

Part 1

Extracts from Treasury papers for all financial information, including financial budgets and projections/forecasts, relating to the onshore wind farm.

Treasury paper No. 23/262 titled FRE-4057 Site Surveys for Onshore Windfarm

Purpose of the Paper: Approval is sought under FD C10.6 (Where goods or services with a cost of more than £100,000 have been tendered, and only one supplier has submitted a feasible offering, then the approval of the Treasury is required) to enable the Manx Utilities Authority to contract with Wardell Armstrong to act as an Environmental Consultant to undertake surveys for the construction of an onshore wind farm.

5. Decision Requested

It is recommended that a contract be awarded to Wardell Armstrong for £353,969.39 (inclusive of £42,805.89 of expenses).

Extract from appendix 1 to Treasury paper No. 23/262 titled Mini competition request for approval, site surveys for onshore wind farm

Cost Expectation Budget

It was envisaged that the Consultant's cost for these services would be around £250,000.

Recommendation

It is recommended that a contract be awarded to **Wardell Armstrong** for **£353,969.39** (inclusive of £42,805.89 of expenses).

Treasury paper No. 23/461 titled FRE-4174 Wardell Armstrong – Onshore Wind Surveys Phase 2

Purpose of the Paper: Approval is sought under FD C10.6 (Where goods or services with a cost of more than £100,000 have been tendered, and only one supplier has submitted a feasible offering, then the approval of the Treasury is required) to enable the Manx Utilities Authority to contract with Wardell Armstrong to act as an Environmental Consultant in respect of phase two of the environmental surveys necessary for the delivery of Manx Utilities' onshore wind strategy.

4. Decision Requested

It is recommended that a contract be awarded to Wardell Armstrong for £353,969.39 (inclusive of £42,805.89 of expenses).

9. Recommendation

Treasury concurs to the request for an exemption under Financial Direction 10.6 to enable the Manx Utilities Authority to award a contract to Wardell Armstrong LLP, to act as an Environmental Consultant to undertake phase 2 of the surveys for the construction of onshore windfarm at a total estimated cost not exceeding £2.1 million.

Treasury paper No. 23/543 titled Project Development Fund Application – Renewable Electricity Generation – Onshore Wind

Purpose of this Paper: This paper seeks funding of £2.1M from the Project Development Fund to allow the Phase 2 detailed socio-economic impact assessment of a preferred site to be undertaken.

The phased spending for the project is as follows (including 5% contingency funding):

Project Tranche	One off Cost (2023)	Year 1 Bid (2024)	Year 2 Bid (2025)	Year 3 Bid (2026)
Phase 1 Environmental and technical surveys*	£0.36M			
Phase 2 Front-End Engineering Design (exemption required for Wardell-Armstrong to follow on this piece of work)	£0.6M			
Phase 2 EIAs and Design Package including appointment of Owner's Engineer		£0.7M	£0.7M	
Phase 3 Final Design (5%)			£s.30	
Phase 3 Manufacturing capacity booking (15% of estimated manufacturing cost)	£s.30			
Phase 4 Site Preparation, manufacturing, construction and commissioning**				s.30

*not included in this sanction request

**Using indicative network connection costs from Long O'Donnell based on UK network connections may not fully align with the true connection costs for the Isle of Man power system.

The total power generated from an onshore wind farm without any curtailment (which would potentially be required to optimise electricity supply and demand) would be 59.6 GWh per year, for a typical UK onshore capacity factor of 34%. This would represent an annual cost saving of up to £5.4M for consumers.

The cost of the Phase 2 design work, including detailed socio-economic impact assessment of a preferred site, is estimated to be £2.1M. It is proposed that this funding is allocated from the Project Development Fund as further work is required to develop a full scheme for consideration by Tynwald. It is proposed that the full scheme will be funded through the Consolidated Loans Fund through a Tynwald approval and, when that funding is secured, the Project Development Fund funding will be reimbursed.

