



OGCI Climate Investments

Investment & Collaboration Update

September 2020

OUR MEMBER COMPANIES



ExxonMobil



OGCI CI is unique...

THE INITIATIVE: LOWER CARBON VIA COLLECTIVE ACTION & PARTNERSHIPS



CLIMATE INVESTMENTS: DELIVERING LOWER CARBON VIA INVESTMENTS



INVEST in innovative low-carbon technologies and solutions.

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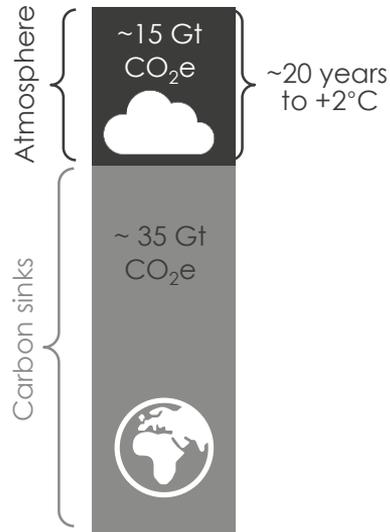
IMPLEMENT our solutions with OGCI members and our external network



IMPACT at global scale

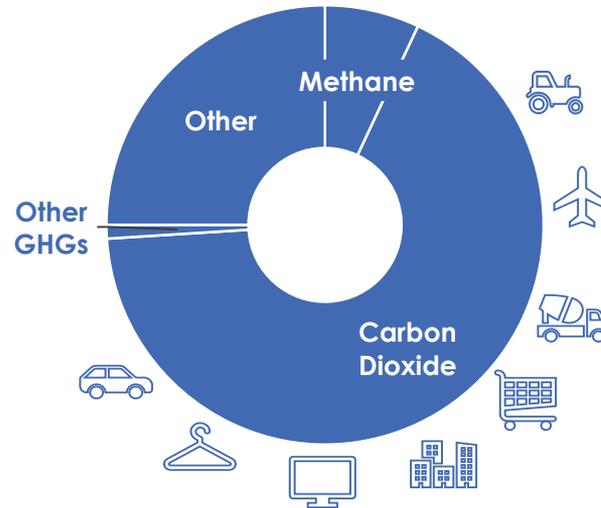
The climate challenge and CI focus

50 Gigatonnes MANMADE Greenhouse Gases (GHG)



Source: IPCC (2014)

ENERGY & INDUSTRIAL ~3/4 OF MANMADE GHGs



Source: Carbon Brief (2017) & IPCC (2014)

CLIMATE INVESTMENTS (\$1B+)

- 
Reduce methane emissions in oil & gas
- 
Reduce carbon dioxide emissions in energy & industrial
- 
Recycle & store carbon dioxide in energy & industrial (CCUS)



Source: IEA WEO 2018

OGCI Climate Investments: Outcome focussed portfolio *Investments since Climate Week (Sept. 2019)

Methane Reduction

						
Global satellite remote sensing and emissions analysis for big leaks	Large-scale, cost-effective aerial surveys of sites to detect leaks	Drone and handheld detection and measurement of leaks	Shutter valves with low fugitives emissions for flow control	Intelligent control systems for methane emissions reduction	Remote power generation with compressed air, low emissions alternative to gas pneumatics	

Carbon Dioxide Reduction

						
Getting to carbon-free steel manufacturing	Modern mechanical sails providing propulsion power	Hybridization of medium-to heavy-duty fleet vehicles	Step change in engine efficiency	Smart controls enabling energy savings from heating, cooling and lighting	Freight and logistics route optimisation to reduce empty truck miles	

