Global CCS Institute - Update

THE GLOBAL CCS INSTITUTE

International think tank

Backed by governments, businesses and NGOs

Mission: To accelerate deployment of CCS

80 MEMBERS

6 Regional Offices

Core Institute activities

GLOBAL CCS INSTITUTE

LARGE SCALE CCS FACILITIES

	OPERATING	CONSTRUCTION	DEVELOPMENT
NOVEMBER 2019	19	4	28
	+1	-1	+9
CURRENT	20	3	37

FACILITIES ADDED

Project name	Country
Prairie State Generating Station Carbon Capture	USA
Mustang Station of Golden Spread Electric Cooperative Carbon Capture	USA
San Juan Generating Station Carbon Capture	USA
Plant Daniel Carbon Capture	USA
Gerald Gentleman Station Carbon Capture	USA
Cal Capture	USA
LafargeHolcim Cement Carbon capture	USA
Velocys' Bayou Fuels Negative Emission Project	USA
Drax BECCS Project	UK

Data taken from CO_2RE database - https://co2re.co/

CORONAVIRUS RESPONSE

CCS Talks webinar series

- CarbonNet Project –A hub for climate change action and economic growth
- The Alberta Carbon Trunkline – Alberta's newest Carbon Solution
- Climate Ambition in the context of Covid 19 recovery

Close interaction with Institute Members and key proponents of CCS

- Strategic initiatives – SE Asia CCS Roundtable
- Virtual Member Meetings
- Introductions amongst Members and CCS stakeholders

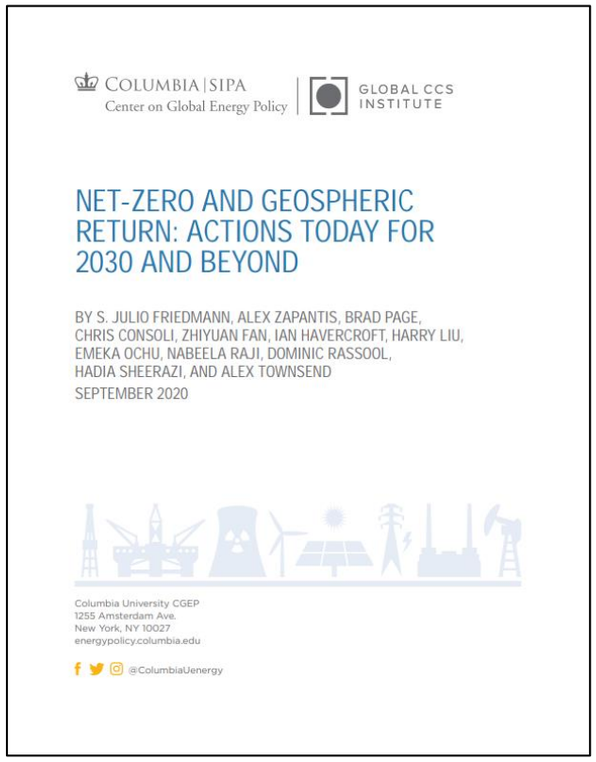
Active involvement in CCS Webinars and Meetings organised by third parties

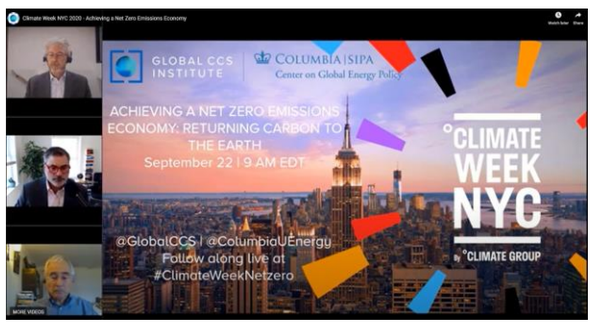
- The Institute is increasingly asked to organize CCS panels on behalf of third parties
- We are being invited to join influential forums to discuss CCS

Other

- Regular publications
- Response to an increasing number of consultations regarding CCS
- We are examining additional ways to maintain a high level of engagement

