

## **Qualification Criteria**

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This document outlines the criteria to be satisfied by all members of the CCS Project Network, the Network's structure and governance and the application procedure for new members

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## 1. Introduction

The EU aims to stimulate the construction and operation of up to 12 CO<sub>2</sub> Capture and Storage (CCS) demonstration projects in the period 2015-2018. The successful operation of these demonstration projects is seen as crucial for enabling widespread commercial application of zero emission power plants or industrial installations by 2020 to meet EU and global climate goals.

The European CCS Demonstration Project Network (hereafter referred to as "the Network"), initiated by the European Commission (EC) in the first instance<sup>1</sup>, brings together the demonstration projects that are underway in Europe. The Network provides added value to European projects by:

- ✓ Facilitating the identification of good practices, lessons learned and recommendations with respect to large-scale CCS demonstration and enabling knowledge sharing amongst projects.
- ✓ Providing a common EU identity to Network members.
- ✓ Leveraging experience gained from projects and the evidence generated by them, in order to build public confidence about the feasibility and safety of CCS.
- ✓ Promoting CCS, EU participation and cooperation potential to third parties/countries.

All projects that apply for membership of the Network should fulfil the eligibility criteria, provide evidence about the maturity of the project, commit to knowledge sharing and agree to the Network organisation and procedures (Section 4). These qualification criteria are described in Sections 2, 3, and 4. Details about the documents to be submitted in support of the application are provided in Section 5 and 6. However the Network steering committee reserves the right in certain circumstances to admit other projects which it deems to be of value to the Network.

## 2. Eligibility Criteria

Projects in the Network shall be aiming towards demonstrating specific or all elements of the CCS value chain. The potential members shall fulfil the following technical criteria:

Full CCS chain demonstration projects:

- ✓ For power plants, the CCS project shall have a minimum gross production of 250MWe before CO<sub>2</sub> capture and compression.
- ✓ For industrial plants the CCS project shall realise a minimum of 500kt per year of stored CO<sub>2</sub>.

Pilot projects:

- ✓ Capture projects in power generation, shall have a maximum gross production of 80MWth.
- ✓ Storage projects shall realise an amount of stored CO<sub>2</sub> of up to 400 (industrial facilities) or 800kt per year.

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<sup>1</sup> COM (2008) 13

For all projects:

- ✓ The CO<sub>2</sub> capture rate shall not be less than 85% of the treated flue gas stream.

There is no limitation to the number of members.

Each application will be assessed on its fulfilment of the following expectations of commitment and maturity:

- ✓ *Commitment to deployment of CCS*

Based on evidence of a commitment to a realistic and relevant CCS action, including a feasibility study and a financial plan.

- ✓ *Commitment to knowledge sharing*

One of the core objectives of the Network is to facilitate knowledge sharing and formulate best practices. All participants should therefore commit to the principles and procedures of knowledge sharing in the Network.

- ✓ *Commitment to public awareness*

Another core objective of the Network is to enhance public awareness and confidence in the feasibility and safety of CCS. All participants should therefore commit to contribute to (1) the communication with the public and (2) the provision of consistent and collective information about project progress to the public.

- ✓ *Agreement with the organisation and procedures of the Network*

The organisation and procedures of the Network provide the basis for the effective operation of the Network, including conditions for entry and exit of members.

The fulfilment of these criteria shall be substantiated and supported by a set of documentation which is to be enclosed with the application. This documentation shall consist of:

- An application form to be completed by the applicant.

The documentation shall serve the following purposes:

- Provide evidence of fulfilment of the above criteria.
- Provide baselines for project progress monitoring throughout the project duration, and thus help identify best practices.

Depending on the appropriate level of detail needed to support the different types of information in the application, two kinds of document are requested:

- **Complete Document** means the pertinent document in its entirety, responding to the requirements set forth in Sections 5 and 6. It is anticipated that by and large this could be fulfilled by an extract from the relevant sections of the feasibility study, the FEED study, design specifications and present versions of project management plans.

- **Summary** means a summary statement describing how the requirements set forth in Sections 5 and 6, including all mentioned processes, are/will be appropriately addressed in the project technical development and project management processes. Wherever possible the summary should be accompanied by a Table of Contents that provides an overview of the summarised documentation.

The above categories shall support the application and thus form the basis for the Commission's assessment. Expectations for these documents are summarised in the following sections.

The qualification criteria shall be understood to apply to the following categories of projects alike:

- CCS new-build large scale demonstration projects; both those entirely newly built and those re-using existing infrastructure in parts of the project.
- CCS pilot plants as defined in the technical criteria (Section 2, above).