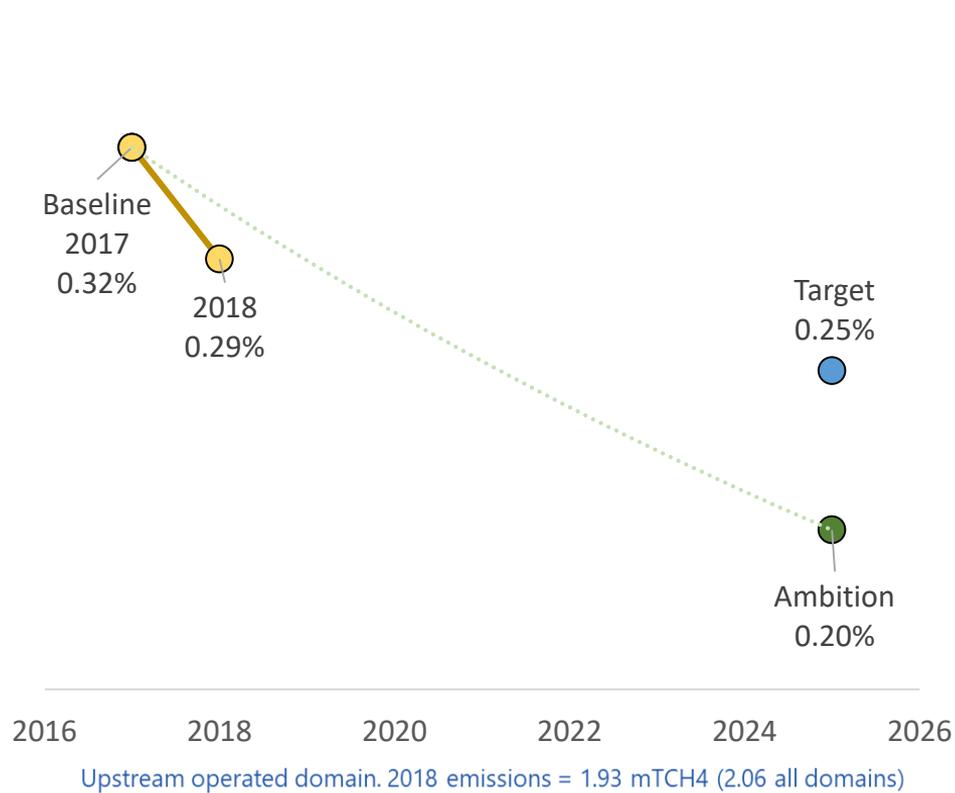
Recycling Carbon Dioxide (CCUS)

								
Commercialising low-cost carbon capture	Using carbon dioxide to produce lower-carbon cement	Catalysts that incorporate carbon dioxide into polyols	Accelerating decarbonization in UK energy and industry	Capturing and storing carbon dioxide from fertilizer production	Capture on gas power and use of carbon dioxide for own EOR	One of the world's first large-scale commercial projects to capture carbon dioxide from a natural gas power plant		

A world map composed of numerous small blue dots of varying sizes, creating a halftone effect. The dots are arranged to form the outlines of the continents, with a higher density of dots in some areas and fewer in others. The background is white.

