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Rights and ownership in sea country: implications of marine renewable energy for indigenous and local communities

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ABSTRACT

The adoption of UN Convention of the Law of the Sea in 1982 created optimism for indigenous peoples and marginalised coastal communities that they may (re)gain control of, or improve access to, marine resources. However concerns were also raised that opening the seas to industrial development might create threats for traditional users of the sea. Twenty-five years later the potential enclosure of large areas of coastal seas to marine renewable energy development is reigniting debates about marine governance, access and control over marine resources. Case studies in Scotland, Canada, New Zealand and Australia reveal a dynamic tension between: an economic development 'blue growth' agenda requiring the creation of private rights in the sea; and socio-political drivers which seek to address historic injustices and increase access to natural resources by indigenous and marginalised coastal communities. As yet there is little evidence of this tension being adequately addressed by emerging institutional frameworks for managing marine resources.

1. Introduction

Indigenous and community-based management of marine resources has been the subject of debate for some time [1,2]. In 1989, a quarter of a century before the writing of this article, Mark Valencia and David VanderZwaag [3] published 'Maritime Claims and Management Rights of Indigenous Peoples: Rising Tides in the Pacific and Northern Waters'. Their study concluded that the United Nations Convention on the Law of the Sea (UNCLOS) changes to marine governance, and the establishment of 200 nautical mile Exclusive Economic Zones (EEZs), were catalysts for empowerment of indigenous minorities. Their analysis, based on case studies of fishing and hunting rights, was supported by a parallel literature suggesting that traditional marine management practices may represent a form of sustainable development and an alternative to neo-liberal development strategies [4–6].

Traditional management methods also figure in the debate about contemporary conservation objectives [7,8]. Valencia and VanderZwaag [3] saw change as a positive opportunity for the assertion of indigenous rights. However in 1997, Christopher Dahl noted that 'system perturbation' in the form of new marine activities creates significant challenges for indigenous and first nation peoples [9]. Despite the paradigm shift it caused in international oceans governance, the UNCLOS does not mention indigenous rights, or public participation. It was finalised in 1982, long before the UN Declaration on the Rights of Indigenous Peoples (2007). The Declaration affirms indigenous rights over lands, territories, waters, coastal seas and resources (Articles 25 and 26). In 2013, the UN Permanent Forum on Indigenous Issues[1] concluded that treaties, including the UNCLOS, should be re-visited and reformed to take account of Indigenous rights.

The aims of this article are first to understand the derivation and contemporary status of indigenous maritime rights in four case study jurisdictions; second, to determine the actual and potential interactions of marine renewable energy (MRE) activities with coastal communities; and third, to examine the possible role of indigenous and community rights in securing a fair balance between the needs of the industry and a just settlement for the affected communities.

2. Context

Freedom of the seas and common pool marine resources is long held tenets of marine governance. As a result, truly private property rights in marine spaces are rare. These principles are

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[1] UN Permanent Forum on Indigenous Issues 12th Session – New York 30th May 2013

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challenged by new technologies which grant viable and economic access to marine resources. Traditional maritime activities are often transient in nature. Shipping and fishing require no permanent occupation of marine space. In contrast offshore oil and gas, aquaculture and, now, MRE are industries requiring exclusive settlement of areas of sea. To allow these industries to flourish, new rights of occupation and ownership are needed which displace or re-allocate the rights of old [10].

Jurisdiction to allow national legislation for marine rights is allowed under international law, largely as a result of UNCLOS. However, national legislation comes up against the ancient maritime rights of indigenous communities. In the colonial sweep of the 19th and early 20th centuries, the terrestrial claims of many indigenous communities were generally ignored, with private property rights imposed through legislation or the royal prerogative, while any indigenous rights in the marine environment were almost completely ignored. At the same time, commonly held maritime rights were left largely untouched, until recently. Yet re-allocation or removal of these marine rights is no longer as simple as it was previously on land: marine jurisdictions and laws are relatively new and untested and international policies and protections for the rights of first nation and indigenous peoples are actively debated and in some cases enforced.

The opportunities and challenges foreseen by Valencia & VanderZwaag and Dahl have shifted somewhat in the intervening decades [3,9]. UNCLOS was driven largely by concern about prospective deep-sea mining for minerals and fisheries management. In fact it is the emerging maritime industries of aquaculture and renewable energy which are the early driving forces of a 'Blue Growth Agenda'[2] and contemporary moves towards Marine Spatial Planning (MSP). In the UK and elsewhere, the planning controls support a regime of developmental consents and licences. Of these new industries aquaculture and MRE have a high degree of interaction with the interests of island and coastal communities. They have the potential to permanently occupy very large areas of sea close to shore where most of the existing activities, such as fisheries and tourism, take place. Their influence spreads to adjacent land with demand for onshore support infrastructure and services [11,12]. This article focuses on the impact of MRE, as an example of the 'system perturbation' foreseen by Dahl [9]. MRE is a potentially significant challenge to the rights of indigenous communities to fish and navigate their waters and manage their own marine environment. This change could also be an opportunity for the assertion of indigenous rights, as concluded by Valencia & VanderZwaag [3].

