



Note 9b

EU Funding Opportunities for CCS and CCU



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1.0 Summary

Multiple funding programmes for CCS and CCU are available at the EU level. The largest funds include the ETS Innovation Fund, Horizon Europe, the Connecting Europe Facility (CEF) and potentially European structural funds such as the European Regional Development Fund (ERDF) and Cohesion Fund. City-led projects may have a distinct advantage in accessing Horizon Europe and structural funds due to the embedded focus on cities and/or sustainable urban development. However, there is a significant amount of uncertainty regarding the eligibility of CCS under the ERDF and Cohesion Fund Regulation. Further work with Member State governments may be needed to deliver clarity here.

EU funding alone is unlikely to make a CCS or CCU project commercial due to the complexity of the value chains. An additional factor is the requirement for various ‘guarantees’ along the chain with respect to flows of CO₂ and revenue. It is therefore highly likely that additional Member State policy will be required for early CCS projects in Europe, particularly where CO₂ transport and storage is being developed. The advantage, however, is that larger CCS infrastructure projects are likely to deliver significant economies of scale and lower costs than smaller-scale projects. This means that there is likely to be a major opportunity for cities and nations to cooperate to deliver CO₂ transport and storage infrastructure. These may in-turn benefit from access to additional EU funding programmes such as the Connecting Europe Facility.

2.0 EU Funding Opportunities

The European Union (EU) has made significant funding available for CCS projects now for more than a decade, both via the Commission and its partners, including the European Investment Bank (EIB):

DG Climate Action (DG CLIMA) holds responsibility for the EU ETS and therefore the Innovation Fund, which is the main source of funding of commercial-scale CCS and CCU projects.

DG Research (DG RTD) holds responsibility for the Strategic Energy Technologies (SET) Plan, which is the main source of research and innovation funding for CCS and CCU projects at a lower Technology Readiness Level (TRL). Under the SET Plan, DG RTD also provides funding support to the Zero Emissions Platform (ZEP), which is the European Technology and Innovation Platform for CCS and advisor to the Commission on CCS and CCU technology and policy.

Other European Commission Directorates with a mandate covering CCS and CCU include:

- **DG Internal Market, Industry, Entrepreneurship and SMEs** (DG GROW), which is currently leading on the development of a European Industrial Strategy and facilitates the High Level Group on Energy Intensive Industries – both of which are highly-relevant to the future deployment of industrial CCS; and,
- **DG Energy**, which manages the Connecting Europe Facility (CEF) and previously oversaw the implementation of the European Energy Programme for Recovery (EEPR) – a major European fund, which aimed to support 8 large-scale CCS projects but ultimately failed to deliver any operational, commercial-scale projects.

The **EIB** is the lending arm of the EU and the largest multilateral financial institution in the world. The EIB is a key figure in the management and operation of the European Fund for Strategic Investments (EFSI) and the Innovation Fund, although its specific role relating to the Innovation Fund is not yet finalised.

Funding Programme	Summary
Innovation Fund (Responsible DG: CLIMA)	<p>The ETS Innovation Fund is the main EU funding stream specifically available to support CCS projects. It can provide funding to both small and large-scale projects in different industrial sectors, including CO₂ transport and storage infrastructure projects.</p> <p>Up to 60% of eligible costs can be covered with 40% of funding available as pre-financing (unrelated to actual volumes of CO₂ stored). This so-called “Project Development Assistance” could potentially fund pre-FEED and FEED studies for a city-led CCS project.</p> <p>The Innovation Fund can cover both CAPEX and OPEX</p>

