

WIRRAL COUNCIL

CABINET – 4TH NOVEMBER 2010

REPORT OF THE INTERIM DIRECTOR OF CORPORATE SERVICES

MERSEY TIDAL POWER PROJECT

1. EXECUTIVE SUMMARY

- 1.1 This report informs Members of progress to date with the Mersey Tidal Power Project being developed by Peel Energy and the North West Development Agency (NWDA).
- 1.2 The report recommends that Members note the work undertaken by Peel Energy/NWDA to date, welcome the commitment by Peel to comprehensive public consultation and gives the Interim Director of Corporate Services delegated authority to provide detailed comments on the Statement of Community Consultation and Draft Communications Plan in line with the Council's agreed protocols for public consultation, including the Statement of Community Involvement.

2. Background to the Mersey Tidal Power Project

- 2.1 In 2006 Peel Energy, in partnership with the North West Development Agency (NWDA) (and supported by the Mersey Basin Campaign) set out to explore the potential, the impacts and the implications of utilising the Mersey Estuary's renewable energy potential. A large scheme has the potential to meet the electricity needs of up to 260,000 homes. The work has comprised two phases:

Phase 1 – “Power From the Mersey” Pre – Feasibility Study – October 2007

- 2.2 A consortium of consultants led by Buro Happold was commissioned by Peel Energy and the NWDA in July 2006 to undertake what was described as a 'pre-feasibility' study – “Power from the Mersey”. The primary objective of the study was to undertake a full and open assessment of the options available for the generation of renewable energy and to undertake a preliminary assessment of viability. The Estuary was divided into four study zones and the initial screening process identified 9 potentially viable tidal power technologies.

Phase 2 – Feasibility Stage – September 2009

- 2.3 Peel Energy and the NWDA commenced the phase 2 feasibility stage of the project in September 2009. This stage aims to identify a single preferred tidal power scheme that stands the greatest chance of delivering the maximum

affordable energy from tidal resources in the Mersey Estuary, having regard to impacts on the environment, shipping, business and the community, as well as options for mitigation or compensation. This phase is also considering potential wider economic and social benefits from the project including the development of facilities and skills to support the development of renewable energy technologies and their supply chains; improvements to local infrastructure; and the potential for the development of a leisure opportunity and tourist attraction around the completed project. The work, which is being undertaken by a consortium of consultants, breaks down into three stages.

Stage 1 – Preparation of a long list of applicable technologies

2.4 This first stage comprised a technical screening exercise to identify a long list of potential tidal power technologies which could be used in the Mersey Estuary. Each technology was evaluated against a set of criteria relating to the characteristics of the estuary, the maturity of the technology and the delivery framework. A key factor is the shape of the estuary which has significant implications for the speed of flow of tidal waters – quickest in the narrows, slower in the upper estuary. It also has implications for the size and length of structures which might be required. Other factors such as navigation by shipping, impact on fisheries, sea level rise and ecology (which is particularly significant on the Estuary) were considered.

2.5 The list of candidate technologies was based on the knowledge and experience of the team members, the findings of the Mersey Tidal Power Phase 1 work and the much earlier Mersey Estuary tidal power studies (including those produced in connection with the Mersey Barrage proposals in the late 1980s). The consultants also drew on experience of tidal power schemes either in operation or being developed elsewhere - in particular the (now completed) work being done to assess tidal power generation potential in the Severn Estuary (see paragraph 2.12 of this report below). The report identified four main technologies to take through to stage 2 for further assessment:-

- Tidal impounding barrage - incorporating conventional turbines similar to those routinely used in low head hydroelectric power applications. The tidal barrage concept is based on developing a head difference (in water levels) as the tide rises or falls. Once the head difference between the impounded zone (the basin) and the natural estuary has reached a suitable value, turbines located in the barrage would start operation.
- Tidal power gate – which could perform as a very low-head barrage – containing a grid of specially designed, smaller turbines. This is the kind of technology used to produce power from, for example, reservoir spillways and sluices and involves a much smaller change in water levels in the impounded basin;
- Tidal fence – a means of capturing energy from the natural or constrained speed of the tidal flow – with either horizontal- or vertical-axis turbines - designed for generating electricity in open streams;

- Spectral marine energy converter (SMEC) - an alternative tidal fence based on a new proprietary device that concentrates the energy contained in a large body of slow-moving water into a smaller body of fast-flowing water using the Venturi effect. This is still at an early stage of development.

2.6 The Stage 1 report emphasises that tidal power technology is rapidly evolving (many devices – particularly those intended to be installed in open water to capture tidal energy - are still at concept stage) and as such it may be appropriate in the future to bring new options into the assessment or reintroduce options which were previously screened out.

2.7 The Stage 1 work was published in February 2010 – the results of the study are in the public domain and are available on the project website both as a full report and as a non-technical summary at:

<http://www.merseytidalpower.co.uk/>

Stage 2 – appraisal of the long list of technologies and formulation and appraisal of scheme options to identify a shortlist

2.8 In this stage, the long list of potential technologies identified under stage 1 is being used to develop several possible power schemes. The study examines the technology options in two broad bands – deeper water (located approximately Tranmere/Rock Ferry to Dingle) and – shallower water (located approximately Eastham Docks to Garston Dock).

