



The Port of Gladstone is an attractive location for a hydrogen market

Clean energy for a clean economy

Jason Sprott takes a look at the leaders in the uptake of renewable energy within the port sector in Australia

AS WE START THE NEW YEAR

with a fresh outlook and a cautious spring in our step after navigating our way through ‘the year of COVID’, we take a look one of the most interesting topics (and opportunities) for Australian ports on their pathway to a sustainable future: renewable energy.

The role of renewable energy solutions in mitigating climate change is proven.

But how quickly are we adapting our approach? As a nation, renewables contributed 21% of total electricity generation in 2019, with hydro (5%), wind (7%), and solar (7%) making the largest contributions.

According to the Climate Council of Australia, South Australia, the ACT and Tasmania are leading the renewable energy race using a range of renewable energy metrics – including projects, policy and commitments.

Tasmania is on track to be completely self-sufficient in renewables by 2022, making it the first state in Australia with 100% renewable power generation – and it is set to become a green hydrogen leader in coming years via the state’s Tasmanian Renewable Hydrogen Action Plan.

Interestingly, around 14% of Australia’s electricity was generated outside the

electricity sector by business and households in 2019. Clearly households and businesses are taking action – driven by a desire for cost savings, insurance against rising energy costs, and I’d like to think as positive action against climate change.

In our view, transitioning to renewable energies across society will underpin global progress on the Paris Agreement, as well as the Sustainable Development Goals.

Put simply, clean energy will drive a clean economy.

Renewable energy technology is rapidly evolving, and opportunities exist across the nation to significantly scale-up a true, national energy transformation. Seaports, as major industrial nodes, can play a significant part in this transformation.

Leading global ports are taking action in wind (including large scale offshore wind farm coalitions), solar (including floating options) and ‘green hydrogen’ amongst other initiatives.

Research and investment is occurring across vessel types, landside equipment and energy partnerships at and around port precincts. These ports see these renewable energy opportunities as the ‘foundation’ to a resilient and sustainable future.

Renewable energy partnerships are flourishing in the global port sector as

businesses see the advantages (and cost savings) of taking collaborative action.

And the good news? Several Australia ports are also taking significant action on renewable energy.

PORT OF BRISBANE

Since 2003, the Port of Brisbane’s vision has been, “to be Australia’s leading port: here for the future”.

Coinciding with a shift to sustainable thinking at the time, the ports’ endeavours have continued with the organisation remaining a leader within the industry.

Over the last seven years, a key focus has been on reducing emissions through the installation of rooftop solar systems at the port.

As an initial trial in 2013, a 30kW rooftop system was installed on a Port of Brisbane office building. It allowed PBPL to understand the risks associated with rooftop solar installation and to collect data to verify and inform future renewable energy investment. It also demonstrated that these installations not only reduce carbon emissions but generate positive financial outcomes.

Since that time, PBPL has installed more than 1.3MW of solar generation capacity at the port across eight different PBPL-

managed sites, benefitting both PBPL and its customers who occupy the buildings.

In Queensland during this same time, wholesale electricity prices have increased and the capital cost of solar technology has reduced. Combined, these significantly improve the business case for supporting local solar infrastructure installations.

Under its sustainability strategy, PBPL recently developed an Energy Transition Plan with ambitious carbon emissions reduction targets. Solar energy will play a key role in the reduction of Scope 2 and 3 emissions at the Port of Brisbane, with PBPL continuing to explore opportunities to partner with its customers and the port community as they progress the plan.

PBPL is also currently investigating innovative mechanisms to support the installation and generation of additional solar assets throughout the port precinct, with a key focus on the Virtual Energy Network concept. PBPL anticipates that, if successful, this initiative could support the cost-effective generation of local solar energy and further reducing carbon emissions while reducing energy costs at the port.

PORT OF NEWCASTLE

Australia's third largest port by volume, the Port of Newcastle is fast becoming recognised as one of the national leaders in port sustainability. Clearly, sustainability is at the core of the organisation's business strategy – in our view, exactly where it needs to be.

Jackie Spiteri, the port's senior manager ESG, outlined the organisation-wide commitment to driving the principles of sustainability throughout operations, internal culture and the way the port engages with customers and communities.

"As proud custodians of the port, we manage our business in a way that protects and enhances the port for future generations.

"As part of the 'Our Planet' theme within our sustainability strategy, we've made operational decarbonisation commitments including flicking the switch to fully electric vehicles across our operations.

"We are well-advanced in transitioning to an all-electric vehicle fleet by the end of 2021, with a number of Hyundai Ioniq electric vehicles soon to be joined by other suitable work-specific models as they arrive on the Australian market."

Switching to electric vehicles will save 48 tonnes of carbon emissions annually.



PBPL has installed rooftop solar across eight of its managed sites in the port precinct

"Every tonne of CO₂ reduced or any scale of operational efficiency we achieve will contribute to better outcomes for the future and have a positive cumulative effect that leads to significant, long-lasting results," says Ms Spiteri.

Also of note was the announcement by the port earlier this year regarding the newly formed partnership with Greenfleet, a leading not-for-profit environmental organisation, for the offsetting of greenhouse gas emissions from all international and domestic corporate flights from January 2018.

GLADSTONE PORTS CORPORATION

With a history stretching back to 1914, Gladstone Ports Corporation manages and operates three port precincts – in Gladstone itself (including the recreational marina and parklands), the Port of Rockhampton and the Port of Bundaberg.

Richard Haward has been in a dedicated sustainability role at the port for several years and leads the corporation's efforts across a number of initiatives.

Guided by a sustainability strategy completed in 2018, the GPC team is focused on, amongst other things, facilitating renewable energy projects to position Queensland within an emerging global market for green hydrogen – with export demand expected to grow rapidly beyond 2030. This comes after the opportunities of the port city were highlighted in the state government's Hydrogen Industry Strategy 2019 -2024.

Clearly, Gladstone is an attractive location for a hydrogen market with



Part of the Port of Newcastle's electric vehicle fleet

Fishermen's Landing wharf centre the most ideal to support and export market. The location is earmarked to enable renewables within the GPC's 50-year strategic planning framework, underpinning job creation and growth in an economically, environmentally and socially sustainable manner.

The port is gearing up, and clearly well positioned on the verge of the unprecedented opportunity with the globalisation of the energy market.

A CLEAN(ER) FUTURE

It is clear that we have great people who are highly dedicated to advancing renewable energy opportunities throughout the Australian sector.

The future is both bright and clean. ■



Jason Sprott, director, Spratt Planning & Environment