

TIDAL LAGOON CARDIFF UPDATE

REPORT OF DIRECTOR CITY OPERATIONS

AGENDA ITEM: 2

**PORTFOLIO: LEADER (ECONOMIC DEVELOPMENT & PARTNERSHIPS) /
TRANSPORT, PLANNING AND SUSTAINABILITY (COUNCILLOR RAMESH
PATEL)**

Reason for this Report

1. To update Cabinet Members on the latest position with regard to potential proposals to construct a Tidal Lagoon between Cardiff and Newport. It outlines the importance of the current independent review into the feasibility and practicality of tidal lagoon energy in the UK which is due to report back to the Secretary of State for Energy and Climate Change in early November 2016.
2. The report then provides an outline of the potential international profile scheme along with a summary of the planning process which would have to be followed should the scheme proceed. This is followed by setting out potential opportunities and issues but also highlights the difficulties of reaching firm conclusions at this juncture, ahead of more detailed information becoming available.
3. Given the uncertainties currently associated with the project together with the lack of any critical independent scrutiny to date, the recommendations are designed to help the Council more fully understand potential implications should the findings of the Government's independent review trigger the progression of the project.

Background

4. In February 2016, the Secretary of State for Energy and Climate Change announced that an independent review would assess the strategic case for tidal lagoons and whether they could play a cost effective role as part of the UK energy mix. The review will also assess possible structures for financing tidal lagoons and whether a competitive framework could be put in place for the delivery of tidal lagoon projects.
5. The independent review is being chaired by Charles Hendry, a former Energy Minister, and is due to report its findings to the Secretary of State for Energy and Climate Change in early November 2016.

6. Quite clearly, the findings of the Hendry review will have a significant bearing on the potential viability of the Cardiff Tidal Lagoon. Should the findings not envisage a cost effective future role for tidal power in the UK, it would be highly unlikely that the scheme in Cardiff would be further progressed. However, should the findings be favourable, the prospects of the project progressing will be increased accordingly. The remainder of this report therefore provides an insight into the potential project giving Members an understanding based on current known information.

Tidal Lagoon Cardiff

7. The tidal lagoon is being proposed by Tidal Lagoon Power Plc (TLP), a company specifically established to develop, own and operate tidal lagoon power plants. To date, the company has secured consent for a tidal lagoon in Swansea Bay which establishes a scalable blueprint for other projects in the UK. Implementation of the Swansea project will depend on the findings of the Hendry Review and also the outcome of negotiations on the level of Government subsidy. TLP aim to create a fleet of lagoons of different sizes based on the Swansea model that could provide up to 8% of the UK's power. However, it should be noted that although TLP are currently the developers working up the project, as the process moves forward and the UK Government considers the most appropriate potential operational models and procurement arrangements, alternative delivery mechanisms could yet emerge.
8. The Cardiff proposal would see the construction of a seawall, some 22km in length, enclosing an area of approximately 70 square kilometres (which would hold 11 times the volume of water compared to Swansea). It would extend from east of the entrance to Cardiff Bay to west of the mouth of the River Usk in Newport. The seawall would contain about 60-90 turbines which would harness the natural power from the rise and fall of the tides. It is envisaged that the asset life would be 120 years generating an annual output of 4-6TWh, the equivalent of providing enough low carbon energy to power every home in Wales.

The planning process

9. A project of this type is classed as a 'Nationally Significant Infrastructure Project' (NSIP) and would be managed by the Planning Inspectorate. It would therefore be planned and consented under a different system than planning applications processed by the Council. The final decision would rest with the UK Government's Secretary of State for Energy and Climate Change in the form of a decision to grant a, 'Development Consent Order' (DCO). A Marine Licence would also be required from Welsh Ministers to permit dredging and construction.
10. If the Hendry findings are favourable, it is expected that the developers will progress apace with pre application dialogue next year building upon informal engagement undertaken to date. Once the DCO application is formally submitted, the examination and determination are anticipated to take around 18 months.

