

OCTOBER 2022

ENERGY MANUFACTURING OPPORTUNITY PROSPECTUS



Queensland
Government



Acknowledgement of Country

The department acknowledges the First Nations peoples in Queensland: Aboriginal and Torres Strait Islander peoples and their connections to the lands, winds and waters we now all share. We pay our respect to Elders, past, present and emerging.

We also acknowledge the continuous living culture of First Nations Queenslanders – their diverse languages, customs and traditions, knowledges and systems. We acknowledge the deep relationship, connection and responsibility to land, sea, sky and Country as an integral element of First Nations identity and culture.

The Country is sacred. Everything on the land has meaning and all people are one with it. We acknowledge First Nations peoples' sacred connection as central to culture and being. We acknowledge the stories, traditions and living cultures of First Nations peoples and commit to shaping our state's future together.

DSDILGP recognises the contribution of First Nations peoples and communities to the State of Queensland and how this continues to enrich our society more broadly.

A TRANSFORMATIONAL MOMENT

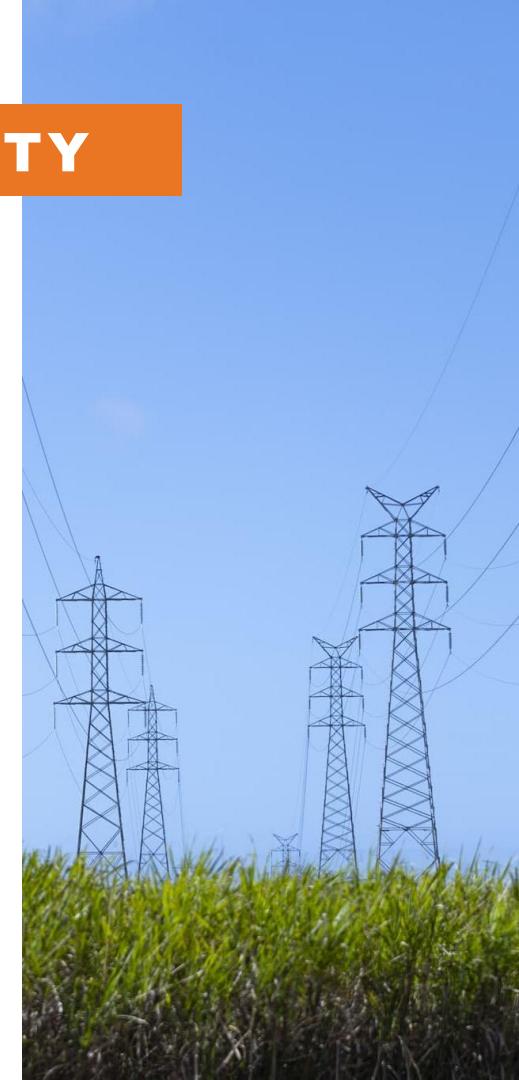
QUEENSLAND ENERGY AND JOBS PLAN

- » The Queensland Government has released the Queensland Energy and Jobs Plan (QEJP). It's a 10-year plan that increases the state's renewable energy target to 70% by 2032, and transforms the energy system with over \$62 billion of estimated capital projects to be funded across public and private sectors.
- » Key to achieving this plan is the creation of the SuperGrid; a massive infrastructure build that will see 25 GW of large-scale wind and solar electricity infrastructure built in Queensland, alongside two new hydro power projects (one being the world's largest), the transformation of existing state-owned power stations into clean-energy hubs, and all of this to be connected by thousands of kilometres of new transmission lines.
- » Queensland will be transformed. This is your opportunity to help manufacture that transformation, right here in Queensland.

