

# Wave & Tidal Energies – Development & Conservation

(WATTS September 2009)

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# Content

- Key messages early
- Role of the Marine Estate
- Sustainability of the business
- What we know/do not know about W&T
- Getting consent
- Facilitating marine renewables
- The Future
- Conclusions

# (Key messages early) - Conclusions

- ‘Green’ energy is not easy
- Deploy and monitor is the only way forward for  
W&T
- Work together on the common issues
- Use the trade associations more
- The Crown Estate is already investing and  
facilitating
- The goal is a truly sustainable future

# Role of the Marine Estate

- The Crown Estate is a public body
- Owns and manages ~50% UK foreshore and almost all seabed out to 12nm
- Energy and mineral rights out to 200nm
- Operates under The Crown Estate Act 1961
- Duty to maintain and enhance the value of the estate and return from it
- Due regard for principles of good management
- Stewardship is a Core value
- The Crown Estate is not in any sense a Regulator for activities on its estate

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# Sustainability in the business – Aspiration (1)

- CR / Sustainability strategy – “ ... we therefore aim ... to secure a sustainable future.”
- The Crown Estate subscribes to the UK ‘shared principles’ of SD

**Living Within Environmental Limits**

Respecting the limits of the planet's environment, resources and biodiversity - to improve our environment and ensure that the natural resources needed for life are unimpaired and remain so for future generations.

**Ensuring a Strong, Healthy & Just Society**

Meeting the diverse needs of all people in existing and future communities, promoting personal well-being, social cohesion and inclusion, and creating equal opportunity for all.

**Achieving a Sustainable Economy**

Building a strong, stable and sustainable economy which provides prosperity and opportunities for all, and in which environmental and social costs fall on those who impose them (Polluter Pays), and efficient resource use is incentivised.

**Using Sound Science Responsibly**

Ensuring policy is developed and implemented on the basis of strong scientific evidence, whilst taking into account scientific uncertainty (through the Precautionary Principle) as well as public attitudes and values.

**Promoting Good Governance**

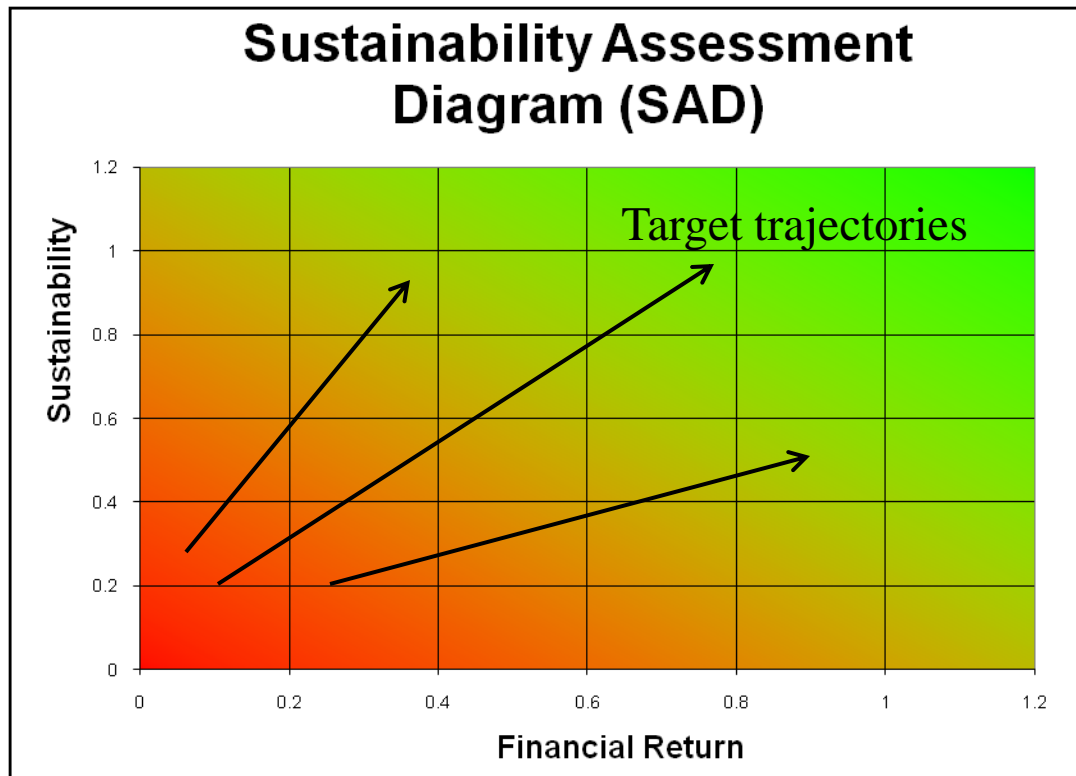
Actively promoting effective, participative systems of governance in all levels of society - engaging people's creativity, energy, and diversity.

