Offshore Oil and Gas and the Quest for Sustainable Development: A Rural Development Perspective

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Introduction

As in many other coastal regions around the world, the people of British Columbia (BC) are asking themselves the hard question, "Should BC pursue development of offshore oil and gas reserves or, more immediately, conduct exploration activities to determine the feasibility of offshore development?" In this paper we examine this question both from a comparative perspective and through the lens of sustainable, rural development. Clearly, extraction of a non-renewable resource is an unsustainable activity in itself over the long-term. Not surprisingly there are numerous unanswered and intractable questions: Can offshore oil and gas development make a contribution to the process of sustainable development locally? If so, are the necessary steps being taken in BC to ensure that development is pursued in the most responsible manner possible, environmentally, socially and economically? What are the potential benefits and risks of offshore development? Who captures the benefits and who assumes the risks? These and other questions underscore the existing scientific risks/uncertainties and policy issues that must be addressed before development can proceed.

Of particular concern for the purposes of this paper are BC's rural coastal communities, communities adjacent to the oil and gas resource. We suggest, based on lessons learned in Canada and elsewhere around the world that risks are often disproportionately born by local communities – particularly in the case of near-shore development – while local benefits are questionable without a concerted effort to address this inequity. Mechanisms for maximizing local benefits are available and practiced within the industry in some settings, yet trends suggest that application of these "best practices" may not come easily in BC within the current context. Lastly, we consider the key issues that must be resolved if offshore development is to proceed in BC. While complex and interrelated, we propose that these issues are firstly jurisdictional and second economic, although environmental and social concerns at scales from the local to the global also play a significant role and heavily influence jurisdictional and economic outcomes. Whether one adopts a staples/dependency or the more optimistic globalization/knowledge-based economy (KBE) theoretical perspective, evidence suggests that a difficult-to-achieve combination of strong policy direction, corporate responsibility and jurisdictional certainty will be required to provide significant local benefits and satisfy the triple bottom line criteria of sustainability. The complexity of the BC situation exacerbates this challenge.

The Setting

The setting for this debate is a province long divided over the issue of offshore exploration and development, a provincial economy increasingly characterized by an urban-rural dichotomy, a business-oriented liberal government that has initiated a cost-cutting frenzy and aggravated already controversial relations with First Nations and a coastline populated by communities reeling from losses in traditional industries yet committed to their home places and seeking economic alternatives. The period 1993-2002 was a decade of decline for the rural coast (CCN, 2002). Populations fell by three percent overall and by as much as thirty-six percent in some communities. In Prince Rupert and Port Hardy, both potential service centers for a new offshore sector, populations fell by 12-13% over the last census period. Basic incomes dropped coast-wide and policies were implemented that further alienated communities from nearby resources, particularly in the fishery. Employment declines in construction, fishing, sawmill and pulp mill employment have been most severe with losses in the thirty to forty percent range, while logging employment has also fallen, a situation expected to get worse due to US softwood lumber tariffs.

BC is blessed with an abundance of natural resources relative to many other regions of the world. Resource development over the last century and a half has brought great prosperity to many communities and regions, but this prosperity has frequently been both short-lived, cyclical and often at the expense of the environment. Typifying the staples trap described by Innis and his successors, resources and profits have been removed from rural, resource-rich areas leaving little behind in terms of reinvestment, spread effects or capacity for diversification (Innis, 1933, Watkins, 1982). Those communities that have been able to diversify their economic bases beyond the simple extraction and export of raw resources appear most likely to survive. Many communities are now actively searching for new options to diversify development through tourism, value added industries, and knowledge-based activities. Oil and natural gas production has become yet another option (Pierce, 2000).

What is true for communities is also true for the province. First, the BC economy as a whole faltered as the 1990s came to a close. For the first time since 1962 the province fell below the Canadian average in economic performance in 2002 and became a “have-not” province (McInnes, 2002). Second, the BC economy is entering a very significant transition - in which the importance of physical commodities and their impact on employment and income, regionally, provincially and nationally, is being subsumed by a new information/knowledge and service based economy. Innovation in fuel cell technology originating in BC, which may diminish our need for fossil fuels, provides a relevant example. The result is a pronounced dualism developing in BC’s economy that is both sectoral and spatial. The “knowledge” industries are primarily urban based, while most non-metropolitan communities are still heavily wedded to resource development (their comparative advantage). To date, rural areas have had limited success at integrating into the information economy (Polese and Shearmur, 2002). Progress has been made, however, in developing a new rural service economy centered on the tourism sector, to the point where the dangers and limitations of heavy reliance on tourism are becoming apparent in some areas. Further, while lagging behind urban growth, BC’s Coastal Community Network (2002) reports that the number of high-tech firms on BC’s rural

coast rose from 220 in 1995 to 421 in 2000. The state of BC's economy and, in particular, its resource dependent coastal communities demand that we not foreclose on opportunities which could prove essential to their diversification and survival. This is the main impetus for calls to reconsider BC's offshore oil and gas moratorium. At the same time, the risks of fostering continued resource and external dependence, and of negative impacts on new and emerging sectors must also be taken into account.

Interest in oil and gas development on the BC coast dates back as far as the early 1900s, with the drilling of the first exploratory wells on the Queen Charlottes, or Haida Gwaii as these Islands are known to their first inhabitants. In the 1960s eight exploratory wells were drilled in the waters of the Queen Charlotte Basin, along with six others along the west coast of Vancouver Island (Figure 1). By the early 1970s, however, concerns led to a federal moratorium on exploration and crude oil tanker traffic from Alaska traveling through the Queen Charlotte Basin area. In the mid-80s the question of offshore development again raised its head. As the Atlantic Accord was being signed on Canada's east coast federal and provincial governments jointly sponsored an independent environmental review panel on the issue, resulting in a report with 92 recommendations and conditions for proceeding. In 1987-88 the governments negotiated a draft Pacific Accord but the process was cut short by the Exxon Valdez and Nestucca oil spills and the public outcry that resulted. The moratorium was reinstated.

With a decline in other industries along the BC coast, the latter part of the 1990s once again brought calls for exploration to proceed. Conferences have been held, task forces, alliances (for and against), and commissions formed and reports written, including two commissioned by the Province of BC and released in early May 2002: 1) the Report of an Independent Scientific
Review Panel on British Columbia Hydrocarbon Development; and 2) a report on nine public hearings held by a six-member sub-committee of the BC Government Caucus. The former was to report on scientific and technological issues, the latter on the viewpoints of northern and coastal residents, those most affected by potential changes.

Report Findings and Issues

In the end the three-person Scientific Panel concluded that there was a need for more information and research to fill identified knowledge gaps, particularly relating to specific development proposals in specifically identified areas. Nonetheless, they suggested that, "there is no inherent or fundamental inadequacy of the science or technology, properly applied in an appropriate regulatory framework, to justify retention of the BC moratorium" (Government of BC, 2002a: Ch. 5, p.8). The public review process concluded that several important issues had to be addressed before the government decides on a final course of action (Government of BC, 2002b). The Province responded by announcing a $2 million research grant to University of Northern BC to establish the Northern Coastal and Information Research Program and to begin to address identified knowledge gaps, with high priority to addressing the recommendations of the 2001-2 Scientific Panel (Government of BC, 2002c). As of early 2003, a database of relevant literature had been compiled and made available on the University's website, a Scientific and Technical Advisory Committee to the Program formed and consultation

undertaken to identify five priority research areas. Each of these areas relate specifically to the Queen Charlotte Basin and are intended to be collaborative research endeavors, in an attempt to make the research a shared activity and thus create results that are both rigorous and accepted:

1. the health and condition of marine and estuarine ecosystems (State of the Basin)
2. pathways, transport and fate of materials in waters in and around the Basin
3. community and socioeconomic implications of potential offshore oil and gas development
4. priority marine and shoreline areas
5. design of a knowledge and learning system related to potential offshore hydrocarbon development

The first four projects are planned as Phase 1 “state of knowledge” reviews that will include literature review, survey and community discussion/focus group aspects (Dale, 2003).