Four case studies are presented. One, Scotland, is focussed on community rights, while the other three focus on indigenous and aboriginal rights in Canada, New Zealand and Australia. Literature and document review together with selective interview techniques are used to reveal respective indigenous maritime rights as they are currently understood. Where possible and relevant the claims of indigenous groups are identified. The individual country reviews are analysed jointly to identify similarities, overarching themes and trends.

2.1. Case study contexts

The four case studies represent countries with abundant and accessible MRE resources (wind, wave and tide).[3] Scotland in particular is currently the world leader in MRE development with full-scale prototype devices generating power to the grid and advanced plans for commercial-scale deployment. Associated marine governance and planning regimes are being developed and implemented. All four countries demonstrate different, but long standing and continuing, debate about the rights of indigenous and first nation peoples, including marine rights. The case studies highlight many of the issues involved in the change of use of the seas from commons to private or state control.

Scotland is an old nation where 50% of the land is owned by just 432 people [13]. Land reform is a longstanding and continuous debate. In contrast, marine rights and resources are relatively free to all and held in common. MRE and emerging marine industries threaten to perturb the system exacerbating discontent and upsetting the current balance between land and sea.

Canada is a former colonial territory of Great Britain. Indigenous rights to land are defined in treaties with the colonial power. Nineteenth century legislation, now under challenge, gave the federal government power over all matters of life involving aboriginal people. Aboriginal rights to the marine environment are less well defined although the federal and provincial governments claim exclusive rights over marine energy.

New Zealand, also a former British colony, recognised Māori land rights in the 1840 'Treaty of Waitangi'. The Treaty underpins much of the subsequent debate. Contemporary (2003-Present) disputes have arisen over the question of foreshore and seabed rights; these disputes have driven opposition to MRE development

Australia, again formerly a British colonial territory, was for previously regarded as *terra nullius* at the point of colonisation, a legal fiction that persisted until 1992. The Native Title Act 1993 recognises the survival of some aspects of beneficial native interest surviving acquisition of title by the Crown.

2.2. Ocean industrialisation and the blue growth agenda

For millennia the seas have sustained coastal communities and facilitated trade. They have enabled the movement of people, ideas and even whole cultures. In the modern era the combined effects of globalisation, the economic cycle and urbanisation have simultaneously increased maritime activity and focused it in specific areas [14]. Arguments about the pressures that these new patterns of use place on the environment are well rehearsed, particularly the industrial exploitation of marine living resources [15]. Following the 2008 economic crash many nations looked to the oceans to stimulate future economic development, particularly through the advancement of a 'Blue Growth' agenda [16]. The EU in particular has targeted energy, aquaculture, tourism, mineral resources and biotechnology as key "value chains" that could deliver "sustainable growth and jobs in the blue economy" [17]. Blue Growth is now at the heart of Europe 2020 the European Union's ten-year growth and jobs strategy [18]. Talk of blue growth is not just a European phenomenon: China in particular is re-evaluating its maritime economy [19,20] and the retreat of the Arctic icepack is fuelling claims over mineral resources [21] and creating opportunities for shipping [22].

2.3. Marine renewable energy (MRE)[4]

In terms of installed capacity offshore wind is currently the most significant, with tidal current and wave at an advanced stage of research and testing. Offshore wind is a commercial reality with most activity focused in Europe. In the ten years to 2013, starting from a very low base, over 6.5 GW (2,000 devices) of offshore wind capacity had been installed in Europe. Available individual turbine capacities increased from 0.5 MW to 7.5 MW in the same period. Planned

[2] The 'Blue Growth Agenda' of the European Union is a policy designed to encourage the economic growth and employment from the exploitation of marine resources in European waters. Similar policies are in place elsewhere.

[3] The focus here is on wave and tidal energy.

