

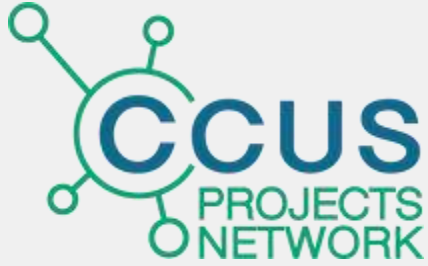
The CCUS projects network – supporting implementation of CCUS in Europe

Kristin Jordal^{1*} Marie Bysveen¹, Hans Bolscher², Liliana Guevara Opinska², Jessica Yearwood², Philippa Permitter³, Peter Brownsort³, Dennis Kraemer⁴, Elisa Calignano⁵, Tom Mikunda⁵, Jan-Justus Andreas⁶, Keith Whiriskey⁶

¹SINTEF Energy Research, ²Trinomics, ³SCCS, ⁴DECHEMA, ⁵TNO, ⁶Bellona



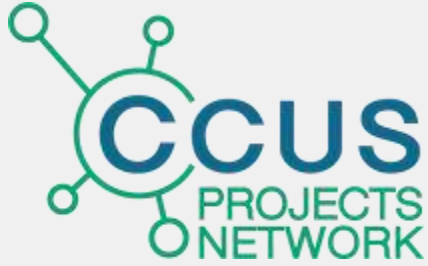
This project is financed by the European Commission under service contract No ENER/C2/2017-65/SI2.793333.



What is the CCUS Projects Network?

- The Network aims to foster knowledge sharing among **existing and emerging major CCUS projects**.
- The Network objectives are:
 - Support successful deployment of CCUS technologies;
 - Increasing public support of CCUS;
 - Substantially contribute to positive climate outcomes
- The Network seeks to maximize support to CCUS through cooperation with ZEP and SET-Plan IWG9, IMPACTS9 project