In November 2002 the Government of BC (2002d) released a new provincial energy policy. The policy states that "the Ministry of Energy and Mines will establish a dedicated provincial offshore oil and gas team to a develop a provincial position, work with the federal government and move effectively toward development of offshore resources." The team was established in late 2002.

Key issues raised by recent Government of BC reports on offshore development are ecological, scientific, social, jurisdictional, and economic in nature. Ecological concerns are critical in assessing any development alternative from a sustainability perspective. Cases of this highly regulated industry elsewhere in Canada and around the world, along with findings of the above-mentioned reports, suggest that sound environmental management will be given a priority should development proceed in BC. Despite the current political regime, ecological concerns will be virtually impossible to ignore in BC due to public sentiment and a powerful environmental movement. A coalition of over 100 environmental, First Nations and community groups have already mobilized under the Oil Free Coast Alliance. Their concerns are addressed to a large extent in current and previous panel, consultant and commission reports, where recommendations suggest that exploration should proceed only under strict environmental and risk management practices. Yet justifiable doubt remains based on past experiences, about whether either new regulations or existing processes such as environmental impact assessment (EIA) will guarantee environmental protection.

In order for sound environmental management to occur the issue of inadequate science, baseline data and research raised by both the Scientific Panel and public consultation process must be addressed. Many important ecological questions remain concerning impacts of seismic testing on fisheries and marine mammals (important to a growing coastal eco-tourism sector), baseline information on BC’s coastal ecosystems, physical characteristics, life cycles, species interactions and sensitive area designations. Capacity to answer these questions must also be enhanced. As the Panel notes successive cutbacks in science within resource management agencies have seriously reduced assessment and management capabilities provincially and nationally (Government of BC, 2002a). Ways of incorporating local knowledge must also be identified and implemented,

a challenge being addressed in other regions as well, particularly in the north (MMS, 1999; CARC, 2001).

At the global scale the broader ecological question of contributions to greenhouse gas emissions must be considered. It is highly unlikely that BC offshore development will impact fossil fuel consumption levels in the province or elsewhere. Further, should development concentrate on natural gas an argument can be made that gas has environmental advantages over oil, including availability of natural gas for use in fuel cell technology, and therefore that development will contribute to the use of this alternative. Nova Scotia, for example, has traditionally relied on imported oil and coal. Natural gas is now expected to replace oil at electricity generating stations (CEF, 1998a). Finally, royalties from oil and gas provide an opportunity for investment in other energy forms. Alberta, for example, has invested funds from the Alberta Heritage Savings Trust Fund, created though royalty revenues, in renewable energy research. The Scientific Panel recommended that any decision on the moratorium be linked to a provincial energy policy which is long-term and multi-source, encouraging development and use of the least environmentally impacting energy sources (Government of BC, 2002a). While containing recommendations for promoting both energy efficiency and alternative energy, the since-released BC Energy Policy has been criticized as an encouragement for unrestrained exploration and use of fossil fuels (Caldicott, 2002). Despite arguments to the contrary the industry and its proponents must be prepared to take some responsibility for being part of the greenhouse emissions problem. First, while one development may not impact demand, the effects of many developments are cumulative. Second, the industry contributes directly to emissions. In 1995 the production of fossil fuels produced 16% of Canada's energy-related greenhouse gas emissions (CEF, 1998a).

Local economic benefits are a second key dimension of the offshore oil and gas debate. At the provincial scale economic opportunities are significant. The onshore oil and gas industry in BC is already worth close to five billion dollars in annual production (2000 figures, up 220% from 1999!). Over 12,000 wells have been drilled and 32,000 people employed, 7,000 directly in exploration and production. Moreover, 27 natural gas processing plants now exist in the province, along with 250 oil and gas service and production companies in northeastern BC (Government of BC, 2001). The oil and gas industry generated $1.8 billion in government revenue in BC in 2000/2001, 8% of total (Government of BC, 2001a). While reserves are unproven, Whiticar (2000) projects (based on Geological Survey of Canada estimates) the economic potential of Queen Charlotte Basin hydrocarbon resources at three billion dollars in direct revenue annually (14% of GDP), compared to eight billion in annual tourism revenue, $2.2 billion from forestry and $0.2 billion from fishing.

Government earnings from royalties and other fees vary considerably depending on policy directions and resulting agreements. The figures from Alaska and Alberta, where more than 50% and 21% of total government revenues respectively are collected from oil and gas companies, are illustrative of the earnings potential. Revenues in Alberta are, however, substantially lower than in the past and in other jurisdictions due to a 1980s policy decision to reduce royalties and encourage investment. BC has followed suit with royalty reductions and boasts rates lower than Alberta. Alaskan governments earn 1.6 times the amount per barrel as Albertans, the Norwegians 2.7 times (Macnab *et al,* 1999, Information Insights, 2001). Newfoundland fares even worse, earning only 29% of

Alberta's takings per barrel before federal deductions, again due to a policy decision to keep royalties low (Westcott, 2001).

Considering Communities

Given that social equity is one of three central dimensions of sustainability the impacts of uneven development caused by large-scale resource projects are a critical concern (Pierce 1998). In the words of John Elkington of SustainAbility Ltd.: "Increasingly, we must think in terms of a triple bottom line, focusing on economic prosperity, environmental quality, and–the element business has tended to overlook–social justice" (1999: 139). It is significant that these words appeared in the Oil & Gas Journal, the international petroleum industry's mainstream publication. Elkington and other argue that the principle that local communities should benefit from resource development in their area, and be protected from or compensated for damage, has gained significant support among both policy-makers and the business community (Keeping 1998).

While caution and attention to the uniqueness of context is needed in any comparative analysis (Shrimpton and Storey, 1999), we can gain a better understanding of potential community and provincial impacts in BC from lessons learned elsewhere where offshore development has occurred, such as Eastern and Northern Canada, the US and the North Sea. Local benefits are very much linked to the level of regulation and state intervention in the industry, as well, as to community preparedness and corporate ethics. In the North Sea, the Norwegian approach has been interventionist rather than market-driven. Initially Newfoundland and Labrador adopted a similar approach, as shown in the Atlantic Accord (1985) and the development agreement for Hibernia, the province's first offshore oil field. In both cases governments were determined to retain sufficient control to maximize regional benefits from their newly discovered offshore resources, capturing more of the economic rent, backward and forward linkages from resource development than had been the case in the past.

However, the trend in offshore developments in the years since the Atlantic Accord was struck, including those in Atlantic Canada, the UK and Norway, has been toward a more competitive, market-driven (vs. interventionist) approach. Beck *et al* (1999) refer to the industry's 1990s "agenda of hidden deregulation" in their review of safety measures taken by the British industry. Local benefits have decreased. Royalties are generic rather than negotiated, for example, with no guarantees for local construction (House, 2000). Petro Canada, operator of the Terra Nova field, and Husky, operator of the White Rose field have both chosen floating production systems because they are cheaper, even though their designs are less proven on safety grounds and provide substantially reduced local employment (Table 1). A trend toward asset sharing, leading to fewer and larger facilities with companies sharing their supply bases, pipe yards, heliports etc., has resulted in a decline from five supply bases to one in Newfoundland.

