



AEA Conference 2020 – Low Carbon Ammonia Certification

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SUSTAINABLE DEVELOPMENT GOALS

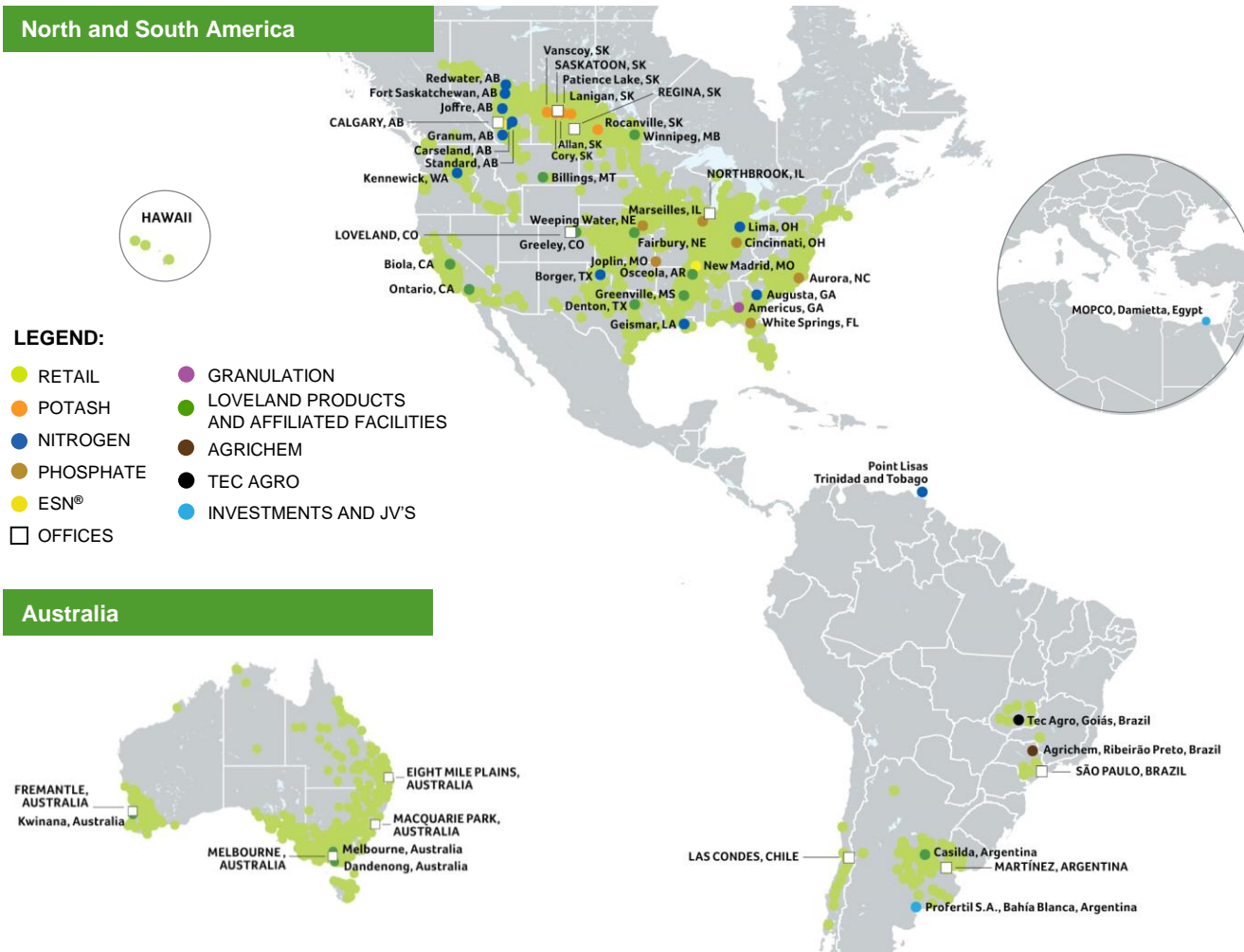


“Our integrated sustainability strategy is addressing our most material ESG risks and providing solutions for a growing world.”