[4] Sometimes also referred to as 'ocean energy'.

activity will raise installed capacity to 9.5 GW by 2015 [23]. The majority of this development is concentrated in the southern and central North Sea. Europe leads the world in offshore wind activity and Scotland leads in wave and tidal research and testing. The European Marine Energy Centre in Orkney (EMEC) is at the forefront of the nascent MRE industry, while Canada's Fundy Ocean Research Centre for Energy (FORCE) is quickly scaling up its efforts to support tidal energy development in the region. Additional test centres are under study or construction in a number of countries.[5]

Wave and tidal technologies are at the stage of full-scale prototype devices and testing. Power is being generated to the grid and commercial arrays are planned for the near future. Tidal devices are closer to commercial application. The Meygen tidal project in the Pentland Firth, Scotland will consist of 86 × 1 MW (MW) devices occupying approximately 1.1 km^2 of marine space [24], while Pelamis anticipates arrays of 15–20 devices with a footprint in the region of 1 km^2 [25].

All MRE technologies have an incentive to be close to shore in order to minimise cabling and support costs, and all MRE technologies will require supporting onshore infrastructure. However proximity to shore is particularly important for wave energy technologies crucial where the power take-off technology is land based.[6] It is also the case that tidal stream resources tend to be close to shore; focussed in narrows or around headlands. Projects can straddle the land-sea divide, with planning decisions taken in either area affecting the other [12]. MRE impact on both marine and terrestrial coastal communities is, therefore, very high. The need to integrate marine and terrestrial planning systems is recognised, but so far largely unrealised [26].

2.4. Ownership, governance and rights

Large parts of the oceans were previously inaccessible to humans, but rapid technological developments, combined with our demand for resources, are opening up such areas and making them amenable to exploitation and 'control'. Global positioning systems (GPS), vessel monitoring systems (VMS), radar and sonar have enabled us to access new and more distant resources.

Marine governance has always been evolving, and society's new-found ability to exploit and control the sea through new technological innovations is underpinning a gradual shift in the way marine space is conceptualised. In much of the world, the seas have been considered to be under common ownership for much of modern history, and, with some limited exceptions [27], there are few examples in modern history of complete ownership or exclusive rights in marine spaces [28]. However, new technological and social drivers are gradually supplanting public rights, firstly at the international level by the creation of sovereign rights, and subsequently by the creation of new private rights in marine spaces [11,29].[7]

Demand for such private or quasi-private rights is increasing, particularly as States drive towards a 'Blue Economy'. In the context of MRE, such rights provide the foundational basis for project development: developers will require exclusive rights over resources and marine space. Even if such rights are not explicitly sought, the needs and modalities of the technology will nonetheless exclude other users, establishing a rights-like occupation of the marine space.[8] MRE therefore has the potential to present a major challenge to traditional conceptions of rights and may play an important role in redistributing rights in the marine environment [29].

By requiring exclusive rights over a particular resource, as well as exclusive occupation of physical marine space, MRE is effectively privatising a common good and creating potential conflict with: (1) public rights, for example, to fishing and navigation; (2) other private rights in the marine environment; and (3) the (perceived) rights of communities and existing marine users.

2.5. Indigenous and aboriginal rights

Indigenous rights differ from the conventional western system of property rights significantly. In the western-based theory, property rights are based on the property being owned by a legal person [30] and that the property can be managed and exploited for economic purposes. Fully understanding property rights from an indigenous perspective is a difficult, if not impossible, task, owing to the complex histories and range of indigenous views in play. Although a range of indigenous worldviews exists, reflecting the diversity of indigenous peoples, such views usually hold that the people, land and culture are inextricably linked. The concept of owning, buying and selling land or property is often antithetical to traditional indigenous worldviews [31].

In most instances, indigenous peoples do not own their land. In Canada, for example, the federal government or Crown has legislative jurisdiction over First Nation reserves and changes to reserve land can be a cumbersome process involving many layers of government [32]. Additionally, in most indigenous communities there is an absence of individual ownership. Certificates of possession, leases and customary landholdings are mechanisms to manage the allocation of property rights and are adequate to a point but fall short of providing sufficient means for economic purposes. Legislation and treaty agreements in Canada between the Crown and indigenous communities have, in many cases, addressed and redefined the concept of property rights in indigenous communities.

In New Zealand, the 1840 Treaty of Waitangi recognized Maori property rights in exchange for British rights of government over New Zealand. However, with increased settlement and need for lands other than "bush", Maori property rights were suppressed with rights extended to lands with marginal economic opportunities [33]. Like indigenous communities in Canada, the Maori have in many instances regained property rights to traditional lands through agreements and treaties. More recently, there is a push to extend these rights from the terrestrial to the marine environment for commercial purposes such as aquaculture and mineral exploration [34]. With the development of MRE opportunities in New Zealand, Canada and Australia, it is likely that future negotiation over resources will include property rights to both terrestrial and marine environments.

