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Squaring the circle: Balancing the economic benefits of unconventional hydrocarbon extraction with the inimitable cultural significance of environments



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ABSTRACT

Hydrocarbon extraction will continue for the foreseeable future, and undoubtedly impact upon regions and environments which this industry or indeed modern infrastructure had not done so previously. In light of this the paper considers how decisions with regard to the permitting or licensing of such projects might include the cultural significance of such environments more effectively. Focusing on the extraction of oil sands in Alberta, Canada as a model, the paper will establish the failings of established methods of assessing such values and whether human rights law, more accomplished in dealing with such subjective considerations, offers an alternative. Finally the paper will suggest a framework which, whilst incapable of solving all of the inherent issues in the inclusion of such subjective considerations in an industry so focused on quantification, might better balance them with the overbearing economic arguments for extraction.

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1. Introduction: the oil sands temptation

The extraction of unconventional hydrocarbons is a growing reality, gaining greater attention in both print and digital media, and being subjected to considerable vehement public debate regarding its validity as a source of energy. The bases for this debate are numerous and could not all be considered here; however, a growing area of contention is the acute impact of extraction projects upon environments on which particular social subsets rely. This in itself is by no means a new phenomenon: the variance between the anthropocentric utility of environments in which resource extraction is undertaken is well established. The considerations which need to be undertaken in the extraction of crude oil in the Middle East and the North Sea are, it goes without saying, often dissimilar. As hydrocarbon resources become more strained, and thus inherently more valuable, the variety of locations exploited to access this 'liquid gold' will, like the price of that sought, increase.

One of the largest beneficiaries of this push to access previously undiscovered or utilised sources of hydrocarbons is Canada. The extraction of the 'tar sands,' 'bituminous sands' or 'oil sands' has

given Canada the third largest reserves of crude oil in the world behind Saudi Arabia and Venezuela as reported by the [CIA World Factbook \(2013\)](#). As a result Canada is also now the largest exporter of oil to its neighbour the USA according to the [U.S. Energy Administration \(2014\)](#). Whilst reserves of this material exist in other provinces and territories within Canada, the north east of Alberta has been subjected to the most intense industrialisation of previously relatively untouched regions. The exponential expansion of recent decades has brought undeniable economic benefits to the province and Canada as a whole but has also had considerable impacts upon the indigenous populace. Although Alberta is home to some Metis¹ and a small number of Inuits² the vast majority of the aboriginal population is of First Nations heritage. Legally within Canada all such peoples are classified as aboriginal, though for the purposes of the distinction between said cultures the term First Nations will be utilised in the paper. [Collins and Murtha \(2010\)](#) state that Indigenous peoples are often inextricably linked to the environments they inhabit, and the First Nations of Alberta are no exception to this. The province is home to a variety of ecosystems, though these are broadly

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¹ Individuals of mixed European and First Nations heritage.

² Often referred to as Eskimos, though this term has fallen out of favour. Generally they are natives of Canadian territory within the Arctic Circle though some groups border this region.

mountains in the north west, to boreal forest in the north east and plains in the south. First Nations throughout the territory utilise the environment around them to not only to attain the necessities of life, but also to express their culture.³

The protection of the environment from excessive consumption of natural resources, or practices bearing lasting impacts thereon is by no means a new occurrence. Indeed the notion of protecting certain tracts of land, or the recognition of the significance of certain environmental features to our own development has 'roots that are deep in history' (Elworthy and Holder, 1997, p. 3). The regulation of water usage and the setting aside of land for particular purposes in jurisdictions across the world for centuries is indicative of an awareness of that reliance, though it is conceded that this is not always related to concerns beyond those of an anthropocentric nature (Talbot, 2008, pp. 5–6). Advancements in technology and extraction efficiency, and in our awareness of the harms the use of resources without requisite caution can do has resulted in a divide in approach to hydrocarbon utilisation. The constant balancing of development and environmental protection has thus emerged as one of the most significant global policy debates and numerous approaches to managing these often mutually exclusive aims have been suggested. Indeed, MacNaughton and Martin (2002, p. xi) suggest that they 'are increasingly perceived as interdependent and equally urgent goals'. Many such approaches focus on valuing the outcomes of extraction and the inherent harms that entails. This is contrasted with the benefits of declining the opportunity to do so in relation to a particular region, parcel of land or ecosystem generally.

