# CCUS and Low Carbon Fuels

11 – 12 March 2025 | Tokyo, Japan

# Unlocking the Decarbonization Potential of Hydrogen

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# Finding your pathway through the energy transition

ExxonMobil Low Carbon Solutions, founded in 2021, leverages our decades of experience to develop a growing portfolio of low-carbon solutions; carbon capture and storage, hydrogen production, and lithium extraction.


**Tomorrow's solutions** tailored along **today's energy systems**

# Planning to build the world's largest low-carbon hydrogen facility at Baytown, Texas

**ExxonMobil Baytown Complex, Texas**

Image is illustrative of future facility

Includes projects at various stages of development that are included in corporate plan but may not yet be fully funded (FID).

The final investment decision will be subject to supportive government policy, necessary regulatory permits and market conditions.

# Baytown low carbon hydrogen

Provides emission-reduction opportunities and using world-scale CCS network

## Unprecedented scale

- Two world scale H2 trains anticipated startup 2029 producing 1 billion cubic feet per day deliver advantaged and cost effective carbon reduction solutions
- Integrated with carbon storage project capable of abating 7 million tons of CO2 - equivalent to removing the emissions from more than 1.5 million cars*

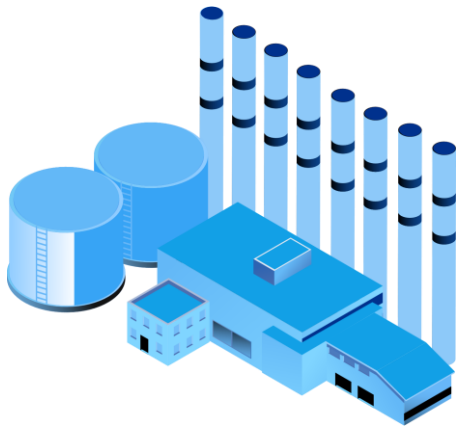
## Lower carbon intensity Hydrogen

- Capability to capture over 98% of CO2 scope 1 emissions
- Enabling generation of low carbon Ammonia

## Reliable supplier of low carbon intensity products

- Integrated, end-to-end value chain of hydrogen and carbon capture
- Large scale project execution and delivery
- Years H2 and CCS experience
- Engineering and technology expertise

*https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results



# Houston

**Potential 3rd Party Consumers**

- **Fuel: Industrial Heat** (steam crackers, boilers)
- **Fuel: Power Generation**
- Refining and Chemical Feeds
- **Methanol: Fuel and Feed**
- **Bio-fuels/Lubes**
- **Mobility**

Hydrogen

- **Ammonia Export Customers** Co-fuel, cracked

# Advantaged for the customer

Baytown Blue Hydrogen Plant

Hydrogen

Baytown Chemical Plant

Baytown Olefins Plant

Baytown Ammonia


Baytown Refinery

**Shared systems**
Blend gas, waste water

**Integrated utilities**
Steam, power, natural gas, water, air, nitrogen

**Integrated organization**
People, shared services, utilities & molecule optimization, community engagement

# Driving methane reductions

| What we've done | What we're doing |
|---|---|
| Cut operated methane emissions intensity in half since 2016 | On plan to reduce methane intensity versus 2016 across all operated assets 70%-80% by 2030[1] |
| Eliminated routine flaring in Permian Basin operated assets | On track to achieve zero routine flaring across all operated upstream assets by 2030, consistent with World Bank Zero Flaring Initiative[2] |
| Eliminated "high-bleed" pneumatic devices in our U.S. operated unconventional assets | On track to eliminate natural gas-driven pneumatic devices by 2025 in our key U.S. unconventional operated assets |
| In 2022 alone, we surveyed 2.3 million components with optical gas imaging cameras and 1.3 million components with aerial flyovers | Expanding continuous monitoring program in the Permian to cover ~700 unconventional production sites by 2025 |
| Progressed collaborations including deciding to join the U.N. Oil and Gas Methane Partnership (OGMP) 2.0 | Partnering with Scepter to launch 2 monitoring satellites in 2025 with a plan to have 24 in place over the next three years |
| Launched our Center for Operations and Methane Emissions Tracking (COMET) in 2022 to provide near-continuous real-time monitoring | |

# ExxonMobil differentiating with action on USGC