Table 1 Employment Benefits from Newfoundland Offshore Oil and Gas Projects

	Development (Peak Year)	Operating
Hibernia	1995: 5,448[1]	2001: 675 2002: 800
Terra Nova	2000: 1,900	2001: 200 2002: 900
White Rose	2002: 200	

Source: Newfoundland Statistics

The driving forces behind this trend are both political and economic. The rise to power of the Organization of Petroleum Exporting Countries (OPEC) ended a fifty-year era of control over prices and production by the oil majors. Adjustment to OPEC led to price declines and a new competitiveness in the 1980s (Wise, 1999). Cost cutting, efficiency and improved productivity in all phases of the industry became paramount, leading to developments such as smaller, shorter-life fields, resource pooling and technological change (JWEL, 2001).

The political dimension of this trend is reflected in the neo-liberal agenda and associated new public management paradigm that has influenced public administration and policy-making around the globe since the Margaret Thatcher era (Aucoin, 1995). This now not-so-new leaner model of government advocates de-regulation, a freer market, globalization, privatization, public-private partnerships, downsizing and cost cutting, to name a few chief characteristics. This model is clearly a contrast to the policies of governments in Atlantic Canada during the 70s and 80s, which implicitly adopted a staples/dependency approach in attempting to maximize regional benefits through strong intervention and costly subsidies.

Examining the employment benefits that resulted after this initial stance it would appear that broader political and economic forces overruled the good intentions, legislated agreements and substantial investment of the early days of Newfoundland's Hibernia development. Hibernia now employs fewer than 700-800 workers directly annually. Most reside in St. John's (Shrimpton, 2000; House, 2000). Terra Nova employment rose above expectations at 900 employed in 2002 while over 800 are employed at Sable Island in Nova Scotia, including 500 people working at constructing a processing plant in Guysborough County (see Figure 3). A recent report projects that additional plants will be constructed, along with industrial parks with gas access, and that industry employment in the County will rise to over 4,000 by 2020, while others caution that local construction employment is temporary (Greater Halifax Partnership, 2002; CEF, 1998b). Recent census figures indicate that the Sable Offshore Project has not stemmed decline in the Guysborough District, where population fell 13.1% from 1996 to 2001 and unemployment rose from 19.5% to 21.6% (Statistics Canada, 2003).

Each of these offshore projects employs a majority from their home provinces but employment impacts should not be exaggerated. To date employment in oil and gas

[1] Storey (1994) reports that in 1994 only 9% of those employed in the Bull Arm construction project were residents of the area within a 50 km radius of the site. While some locals were disappointed in the local impact Sinclair (1999) suggests that the project did stabilize local population levels at a time when many other communities declined.

remains a relatively small percentage of total employment in both Nova Scotia and Newfoundland, particularly for rural areas. Other regions have fared better in employment terms. After more than fifty years of activity a recent study shows that 8% of total employment in Alaska is generated by the oil and gas sector (4,532 direct jobs, 33,573 total). In the Kenai region this figure reaches 26% (Information Insights, 2001). Employment opportunities are lowest in the development phase, peaking for a short-term during construction and then leveling off or declining during operations. Chevron estimated in 1985 that "employment for a three year West Coast exploration program would peak at 202 employees, with a maximum of 81 local hires, but a more likely total of 27, since locals often do not possess the requisite skills (Marshall, 2001:8)". Changes in the industry in the last decade are likely to have further reduced the job potential.

The key to capturing local employment and other economic opportunities is proactive measures on behalf of communities, senior governments and industry collectively, including a human resource development strategy, training and education programs for the sector. The experience of Guysborough, Nova Scotia illustrates that communities need to organize well ahead. Leaders there have expressed frustration that they were not more prepared with services and trained people (CEF, 1998b). In Inuvik, by contrast, Aurora College, governments, Aboriginal groups and industry partners joined together to establish a permanent site for training drilling personnel as seismic exploration resumed in the Mackenzie Delta (DIAND, 2001). While training is often part of benefits agreements required under legislation such as the Canada Oil and Gas Operation Act, more than what is *required* in such agreements is needed to deliver community development. Education and training programs must begin early but also be continually reviewed and updated in consultation with the industry. Opportunities for local residents to acquire work experience as well as formal training are recommended. Such measures contribute to a more educated workforce overall, with skills that may be transferable to other locales and sectors (MMS, 1999).

Second, attempts to maximize local benefits should ensure spin-off opportunities such as local access to natural gas supply, the development of processing facilities and businesses that service the industry. Again success in meeting such objectives varies widely. Kenai Alaska is home to a refinery and liquid natural gas plants and Inuvik negotiated gas from the Mackenzie Delta for its power supply. The same cannot be said for Newfoundland and Labrador, where every drop of oil being produced from Hibernia, Terra Nova and White Rose is exported from the region. Over 90 per cent of Newfoundland crude is shipped directly to the U.S. for refining and further processing. Nova Scotia fares only marginally better. Some Sable Island gas is targeted for consumption within the region, made available at a significant cost advantage over New England producers. But this advantage may be tenuous with most of the gas serving markets in the northeastern United States. A recent initiative by New Brunswick advocating a Canada-first policy for natural gas met with a storm of protest from the continentalist Canadian petroleum industry and was rejected. BC's energy policy states that the province's energy sector takes place in a deregulated, free market (Government of BC, 2001a). Measures to protect domestic supply are likely to land Canada squarely in a free trade battle with the US. Such constraints are not well understood by the public. Despite the unlikelihood of local production resulting in improved local petroleum supply or lower prices, research in California shows that when fuel prices rise so does public

support for exploration and development in the hopes of attaining cheaper energy (Smith, 2002).

Backward linkages show more promise but are also underdeveloped in Atlantic Canada. While the construction phase of Hibernia resulted in over $34 million in local spending within 50 kilometres of the Bull Arm construction site, newer developments have not followed suit due to the choice of imported floating over gravity-based technology. Nonetheless, more than 5000 purchase orders had been placed with Newfoundland firms by 1995 (Storey and Shrimpton, 1995). With development now occurring in Nova Scotia Halifax is also creating a supply base for the industry. One employer alone, Irving Shipbuilding, reports employment created in Halifax through their rig and vessel construction and retrofit activities at a level exceeding total industry employment in Guysborough County. The company employed over 2,000 workers during the construction of the deepwater rig Eirik Raude, headed for Newfoundland. Over $66 million was spent on local purchases. Several other large projects have also been undertaken (McArthur, 2003).

Perhaps most importantly many of the contracts and business opportunities accessed by Atlantic firms have been in the knowledge sector and/or have resulted in export opportunities. Today Atlantic Canada is known as a leader in environmental and socio-economic assessment in the international oil patch, exporting to other parts of Canada and the world. In recognition of this expertise Atlantic Canadian researchers have been courted to help BC prepare for a potential offshore oil and gas industry. The Chair of the recent Scientific Panel was a Newfoundlander, and each of the other two commissioners had spent considerable parts of their working lives in Nova Scotia and Newfoundland (Government of British Columbia, 2002). A number of east coast consultants have contributed to other background studies (Campbell, 2002; JWEL, 2001).

Examples also exist in the growing health and telecommunications sectors. Atlantic Canada's largest telecommunications company, the Aliant group of companies, has formed Aliant Energy Services to focus its expertise in telecommunications on the energy sector. Aliant Telecom recently partnered with Stratos Global to complete a C-band satellite teleport to Halifax to service the telecommunications and information technology needs of offshore customers in Nova Scotia (Atlantic Oil and Gas Works, 2000). Occupational health and safety (OHS) has become another emergent growth industry after improvements subsequent to the 1982 Ocean Ranger disaster, opening up business and employment opportunities within both the regional and global marketplaces. Memorial University, the St. John's General Hospital, and some private medical practices have become leaders in various aspects of offshore medicine, including telemedicine for the offshore workplace.