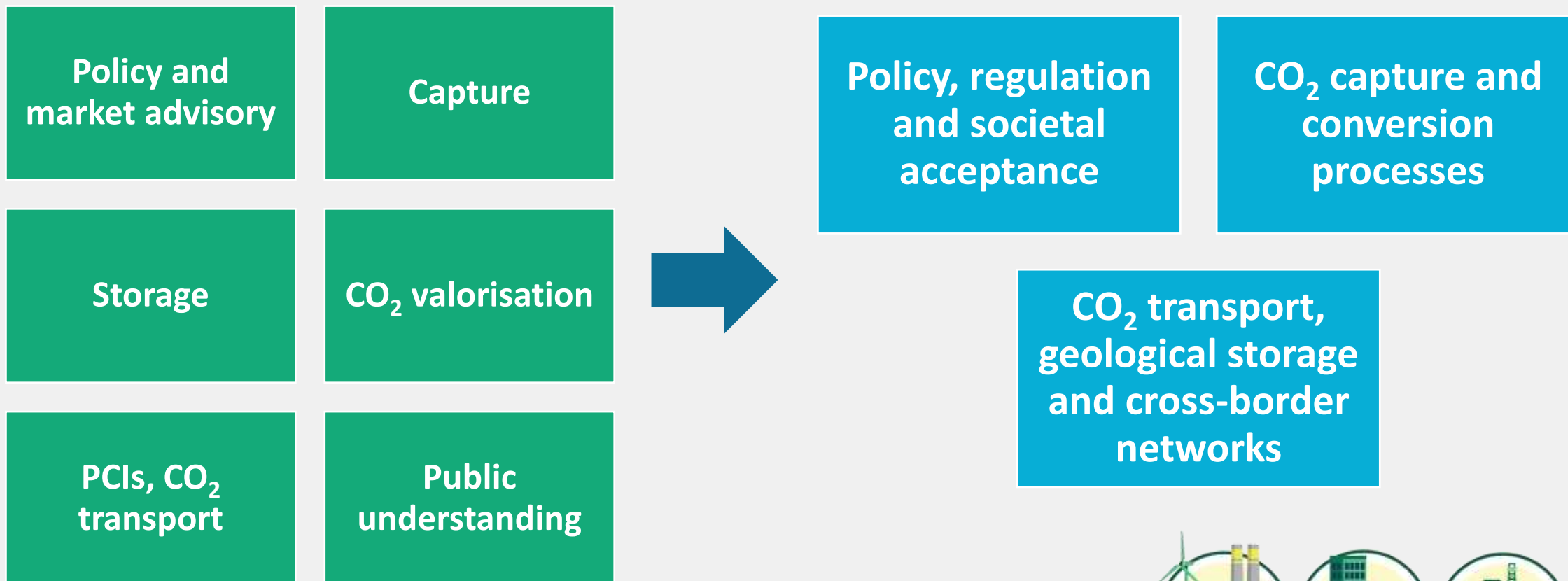


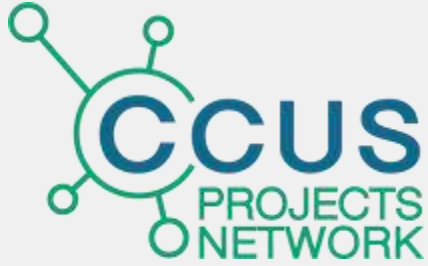
Guiding principles for network

- Maximise knowledge sharing through **thematic groups**
- Provide a **secure setting** to allow the exchange of information not-currently in the public domain
- Minimise the burden on network members through efficient information gathering and taking responsibilities for all network outputs



Thematic groups

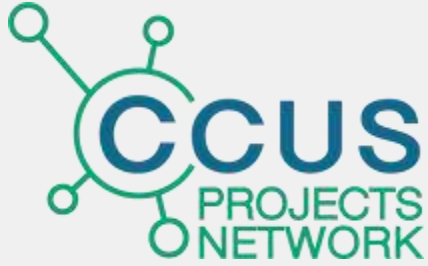




Network actors and stakeholders

- **Network secretariat** - Establish and manage network, chairing steering committee, organising events, gather, analyse and disseminate knowledge
- **Steering committee** - Comprised of EC and network member representatives, chaired by network PM. Defining network activities, providing strategic guidance
- **Network members** - CCUS projects that meet the eligibility guidance
- **European Commission** - Provides overall strategic direction both through Steering Committee but also regular project meetings with the network secretariat
- **Wider CCS and CCU community** - Including ETP ZEP, IEA, CSLF, CEM, and particularly the IMPACTS9 project. Acts as both useful input in shaping network focus but also as a key target audience for network outputs
- **General public** – Another primary target audience of the network. Dissemination and educational events will be undertaken to increase awareness and acceptance for CCUS

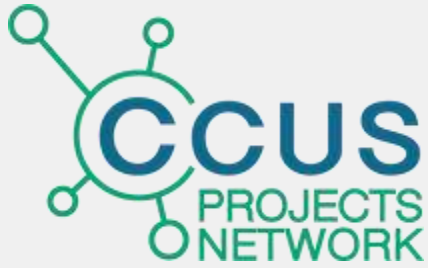




Membership benefits

- Sharing best practice
- Sharing permitting and regulatory experiences
- Access to dissemination & knowledge exchange expertise
- Advice on public engagement & shared experience
- Engaging with EU officials during knowledge exchange
- Developing solutions to common problems
- Members-access knowledge hub





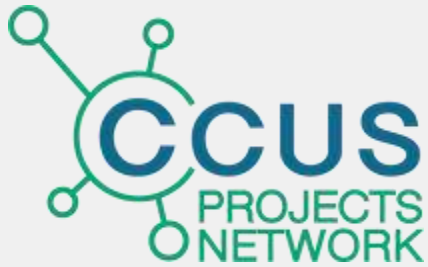
1st Knowledge Sharing Event

May 27



- Positive first event, 8 projects
- General enthusiasm for the Network, agreement on need for cooperation among projects in Europe
- Interesting perspectives on main topics of interest (under thematic groups)