Reduce Methane Emissions

OGCI Collective Methane Intensity Target

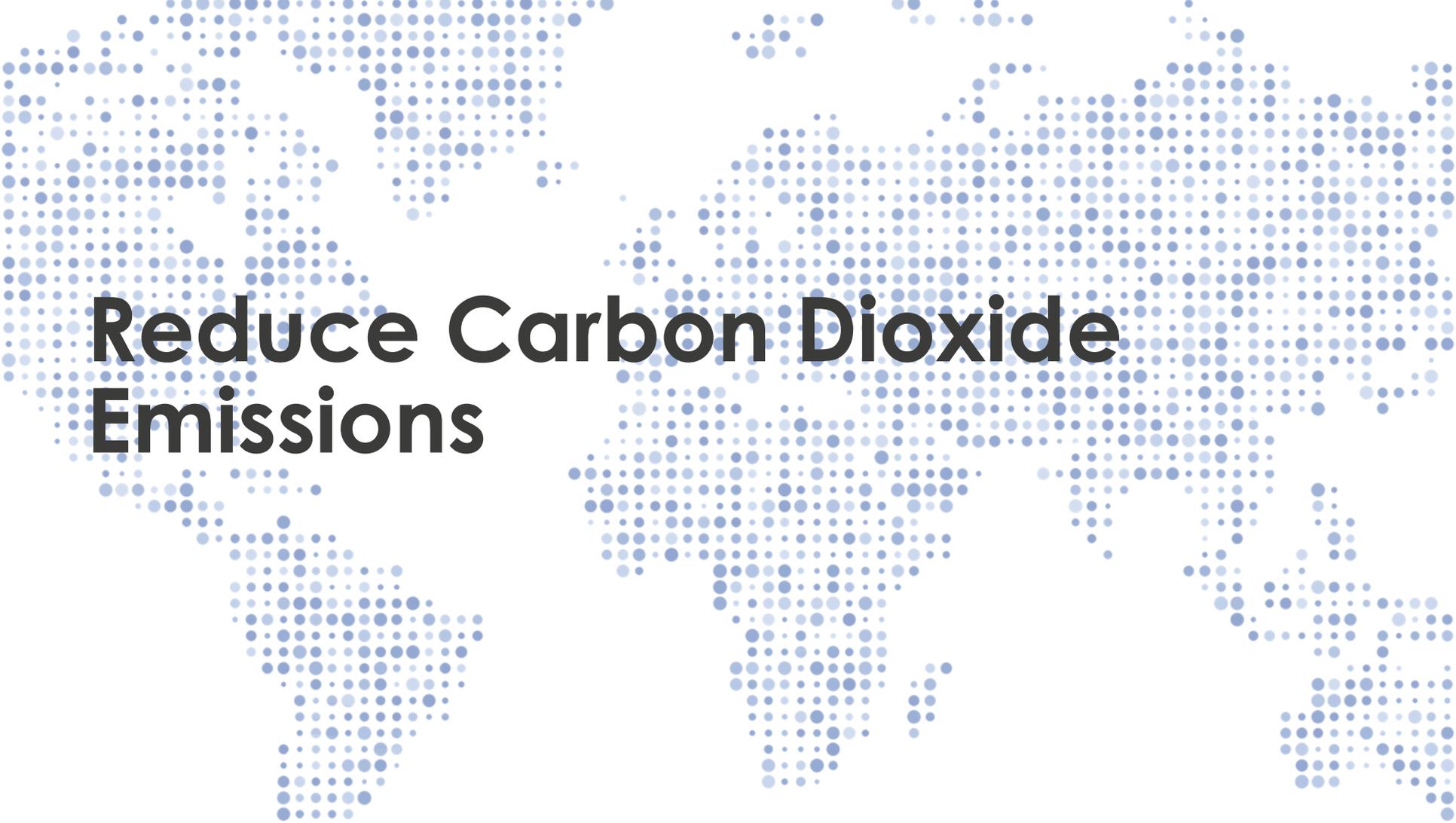


**IMPACT @ 0.25% INTENSITY IS
REDUCTION OF**

350,000 TONNES FROM OGCI