Shared UK Principles of Sustainable Development

# Sustainability in The Crown Estate's business – **Aspiration** (1)

- CR strategy – “ ... we therefore aim ... to secure a sustainable future.”
- Subscribe to the UK ‘shared principles’ of SD
- Industries operating on the Estate should share the vision

# Sustainability in the business – Aspiration (2) The 2 Parameter approach



- Acceptable values?
- No-go zones?
- Need to incorporate risk-based approach

# Sustainability – now & future

## Goals

To ensure ecosystem integrity over the long term.

To mitigate the impact of climate change.

To adapt sensitively and appropriately to the effects of climate change.

To promote and support a dynamic and sustainable maritime economy.

To respect the right of future generations to the use of present resources.

To enhance community wellbeing.

To enjoy the support, trust and enthusiasm of local communities.

## Indicators

1. Effective monitoring and management of the marine environment
1. Impact on habitats and species
3. Greenhouse gases emitted and displaced
4. Adaptation-specific activities
5. Employment generated
6. Value added
7. Durability
8. Use of non-renewable resources
9. Security of energy supply
10. Education and understanding
11. Net social benefits
12. Public acceptability



Kermit:  
“It’s not easy  
being green”

It sure isn’t!

Source: YouTube/Sesame Street/The Muppet Show



# Wave & Tidal Energies – What do we know or not know? (1)

- A low carbon source of energy
- But how low?
- General lack of clarity about generating devices, their efficiency, robustness and effects
- Costs?
- Utilisation of the seabed?

# Wave & Tidal Energies – What do we know or not know? (2)

- Physical impacts on seabed
- Impacts on flow regime and hence benthos and physical processes
- Potential impacts with marine mammals
- Potential impacts with diving birds
- Installation and operational noise effects on various biota
- Cable EMF effects

# Getting consent (1)

- Understand what the Regulator and Consultees need to know
- Share information across industries
- Question every assumption
- Ask for the background scientific justification
- Consider a regional non-statutory assessment
- Make good use of trade association

## Getting consent (2)

- Habitats Directive, European Protected Species and MCZ's are unavoidable issues
- Favourable Appropriate Assessment unlikely
- Hence monitoring is the only way forward
- 'Deploy and monitor' strategy from Regulator
- Ensure adaptive management
- Cross-industry collaboration benefits
- Work on all of the sustainability issues

## Getting consent (3)

- The Crown Estate investing to facilitate consent
- Expect a suite of projects to assist W&T
- R3 example: 13 projects completed / ongoing
- Further 14 being considered / out for comment
- Some common issues assist W&T too

# Facilitating Marine Renewables – Ex. 1

- Catalogue of sediment samples and survey tracks
- [http://www.thecrownestate.co.uk/our\\_portfolio/marine/offshore\\_wind\\_energy/round3/round3-announcements.htm](http://www.thecrownestate.co.uk/our_portfolio/marine/offshore_wind_energy/round3/round3-announcements.htm)
- “The study will assist developers in the planning of survey campaigns associated with offshore development, and also in the post survey data interpretation. The report is focused on the R3 zones, but the GIS shape files cover the whole of the UKCS.”