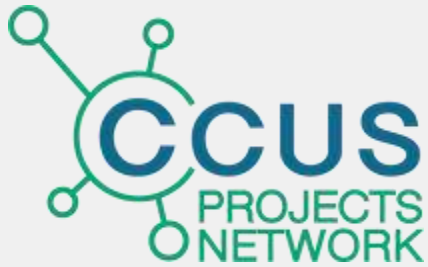




Project eligibility

- The previous EU CCS Demonstration Project Network had stringent eligibility criteria. The focus was on CCS on coal-fired power plants.
- The new network's focus needs to reflect the current CCUS project developments:
 - Shift from CCS on coal-fired power to a broad range of industrial applications
 - No full-scale projects currently receiving direct EU funding support
 - Hence, participation in the network will be on a **voluntary basis**
 - SET-Plan objectives on capture, transport, storage and utilization
- Eligibility guidance has been significantly altered to allow a broader range of projects at stages of development to participate, however industry backing and scale-up potential remain paramount.



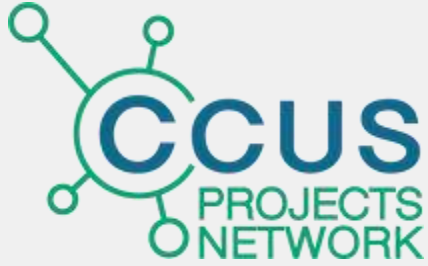


Network Projects requirements

Projects in the Network should:

- have a clear objective of deploying a substantial CCUS facility;
- have potential to progress at least one of the targets, R&I or flagship activities of the SET-plan;
- have a dedicated project owner, and explicit support from industry when an industry is not the project owner;
- can show environmentally beneficial impacts, and large CO₂ emission reduction targets;
- be committed to strengthening European CCUS industry through sharing and absorbing knowledge;
- have a commitment to public engagement and to improve awareness and acceptance of CCUS in general





