



LA Governor's Clean Hydrogen Task Force

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Donaldsonville Complex
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Safe harbor statement

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These statements may include, but are not limited to, statements about strategic plans and management’s expectations with respect to the production of green and blue (low-carbon) ammonia, the development of carbon capture and sequestration projects, the transition to and growth of a hydrogen economy, greenhouse gas reduction targets, projected capital expenditures, statements about future financial and operating results, and other items described in this presentation. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, among others, the cyclical nature of the Company’s business and the impact of global supply and demand on the Company’s selling prices; the global commodity nature of the Company’s nitrogen products, the conditions in the international market for nitrogen products, and the intense global competition from other producers; conditions in the United States, Europe and other agricultural areas, including the influence of governmental policies and technological developments on the demand for our fertilizer products; the volatility of natural gas prices in North America and the United Kingdom; weather conditions and the impact of adverse weather events; the seasonality of the fertilizer business; the impact of changing market conditions on the Company’s forward sales programs; difficulties in securing the supply and delivery of raw materials or utilities, increases in their costs or delays or interruptions in their delivery; reliance on third party providers of transportation services and equipment; the Company’s reliance on a limited number of key facilities; risks associated with cybersecurity; acts of terrorism and regulations to combat terrorism; risks associated with international operations; the significant risks and hazards involved in producing and handling the Company’s products against which the Company may not be fully insured; the Company’s ability to manage its indebtedness and any additional indebtedness that may be incurred; the Company’s ability to maintain compliance with covenants under its revolving credit agreement and the agreements governing its indebtedness; downgrades of the Company’s credit ratings; risks associated with changes in tax laws and disagreements with taxing authorities; risks involving derivatives and the effectiveness of the Company’s risk management and hedging activities; potential liabilities and expenditures related to environmental, health and safety laws and regulations and permitting requirements; regulatory restrictions and requirements related to greenhouse gas emissions; the development and growth of the market for green and low-carbon ammonia and the risks and uncertainties relating to the development and implementation of the Company’s green and low-carbon ammonia projects; and risks associated with expansions of the Company’s business, including unanticipated adverse consequences and the significant resources that could be required. 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Section 1

Introduction to CF Industries

CF Industries: Our mission is to provide clean energy to feed and fuel the world sustainably

World's Largest Producer of Ammonia

- ▶ Average annual gross ammonia production capacity greater than 10 million tons, with 16 Ammonia production plants
 - Approximately 1.7 MMT hydrogen production capacity
- ▶ Company's Donaldsonville, Louisiana, complex is world's largest ammonia manufacturing facility
- ▶ Complexes located in the United States, Canada, and the United Kingdom

Leading Logistics and Distribution Capabilities

- ▶ 3.0 million tons of storage capacity
- ▶ Distributes 19 million product tons per year
- ▶ Operates 23 distribution terminals
- ▶ Able to ship via deepwater vessel, barge, railroad, truck and pipeline