Contemporary land reform debate in Scotland has focussed on the historic concentration of land in the hands on a socio-economic elite and finding mechanisms to increase community access to, and ownership of, land and its resources.

3. Case studies

3.1. Canada

Canadian Aboriginal rights including those rights associated with use and ownership of land date back to the Constitutional Act of 1867 [34]. With this act, specifically Section 91(24) the federal government affirmed their ability to wield exclusive right to legislate all matters of life involving aboriginal people including access and title to lands.

[5] Notably: New Zealand, Australia, France, Netherlands, Spain, Japan, Taiwan and China.

[6] E.g. Devices such as Aquamarine's 'Oyster' that pumps pressurised water to an on shore power plant.

[7] For example, seabed leases, planning permission and tradable quotas.

[8] For example, a wave energy device sitting on the sea surface will require rights to occupy the surface, but would likely also preclude use of the area below and around the devices.

Further legislation of aboriginal people and rights and ownership of land were affirmed by the *Indian Act* (1876) and the precedent setting decision *St. Catherine's v. the Queen* (1888) [35]. Collectively, this legislation developed policies of assimilation and held that title over aboriginal land could be taken away at any time. It was not until 1973 in *Calder v. British Columbia* did the Supreme Court of Canada recognize aboriginal title to the land prior to colonization [36]. Subsequent Supreme Court of Canada decisions affirmed the fiduciary duty of the Government of Canada toward the First Nations of Canada [37]. Collectively these decisions and the Constitutional Act of 1982 section 35, held that aboriginal people had a relationship to the land and that aboriginal title was held to be *sui generis* referring to the uniqueness of the relationship to the land by aboriginal people [37].

Aboriginal rights to the marine environment are complicated, limited and are usually addressed through treaty and non-treaty agreements with First Nation and Inuit organizations. In the Nunavut Final Agreement, the land claims agreement between the Inuit of the Nunavut Settlement Area and the Government of Canada, marine rights were addressed by 13 of the 42 articles [38]. This is not surprising given the majority of Inuit communities in the Arctic Archipelago are located on the coast. In Haida Gwaii, for example, marine rights have been addressed through a number of co-management agreements related to the development of Gwaii Haanas National Park, the southern group of islands in this island archipelago and the National Marine Conservation Area (NMCA) designation [39]. The focus of these agreements, other than a commitment to work collaboratively through shared management of the resource, is to protect traditional access to these resources for subsistence harvesting and spiritual purposes. Access to, for example, minerals, natural gas deposits, and energy derived from the tides and waves, are not addressed in these agreements. The Government of Canada and increasingly the provinces, retain exclusive rights over marine resources related to energy development.

Although Aboriginal communities in Canada are increasingly exploring renewable energy opportunities, especially onshore wind [40], few proposals are marine energy related. Exceptions include marine renewable energy exploration in Haida Gwaii, and resource assessment in Nunavut, Canada's newest and northern most territory. Of the estimated 42,000 MW of tidal energy resources in Canada, 30,000 MW are in Nunavut, located along the Hudson Strait connecting Hudson Bay to the North Atlantic [38]. Although the Canadian National Research Council (NRC) has recognized Nunavut as having significant potential for marine energy development, exploration of these options by MRE developers is limited [38]. Wave and tidal energy resources in Haida Gwaii, on the other hand, have been explored more earnestly [41].

Formerly known as the Queen Charlotte Islands, this remote archipelago in the province of British Columbia, like many remote and coastal communities in Canada, relies on diesel fuel for the generation of its electricity [42,43]. Given the rising costs of fossil fuels and their associated impacts, plus the need to address renewable energy generation targets, BC Hydro released a Request for Expressions of Interest (RFEOI) to address some of the challenges associated with electricity generation in Haida Gwaii [44]. Of the 26 energy respondents to the RFEOI, three were tidal energy development companies [44]. The focus of tidal energy exploration has been in Masset Sound located in northern Haida Gwaii with an average extractable power at 37 MW [43]. Wave energy has been studied at five locations and has an average extractable power of 11.5 MW [43].

Challenges with the regulatory environment in Canada are a key barrier to marine energy development [44]. Multiple jurisdictions and overlapping federal and provincial responsibilities make it difficult to achieve a coordinated and principle-based approach to the governance of marine energy rights and resources [45,46]. Addressing these issues, in part, are the 2011 Marine Renewable Energy Enabling Measures program [47] and work by the Department of Fisheries and Oceans (DFO) [46] to develop a strategic research plan that addresses how marine energy plans should be reviewed in terms of their impacts on the environment and marine stakeholders.

