

Sustainability in a Lower Carbon Economy

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Oxy Low Carbon Ventures



Occidental Is The Leader In CO₂ Enhanced Oil Recovery

Capability

Over 1,200 employees with long history of enhanced oil recovery and sequestration

Reservoir

Largest acreage position with the most CO₂ and waterfloods

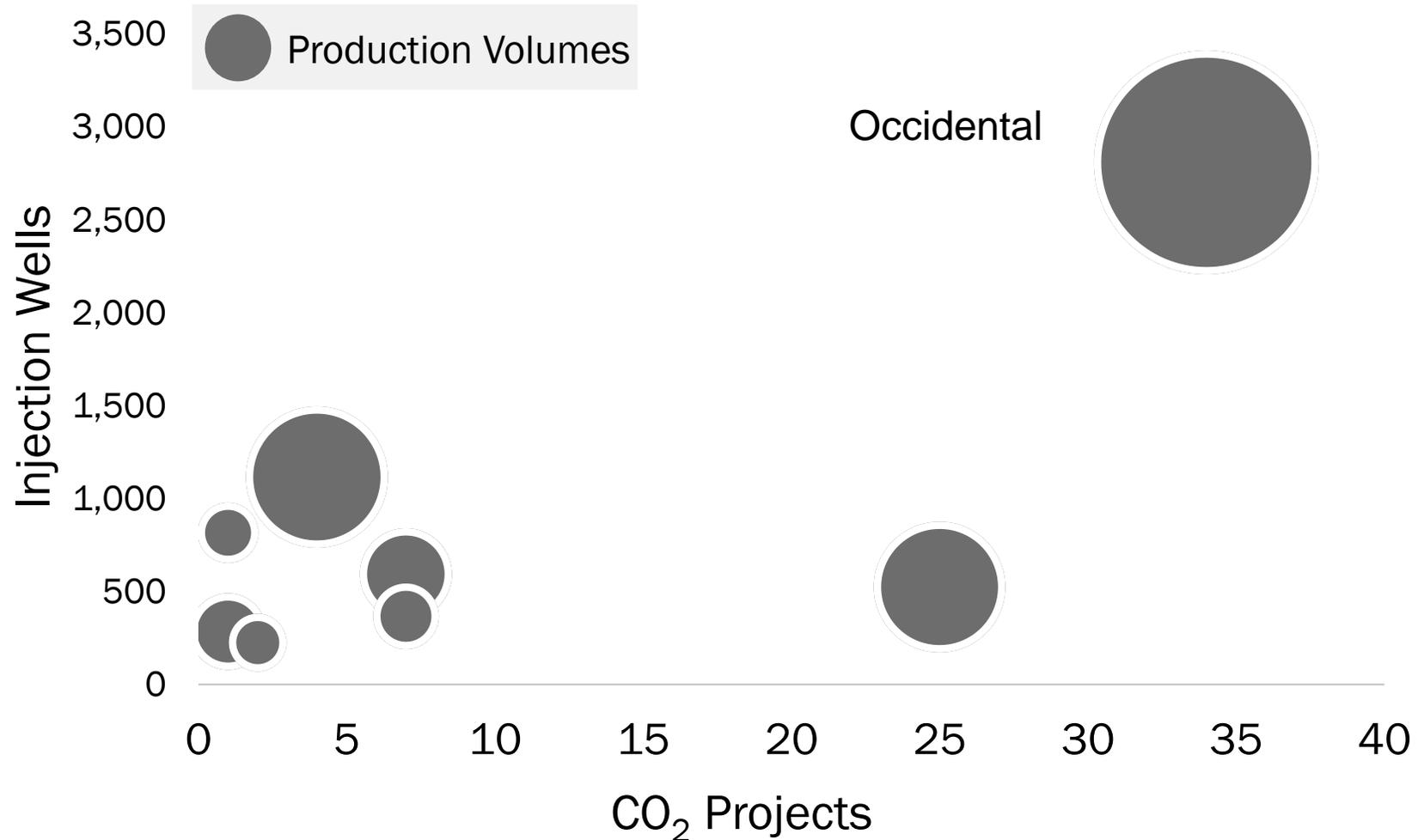
Supply

Inject 2.6 bcf (130k MT) daily of naturally occurring, anthropogenic and recycled CO₂