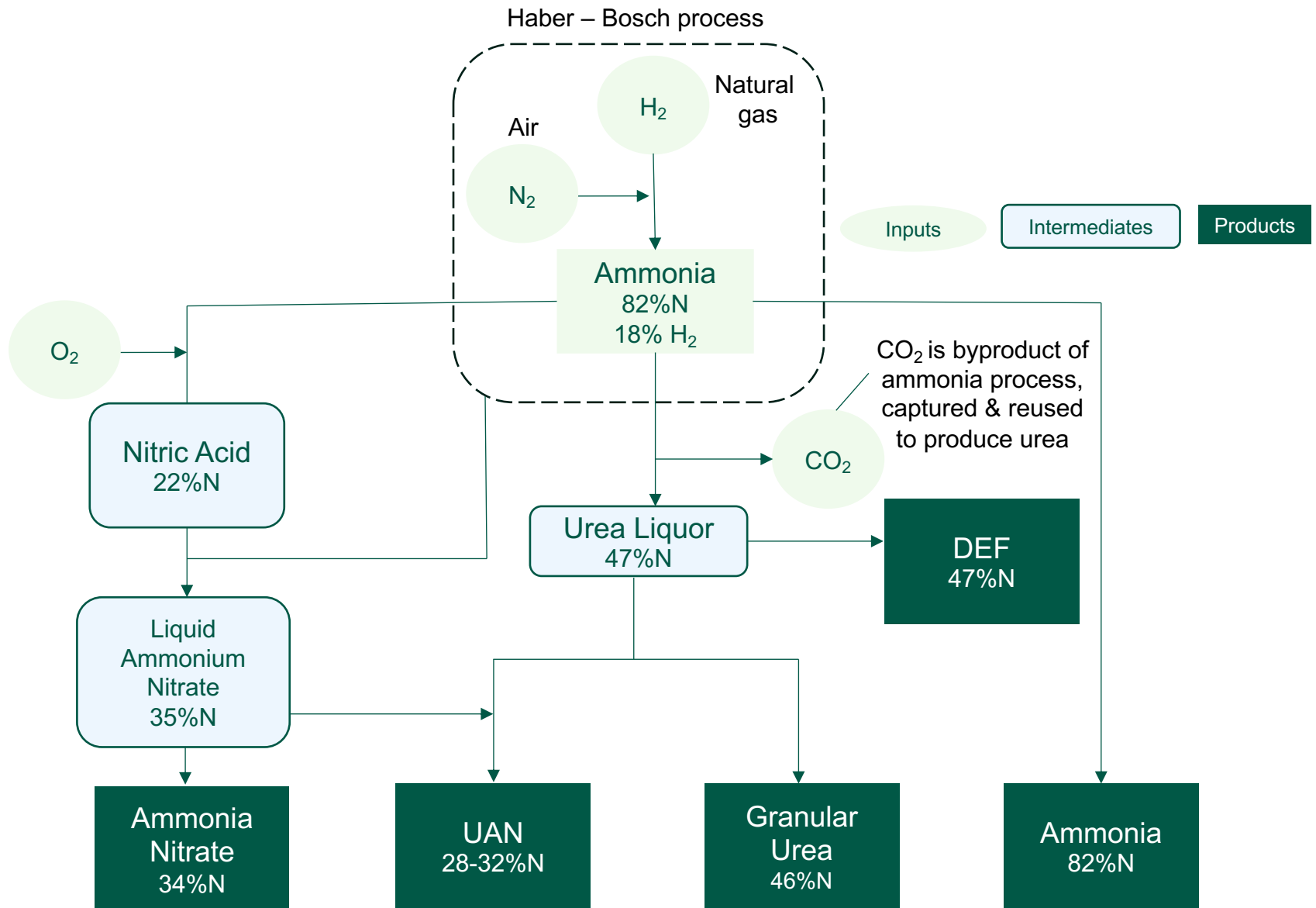
Early Mover

- ▶ Company committed to clean hydrogen/ammonia in 2020 and has several projects in construction and looking at several more projects across its network
- ▶ Examining potential new low-carbon hydrogen/ammonia production in Louisiana

The CF Team

- ▶ Approximately 2,700 employees worldwide
- ▶ Do It Right culture prioritizes safety above all
 - As of December 31, 2024, our trailing 12-month recordable incident rate was 0.31 incidents per 200,000 labor hours – significantly better than industry benchmarks

CF's manufacturing processes



Ammonia 6 – Donaldsonville Complex



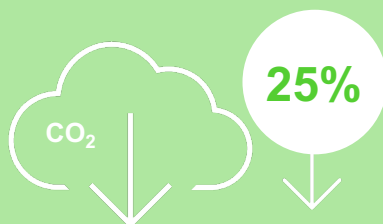
The background features several large, light blue, rounded geometric shapes, primarily triangles and trapezoids, arranged in a dynamic, overlapping pattern. These shapes are set against a plain white background, creating a modern and clean aesthetic.