Provinces of Canada, in particular British Columbia and Nova Scotia, have developed policies and strategies to support the MRE sector. The *Land Use Operational Policy for Ocean Energy Projects* [48] was developed in British Columbia to address the leasing of marine renewable energy projects supported in part by the *Standing Offer Programme* [49], which establishes a standard price for hydrokinetic energy. Nova Scotia's Marine Renewable Energy Strategy provides a roadmap for the support of community-based tidal energy projects as well as the development of commercial scale tidal energy development by 2020 [50,51]. This strategy also highlights the importance of respecting aboriginal rights established by section 35 of the Constitutional Act of 1982, and the Mi'kmaq Renewable Energy Strategy currently under development that will address aboriginal issues related to tidal energy development [50].

MRE development is in its nascent stage in Canada and discussion of aboriginal marine rights relative to energy extraction is limited. However, research has been conducted in Nova Scotia in light of emerging tidal energy development that supports aboriginal claims to offshore resources [52]. The Mi'kmaq Ecological Study (MEKS) explores current and historical aboriginal uses of the Bay of Fundy in anticipation of small and large-scale tidal energy development [52]. Documenting past and current use of the marine resource by aboriginal groups is critical to having a seat at the table in future discussions of marine rights relative to energy extraction.

Failure to provide meaningful opportunities to engage aboriginal communities regarding marine resources can result in conflict. Across the border, in the US state of Washington, the Tulalip Tribes are appealing permits for tidal energy generators in the Admiralty Inlet region [53]. Impacts to endangered species, concerns over cumulative environmental impacts and damage to cultural resources are critical concerns to the Tulalip Tribes [53].

3.2. Australia

Between 1788–1992, the Australian legal system considered Australia to be *terra nullius*,[9] or 'land belonging to no one' [54]. This was reversed in 1992 by the landmark *Mabo* case [55], which recognised that in certain circumstances a continued beneficial legal interest survived the acquisition of title by the Crown. This concept of Native Title was then formalised by passage of the Native Title Act 1993 (NTA),[10] which clarified the legal position and attendant processes.

In the *Yarmirr* case [56], the court laid the foundation for offshore native title claims, holding that native title could include a right to free access to the sea and seabed for a number of purposes, but that such a right could not be exclusive because that would be inconsistent with both common law public rights to fish and navigate and the international law right of innocent passage. In the *Blue Mud Bay* case the High Court ruled that claims under the NTA apply to tidal waters overlying Aboriginal land [57].[11]

[9] A Latin expression origins in Roman law, used in international law to describe territory not yet subject to the sovereignty of any state.

[10] Subsequently amended by three *Native Title Amendment Acts* in 1998, 2007, and 2009.

[11] Coastal Aboriginal land is usually granted to the low water mark including the intertidal zone.

As a Federal jurisdiction without bespoke regulatory structures for marine energy, the Australian regulatory landscape is a complex array of different institutions and authorities at the local, state and federal levels [58]. No defined processes exist in relation to MRE, so projects are consented under existing environment and planning law controls [59].

At the same time, and despite advancements in the recognition of native title, the planning regime has been slow to react and adequately involve Indigenous people or consider their rights [60,61]. In relation to fossil fuels, onshore projects require negotiation with native title holders, but offshore projects do not [62]. The NTA nonetheless requires that compensation be made for infringement of offshore rights.[12]

There are 18 developers actively investigating MRE projects [63]. Ten projects are in the pipeline, representing 25 MW of wave energy and 535 MW of tidal [64]. Many projects are at the early stages of planning. Although few projects to date have necessitated indigenous engagement, one company, Tenax, is consulting Indigenous communities in the development of two tidal energy projects. The first, near Darwin in the Northern Territory, will not itself be situated within an Indigenous community, but nonetheless affects such communities and requires consultation, particularly as the region is on the border of two different Land Councils [65]. The second, in the Kimberley region, involves close collaboration with the Indigenous community: a 'sea people' numbering 500, with strong maritime traditions, an in-depth knowledge of the climatic nature of the region, and an appreciation of the potential of the tidal resource [65]. The community has shown keen interest in the project and there has been high 'buy-in', particularly due to the potential for the project to support the economic life of the community.

The company notes that, despite minimal legal obligations, there is an elevated interest in Indigenous engagement [65]. Indeed, they see cultural issues as potentially being more important to their projects than strict legal obligations [65]. In this regard, they note the need for slow, methodical and long-term consultation, and ensure that projects are a 'win-win' for communities [65].