Infrastructure

14 gas processing plants and over 2,500 miles of CO₂ pipelines

CO₂ EOR Projects¹

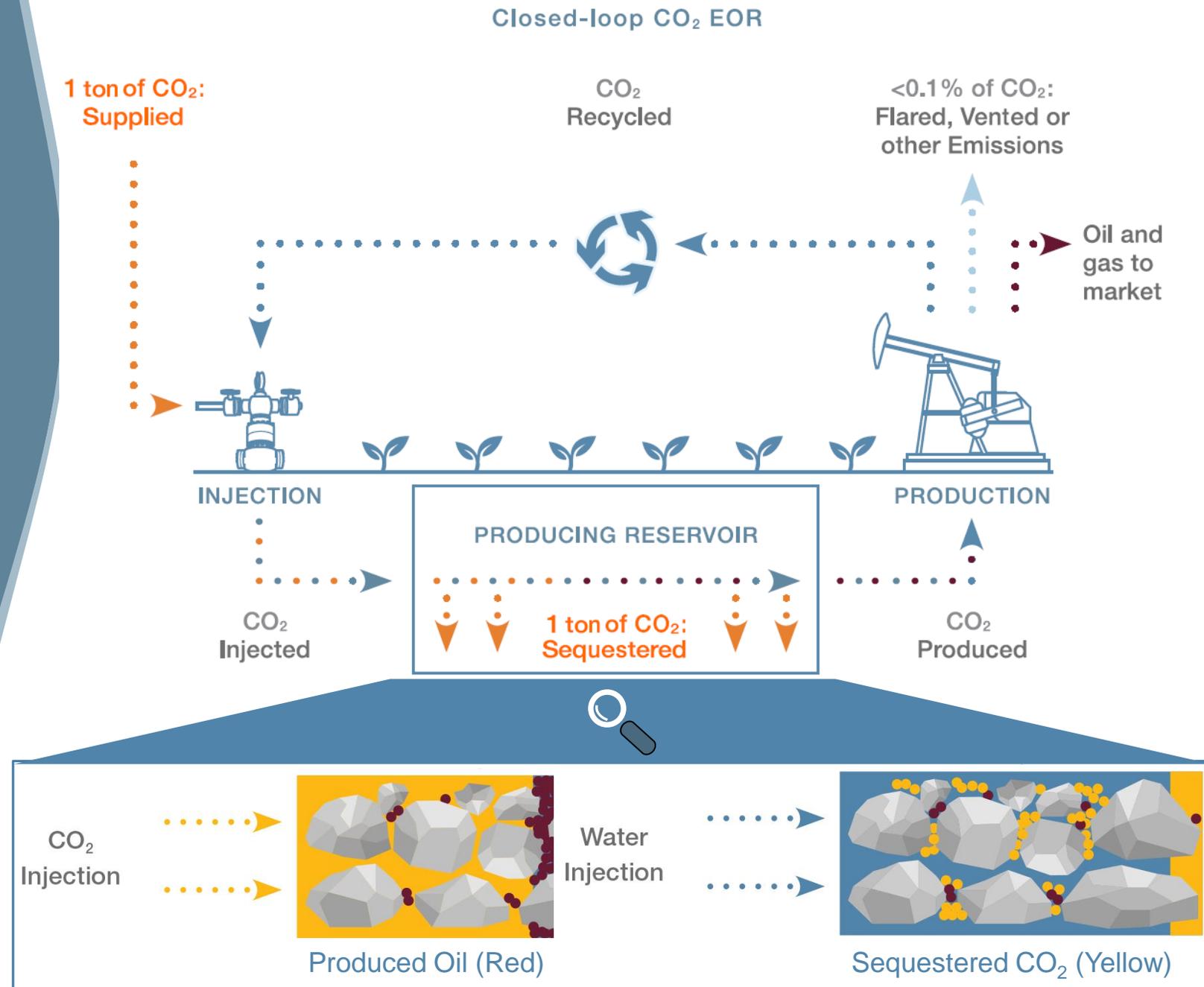


¹Source: 2016 Oil & Gas Journal, EOR Survey, adjusted for recent Oxy EOR acquisition

How Does EOR Work ?

Physics of miscible CO₂ EOR at pore scale

- Water injection (blue) recovers oil in large pores; leaving trapped oil (red) in small pores
- CO₂ (yellow) dissolves and displaces trapped oil; leaving only heavy ends (brown) in the reservoir
- The process is normally finalized by injecting chase water after the CO₂. Sequestered CO₂ remains permanently trapped in the pore spaces



How much CO₂ is stored?