Section 2

CF's Commitment to Clean Energy and Decarbonization

CF's committed goals to decarbonize our network and advance clean energy

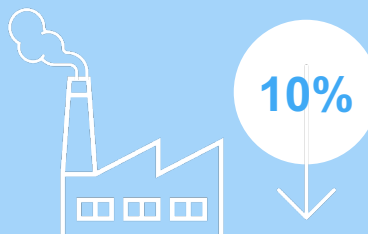
Scope 1



**Reduce Scope 1
CO₂-equivalent
emissions by 25% per
ton of product by 2030**

(2015 baseline year)

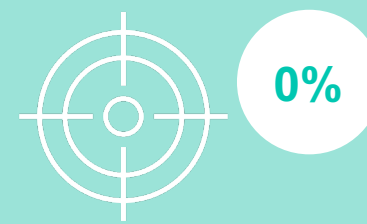
Scope 3



**Reduce Scope 3
emissions by
10% by 2030**

(2020 baseline year)

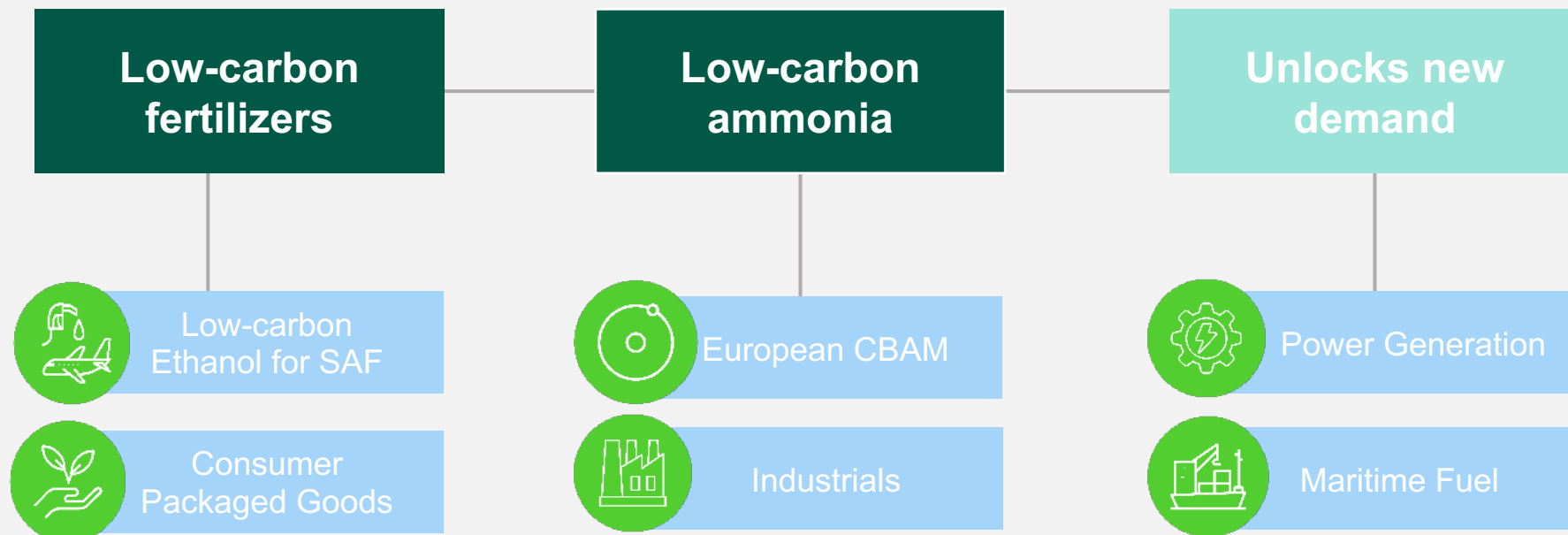
Scope 1 & 2



**Achieve net-zero
Scope 1 and 2 GHG
emissions by 2050**

These goals align with our long-standing commitment to environmental stewardship, with customer demand for our products to be manufactured with a lower carbon intensity, as well as with our stakeholders' and society's interests in reducing GHG emissions