Nutrien President and CEO, Chuck Magro

Nutrien has a unique global footprint and well positioned assets to **supply low carbon ammonia today**

North and South America



Australia

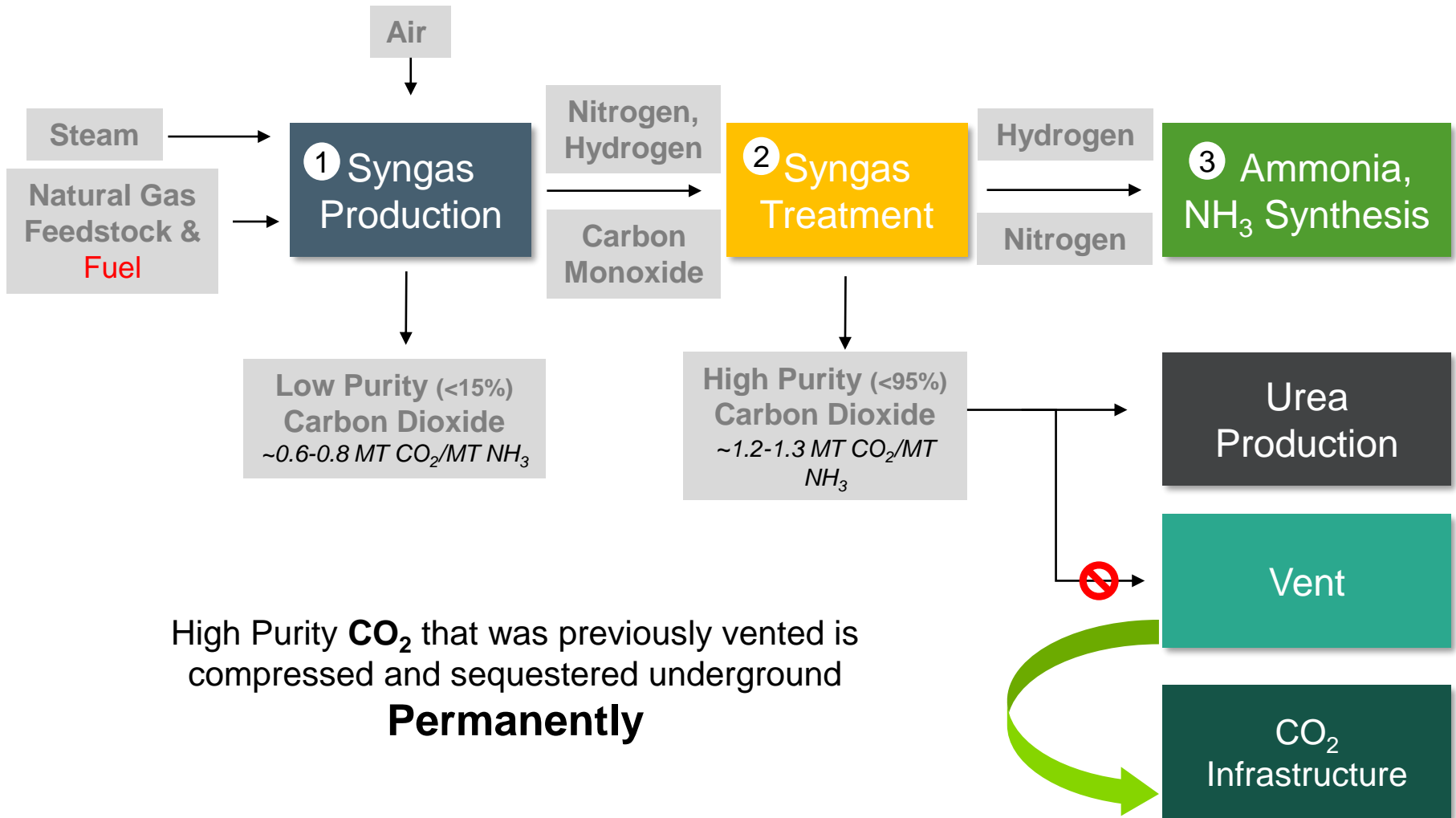
>7M MmT
Ammonia Production Capacity

Up to 1MmT
Low Carbon Ammonia
Production Capacity