The oil companies have found, somewhat to their surprise, that the capability in the Atlantic region is greater than they had anticipated, and it has been relatively painless for them to incorporate local businesses and workers into their operations. Further, a recent study indicates that through technology transfer and specialized investment the percentage of local spin-off activity increases over time (NOIA, 2001). While spin-off companies have certainly developed and benefited in Atlantic Canada, they are primarily located in the urban centers of St. John's, Mount Pearl and Conception Bay South in Newfoundland, Halifax in Nova Scotia. Similarly, the city of Aberdeen is a major service

centre for North Sea oil, with refinery, platform and pipeline construction also concentrated in existing urban areas (CED, 1998b).

British Columbia seems to be well off-the-mark in preparing for both training and capturing spin-off business opportunities, including participation by firms from smaller, distressed communities of Vancouver Island and the North Coast (vs. the "heartland" of Victoria and Vancouver). The Pacific Offshore Energy Group (POEG) has recently been formed as a non-profit society. Chaired by former premier of Newfoundland and "father of Hibernia" Hon. Brian Peckford, now a BC resident, the society's aim is to work "to ensure that the people and businesses of British Columbia obtain the maximum possible benefits from the opportunities presented by oil and gas development on the West Coast", along with being proponents for "responsible development" of BC energy resources (POEG, 2003).

POEG secured federal and local funding to prepare a report on the service and support needs of the industry, coupled with an inventory and review of existing business and service capacity. A network of coastal British Columbia businesses available to serve the industry has resulted. The report (2002) points out that oil companies employ relatively small numbers of people, mostly contracted out to large numbers of specialist and large multinational companies that operate the seismic vessels, drilling rigs, helicopters, supply boats and other specialized support services. Local companies, however, provide services such as catering, cleaning, computing, transportation, communications, repairs, training, diving, environmental and other services, trucks, cranes, support vessels, equipment and locating local labour and crews. A number of potential supply base locations for BC, including seven coastal communities north of Vancouver/Victoria. Hard-hit rural Northern Vancouver Island is identified as a likely location if the industry pursues multiple basins but chooses a single supply base.

POEG's business inventory indicates that Vancouver Island has significant "infrastructure, business and professional capacity which can play a role in initial BC offshore activity, and can extend its capability as opportunities become more clearly defined (Campbell *et al,* 2002:3)". At the same time, many of these firms are small and have little knowledge or experience with the offshore oil industry. Preparation is required, along with centralised information and a concerted effort to bring attention to their capabilities by oil companies and contractors planning offshore operations. At the same time, the authors caution against false expectations:

> … in Newfoundland in the early 1980s, misunderstandings of prospective oil industry effects led to house price increases, re-zonings and other changes which were both unjustified and damaging to community and business interests. Similarly, several jurisdictions have experienced "supply base fever," that made money for architects, graphic designers and printers as mayors spent hard earned local dollars chasing "petrodollars" in a race between communities to attract supply base activity, that only existed in their minds (Campbell *et al,* 2002: 26).

They point out that the future of oil and gas in BC is subject to uncertainties of geography, timing and scale and recommend, therefore, that at this stage local companies build on their existing core business and use caution when making investments specific to the oil industry.

Impacts on existing industries (both positive and negative) are a third component of local economic benefits warranting serious consideration. The classic offshore conflict is fisheries vs. oil, now the subject of extensive literature and much negotiation between industry interests (Abbott *et al,* 1998; Wall and Rapach *et al*., 1997). Multiple concerns exist about negative impacts on fisheries resources while industry analysts argue that preventatives measures are possible and that the presence of offshore rigs may even help fisheries resources, with exclusion areas improving fishing in remaining areas and offshore structures having reef-like functions (Shrimpton, 2000). Safety benefits also exist from establishing an offshore presence. Compensation arrangements for fishermen excluded from fishing areas are now commonplace around the world, although fisheries stakeholders in BC and Cape Breton, Nova Scotia, also home to rich fisheries resources, have indicated that compensation will not be an acceptable alternative to resource loss (Macneil, 2002; Government of BC, 2002b). The Canada-Newfoundland Offshore Petroleum Board and Memorial University have recently established ONE OCEAN, a joint undertaking with Newfoundland and Labrador's fishing and petroleum industries. The organization provides a forum to enhance communications and coordinate activities between the two industries. The liaison initiative is modeled after groups in jurisdictions such as the North Sea and Norway (CAPP, 2002).

The emerging importance of the tourism industry on BC's rural coast calls for special attention to impacts on this sector, a subject of substantial disagreement and apparently scarce documented evidence. While tourism and petroleum sectors have coexisted with relatively little conflict in both California and Alaska (Williams, 2001), a Minerals Management Service (MMS) report (1999) suggests the impact of a potential oil spill on recreation and tourism is a major concern in California, with some recreation groups voicing opposition to new oil development. Problems with old, leaky pipelines in Cook Inlet Alaska have fishing, tourism and environmental interests upset, including opposition from small communities surrounding the city of Kenai who do not benefit to the same extent from oil development (Rosen, 2001). One tourism expert raises concerns that in BC, just as communities have been willing to take tourism seriously as an alternative to resource extraction, the promise of oil may divert community attention and resources from tourism initiatives and other diversification efforts (Gill, 2000). In Scotland improved infrastructure such as roads, expanded airports and harbours is thought to have contributed to the tourism sector, as well as improved access to other markets, health care etc (CEF, 1998b). A study of Valdez Alaska suggests that while tourism would remain without the oil industry a number of services such as hotels and restaurants would be likely to shut down (Robbins, 1992). Some suggest that decommissioned rigs could be used for diving or sport fishing (MMS, 1999). Clearly more research is needed on this subject. The U.S. Minerals Management Service (1999) remarks, "virtually no research has been done on how tourists (and potential tourists) perceive drilling platforms or other industry structures… Thinking about the effects of platform aesthetics on tourism and recreation, it was argued, has been based largely on assumptions about tourist perceptions".

Alaskan research shows that the ripple effects of oil and gas development projects and the cash economy extend far beyond their immediate vicinities, particularly in their impacts of "informal" or subsistence economy sectors (MMS, 1999). Displacement from subsistence harvest areas is a significant concern requiring careful analysis and attention

in planning, as is the potential for damage to key species, including fish and marine mammals. Others point to the positive relationship between cash income, used to purchase transportation and equipment, and subsistence harvesting opportunities. Further, the seasonal nature of employment in oil and gas exploration is said to fit well with the dual traditional/wage economy of many communities (DIAND, 2001).

The fourth and, perhaps, the most significant opportunity for provincial and community economic benefit is through the capturing and reinvestment of oil and gas royalties. The potential for investing in alternative energy sources has already been mentioned. Revenues could also be used to support chronically under financed community development, infrastructure renewal and diversification efforts on BC's rural coast, including restoration of depleted fisheries and forestry resources. Further, provincial royalties could be reinvested specifically into coastal communities adjacent to petroleum resources that have lost services due to recent provincial cutbacks (e.g. healthcare, education).

Examples of such reinvestment policies can be found around the world. Off the north of Scotland the Shetland Islands Council was able to negotiate for disturbance funds which it has invested in improving community amenities, in traditional industries such as fisheries as well as new industries such as aquaculture (Blackadder, 2000). Furthermore, this was done in a way that actually enhanced the local culture as an economic driver and a way of life:

> When oil came to Shetland the jeremiahs foretold doom for our culture, but the exact opposite of what was foretold has come to pass. Shetland traditional music, on the edge of extinction in the late 1960s, has come back from the dead with a vengeance and is now world-famous and a serious export earner. All manner of traditional crafts–from boat-building to rug weaving–are enjoying a similar revival, often assisted by the very 'soothmoothers' who were supposed to be such a threat (Wills, 1998: 12).