Securing manufacturing capacity is estimated to have a financial commitment of £s.30. It is proposed that Manx Utilities Board be asked to allocate financial resources for this purpose when a sufficient procurement specification is available.

5. Decision Requested

Manx Utilities seeks the approval of £2.1M of funding from the Project Development Fund to allow the continuation of site assessment work to continue in September 2023 in order to maintain compliance with the Island Plan target of installing 20MW of onshore renewable electricity generation by 2026.

SACIC supported and recommend that Treasury approve PDF funding of £2.1M
One year approval only, MU to feedback at each gateway for approval for the next stage of funding with conditions below.

MU phased spend below;

2023 Phase 2 = 0.6M

2024 Phase 2 = 0.7M

2025 Phase 2 = 0.7M

2025 Phase 3 final design = s.30

2026 Phase 4 = s.30

- Please clarify the below as option 1 & 2 would seem to be in conflict.
 - **Option 1 states** "Compared to private ownership, Bird and Bird's analysis based on a number of assumptions indicates the cost savings for the consumer could be up to 9p/kWh. This could translate to a saving of up to £5.4M per year^[1] for the consumer "
 - **Option 2 states** "The generation costs of public owned wind are estimated to be up to 9p/kWh higher than private owned wind"
- At what stage is it critical to secure manufacturing capacity and thus commit the £s.30

^[1] 20MW x 34% load factor x 8,760 hours = 59.5 MWh. At 9p/kWh = £5.4M.

Manufacturing capacity for smaller onshore wind turbines often needs to be booked up two years in advance of the constructions phase of a scheme. This means to enable delivery for 2026 to enable construction, manufacturing capacity would need to be booked by the end of 2023. This is anticipated to cost around £s.30 but is dependent on the maximum size of turbine which can be accommodated on Island. This is approximately 15% of the total production cost of the required wind turbines.

Accurate costs for the complete onshore wind project will only be available once a final design is ready, which is anticipated by October 2025. At present the estimated cost assumes a final design of ten 2MW turbines is £36M (inclusive of manufacturing, Phase 2 works, appointment of an owner's engineer, final design works and 5% contingency funding). Manx Utilities is already working with a cost consultant (Long O'Donnell) to provide more accurate costs as the project matures. At this time, Manx Utilities seeks support for its strategy and requests that funding be allocated to this project.

The estimated cost to the consumer would be up to £5.4M higher for private-owned renewables compared to public ownership routes.

guarantee that the final planning application will be approved. The re-imbursement of the £2.1M required for the Phase 2 works would not be recoverable should planning fail as the design will be site specific. If the first planning application on the preferred site fails, then the two alternative

Manx Utilities has already appointed an environmental and technical specialist, Wardell-Armstrong, to progress with Phase 1 of the survey work. When complete in August 2023 the optimum site can be identified allowing the full EIA and design works can be carried out. The Strategic Island Plan, 2016 requires a minimum of 18-24 months of onshore survey work to be carried out. In order to meet the 2026 target set-out in the current administrations' Island Plan, this second phase of work must therefore commence in September 2023. The estimated cost of this work is £2.1M. Manx Utilities

Manufacturing capacity for onshore wind turbines (Class 1¹⁶ turbines and turbines which are of 2MW capacity) is often booked up two years in advance of the project. This means that manufacturing capacity will need to be booked by the end of 2023. This is anticipated to cost approximately 15% of the total production cost, which at this stage is believed to be £s.30. As this spending will need to

Manx Utilities also seeks approval for the overarching delivery strategy for an onshore windfarm, with a view to spend an estimated £36M over the project. At this point in time there is a high level of

Based on the work by Bird & Bird in conjunction with Mott McDonald, the project is also estimated to save the consumer up to £5.5M per year relative to private ownership models, but again this number will depend on the variables relating to the cost of capital.

The operating costs for the project commence in year 2026 following completion of the construction and commissioning phase. The fixed Operational and Maintenance costs are estimated to be £s.30 per year. The variable Operations and Maintenance costs are estimated to be £s.30 per year. Both cost estimates are based on BEIS operational estimates. Both these operating costs will be paid for by the consumer.