200 kMT
Low Carbon Ammonia
With Tidewater Access at
Geismar, LA

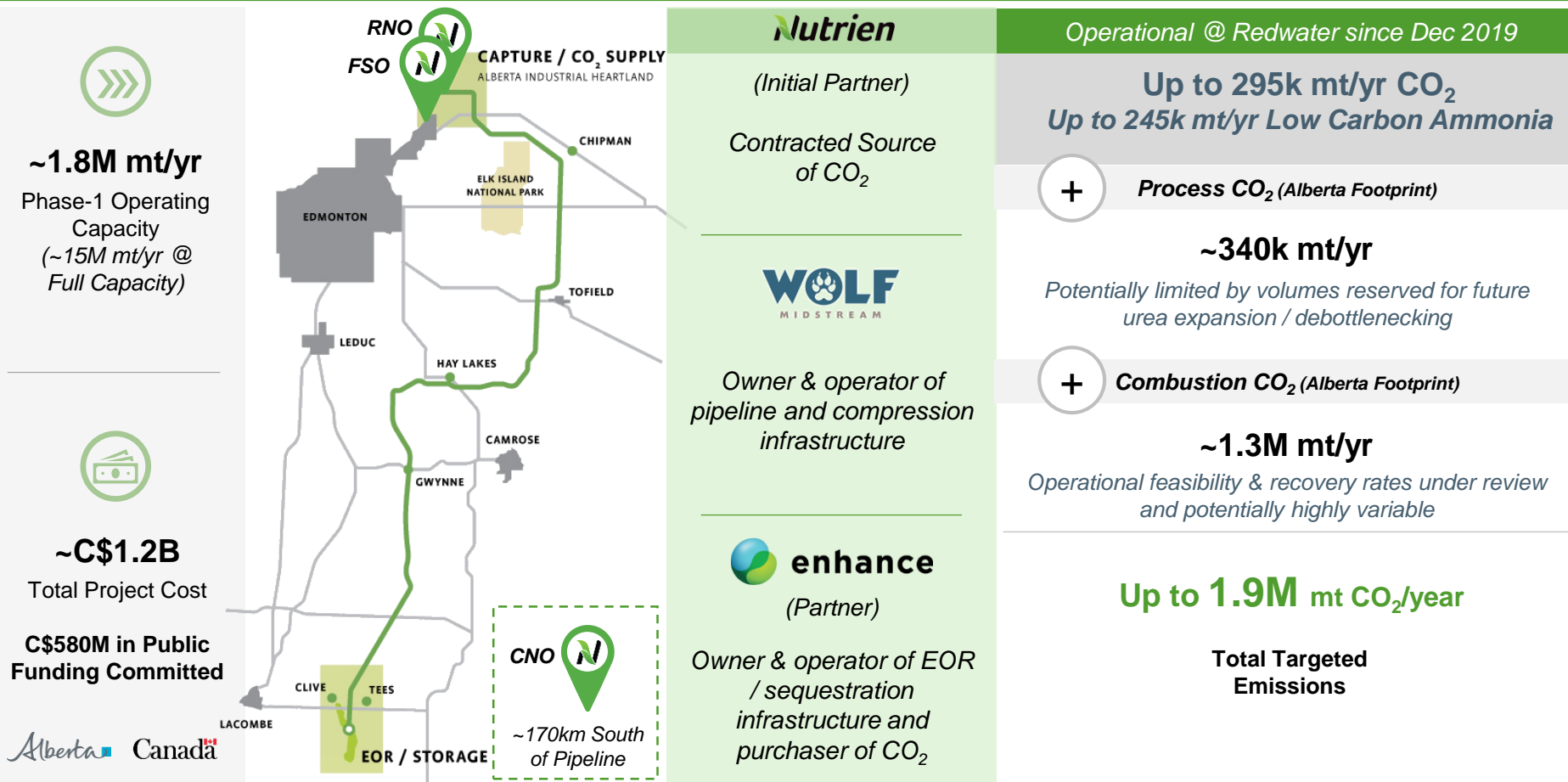
4
Fleet of Ammonia Vessels

Low Carbon Ammonia Production at Nutrien via Carbon Capture and Sequestration (CCS)



Nutrien's Alberta Low Carbon Ammonia – Uniquely Positioned to Leverage New CO₂ Infrastructure

