GOVERNMENT OF WESTERN AUSTRALIA

Infrastructure Western Australia

Major Infrastructure Proposal Assessment

Water Corporation

Renewable Wind Energy

Summary Assessment Report

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Acknowledgment of Country

Infrastructure WA acknowledges the Traditional Custodians of Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.

Major Infrastructure Proposal Assessment Summary Report

Purpose

This assessment report has been prepared in carrying out Infrastructure WA's (IWA) legislative function to assess and report to the Premier on major infrastructure proposals. The assessment is of the Water Corporation's Renewable Wind Energy (RWE) business case (March 2023). Additional supporting information received, and consultation undertaken by IWA were also used to support the analysis.

1. IWA observations

IWA notes that Water Corporation (WC) has executed commercial arrangements to procure the development approvals for the Flat Rocks Wind Farm Stage 2 (FRWF2) near Kojonup in the Southwest of Western Australia. Further, IWA notes that in the 2022-23 Government Mid-year Financial Projections Statements, funding was approved for the development of FRWF2.

Given the above, IWA's advice on the proposal is focused on its Strategic Alignment with Government Policies, compliance with the Strategic Asset Management Framework (SAMF) business case guidelines, and highlighting any significant risks to Government in proceeding with the proposal as currently outlined in the business case, rather than to support an investment decision.

The project aligns with WA Government strategies for climate change and supports recently announced greenhouse gas (GHG) emissions reduction targets by 2030. It is forecast to provide a positive impact on WC's net present costs in comparison to existing arrangements or alternatives explored. Beyond these financial results, broader economic benefits are also forecast including job creation, and environmental benefits including carbon emissions avoided.

There are key risks to the project including cost, timeframe (including possible environmental approvals), delivery planning, and social license for some elements of the local community. These elements will need particular attention in the next phase of project development.

There are additional delivery risks associated with the proposal in relation to possible scope changes which would likely further impact project cost estimates and timeframes, and assurance processes to support procurement selection to be addressed during further design and development of the project.

2. Context

2.1 Project background

While WC currently procures some of its energy requirements from renewable energy sources, owning and developing a wind farm is a new element in its portfolio which it is now pursuing to ensure continuity of water and wastewater services at the lowest cost, during a period of rapid energy transition across the SWIS.

The RWE project forms part of a program of proposed works articulated in WC's ten-year Energy Procurement Plan (EPP), which is aimed at securing energy in the most cost-effective manner as the organisation moves towards net zero emissions by 2035, consistent with their *Thrive2035* strategy.

3. Strategic merit

3.1 Alignment

The overarching program of works in the EPP, and by extension the RWE proposal, has strategic merit and is aligned with government strategies, including the *WA Climate Change Policy* and recently announced whole-of-government greenhouse gas emission (GHG) reduction targets of 80 percent below 2020 levels and ultimately state-wide net zero emissions by 2050. It is also aligned with the *State Infrastructure Strategy* and WC's legislated obligation to discharge its fiduciary duties and act commercially under the *Water Corporations Act 1995*.

The proposal could potentially compete with Synergy's renewable wind energy projects which are concurrently being developed. This could occur particularly during construction, as both GTEs will be drawing on the same pool of skilled workers and procuring similar long lead items.

However, for the decarbonisation of the SWIS to be achieved, additional renewable wind energy is needed beyond Synergy's proposed projects' capacity. This was outlined in the Decarbonisation Taskforce recommendations and the subsequent announcement by the Government in April 2022, that $3.8 billion of funding would be allocated to support the development of 810MW of renewable energy and 4400 MWh of battery storage. This included a request for proposals from WC to develop 400MW, and Synergy to develop 410MW of renewable wind energy.

3.2 Problems and opportunities

The business case identifies that over the last 15 years, WC has transitioned from predominantly gathering, collecting, and extracting naturally available surface water (via dams) and groundwater, to significant manufacture of drinking water by desalinating sea water. This has largely been attributed to a drying climate, which is impacting rainfall and groundwater availability. At present, approximately 50% of Perth's drinking water is produced through desalination.