In Alaska one First Nations community formed a county-like jurisdiction, the North Slope Borough, for the purposes of collecting taxes from oil and gas facilities, which are then reinvested in the community economy (JWEL, 2001). In Valdez, Alaska the local mayor and council recognized the need to build economic alternatives that are long-term and involve more local control than the oil industry. Oil-based tax dollars have been reinvested into infrastructure for the tourism and fishing sectors (Robbins, 1992). Revenue sharing has become a significant component of impact and benefit agreements signed between Aboriginal communities and the mining industry in the north (O'Reilly and Eacott, 1998).

These community economic benefits, however, are contingent on proactive measures being put in place, both locally and by the state. Commitment to achieving agreed upon objectives is needed not only in the design stage but also throughout implementation and operation of the development. Securing local benefits appears a formidable task in the current political-economic climate. The experiences of both Nova Scotia and Newfoundland are telling. Despite a concerted effort House (2002: 5) points out that from a staples/dependency perspective the results have been poor:

> The current pattern of the exploitation of Newfoundland and Labrador's oil and Nova Scotia's gas looks only too familiar. Profits are appropriated by outside

> corporations; the federal government effectively enjoys the lion's share of government revenues; backward linkages are limited; and there are virtually no forward linkages captured through downstream processing.

Although Canada-Newfoundland Benefits Plans are required under Accord Implementation Acts they have proven weak, focusing on providing local firms with a "full and fair opportunity to participate on a competitive basis" while failing to include key sources of benefit (royalties, taxes and fees, backward and forward linkages) (C-NOPB, 2001).

Considering the issue of benefits from an alternative KBE/Globalization perspective, an updated version of the neo-liberal modernization approach, ignores the still compelling and clearly relevant arguments of the staples/dependency approach. Nevertheless, it sheds additional insights into economic benefits that might otherwise be overlooked or underemphasized. Economic spin-offs, especially in exciting new economy sectors, can clearly be gained from the new petroleum industry. Offshore development has made a significant contribution toward Newfoundland's ability to compete within the global economy. While primarily an urban benefit, work such as that of POEG offers promise that development in BC may have more to offer rural areas in their search for new markets and economic activity than has been the case in Newfoundland and other areas. After all, why not aim at capturing not only as much of a small local pie as possible, but also a somewhat larger share of the very big global pie? An additional demonstrated benefit of increased participation in global trade is confidence. Newfoundlanders are proud that they can compete with the very best in the world, and unlike the third world situation to which they are often compared, they do have well-developed transportation and communications infrastructure, sophisticated and up-to-date universities and technological institutes, an increasingly entrepreneurial business class, and, above all, a well-trained workforce. BC has each of these assets to offer as well, including many rural areas.

While one should not to view offshore development and rural benefits through the myopic lens of only one or another opposing theoretical position (such dichotomies rarely reflect the complexity of reality), one thing is for certain. Without some form of strategic government intervention, the logic of corporate interest, which dictates that the resource be shipped out as soon as possible in as great a quantity as possible, will hold sway. If BC were able to capture the majority of economic rent from this pattern and then re-invest it in other forms of social and economic development, then such an approach might be defensible or even desirable. But examples such as the Newfoundland model, with the effective loss of 80 per cent of such revenues to the federal government through reduced equalization payments, argue that a laissez-faire policy position will not produce these results.

Community concerns in BC are not only economic but also social and environmental. Environmental values are expressed not only by large, vocal environmental organizations and coalitions, such as the Oil Free Coast Alliance described above, but by many coastal citizens. A report on recent public hearings describes the special relationship coastal British Columbians have to their natural environment and identifies environmental impact as the number one community concern. Concern also exists in both Native and non-Native communities about effects on their culture and rural

ways of life, linked in large part to maintaining a healthy environment but also to the social impacts of change.

One common community concern is the influence an influx of outsiders will have on community life. Another is increased income disparity, both within and between communities, particularly urban and rural. Wage discrepancies are highlighted in a recent Alaskan report. The average monthly wage for an oil and gas industry worker in the state is $7,754, vs. $3,210 for government employees, among the next highest paid (Information Insights, 2001). Earlier work on social indicators in Alaska also emphasizes the have vs. have-not divide in petroleum-based economies such as Valdez and Kenai, along with the complexities of relationships between petroleum and other industry sectors (Robbins, 1992). In Newfoundland and Alaska the primary economic benefits of oil and gas have accrued to urban areas, exacerbating the urban-rural divide. Research shows, however, that rural Alaska has benefited from oil-related transfer payments to the extent that they too can be considered oil-dependent (MMS, 1992). Again, examination of lessons from elsewhere can shed light on how to address social issues such as culture, family disruption, income inequity and crime.

A key strategy for addressing issues of sustainable development at the local level is to increase the level of local participation in the planning, implementation and monitoring of economic development activities. Broad-based, inclusive participation is a key tenet of sustainable development. At the same time collaborative planning involving communities, governments, industry and other interests is difficult and complex. It requires time and resources, an attempt to balance stark differences in power between participants, and to recognize differences between activist and general citizen, local and external interests while accommodating each of them. Finally, involvement must be genuine, involving real attempts to address the objectives and concerns raised, particularly where people are suffering from meeting or consultation fatigue.

The legacy of disempowerment and dependency in resource communities long-dependent on outside forces such as externally-owned corporations and senior governments adds to this challenge. Nevertheless, experience from other jurisdictions suggests the importance of full and informed involvement by communities and stakeholders, and demonstrates the role of responsible governments and corporations in welcoming and accommodating citizen input. Unfortunately, in some cases, the global offshore sector has been an example of precisely the opposite. The reported role of Nigerian and US military as well as Chevron in the shooting deaths of peaceful Nigerian protesters on an offshore platform in Nigeria left a black mark on the industry (BBC, 2002; Frynas, 2002).

A closer-to-home example of how relations can get off on the wrong foot can be seen in Cape Breton, Nova Scotia. The oil industry there began preparing for seismic exploration just off the coast without consulting local people first. When they learned of this, environmentalists and fishing interests were outraged, calling for the cessation of oil exploration. This occurred despite chronically high unemployment and a desperate need for economic development opportunities in the region. Discussions are now underway again in Cape Breton through a renewed consultation and review process (MacNeil, 2002). Not far away in Guysborough County, an industry representative reports that the Sable Offshore partners worked with the local community in planning for the natural gas terminal from the Sable Island pipeline. The company established offices in local

communities, promoted local procurement of goods and services, provided local people with jobs on offshore vessels, and instituted a Gear and Vessel Damage Compensation Board for the fishing industry (Gorby, 2000). Production is now underway.

So how does the process of considering offshore development in BC measure up to date in terms of public participation? While far from Nigeria, the fact that two key reports – the Scientific Panel and public consultation reports - had to be leaked by a community mayor four months after their completion is troubling in this regard. Nor does a dismal record of Aboriginal relations bode well for the process in BC, where consultation among three levels of government, provincial, federal and First Nations, will be key.

The importance of proper risk assessment, cost-benefit analysis and establishing measurable, agreed-upon objectives in the planning process has also been noted in recent BC reports and elsewhere in the literature (Government of BC, 2002b; Shrimpton and Storey, 1999). The results of such analyses will vary according to different perspectives and scales (e.g. local vs. provincial or national outcomes). We suggest that the local community perspective and associated cost-benefit results warrant special consideration (Burrows, 2002). The results of benefit valuations must also be made contingent on economic and policy scenarios. Finally, the potential for offshore development must be considered in light of other alternatives and activities in the region (an integrated coastal zone management approach). To date, consideration of offshore oil and gas in BC has not been integrated with other coastal planning initiatives.

