REALISE CCUS

# Demonstrating a refinery-adapted cluster-integrated strategy to enable full-chain CCUS implementation

**REALISE CCUS is an ambitious three-year project to support decarbonisation of oil refining through carbon capture, utilisation and storage (CCUS), a critical technology in the net-zero transition. It brings together partners from science and industry in Europe, China and South Korea to demonstrate the full CCUS chain – from $CO_2$ capture, transport and geological storage to $CO_2$ reuse – for industrial clusters centred on refineries.**

## What will we achieve?

Our vision is to support the rapid and large-scale delivery of CCUS technology in the refining sector by 2025, with follow-on projects from 2030. We aim to almost double $CO_2$ capture rates while also cutting costs significantly.

## Specifically, REALISE CCUS will:

- ✓ Assess full-chain CCUS potential at refineries within industry clusters
- ✓ Cut costs associated with $CO_2$ capture by at least 30%
- ✓ Develop technology to cut $CO_2$ emissions at defined clusters by 10Mt a year from 2030
- ✓ Demonstrate the capabilities of solvent-based $CO_2$ capture technology
- ✓ Highlight financial, political and regulatory barriers to CCUS delivery
- ✓ Support cooperation between $CO_2$ emitters and providers of technology solutions
- ✓ Build societal awareness of CCUS as part of industry's net-zero transition
- ✓ Share our results and strengthen collaboration with Mission Innovation countries

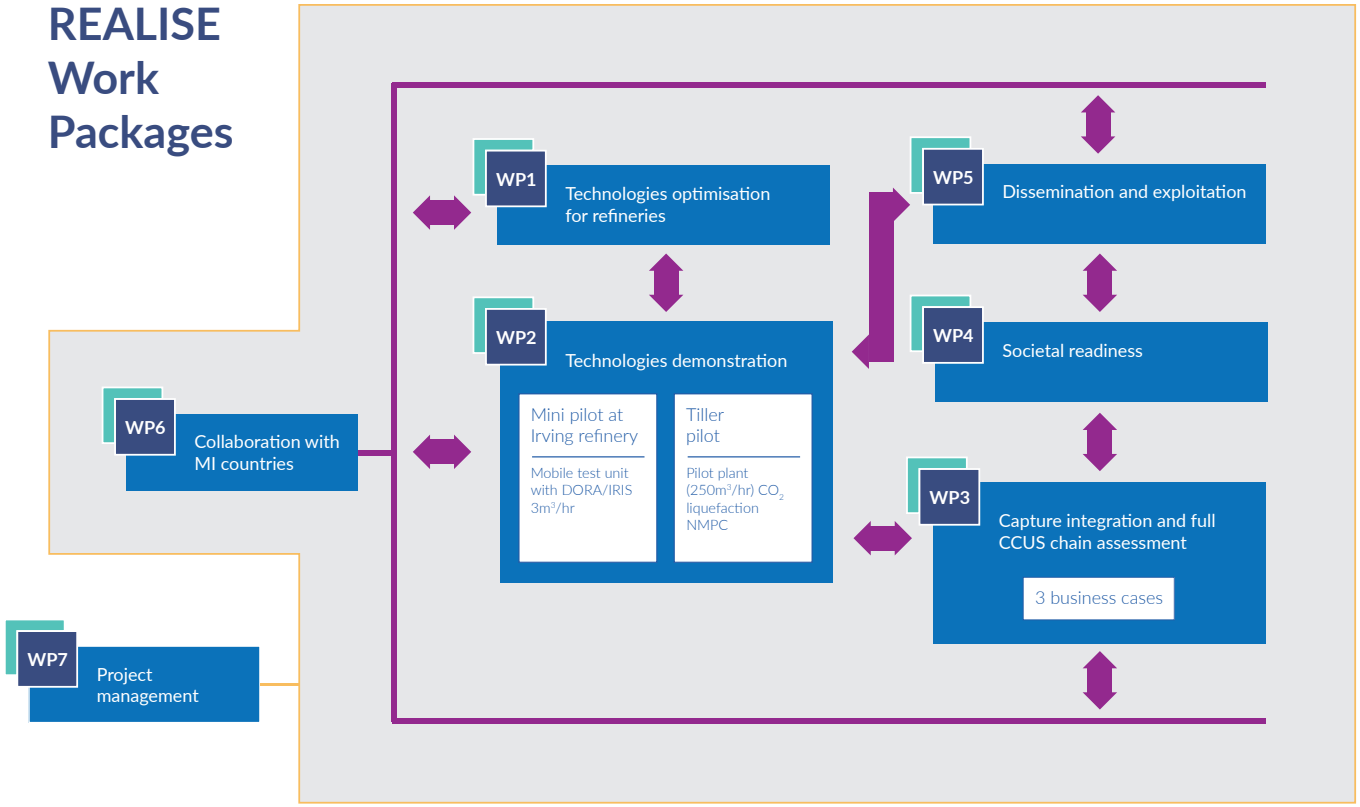
The REALISE project, which began in May 2020, has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 884266.

www.realiseccus.eu | @RealiseCCUS | REALISE CCUS | info@realiseccus.eu

## What is our research focus?

Our partnership, led by Norway's SINTEF and backed by strategic and sector support from an Advisory Board and Industry Club, combines the expertise of both science and industry partners in carrying out interlinking areas of research.

## REALISE Work Packages




## How will this support climate action?

- ✓ CCUS is crucial to decarbonise energy-intensive industries with high levels of emissions, such as refining. According to the International Energy Agency (IEA), without CCS the cost of reaching Paris Agreement targets will increase by 40%.
- ✓ Cost is identified as the most significant hurdle to industrial uptake of CCS; REALISE aims to reduce $CO_2$ capture costs by at least 30%.
- ✓ Developing CCUS in clusters – where several facilities share infrastructure and knowledge – is increasingly viewed as key to accelerating uptake. REALISE will work within a planned cluster in Cork, Ireland and employ a 'sector-coupling' strategy, enabling smart sharing of assets.