

# LOW CARBON SOLUTIONS

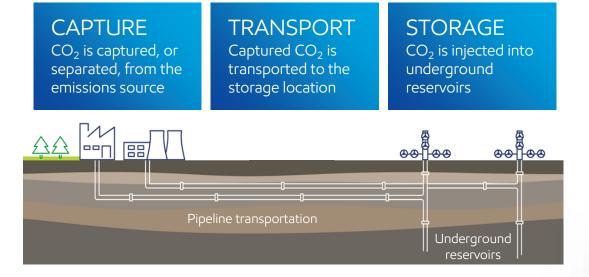
Leading the Energy Transition

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### POSITIONED TO SUCCEED IN CARBON CAPTURE AND STORAGE

Leveraging position as the global CCS leader to advance projects with potential to materially reduce industrial emissions



CCS is the process of capturing CO<sub>2</sub> that would otherwise be released into the atmosphere and injecting it into deep geologic formations for safe, secure and permanent storage.

- Significant operating experience at scale
  - #1 in the world for CO<sub>2</sub> capture; ~9Mta capacity<sup>1</sup>
  - #2 in the world for CO<sub>2</sub> pipelines<sup>1</sup>
  - #2 in the world for CO<sub>2</sub> geologic storage<sup>1</sup>
- Opportunity portfolio focused on hard-to-decarbonize industries and regions

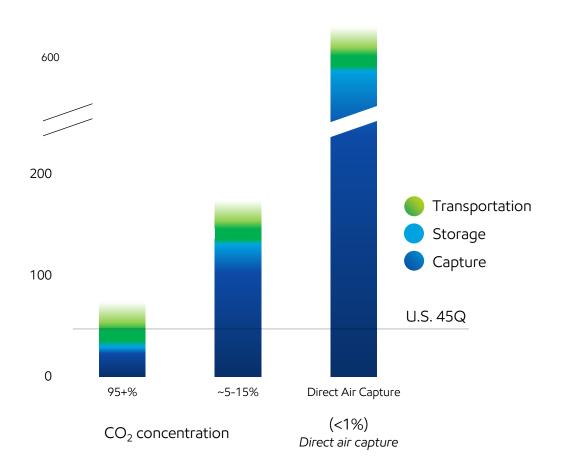
CCS POTENTIAL \$4 TRILLION MARKET SIZE BY 2050<sup>2</sup>



# CCS ECONOMICS DEPENDENT ON CONCENTRATION OF CO<sub>2</sub>

Costs highly dependent on concentration and proximity to underground storage

# CARBON CAPTURE AND STORAGE COSTS BY CONCENTRATION<sup>1</sup> CCS cost (\$/tonne)



- CCS costs increase significantly at lower CO<sub>2</sub> concentrations
- Existing policy has potential to support projects with highconcentration streams in close proximity to underground storage
- Broader application for lower-concentration streams requires additional policy support or market incentives
- Direct air capture will require both technology breakthroughs and policy support or market incentives



## **U.S. GULF COAST CCS**

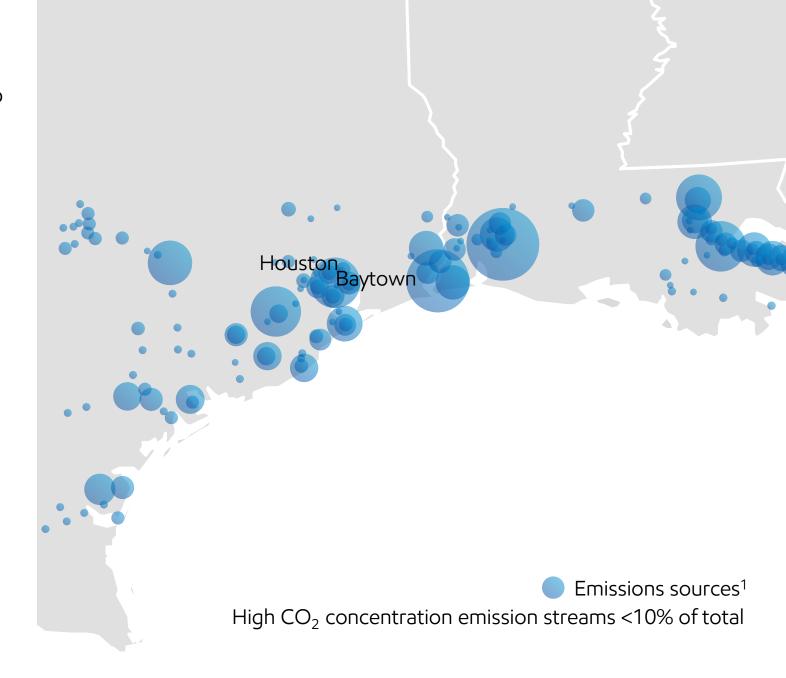
Potential for accretive-return projects due to high-concentration emissions streams and proximity of storage