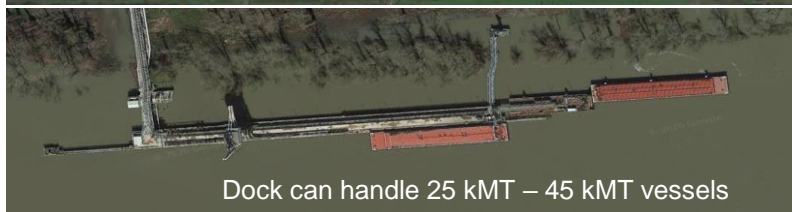
The Alberta Carbon Trunk Line (“ACTL”) is a 240km pipeline designed to transport CO₂ for Enhanced Oil Recovery (“EOR”) and/or future Permanent Sequestration Operations



Further utilization of the ACTL as a viable emissions mitigation is under evaluation

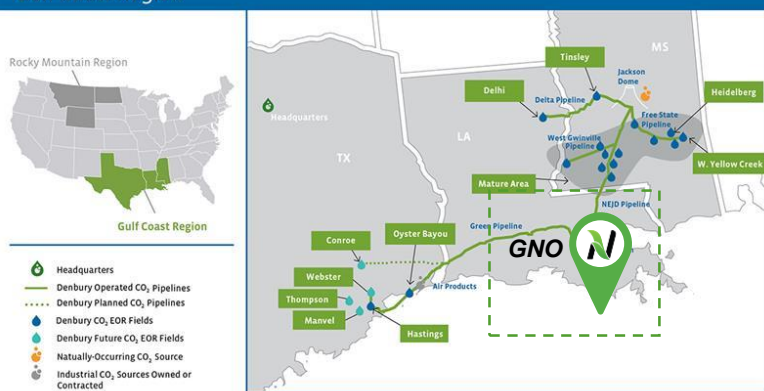
Geismar, LA Low Carbon Ammonia – Uniquely Positioned to Export Low Carbon Ammonia

The 925 mile Denbury CO₂ Pipeline network is designed to transport CO₂ for Enhanced Oil Recovery (“EOR”) and/or future Permanent Sequestration Operations enabled by 45Q Tax Credit



Dock can handle 25 KMT – 45 KMT vessels

Gulf Coast Region



Nutrien

Contracted Source
of CO₂

Denbury

(Partner)

Owner & operator of EOR
/ sequestration
infrastructure and
purchaser of CO₂

Operational @ Geismar since 2013

> 250k mt/yr CO₂
>200k mt/yr Low Carbon Ammonia

+ **Process CO₂** (Additional opportunities)

~90k mt/yr CO₂
~75k mt/yr Low Carbon Ammonia
*Potentially limited by volumes reserved for future
urea expansion / debottlenecking*

+ **Combustion CO₂**

>300 kmt/yr
*Operational feasibility & recovery rates under review
and potentially highly variable*

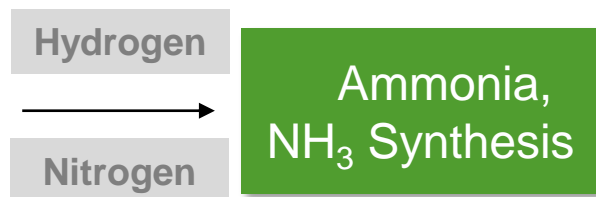
> 600 kmt CO₂/year

**Total Targeted
Emissions**

Further utilization of the Denbury Network as a viable emissions mitigation is under evaluation

Joffre, AB Low Carbon Ammonia – Utilizing By-Product Hydrogen to make Low Carbon Ammonia

By-Product Hydrogen and Nitrogen are Supplied from adjacent facilities



Nutrien

NH₃ Producer

NOVA Chemicals®

(H₂ Supply)

PRAXAIR
Making our planet more productive™

(N₂ Supply)

Lifetime Production >12 Mmt

490k mt/yr
Low Carbon Ammonia Capacity

Further expansion of Joffre possible with additional green energy or green hydrogen supply

- Fair evaluation of life-cycle carbon emissions for all pathways based on sound science
- Transparent process with adequate checks/balances to ensure international credibility
- Balance of ease of execution/complexity for both producers and consumers
- Support for early adopters (i.e. Hybrid Electrolysis/CCS facilities)
- Alignment with parallel hydrogen certification efforts

Thank You!

For further information, visit:
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