

# Staged, Large Scale Integrated Green Products Strategy

# Highlights

- Scoping study expanded to evaluate green products via a staged, large scale integrated solar salt, sulphate of potash (SOP), chlor-alkali and hydrogen project development
- Multi gigawatt renewable energy generation potential to support value-added processing to produce green caustic soda, chlorine and hydrogen
- High value domestic market for caustic soda opportunity to de-carbonise and bolster Australia's manufacturing capability
- An integrated green products strategy can be implemented under the Mining Act 1978 within existing tenements
- Highly strategic licence footprint expanded to just over 900 km<sup>2</sup> through additional applications

**Fin Resources Limited (ASX: FIN) ("FIN"** or the **"Company")** is pleased to provide an update regarding its progress on the North Onslow Solar Salt Project (**"NOSSP**")

## Staged, Large Scale Integrated Green Products Strategy

Key findings from preliminary studies currently being completed by leading industry consultants have highlighted the potentially compelling opportunity for FIN to pursue a staged, large-scale integrated solar salt, SOP, caustic soda, chlorine and hydrogen development at the North Onslow project area.

The scoping study is being expanded to evaluate products that can be classified as green due to the sustainable nature of solar salt production combined with value added bitterns and chlor-alkali processing plants powered by renewable energy co-located on FIN's tenements.



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**Corporate Directory** 

Non-Executive Director Jason Bontempo

Non-Executive Director Ryan de Franck

Non-Executive Director Andrew Radonjic

Non-Executive Director Simon Mottram

> Company Secretary Aaron Bertolatti

35 Richardson Street West Perth WA 6005 Tel: +61 8 6117 0453 info@finresources.com.au www.finresources.com.au



The first stage of the project being assessed is envisaged as a solar salt and bitterns processing operation providing up to 1 Mtpa of high-quality industrial salt for an integrated chlor-alkali facility and supplying surplus high quality industrial salt and SOP to domestic and international markets.

Sodium hydroxide, also known as caustic soda, is the most valuable component of chlor-alkali production and is a key raw material used in the refining of alumina and the manufacture of paper, textiles, drinking water, soaps and detergents. Chlorine and hydrogen are also produced via the chlor-alkali process and can be combined to produce hydrochloric acid which is a key industrial chemical primarily used in metal refining including for critical minerals and steel production. Chlorine can also be combined with ethylene in the production of PVC and hydrogen has a broad range of potential industrial and energy uses.

Incorporating large scale renewable energy into the chlor-alkali production process would significantly reduce CO<sub>2</sub> emissions and reduce the carbon footprint of end users consuming these important industrial chemicals.

Currently, 1.2 Mt of caustic soda with a value of over A\$0.6 billion is imported into Western Australia each year for use in the alumina refining process. This caustic soda is entirely produced using fossil fuels with carbon emissions of between 0.5 and 1.5 t CO<sub>2</sub>/MWh for a total carbon footprint of up to 2,160,000 t of CO<sub>2</sub> per annum.

Displacing imported caustic soda, which is produced using fossil fuels, with domestically produced caustic soda utilising renewable energy would not only reduce carbon emissions in the alumina refining process but would also provide greater supply chain security to Western Australian users of caustic soda and hydrochloric acid. This would also give rise to a carbon credit, which would either provide a direct revenue stream or improve the pricing received for the caustic soda and hydrochloric acid.

A second stage opportunity has also been identified to assess significantly expanded renewable energy generation, incorporate desalination into the solar salt production process and produce additional green hydrogen on a larger scale than envisaged under the chlor-alkali process. The medium to longer term opportunity is to supply a green hydrogen or derivative product, such as ammonia, once the market demand for such products has been established and it is economically viable.

This evolution of the Company's strategy is due to further identification of the significant value adding opportunity and synergies that can be realised through an integrated production model. The value uplift between the production of industrial salt and chlor-alkali products, sodium hydroxide, chlorine and hydrogen, is estimated to be in the order of 10 to 15 times. Processing of industrial salt at North Onslow is supported by the significant renewable energy generation potential of the project area, which is internally estimated to be several gigawatts based on the world class solar irradiation in this region and the large tenement area, far in excess of envisaged requirements.

The solar energy generation capacity being evaluated is 8 kwh/m2/day. Specialist monitoring equipment is planned to be deployed to more accurately quantify the wind energy generation capacity of higher elevation areas within the North Onslow project area. Renewable energy and energy storage would be the cornerstone of the integrated green products operation.

The salt field layout optimisation is being completed by Actis Environmental based on the recently acquired LiDAR topographical data and an in-depth understanding of key environmental constraints of the project area. This independent assessment of the salt field production capacity has indicated an increased potential rate of up to 5.3 Mtpa while avoiding environmentally sensitive mangrove areas and seeking to minimise encroachment on algal mat areas.





### **Tenure and Planning**

FIN has received advice from a leading approvals, tenure and planning consultant that an integrated solar salt, bitterns processing and chlor-alkali development at the North Onslow project area can be implemented using Mining Act 1978 tenure due to bitterns and chlor-alkali production being the processing of industrial salt. This is a key competitive advantage of FIN's proposed integrated production model and highlights the strategic value of the significant tenure position FIN has been able to assemble. Additional licence applications have increased the total licence footprint from 425 km<sup>2</sup> to just over 900 km<sup>2</sup> which have been lodged and are at varying stages of the grant process.



Figure 2: Tenement licences including granted and in application

As part of the scoping study process FIN is engaging with a broad range of community and government stakeholders regarding the implementation of the project.

Authorised for release by: Jason Bontempo - Non-Executive Director

#### For further information contact:

Jason Bontempo - info@finresources.com.au