3.3. New Zealand

British settlers signed the *Treaty of Waitangi* (1840) with the Māori, recognising Māori ownership of their lands [66]. The Treaty has consistently been the subject of considerable debate, and, since the establishment of the Waitangi Tribunal (1975), Treaty claims and settlements have been a significant feature of NZ's political landscape. The common law recognises Maori customary title; the practice of the government was that Māori title extended over the whole country, and had to be extinguished before it could be granted to new settlers [67].[13] Māori land tenure now comprises complex overlapping rights, with a number of methods of acquiring title [67].

Sea tenure has been a particularly controversial issue. After the Court of Appeal overturned the long-held assumption that the Crown owned the foreshore and seabed in 2003 [68], the Government passed highly contentious legislation vesting absolute ownership of the foreshore and seabed in the Crown and guaranteeing public rights of access [69,70]. A wave of protest ensued and the UN Committee on the Elimination of Racial Discrimination noted that the legislation discriminated against the Maori by extinguishing the possibility of customary title over the foreshore and seabed without providing a means of redress [71,72]. The *Marine and Coastal Area (Takutai Moana) Act 2011* (MACA) repealed the legislation and instituted a 'no-ownership' principle [73],[14] restoring the possibility of customary marine title.[15] Such title is not exclusive, but is subject to public rights and other specific interests.

There are no specific governance structures in place for MRE projects, and they are consented under a range of existing legislative instruments [74]. The *Resource Management Act 1991* (RMA) provides the core environment and planning framework and requires a permit to be sought for MRE projects. Consultation with stakeholders, including Maori groups, is not mandated by the RMA, though the government nonetheless recommends that consultation takes place [75]. A developer can hold a resource consent, but no formal lease over the seabed itself; the MACA treats any installation as merely personal property, not signifying any further legal interest.[16]

As many as 20 marine energy projects have been proposed over the last decade [76]. Of five projects receiving Government funding,[17] only three remain operative, and two other privately funded projects have become dormant or have been abandoned [76]. One project, the Crest Energy tidal power project, underwent a lengthy approval process in NZ's Environment Court [77,78].

The treatment of Maori cultural issues was a defining feature of the Crest case. The Te Uri o Hau Settlement Trust (TUOH) argued that granting consent would give Crest a de facto property right, thereby prejudicing its own ongoing High Court claim to customary ownership [77]. The significance of the area to TUOH had previously been recognised [79], and the Court said the issues were "strongly in the mix" [77]. Nonetheless, it noted that Crest had "adequately and appropriately addressed" the issues through "extensive, considerable and meaningful" consultation and modification of its proposal [77]. The Court said that Crest had "essentially stepped into the middle of this situation" [77].

As a result, the project was consented in spite of TUOH's concerns. TUOH responded by issuing an *aukati*, a traditional ban that forbids Crest from entering the area, claiming that the RMA recognises its authority to do so [80].[18] Crest in turn cited its legal rights conferred by the RMA consents and stated its intention to ignore the ban, leading TUOH and the wider community to threaten direct action if Crest proceeded, in particular by organising a flotilla to intercept Crests contractors [80]. Local politicians seized the moment to voice their concerns, with both a local MP and a candidate strongly expressing their opposition [81].

3.4. Scotland

In Scotland the land rights debate concerns economic marginalisation of landless rather than the loss of aboriginal rights. A feudal system of land tenure created a class of land owning nobility that owned most of Scotland's land by the 17th century. The majority of the rural population was tenant small holders leading a semi-subsistence lifestyle (crofters). The introduction of large scale sheep farming in the late 18th century led to the forced displacement of families (known as the 'clearances') and mass migration to North America and Australasia. Clearances were most aggressively pursued in the north and west of the country. The concentration of ownership persists to this day and this has been

[12] s 24NA(6).

[13] The Māori lost land to the Crown and private owners through a variety of methods, though usually through purchase. The dominant acquirer, by purchase or otherwise, was the Crown, even after the first *Native Lands Acts* (1862 & 1865) set up the Native Land Court to investigate Māori land titles.

[14] s 11(2).

[15] s 6(1).

[16] ss 18(2)(a) & (b).

[17] Through the Marine Energy Deployment Fund (2008–2011).

[18] TUOH claimed that s.6(e) of the RMA which acknowledges the relationship of Maori with ancestral lands and water extends to recognition of traditional bans.

the focus of recent land reform. The *Land Reform (Scotland) Act* 2003 gave small communities the right to buy land when it comes up for sale. In the case of crofting communities the sale may even be forced. The potential threat of forced sale has resulted in some community buyouts being settled privately outside the legislation. A recent Government review of land reform recommended enhancing opportunities for community purchase with increased powers to force sale [82]. This sentiment is reflected in the *Community Empowerment* (*Scotland*) *Bill* 2014 which aspires to see a doubling of community ownership from half a million to a million acres in by 2020.