CF positioned to serve traditional applications and new demand sources with low-carbon ammonia



Opportunity to strengthen our existing business and provide significant growth

Executing strategic initiatives to meet growing low-carbon ammonia demand



Decarbonization

Carbon Capture and Sequestration

- ▶ Partnering with ExxonMobil for CCS
 - Donaldsonville start-up expected in 2025
 - Yazoo City start-up expected in 2028
- ▶ Evaluating additional production sites and partners for CCS and other GHG reduction opportunities
- ▶ Commissioning electrolyzer for green ammonia
 - Secured 45V-compliant RECs
- ▶ Reducing upstream Scope 3 GHG emissions with MiQ certified natural gas

Green Ammonia

Reduce Upstream Methane Leakage



Clean Energy Growth

Low-carbon Ammonia Production Growth

- ▶ Low-carbon ammonia technology FEED studies:
 - SMR ~65% CCS
 - SMR + FGC 90-95% CCS
 - ATR 90-95% CCS
 - expected JERA successfully completed first commercial ammonia/coal co-fire test
- ▶ Upcoming demonstration with POET to validate low-carbon fertilizer in the corn value-chain for low-carbon ethanol

Clean Ammonia Industry Demand Milestones

Notes:

- Steam methane reformer (SMR), Carbon capture and sequestration (CCS), Autothermal reformer (ATR), Flue gas capture (FGC), Renewable energy certificates (RECs)
- CCS percentages represent the comparative reduction of Scope 1 carbon emissions expected to be achieved through CCS of process and flue gas carbon dioxide generated by ammonia production and currently emitted to the atmosphere

The Ammonia Sector Today

Food to feed a growing population + Input for emissions abatement



- ▶ Ammonia is a **globally traded commodity** and the **2nd most manufactured chemical** globally
 - About **200 million tons** produced annually in more than **70 countries**; most producers not actively engaged in decarbonization
- ▶ Today, ammonia is used largely as:
 - A building block for **nitrogen fertilizer*** (comprising about 80% of consumption); nitrogen is a non-discretionary input to maintain high yields in key global crops, including corn, wheat, sugar and cotton
 - **Industrial uses** (comprising about 20% of consumption), including as an input into diesel exhaust fluid (DEF) and other NOx abatement uses
- ▶ Production is **capital- and energy-intensive**
 - Ammonia production produces about 1% of global emissions largely given the production of hydrogen through steam-methane reforming (SMR) technologies
 - Highest emissions are in China, which produces about 30% of global production, largely through coal feedstocks
 - High upstream natural gas methane emissions and lower capacity utilization further exacerbate emissions intensity of ammonia production in some regions
 - Ammonia synthesis requires 24-7 continuous operation to run most efficiently