11. Although the Council is not the decision-making body, it will play an important role in the NSIP process as formal inputs will be required at all stages including pre application, Scoping Report, consultation, Environmental Impact Statement, Local Impact Report, examination and discharging conditions. Furthermore, there are potentially developments falling outside the substantive lagoon project which the Council would determine following the standard planning application process.
12. There would clearly be considerable resource implications on the Council to fulfil its statutory requirements relating to this lengthy and complex process. The intention, should the project proceed, is therefore for Officers to work closely with colleagues in Newport Council and secure a formal Planning Performance Agreement with the developers which secures the necessary resource to undertake the required functions. Such arrangements have been followed on other such projects including the Swansea Lagoon where TLP supported this approach.

Opportunities and Issues

13. Quite clearly, the scale and scope of this project is of international significance. There are anticipated to be economic benefits with the project forming part of the wider potential emergence of a UK tidal lagoon industry which could also compete in global markets. The Cardiff Tidal Lagoon is likely to represent investment in the order of £6-8 billion with added GVA during both the construction phase and also over the 120 year operational lifetime. Construction jobs are currently estimated in the region of 5,500 FTE's and 1,000 during operation.
14. A project of this magnitude would also present opportunities for wider economic benefits ranging from maximising local employment (including training/ reskilling), creating local supply chains, developing innovation and employment hubs and potential docks-related opportunities. It also has the potential to enhance the city's tourism offer, providing new regeneration opportunities and major improvements in accessibility to wetlands and the coast. Finally, it would significantly impact upon the provision of infrastructure including road, light rail and rail.
15. The project would also bring a significant Renewable Energy benefit to the National Grid in the form of a guaranteed long-term supply of clean secure and low carbon energy. The developers estimate that a fully functioning scheme would supply around *"4 to 6 Terra Watt hours annually, producing comfortably enough low carbon electricity to power every home in Wales"*. There are also potential opportunities to explore with TLP regarding how this energy is supplied and distributed to the greater benefit of the Council and the people of Cardiff and Wales. Local "Power Purchase Agreements" and direct investment options have been proposed, and, although these will need much greater scrutiny and financial verification if the scheme progresses, there is some indication that they could deliver cost control and resilience around energy, and even a significant step to zero-carbon self-sufficiency.

16. On a more strategic perspective, the project would give Cardiff an enhanced global profile and direct association with a project of international importance delivering a sustainable and low carbon solution to meeting future energy demands. The project would also 'open up' Cardiff's extensive waterfront with the Estuary which currently does not enjoy high levels of accessibility.
17. A project of this scale also raises potential issues with regard to environmental impacts. Clearly, potential negative implications on the estuary and its supporting ecosystems would need to be carefully assessed and effective mitigation measures would need to be explored. There are also potential benefits in terms of delivering a targeted nature conservation programme.
18. With regard to flood risk, it is not possible at this stage to accurately quantify potential benefits in terms of the flood prevention and protection roles a tidal lagoon could perform. Benefits could include enhancing flood defences, displacing spending on alternative defences, possibilities of improved flood risk management through the operating cycle of the lagoon and introducing natural coastal protection as part of a wider nature conservation programme. However, further detailed modelling would be necessary to evidence the extent of potential benefits and identifying areas which may be afforded enhanced flood protection. This work would also need to assess estuary-wide implications relating to the cumulative impact of the proposal and any implications for flood risk elsewhere.
19. Finally, there would also be a need to fully assess the direct and indirect impacts on the city during the construction stage of the project. The sheer scale of the works involved would inevitably have land-based implications in terms of land-take requirements and infrastructure-related aspects including the need to manage the transportation of construction workers and materials through the city.

