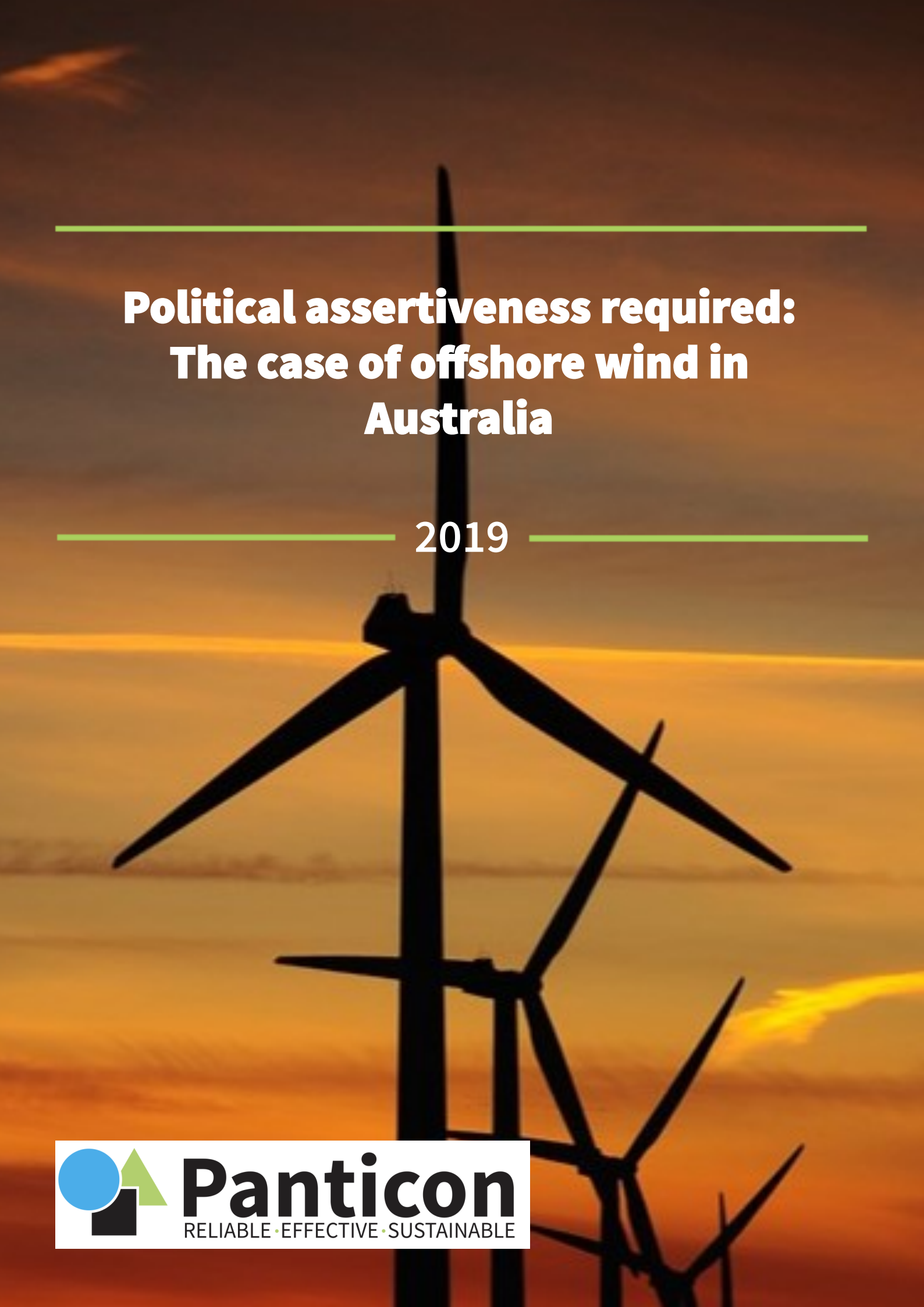

# Political assertiveness required: The case of offshore wind in Australia

2019

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# Executive summary

Since 2010, changing governments have had very different focus on renewables in Australia and the 2020 renewable energy target of 2011 was dropped by 20% in 2015. Until the elections in May 2019, no major policy changes or long-term renewables goals up to 2030 or 2050 are expected. Some involvement in the offshore wind supply chain can be detected locally as well as internationally. Australian firm Macquarie is a global offshore wind constituency and Denmark-based developer Copenhagen Infrastructure Partners is involved in the first major, local Australian offshore wind farm project.

Private image by Thomas Poulsen

This *Political assertiveness required: The case of offshore wind in Australia Report* (the Report) is part of a series of reports on the global emerging offshore wind markets. The reports have been crafted by the Panticon team during the months of June through January, 2019 to mark the new name of the management consulting company. Panticon is particularly strong in the Offshore Wind and Logistics sectors within the three core disciplines of Strategic Management Advisory, Mergers & Acquisitions, and Market Research & Analysis.