**Work ongoing to reduce on-field emissions through partnerships to improve nitrogen use efficiency (NUE)*

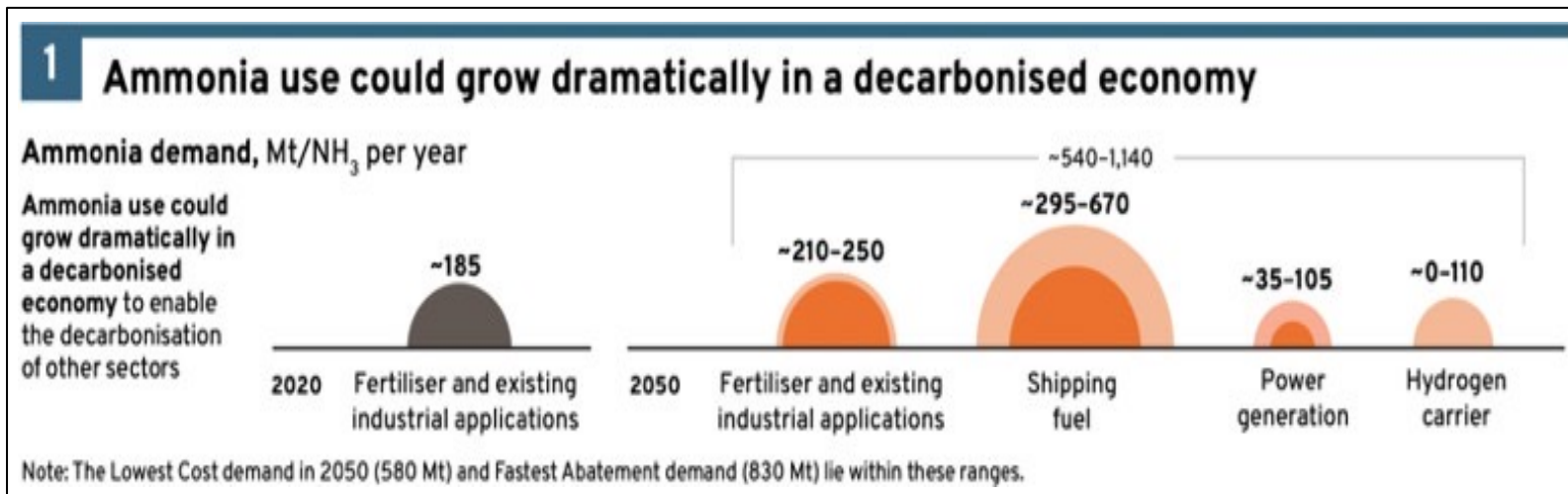
Ammonia Sector Transition / Transformation

Clean fuel to power the world's future



- ▶ As the world seeks to achieve net zero emissions by 2050, leading ammonia producers are looking to decarbonize existing production and develop new low-carbon assets, principally through:
 - **Carbon capture and sequestration (CCS)**
 - **Electrolysis and renewable electricity**
- ▶ New demand for clean ammonia as a clean-burning fuel in **power generation, industry, maritime, aviation, and as a hydrogen carrier** are leading to potential growth opportunities for the ammonia sector, alongside opportunities to help farmers and food producers to reduce emissions and access new markets with low-carbon fertilizer

[Making Net-Zero Ammonia Possible](#), Mission Possible Partnership, (Sept. 2022) forecasts significant potential clean ammonia growth to help other sectors to decarbonize



Unlocking Ammonia Energy: Technology, Infrastructure, and Policy

Key Opportunities

Supply

- Well-established technology / product
- 2/3 Emissions capture rate
- CCS readiness
- Policy, e.g., 45Q

Mid-Stream

- Transport efficiencies
- Existing trade and port infrastructure
- Well-known product

End-Use

- Essential farm product / other existing end-uses
- Energy content
- Technology development for fuel use

Safety focus, community/public engagement, and partnerships are critical

Unlocking Ammonia Energy: Technology, Infrastructure, and Policy



Supply

- Renewable: plant footprint (land use); affordable / continuous renewable energy; electrolyzer efficiency / availability;
- CCS: CO₂ pipelines/well permitting; public acceptance
- New technologies, e.g., ATR, flue gas
- Labor requirements for construction, repair, alternation

