

# HUBS IN ACTION – LESSONS FROM OGCi'S KICKSTARTER HUBS

## CHINA NORTH-WEST

China's first CCUS hub, led by CNPC, is designed to capture and store carbon dioxide from the hydrogen production units of refineries.

The China National Petroleum Corporation (CNPC) is setting up the country's first CCUS hub, China North-West, in the Junggar Basin. This area has a high concentration of large-scale emitters with relatively pure carbon dioxide streams.

In the first phase, operating by 2025, CNPC plans to construct the pipelines and storage systems, and capture 1.5 million tonnes of carbon dioxide each year from one of its own refinery facilities. In the second phase, expected to capture 3 million tonnes of carbon dioxide per year by 2030, the hub will expand its transport infrastructure, taking carbon dioxide from hydrogen production, as well as from other potential customers including cement, steel and power plants. The aim is to expand to 10 million tonnes per year by 2040.

CNPC's oilfield subsidiary will inject the carbon dioxide. Initially this will be used for enhanced oil recovery to provide a commercial impetus, to develop the technology, but the plan is to move towards long-term geological storage. Transport may start using tanker trucks, to be replaced with pipelines as the project scales up.

Interest from industrial emitters is growing. China announced in 2020 that it was targeting carbon

neutrality by 2060, and a national emissions trading scheme started operating in July 2021. Although carbon prices on the scheme have started low, at a few dollars per tonne, emitters are anticipating much higher prices by 2030 that will make CCUS a commercial proposition.

Policy support mechanisms for capital expenditure and operating expenses are still under discussion for the transport and storage infrastructure. Negotiations are also in progress with potential emitters to create a commercial foundation for capture. These mechanisms will become clearer when China's National Development and Reform Commission publishes its CCUS plan, expected by early 2022.

CNPC is planning to build three additional hubs in China by 2030.



### Location

northwest China

### Potential impact by 2030

3 MtCO<sub>2</sub>/year

### Hub developer/T&S

CNPC

### Initial CO<sub>2</sub> sources

refineries

### Potential CO<sub>2</sub> sources

cement, chemicals, power

### Transport

trucks,  
pipeline

### Storage site

oilfields, active (for EOR) and  
disused

### Status

expected to start construction by  
2023

### In operation

2025