Impactful

Over multiple injection cycles, 99.9% of CO₂ is stored in EOR reservoir

Reliable

Oxy has the first EPA approved Monitoring, Reporting and Verification Plan plus a second plan with storage capacities over 300 million tons of CO₂ with substantially more potential

Oxy Denver Unit CO₂ Subpart RR

Monitoring, Reporting and Verification (MRV) Plan

Final Version
December 2015



Widespread Deployment of CCUS

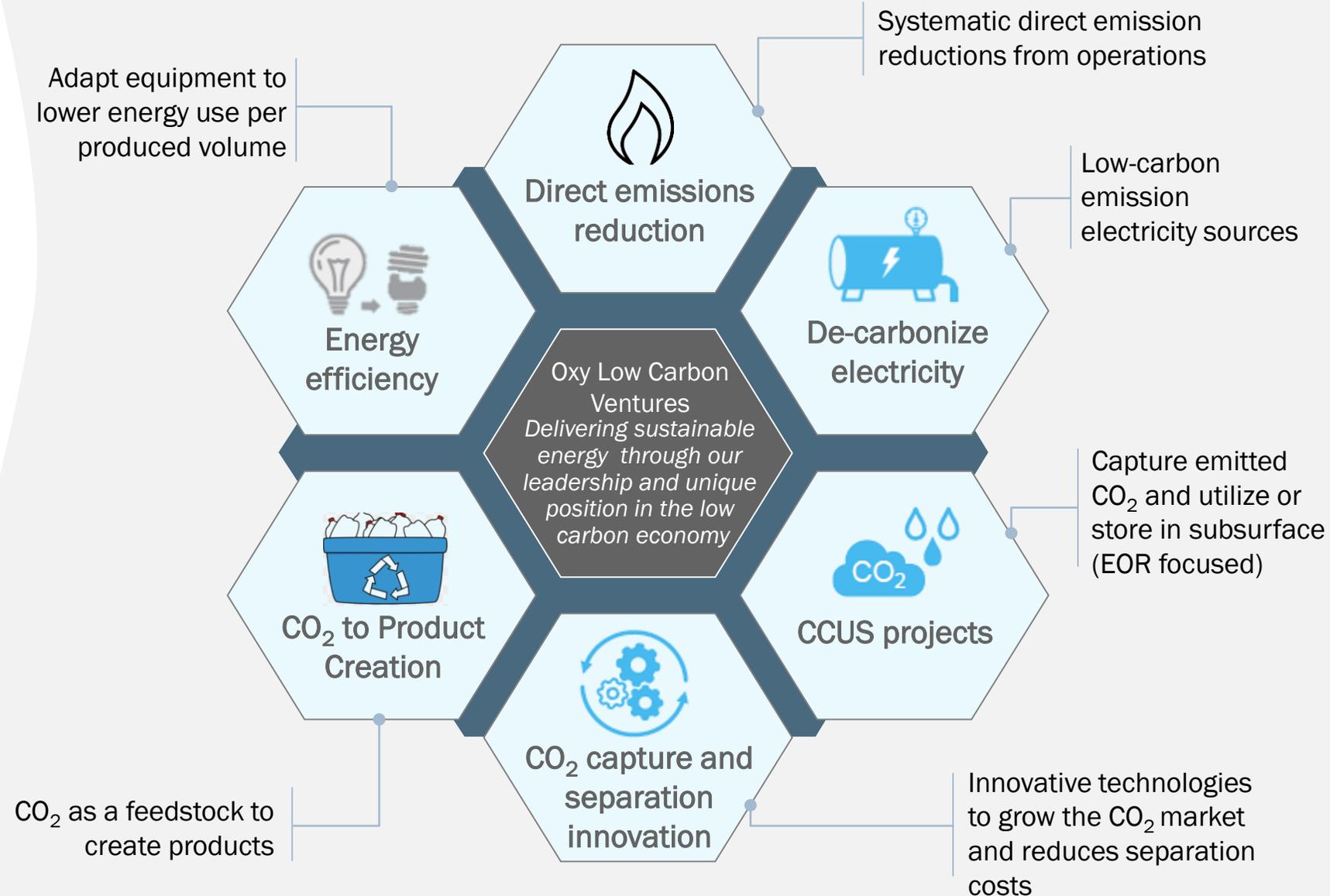
1. **Simpler Explanation of Emissions Reductions for CCUS**
2. **Certification for Low Carbon Fossil-based Transportation Fuels**
3. **Certification for Zero-Carbon/Low-Carbon Electricity**
4. **RD&D \$\$\$ for CO₂ Utilization beyond CO₂ EOR**
5. **Incentivize CO₂ Transport Infrastructure**