The EC will review the criteria set forth in this document annually, and amend it as deemed appropriate, with respect to its suitability for promoting the overall objectives of the Network.

In certain circumstances the Network members may consider an application to the Network which does not fulfil all of the criteria. In this case the project concerned must provide evidence of its benefit to the Network to be considered as a member or associate member. Projects which fall into this category should contact the Network secretariat to discuss its application.

### 3. Commitment to Network Goals

#### 3.1 CCS public awareness

The Network shall work to the benefit of CCS projects by undertaking actions to increase public awareness. This will be achieved by leveraging the experience gained from demonstration and pilot projects and the evidence generated by them in order to gain public confidence about the feasibility of CCS, taking into account the particular need to address the public perception of safety, long-term liability and environmental impact of CCS. The Network is therefore in a strong position to engage in co-ordinated actions with other bodies, such as Non-Governmental Organisations (NGOs), to develop consistent and effective strategies for public engagement.

Members shall commit to provide up-to-date and relevant information in a timely manner to facilitate the provision of consistent and collective information about project progress to the public. In the case of common activities organised by the Network to improve public perception and engagement, members shall agree to provide support in order to enhance the quality of the activity. This support could be in organisation, provision of information, dissemination of information, or attendance and participation in events.

#### 3.2 Knowledge Sharing

Knowledge sharing is aimed towards four objectives:

1. De-risking all aspects of CCS with regard to scaling up to commercial size of demonstration projects and pilot projects, if applicable.

2. Accelerating the deployment of CCS to support the goal of contributing 14% to the cumulative emissions reductions between 2015 and 2050 under the IEA's 2°C scenario (2DS).<sup>2</sup>
3. Increasing public understanding of and confidence in the CCS technology.
4. Policy and market advisory on how to create favourable policy, regulatory and power market structures for including CCS.

Applicants shall be committed to knowledge sharing, meaning that they are willing to participate in the Network knowledge-sharing activities, including but not necessarily limited to:

- Participation in information sharing events of various formats;
- Being open to identification of best practice and requests for lessons learned;
- Provision of contents (e.g. lessons learned, documents) to a knowledge-sharing website for Network members;
- Participation in online discussions.

The procedures and requirements for knowledge-sharing are outlined in a separate document, 'European CCS Demonstration Project Network Knowledge Sharing Protocol'. Commitment to knowledge sharing as defined by the Network criteria is thus the acceptance of the 'Knowledge Sharing Protocol', including the categories of knowledge to be shared and the procedure for approval of publication of shared information. A brief summary of the principles is presented below.

Key outputs of knowledge sharing are anticipated to be:

Dissemination of new knowledge and identification of good practices generated in the course of the project development and implementation in the areas of:

- Technical set up and performance,
- Cost levels<sup>3</sup>,
- Environmental impact,
- Health and safety.
- Project management, including:
  - Planning,

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<sup>2</sup> The 2DS outlines how energy technologies should evolve by 2050 for an 80% chance of keeping average global temperature down to 2 °C.

<sup>3</sup> It is important to stress that no price, cost or technical data shall be shared within or by the Network that could impair the markets in which Network members participate in accordance with Article 101 of the Treaty on the Functioning of the European Union.

- Application of legislative procedures,
- Public communication and engagement strategies,
- Selecting, characterising, modelling and monitoring of storage sites,
- Risk management (including corrective measures and financial security).
- Contributions to the development of CO<sub>2</sub> composition and transport standards and infrastructure strategies.

The objective is that through the Network, relevant information shall be made available at an appropriate level of detail to demonstration projects and the EC.

General knowledge shall be made available to the wider industry, researchers, and the public, in order to keep them informed about the progress of the demonstration projects, including full transparency regarding HSE knowledge that arises from the projects.

It should be noted that intellectual property (IP) will be respected. The Knowledge Sharing Protocol document sets out further details about the data-handling responsibilities of the Network.

The Network Secretariat, Network members and the EC will not disclose information provided to the Network, unless previously agreed and with the consent of the information provider. This does not apply to the information that a Project agrees to publicly share, as outlined in the Knowledge Sharing Protocol.

Members shall agree to provide information at regular intervals in an electronic format on the categories defined in the Knowledge Sharing Protocol. As project development progresses this could thus include, for example, progress against the schedule/milestones and decision gates passed, CO<sub>2</sub> captured, permits obtained/not obtained, capital and operational expenditure, changes in estimates/update of baselines. Where analysis is performed on this information, tabulated results will be generated as the basis for identification of best practices.