NET-ZERO AND GEOSPHERIC RETURN





- Necessary to achieve net-zero for any climate stabilization target.
- Global emissions must drop 50 percent by 2030 and reduce a further 50 percent from that level by 2040 to achieve net-zero by mid-century.
- Any carbon removed from the earth must be returned to the earth. To manage this aspect of the global carbon budget, CCS must play a central role.
- In particular, CCS will be important in two major roles:
  - To manage emissions from existing, long-lived capital stock.
  - To enable large-scale CO2 removal through engineered systems. DACCS, BECCS.
- To enable growing deployment of CCS, A set of actions are essential:

Deployment of Infrastructure

- Estimates suggest the 8,000 kilometers of existing CO2 pipelines in North America must be expanded by 35,000 kilometers to maximize emissions reduction.

Commencement of Projects

- Large capital projects like CCS projects and related infrastructure require 6–10 years from conception to commissioning.

Market-Alignment Through Policy

- Durable policies that align market dynamics and attract private capital will be essential— most importantly, policies that enable project finance.

GLOBAL STATUS OF CCS 2020

- To achieve cost-effective net-zero emissions, CCS investment can help in four main ways:
  - Achieving deep decarbonisation in hard-to-abate industry
  - Enabling the production of low-carbon hydrogen at scale
  - Providing low carbon dispatchable power
  - Delivering negative emissions
- The Institute has introduced an updated project/facility classification system to better reflect the industry today.
- Sixteen new commercial facilities entered the project pipeline since the *Global Status of CCS Report* 2019.
- Three notable aspects of recent growth in the commercial CCS project pipeline:
  - **Enhanced tax credit in the US**

    US involvement in 12 of 16 new facilities in 2020, is largely due to the enhanced 45Q tax credit signed into law in 2018, with the Internal Revenue Service issuing more detailed guidance in 2020.
  - **Hubs and clusters**

    Hubs and clusters significantly reduce the unit cost of CO_2 storage through economies of scale, offering commercial synergies that reduce investment risk.
  - **Hydrogen: Fuel of the future**

    Coal gasification, or natural gas reforming with CCS, is the lowest cost option for producing hydrogen.
- While the COVID-19 pandemic has caused delays in international climate policy, the sizable economic recovery packages in response to it, have brought climate change to the forefront of investment decisions. There is a unique opportunity to scale up funding for climate action, including for CCS.

PLANNED ACTIVITIES

Publications

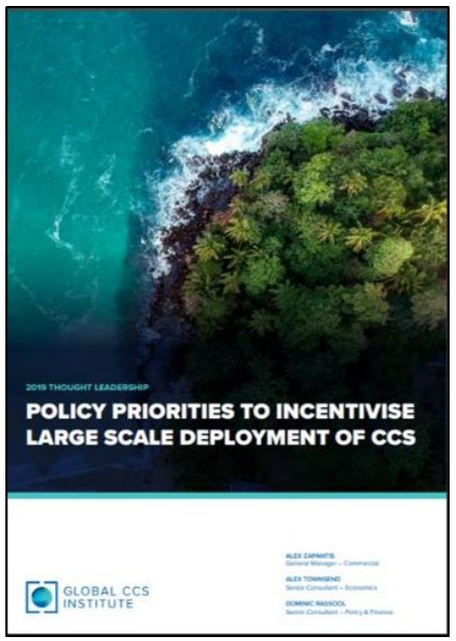
- Global Status of CCS report 2020
- ESG and the role of CCS
- Funding CCS deployment
- De-risking CCS Brief

CCS Talks Webinars

- Examining CCS Liability
- CCS in Waste to energy
- Europe's newest CCS projects

Other Events

- MENA Energy Meet
- Reuters Energy Transition Summit
- 7th Australasian emissions reduction Summit
- Decarb Connect
- Carbonomics Conference



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THANK YOU

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GLOBAL STATUS OF CCS 2019 TARGETING CLIMATE CHANGE