Occidental Low Carbon Ventures

Leveraging our unique position and leadership in the CO₂ market to provide a sustainable energy future

- Oxy is dedicated to being a leader in providing the market with impactful low carbon solutions
- Dedicated business unit to work across all segments to reduce Oxy's carbon footprint
- Commitment to reduce greenhouse gas emissions across Scopes 1 - 3¹



¹ Scope 1 -3 includes direct, indirect and production emissions



White Energy and Oxy

Project Overview

- First study announced after the FUTURE ACT (45Q)
- Develop carbon capture and transport of CO₂ from White Energy's two ethanol plants in the Texas panhandle
- Captured CO₂ will be transported to the Permian Basin for use in EOR



A producer of biofuels in Texas and Kansas. The company owns and operates four ethanol plants with capacity to produce 300 million gallons per year.



CCUS projects



Net Power – Truly Clean, Cheaper Energy



Truly Clean,
Cheaper Energy

The Allam Cycle Advantage

- Produces electricity from natural gas through oxy-combustion
- Captures all of the CO₂ emissions
- Allows deep de-carbonization of electricity without diminishing returns

NETPOWER Pilot Plant in Texas

50 MW plant testing Allam Cycle technology



De-carbonize
electricity



Carbon Engineering – Industrial-Scale, Direct Air Capture



Clean Fuels
Out Of Air

Industrial Direct Air Capture

- Chemical process to capture existing atmospheric CO₂ that can be utilized both in oil production and in direct synthesis of fuels
- Investment will accelerate the commercialization of Carbon Engineering's proven Direct Air Capture technology
- Pilot plant in Squamish, British Columbia is currently capturing CO₂ from the atmosphere



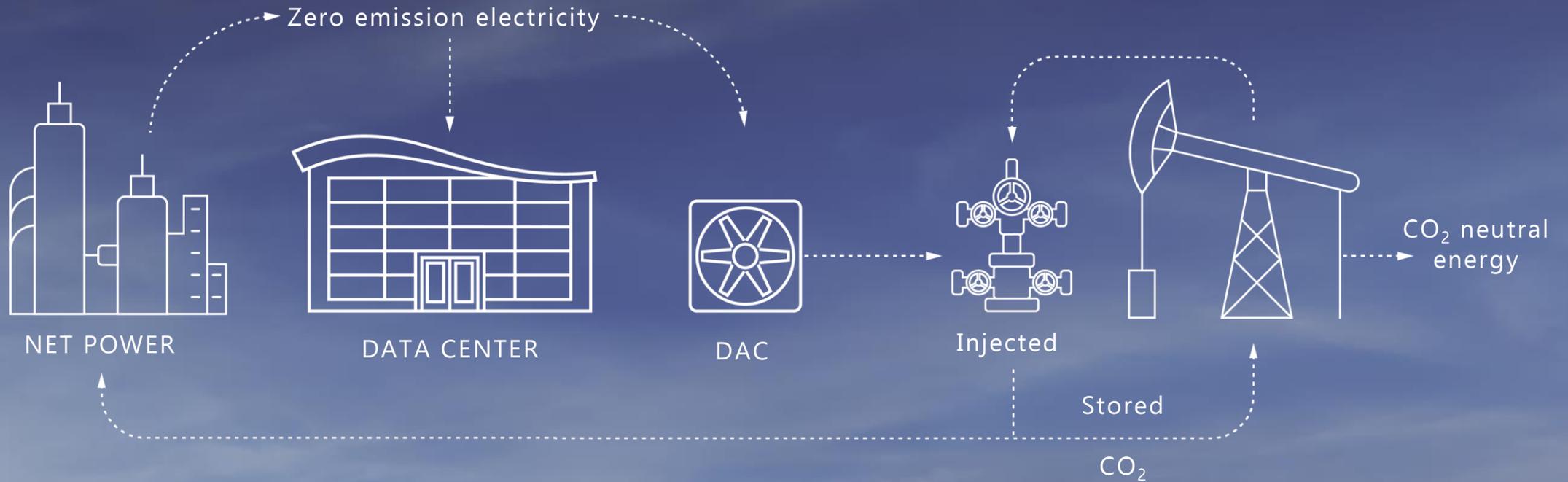
CCUS projects



Artist rendering of Carbon Engineering's Direct Air Capture Plant

The Clean Campus

A carbon negative industrial park



Captured CO₂ is used for EOR and the production of other materials