Overview

20. Overall, a project of this scale, complexity and ambition inevitably raises numerous issues which will require resolution and carry associated risks. However, at this juncture, there has been no detailed independent expert analysis or critical scrutiny of the Cardiff project which is of an entirely different scale to the scheme at Swansea Bay.
21. Therefore, there is a clear need to more fully understand and more accurately quantify the potential opportunities along with how issues might be addressed. Currently, it is difficult to ascertain this information as the project is at a relatively early stage with insufficient robust information being in place to enable a thorough and detailed assessment of the Cardiff project. A summary of the range of uncertainties are set out below:
 - Outcome of the Hendry Review does not support the lagoon concept;

- Outcome of discussions relating to Government subsidies;
 - The precise shape and structure of the operating model;
 - Clarification on technological aspects and assumptions;
 - Potential options regarding local energy schemes associated with the project;
 - How potential opportunities can be more robustly defined, and specifically, how benefits for Cardiff can be clarified;
 - How issues of potential concern can be assessed and mitigated;
 - The scale and extent of land-based implications at construction stage and longer-term;
 - Future potential maintenance/liability matters; and
 - Costs of decommissioning at the end of the life of the infrastructure asset.
22. It is understood that the Hendry review will represent a high-level analysis of the lagoon concept rather than a detailed critique of the Cardiff project. Should its conclusions be positive, this would trigger the developers to undertake more detailed work relating to the Cardiff project ahead of the formalities of the formal planning process where all relevant issues will ultimately be considered by an independent Inspector who will weigh up the benefits, risks and all other material factors prior to deciding if the project can proceed.
23. This would provide a timely opportunity for the Council to examine in greater detail the impacts of the scheme as it relates to Cardiff and surrounds. It is considered that the Environment Scrutiny Committee is well placed to perform such a role which is suited to a Task and Finish Group approach. Additionally, this process could draw upon independent expert advice to inform considerations. In the meantime, a cautionary view is considered prudent.

Reason for Recommendations

24. To enable the Council to understand the potential opportunities and issues more fully by putting in place arrangements to gather and analyse further information and detail on the project together with ensuring that sufficient resources are put in place to fulfil the Council's duties should the project proceed.

Financial Implications

- 25 The report provides an update on potential proposals to construct a tidal lagoon between Cardiff and Newport and highlights the uncertainties regarding whether the project will be progressed. The report also sets out the wide range of issues that will need to be considered should the project proceed. The potential financial impacts arising from these will need to be considered as further information becomes available and the report recommends that in the event that the project is progressed a scrutiny task and finish group be set up including the gathering of independent expert advice. The report notes that there would be

considerable resource implications for the Council in order to fulfil its statutory requirements relating to a lengthy and complex planning process and in the event that the project is progressed requests approval for officers to liaise with the developers in order to confirm a Planning Performance Agreement which secures the necessary resources for the Council.

Legal Implications

26. There are no direct legal implications arising from this report.
27. Future legal input would be required in connection with securing any relevant external funding (including any tariffs), appropriate terms for construction/supply, power purchase agreements, grid connections and otherwise managing risk
28. Energy projects such as the one being considered will play an important part in the consideration of how the Council fulfils its duties under the Well-being of Future Generations (Wales) Act 2015

RECOMMENDATIONS

Cabinet is recommended to:

1. Note the report, and, in the event the project is progressed, to request that the Environment Scrutiny Committee establish a Scrutiny Task and Finish Group process including the gathering of independent expert advice in order to derive more detailed information and clarity on potential opportunities and issues, and to report back to Cabinet with an enhanced understanding ahead of any requests for the Council to formally engage in the planning process; and
2. In the event the project is progressed, to authorise Officers to;
 - (i) further liaise with the developers of the project in order to confirm a Planning Performance Agreement which secures the necessary resources for the Council to fulfil its required duties as the project is taken through the planning process,
 - (ii) undertake a detailed appraisal of the potential economic, social and environmental implications of the project for Cardiff, and
 - (iii) engage with the developers of the project to understand more fully the public benefit which would be offered to offset the potential risks.

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Director
15 November 2016