Knowledge sharing report and indicators

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European Commission

Knowledge Sharing - objectives

Part of the call text and of the grant agreement

Information to be shared and activities to be undertaken by the project at the different project stages in order to:

- **de-risk** the innovative technologies or solutions with regard to scaling up to a commercial size
- **accelerate** deployment and commercialisation of innovative technologies.

Three priorities:

1. Sharing the knowledge within the IF projects
2. Promote synergies with other EU programmes
3. Policy feedback to the European Commission

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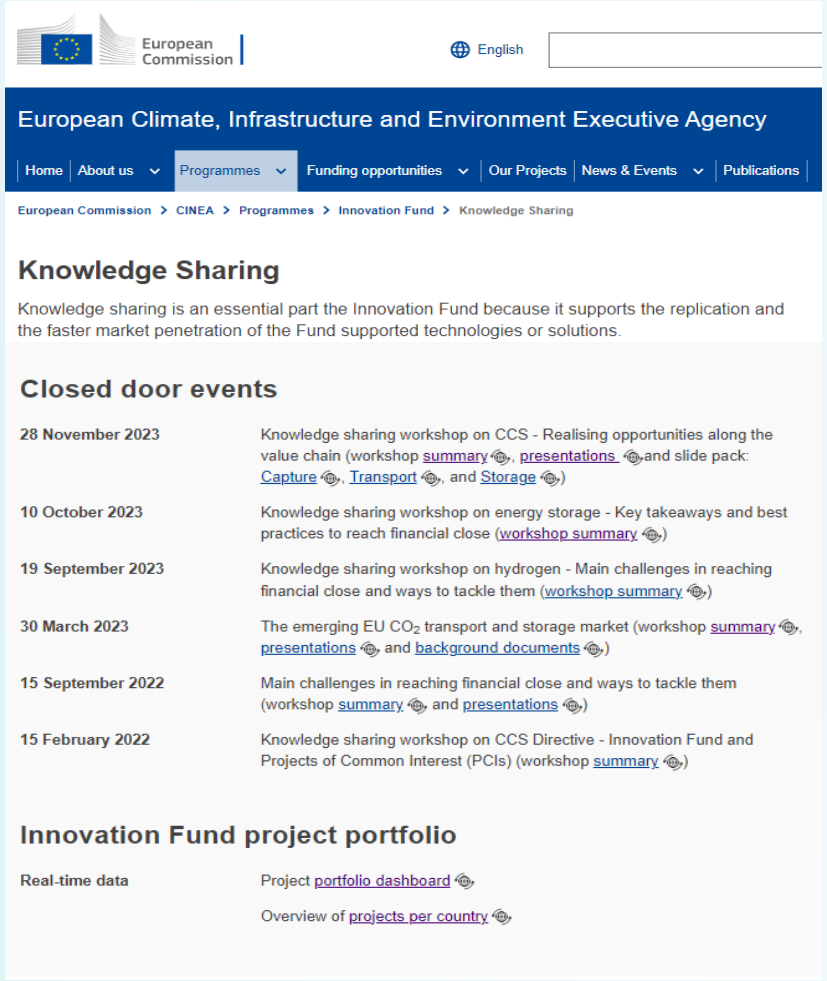
Knowledge Sharing - Annual Report



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European Climate, Infrastructure and Environment Executive Agency

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Knowledge Sharing

Knowledge sharing is an essential part the Innovation Fund because it supports the replication and the faster market penetration of the Fund supported technologies or solutions.

Closed door events

28 November 2023	Knowledge sharing workshop on CCS - Realising opportunities along the value chain (workshop summary, presentations and slide pack: Capture, Transport, and Storage)
10 October 2023	Knowledge sharing workshop on energy storage - Key takeaways and best practices to reach financial close (workshop summary)
19 September 2023	Knowledge sharing workshop on hydrogen - Main challenges in reaching financial close and ways to tackle them (workshop summary)
30 March 2023	The emerging EU CO_2 transport and storage market (workshop summary, presentations and background documents)
15 September 2022	Main challenges in reaching financial close and ways to tackle them (workshop summary and presentations)
15 February 2022	Knowledge sharing workshop on CCS Directive - Innovation Fund and Projects of Common Interest (PCIs) (workshop summary)

Innovation Fund project portfolio

Real-time data	Project portfolio dashboard
	Overview of projects per country

COMING SOON (June 2024)