OR

25M TONNES FROM INDUSTRY



**Reduce Carbon Dioxide
Emissions**

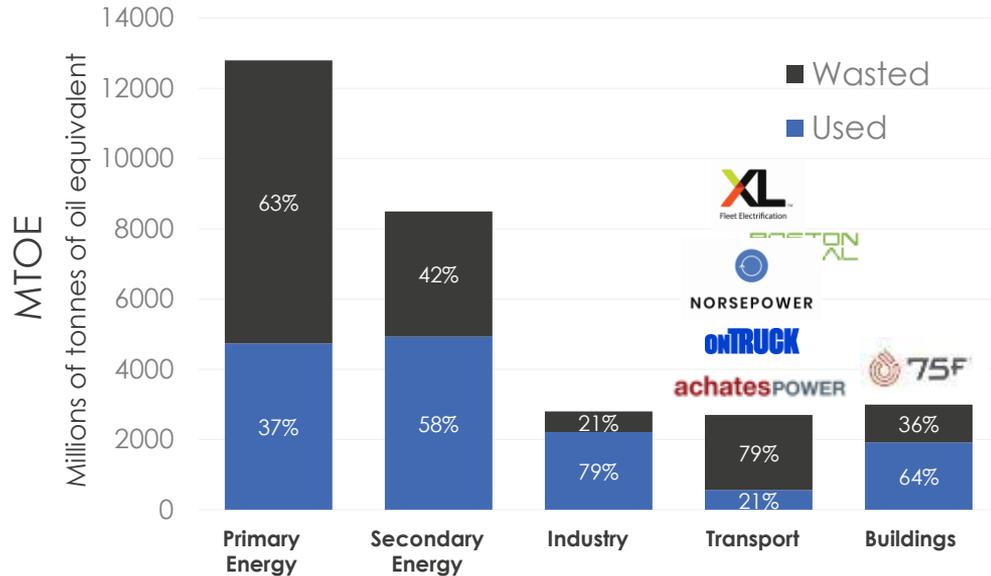
Investments to reduce CO₂ through energy efficiency