**Treasury paper No. 24/347 titled Exemption from FD C1.1c Commitment to Suppliers:
Onshore Wind**

4. Pricing Summary and Budget

As per our Business Case, the total cost of the project is £36M including a contingency margin of 25%.

The total manufacturing cost assumption for our business case is £s.30 – this assumes the highest cost turbine option from any manufacturer with a s.30% contingency margin included. The costs were provided by Wardell-Armstrong from their cost data bank from previous projects.

The deposit is included in the above cost and the assumption is this is paid c.14 months before turbine delivery.

**Treasury paper No. 24/369 titled Exemption from FD C1.1.c Commitment to Suppliers:
Onshore Wind**

4. Pricing Summary and Budget

As per our Business Case, the total cost of the project is £36M including a contingency margin of 25%.

The total manufacturing cost assumption for our business case is £s.30 – this assumes the highest cost turbine option from any manufacturer with a s.30% contingency margin included. The costs were provided by Wardell-Armstrong from their cost data bank from previous projects.

Extract from appendix 1 to Treasury paper No. 23/369 titled Energy transition – onshore wind strategy & full business case

The Board is requested to **APPROVE:**

- The expenditure of £36M (rounded) on the wind farm project, including:
- £2.1M to complete EIAs (Environmental Impact Assessments) and the onshore windfarm design, with independent quality control support, split over three years. Funding for this portion of work is being funded by the Project Development Fund.
- Up to £s.30 to secure a manufacturer by June 2024 and an Engineering, Procurement & Construction (EPC) Contractor by August 2024 to support the Final Design and completion of the EIA. This will require a robust competitive procurement exercise.
- Up to £s.30 to support the full manufacturing cost and construction work to ensure the onshore windfarm is operational by September 2026.

application is submitted. This is anticipated to cost approximately s.30% of the total wind turbine production cost based on discussions held directly with manufacturers which at this stage is believed to be between £s.30 and £s.30 (including contingency and depending on manufacturer).

Appointment of an EPC Contractor at this early stage will also likely require a deposit given high demand for renewable construction expertise across the British Isles. It is anticipated that this would cost an additional £s.30 to secure the contractor. Both EPC Contractor and Manufacturer will then support the completion of the EIA and Design.

We are also seeking approval for the overarching delivery strategy for an onshore windfarm, with a view to spend an estimated £36M in delivering the project, which represents the worst-case scenario for the project based on all available information to date. There is reasonably high confidence in the

Using an off-the shelf design should enable on-selling of components (or manufacturing slots) given the current high demand for wind turbines of this size.

This may enable the majority of the deposit value (£s.30 - £s.30 to be recovered)

The potential emissions saving from a 20MW onshore windfarm is up to 80 kT/year CO₂ (eq.). The cost of carbon in the UK as of Jan 24⁸ was £64.90/tonne.

This equates to a hypothetical saving of £5.2M per annum. However, the Isle of Man does not have a Carbon market so this is not a true cost saving. Please note that this has not been assumed in any of the cost justification calculations.

In addition Wardell Armstrong have provided updated cost estimates based on their site-specific experience of similar remote Island construction projects, working with specific manufacturers. These costs do not include the pre-development costs, which are expected to cost c. £3M on top of manufacturing and construction costs.