The Question of Jurisdiction

This leads us finally to the all-important question of jurisdiction – who owns (and controls) BC's offshore oil and gas reserves? Issues of jurisdiction are, arguably, the critical determining factor in whether development will proceed. In the Atlantic, despite a Supreme Court ruling in federal favour, the solution to this debate was to set aside the ownership question and collaborate through a federal/provincial agreement. Marshall (2001) makes the point that BC cannot assume the same deal will be made in a province that has only recently joined the ranks of "have-not" provinces. Further, eastern provinces are far from happy with their arrangement, a source of some controversy in Newfoundland. For Newfoundland's recent White Rose development, over a 16-year period the federal government will net $2.25 billion, the province only $269 million (Locke, 2001). Certainly for offshore oil and gas to proceed in BC, federal/provincial jurisdictional ambiguities must be resolved, including harmonization of the EIA process. The draft Pacific Accord may provide a first step in this direction. Resistance to lifting BC's offshore oil and gas moratorium from within federal cabinet will also need to be overcome.

In BC, jurisdictional matters are complicated by unresolved federal/ provincial jurisdictional questions, but an even greater challenge is that treaties must be negotiated with First Nations to resolve their claims to the seabed and ocean resources. It is not until these claims are settled that development can proceed in good faith and in recognition of legally protected aboriginal rights and title, which the Government of Canada has a constitutional obligation to protect. The report of the BC Government Caucus sub-

committee states that First Nations have "made it clear that they do not support the lifting of the moratorium at this time." Even after treaty negotiations have been completed it is unlikely that First Nations will be supportive unless a) concerns about environmental impacts, and b) local benefits are adequately addressed. For many First Nations, even under strict environmental management measures, the risk of significant environmental damage, however low, is above acceptable levels. A whole culture and way of life, protected through more than a century of struggle, is at stake (Tsimshian and Haida Nations, 2001).

Examples from Nova Scotia, Alaska and the Canadian North show promise that significant rural benefits are possible due to the increasingly powerful legal clout and recognition of Aboriginal rights and title. After controversy and court actions by the Assembly of Nova Scotia Mi'kmaq Chiefs developers had learned their lesson in Nova Scotia that First Nations and their Aboriginal rights and title cannot be ignored. A cabinet order-in-council approved the Sable natural gas pipeline through Mi'kmaq territories in September 1998. By March 1999 the Assembly of Nova Scotia Mi'kmaq Chiefs announced they had no choice but to file a court action (Assembly of Nova Scotia Mi'kmaq, 1999). Nine months later the Assembly formalized an agreement with the company that included archaeological and environmental studies and monitoring as well as socioeconomic benefits (Maritimes & Northeast Pipeline, 1999). An Aboriginal liaison manager has since been appointed and more than $ 1 million invested in Aboriginal support programs by the SOEP (Gorby, 2000).

The experiences of onshore gas development in northeastern BC also show promise where, despite high levels of outside ownership and control, over 5,300 jobs have been created with the involvement of First Nations through an MOU between Treaty 8 First Nations and the BC Oil and Gas Commission (JWEL, 2001; KPMG, 1998). Subsequent problems led to withdrawal from the MOU by several Nations and the need to renegotiate this relationship. Measures for co-management, revenue sharing, addressing cumulative effects and consultation protocols are now under discussion (Province of BC, 2003). Finally, after consultation with northern Aboriginal Groups, the territorial governments of Nunavut, Northwest Territories and Yukon and others the first new exploratory well in the Mackenzie Delta drilled was drilled in 2001 after a decade of inactivity (DIAND, 2001). Offshore Beaufort Sea seismic exploration also resumed. In each of these cases, however, questions remain about balancing the benefits and costs that accrue to local communities (CARC, 2001).

First Nations will have a major influence on the future of offshore development in BC, where treaty negotiations are underway across the province. Recent legal precedents have empowered community leaders and confirmed Aboriginal rights, title and obligations for meaningful consultation, including accommodation of First Nations' economic *and* cultural interests (McDade and Gibson, 2002). There are more than 28,000 First Nations people and 15 individual Nations within the vicinity of the Queen Charlotte Basin where BC's largest offshore potential has been identified (Gallaugher *et al*, 2000; JWEL, 2001). The presence and increasing legal power of First Nations is likely to be the number one factor in bringing more attention to community benefits, if development occurs at all. Garry Reece, Chief of the Lax Kwalaams Band (2001: 4) explains:

> you need to spend as much money and effort understanding us and our use of the sea and our lands, as you do understanding the geology and the environmental and technical challenges. You need to work with us to understand the very real risks. You need to ensure that the benefits you propose are real and substantial…

The newly formed Province of BC offshore oil and gas team is headed by a Deputy Minister of Energy and Mines and others with experience not only in the energy field but also in First Nations treaty negotiations, an indication not only that the government is planning to move ahead but also that they have recognized the pivotal role First Nations will play (Dale, 2003).

Finally, issues of global jurisdiction must also be addressed. International agreements such as the Convention on Biological Diversity commit Canada to protect its ocean and coastal resources, while Kyoto requires attention to CO2 emissions. Perhaps most important, however, is the impact of international free trade agreements on our provincial and national capability to regulate the industry, control and invest royalties and guarantee local, provincial and even national benefits under free trade (Pratt, 2001). Arguably we have not fared well in our trade disputes to date with the US, the major market for Canada's oil and gas products. In the current climate any proposed management regime would have to abide by the restrictions placed on us by free trade agreements. Marshall (2001: 9) explains the difference between the Newfoundland and BC situation in this regard:

> The North American Free Trade Agreement, however, makes local employment targets for West Coast offshore development more difficult to achieve. The *Canada-Newfoundland Atlantic Accord Implementation Act* (which enshrined the Atlantic Accord, the regulatory and royalties agreement between Newfoundland and Canada) was specifically exempted from NAFTA. With respect to future projects, NAFTA significantly restricts the ability of governments to impose performance requirements – such as requiring a company to hire locally, unless in exchange for a subsidy.

Outcomes of the Economic Imperative

Despite the critical importance of jurisdictional questions, economics is likely to determine the final result of BC's current round of offshore oil and gas debate; a familiar tale but perhaps with a different ending – for now. While it is not uncommon that the economic imperative is favoured over a sustainable development approach that balances economic, social and ecological concerns, a conclusion of no development is less familiar. However, unstable prices and political uncertainty driven by unresolved jurisdictional matters and an inability to reach consensus make the economics of offshore development in BC highly questionable.

By the time a process is put in place to examine and pursue the opportunity taking into account all of the above mentioned values and concerns, investors are likely to turn their back on BC's coast and move on to other less controversial regions. This

includes other parts of BC where there remains significant room for expansion in the already established and growing land-based oil and gas sector, as well as other parts of the country and the world where new discoveries are being made in less controversial areas or where technologies have increased recoverable yields from existing oilfields. It would take a special kind of company to come forward in BC right now, a company confident they could negotiate with all levels of government, implement best practices and make money doing it. To date, no such company has come forward. Industry representatives have stated directly they are not interested in pursuing development in BC's offshore at this time. Little wonder given the questions that remain to be answered. Even proponent Brian Peckford admits the province is a long way from development, particularly without dialogue and established common ground between BC government officials, Ottawa and aboriginal leaders (Jang, 2002).

Despite an apparent push in the direction of development, the public sector may also be reluctant to invest significantly. Analysts argue that the subsidies required to launch an offshore sector using a Hibernia/North Sea model (government financing in exchange for control, including requirements for local benefits) will not pass the economic efficiency test when weighed against other alternatives – including investments in fostering the knowledge economy, restoring depleted renewable resources, energy conservation and renewable alternatives. Marshall (2001: 9-10) points out that "to date, the (Hibernia) project as a whole has created – even when including multiplier effects – only 7.5 jobs per million dollars invested… Compared to offshore oil projects, renewable energy projects create 60% more jobs and energy efficiency/ conservation projects create almost five times more jobs".