CHALLENGE

2/3

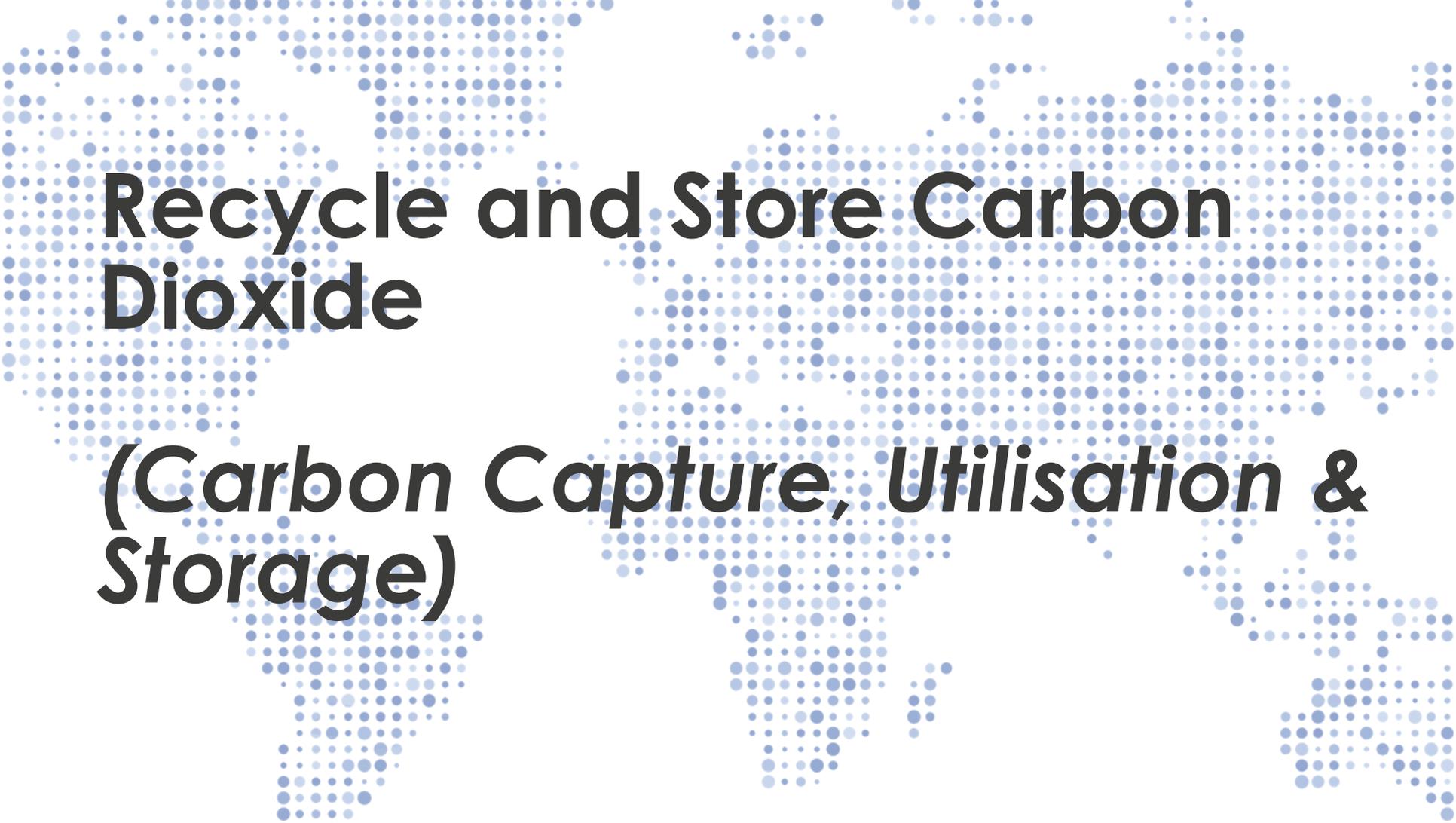
~2/3 primary energy is currently wasted

ENERGY EFFICIENCY: THE WORLD IN 2016 (40 % ABATEMENT REQUIRED TO -2°C)



Source: IEA WEO (2017) & Lawrence Livermore National Laboratory (2018)

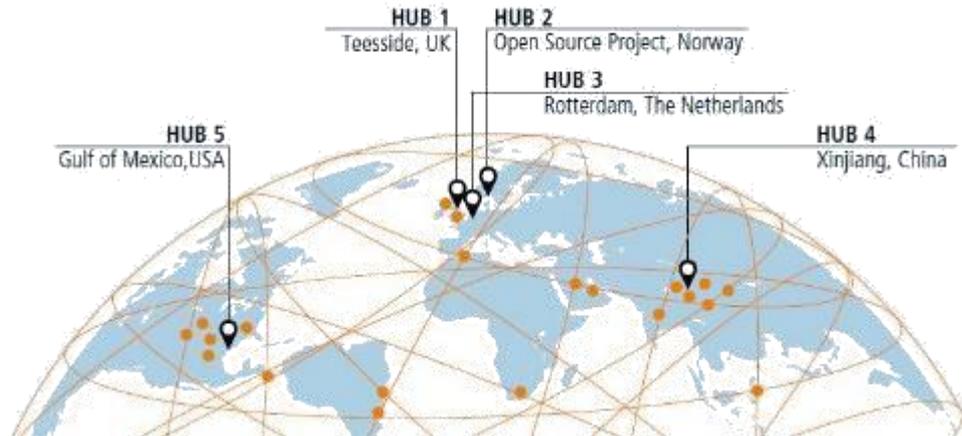
Secondary Energy*: comprises all fuels and electricity "ready to use" (i.e. available to the customer)

A world map composed of blue dots of varying sizes, creating a halftone effect. The dots are denser in some areas and sparser in others, forming the outlines of continents.