Knowledge Sharing Annual Report

This report sheds light on **challenges** related to difficult market conditions, securing finance and off-take agreements,…as well as **insights** into how IF projects apply different strategies to overcome these challenges.

https://cinea.ec.europa.eu/programmes/innovation-fund/knowledge-sharing_en

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Knowledge Sharing Annual Report
Sneak preview of the challenges

Common challenges of IF projects

- Challenging market conditions with direct and indirect consequences: delays caused by supply chain disruptions, higher capital expenditures and higher cost of capital
- Regulatory bottlenecks and challenges with permitting
- Technical constraints causing delays
- Securing finance

Challenges in specific clusters of IF projects

EIIs	Hydrogen	CCS	Renewable energy	Energy storage
• Delays or disruptions in the supply chain • Securing grid connection and adequate grid capacity • High production costs and difficulties to secure off-take agreements	• Alignment of renewable electricity supply with hydrogen production • Securing off-takers • Complex permits • Lacking established European standards	• Scarcity of CO2 storage sites • Risk-sharing and risk-management mechanisms must be addressed across a value-chain • Lacking CO2 standards for transport • Difficulties in monetising the generated negative emissions	• Securing off-takers • Regulatory and permitting constraints	• Regulatory and permitting challenges • Challenges in establishing viable business models for deploying energy storage systems • Increases in materials and semiconductors, impacting the costs of electrical equipment