ONCE-IN-A-GENERATION OPPORTUNITY

BUILDING THE SUPERGRID

- » To build the SuperGrid will require thousands of new components; solar panels, wind turbines, batteries and transmission lines.
- » We want to see that equipment built in Queensland, and we're ready to help you come here and do that.
- » In this prospectus, you can see the scale of the mission we're on, the certainty we're applying to it, and the unique offering that Queensland has in terms of people, place and power to make this real.
- » We have a track record of doing this; manufacturers are coming here to build the energy revolution the world is demanding. **You can be part of that.**



CONTENTS

Queensland's SuperGrid

Objectives of the market sounding

Manufacturing opportunity

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WHY QUEENSLAND AND THE SUPERGRID ARE UNIQUE

Queensland offers certainty, scale and the right combination of people, place and power to grow the manufacturing industries needed to build the SuperGrid here.

INVESTMENT CERTAINTY

Following release of the QEJP, the Queensland Government will be legislating renewable energy targets:

70% renewable energy by 2032

80% renewable energy by 2035

MATERIAL SCALE

22GW of new renewable generation

7GW of long-duration pumped hydro energy storage (PHES)

1,500KM of new high voltage backbone transmission infrastructure

PEOPLE, PLACE, POWER

More than 40 large-scale renewable energy projects underway supported by:

- » Highly skilled professionals; 60,000+ apprentices and trainees commenced in 2021-22
- » A jurisdiction with the perfect geography and connections to firmed green power

OBJECTIVES

The QEJP sets out a path to transform the power system by 2035 with over \$62 billion of estimated capital projects to be funded across public and private sectors.

Our ambition is to grow manufacturing here in Queensland – there's no better place to build what's needed to deliver this plan.

Representing a long-term and material opportunity, it provides a catalyst to grow manufacturing in Queensland by:

- » accelerating planned expansion
- » expanding existing facilities, and
- » establishing new facilities.



OBJECTIVES

The Queensland Government wants to identify manufacturers that are interested in expanding in Queensland and the potential roles that government could play in realising these opportunities which will support delivery of the QEJP.

We want to understand the:

- » Level of commitment of manufacturers to growing and establishing in Queensland, their readiness, setup process, funding sources and capability
- » Type of support manufacturers need to grow or establish in Queensland, and
- » Benefits to local supply chains and employment under different manufacturing development scenarios.

Queensland Treasury Corporation (QTC) is assisting with the process and will be reporting to government in March 2023.

OPPORTUNITY

QEJP: OVERVIEW

The QEJP estimates that by 2035 **\$62B of capital expenditure** will be required in the state's energy system to:

- » build **22GW** of new renewable generation (wind and large-scale solar)
- » build up to **7GW** of long-duration pumped hydro energy storage (PHES)
- » build around **1,500KM** of new high voltage backbone transmission infrastructure, along with transmission for renewable energy zones (REZs)
- » convert publicly owned coal-fired power stations to clean energy hubs.

In addition, a smarter grid will support **11GW of rooftop solar** and around **6GW of batteries** in homes and businesses.

This provides a significant opportunity to **develop domestic manufacturing supply chains for the components** which feed into the large-scale and industrial renewable systems.

Both **public and private sector capital** is necessary to bring the QEJP to reality.