Cost of Capital + Financing @ 6% over 25 year lifespan

	Cost £	Assumptions
CAPEX	£36,000,000	Highest windfarm cost assumption as provided by Wardell Armstrong + 25% contingency plus £3M pre-development costs
Financing @ 6%	£33,584,551	No up-front fees assumed - borrowing from CLF @ 6%
OPEX	s.30	Includes operations, maintenance, variable and fixed costs and insurance over 25 years
TOTAL	s.30	

PHASED SPENDING

The projected spending for the scheme and Treasury bids are as follows (including 25% contingency funding). A cash-accounting approach has been utilised:

Project Tranche	One off Cost (2023/24)	Year 1 Bid (2024/25)	Year 2 Bid (2025/26)	Year 3 Bid (2026/27)
Phase 1 Environmental and technical surveys*	£0.4M			
Phase 2 Front-End Engineering Design Cost to be reimbursed using funding obtained for this Business Case*	£0.6M			
Phase 2 EIAs and Design Package including appointment of Owner's Engineer Cost to be reimbursed using funding obtained for this Business Case*		£0.7M	£0.7M	
Phase 3 Final Design (5%)			£s.30	
Phase 3 Manufacturing capacity booking (25% of estimated manufacturing cost)		£s.30		
Phase 3 EPC Contractor booking		£s.30		
Phase 4 Site Preparation, manufacturing, construction and commissioning**				£s.30
TOTAL (Rounded)				£36.0M

* Funding already allocated from Project Development Fund and committed

** Using indicative infrastructure and network connection costs from Wardell Armstrong based on UK network connections may not fully align with the true infrastructure and connection costs for the Isle of Man power system.

The Board is requested to **APPROVE**:

- The expenditure of £36M (rounded) on the wind farm project, including:
- £2.1M to complete EIAs (Environmental Impact Assessments) and the onshore windfarm design, with independent quality control support, split over three years. Funding for this portion of work is being funded by the Project Development Fund.
- Up to £s.30 to secure a manufacturer by June 2024 and an Engineering, Procurement & Construction (EPC) Contractor by August 2024 to support the Final Design and completion of the EIA. This will require a robust competitive procurement exercise.
- Up to £s.30 to support the full manufacturing cost and construction work to ensure the onshore windfarm is operational by September 2026.

24. Out of scope

The onshore wind scheme is expected to generate up to one third of the island's electricity demand and therefore a fuel cost saving of between £5 million and £10 million per year can be expected; using the lower of these figures⁷ means the cost of delay in commissioning the windfarm would be of the order of £5 million per year (the current working assumption is that the windfarm would need to be erected and commissioned over the summer period, due to the high wind speeds at the site, and so delays are likely to be in 1 year steps).

Treasury paper No. 24/773 titled MUA Project development fund bid – onshore wind

Under the terms of reference for PDF, Any SACIC endorsed and Treasury approved bids over £1,000,000 also require formal approval from the Council of Ministers.

MUA have submitted a Bid requesting support of £1,200,000 from the PDF for Onshore Wind – Additional Funding for Pre-Development Work.

SACIC approved
that the MUA can
submit their
request for
£1.21m to
Treasury and
COMIN.

The indicative costs of £40 - £45m were discussed, with SC adding that £s.30 could be spent and it would still be cost effective for the MUA, as the cost per unit is less compared to normal energy generation.

This is the second tranche of funding for Onshore Wind, with the first being approved by Treasury during 09 August 2023 (TP – 23/543 Minute 501/23) whereby an approval of £2.1m was given to allow for preliminary work to be done.

3. Decision Requested

In line with the terms of reference, SACIC have endorsed the request and ask that Treasury approve £1,200,000 PDF funding for the MUA, to support additional pre-development work in relation to Onshore Wind. The BID will then be presented to Council of Ministers for their approval as per the terms of reference.

5. Recommendation to Board

Treasury approve the SACIC endorsed BID received from the MUA for Onshore Wind – Additional Funding for Pre-Development Work to support the delivery of the 20-Megawatt (MW) windfarm at Earystane plantation in 2026, up to the amount of £1,200,000, to be funded from the Project Development Fund.

Treasury notes that once approved the BID will be submitted to the Council of Ministers for approval.

Treasury approve the Authority's request for an exemption from the requirements of Financial Practice Note C.08 (Tendering) to enable them to appoint Wardell Armstrong to undertake the additional survey works proposed, up to the amount of £990,000.00.