2.9 The work aims to identify the locations and the layouts that provide the best energy yield within the constraints of the estuary. Each potential scheme was assessed for potential impacts on shipping, marine ecology, flood risk, drainage, water quality, contamination and sedimentation. The results of this assessment would feed into revisions to scheme layout design to mitigate potentially harmful impacts and improve their sustainability rating. Other key considerations include the energy yield of each option and likely construction, installation and operation costs (including grid connection issues); commercial viability (including project financing and the likelihood of securing Government backing and/or private sector investment) and socio-economic impacts and benefits; land allocations, regeneration initiatives, planning commitments and potential for land-side access and infrastructure.

2.10 The report will be accompanied by a shadow sustainability appraisal and habitats regulations assessment. Consultation took place in July 2010 on a Sustainability Scoping Report: Approach to Sustainability Issues which summarised the project teams approach to ensuring that sustainability issues are considered throughout the course of the project. Council officers have provided the consultants with the sustainability objectives for Wirral's Local Development Framework to ensure a consistency of approach and Merseyside Environmental Advisory Service are also inputting into the process on behalf of all the Merseyside Local Authorities.

- 2.11 At the end of Stage 2, the project team will be in a position to select a shortlist of potential schemes from which, during Stage 3, to select the preferred option for which planning permission will be sought. The results of the stage 2 work were – at the time of writing – expected to be published at the end of October. This will be the first opportunity for Council officers and other stakeholders to input and comment on the main Stage 2 Report which has been undertaken exclusively by Peel Energy's consultants.
- 2.12 As Members will be aware, the Department of Energy and Climate Change (DECC) published the Severn Tidal Power Feasibility Study on the 18th October 2010 and announced that there was no strategic case for public funding of a scheme to generate energy in the Severn Estuary and that other low-carbon options represented a better deal for taxpayers and consumers. Commercial viability and potential for Government funding forms part of the Stage 2 work as indicated above, but the implications of the DECC announcement for the Mersey Tidal Power Project are as yet unclear at the time of writing.

Stage 3 – Selection of the preferred scheme option

- 2.13 This phase has not yet started, and will involve further refinement and appraisal of the short list of scheme options identified in stage 2 leading to the selection of a final preferred scheme including the route for grid connection, supporting infrastructure, construction compound and possible visitor centre. The aim is to complete this short-listing work by the end of March of 2011.

3. Consenting process

- 3.1 Peel Energy intend to submit a planning application for the finalised Mersey Tidal Scheme in early 2012. Under current legislation an application for the finalised scheme would probably fall to be considered by the Infrastructure Planning Commission (IPC) established under the 2008 Planning Act to determine proposals for nationally significant infrastructure projects. A key element in guiding the decision-making process of the IPC are National Policy Statements which are intended to establish the UK's infrastructure needs for the future. However, to date a National Policy Statement for tidal energy has not been produced and therefore in the case of the Mersey Tidal Power project, the Infrastructure Planning Commission would prepare a recommendation to the Secretary of State for Energy and Climate Change would make the ultimate decision.
- 3.2 However, the new Government has said that it will bring forward legislation to replace the Infrastructure Planning Commission (IPC), and incorporate its functions within a Major Infrastructure Unit as part of the Planning Inspectorate by April 2012, with final decisions made by the Secretary of State. In the meanwhile, Peel Energy indicate that they intend to continue to work within the guidance provided by the IPC. They expect that there will be clear arrangements for dealing with projects - like Mersey Tidal Power - that are of national importance. Other public agencies including the Marine

Management Organisation, Natural England and the Environment Agency will also advise the IPC, Planning Inspectorate and Government.

- 3.3 Once the application is submitted to the IPC or its successor, under current arrangements, the Council has the option of preparing (in consultation with the local community) and submitting a local impact report (LIR) to the IPC describing the likely effects of the proposal on the local authority's area. Commissioners must have regard to the LIR in determining an application and may reject an application – even if in accordance with a National Policy Statement – if there are adverse effects that outweigh the benefits.

4. Stakeholder engagement/public consultation

- 4.1 Members may recall that Peel Energy gave a presentation to Members in October 2009 on Peel Energy's activities (including Mersey Tidal Power) alongside an update by Peel Developments on Wirral Waters.
- 4.2 For the Mersey Tidal Power Project, Peel Energy have established a key stakeholder advisory group comprising local authorities (including Wirral), regulatory and environmental organisations, which met for the first time in November 2009 and has met three times during 2010. A number of technical groups are proposed - to date an environment technical group has met. There have been a number of individual meetings with groups and organisations such as the Northwest Tidal Energy Group, Navigation Stakeholder Group, Mersey Estuary Forum, RSPB and Cheshire Wildlife Trust.
- 4.3 Council Officers, and Neptune Developments met with Peel Energy in April this year to brief them on the New Brighton Regeneration proposals and the linkages it has to the NWDA supported New Brighton Pier Feasibility Study completed in 2009 including the potential for the pier to be used as a test facility for tidal energy technologies.
- 4.4 A dedicated website (www.merseytidalpower.co.uk), video and e-briefing are now 'live' and this includes downloads of all publicly available documents.
- 4.5 The publication of the stage 2 report at the end of October 2010 is identified by Peel as a key stage in terms of wider public consultation and (subject to the views of local authorities) is likely to be disseminated through public meetings and exhibitions. A draft Communications Plan was issued by Peel Energy/NWDA in August 2010 which details a range of mechanisms for engagement with the community, local authorities and other stakeholders. There will be an extensive programme of meetings with special interest groups and others, press briefings, articles, newsletters and so on. Online consultation will be encouraged through the website.
- 4.6 This first round of community consultation is expected to take place from mid-November 2010 to the end of January 2011. The project Communication Plan indicates engagement with Local Authorities, Elected Members, Government Ministers and MPs (among many others) to take place between