Knowledge Sharing Annual Report

Sneak preview of the lessons learned and solutions

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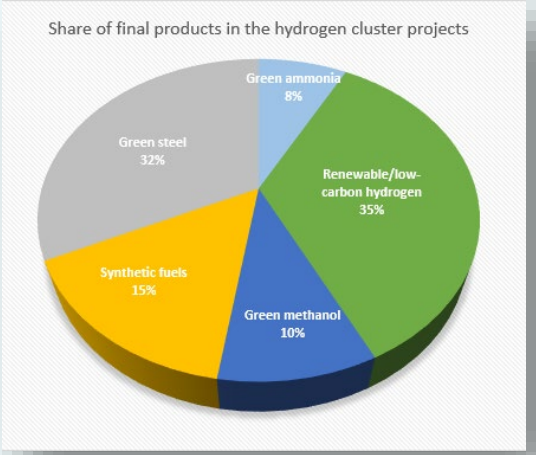
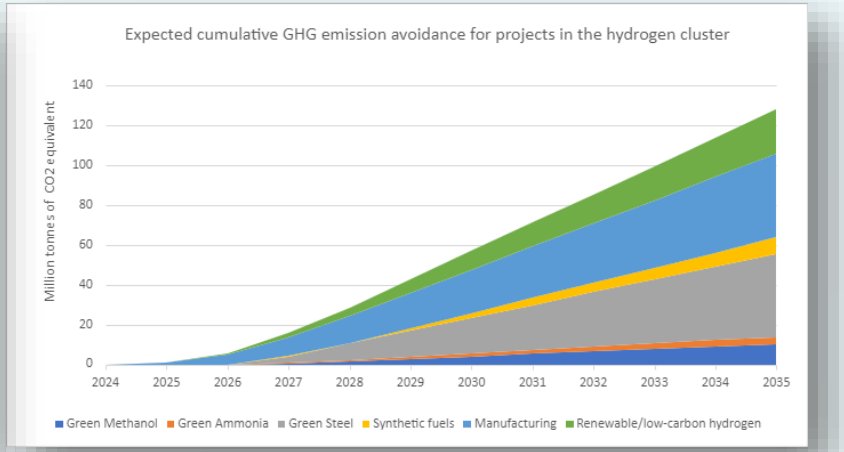
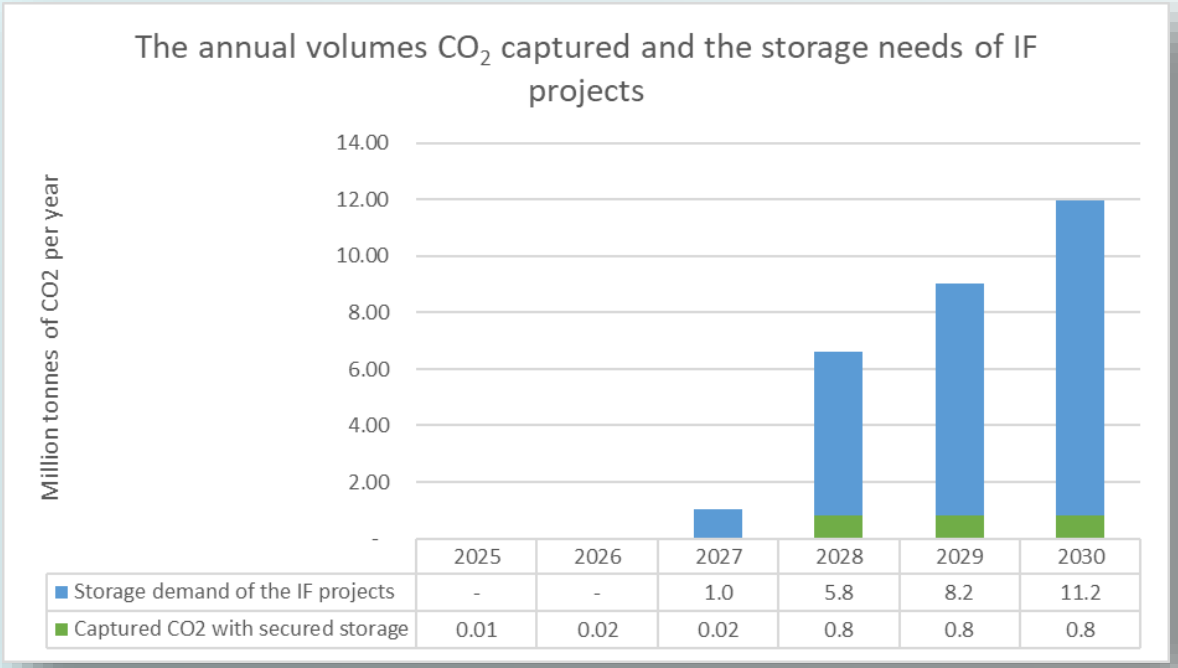
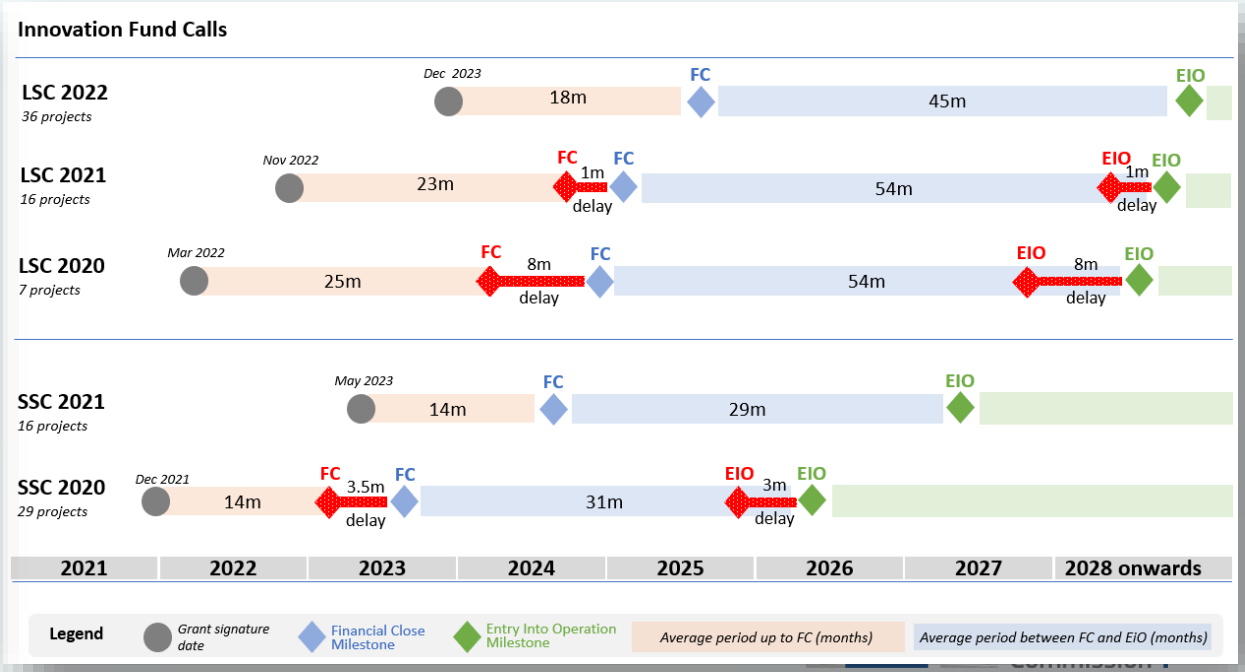
Knowledge Sharing Annual Report

sneak preview









Knowledge Sharing – closed-door workshops

COMING SOON

Renewable Energy value chain summary

This summary provides **key takeaways** to strengthen and debottleneck the renewable value chain, focusing on permitting, financing, public acceptance, and manufacturing.