### **3.3 Global cooperation**

There are clear benefits to the united presentation of CCS demonstration projects internationally. Members shall agree for the Secretariat to promote the Network. This primarily involves the representation of the Network at meetings and events involving industrialised countries, emerging economies and non-governmental international entities working on CCS demonstration projects. Members are encouraged to participate in these activities. The level of international engagement is determined by the SC as being beneficial to EU economic and environmental goals, and in accordance with the Knowledge Sharing Protocol.

## **4. Commitment to network organisation and procedures**

### **4.1 Structure of the Network**

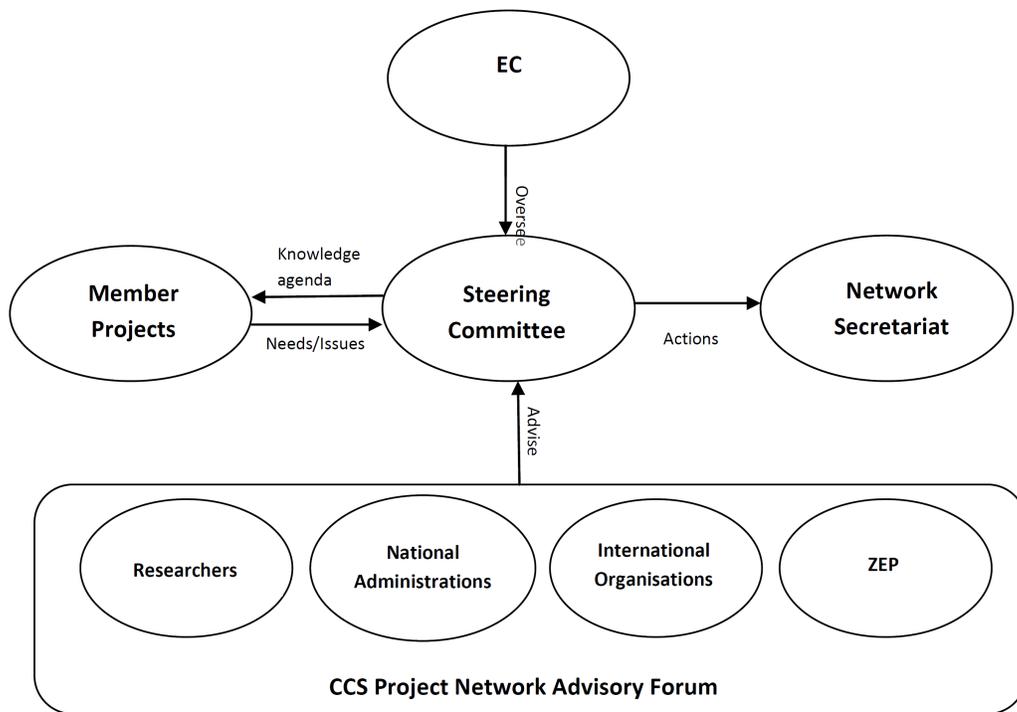
In order to run an effective and efficient operation, the Network recognises the following roles:

- **The European Commission (EC).** The EC provides overall coordination and context to the actions of the Network, and retains a seat on the Steering Committee. It will provide guidance on the execution of activities, the application of the Qualification Criteria, the content of the Knowledge Sharing Protocol, its expectations with respect to knowledge sharing, and the annual agenda of activities adopted by the Steering Committee.
- **Members.** The Network consists of Member projects that fulfil the criteria set out in this document, or other projects which do not fulfil the criteria but are deemed valuable to the Network and their consortium partners. Each member nominates a liaison as a contact for the Network Secretariat to deal with practicalities (e.g. website access and content, event registrations etc.) and a representative to the Steering Committee.

Where projects are organised as consortia, it is anticipated that they will be represented by project owners/developers/operators with assistance and support from all consortium partners. Members are further encouraged to establish agreements with their suppliers and sub-contractors to involve them in knowledge-sharing activities to maximise the value of Network discussions without regards to intra-project interfaces and company boundaries, and without compromising sensitive information between competing parties involved in the individual projects.

