

Submission of Projects Form – National Development Framework	
Name	Michael Boland Michael Uruski
Contact details	Hydro Reef Power 2001 Ltd 62 Newport Road Cardiff. CF24 0DF
Date	9 th February 2017
Interest in site	As project designer and promoter
Details of landowner	Principally administered by Crown Estates
Title of project	HYDRO REEF Hydro-Electric Power for Tomorrow's World
Summary of project	Large scale renewable clean energy production from the Severn Estuary
Location of project (Please attach location map)	Severn Estuary extending out from a point west of Junction 37 of M4 motorway
What consents are required?	Planning and Environmental Consent, Government and Royal Assent
Consents already granted relevant to project	None at present
Public engagement to date	Presentations and discussions with specific Individuals, Organisations and Government
Has an environmental assessment been prepared? (Yes / No)	Not yet
Are there any site designations or constraints affecting the site?	Yes – the project is close to SSSI and other site designations; effects on all designations are to be fully assessed
What is the delivery timescale for the project?	Phased delivery over 10-12 years to 2029

How would the project contribute to the delivery of the 7 well-being goals?	Positive contribution in all 7 well-being areas, please see the attached statement of evidence
Why is the project of national significance?	It is sufficient size to be of national importance, the project will lead the world in renewable tidal energy and place Wales in the eyes of the world
Do you agree for your project and any supporting information to be made public? (Only projects and information that can be made public will inform the development of the NDF.)	Yes

Submission of Projects Form – National Development Framework	
Name	Michael Boland Michael Uruski
Contact details	Hydro Reef Power 2001 Ltd 62 Newport Road Cardiff. CF24 0DF
Date	9 th February 2017
Interest in site	As project designer and promoter
Details of landowner	Principally administered by Crown Estates
Title of project	HYDRO REEF Hydro-Electric Power for Tomorrow's World
Summary of project	Large scale renewable clean energy production from the Severn Estuary
Location of project (Please attach location map)	Severn Estuary extending out from a point west of Junction 37 of M4 motorway
What consents are required?	Planning and Environmental Consent, Government and Royal Assent
Consents already granted relevant to project	None at present
Public engagement to date	Presentations and discussions with specific Individuals, Organisations and Government
Has an environmental assessment been prepared? (Yes / No)	Not yet
Are there any site designations or constraints affecting the site?	Yes – the project is close to SSSI and other site designations; effects on all designations are to be fully assessed
What is the delivery timescale for the project?	Phased delivery over 10-12 years to 2029

How would the project contribute to the delivery of the 7 well-being goals?	Positive contribution in all 7 well-being areas, please see the attached statement of evidence
Why is the project of national significance?	It is sufficient size to be of national importance, the project will lead the world in renewable tidal energy and place Wales in the eyes of the world
Do you agree for your project and any supporting information to be made public? (Only projects and information that can be made public will inform the development of the NDF.)	Yes

WALES NATIONAL DEVELOPMENT FRAMEWORK: SUBMISSION OF EVIDENCE

HYDRO REEF

“Hydro-Electric Power for Tomorrow’s World”

Key Issues

The Welsh Government’s commitment to renewable energy and UK Government’s ambitious targets that are now enshrined in legislation require a major shift towards renewable energy and there is currently no substantial strategy in place to achieve these admirable targets.

The South Wales coastline sits adjacent to one of the world’s greatest natural resources of tidal energy that still lies untapped. The Severn Estuary has the second largest tidal rise and fall in the world, providing sheer volume of tidal water with significant power density that flows through the Estuary with two incoming and two outgoing powerful tidal flows daily.

The challenge is to harness that energy in an environmentally friendly and efficient way and use its vast power to generate sufficient electrical energy that will ultimately supply a large part of both Wales and England. Having this unique opportunity alongside the Welsh coastline to provide abundant CLEAN energy is a real privilege and a true gift from nature.

From embryonic plans during the early 1990’s by a forward-thinking Percy Boland proposals have been developed over many years to build a power generating reef across the Severn Estuary and a feasibility study is being undertaken by the locally-based company Hydro Reef Power 2001 Limited. The reef differs from other methods to harness tidal power as it will capture energy from both incoming and outgoing tides in less invasive manner with minimal environmental effects, offering a truly exciting construction project for Wales and UK.

Prosperous Wales

A fledgling tidal power industry is ready to explode and the Severn Estuary offers Wales the opportunity to lead the world in this new technology. The Welsh Government can help facilitate this great opportunity to increase the prosperity of Wales by making provision for this major tidal energy project in its new National Development Framework.

Hydro Reef’s unique design will start producing high-volume low-cost electricity early in the construction period that will effectively reduce the overall capital costs. No other large scale power scheme can offer early generation capacity and such a massive capital cost benefit.

Resilient Wales

Hydro Reef has great flexibility for the tidal energy to be enhanced with other developing renewable power technologies, allowing the construction of two multi-fuel power stations with low emissions built miles out into the Estuary and could include a series of wind turbines and/or large-scale linear bank of solar panels.

Hydro Reef will offer the opportunity to incorporate future technologies as the country's needs change over the extremely long lifespan of the structure. Facilities may be developed on the reef to extract minerals from the sea, hydrogen for future fuel consumption and the natural desalination of sea water from the reef's off-shore power stations may provide water to counter future shortages across UK.

Healthier Wales

There are major benefits to be realised in the local labour, manufacturing, quarrying, construction and leisure industries. The local economies will expand with further social, health, and regeneration implications that it would be difficult to estimate at this point in time.

More Equal Wales

The detailed design, construction and future operation of Hydro Reef with over 1000 turbines will provide diverse employment in the professional, manufacturing, construction and service industries for thousands of people in Wales offering a whole range of new job opportunities.

Cohesive Communities

Hydro Reef will provide focus for local communities that have been ravaged for years with closures and redundancies. It will carry a road link across the estuary that will offer faster more efficient infrastructure for on-going economic development, providing easy travel over the reef and improved roads within Wales that will help to connect the local communities.

Vibrant Culture and Thriving Welsh Language

Hydro Reef will enhance the future lifestyle, opportunities and quality of life for all who live within reach of the coastline by creating a large sailing and aqua-sports Solent that will be one of Europe's largest. This will transform the coastal areas by stimulating a range of water based activities and additional commercial opportunities that would not otherwise exist.

Globally Responsible Wales

With many national governments now showing serious concerns to combat global warming, a prestigious and forward-thinking renewable energy project like this will create a welcome worldwide interest, attracting top professionals and investors to explore the potential and become a part of this life-changing incredible flagship project that will place Wales at the forefront of this fledgling renewable energy industry.



A FIRST ISSUE			17.03.16
Revision Details		By	Date
BCD CONSULTANCY LTD 7 Neptune Court Ocean Way Cardiff CF24 5LS Tel 02920612311			
Project HYDRO REEF POWER 2001			
Title PRELIMINARY PROPOSED LAYOUT B PHASE 1			
Scale at A3 1:200,000 plan			
Drawn	Date	16.3.16	
Checked	Date		
Project No: 2100			
Drawing No: D05-A			