



# Building a vertically integrated Green Hydrogen Company

ASX: FHE  
April 2022



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# WHY CLEAN ENERGY IS THE FUTURE



Global demands are driving a clean energy transition



Electrification of everything

Demand increased 6% in 2021



Green Hydrogen

WA Government



Government and corporations setting ambitious CO<sub>2</sub> emission targets



Emergence of ESG and Carbon Credit markets

Government grants/loans

The West  
Australian

18 April 2022

ScoMo's 5000 WA jobs vow in future mining vision

# THE PM FOR HYDROGEN

EXCLUSIVE LANAI SCARR

Scott Morrison will vow his pledge to create jobs in WA is more than hot air when he unveils a \$200m plan for four new hydrogen hubs and hails the Pilbara as the "world's greatest mining region".

MUST-READ REPORTS P4-5



- WA Government aims to be a global leader in Green Hydrogen
- WA Government prioritising development of the industry
  - *created Minister for Hydrogen & financial assistance*

### 2030 Targets

- WA's market share of global H2 exports to match its share in LNG today
- 10% green hydrogen blended into domestic gas pipelines
- Hydrogen to be widely used across the mining and regional transport industries

Western Australian Renewable Hydrogen Roadmap, November 2020



# BUILDING A HYDROGEN COMPANY FROM THE GROUND UP

Existing infrastructure surrounding the project puts Frontier in a class of its own in the junior sector



## Bristol Springs Solar Farm

**Location** – 120km from Perth – grid and gas power connection, world class surrounding infrastructure (ports and roads)

**Production ready** - Stage One on track to commence development (114MWdc) by 2023

**Government Support** – Government support from both Federal and State



## Vertical Integration

**Solar Expansion** – land opportunities to expand production up to ~500MWdc

**Hydrogen production** – Study commenced and typical barriers for entry (ie: Major capital projects) are already in place with available access

**Hydrogen Sales** – first refuelling station ordered for long term integration strategy



## Proven team in place

**Board and management** - vast experience in building projects in Western Australia & beyond

**Strong connections** with both Federal and State governments

**Local workforce** – highly skilled local workforce to build the project

## Capital Structure

**270.7m<sup>1</sup>** **31.4m**

Shares on issue

Options

**\$65m**

Market Cap  
At \$0.24 / share

**~\$5.9m**

Cash  
March 22

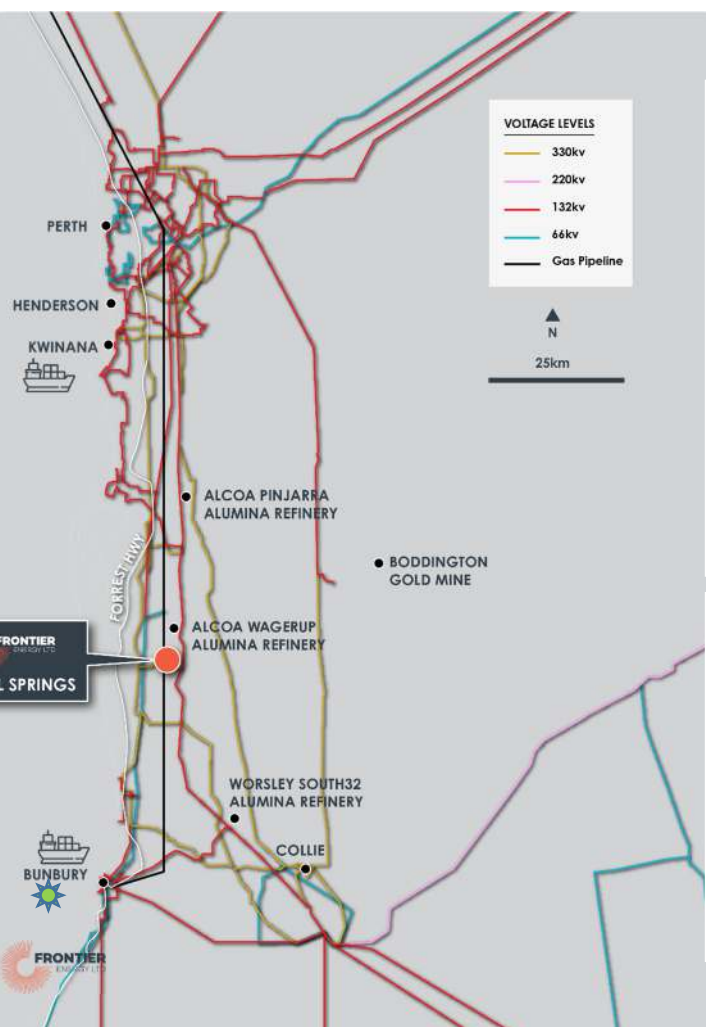
**~\$9.0m**

Listed  
investments<sup>2</sup>

**~\$49m**

Enterprise  
Value

# ON THE GRID - STAGE ONE SOLAR PRODUCTION



## SOUTH WEST INTERCONNECTED SYSTEM (SWIS)

- Kalbarri → Kalgoorlie → Albany  
*(Pilbara and Esperance are isolated)*
- Synergy → 1.1 million customers –  
12,300 GWh & \$2.9B revenue  
*(Synergy annual report 2021)*
- BSSF → 114MWdc ~ 230GWh pa

## SOLAR IN WA

- Only 5 industrial farms in WA - 200MW total
  - Merredin the largest (132MWdc)
  - 50% of production sold to BHP Nickel
  - System losses of 7% per 1000km  
*(assumes AC transmission)*
- 275,000 solar systems on rooftops at a combined capacity of around 1.1GW

## BRISTOL SPRINGS – FIRST MOVER ADVANTAGE

- First mover advantage - BSS has been developing its solar strategy since 2018
- Secured access to the Landwehr terminal including allocation of a 'bay'  
→ **no further access available on existing infrastructure**
- Freehold landholding provides security against competing land interest (ie: pastoral, mining)
- Land acquisition opportunities provide path to significant growth



# BRISTOL SPRINGS PROJECT



Stage One -  
114MWdc  
solar farm



120km south  
of Perth



~180,000  
tonnes  
of CO2 per  
annum



Commence  
construction  
- 2023



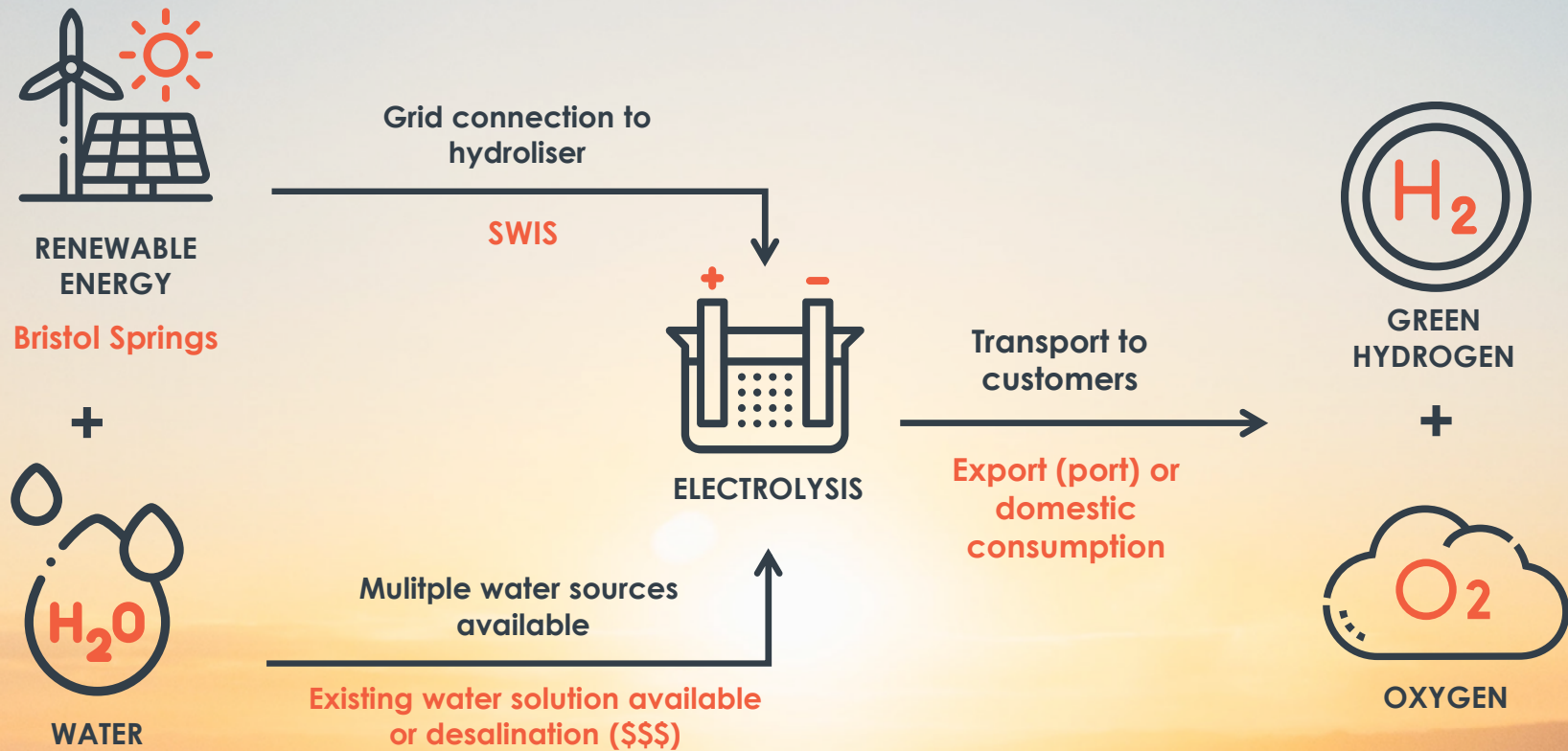
~45,000  
homes powered



To view a Virtual Site Trip to Bristol Springs visit: <https://frontierhe.com/videos/>



# THE HOW OF GREEN HYDROGEN PRODUCTION





# GREEN HYDROGEN PRODUCTION - BRISTOL SPRINGS



A major barrier for entry to clean energy and hydrogen is **location & access** to existing transmission infrastructure. Frontier is strategically located close to **existing and future infrastructure requirements** that importantly has **spare capacity**.



**Grid Connection**  
Landwehr Power  
Terminal / SWIS  
33/330kV transformer  
3.5km from BSS



**Gas Connection**  
Waroona Gas Terminal  
Dampier – Bunbury  
Pipeline (DBNGP)  
4km from BSS



**Port Infrastructure**  
Global export  
Bunbury port - 60km  
Kwinana port - 85km  
Henderson Port - 95km

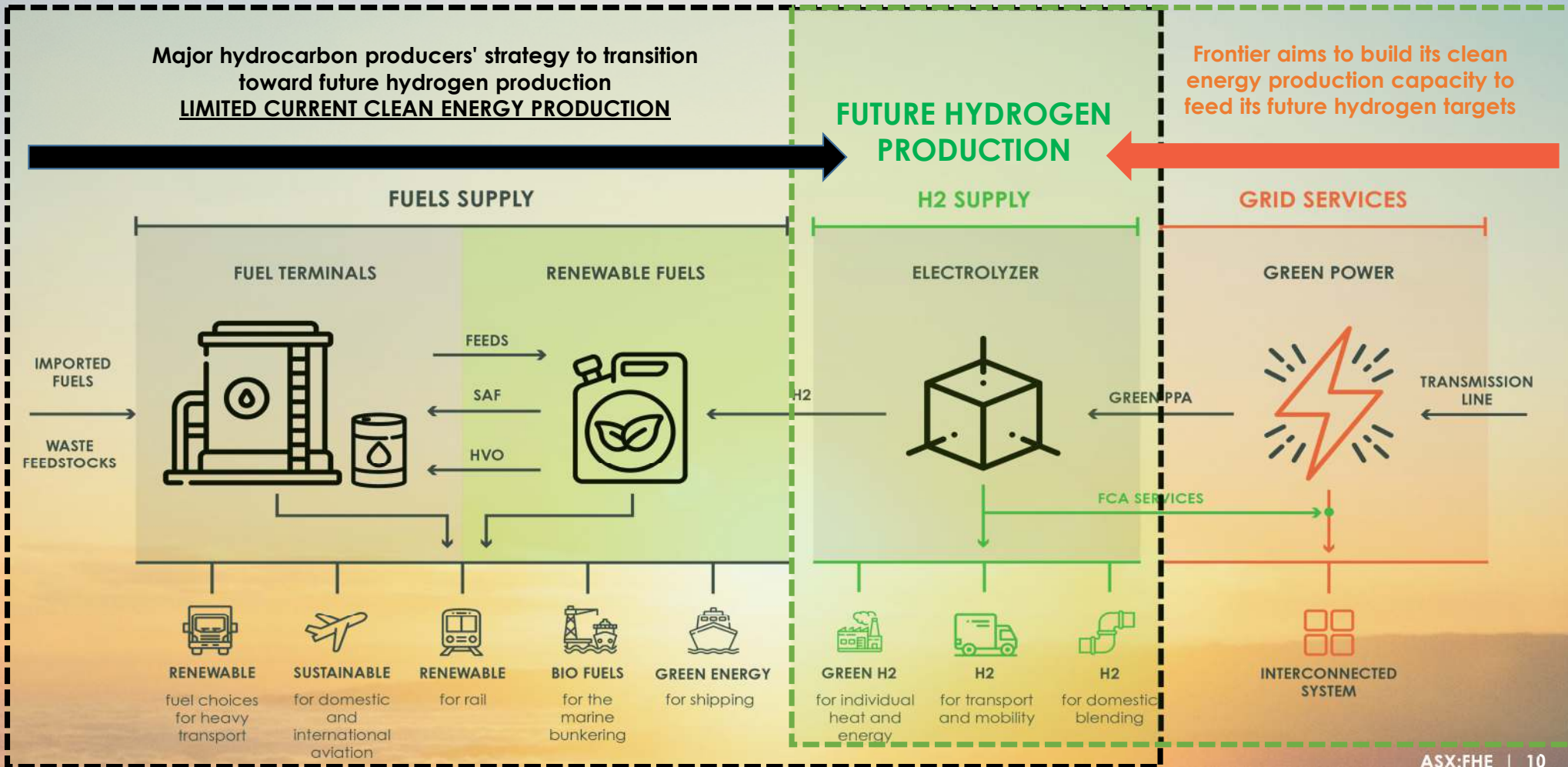


**Skilled Workforce**  
164,000 people > 60km  
Waroona - 8km  
Bunbury - 60km  
Mandurah - 45km



**Clean Water**  
Critical element for  
hydrogen  
10Litres H<sub>2</sub>O = 1kg H

# WHAT GLOBAL ENERGY TRANSITION LOOKS LIKE





## EARLY MOVER ADVANTAGE → REFUELLING STATION STRATEGY

- Vertical integration across hydrogen industry
- A hydrogen refuelling station has been ordered
  - *Prime location in Central Perth*
  - *One of the first hydrogen refuelling stations to be built and operating in Western Australia*
- First refuelling station operational by 2023
- Several more locations across Western Australia are being planned to create a “hydrogen highway”

### Western Australia fuel strategy

- Strategy to reduce reliance on diesel fuel imports
  - *WA imports 6.7B litres diesel p.a.*<sup>1</sup>
- Hydrogen identified as a key fuel source to reduce this reliance
- Hydrogen is ideally suited to replace diesel in long haul transport and mining industry via fuel cell technology



<sup>1</sup> 'Foreign oil dependence a 'massive vulnerability'', ABC News <https://www.abc.net.au/news/2022-03-21/calls-for-evs-to-wean-australia-off-foreign-oil-imports/100911930>

# PATHWAY TO GREEN HYDROGEN PRODUCTION

## STAGE ONE

### Solar Project 114MW - 2023

- 114MWdc Solar Farm at Bristol Springs
- Solar expansion, wind, BESS, Hydrogen Studies completed
- Secure offtake and financing
- FID & construction 2022/23
  - ~18-month construction
- Hydrogen refuelling station

## STAGE TWO

### Renewable Energy 500MW - 2026

- Expansion to ~500MWdc renewables
  - Solar expansion, wind & BESS
  - Hydrogen refuelling facilities – “Hydrogen Highway”
  - H2 export opportunities via Bunbury
- Strategic partnerships with significant energy consumers

## LONG TERM

### Green Hydrogen Beyond 2026

- Expand to +1GW renewable energy
- Establish major Hydrogen production hub in SW WA
- Explore domestic hydrogen - led power generation in SW WA

**Develop an industrial scale renewables and green hydrogen manufacturing, supply and export company supporting Australia's Green Hydrogen Strategy**



# WHY FRONTIER ENERGY?

## RENEWABLE ENERGY SOLUTION IN ONE OF AUSTRALIA'S FASTEST GROWING REGIONS

Located in the industrial heart of WA with world-class infrastructure

First mover in a booming sector

Major expansion potential

Proven board and management team with development experience



## Milestones for 2022

Complete Detailed Design



Agreements & MOU's with prospective partners for development



Solar Expansion, Green Hydrogen & alternative power solutions updates



BSS Project Financing and long lead items



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information contact**

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**ADDITIONAL  
INFORMATION**



# APPENDIX 1 - INDICATIVE TIMELINE – BSSP 114MWdc



Activity	2021		2022				2023			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<ul style="list-style-type: none"> <li>Economic Study</li> <li>Land secured</li> <li>ETAC Process</li> </ul>	Complete									
Development Application	Approved									
Shareholder meeting / Complete acquisition		Complete								
Recommence trading on ASX		Complete								
Detailed Design			Underway							
PPA's & Financing				NDA, MOU						
Construction										
Commence operations										



## APPENDIX 2 - DIRECTORS



### **Grant Davey – Non Executive Chair**

Mr Davey is an entrepreneur with 30 years of senior management and operational experience in the development, construction and operation of precious metals, base metals, uranium and bulk commodities throughout the world.

He is currently a Director of Cradle Resources Limited (ASX:CXX) and Lotus Resources Limited (ASX: LOT) and is a member of the Australian Institute of Company Directors.



### **Mike Young – Managing Director**

Mr Young is a resource executive with extensive experience in managing public companies, through feasibility, stakeholder engagement, and ultimately into production.

Most recently, Mr Young was the CEO and Managing Director of Vimy Resources Limited (ASX: VMY).



### **Chris Bath – Executive Director**

Mr Chris Bath is a Chartered Accountant and member of the Australian Institute of Company Directors, and has been CFO for companies listed on AIM, ASX and JSX.

Mr Bath is also a non-executive director and company secretary of Cradle Resources Limited (AS:CXX).



### **Dixie Marshall – Non- Executive Director**

Ms Marshall has more than 38 years' experience in media, advertising, politics, and communications across a range of platforms, including television, radio, newspapers, and digital. She has won awards for journalism, and more recently advertising.

She is the first woman Managing Director of Marketforce, WA's oldest advertising agency and previously worked from the Premier's Office for 6 years as the Director of Strategic Communications for the WA Government.