At sea the water column is characterised by the ancient public rights of fishing and navigation, common pool resources (CPRs). Historically the right to fish has been important to rural communities with limited access to land resources. These common rights can be modified through legislation such as the creation of safety zones around offshore oil platforms. So far this has only been done in a limited way. The seabed under the territorial sea (12 nm) is considered to be Crown Land, a form of public land managed under statute by the Crown Estate Commission (CEC) [83]. The CEC is required by its statute to maximise revenues from uses of the seabed. Any structure fixed to the seabed, including MRE devices, requires a lease from the CEC.

The UK and Scottish governments have tried to help create an MRE pathway from research to commercial application. Options to lease areas of UK seabed have been allocated to wave and tidal developers. Agreements to lease have, as of 2013, been awarded for a capacity of 1.7 GW of wave and tidal energy development in the north and west of Scotland. This is in addition to potential for 5 GW of offshore wind capacity in Scottish territorial waters [84]. The CEC awards leases for the seabed but it does not have a regulatory planning role; this is the responsibility of government, carried out through Marine Scotland (MS). MS is leading the implementation of a formal Marine Spatial Planning (MSP) regime for Scotland. Unlike land planning, MSP is heavily centralised. Land planning is a devolved process with local planning authorities making decisions on all but the largest projects. This raises the potential for conflict between marine and terrestrial planning regimes with different priorities [12]. On land local authorities have used their influence to leverage community benefit payments from commercial onshore wind developments. These payments (£5,000 MW/pa in Highland Region), collected and distributed by the local authority, and are now accepted as the norm. Officially benefit payments are not taken into account in planning decisions however an implicit *quid pro quo* is widely acknowledged [85]. The Highland Council has announced that it will also be seeking £5,000 MW/pa from MRE development [86]. However without any local planning control in the marine environment it remains to be seen whether the marine industry has the same incentive to make payments.

A recent example highlights the potential for conflict. The proposal for four MCT, surface visible, devices [87] in Kyle Rhea (narrows between mainland Scotland and the Isle of Skye). Despite developers following consenting procedures the initial reaction from the local community was visceral with claims that "local people would be prepared to disrupt the building of marine renewables that brought no benefits to the area" [88]. One elected politician suggested that he "would support any direct action taken by coastal communities against that sort of exploitation" [88]. Recently the community development trust[19] stated that "there are no obligations on offshore marine developers to provide any community benefits and … none will be provided, unless a precedent can be established" [89].

It would be wrong to suggest that the tensions observed at Kyle Rhea are ubiquitous throughout Scotland. In Orkney, the location of the most intense MRE activity, public disquiet is muted and for the time being the community appears satisfied with the prospect of jobs and other trickle down benefits. It has been suggested that socio-culture context is an important determinant of public perceptions of MRE [90]. In this article it is hypothesised that communities will take a more hostile attitude towards MRE development where they have (i) suffered worst effects of clearances; (ii) exhibit the greatest imbalances in land ownership; and (iii) traditionally relied on common access to marine resources. This is likely to be true of any development resulting in enclosure of the sea and promoted by external actors (public and private).

The prospect of large scale MRE in Scotland has ignited a debate about community benefits and control over marine resources. The role of the CEC and the financial returns from the marine part of the Crown Estate has come into sharp focus. In 2012 UK House of Commons Scottish Affairs Committee examined the role of the CEC and concluded that "CEC's responsibilities for the administration and revenues of the ancient Crown property, rights and interests in Scotland be ended" and that "the areas where the revenues are being earned should benefit first" [91]. This became an important point of debate prior to the 2014 Scottish independence referendum. In advance of the referendum the three island local authorities (Orkney, Shetland and the Hebrides) saw the opportunity to lever promises of increased control over the seabed and associated revenues, from both sides of the independence campaign [92]. Consequently the pro-independence Scottish Government announced that, in the event of a 'Yes vote' for independence, 100% of revenues from the seabed leases would be returned to local communities [93]. The UK Government campaign against Scottish independence also promised change, with increased local powers. Reform now appears to be inevitable.

4. Discussion

A common thread of the case studies is the marginalisation of first peoples and rural communities, and their struggle to regain access to economic opportunities associated with traditional territories including the marine environments. Lack of ownership and rights to marine resources pose significant challenges to economic development and it is only through relatively recent action that change has begun to occur, albeit incrementally.