- **The Steering Committee (SC).** The SC is composed of representatives of each of the project proponents and the EC. Each proponent nominates an appropriate representative to sit on the SC. The SC proposes Network activities that best support the EU ambitions and are in line with the interests of members and other key stakeholders. It is responsible for agreeing the annual agenda of activities with the EC, sanctioning the accession of new members, and resolving issues within the Network to ensure delivery of the objectives.
- **The Advisory Forum (AF).** The AF comprises representatives of national administrations and other key stakeholder organisations, for example research organisations, the European Technology Platform for Zero Emission Fossil Fuel Power Plants (ZEP), NGOs, potential project developers, research institutes and international bodies involved in cooperation on CCS demonstration. The purposes of the AF are to provide guidance on knowledge-sharing themes and objectives, to provide oversight of Network progress in line with the policy objectives and to maintain strong links with the wider CCS community.
- **The Network Secretariat.** The Network Secretariat is responsible for the following actions.
  - Organising, facilitating and reporting on annual and interim events, including SC meetings;
  - Collecting and analysing information for publication of progress reports and thematic reports.
  - Publishing technical and policy analysis based on lessons learned from project development experiences
  - Managing the knowledge-sharing planning.
  - Supporting members with the identification of good practices and use of enabling tools to bridge gaps between 'knowledge donors' and 'knowledge recipients'.

- Communicating and promoting the Network to the global CCS community and the general public.
  - Managing the websites, intranet and social media.
- **The Wider CCS Community.** Communication of lessons learned and results from the Network projects to other bodies that are active in CCS research and demonstration will be ensured so that subsequent research and investment decisions are well-informed. Researchers, non-member CCS projects, international organisations, national governments and CCS supply chain companies will be targeted in this regard in accordance with the Knowledge-Sharing Protocol. Several of these will also be contributing parties to Network activities either through the Advisory Forum or participation on specific themes as agreed by the SC.
  - **Public.** It is to be ensured that the general public has free access to a range of information on the Network projects, to be able to form own opinions on the benefits and issues surrounding CCS. Public and NGOs with a high level of interest in CCS could be engaged in Network activities such as the annual Network event, and activities on public engagement in order to add value to discussions.



**Figure 1 Overview of the organisational structure of the Network.**

The level of participation of each of these roles in the knowledge-sharing process is detailed in the Knowledge-Sharing Protocol document. Further roles and additional roles may be defined by the SC in collaboration with the EC, for example by facilitating interaction between members and non-member industrial actors who may contribute detailed insights and be able to improve their own technology.

## 4.2 Role of the Steering Committee

The SC is the body that guides the activities of the Network and the preparation and publication of information.

The SC meets at least annually and will be involved in the ongoing decision-making processes of the Network operations in accordance with the publications procedure laid out in this section.

The annual meeting should review the previous year's activities and reports and agree on the next year's agenda.

Exchange of knowledge is most effective when it is by mutual consent. To achieve the highest levels of sharing and trust between members of the Network, joint decisions will be taken on the basis of agreement between members of the SC. Issues requiring such decisions include:

- Agreement of the annual knowledge-sharing themes and agenda based on proposals by the Network Secretariat and the Advisory Forum.
- The publication of material arising from Network activities in accordance with the publication procedure outlined in the Knowledge Sharing Protocol.
- The agenda and minutes of Steering Committee meetings.
- Adjustments to Network internal procedures.

## 4.3 Role of the Advisory Forum

The AF should meet annually, and should be kept regularly informed of the Network progress and be able to propose themes for knowledge sharing to the SC. The AF therefore plays a consultative role in the annual agenda-setting process of the Network.

Engagement with governments of Member States and non-EU countries with member projects on their territory builds on the foundations of the ZEP Government Group and the Berlin Fossil Fuels Forum. The experience, expertise and broader constituency of ZEP will be represented in the AF.

Research organisations that can contribute to building further knowledge on CCS, but are not directly involved in project consortia, are a key audience for knowledge generated by the Network. The AF is the body through which they are engaged in Network activities. Likewise, exchange of experience and information arising from projects efforts in other countries will be highly valuable to the worldwide acceleration of CCS deployment. Interaction with these projects, and other networks, is to be developed by the Network Secretariat, in consultation with the SC, to facilitate such exchanges. Representatives of international knowledge-sharing forums that may arise are to be invited to participate in the AF.

Meetings of the AF take advantage of the existing structure of the ZEP Advisory Council to ensure the engagement of the appropriate personnel and their participation, for example by holding back-to-back meetings with a proposed co-chairing of meetings by ZEP and the EC. The AF has a different composition to the ZEP Advisory Council to reflect its specific purpose.

