resources from different actors and instruments, such as grants, loans and loan guarantees.**

**Do you consider that an optimal financial package to support large commercial demonstration projects exists at EU level today?**

- Yes
- To a certain extent
- No
- Do not know

**Please feel free to provide a brief explanation for your answer to the question above.**

For CCS, there currently is not an optimal package of financial support, although there are opportunities for funding for various stages of development. In particular, while funding is directed

to research and innovation by ERA- NET, CCS technology is ready for deployment immediately and therefore funding must be focused on delivery of projects at scale.

It should also be noted that the NER300 specifically did not allow the combination of different sources of funding as projects awarded EEPR funds would have had those awards netted off any NER300 award. This does not help the business case for projects.

The correct design of the ETS Innovation Fund will be critical to help fund first of a kind industrial CCS projects. Availability of grant funding is necessary to develop first projects, as there is not currently a business case for investment as outlined earlier in this response.

**\* What type of financial products with (national or EU) public support would help to increase chances of reaching FID/financial close for commercial demonstration projects (in your industry)? Please rate the following types of products:**

	Do now know how to answer	Useful	Mostly useful	Mostly not useful	Not useful	Not applicable
Grants	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loans	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk sharing / guarantees	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equity	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mezzanine finance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to add comments to your answers to the question above.

As mentioned earlier, the barriers for CCS investment are not limited to finance gaps. First of a kind CCS projects have a risk profile due to the interdependency of the elements that make the value chain. In addition, the magnitude of the (both under operation and long-term) storage risk under the CCS Directive is increasing the cost of projects as cost for capital and project risk increase. Here risk sharing/guarantees can reduce these barriers significantly.

\* Is the EU providing/supporting these financial products to meet industries' needs for funding commercial demonstration projects?

	Do not know how to answer	Fully	Sufficiently	Insufficiently	Not at all	Not applicable
Grants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk sharing / guarantees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Equity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mezzanine finance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to add comments to your answers to the question above.

See previous question

\* The 2015 Integrated SET-Plan upgraded the initial SET-Plan. It became aligned with the Energy Union's main objectives and core priorities while also addressing identified areas for improvement.

Please give your opinion on whether the following expected improvements are materialising:

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
Political priorities for research and innovation set out in the Energy Union strategy are translated into effective policy action	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritisation, integration, coordination and ownership of actions are strengthened and aligned with technological trends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More effective coordination of research and innovation activities at national and EU level to avoid unnecessary duplication of funding and efforts, as well as identification of potential synergies and gaps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stronger involvement from industry and Member States and a greater focus on the implementation of concrete actions and results, in particular through the Temporary Working Groups	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financing and market-uptake measures are well-linked with implementation plans and focus on delivering the key actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Revised management approach of the Integrated SET-plan provides increased transparency, accountability and monitoring of progress achieved, as well as a results-oriented approach	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial commitments from Member States are strengthened	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial commitments from the private sector are strengthened	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International cooperation for global challenges is addressed (e.g. synergies with Mission Innovation and International Energy Agency)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The upgraded plan links with stakeholders involved in funding instruments under the emissions trading scheme (i.e. NER300 and the future Innovation Fund)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joint actions involving Member States are implemented with or without EU funds. The ERA-Net co-fund instrument in Horizon 2020 launches transnational calls on demonstration activities involving industry and leveraging private funds	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A new type of Public-Public Partnership, based on the European Strategic Forum for Research Infrastructure (ESFRI), is used to build large scale demonstration facilities of European interest. Such facilities can test the appropriateness of the current regulatory frameworks and identify bottlenecks to the deployment of new innovative energy technologies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stronger collaboration with the Knowledge and Innovation Community (KIC) InnoEnergy of the European Institute of Innovation & Technology (EIT) to identify innovative projects and bring them to the attention of investors or companies	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* Please provide your community or organisation's perspective on the statements below about the SET-Plan and how its commercial demonstration needs are supported by the EU:

