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V. Networks and initiatives

Networks and initiatives at the international and European level play a crucial role in:

- advancing the development and deployment of CCS/CCU technologies;
- increasing their public and political acceptance;
- promoting joint research and knowledge sharing; and
- facilitating contact between stakeholders in the CCS/CCU sector, with a broad base of relevant knowledge.

1. International level

At the international level, numerous different programmes and initiatives deal with CCS/CCU technologies, ranging from governmental action to various non-state actors and research institutions:

- The Carbon Sequestration Leadership Forum is a ministerial-level initiative that focuses on:
 - improving technological capacity; and
 - facilitating CCS/CCU technologies via collaborative efforts.
- It promotes collaborative R&D and demonstration projects and comprises 26 members, including:
 - all G7 countries;

- the European Commission;
- Norway; and
- emerging nations such as China, India, Brazil and Mexico.¹⁵⁰
- The Global Carbon Capture and Storage Institute is an international think tank aimed at accelerating the deployment of CCS by:
 - sharing expertise and knowledge;
 - building capacity; and
 - providing advice and support.Its annual global CCS status report and its project database are essential sources of information and knowledge on CCS development and deployment, including this Special Report. Its members include:
 - national governments;
 - global corporations;
 - private companies;
 - research bodies; and
 - non-governmental organisations (NGOs).¹⁵¹
- The International Energy Agency (IEA), an autonomous intergovernmental organisation within the Organisation for Economic Co-operation and Development framework, and its IEA Greenhouse Gas R&D Programme (IEAGHG), aim to coordinate and accelerate CCS development and deployment by:
 - providing authoritative analysis and policy recommendations;
 - pooling resources; and
 - sharing knowledge.¹⁵²
- The IEA has published comprehensive research resources covering various aspects of CCS technology. The IEAGHG, as an autonomous and independent framework within the IEA:
 - coordinates research networks;
 - publishes regular newsletters; and
 - organises expert conferences and CCS schooling programmes.
- In order to facilitate the widespread implementation of CCS technologies by setting international standards, the International Organization for Standardization (ISO) Technical Committee 265¹⁵³ has published a number of relevant reports and standards (see Chapter VII, section 4).

2. European level

The initiatives at the EU level include the following:

- The Strategic Energy Technology (SET) Plan aims to accelerate the development and deployment of low-carbon technologies through cooperation between EU member states, companies and research institutions to achieve:

- the EU GHG emission reduction targets for 2030; and
- the transition to climate neutrality by 2050.¹⁵⁴
- The Integrated SET Plan, launched in September 2015, identifies 10 action items for research and innovation, including CCS/CCU (Action Item 9).¹⁵⁵ Action Item 9 addresses both CCS and CCU, with:
 - a focus on sectors with high-purity sources of CO₂; and
 - a view to improving the economic case for CCS via CCU options.¹⁵⁶

To achieve the CCS/CCU technology development targets collectively, an implementation working group has been formed.¹⁵⁷

- To catalyse research for the purposes of the SET Plan targets, the European Energy Research Alliance is a joint initiative involving 250 European research institutions. It promotes coordination among energy researchers and technology transfer to the industry.¹⁵⁸ The Zero Emissions Platform (ZEP) is one of 11 European innovation and technology platforms established under the SET Plan, advising the European Union on the deployment of CCS and CCU. The ZEP has a broad membership base, comprising:
 - the fossil fuel industry;
 - research institutions;
 - trade unions; and
 - environmental NGOs.

Among other things, it:

- develops responses to EU consultations;
- publishes reports and position papers on key EU policy debates; and
- hosts events on CCS/CCU development and deployment.¹⁵⁹
- In 2021, the European Commission established the annual CCUS Forum, which brings together representatives from EU institutions, EU and third countries, NGOs, business leaders and academia to facilitate exchange on matters relevant to CCS/CCU. Its four working groups deal with:
 - CO₂ infrastructure;
 - industrial partnership for CCS/CCU;
 - public perceptions; and
 - the CCS/CCU strategy.¹⁶⁰

Several other R&D networks operate independently from political actors. For instance, the European Network of Excellence on the Geological Storage of CO₂ ('CO₂GeoNet'), initially set up under the European Commission's Fifth Framework Programme, is a scientific community that brings together 27 research institutes from 21 European countries. The CO₂GeoNet provides scientific support for the safe deployment of geological storage at scale via joint research,

training and scientific advice.¹⁶¹ Another research facility without political links is the European Research Infrastructure Consortium.¹⁶²

Some networks focus on a certain regional area – for example:

- the North Sea Basin Task Force, composed of public and private bodies from the United Kingdom, Norway, the Netherlands, Germany and Belgium; and
- the Baltic Sea Region CCS Network, comprising Estonia, Germany, Finland, Norway and Sweden.

Both regional networks aim to develop common principles and solutions for managing and regulating the transboundary transport, injection and permanent storage of CO₂ in the respective sub-seabed.¹⁶³ The CCUS Zero Emission Network explores the potential for CCUS in two regions with a lower maturity level compared to the North Sea: the Baltic Sea and the Mediterranean Sea regions.¹⁶⁴ Its members – predominantly from research¹⁶⁵ – aim to facilitate the development of CCUS in these regions through the transfer of knowledge and best practice from CCUS projects in the North Sea region.

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