

Carbon Capture and the Inflation Reduction Act

The Inflation Reduction Act of 2022 (IRA) provides critical updates to the 45Q tax credit, which incentivizes the use of carbon capture and storage – a climate solution that the Intergovernmental Panel on Climate Change (IPCC) and International Energy Agency (IEA) have found is likely to play a vital role in efforts to address climate change.

The 45Q tax credit provides a tax credit for every ton of CO₂ captured and permanently stored in geological formations. By expanding and enhancing 45Q to **85\$/tonne**, the U.S. Congress has made the tax credit significantly more accessible to a broad array of investors and developers. This will move carbon capture and storage closer to realizing its potential as a critical decarbonization solution for hard-to-abate industries such as steel, cement, refineries, and power generation.

Industrial sectors that have previously lacked the requisite incentives to decarbonize will now be more likely to participate in the carbon capture, removal, transport, and storage ecosystem. Likewise, **direct air capture (DAC)**, is likely to gain traction as a leading carbon dioxide removal technology with a **higher incentive level at 180\$/tonne**.

Which industries benefit from raising 45Q to \$85?

Industry	Total costs of CCS (\$/tonne) ¹
Chemicals	55 - 65
Hydrogen	61 - 82
Cement	65 - 100
Refineries	68 - 93
Steel	80 - 89
Petrochemicals	82 - 85



¹ [Transport Infrastructure for Carbon Capture and Storage](#), Great Plains Institute and Wyoming University, 2020. Calculations show the estimated costs of CCS in the USA

45Q Enhancements in the Inflation Reduction Act



- The IRA increased credit values are only realised in full if worker requirements are met, such as a mandatory minimum wage for employees.
- 45Q incentives increase from \$50 to \$85/tonne for storage in saline geologic formations from carbon capture on industrial and power generation facilities.
- 45Q incentives increase from \$50 to \$180/tonne for storage in saline geologic formations from DAC.
- 45Q's commence construction window is extended seven years to January 1, 2033. This means that projects must begin physical work by then to qualify for the credit.
- The credit can be realized for 12 years after the carbon capture equipment is placed in service and will be inflation-adjusted beginning in 2027 and indexed to base year 2025.
- For industrial emitters, the capture threshold for credit-eligible facilities will decrease from 100,000 tonnes of CO₂ emitted per year to 12,500 tonnes.
- For DAC facilities, it will decrease the amount of CO₂ capture requirements from 100,000 tonnes captured per year to 1,000 tonnes per year.

How Europe can seize the Carbon Capture opportunity



In Europe, deployment of carbon capture technologies can:

- Help decarbonise industry, a critical part of generating **clean economic growth** and ensure **global competitiveness**
- Decarbonise production of **critical products and materials** for the energy transition and for **global export markets**
- Secure and create **thousands of well-paying jobs**

Therefore, Europe must now develop:

- 1 A European Carbon Capture and Storage Strategy** to establish a plan with clear targets for carbon capture and storage in Europe, focus on key industrial sectors, emphasise the importance of CO₂ infrastructure development, and develop regional and international cooperation.
- 2 Accelerate the development of transport and storage infrastructure** by providing a clear legal framework for the transport of CO₂ across Europe, accelerate permitting procedures and encourage Member States to develop CO₂ storage sites.
- 3 A supportive policy framework for carbon capture and storage** through expansion of cost-effective schemes like carbon contracts for difference to industries across Europe.