The purpose of this paper is to assess the fallacies of such cost versus benefit analyses where there is an element of cultural significance to the land or resource to be exploited to access unconventional hydrocarbons. Heinberg (2014) calls this, 'the (false) binary choice: jobs and economic growth on one hand, climate protection on the other' (Heinberg, 2014, p. 124). This oversimplified bifurcation of potential options is driven he argues by the similarly misrepresented arguments with regards to resource scarcity and the suggestion that so-called 'extreme energy' (Lloyd-Davies, 2013) will resolve the threat of 'peak oil' (Heinberg, 2014, pp. 37–51). Beyond this, alternate approaches to balancing cultural and economic factors in decision making processes will be discussed and a framework for accounting for such non-economic elements will be proposed as a means to resolve the under-appreciation of cultural significance in models currently utilised to assess the validity of extraction projects. These approaches suggested will fall short of the level of recognition demanded by Short, who proposes, 'rejecting the assumption of legitimate settler state sovereignty in favour of according indigenous peoples equal recognition and respect by instigating legitimising nation-to-nation negotiations' (Short, 2006, p. 278). However they are framed within the context of industrial hydrocarbon extraction rather than the broader framework of colonialism which Short discusses and as such are focused on issues particular thereto, including the necessity to account for corporate interests.

2. The quantification conundrum

Current approaches to balancing these conflicting realities are unable to consider accurately the significance of such ecosystems to indigenous peoples such as the First Nations reliant upon them for services not easily attributed a monetary value. The pecuniary

³ This was noted in the case of *Guerin v. The Queen* [1984] 2 S.C.R. 335 in which the Canadian judiciary recognised the need to ensure that the purpose for which the land was used by indigenous peoples remained viable in assessing any federal projects thereon.

value of cultural expression is quite simply not a commodity of the form that cost-benefit type analyses can account for. To illustrate, the value of a forest is far beyond that of its market value in terms of the timber it might yield, or the carbon dioxide it sequesters over a period of time. Instead it is a habitat to species, which although not endangered frequent the regions impacted upon by extraction projects solely owing to the particular features thereof (Tracz et al., 2010, p. 31). This is undoubtedly the case in relation to boreal woodland caribou in north east Alberta, which prefer well-established boreal forest as a source of both food and shelter. Such species can also rarely be attributed a value: no longer are they comparable to other meats more widely available where used traditionally as a source of sustenance. The caribou of north eastern Alberta though still consumed by some First Nations tribes are largely hunted as an expression of culture, no longer do they form a major component of the diet of the indigenous populace. Such comparisons to the value of farmed meats such as beef or chicken are flawed and a market value for the ability to hunt caribou is thus fraught with difficulty. In economic terminology more commonly marketed meats do not represent a substitute good for caribou.

The secondary nature of many impacts upon wildlife and other environmental features on which indigenous peoples are reliant exacerbates these difficulties. Rarely are the larger fauna to which indigenous cultures are linked directly impacted upon severely by such projects, instead opting to alter migratory ranges in response to them rather than being harmed per se. Direct impacts are largely restricted to physical displacement from relatively small areas immediately surrounding hydrocarbon extraction facilities themselves (Dyer et al., 2001). In the case of oil sands extraction this is largely limited to the physical footprint of wells and tailings ponds. Though these impacts are, where felt, severe and remove a species completely from a particular radius, the harm to the relocated animals is often only the inconvenience of altering migratory patterns though greater impacts are possible where this relocation is not easily achieved. Impacts are instead often accumulative in nature, such as the seepage of contaminants into watercourses potentially bioaccumulating in smaller prey or vegetation and taking an indeterminate period of time to become apparent in larger fauna. As such, 'Assessments that take into account only the physical disturbance associated with industrial development may greatly underestimate the cumulative impact of development on caribou' (Dyer et al., 2001, p. 538). In the case of boreal woodland caribou seepage from tailings ponds, which is accepted as inevitable to a degree by governmental and industry authorities who aim only to 'minimise seepage,' (Government of Canada, Department of Natural Resources, 2011) could build in water courses and vegetation of the regions exploited for a considerable period before having becoming apparent in a more stark nature. This was found to occur in the case of the insecticide DDT⁴ which has resulted in 'the banning of DDT in both the UK and USA,' (Johnson, 1995, p. 213) and could potentially occur in this instance, though little is known as yet of the potential impact of tailings seepage.

Essentially present mechanisms for assessing the value of resources and balancing them with invaluable concerns of a largely subjective nature are not adequate to deal with the inextricable and inimitable connections of indigenous peoples. For example, 'the most fundamental matter of importance for First Nations. . . all across Canada is sustaining or regaining their relationship with traditional territories' (Morse, 2008, p. 286) in a manner which is not conducive to most other forms of development of that land. Thus alternate approaches to manage the conflict between development and the protection of culturally significant environments must be considered. In this regard there have been great

⁴ Dichlorodiphenyltrichloroethane.

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