WC currently consumes 1TWh[1] of electricity a year (about 5 percent of total SWIS demand), and this is expected to grow significantly as more desalination plants are built to offset reductions in other available water sources and accommodate future population growth.

Approximately 60% of WC's energy needs are currently supplied by coal-powered generation sources. Their preferred energy procurement and supply solution is for a combination of wind power generation and behind-the-meter battery storage to manage energy cost risks.

4. Options assessment

The RWE business case outlines a long list of potential renewable wind projects with existing capacity, along with additional projects in various stages of development. Two different participation models were explored including acquiring the energy from third parties via a renewable energy power purchase agreement, and the recommended option to develop and operate the wind farm in-house.

The business case does not assess the option of one of the energy GTEs, presumably Synergy, developing and operating the wind farm on WC's behalf. As a result, it is not possible to determine if this may present a more holistic outcome for Government.

While the recommended option and funding request is based on utilising the 4.2MW turbines, WC is continuing to investigate the possibility of larger 7.2MW turbines, which will provide higher

[1] TWh = Terawatt hour, being a unit of energy used for expressing the amount of produced energy/electricity

energy production, but come at a higher capital cost and additional royalty payments. This option would also require an amendment to the Development Approval from the Regional Joint Development Assessment Panel.

5. Societal impacts

5.1 Economic and financial assessment

The recommended option has an estimated upfront capital cost of $283 million and operating costs over the first 15 years of $94 million. WC advise that they have used market sounding, third-party consultant advice, and benchmarking to support the estimated project costs. IWA anticipates that as further project planning is undertaken these costs may change.

WC's analysis indicates that the recommended option has a positive impact on their net present costs over the 25-year period to 2050. The financial aspects of the project are marginal and if costs significantly exceed current estimates, it is likely the project could not be justified on a financial basis alone. This doesn't account for broader social and environmental benefits (discussed below).

The assessment is also focussed on the direct financial implications for WC, demonstrating a positive commercial outcome to its business. However, it does not include a broader analysis considering potential outcomes from a whole of government perspective should the wind farm be developed on their behalf by one of the energy GTE's.

There is limited information in the business case on quantifiable social benefits or impacts regarding the local area where the wind farm will be developed. WC indicates that 120 jobs will be created during the two-year construction period and 20 jobs during the operational phase of this project.

WC are intending to establish a stakeholder engagement plan to manage ongoing consultation for the project should it proceed. In addition to this, IWA suggests identification and consultation with external Aboriginal community stakeholders and other government Aboriginal cultural advice groups in the next phase of project development.

5.2 Environmental assessment

WC's *Thrive2035* strategy has corporate targets to achieve net zero for Scope 1 and Scope 2 GHG emissions by 2035, with their EPP program proposed to help achieve these targets.

There is limited information in the business case on quantifiable environmental benefits or impacts of the development of the wind farm at the approved location. WC advises that it considers the project development will have a low impact on the environment with the intent to work with construction contractors and operators to establish processes to manage any potential negative events that could happen.

6. Recommended option and project definition

The recommended option for the development of FRWF2 includes the installation of twenty-two 4.2MW wind turbines at a capital cost of $283 million.

The project is intended to be delivered over two years and will produce sufficient energy to replace 38% of WCs existing energy demand, which is currently provided from coal-fired sources.

7. Deliverability

The business case outlines that the priority next steps for project planning includes completion of network connection studies to secure a Western Power connection agreement; continued engagement with turbine supplier/s; preparation of tender documentation for balance of plant

procurement and operations of the wind farm, and progression of government approvals for the proposal.

While there is a high-level program provided, a more detailed schedule will be required as part of the next stage of project planning to provide assurance that proposed timelines can be met.

WC recognises that it currently does not develop, own, or maintain wind farm assets as part of its business-as-usual activities, and therefore proposes to procure the necessary expertise to deliver the project. The project may face construction market capacity constraints currently impacting the broader market and competing energy projects, which should be managed wherever possible.