Membership process

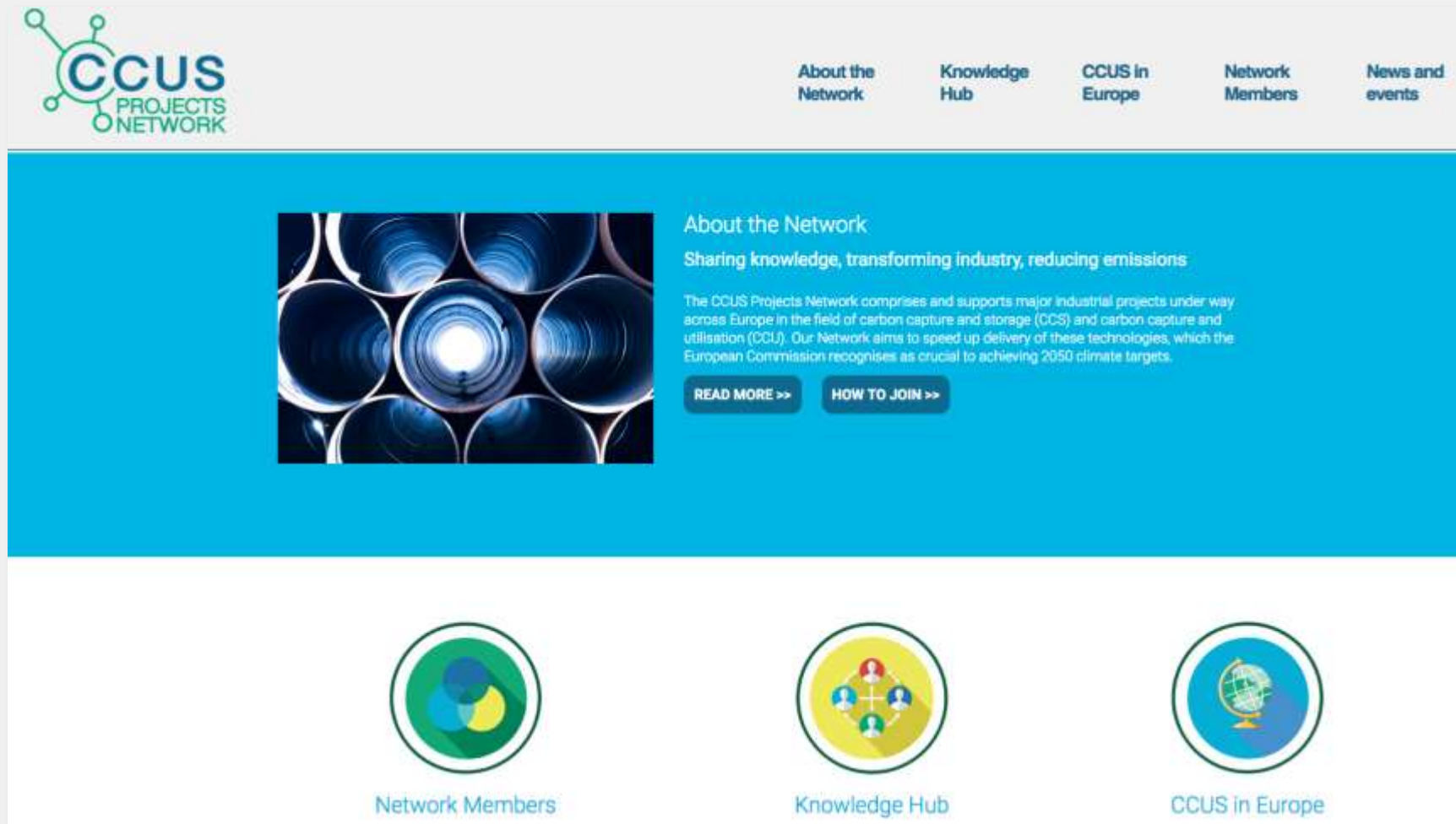
1. a) Pre-selection by network secretariat
b) Voluntary application
2. Completion of Expression of Interest
3. Positive approval? Completion of Project Questionnaire
4. 2-page project Inception Report completed by Secretariat
5. Approval of Inception Report by network member





Website

News and events
Knowledge hub
Thematic reports
Annual reports



This project is financed by the European Commission under service contract No ENER/C2/2017-65/SI2.793333.



Social media (LinkedIn & Twitter)

European CCUS Projects Network
32 followers
1d

How will the European Commission meet its net-zero carbon ambitions by 2050? Read our first 'hot topic' briefing from Bellona Europa - From pathways to action: implementing 'no regrets' climate solutions for Europe's industry ...see more

The infographic is divided into three main sections: REINVEST, REDUCE, and REPLACE. REINVEST includes 'Design CO₂ separation and capture into the heart of the process (e.g. H₂ production and making process)' and 'Provide energy and directly use for the production of H₂'. REDUCE includes 'Avoid CO₂ emissions by using fuels with low carbon content', 'High-quality sorting and recycling of materials at the end of their use can reduce the need for new production', and 'New building practices and construction codes can avoid the concrete of products like cement and steel'. REPLACE includes 'Alternative cementitious materials and recycled industrial waste can replace traditional cement' and 'Construction in wood may reduce the price of cement in some circumstances, reducing the need for new cement production'. A 'Save' button is visible on the left.