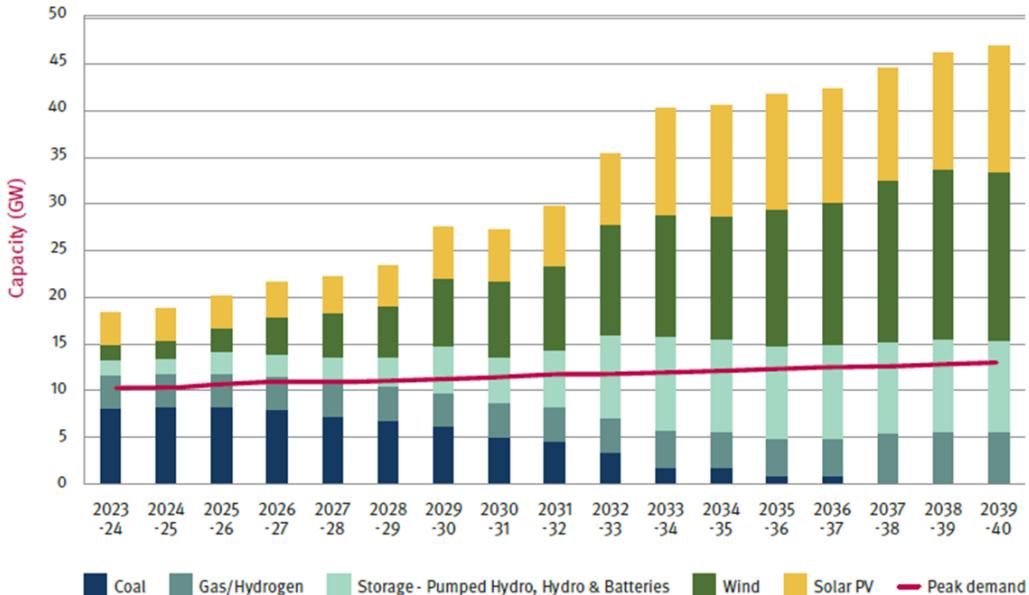
OPPORTUNITY

QEJP: CAPACITY

The QEJP will dramatically change Queensland's energy mix over the next two decades.

That will require a huge number of components, sub-components and raw materials.

Queensland Energy and Jobs Plan forecast capacity mix (GW)



OPPORTUNITY

ASSETS AND SUB-ASSETS

Using the capacity mix forecasts prepared by independent experts, and using generally accepted industry rules of thumb, the Queensland Government has estimated the quantity of assets and sub-assets required to deliver the SuperGrid outlined in the QEJP.

The timing of the delivery of these assets has also been estimated to provide manufacturers and their supply chain with an indication of when the assets and sub-assets may be required. The principles used to estimate these quantities is subject to change as information is gathered from the market about the QEJP.



OPPORTUNITY

| Assets Groups | | 1. Generation | | | 2. Storage | | 3. Transmission | |
|---------------------|---|------------------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Sub-assets | | 1.1 Wind plants | 1.2 Solar plants | 1.3 Coal plants | 2.1 Pumped hydro | 2.2 Batteries | 3.1 Network | Connection |
| 1.1.1 Towers | 1.2.1 PV modules | 1.3.1 Synchronous condensers | | | 2.1.1 Generators | 2.2.1 Battery units | 3.1.1 Towers | Transformers |
| 1.1.2 Nacelles | 1.2.2 PV racks | Secondary equipment | | Civil works | 2.2.2 Battery packs | 3.1.2 Conductors | Substations | |
| 1.1.3 Blades | Secondary equipment | | | Secondary equipment |
| Secondary equipment | <p><i>Note: At this stage, only the scale of the numbered items have been provided on the following slides. Further information will be provided about the other items at a later date.</i></p> | | | | | | | |

OPPORTUNITY

ASSETS AND SUB-ASSETS

| Asset | Sub-asset | Unit | Scale required | |
|------------------|------------------------------|------------------------|----------------|--------------|
| | | | 2023 to 2029 | 2030 to 2035 |
| 1.1 Wind plants | 1.1.1 Towers | # of towers | 1,000 | 1,600 |
| | 1.1.2 Nacelles | # of nacelles | 1,000 | 1,600 |
| | 1.1.3 Blades | # of blades | 3,000 | 4,800 |
| 1.2 Solar plants | 1.2.1 PV modules | # of modules | 5M | 19M |
| | 1.2.2 PV racks | MW-equivalent of racks | 1,900 | 7,700 |
| 1.3 Coal plants | 1.3.1 Synchronous condensers | # of units | 4 | 6 |
| 2.1 Pumped hydro | 2.1.1 Power stations | # of generators | 6 | 12 |
| 2.2 Batteries | 2.2.1 Battery units | # of units | 3,200 | 0 |
| | 2.2.2 Battery packs | MW-equivalent of packs | 2,000 | 0 |
| 3.1 Transmission | 3.1.1 Towers | # of towers | 1,200 | 1,800 |
| | 3.1.2 Conductors | KMs of transmission | 600 | 900 |

GOVERNMENT LEVERS

The Queensland Government has a track record of using the levers at its disposal to incentivise and facilitate industrial activity.