The legal and customary systems that govern access to marine resources tend to be reactive, evolving in response to changes in their external environment. Drivers of change may be social, technological, cultural or economic. Fig. 1 illustrates two key drivers of change observed in the case studies. A set of *socio-political* drivers seek to redress past injustices; in Canada, New Zealand and Australia this includes the legal recognition of aboriginal rights; in Scotland demands are being made for community ownership and community control. Simultaneously a set of *techno-economic* drivers encourage the allocation of marine resources, and space, to individual users with the creation of property rights necessary for profit and free enterprise. In the case studies seabed leases and planning permission give individual legal entities exclusive access to resources limiting the rights of others.

These two sets of drivers (*techno-economic* and *socio-political*) are simultaneously pulling marine governance in opposite directions; creating a dynamic tension. As foreseen by Dahl and Valencia & VanderZwaag [3,9], this tension presents both opportunities and challenges for coastal communities and indigenous

[19] Development Trusts are community based non-government organisations that seek to promote economic cultural and environmental well-being of a local area and its people. These organisations are an increasingly common feature of rural life in Scotland and elsewhere in the UK (see www.dtascot.org.uk)

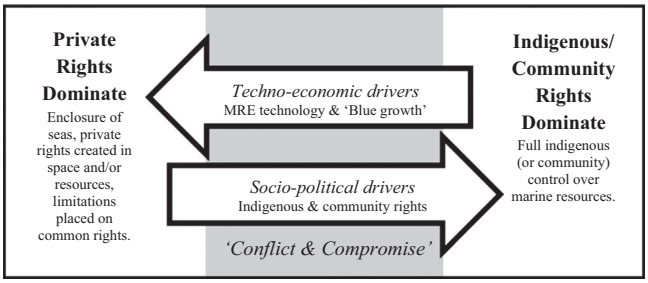

Fig. 1. Opposing drivers of change in marine governance.

groups. It seems clear that current 'unreformed' governance structures do little, if anything, to facilitate the balancing of various rights and interests in the marine environment. In Scotland and New Zealand tensions have already emerged around specific developments. As more MRE projects begin to materialise, the potential for conflict and the necessity of compromise will become increasingly apparent. Compromise will require both parties to modify their positions, sacrificing some of their claims to sea space and marine resources. Although this may be difficult for some communities and indigenous groups, given the historical level of compromise and sacrifice; in return for this sacrifice, communities are likely to seek either financial gain and/or a say in the decision-making processes, while developers will gain ease of operation and public credibility. Whether the final balance in any compromise tilts in favour of developer or community depends upon a variety of factors. Many of these factors are political, including governments' varying attitudes to climate change, energy security, economic growth, conservation, environmental justice, social inclusion and human rights. Given the relatively recent empowerment and momentum of indigenous groups in advancing rights relative to traditional resources perhaps this signifies that a shift might be in their favour.

An important determinant of this balance is the capacity of disenfranchised indigenous and small community groups to engage with renewable energy development. This includes both the ability to organise and negotiate before precedents are set and developing practical skill sets required to participate in economic development. In Nunavut Canada, for example, significant pressing social challenges exist, impacting the capacity to engage with development and related decision-making processes [94]. In Scotland and New Zealand there appears to be a heightened awareness of impending change, with communities establishing positions and attempting to directly influence decision-making.

5. Conclusions

In many respects, MRE developers have walked into an evolving situation. Twenty-five years ago Valencia & VanderZwaag [3] recognised how changes in the Law of the Sea created the opportunity for the extension of the resurgent indigenous rights movement to make claim to marine resources. In 2014 Blue Growth and MRE development appear to be pushing marine governance in a different direction. Clearly project developers need to be cognisant of alternative claims over resources and the need for dialogue and negotiation even where formal mechanisms do not as yet exist to reconcile competing claims to marine resources. Arguably in New Zealand the Court did a good job of 'filling in the gaps' of the governance regime, but this nonetheless took a long time and ultimately did little to assuage the concerns of those opposing the Crest project.

Irrespective of whether MRE becomes a major commercial reality, marine technology development and the drive for Blue Growth is creating pressure to create exclusivity of access to marine resources and sea space. At the same time, socio-cultural drivers seek to redress historic injustices and re-establish the claims of indigenous communities to natural resources, land and sea space. Although much will depend on the specific context of the local community it is clear that strong cultural and historical association with the sea leads to a perception or assumption of the existence of rights that can be more powerful than conventional legal rights. It is also clear that existing governance structures do little, if anything, to facilitate the balancing of various rights and interests in the marine environment. Early, comprehensive and genuine consultation and engagement is necessary, but far from sufficient, for the success of a MRE project. Developers may find that addressing social and cultural issues in addition to meeting minimum legal compliance is far more important and will likely lead to the advancement of responsible MRE development.

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