https://cinea.ec.europa.eu/programmes/innovation-fund/knowledge-sharing_en

Other available summaries and presentations:

- CCS
- Hydrogen
- Energy storage
- Main challenges in reaching financial close by the IF projects and ways to tackle them

Consultation on the Innovation Fund knowledge sharing indicators

Joao Serrano Gomes, DG CLIMA, Policy Officer - C.2 - Low Carbon Solutions (II): Research & Low Carbon Technology Deployment

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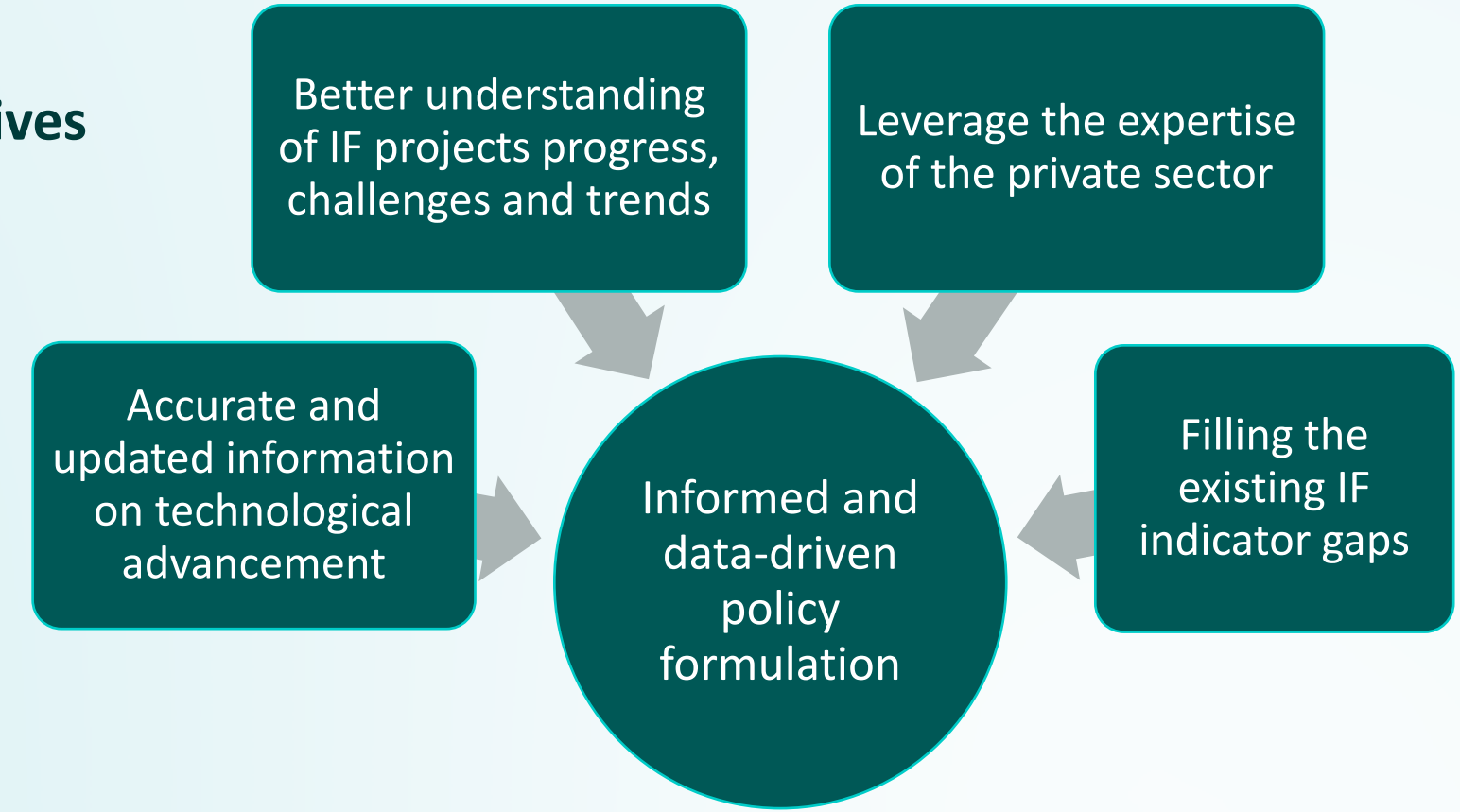
Objectives & Content of the stakeholder consultation