	Do no know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
The 2015 Integrated SET-plan objectives for the relevant technologies are or will be supported by a clear set of funding mechanisms to deliver EU public support to demonstration activities in our field	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EU grants and financial mechanisms (such as NER300, the new Innovation Fund, H2020, RSFF, InnovFIN, EEPR) aimed at supporting innovation, and in particular large-scale demonstration activities, have been/are generally coherent with the priorities established under the SET-Plan	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SET-plan coordination provides a comprehensive EU overview of how promising technologies move through the innovation cycle, also allowing for effective targeting and implementation of funding mechanisms which support the commercial demonstration stage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
The coordination between various Commission services responsible for devising and implementing policies and funding instruments in areas related to SET-Plan priorities (such as DG RTD, DG CLIMA, and DG ENER) has been/is overall good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
EU funding instruments and coordination mechanisms supporting large-scale demonstration projects effectively contribute to a near zero emissions power sector in the EU by 2050	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The SET-Plan itself does not provide a comprehensive overview of how technologies move from innovation to large scale demonstration. Rather, it provides an analysis of where specific interventions are needed.

Research priorities outlined in the draft SET-Plan Implementation Plan for CCUS are now mostly well aligned with the 2018 H2020 call. However, for CCS there is a need for grants and support for commercial demonstration projects. The potential source of funding for these activities is currently uncertain. For example, funding for storage pilots is not currently proposed within the H2020 work programme for 2018.

The Innovation Fund will be a potential source of this funding, but CCS demonstration projects will be bidding against other projects and so it is uncertain if it will fund full-chain industrial CCS demonstration using the Innovation Fund alone. Member State funding, through ERA- Net and national support programmes, will be crucial to complementing funding at an EU level.

The ETIP ZEP has provided the secretariat for Temporary Working Group 9. Feedback has been that while there has been some coordination between directorates this has not been visible at a senior level i.e. heads of units.

\* Do you consider that, overall, the European Union and its Member States coordinate well their strategies to foster clean energy innovation towards meeting the long-term (i.e. 2050) ambition of full decarbonisation of the power sector?

Yes

To a certain extent

No

Do not know

Please add comments to your answer as appropriate

The SET-Plan process has been very useful in aligning EU and member state priorities into a strategic plan. However, it remains to be seen whether, through the Directive on Governance of the Energy Union, the ambition of member states and the EU will focus on 2050 ambition. ZEP believes it is vital that a 2050 view is taken when producing national and EU plans, as the development of first of kind CCS projects, that will be vital to meeting 2050 targets, will require long lead times.

**Please indicate to what extent the following public policy aspects have contributed to the investment climate in the EU in recent years (for funding commercial demonstration projects of innovative technologies)**

	Do not know how to answer	Positively	Somewhat positively	Neutral	Somewhat negatively	Negatively	Not applicable
Predictability and stability of EU policies and regulatory frameworks	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Predictability and stability of EU Member States' policies and regulatory frameworks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination among EU institutions in the policymaking process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination between the EU institutions and Member States in the policymaking process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joint strategic planning of energy innovation needs, actions and budgets between the European Commission and Member States	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The EU ETS carbon price	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Incentive schemes to stimulate innovation and create value chains focusing on long-term technology potentials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to EU institutions responsible for devising and implementing policies on issues related to renewable energy and/or CCS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability, critical mass and reputation of EU public grants and financial mechanisms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Available guidance and support on how to get access to EU public grants and financial mechanisms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability and critical mass of public grants and financial mechanisms in the Member States	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitude of regulatory bodies at the EU and Member State levels towards innovation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Please share additional thoughts on other aspects driving or hindering the investment climate for this type of innovation activity in the European Union:**

Secondary targets on specific technologies are indirectly ringfencing funding focus to specific technologies thereby creating barriers to other technologies (ref. RES targets)