#### SCOPE

- Multiple CCS projects under consideration along U.S. Gulf Coast
- Initial focus on high CO<sub>2</sub> concentration industrial sources

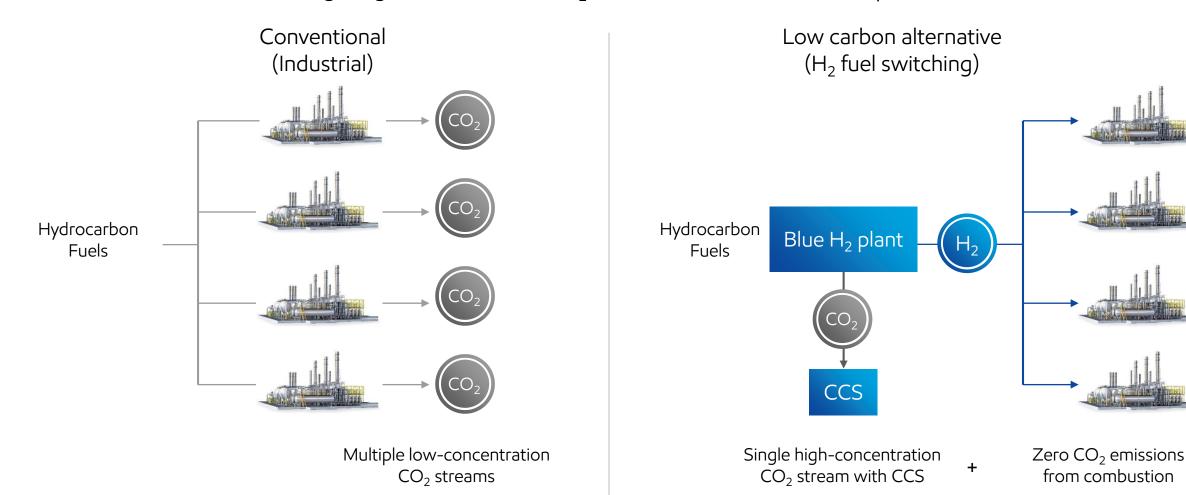
#### **DRIVERS**

- Close proximity to quality onshore and offshore underground storage
- Leveraging existing subsurface, integration and major project execution capabilities
- Demonstrate potential for large-scale reduction in U.S. emissions



## **GROWING MARKET FOR HYDROGEN FUEL SWITCHING**

Lower cost of abatement for single high-concentration  $CO_2$  emissions stream versus multiple low-concentration streams



HYDROGEN POTENTIAL \$1.5 TRILLION MARKET SIZE BY 20501



## **BAYTOWN BLUE HYDROGEN**

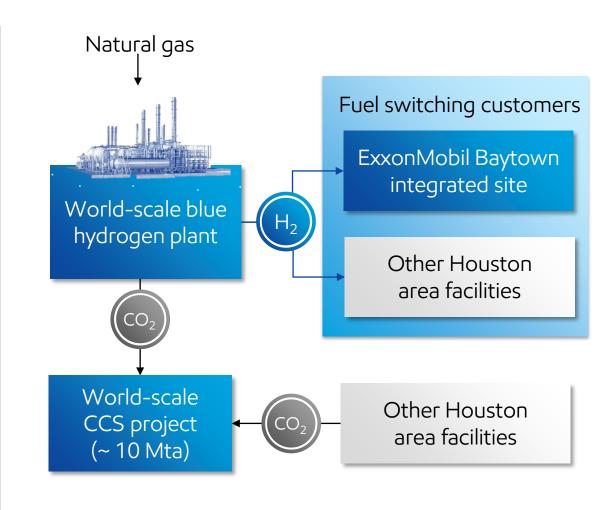
Provides emission-reduction opportunities and forms initial contribution to Houston CCS Hub

#### PROJECT SCOPE

- New blue hydrogen plant
- World-scale CCS project

#### **DRIVERS**

- Reduce ExxonMobil Baytown site emissions by up to 30%
- Build merchant hydrogen business and CO2 transport & storage business
- Accessible low-cost natural gas
- Close proximity to quality underground storage
- Leverages existing refinery and chemical integration, proprietary technology, subsurface, and major project execution capabilities



CCS capacity for Houston-area industrial emissions



# GLOBAL CCS PORTFOLIO OF OPPORTUNITIES RAPIDLY GROWING

