

BOC South Pacific Clean Energy

March 2021



Clean Energy. Contents



- 1. About Linde & BOC
- 2. Hydrogen Credentials
- 3. Current Initiatives



1. About Linde Linde – the leading industrial gases and engineering company



- → Formed in 2018 with the merger of Linde AG and Praxair, Inc – two world-class companies with nearly 140 years of shared history and successful achievements
- → The leading industrial gases and engineering company. Two divisions Linde Gas and Linde Engineering

133 Billion USD\$
Market Cap today*)



One Linde

Uniting with a shared Vision,
Mission and Strategic
Direction, and demonstrating
our Values and Behaviors in
everything we do

2 million+

Establishing a more diverse and balanced portfolio

100+

countries

Enabling strong, complementary positions in all key geographies and end markets

~\$15 million

charitable giving and sponsorships in 2018

Supporting our communities through contributions and employee volunteerism

~80,000 employees

Achieving our full potential, individually and collectively

6,500+
active patent assets
worldwide

Leading with innovative products, solutions and technologies

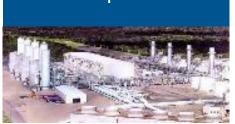
1. About Linde

\$28 Billion Sales in 2019, 90% from Linde's own assets, \$2.2 Billion from Hydrogen



Linde Engineering The Leading Technology Provider

Air Separation



Hydrogen/Syn Gas



Olefins



Natural Gas



>5.000 engineers



Leveraging **Synergies**

Linde Gas The Largest Industrial Gas Operator

HyCO Tonnage Plants



ASU Tonnage Plants



>500 plants

Standard Plants





Making our world more productive

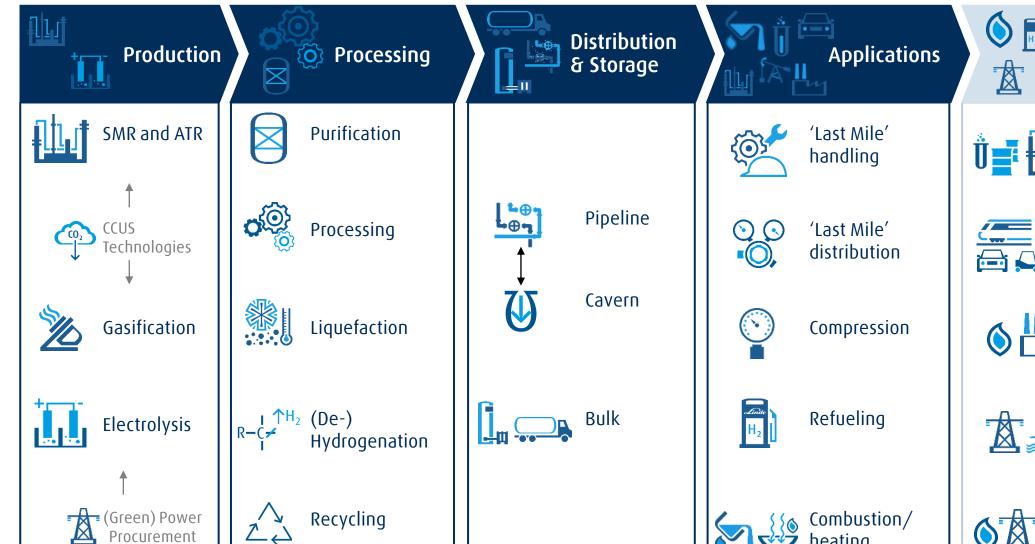




2. Hydrogen Credentials

Integrated know-how of Linde Gas and Linde Engineering in full hydrogen value chain











Transportation



Industry Heat



Power Generation & Buffering



Heating & Power for Buildings

Our Hydrogen facilities **Linde Footprint in South Pacific**





~ 10000 Cylinders p.a.



> 4000 Tonnes Bulk & Pipeline Products p.a.

Toyota/BOC H2 Refueller Welshpool G&G Operating Dec 2020 18 vehicles



SMR H2 **22 TPD**

> Wetherill Park NATA Accredited

> > Laboratory



Bulwer Island PEM Electrolysis 100kg / day

Ofleet Refueller Brisbane 2021 Q2 10 vehicles

North Ryde Clean Energy team

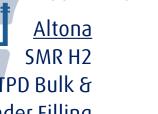
NZ Electrolysis Green Hydrogen Loading Facility & supply

AGIG H2 Loadout Bulk Hydrogen **Loading Facility**



La Trobe Australian First H2 Liquifier supplied by Linde Kryotecknik

1.5 TPD Bulk & Cylinder Filling



Hydrogen Energy

Developing Hydrogen Energy Precincts





Key facts

- Connected to a wind-farm (8 MW)
- 6.3 MW peak electrolyzer stacks (each 2.1 MW)
- 800 kg storage (25 MWh)
- 200 tons target annual output from 2017 onwards
- Injection in local gas grid and multi-use trailer-filling
- Budget: total 17 m€, funding: ~50% (BMWi)



Objectives

- 1. Local grid integration by storing fluctuating renewable power
- 2. Provision of ancillary services in the electricity grid (including negative control reserve)
- 3. Testing and further development of megawatt class PEM electrolysis
- 4. Intelligent and efficient hydrogen conditioning, storage and handling, smart management structure
- 5. Research of effects of the increased hydrogen concentrations in the gas grid and end devices
- 6. Public relations and public acceptance





Current Initiatives Mobility - Underway





Fortescue Future Industries

World first hydrogen refueller for operating 10 coaches transporting 3000 workers per day in the Pilbara region of WA



BOC Welshpool Gas & Gear

Refueling 18 Toyota Mirai fleet cars for customers including Toyota WA & ATCO Australia

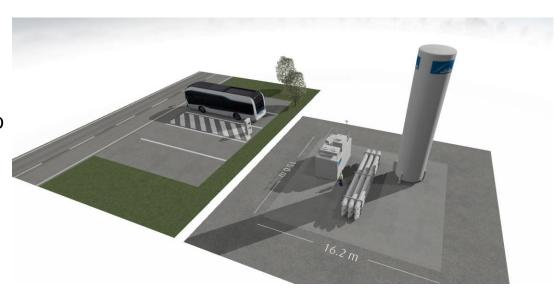


BOC Brisbane Refueller

Servicing Queensland Government Fleet with with green hydrogen for up to 5 years in Brisbane. Plan to introduce buses / trucks

Toyota Ecopark Refueller Altona

First refueller within Australia capable of Car, Bus, Truck and Forklift Service



Opportunities for the Hunter

Liquid Hydrogen Refinery to Support Heavy Transport and Sector Coupling