Recycle and Store Carbon Dioxide

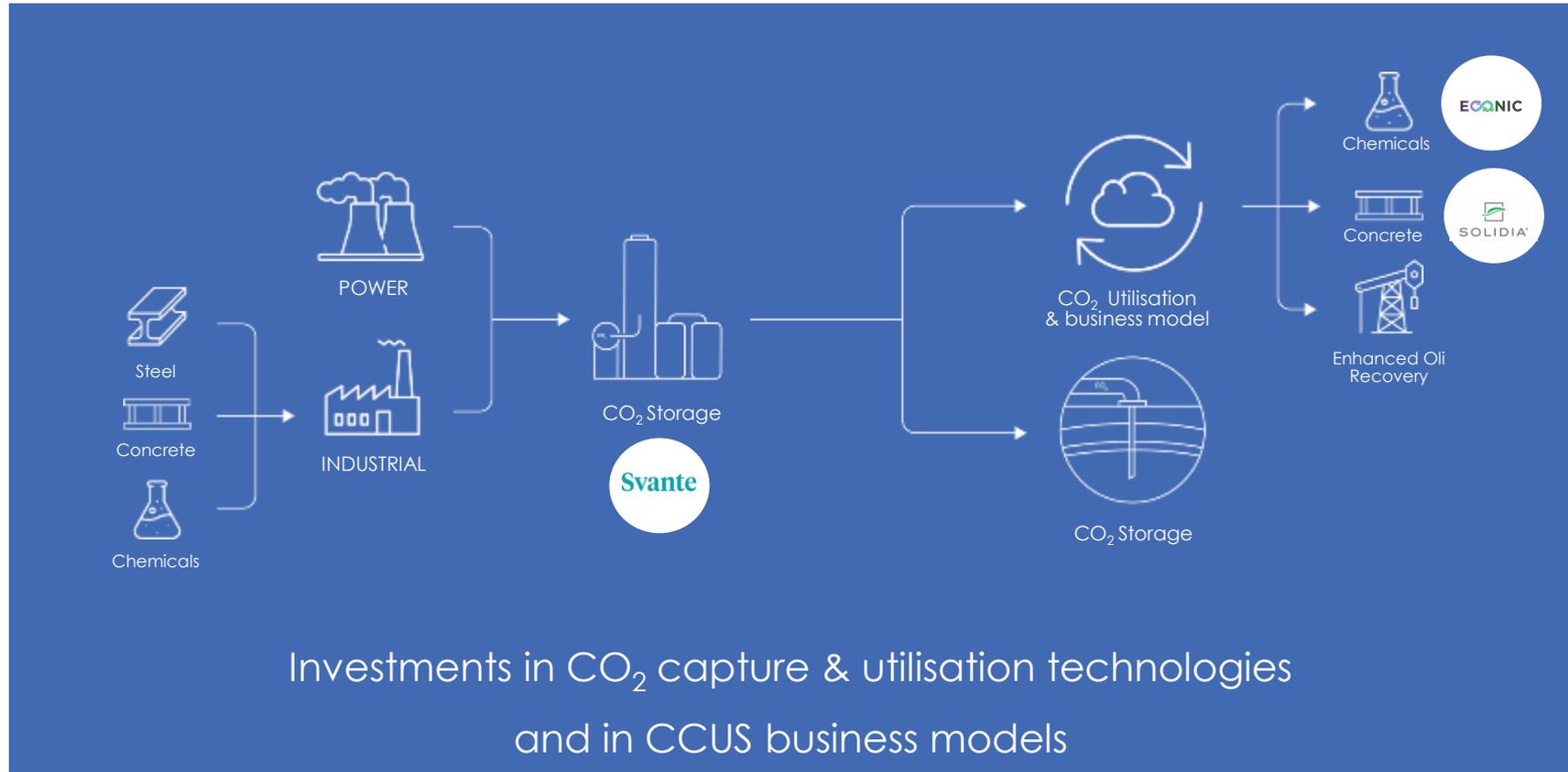
***(Carbon Capture, Utilisation &
Storage)***

**DEVELOP AT LEAST 5 CCUS HUBS VIA PRIVATE & PUBLIC PARTNERSHIPS
WITH THE AMBITION TO ANNOUNCE MORE OVER THE COMING YEARS**



GOAL TO KICKSTART A CCUS MARKET

Investments in CCUS technologies

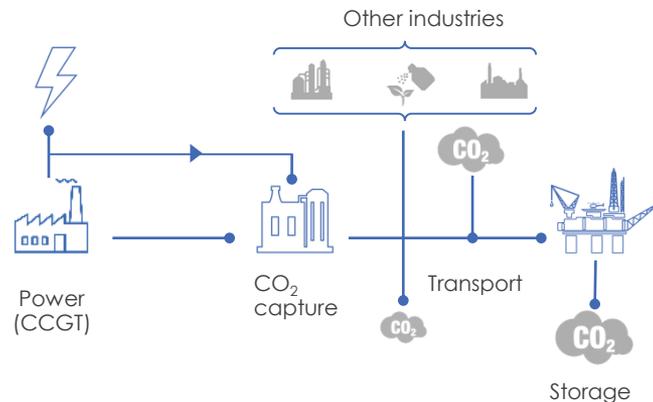


CCUS projects investments details (1/2)