# Facilitating Marine Renewables – Ex. 2

- Marine Mammals issues
- SMRU Ltd project - ongoing
- Goal is efficiency in survey and monitoring
- Key questions:
  - (i) What does the Regulator need to know?
  - (ii) What is a significant effect?
- Framework for (ii) based on PBR
- Potential Biological Removal?

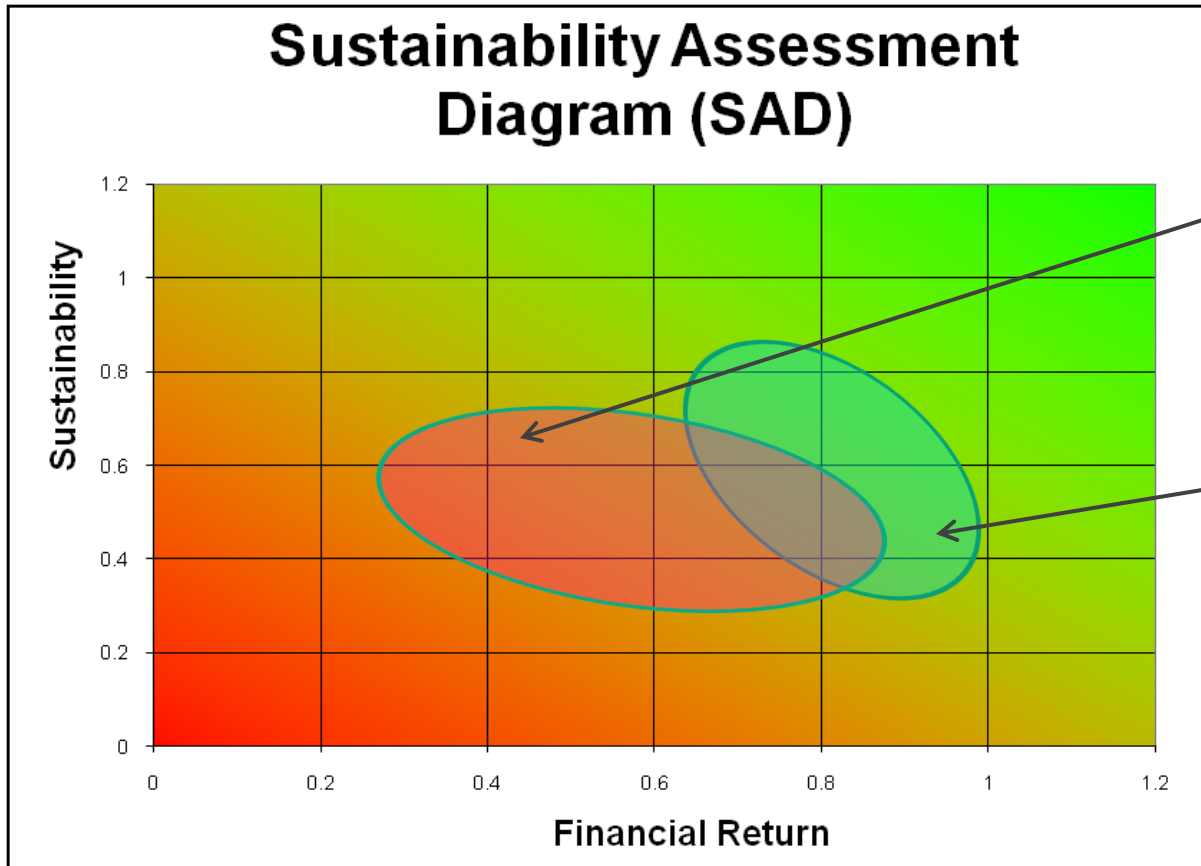


PBR in action

Source: YouTube/BBC/Monty Python



# The Future



Now

2020

# Conclusions

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