Extract from appendix 1 to Treasury paper No. 24/773 titled Onshore Wind – additional funding for pre-development work

Purpose of the Paper:

Seek approval for £1.21 million for further pre-development work to support the delivery of the 20-Megawatt (MW) windfarm at Earystane plantation in 2026 and increase the exemption currently in place utilising Wardell Armstrong for the Phase 2 surveys and design works.

An exemption (FRE-4174, minute 419/23) in the sum of £2.1 million has previously been approved to appoint Wardell Armstrong to undertake survey and design works for the proposed windfarm at Earystane. This funding request will also require a further exemption for £1.0 million (inclusive of 25% contingency) in order to complete the additional works required.

Appendix A. The original outturn cost of the full pre-development package was estimated to be £2.1M, however; the process itself (scoping response) has driven the need for more funding for pre-development works which are detailed below:

additional survey work to be carried out in tandem with the planning consideration. The cost of these additional surveys is expected to be £0.99 million inclusive of a +25% contingency uplift. The contingency uplift has been added to ensure any additional works

Armstrong and local virtual visualisation provider, 360. As a prudent measure, a further contingency sum of £0.11 million for Stakeholder Engagement work is requested, as it is anticipated that the submission of a planning application will generate significant public interest

responsibilities and delivery risk, we intend to use procurement specialist legal advisors, Bird & Bird, to draft the contracts for these services. The expected cost for this service in 2025, based on an original 2022 study⁴ is £0.11 million. The use of procurement

6. Financial Implications

The costs shown below have been split between the current and following financial years:

into pre-planning and post-planning activities. Costs for post-planning activities will only be incurred should planning approval and Tynwald funding approval obtained.

Pre-Planning Activities			
Project Work stream	2024-25 £m	2025-26 £m	Total
Additional Surveys	0.515	0.475	0.990
Stakeholder engagement	0.110	-	0.110
Procurement Support	0.015	0.095	0.110
TOTAL	0.640	0.570	1.210

In addition, costs for post-planning activities totalling £**s.30** million are expected in 2025-26, should planning approval be secured by July 2025. Full scheme approval would be sought from Tynwald in July 2025 should this be the case.

7. Decision Requested

Treasury is requested to:

1. Concur with the expenditure of up to £1.21 million for further pre-development work to support the delivery of the 20-Megawatt (MW) windfarm at Earystane plantation in 2026;
2. Approve the funding of this expenditure from the Project Development Fund; and
3. Approve a further exemption from FD C.9 (as per FRE-4174) in the amount of up to £0.99 million (inclusive of a contingency of 25%) to appoint Wardell Armstrong to undertake the additional survey works proposed.

9. Financial Governance Comments

The TO is sympathetic to the request of an additional £1.21m of PDF funding to continue to develop phase 2. (total phase 2 PDF would be £3.31m)

I have some major concerns as PDF funding of £2.1 M was approved with the phased forecast being,

2023 Phase 2 - 0.6m,

2024 Phase 2 - 0.7m,

2023 Phase 2 - 0.7m,

2023 Phase 3 final design - s.30

2023 Phase 4 – s.30

The £2.1 has been consumed and MU need further funding for survey works, it is concerning that MU are 50% out on our original phasing with this additional bid.

The project has some potential major risk implications, such as the tree harvesting and site clearance (indicative cost £s.30)

10. Recommendation to Board

SACIC have endorsed the MUA paper requesting further PDF funding to the sum of £1.2m and request that Treasury's approval and progress for formal approval from the council of ministers, in-line with the PDF TOR's. SACIC Draft Cut up below

Budget increase:

There appears to be an increase in the budget demand from the Project Development Fund but also an increase from the original £36m estimated budget to an estimated out-turn cost of £42m. It is not clear if this increase reflects the land ownership and access issues and other risks identified or not.

- Planning issues – our current strategy is to secure planning consent prior to placing orders for construction, transportation or commissioning. As such the financial risks with planning are low (although the deferment of the expected annual £5m natural gas cost saving is significant). Timing risks due to planning are very uncertain, as we have seen on other schemes.