## 4.4 Application process

The application process for membership of the Network is designed to be as simple and transparent as practicable, but sufficiently robust to ensure that all members are suitable projects at a similar level of maturity.

1. Applicants (developers of CCS demonstration or pilot projects, on behalf of all consortium members) submit the requested documentation to the Network Secretariat to demonstrate that they fulfil the criteria or provide sufficient added value to the Network. Applications will be shared with the EC and treated as commercial in confidence.<sup>4</sup> The address for submission is detailed on the website<sup>5</sup>. The applicant is notified of receipt of the application.

2. The Network Secretariat performs an evaluation of whether the application fulfils the criteria or will add value to the Network, making use of an opinion from the EC services and informing the EC of their evaluation. This usually will take no longer than 30 days dependent on the number of applications to be assessed, the quality of the applications submitted and the other commitments of the EC services.

3. The EC takes the final decision on endorsement of the application to the SC on the basis of the evaluation. When the SC decision is positive, the project coordinator, on behalf of the project owner(s)/consortium signs an accession form that is annexed to the CCS Project Network Membership Agreement, as established between existing members at that point in time, that they will respect the goals, organisation and procedures of the Network.<sup>6</sup>

4. If the application does not demonstrate fulfilment of the criteria in the view of the Network Secretariat, the applicant is notified by the Network Secretariat of their decision and the rationale. If it is considered that the rejected application is from a project that is in general sufficiently advanced and suited for the Network and that a revised application could satisfy the criteria, the applicant will be informed accordingly and invited to consider resubmission of its application.

Project developers may submit applications at any time.

Project developers should ensure that all consortium members are equally committed to meeting the Network qualification criteria. Contribution by project developers and consortium members to Network goals and activities is expected regardless of the project ownership configuration. CCS demonstration projects that are beneficiaries of funding under the European Energy Programme for Recovery (EEPR), the New Entrants Reserve (NER300) or any other EC programme that encourages membership of the Network are not required to additionally submit applications for Network membership. Their membership shall be recommended to the Steering Committee directly by the EC. They shall nevertheless be expected to provide the items listed in Section 4.7 of this document, as they are prepared, in order to inform the Network of progress against schedule.

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<sup>4</sup> The Network Secretariat is committed by the confidentiality clause of EC service contract ref TREN/300-1/C3/2008/S12.518806.

<sup>5</sup> <http://ccsnetwork.eu/about-the-network/how-to-join>

<sup>6</sup> This is to a mutual agreement between the projects that are members of the Network.

## 4.5 Contribution to the Network

In the course of the Network's operation, members are asked to update the information provided with their application and provide the supplementary information as outlined in Section 4.7. Projects may also be expected to supply additional information that will enable the Network to execute its core functions: learning of best practices, promotion of the projects to third parties/countries, provision of information about project progress to the public. The documentation, information and plans that members are required to submit will serve as a basis for analysis and evaluation of status/progress. In order to enable this, members should report consistently with the baseline information.

Furthermore, members are expected to participate in and contribute to events and activities organised by the Network, especially in the areas of public awareness, knowledge sharing and co-operation with partners globally. .

Appropriate staff should participate in Network activities to represent the project activities regarding technical, managerial, legal, communication, commercial or other developments. The Network Secretariat will represent the Network to external parties.

Members are required to make use of the common identity of the Network. For example, this shall include the use of the Network logo in presentations and public documents. This will be valuable in ensuring the recognition and success of the Network. Members are required to provide a point of contact for the Network coordinating team. This person will be available to manage contact between the Network and the member. Any changes in contact details are to be promptly notified to the Network Secretariat.

## 4.6 Online access

Information is to be uploaded by members and Secretariat to the Network intranet. The Network intranet has several subspaces with various levels of confidentiality:

- Area accessible to the individual member, the Network Secretariat and the EC (Logon controlled access)
- Area accessible to all Network members, the Network Secretariat, and the EC (Logon controlled access)
- Public areas accessible to everyone (projects outside the Network, other networks, authorities, NGOs, society at large)

The public website contains relevant news and information on each of members, where elements of submitted information are used in communication with third parties and the public. This is with prior consent of information providers.

Each member can also have a subspace on the public website with an easy to memorise address. The members-only website is for the support of online discussions and document exchange. IP and commercially sensitive know-how shall be duly considered.

## 4.7 Progress and experience gathering

The CCS Project Network aims to maintain a good understanding of the progress of the projects.<sup>7</sup>

During the preparation and construction phases it is important to ensure that members continue to be on schedule and that the status of each project is accurately communicated, both within the Network and externally.