The Report has been created using an extensive library of data sources (see Reference section). The main data sources used as the basis for the Report were made up of 500+ pages and mainly consisted of various publications by government related organisations, academic journal articles, offshore wind industry articles, and press releases by firms across the offshore wind market supply side as well as demand side.

The Report contains forward-looking statements, which by their very nature, address matters that are, to different degrees, uncertain as they pertain to the future. These, or any other uncertainties, may cause the actual future results to be materially different than those expressed in the forward-looking statements as contained within this Report. At Panticon, we do not undertake to update our forward-looking statements, nor do we assume any liability for actions or dispositions made by firms, organisations, and/or individuals based on information contained in this Report.



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## Political assertiveness required: The case of offshore wind in Australia


Image: Satellite map from Google Maps/cropped

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# List of abbreviations

| | |
|---|---|
| AUD | Australian Dollar |
| CEFC | Clean Energy Finance Corporation |
| COFS | Centre for Offshore Foundation Systems |
| GW | gigawatt |
| LNG | liquefied natural gas |
| MW | megawatt |
| NGI | Norwegian Geotechnical Institute |
| RET | Renewable Energy Target |
| TWh | terawatt hours |
| UK | United Kingdom |
| US | United States of America |
| UWA | University of Western Australia |

# 1. Introduction

Australia ended 2017 with an onshore wind capacity of 4,557 megawatts (MW) and ranked as the 16th largest wind market in the world. However, Australia does not have installed offshore wind capacity in its waters.

In November 2015, Australia's then minister of Environment hinted that the Federal Government of Australia was considering supporting offshore wind development. The following month, the Federal Government announced it would include wind power in the new investment mandate of the **Clean Energy Finance Corporation** (CEFC), with a special focus on offshore wind energy. The **CEFC**, an AUD 10 billion fund established in 2012, mobilises capital investment in renewable energy, low-emission technology, and energy efficiency in Australia.

In March 2016, the Federal Government of Australia announced it was establishing an AUD 1 billion **Clean Energy Innovation Fund** to support the commercialisation of emerging technologies, such as large-scale solar with storage, offshore energy, biofuels and smart grids. The fund, under joint management by the **CEFC** and the **Australian Renewable Energy Agency** (ARENA), was mandated to provide both debt and equity for clean energy projects. It was established from within the **CEFC**'s AUD 10 billion allocation, making available AUD 100 million a year for ten years.

**Targets**: In January 2011, the Federal Government of Australia set a target of 41 terawatt hours (TWh) of renewable power by 2020, or 20% of the energy mix. The target was reviewed following a drop in electricity demand starting 2013. In June 2015, the Government of Australia settled on reforms to the **Renewable Energy Target (RET) scheme**. The target was set for large-scale generation of 33 TWh in 2020 equivalent to 23.5 % of Australia's electricity generation in 2020.

Australia does not yet have an offshore wind target.

**Support mechanism**: At the utility scale, the **RET scheme** legislates trading of large-scale generation certificates (LGCs), which change in value based on market conditions. The certificates, which are equal to one megawatt-hour each, act as a type of subsidy for renewables developers. The RET is monitored by Australia's **Clean Energy Regulator**.

The **RET scheme** has been put in place to provide confidence to domestic as well as international investors in renewable energy sources in Australia. In the long-term, a post-2020 **RET scheme** of up to, for example 2030 or 2050, would stimulate the necessary investments needed.

## 1.1. Factors favouring offshore wind development

Retiring coal plants, environmental concerns and the prospect of potential new export industries such as battery storage offer hope for Australia's embrace of offshore wind.

**Coal power plants reaching end of lifecycle**: The majority of Australia's existing coal-fired generation is approaching the end of their lifecycle. Banks are shunning funding new coal power plants due to environmental concerns.

**Opposition to nuclear power**: Although Australia has abundant resources of uranium, there is no public support for nuclear power.

**Opposition to liquefied natural gas (LNG)**: Although Australia is a major exporter of LNG, domestic gas prices are not competitive. In addition, gas development faces opposition in some states due to concerns over water and agricultural land.

**Potential to lead in battery storage**: Australia has the minerals necessary to build a battery storage industry alongside the renewables industry**.**

## 1.2. Factors hindering offshore wind development

Australia's rich fossil fuel resources, particularly coal, are a key contributor to the lack of political consensus needed to kickstart offshore wind development in the country.

**Falling electricity demand**: Demand for electricity in Australia has been declining since 2013.

**Political uncertainty**: The declining demand for electricity contributed to the review of the RET scheme which was launched by the Liberal Party in February 2014. The review dragged on for more than a year, stymieing the industry in the process. The ruling Liberal/National coalition suggested cutting the RET from 41TWh of renewables-generated electricity by 2020 to 26TWh before a compromise of 33TWh was reached.