Subsidies and government investment in the industry have become less common in a fiscal climate where even industry megaprojects are required to "go it on their own." Tradeoffs of decreased local benefits have been accepted rather than investing billions. It is worth noting that Hibernia subsidies did not end with the project start-up but were followed with substantial grants, bailouts, and loan guarantees in times of price declines and investor flight, highlighting the vulnerability of a project so dependent on global commodity prices and external capital. The story is reminiscent of bail-out attempts in the BC pulp and paper industry. BC's Scientific Panel report recommended lifting the moratorium in the hopes that development proposals would then come forward, along with financing for the necessary research to answer a multitude of unanswered questions (Gallaugher, 2002). Although the Province has made an initial investment in research and development, in an environment of government cost cutting and industry caution even declaring BC's coast open for exploration may not be enough to warrant sufficient investment by either sector.

Better understanding our options and the social, economic and environmental implications of pursuing those options are at the heart of a successful and sustainable society and economy. Full consideration of the potential of offshore development for coastal communities, therefore, is critical. At the point in the future when the economic equation changes in favour of development, due to either reduced jurisdictional disputes or depleted global reserves, questions of ecology and community must once again be addressed to ensure opportunities for oil and gas development meet the basic preconditions of sustainability and to better protect the interests of rural coastal communities. Only if measures can be put in place to ensure: a) environmental risks are

minimized and managed to the highest global standards; b) local communities receive a share of the benefits of development commensurate with the risks; and c) that financial capital, whether public or private, is wisely invested through a commitment to best practices from communities, government and industry, will the basic preconditions be in place for offshore oil and gas to contribute to sustainable development. These requirements are demanding and call for the pursuit of a new offshore petroleum industry in BC that maximizes the opportunities and minimizes the challenges of globalization while addressing the important and still-valid issues raised by staples/dependency theory.

Unfortunately, history tells us that resource policy decisions often ignore impacts on people and communities adjacent to natural resources. Further, the benefits of offshore oil and gas have generally been distributed in a manner that is “uneven and unequal” (House, 2000), to the disadvantage of rural regions. International agreements now make it increasingly difficult to institute measures that maximize benefits and minimize social risks. Offshore development, therefore, is unlikely to guarantee local benefits despite arguments by proponents that that it is precisely for the good of BC’s troubled coastal communities that development should proceed. In fact, without the necessary conditions outlined above offshore oil and gas development promises to exacerbate staples dependence and widen the urban-rural/heartland-hinterland divide.

References

ABBOTT and OTHERS 1998 *A Strategy for Co-Existence with the Fishermen in the Gulf of Paria*

ASSEMBLY OF NOVA SCOTIA MI'KMAQ 1999 Press release March 19, 1999

AUCOIN, P. 1995 *The New Public Management: Canada in Comparative Perspective* (Montreal: Institute for Research on Public Policy) 195

BBC "Nigeria Rejects World Court Ruling" BBC WORLD SERVICE October 23, 2002

BECK, M. and WOOLFSON, C. 1999 "The Hidden Deregulation of Britain's Offshore Oil Industry" (St. Andrews: Centre for Research into Industry, Enterprise, Finance and the Firm)

BLACKADDER, A. 2000 "Shetland and the Impact of Oil Development" (Corner Brook, Newfoundland, Canada: North Atlantic Forum) September 24th to 27th

BURROWS, B. 2002 Panel presentation (2002 Conference of Coastal Communities)

CALDICOTT, A. 2002 "Quick Assessment of the BC Government's Energy Policy" (GSX Concerned Citizens Coalition)

CAMPBELL, C. and COMMUNITY RESOURCE SERVICES LTD. 2002 "Analysis of Potential Services to the BC Offshore Oil and Gas Industry" Central and Northern Vancouver Island Study (Submitted to the Pacific Offshore Energy Group) Spring 2002

CANADA-NEWFOUNDLAND OFFSHORE PETROLEUM BOARD 2001 "[Decisions with respect to the White Rose Canada-Newfoundland Benefits Plan and the White Rose Development Plan.]" *Decision 2001-01*

(St. John's, Newfoundland) November http://www.cnopb.nfnet.com/
CANADIAN ARCTIC RESOURCES COMMITTEE (CARC) 2001 "Northern Perspectives" Fall/Winter http://www.carc.org
CEF CONSULTANTS LTD. 1998a "Global Questions: Looking at new oil and gas developments" a Series of Papers on Energy and the Offshore No. 7 www.cefconsulants.ns.ca.
— 1998b "Communities and Change" a Series of Papers on Energy and the Offshore No. 8 www.cefconsulants.ns.ca
CLARKE, H.M. 2001 *Report of the Public Review Commissioner for the White Rose Development Application* (St. John's, Newfoundland) September
COASTAL COMMUNITY NETWORK (CCN) 2002 "The State of BC's Coastal Communities: A Decade of Change 1993-2002" Report (Port Alberni, BC: The 10th Anniversary Conference of Coastal Communities)
DALE, N. 2003 Personal Communication (Program Manager, Northern Coastal and Information Research Program) Feb. 2003
DEPARTMENT OF INDIAN AND NORTHERN DEVELOPMENT (DIAND) 2001 Northern Oil and Gas Report (Government of Canada)
ELKINGTON, J. 1999 "The triple bottom line: implications for the oil industry" *Oil and Gas Journal* Petroleum in the 21st Century, 139-141
FRYNAS, J. 2000 *Oil in Nigeria: Conflict and Litigation between Oil Companies and Village Communities* (Transaction of New Brunswick)
GALLAUGHER, P. ed. 2000 *Exploring the Future of Offshore Oil and Gas Development in BC: Lessons from the Atlantic* Workshop Proceedings)
GILL, A. 2000 "Coastal and Marine Tourism in British Columbia: Implications of Oil and Gas Development for the Tourism Industry" in GALLAUGHER, P., ed.
GORBY, R. 2000 "Sable Offshore Project" Paper presented at the Conference Exploring the Future of Offshore Oil and Gas Development in BC: Lessons from the Atlantic (Simon Fraser University, Burnaby, British Columbia) May 17-18
GOVERNMENT OF BC 2001 "Fueling the Future: Oil and Gas in British Columbia"
— 2001a "Strategic Considerations for a New British Columbia Energy Policy" Interim Report of the Task Force November 30, 2001
— 2002a Report of an Independent Scientific Review Panel on British Columbia Hydrocarbon Development
— 2002b Report of sub-committee to BC Caucus
— 2002c University of Northern British Columbia Grant. Press release May 1
— 2003 "Discussions Seek to Resolve Treaty 8 Issues" Press Release March 2003
Government of Canada 1987 "Canada-Newfoundland Atlantic Accord Implementation Newfoundland Act"
GOVERNMENT OF NEWFOUNDLAND AND LABRADOR and GOVERNMENT OF CANADA 1984 *Royal Commission on the Ocean Ranger Marine Disaster*
Government of Newfoundland and Labrador and Government of Canada 1985.