Please provide your community or organisation's perspective on the statements below about NER300:

	Do not know how to answer	Agree	Partly agree	Neither agree nor disagree	Partly disagree	Disagree	Not applicable
NER300 is an important mechanism for the financing of large-scale demonstration projects which would otherwise be more difficult to fund	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NER300 provides/has provided a substantial contribution to enabling demonstration activities for innovative technologies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
The NER300 technical requirements for the supported technologies (as per Annex I of Commission Decision 2010/670/EU) corresponded to cutting edge technologies at the time of the publication of the calls for proposals (i.e. 2011 and 2013)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
The NER300 technical requirements for supported technologies still correspond to cutting edge technologies in 2017	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Once NER300 projects become operational, within the next few years, they are likely to enable commercialisation of breakthrough or highly innovative technologies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
NER300 grants have been awarded to what could be considered the most innovative and promising projects for the further development of the supported technologies	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please share additional thoughts you may have with regards to all or any of the previous statements.

NER300 aimed to support the European Council's objective of 12 operational CCS demonstration projects by 2015. For multiple reasons, including the fundamental inadequacies in the design of NER300, and withdrawal of Member State support in the case of the UK, not a single commercial scale CCS project is yet operating in the EU.

ZEP believes that the Innovation Fund must be made significantly more flexible than the NER300: this applies on multiple levels from the balance of funding between technologies, the process of achieving geographical balance, right through to the technology categories prescribed in Annex 1 of the Decision. ZEP strongly recommends moving away from the full value chain approach of NER300 towards a more outcomes-focused approach that also enables part-chain projects to come forward. Projects awarded funding should be compatible with the Paris Agreement and the EU 2050 Roadmap, taking account of 2030 objectives but not losing sight of longer-term energy and climate goals.

In particular, for the Innovation Fund implementing decision, ZEP recommends that:

1. The Funds should be able to support the development of part-chain and CO2 transport and storage infrastructure projects, including funding for “market makers” as described in the ZEP [Executable Plan](#).
2. That a geographical balance can best be achieved through allowing an increase in the funding rate for projects that deliver greatest EU added value and which contribute towards the decarbonisation of multiple Member States.
3. If a project is awarded funding from more than one source of EU funding, those funds should be allowed to accumulate. Under the NER300 scheme projects awarded funding would have had any additional EEPR funding deducted from its NER300 total.
4. Project selection should move away from award based on the cost of performance defined by the total eligible cost divided by the amount of CO2 stored towards a more flexible system that recognises the value in infrastructure development and the clean output of industrial processes (including electricity generation).
5. The requirement for Member State support should be revisited to make it easier for projects to apply for, and receive funding from the new Innovation Fund.

A more detailed set of ZEP’s proposals on the repurposing of NER 300 funds can be found [here](#).

\* Do you consider that NER300 has effectively helped or will help to bridge the “valley of death” between research and commercialization for innovative technologies (in your industry)?

Yes

No

Somewhat

Do not know

Please feel free to add comments to your answer

\* Do you consider that between the Commission, the European Investment Bank and the Member States it is clear who is/are responsible for the successful implementation of NER300 to ensure efficiency and effectiveness?

Yes

No

Somewhat

Do not know

Please feel free to add comments to your answer

The NER300 has not helped to bridge the valley of death. The only CCS project that was successful being awarded NER300 funding was already bankable based on the national funding scheme. The NER300 would have reduced the cost to the UK power consumer but was not the bridge over the valley. The modalities of the NER300 was such that only highly mature projects could be successful. The modalities were incompatible with the industries’ requirements to make the projects investable. Also, the "netting" principle against other funding (like EEPR) ruined the NER300 as an effective policy for CCS development.

# Concluding remarks

If you consider it applicable, please provide us with suggestions on how EU support for the commercial demonstration of innovative technologies could be best delivered.

Please provide additional comments you may have on the topics covered by this survey.

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