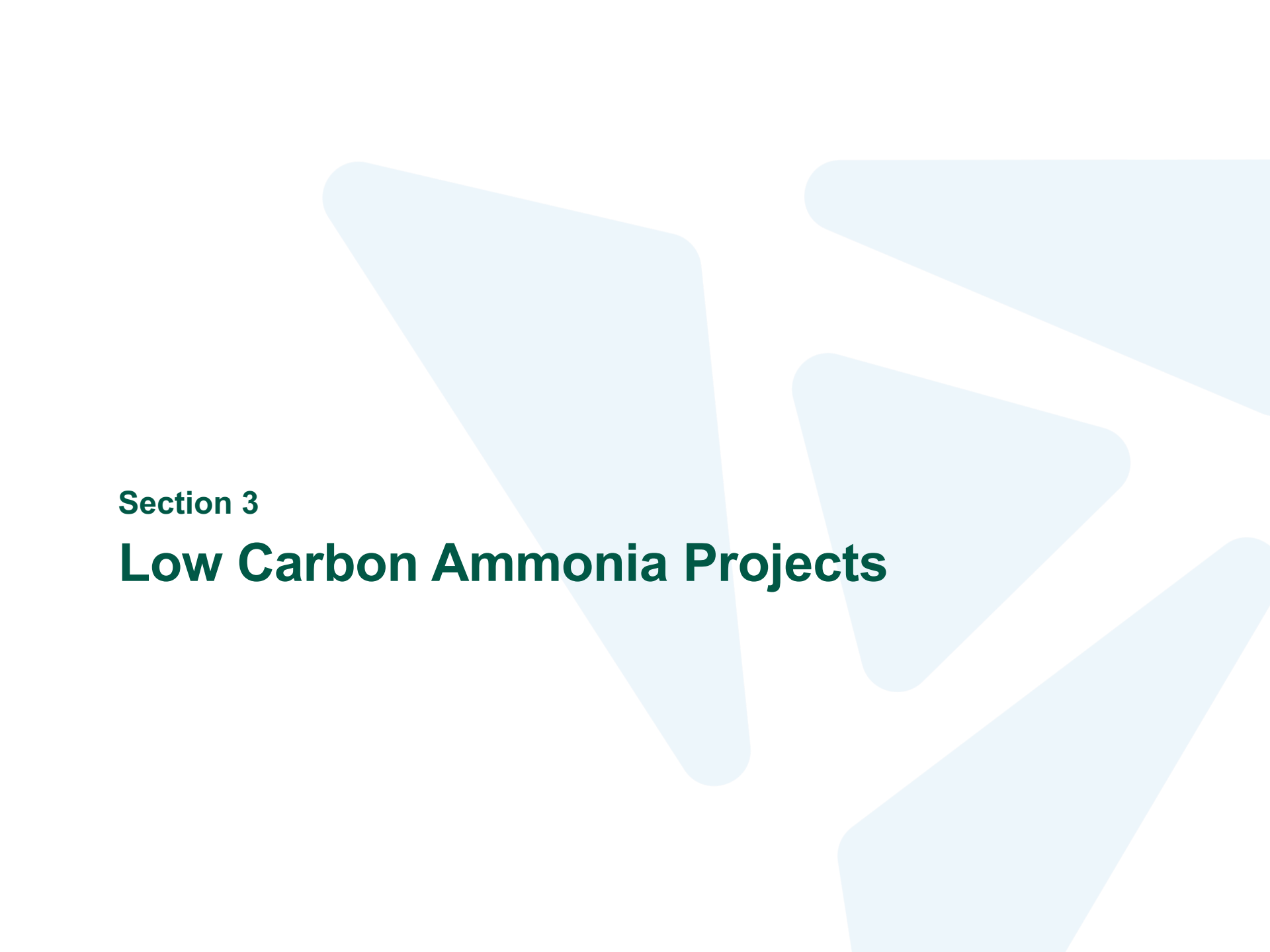
Mid-Stream

- Infrastructure / distribution growth required:
- Global and domestic transport
 - Storage

End-Use

- New end-uses / end-users
- Differential attribute rules
- Shipping infrastructure
- Supply - demand