At the time of application, members will submit their schedules and anticipated milestones. During operation of the Network these will be kept updated by members as and when baselines are revised and additional documentation will be provided by members to enable progress and experience gathering, and to provide a basis for identification of best practice. This is to include the following areas.

✓ *Project Organisation Development Plan.*

The principles for the main organisational transitions shall be addressed, e.g. the transition from the front-end engineering design phase to the design and construction phase, the transition from the commissioning phase to the operation phase.

✓ *Integration/Interface Management Plan.*

There will be several types of interfaces that need to be considered in a CCS project. In addition to the interfaces stemming from the technical integration of the full value chain a project is likely to have different legal entities constructing and operating different parts of the value chain. Interfaces could be design, construction and other physical interfaces, connections, or supply points, or documentary and liability interfaces such as contractual agreements with external operators.

✓ *Technical and Technology Risk Management Plan.*

A CCS project might include several new technology elements that are generally not adequately covered by established codes and procedures. New technology elements, inter alia, shall be identified and given specific attention with respect to risk management.

✓ *Health Safety and Environment (HSE) Risk Management Plan.*

An overall safety and integrity management philosophy for the integrated CCS system over its entire life cycle, i.e.; from initial concept through to final de-commissioning, should address the specific considerations for CO<sub>2</sub> related risks. The environmental impacts associated with the development and operation of an integrated CCS project shall be identified and assessed with respect to risk reducing measures. Health impact aspects, both in relation to the public health and in relation to occupational health and working environment of project employees, shall be identified and assessed with respect to risk reducing measures. Finally, this plan shall document that the HSE standards of the project

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<sup>7</sup> The differences between full chain demonstration and pilot projects are fully acknowledged and therefore applicability of such information and sharing obligations will be assessed on a project by project basis.

will conform, as a minimum, to all relevant national and supra national legislation, directives, regulations etc.

✓ *Public Communication Plan.*

This plan shall present a brief outline of activities (where applicable) to address public awareness on a national/local level and mechanisms for effective communication. The plan shall include both regular communication as well as communication in connection with major changes, special findings and incidents or emergencies. It is emphasised that it is crucial to building credibility in order to practice the highest possible level of transparency on HSE issues. Furthermore, it shall include processes for monitoring of public awareness/perception of CCS on national/local level and a schedule of purposeful activities for public engagement.

✓ *Storage: Site Selection report including Monitoring Strategy*

Applicants shall have selected at least one feasible storage site location for further site characterisation. The choice of storage site(s) shall be consistent with the findings of the screening report. This report shall include a description of a monitoring strategy for the selected site based on the monitoring objectives. It is appreciated that the final decision on storage site may not have been made at the time of application.

✓ *FEED Study*

It is expected that members will already be progressing with project planning at the time of membership. Completion of a FEED study is not a condition of membership but a timetable for completion of FEED study should be presented as part of the project schedule. The full documents are not required. Members agree to provide summaries of each document (including tables of contents) once they are prepared, in accordance with the corresponding milestones (with the application form).

## **4.8 Resignation**

In the event that a member resigns from the Network, the member's dedicated area on the website will be withdrawn. The knowledge contributed by the member to the Network and already processed through Network activities remains with the Network for continued sharing and as a basis for identification/formulation of best practice. Reciprocally, the knowledge already received through Network activities may be further used by the exiting member.

## **4.9 Exit**

The success of the Network in advancing CCS deployment rests on the participation of its members. Knowledge sharing, especially, is a mutual process. In exceptional circumstances, projects that do not continue to demonstrate an adequate level of commitment to the objectives of the Network may be excluded from the network. Decisions on exclusions from the Network are taken primarily on the basis of demonstrated commitment to knowledge-sharing. In the event of exclusion, the project's dedicated area on the website will be withdrawn. The knowledge contributed by the project to the Network and already processed through Network activities remains with the Network for continued sharing and as a basis for identification/formulation of best practice. Reciprocally, the

knowledge already received by the project through Network activities may be further used by the project. Detailed information submitted to the Network and not yet processed through Network activities remains the property of the excluded project.



The European CCS Demonstration Project Network was established in 2009 by the European Commission to accelerate the deployment of safe, large-scale and commercially viable CCS projects. To achieve this goal, this community of leading demonstration projects is committed to sharing knowledge and experiences. The successful deployment of this key technology will allow Europe to reach its environmental objectives, stimulate job creation, and generate a sustainable economic and industrial base.

Network support provided by:

