ASX ANNOUNCEMENT

19 December 2022 | ASX:FHE; OTCQB: FRHYF

Pre-FEED confirms costs and viability for Stage One Green Hydrogen Facility at Bristol Springs Project

Frontier Energy Limited (ASX: FHE; OTCQB: FRHYF) (**Frontier** or the **Company**) is pleased to announce the completion of the Pre-Front End Engineering Design ("**Pre-FEED**" or the "**Study**") relating to the proposed hydrogen facility to be built at the Company's Bristol Springs Renewable Energy Project (the "**BSS Project**") in Western Australia.

The Pre-FEED study was completed to provide a higher level of definition from the pre-feasibility study. The hydrogen production plant project cost estimate was completed to a Class 4 level of certainty and confirmed the operating and capital costs were in-line with the Pre-Feasibility Study (PFS) (ASX Announcement 4 August 2022). The Pre-FEED also included potential for compression and storage, which was completed to Class 5 level of certainty.

The Company is currently assessing all information regarding the Stage One development with the aim of releasing a Definitive Feasibility Study (DFS) during Q12023.

HIGHLIGHTS

- **The Company has completed the Pre-FEED for the Stage One (36.6MW) hydrogen facility at the Company's BSS Project confirming the cost and viability of the facility**
- **The Pre-FEED was completed by independent global engineering and construction firm, GHD. GHD was selected due to its vast experience in the hydrogen industry**
- **Capital cost estimate for the construction of a 36.6MW facility (and associated infrastructure) was estimated at $71.7 million ($69.8 million in PFS)**
- **Direct operating costs associated with the Hydrogen Facility were estimated at $2.89 million pa**
    - *These direct operating costs exclude water consumption. This cost is approximately $0.8m million per annum pursuant to the Water Corporation water supply agreement (in-line with the PFS estimate)*
- **The Pre-FEED did not identify any technical barriers for the development of the Project**
- **The Company is now advancing the Stage One development towards a Definitive Feasibility Study that is on track to be completed during 1Q2023**

Managing Director, Sam Lee Mohan commented: *"We are delighted with the outcome of the Pre-FEED as both capital and operating costs are in-line with the PFS estimates, despite the higher degree of certainty with estimates in the Pre-FEED (compared to the PFS) at a time when inflation globally is still at record high.*

More importantly, however, was that GHD found there were no technical issues or other technical barriers with the development of the hydrogen facility at the Project. The Company is currently compiling all updated information since the release of the PFS as we advance Stage One towards a DFS to be released during Q12023.

Bristol Springs Renewable Energy Project advances towards a DFS following strong Pre-FEED for hydrogen facility

Following the completion of the positive Pre-Feasibility Study (PFS) for the Stage One Hydrogen Project, which outlined a 114MW solar farm to power a 36.6MW alkaline electrolyser, the Company engaged global engineering firm, GHD to complete Pre- Front end Engineering Design (Pre-FEED) assessing a hydrogen production facility including a 36 MW electrolyser.

GHD Pre-FEED study was completed with the following scope and assessment:

- 36 MW Alkaline Electrolyser;
- Future potential plug-and-play infrastructure for hydrogen compression system (up to 400 bar);
- Future potential plug-and-play infrastructure for hydrogen storage systems to store 5 days (79 tonnes) of production;
- Hydrogen export facilities via the following options:
    - Blending into the Dampier Bunbury Natural Gas Pipeline;
    - Road export via hydrogen truck trailer;
    - Provision for use in a future onsite 10MW Fuel Cell system;
- Utilities including water, wastewater, and drainage;
- Power;
- On Site Infrastructure including major equipment buildings, warehouses and offices;
- Plug-and-play for expansion up to 150MW.

The outcome of this work resulted in the following:

- Operating costs estimates for the hydrogen facility total $3.69 million per annum compared to $3.5 million pa in the PFS or a 5% increase. These costs relate to direct operating costs only and excludes the cost to acquire additional electrons from the power grid;
- Capital costs for the construction of a 36.6MW facility and associated infrastructure were estimated at $71.7 million, compared to $69.8 million in the PFS or a 3% increase; and
- Pre-FEED did not find any technical barriers to development of the Project.

Capital Estimate

The PRE-FEED estimate for the total direct capital costs of a 36.6MW Hydrogen facility was $71.7 million. A breakdown of the cost estimate is detailed below. The Pre-FEED also includes pre-production costs of $3 million.

Direct Construction Costs – Hydrogen Facility	A$ m
Civil works	$9.3m
Facility	$35.4m
Loading and blending	$3.3m
Utilities	$1.2m
Instrumentation and interconnecting piping, fittings and valves	$3.4m
Buildings	$4.8m
Electrical	$14.4m
Total Construction Cost	**$71.7m**
Pre-Production - Working Capital	A$ m
Commissioning and First Fills	$1.2m
Owners Team	$1.8m

Table 1: Capital cost estimate for Hydrogen facility construction

The capital estimate provided is based on GHD's custom template. Quantities were taken off concept designs in conjunction with preliminary Basis of Design, detailed in the Study. Cost estimates were derived from various techniques including vendor quotes, budget quotes and historical projects in regional WA estimated or executed in the last 0-3 years.

Operating Costs

The PRE-FEED Class 5 estimate for total direct operating cost on an annualised basis for a 36.6MW Hydrogen facility was $2.89 million per annum. A breakdown of the cost estimate is detailed below.

Direct Operating Costs – Hydrogen Facility	A$ 000's
Brine Pond Cleanout Costs	$225k
Electrolyser Overhaul (annualised)	$1,020k
Equipment O&M	$800k
Site Labour	$720k
Miscellaneous	$125k
Total Direct Operating Cost (pa)	**$2,890k**

Table 2: Operating cost estimate for Hydrogen facility

This cost estimate above is exclusive of water costs which were included in the total direct operating costs of $3.5 million in the PFS estimate. Through negotiations with the Water Corporation, the estimated water cost is approximately $0.8 million per annum based on expected consumption.

Authorised for release by Frontier Energy's Board of Directors.

To learn more about the Company, please visit www.frontierhe.com, or contact:

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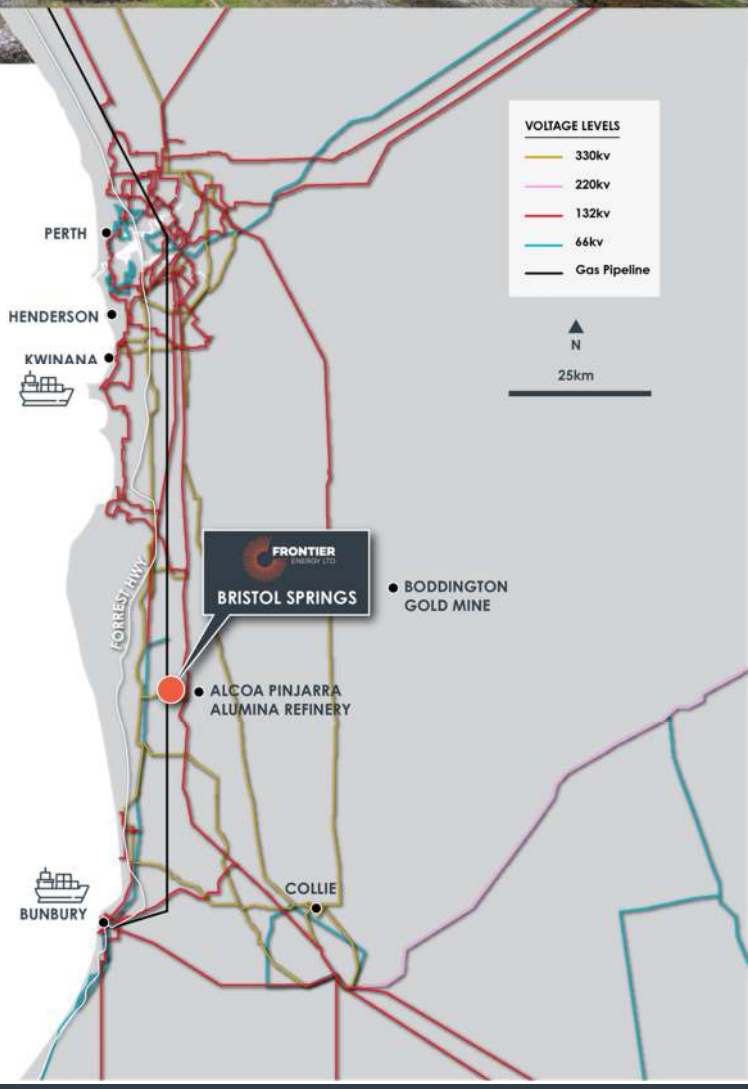
About Frontier Energy

Frontier Energy Ltd (ASX: FHE; OTCQB: FRHYF) is developing the Bristol Springs Green Hydrogen Project (the Project) located 120km from Perth in Western Australia.

The Company recently completed a Pre-Feasibility Study[1] that outlined the Project's potential to be both an earlier mover and one of the lowest cost green hydrogen assets in Australia.

The Project benefits from its unique location surrounded by major infrastructure. This reduces operating and capital costs compared to more remote hydrogen projects, whilst also being surrounded by likely early adopters into the hydrogen industry in the transition from fossil fuels.

[1]ASX Announcement 4th August 2022



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For a comprehensive view of information that has been lodged on the ASX online lodgement system and the Company website, please visit asx.com.au and frontierhe.com, respectively.