- **Content**: refinement of the existing technological/engineering/operational indicators we require from IF projects as part of their Knowledge Sharing requirements.

- **Objectives**



Structure of the contribution

Your input required:

- Based on sectoral expertise, **we will consult industry associations on a specific draft list of indicators** that needs confirmation, refinement and/or additions.

- If a sector-specific list is not yet available, **we will ask industry associations to create a list of indicators for their sector**, using an existing list as a reference.

A **single guiding question** for the consultation

- Based on the current indicators, what additional technical, economic, management, environmental, and regulatory information would **help accelerate the adoption of innovative technologies without compromising** intellectual property rights, competitiveness, or first-mover advantage?

How the draft list of indicators appears (e.g CCUS)

Indicator Category	Subcategory	Indicator name	Instructions for Project coordinators	Type of Indicator	values and engineering units
A1.1 capture	A1.1 capture	CO2 capture energy efficiency	Energy needed per unit of CO2 capture (MWh/tCO2 captured, Lower Heating Value)	value	MWh/(t CO2 captured)
A1.1 capture	A1.1 capture	CO2 stream specification after capture	CO2 stream specifications before entering the compressor (and based on CO2 metering equipment location), including any deviations from	free text	
A1.1 capture	A1.1 capture	Does the project implement a capture step itself?	Determine whether the project implements a capture step itself or if the capture step is implemented outside the boundaries of the project	drop-down	yes/no
A1.1 capture	A1.1 capture	Does the project include bioenergy with carbon capture and storage (BECCS)?	Self-explanatory	drop-down	yes/no
A1.1 capture	A1.1 capture	Does the project produce blue hydrogen?	Determine whether the project include capture of (most of) the CO2 emitted during the production of hydrogen from fossil sources	drop-down	yes/no
A1.1 capture	A1.1 capture	Is CO2 acquired from third parties?	Self-explanatory.	drop-down	yes/no
A1.1 capture	A1.1 capture	CO2 capture rate	Full load capture rate. If plant has not been operated at full load, please provide estimate based on partial load data. Capture rate	value	%
A1.1 capture	A1.1 capture	The source of CO2 captured	Source can be: cement production, biomass, the atnosphere, etc.	free text	
A1.1 capture	A1.1 capture	Volume of CO2 captured annually	Volume of CO2 which is captured each year and then fed to the project (minus possible losses). It can be captured by the project itself or	value	ton
A1.2 waste	A1.2 waste	Handling and disposal of the by-product and waste streams	Explain how by-products and waste are handled and disposed in the framework of the project.	free text	
A1.3 storage	A1.3 storage	CO2 stream specification accepted at the storage site	CO2 stream specifications required at the storage site by the storage provider.	free text	
A1.3 storage	A1.3 storage	Does the project implement the storage or utilisation step itself?	Self-explanatory.	drop-down	yes/no
A1.3 storage	A1.3 storage	Downtimes	Explain the number and duration of downtimes in the previous operating year, and the reasons behind them.	free text	
A1.3 storage	A1.3 storage	Is storage covered through a service contract?	Self-explanatory.	drop-down	yes/no
A1.3 storage	A1.3 storage	Performance description	Describe the overall performance of the storage operations, including injection, permanence of storage, etc.	free text	
A1.3 storage	A1.3 storage	Storage installation overview	A summary of the storage installation including brief description of the facilities onshore and offshore	free text	
A1.3 storage	A1.3 storage	Summary of the monitoring plan	Self-explanatory.	free text	

Timeline for the consultation on indicators

Start of the consultation

- Mail from CLIMA INNOVATION FUND on **13th of June** outlining the instructions for the consultation

Consultation Period

- 2-week consultation period ending on **28th of June**

Follow-up with participating stakeholders

- The final list of indicators is shared with participating stakeholders
- Planned for Q3 2024