October 2010 and March 2011. Other proposed engagement includes Industry and Community Events, local and national press and public consultation.

Draft Statement of Community Consultation

4.7 As an initial stage of the IPC consenting process, Peel Energy have produced a draft Statement of Community Consultation which they are required to prepare and have regard to the views of Local Authorities on its content. This is a key stage in the process as IPC commissioners must take account of the views of the local authority and others on the adequacy of the developer's publicity and consultation in deciding whether an application can be accepted for examination. The draft document circulated for local authority comment includes a brief summary of the background to the project, the key aims of consultation, the role of local authorities and the IPC, and the proposed consultation stages (mainly focusing on round 1). The statement identifies three 'consultation audiences' (in addition to statutory consultees):

- Local communities and businesses within a 'Community Consultation Zone' stretching to approximately 2 miles from the potential locations for the power scheme.
- Interest Groups, including clubs and associations, whose activities are based on the estuary
- The wider public in the Liverpool City Region, West Cheshire and Warrington

4.8 The main proposed consultation mechanisms identified are public exhibitions (in the community consultation zone and municipal centres of local authorities adjoining the application site between November 2010 and mid January 2011), community briefings, Interest group workshops, through the web site, local media and availability of documents for public inspection at Council Offices and local libraries. Peel Energy intends to produce a short non-technical document for local communities summarising the proposals and outlining the matters on which comments are sought and the date of consultation events. Following the close of consultation, a report of responses will be produced alongside the Stage 3 report identifying how issues raised have or will be addressed through the project.

4.9 The second round of consultation will take place once the stage 3 - preferred scheme stage work - is completed, early in 2011, with a third round of public consultation to follow once the application is ready for submission.

5. Financial Implications

5.1 There are no financial implications arising directly out of this report. The cost implications to the Council of producing the Local Impact Report as part of the IPC application process are as yet unknown. However, this is anticipated to

be a detailed and specialist piece of work and may require the engagement of consultancy support.

6. Staffing Implications

6.1 There are no staffing implications arising directly out of this report

7. Equal Opportunities Implications

7.1 There are no equal opportunities implications arising directly out of this report

8. Community Safety Implications

8.1 There are no community safety implications arising directly out of this report.

9. Local Agenda 21 Implications

9.1 The Mersey Tidal Power Scheme has the potential to generate significant amounts of renewable energy, contributing to the achievement of national targets for renewable energy generation and reducing carbon emissions.

10. Planning Implications

10.1 These are identified in the main body of the report – the finalised Mersey Tidal Power scheme is likely to be submitted to the Infrastructure Planning Commission or its successor body for approval, with the Council having the status of consultee, and preparing a Local Impact Report on the proposal.

10.2 Public consultation on the emerging scheme will be carried out in accordance with the Council's consultation protocols, including the Local Development Framework Statement of Community Involvement.

10.3 The Local Development Framework Core Strategy Draft Preferred Options Report (approved by Cabinet on September 23rd for the purposes of Public Consultation (minute 143 refers) notes in paragraph 17.5 that the Mersey Tidal Power Project is likely to be the most significant local source of renewable energy, alongside proposals to extend off-shore windfarms in Liverpool Bay. Draft Preferred Option 14 –Decentralised Energy - indicates that opportunities to use tidal power in the River Mersey will be encouraged subject to appropriate environmental controls including a project level habitats regulations assessment to select the most suitable design and location and assess the impact of construction and operation.

11 Anti-Poverty Implications

11.1 There are no anti-poverty implications arising directly from this report.

12. Human Rights Implications

12.1 There are no human rights implications arising from this report.

13 Social Inclusion Implications

13.1 There are no social inclusion implications arising directly from this report. .

14. Local Member Support Implications

14. This Report will have implications for all Ward Members.

15 Background Papers

15.1 These can be viewed at www.merseytidalpower.co.uk

16. Recommendations

16.1 Members note the work undertaken by Peel Energy/NWDA to date and welcome the commitment by Peel to comprehensive public consultation on the Mersey Tidal Power Project.

16.2 That the Interim Director of Corporate Services be given delegated authority to provide detailed comments on the Statement of Community Consultation and draft Communications Plan in line with the Council's agreed protocols for public consultation including the Statement of Community Involvement.

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