The Atlantic Accord
Government of Newfoundland and Labrador 1987 *Canada-Newfoundland Atlantic Accord Implementation Act*
GREATER HALIFAX PARTNERSHIP 2002 Fact Sheet - Case Study
HART, S. 2000 "Safety and Industrial Relations in the Newfoundland Offshore Oil Industry Since the Ocean Ranger Disaster in 1982" *Journal of Environmental and Occupational Health Policy* Work Environment Program, University of Massachusetts Lowell, USA
HOUSE, J.D. 2002 "From Staples/Dependency to KBE/Globalization: Policy Implications of the New Petroleum Industry for Atlantic Canada" Paper presented (Toronto: New Directions in Political Sociology session of the Canadian Sociology and Anthropology Association Meetings) June 2002
— 2000 "Myths and Realities About Oil-Related Development: Lessons from Atlantic Canada and the North Sea" in *Exploring the Future of Offshore Oil and Gas Development in BC* (Burnaby, BC: Simon Fraser University)
— 1985 *The Challenge of Oil: Newfoundland's Quest for Controlled Development* (St. John's, Newfoundland: ISER Books)
— 1987 *But Who Cares Now? The Tragedy of the Ocean Ranger* (St. John's, Newfoundland: Breakwater Books)
HUSKY OIL OPERATIONS LIMITED 2001 *White Rose Oilfield Development Application Volume I : Canada-Newfoundland Benefits Plan* (St. John's, Newfoundland) January
— *White Rose Oilfield Development Application: Response to Additional Information Requests from the White Rose Public Review Commission* (St. John's, Newfoundland) June
INFORMATION INSIGHTS INC. 2001 Economic Impact of the Oil and Gas Industry on Alaska (Alaska Oil and Gas Association) www.aoga.org/
INNIS, H. 1933 *Problems of Staple Production in Canada* (Toronto: Ryerson Press)
JACQUES WHITFORD ENVIRONMENTAL LTD. (JWEL) 2001 *British Columbia Offshore Oil and Gas Technology Update* (Prepared for: BC Ministry of Energy and Mines)
JANG, B. 2002 "B.C. offshore energy initiative has unlikely crusader: Nfld.'s Peckford" *Globe & Mail* June 10 Report on Business
KEEPING, J. 1998 "The Legal and Constitutional Basis for Benefits Agreements: A Summary" Report (prepared for the Canadian Arctic Resources Committee (CARC))
KPMG 1998 *Overview of the British Columbia Oil and Gas Industry* (Canadian Association of Petroleum Producers, Westcoast Energy Inc., and BC Ministry of Energy and Mines)
LOCKE, W. 2001 "An Analysis of the Economic Impact of the White Rose Project on the Newfoundland and Canadian Economies" (St. John's, Newfoundland: Prepared for: Husky Energy) July
MARITIMES & NORTHEAST PIPELINE 1999 Press release Dec. 20
MARSHALL, D. 2001 "Should BC lift the offshore oil moratorium? A policy brief on the economic lessons from Hibernia" (Canadian Centre for Policy

Alternatives (CCPA)) http://www.policyalternatives.ca/
MCARTHUR, A. 2003 "What it Takes to Compete in the Emerging Offshore Industry in Atlantic Canada" Remarks given by Andrew McArthur, Vice-Chairman, Irving Shipbuilding on behalf of Jim Irving (Halifax: OTANS Annual General Meeting) February 6, 2003
MCINNES, C. 2002 "BC's equalization cheque on the way" *Vancouver Sun,* February 28th A2.
MCNEILL, J.R. 2000 *Something New Under the Sun* (New York: W.W. Norton and Company)
MINERALS MANAGEMENT SERVICE (MMS) 1999 "Report on the 1999 Minerals Management Service Social and Economic Studies Conference" www.mms.gov/eppd/socecon/
— 1992 "Social Indicators Study of Alaskan Coastal Villages"
O'NEILL, B. 1987 "The Sinking of the Ocean Ranger, 1982: The Politics of a Resource Tragedy" in BURRILL, G. and MACKAY, I., eds. *People, Resources and Power* (Halifax, Nova Scotia: Gorsebrook Research Institute) 153-161
O'REILLY, K. and EACOTT, R. 1998 "Aboriginal Peoples and Impact and Benefit Agreement" Summary of the Report of a National Workshop Working Paper 7 (Northern Minerals Programme)
PACIFIC OFFSHORE ENERGY GROUP (POEG) 2003 unpublished web page available online:
PRATT, L. 2001 *Energy: Free Trade and the Price We Paid* (Prepared for: The Parkland Institute, University of Alberta)
PIERCE, J. 2000 *Exploring the Future of Offshore Oil and Gas Development in BC* Opening Remarks (Burnaby, BC: Simon Fraser University)
PIERCE, J.T. 1998 "Sustaining Rural Environments: Widening Communities of Knowledge" in BOWLER, I., BRYANT, C.R., and HUIGEN, P.P., eds. *Dimensions of Sustainable Rural Systems* (Netherlands Geographical Studies)
POLESE, M. and SHEARMUR, R. 2002 "The Periphery in the Knowledge Economy: the Spatial Dynamics of the Canadian Economy and the Future of Non-Metropolitan Regions in Quebec and the Atlantic Provinces" Presentation (Memorial University) September
REECE, G. 2001 *Oil and Gas Conference* Speaking Notes October 2, 2001
ROBBINS, E. 1992 "Effects of the 1989 Exxon Valdez Oil Spill on Cordova" Report to the Minerals Management Service
ROSEN, Y. 2001 "Life extended for Cook Inlet oil and gas fields" *World Environment News* Sept. 11
ROWAN-ROBINSON, J., KIMBER, C., MACDOUGALL, D., and CLARKE, D. 1998 "The Environmental Regulation of the Offshore Oil Industry: The Experience of the United Kingdom and Canada" *International Conference on "Lessons from Frontier Regions"* (St. John's, Newfoundland, Canada)
SHRIMPTON, M. and STOREY, K. 1999 "Community Impacts: Adding Value to Analysis and Management" Presentation (Minerals Management Service Social and Economic Studies Conference)

SHRIMPTON, M. 2000 *Managing the Relationship Between the Offshore Oil Industry and the Frontier Regions*

SINCLAIR, P. 1999 "Industrialization and Rural Development: Contrasting Labour Markets and Perceptions of the Future on the Bonavista Peninsula and Isthmus of Avalon, Newfoundland" (Department of Sociology, Memorial University)

SMITH, E. 2002 *Energy, the Environment and Public Opinion* (Rowman and Littlefield Pub. Inc.)

STOREY, K. 1994 "Managing the impacts of Hibernia - a mid-term report" Unpublished paper cited in Sinclair

STOREY, K. and SHRIMPTON, M. 1995 "Hibernia: An Interim Audit of Socio-economic Impacts" SPE 35788 (Society of Petroleum Engineers)

TSIMSHIAN AND HAIDA NATIONS 2001 "Tsimshian and Haida Statement on the Moratorium on North Coast Oil and Gas Exploration" Press Release May 14

WALKER, R. *The Christian Science Monitor*

WALL, RAPACH, and OTHERS 1997 *Drilling in the Company of Herrings, Lobsters, Minke Whales, Bottlenose Dolphins, Protected Birds and Fishermen*

WATKINS, M. 1982 "The Innis Tradition in Canadian Political Economy" *Canadian Journal of Political Science and Social Theory* 6, 12-34

WESTCOTT, C. 2001 "Bottom of the Barrel: Newfoundland's oil benefits paltry compared to other jurisdictions" *The Express* March 14

WHITICAR, M. 2000 "Climate Change and Potential Impact of Hydrocarbon Exploitation in Queen Charlotte Basin" in *Exploring the Future of Offshore Oil and Gas Development in BC* (Burnaby, BC: Simon Fraser University)

WILLIAMS, J. 2001 "Keynote Speaker" *2001 Conference of Coastal Communities* (Richmond, BC)

WILLS, J. 1998 "Impacts on Traditional Industries and Cultures: The Shetland Experience" *International Conference on "Lessons from Frontier Regions* (St. John's, Newfoundland, Canada)

WISE, R. 1999 *Oil in the Global Economy: Transformation of the International Oil Industry* (New Delhi: A.P.H. Publishing Corporation)

WOOD, A. 2002 "Potential Interactions between Oil and Gas Exploration and Development and Living Marine Resources in the Queen Charlotte Basin Area" Report (prepared for the Offshore Oil and Gas Scientific Panel, Province of British Columbia)