From pathways to action: implementing 'no regrets' climate solutions for Europe's industry
ccusnetwork.eu

4 · 1 Comment

Like Comment Share

The Twitter profile card for @ccusnetwork. The header features a blue background with a stylized illustration of a factory and a ship. The profile picture is the CCUS Projects Network logo. The bio reads: "ccusnetwork @ccusnetwork Joined April 2019". The statistics show: 15 Tweets, 145 Following, 84 Followers, and 6 Likes. The tabs "Tweets", "Tweets & replies", and "Media" are visible. A tweet from June 11 is shown, which is the same as the one in the LinkedIn post.

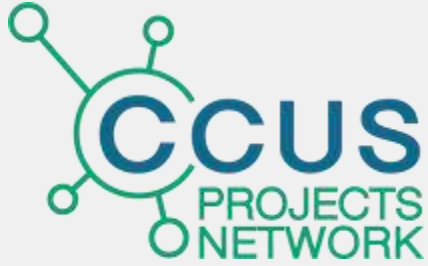
ccusnetwork
@ccusnetwork
Joined April 2019

Tweets 15 Following 145 Followers 84 Likes 6

Tweets Tweets & replies Media

ccusnetwork @ccusnetwork · Jun 11
How will @EU_Commission meet its net-zero carbon ambitions by 2050? Read our first 'hot topic' briefing from @Bellona_EU - From pathways to action: implementing 'no regrets' climate solutions for Europe's industry ccusnetwork.eu/news/pathways-...





First Contact

Contact Information:

Liliana Guevara Opinska

Square de Meêus 24, 1000 Brussels, Belgium

liliana.guevara@trinomics.eu

Tel:+31 (0) 6 1340 7415

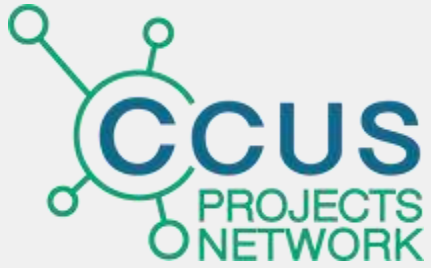


This project is financed by the European Commission under service contract No ENER/C2/2017-65/SI2.793333.



This project is financed by the European Commission under
service contract No ENER/C2/2017-65/SI2.793333.

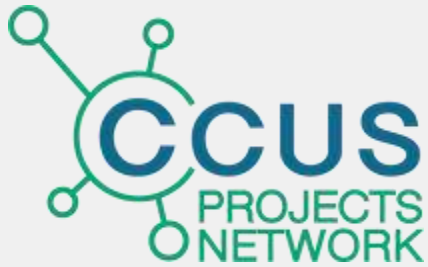




Backup



This project is financed by the European Commission under service contract No ENER/C2/2017-65/SI2.793333.



Thematic groups

- **Policy, regulation and societal acceptance**
 - These topics are combined in order to provide a platform to address the majority of non-technical challenges facing large-scale CCUS projects. Policy and regulation are interrelated, and social acceptance can influence policy developments.
- **CO₂ capture and conversion processes**
 - CO₂ utilisation processes are expected to be developed in the close vicinity to capture sources. There are a number of overlaps in the chemical engineering domain between CO₂ capture and conversion (utilisation) processes, such as process design and catalysis.
- **CO₂ transport, geological storage and cross-border networks**
 - CO₂ transport and storage development are to a large extent dependent on one another – the storage site characteristics will determine the transport conditions of the CO₂. Some Member States have no access to geological storage sites and therefore cross-border networks (incl. PCIs) are highly relevant here.