UK – Net Zero Teesside



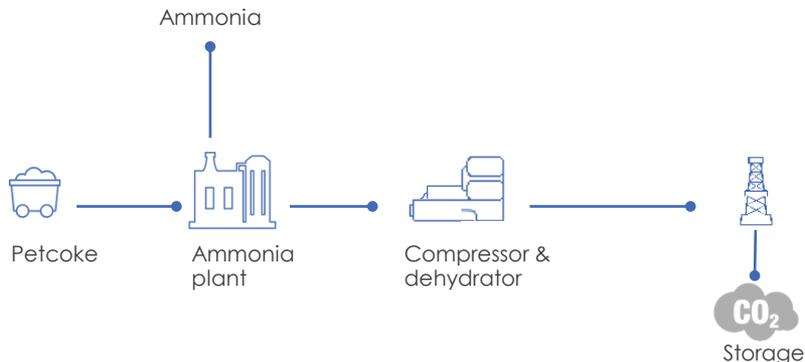
- Greenfield project: **power & industrial**
- Potential impact **3-5 Mtpa**
- Start date ~ **mid-2020s**
- Policy structure: **hybrid**
- Partners : **5 OGCI companies**



USA (IN) – Wabash Valley



- Brownfield project: **industrial**
- Potential impact > **1.5 Mtpa**
- Start date ~ **2023**
- Policy structure: **45Q + ...**
- Partners: **developers + DOE**

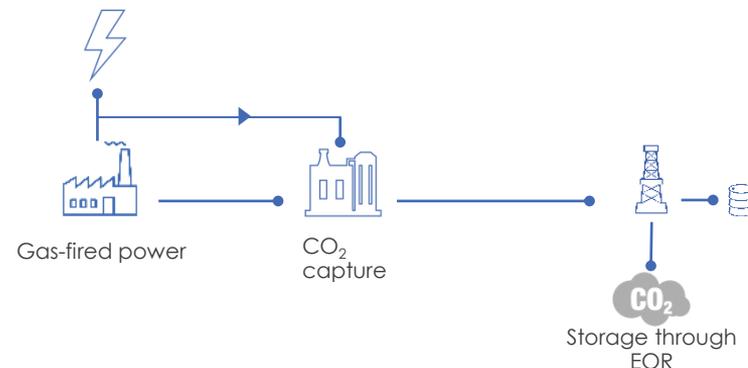


Impact of 4 projects approx. 9 Mtpa CO₂e equivalent to taking 2 million cars off the road.

CCUS projects investments details (2/2)

USA (CA) – Elk Hills Power Elk Hills Carbon LLC

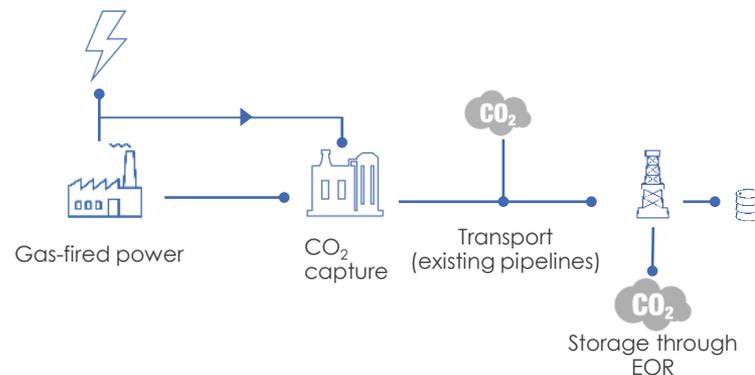
- Brownfield project: **Gas-fired power**
- Potential impact > **1 Mtpa**
- Start date ~ **2024**
- Policy structure: **45Q, LCFS, Cap & Trade**
- Partners : **DOE, California Resources Corporation**



USA – Starwood Power

Starwood Energy
Elysian Ventures
Carbon Capture Project

- Brownfield project: **Gas-fired power**
- Potential impact > **1.5 Mtpa**
- Start date ~ **2023**
- Policy structure: **45Q**
- Partners: **Starwood, Elysian**



Impact of 4 projects approx. 9 Mtpa CO₂e equivalent to taking 2 million cars off the road.

