

Valuing the sea: social geographies of marine life and marine energy in the UK

Dr Aurora Fredriksen

Simon Fellow, Geography, University of Manchester

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INTRODUCTION

Technologies for harnessing energy from ocean waves and tides have been rapidly emerging over the past decade. The UK is at the forefront of this growth, currently generating more energy from wave and tidal stream devices than the rest of the world combined, and with the world's first ever tidal lagoon energy generation facility proposed to begin construction in Swansea Bay in 2017. In addition to its promise for providing a low-carbon, indigenous and renewable energy supply, the development of the UK's wave and tidal energy industry has been forecast contribute c.£15billion to its GDP and add around 68,000 jobs to its economy by 2050 (Carbon Trust 2011). Against this ostensibly 'win-win' scenario, however, the rapid development of tidal and wave energy technologies is also implicated, alongside other marine industries, in the accelerating pace of marine habitat modification and its associated threats to wildlife, especially in coastal areas (McCauley et al 2015).

While research is ongoing in the natural sciences to trace the specific effects of wave and tidal technologies on marine habitats and wildlife (see Leeney et al 2014), this fellowship is concerned with the social geographies of this conflict. Its purpose is to *investigate and analyse the various and potentially competing pecuniary and non-pecuniary values associated with both wave and tidal energy developments, and adjacent marine and coastal wildlife and habitats in the UK.*



Tim Cornelius, chief executive of Atlantis Resources with Scottish First Minister Nicola Sturgeon © Scottish Government 2016

CONCEPTUAL FRAMEWORK

How societies make the transition to low-carbon energy is a question of which social, geographic and political-economic futures will be realised (Bridge et al 2013). Much has been written on the local political controversies surrounding renewable energy and wildlife, particularly in the context of local resistance to wind turbines (e.g. Voigt et al 2015). Existing research on renewables, however, has had little to say about the lively capacities and political and ethical status of affected animals and landscapes. In a world where the global political-economy is increasingly creating the conditions for expelling 'bits of life itself from the biosphere' (Sassen 2014: 2), this is a compelling absence.

By contrast, this research approaches its cases from the perspective of more-than-human geography, a body of work calling for context-specific research that attends to the ways that elements of non-human nature (like wildlife or landscapes) co-constitute the social with humans and their institutions (Whatmore 2002). It emphasises that human relationships with non-human nature are not solely instrumental (as posed by the formulation of nature as resource or natural limit to economic activity), but "are also characterized by multiple non-instrumental values and emotions" that "play an important role in configuring political and ethical sensibilities" (Bakker 2010: 719). Thus a more-than-human geographic approach opens the way for a critical engagement with tidal and wave energy development that is attentive to both the prevailing values and power relationships at play *and* to the less apparent values and relationships generated through individuals' and communities' traditional or practical knowledges of, and meaningful engagements with, coastal and marine wildlife and habitats.



St Catherine's Point, Isle of Wight © Danny Chapman 2009

AIM AND RESEARCH QUESTIONS

Aim: to explore the multiple and potentially competing articulations of value associated with both wave and tidal energy developments and marine and coastal conservation in the UK.

1. How are the pecuniary and non-pecuniary values of wave and tidal energy versus those of marine and coastal wildlife and habitats being negotiated, measured, and articulated at different scales (local, national, global)?
2. How are prevailing narratives and practices of value shaping the possibilities, exclusions and contradictions of environmental and energy policy and planning?
3. Are there less apparent values being generated through traditional or practical knowledges of, or other meaningful engagements with, coastal and marine wildlife and habitats?
4. What are the scalar and temporal tensions between future-oriented global climate change mitigation (as achieved through large-scale renewable energy projects) and immediate care for local species and habitats?
5. Are local valuations of wildlife practically or ethically reconcilable with global imperatives to generate low-carbon economic activity?



Eurasian oystercatchers © Natural England/Allan Drewitt 2013

RESEARCH DESIGN

Alongside the well-established qualitative methods of semi-structured interviews, participant observation and document analysis, the research employs selected participatory and visual methods. In particular, walking interviews are conducted in the coastal landscapes adjacent to tidal or wave energy developments. As well as discussing value(s) in relation to place, participants in walking interviews collaborate in the taking of photographs and video, adding a visual component interview data. Three primary field sites include: the Meygen Inner Sound tidal stream farm in the Pentland Firth, Scotland; the Swansea Bay Tidal Lagoon in Wales; and the Perpetuus Tidal Energy Centre off the south coast of the Isle of Wight.

References:

- Bakker, K. (2010) "The limits of 'neoliberal natures'", *Progress in Human Geography*, 34(6): 715-735.
- Bridge, G. et al. (2013) "Geographies of energy transition", *Energy Policy* 53: 331-340.
- Carbon Trust (2011) *Marine renewables green growth paper*. London: Carbon Trust.
- Leeney, R.H., et al. (2014) "Environmental Impact Assessments for wave energy developments" *Ocean & Coastal Management* 99(October): 14-22.
- McCauley, D. J. et al. (2015) "Marine defaunation" *Science* 347(6219)
- Sassen, S. (2014) *Expulsions* Cambridge, MA: Harvard.
- Voigt C.C., et al. (2015) "Wildlife and renewable energy", *European Journal of Wildlife Research* 61(2): 213-219
- Whatmore, S (2002) *Hybrid Geographies*. Thousand Oaks, CA: Sage.