EXAMPLES COORDINATED ACROSS GOVERNMENT

ACCESS TO STRATEGIC ASSETS

- » Land
- » Ports, rail and major infrastructure networks
- » Firm green energy
- » Coordination of skilled labour education and supply

FUNDING AND INCENTIVES

- » Targeted assistance packages

ADVOCACY

- » Coordinated and responsive case management
- » Accelerated approvals and project delivery
- » Support engagement with the Australian Government

DELIVERY CERTAINTY

- » Ability to coordinate through Government-Owned Corporations
- » Master planning and rezoning abilities
- » Support with identifying local suppliers and appropriate sites

FLEXIBILITY IN INVESTMENT STRUCTURING

- » Risk-sharing agreements
- » Timing and expected returns
- » Use of sophisticated investment instruments

FORTESCUE
FUTURE
INDUSTRIES



GOVERNMENT LEVERS

A recent example of the Queensland Government's efforts to facilitate large scale manufacturing activity was **Fortescue Future Industries**, which in 2021 approached many State Governments to find the ideal location for its electrolyser manufacturing facility...

1
st

world's largest electrolyser factory

\$114 million

Investment supported by government

TRACK RECORD

"The Queensland Government took a highly proactive approach to facilitating our manufacturing project – from identifying land and securing services, through to approvals. They made it clear from the start we were in a partnership and we were working towards a shared outcome."

Felicity Underhill

Fortescue Future Industries

DEVELOPMENT CERTAINTY AND A STREAMLINED, FAST-TRACKED ASSESSMENT PROCESS

The Coordinator-General granted planning approval for the stage one facility to progress only a few months after Fortescue Future Industries confirmed its decision to build

ACCESS TO STRATEGIC LOCATIONS

Access to 100-hectare site on State Development Area land strategically developed by the Queensland Government, with excellent access to infrastructure corridors, rail, gas, power, and the Port of Gladstone (a deep-water, multi-commodity industrial precinct)



INCENTIVISED INVESTMENT

Tailored assistance packages provided by the Queensland Government's Invested in Queensland program, a \$520 million fund that supports high-impact projects, and its Industry Partnership Program, a \$350 million transformational industry development program

Register your interest

www.statedevelopment.qld.gov.au/energymanufacturing



TERMS OF PARTICIPATION

No sale or procurement

The Market Sounding is not a sale or procurement process, does not involve any evaluation of information provided by a respondent who submitted a ROI or participates in the market sounding (a Participant), and is not intended to select potential candidates for any procurement process.

Participation in the Market Sounding

Each Participant participates in the Market Sounding on a voluntary basis on the following terms:

Any infrastructure pipeline or other projection is conceptual in nature and subject to change

QTC or Queensland Government may determine the nature and extent of each Participant's participation in the Market Sounding at their absolute discretion

QTC or Queensland Government may at any time and for any reason suspend or terminate the Market Sounding or any part of it, consult with any number of Participants, or engage with and provide information differently, and to varying degrees, between Participants

Participation in the Market Sounding is at each Participant's sole risk, cost and expense, and each Participant waives any claim for costs, losses, damages or other expenses incurred by it or on its behalf in connection with the Market Sounding, and No submissions or accompanying documentation submitted by the Participant will be returned.

Commercial Information Statement

While QTC and the Queensland Government reserves the right to use commercial information provided to QTC by the Participant for the purpose of conducting the market sounding, preparing a report on the findings of the market soundings, consulting with Queensland Government and related purposes; QTC and the Queensland Government will, to the fullest extent possible, protect the confidentiality of commercial information provided by private sector entities.

Further information on our approach to protecting your commercial and personal information can be made available upon request.

TERMS OF PARTICIPATION

Confidentiality

By registering your interest, you acknowledge that you may be given access to certain confidential information in relation to the Market Sounding process, QEJP or QTC and, in consideration of this, you and your personnel must keep this information confidential and protect it against any loss or unauthorised access, use, modification or disclosure.

No liability for QTC or Queensland Government

QTC has prepared this prospectus solely for use in relation to the Market Sounding process, for information purposes only.

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