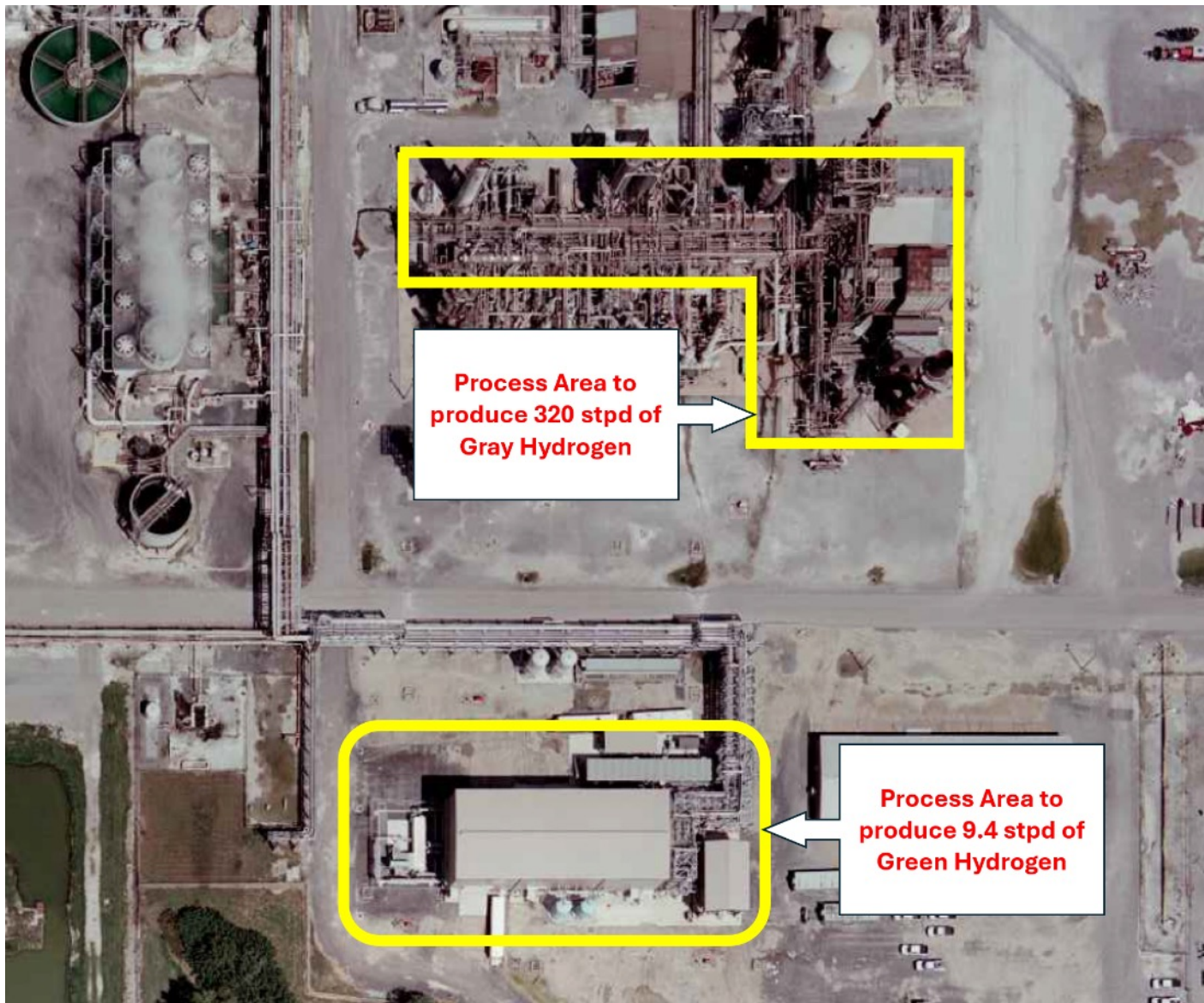
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Section 3

Low Carbon Ammonia Projects

Land Use for Green Hydrogen



CO₂ Compression and Dehydration Unit Construction



CF Blue Point Site – Greenfield Low-Carbon Ammonia



- ▶ 2022 - CF evaluated a number of Gulf Coast locations for a greenfield, low-carbon Ammonia Plant
- ▶ Purchased 900+ Acres in the Ascension Parish RiverPlex Mega Park
- ▶ Announced agreements to jointly evaluate and/or develop low-carbon ammonia projects with a number of potential partners
- ▶ FEED studies have been completed
- ▶ FID expected in First Quarter of 2025

Questions?