Funding programme	Summary
<p>Connecting Europe Facility (CEF) (Responsible DG: Energy)</p>	<p>The Connecting Europe Facility (CEF) exists to support investment in cross-border energy and transport projects. Projects need to be first granted Project of Common Interest (PCI) status before an application to CEF can be made. Cross-border CO₂ pipelines are considered to be a priority area (although cross-border impact needs to be demonstrated as opposed to the pipeline physically crossing borders) and up to €300m can be awarded to an individual project.</p> <p>Grants cover 50-75% of eligible costs and, again, pre-FEED funding can be accessed to support feasibility and project development studies. The EIB can also offer various debt products to PCI projects.</p>
<p>Horizon Europe (Responsible DG: Research)</p>	<p>Horizon Europe is the successor to Horizon 2020 and has been agreed as part of the next Multiannual Financial Framework (EU Budget), beginning in 2021.</p> <p>Horizon Europe will take a 'mission oriented' approach to R&D challenges, including a mission on 'Climate Neutral and Smart Cities'. Overall, Horizon Europe will make €100bn of RD&I funding available, and funding for both CCS and CCU projects will be made available as part of this.</p>
<p>European Regional Development Fund (Responsible DG: REGIO)</p>	<p>The ERDF aims to strengthen economic and social cohesion in the European Union by correcting imbalances between its regions. It focuses its investments on several key priority areas, two of which are 'innovation and research' and 'the low carbon economy'. In more developed regions, at least 20% of ERDF funds nationally must be spent on the low-carbon economy.</p> <p>Whilst the ERDF and Cohesion Fund Regulation specifically excludes funding for emissions reductions from sectors listed in Annex 1 of the ETS Directive, there is potential that CCS and CCU projects could still qualify if they contribute towards other areas such as the circular economy or can be categorised as research, development and innovation projects.</p>
<p>Cohesion Fund (Responsible DG: REGIO)</p>	<p>The Cohesion Fund is aimed at Member States whose Gross National Income (GNI) per inhabitant is less than 90 % of the EU average. It aims to reduce economic and social disparities and to promote sustainable development.</p> <p>The Cohesion Fund allocates a total of € 63.4 billion to activities under the following categories:</p> <ul style="list-style-type: none"> • Trans-European transport networks, notably priority projects of European interest as identified by the EU. The Cohesion Fund will support infrastructure projects under the Connecting Europe Facility; • Environment: here, the Cohesion Fund can also support projects related to energy or transport, as long as they clearly benefit the environment in terms of energy efficiency, use of renewable energy, developing rail transport, supporting intermodality, strengthening public transport, etc. <p>As for the ERDF, whilst the Regulation Regulation specifically excludes funding for emissions reductions from sectors listed in Annex 1 of the ETS Directive, there is potential that CCS and CCU projects could still qualify if they contribute towards other areas such as the circular economy or can be categorised as research, development and innovation projects.</p>

Funding Programme	Summary
European Fund for Strategic Investments (EFSI) (Implemented and co-sponsored by the EIB)	<p>Managed by the EIB and the Commission, EFSI comprises a €33.5 billion programme made up of EIB capital and a guarantee from the EU Budget. It is able to provide a range of financial products (including loans, equity, guarantees and advisory services) to “strategic infrastructure” and renewable energy projects, including many types of CCS project. The principal aim of EFSI is to leverage an additional €500 billion of private sector investment within the EU.</p> <p>According to the EIB website, Local authorities, public sector companies or other government-related entities may benefit from project loans or loans to finance research and innovation. Smaller projects may also be financed through EIB’s intermediated lending provided by partner institutions.</p>

Using EU funds across the CCS chain

Note 9a discusses the challenges in putting together a commercial business case for a CCS or a CCU project, including the likelihood that significant funds need to be invested upfront, long before revenues are likely to be received. For industrial installations this challenge is even more acute given the possibility of having to shut down operations temporarily whilst CCS equipment is installed and integrated.

Long project lead times and high capital investment challenges have both been recognised by the EU as significant barriers to investment and, as a result, the suite of available EU funds for CCS have been designed to help project developers progress projects to the point where they can begin to demonstrate commercial viability and scale up.

The table below outlines where different EU funds may be used throughout the CCS chain, including which funds have a specific cities ‘theme’ and which funds may be accessed to help mature projects at an earlier stage of development.

Whilst multiple funding opportunities exist – and the EU openly recognises that it needs to do more to support commercial scale CCS projects – it is important to note that EU funding alone is highly unlikely to be the difference between a project being economically viable or not. Ultimately, national policy measures, such as Feed-in Tariffs in the power sector, are likely to be necessary to provide sufficient visibility on future revenue streams and enable investment across the various parts of the CCS chain.

	CO ₂ Capture	CO ₂ Transport	CO ₂ Storage	CO ₂ Utilisation	Project development (including feasibility studies)	Specific Cities Theme
Innovation Fund	✓	✓	✓	✓	✓	X
CEF	X	✓	X	X	✓	X
Horizon Europe	✓	✓	✓	✓	✓	✓
ERDF	X	?	?	✓	X	✓
Cohesion Fund	X	?	?	✓	X	✓
EFSI	✓	✓	✓	?	?	X
Other EIB	✓	✓	✓	✓	✓	X