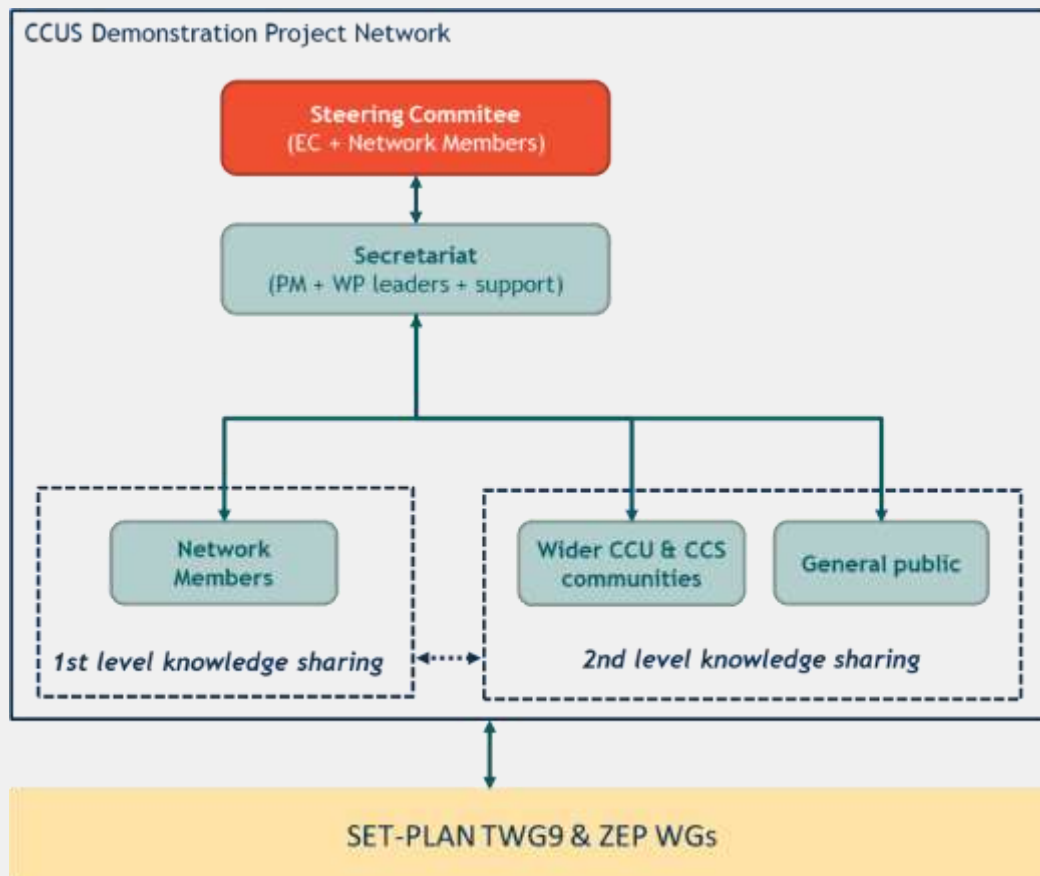


Project specific criteria

- **Capture** technologies in the network should demonstrate a technology readiness level of 5 or above.
- **Storage** projects in the network should involve clearly defined storage formations, which have either completed site characterisation and assessment or are in the process of doing so.
- **Transport** projects in the network should have a clearly defined CO₂ source and sink.
- For **Projects of Common Interest** (PCIs), the project should be approved by the European Commission, or awaiting notification following a submission. PCIs in preparation may be considered for inclusion if plans are deemed to be at a sufficiently advanced stage by the Secretariat.
- These principles may be developed or added to through discussion between Network members, Secretariat and the Commission.



Network structure and themes



- **Level 1 knowledge sharing** - only available to network members. If requested arrangements can be made for further restrictions, for example by restricting information to thematic groups.
- **Level 2 knowledge sharing** – Open knowledge, focused on external stakeholders.
- All knowledge outputs derived from network members to require formal sign-off.



Network knowledge sharing WP

Work Package 3: Knowledge Sharing

Internal information gathering

- Questionnaires
- Project inception reports

Information analysis and knowledge creation

- Project briefings
- Technical thematic studies
- High level annual report

Knowledge sharing within Network

- 7 onsite events
- Thematic working groups
- 6 webinars

Knowledge sharing beyond Network

- 3 onsite events
- Presentations at outside events