**Divisive energy politics**: There is no political consensus on Australia's energy future, a country rich in both fossil fuel resources as well as renewable energy resources, including offshore wind.

**Preference for solar**: Despite the renewable energy policy roller-coaster since 2013, solar PV has soared ahead of wind, hitting a cumulative 7.2GW at end of 2017 versus 4.5GW of (onshore) wind.

# 2. Offshore wind farm developers and owners

Australia is yet to have an offshore wind farm (OWF). However, Australian companies already own operating OWFs as well as OWF projects at various stages of development in Europe and Asia. Notable among these is **Macquarie Group Limited**. For example, in May 2017, the European Commission approved the sale of the UK **Green Investment Bank**'s OWF portfolio, comprising nine OWFs off England and Wales totalling 3.3GW, to **Macquarie Group Limited** and **Universities Superannuation Scheme Limited** of the UK.

Meanwhile, barring the perpetual national political deadlocks Australia may get its OWF earliest in 2025. In June 2017, the state of Victoria welcomed plans for the establishment of Australia's first OWF in Gippsland by local developer **Offshore Energy**. The project, Star of the South, is expected to have capacity of at least 2GW. **Offshore Energy** has been working with the Australian government to establish the rights to investigate the project's feasibility, after engineering firm WSP/Parsons Brinckerhoff undertook a preliminary planning and environmental study. In October 2017, **Offshore Energy** requested a permit from the Australian Government to conduct a seven-year feasibility study at the 574 km2 site of the proposed project. In November 2017, **Offshore Energy** and Denmark's **Copenhagen Infrastructure Partners** entered into a partnership regarding the continued development of the Star of the South project.

# 3. Local offshore wind farm supply chain

Because of lack of a local offshore wind market, a local supply chain is non-existent. Nevertheless, Australian companies are involved in selected phases and sub-phases of the OWF lifecycle.

## 3.1. Project management

In September 2018, Australia-headquartered **Neptune** and Taiwan's subsea services company **Global Aqua** formed a partnership to jointly work on offshore wind projects in Taiwan. Under the partnership, Neptune and Global Aqua will jointly provide services in the areas of site investigation, construction, operation & maintenance, and decommissioning.

## 3.2. Foundations

In October 2014, the Norwegian Geotechnical Institute (NGI) established a subsidiary, **NGI Perth**, in Perth, Australia, to provide access to expertise in all of **NGI**'s market areas. The main focus of **NGI Perth** in its initial phase is offshore energy. As at February 2015, two research projects were in progress - one focused on reliability methods to pile design, and the other on testing a novel type of foundation for offshore wind energy. The aim of both projects is to reduce material use, make installation faster and quieter and allow new cost effective and environmentally responsible energy generation.

The **Centre for Offshore Foundation Systems** (COFS) at the **University of Western Australia** (UWA) focuses on research related to foundation engineering. In September 2015, it became part of a technical advisory panel formed by US renewable energy company **Ocean Power Technologies** to accelerate PowerBuoy commercialisation and market adoption. In September 2016, UWA became home to the only geotechnical modelling facility in the world that operates three centrifuges after a third 26-tonne fixed-beam centrifuge was lowered by crane into the new Indian Ocean Marine Research Centre building. The facility is part of the **National Geotechnical Centrifuge Facility** run by the **COFS** at **UWA**. It aims to service the national and international geotechnical engineering community by developing safe and economical geotechnical structures, notably for the offshore oil and gas and renewables industries. In June 2018, the **COFS** at **UWA** completed several series of tests on suction buckets, said to have shown the potential for further cost savings for the foundation concept. In August 2018, the **COFS** at **UWA** received an AUD 395,000 grant from the federal government for a research project focused on developing a design guideline for an innovative foundation concept for offshore wind turbines.

## 3.3. Vessels

Australian shipbuilder **Strategic Marine** has shipyards in Singapore and Vietnam from where it has built wind farm service vessels servicing the northern European offshore wind market. Clients have included **Njord Offshore Limited** and **Sure Wind**.

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# 4. Conclusion

Australia has changed its Prime Minister five times since 2010. The current Liberal Party Prime Minister took office in September 2018. The new energy minister is not a supporter of wind development. Meanwhile, the next elections are due by May 2019. It is expected that until the elections, policy development will be cautious and avoid the significant pro-renewables policy development.

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## Who we are

At Panticon, we are particularly strong in the Offshore Wind and Logistics sectors within our three core disciplines of **Strategic Management Advisory**, **Mergers & Acquisitions**, and **Market Research & Analysis**. We are mainly focusing on the business side to improve our clients' performance, create value in the long-term, and to create sustainable competitive advantages.

## How we create value

- Tailor-made strategies
- Support M&A endeavours
- Share knowledge
- Analyse markets
- Advise our clients in every aspect of our three core disciplines

Private image by Thomas Poulsen

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