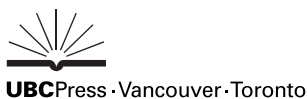


OFFSHORE PETROLEUM POLITICS

Regulation and Risk in the Scotian Basin

Peter Clancy



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Abbreviations

BOE	barrels of oil equivalent
CAPP	Canadian Association of Petroleum Producers
CEAA	Canadian Environmental Assessment Agency
COGLA	Canada Oil and Gas Lands Administration
COPAN	Cohasset-Panuke
CNOPB	Canada–Newfoundland Offshore Petroleum Board
CNSOPB	Canada–Nova Scotia Offshore Petroleum Board
CPA	Canadian Petroleum Association
LNG	Liquefied Natural Gas
MNP	Maritimes & Northeast Pipeline
NEP	National Energy Program
NSRL	Nova Scotia Resources Limited
OSEA	Offshore Strategic Energy Agreement (Nova Scotia)
PIP	Petroleum Incentive Program
SOEI	Sable Offshore Energy Inc.
SOEP	Sable Offshore Energy Project
UARB	Utilities and Review Board

Conversion Table

Volume:

cubic feet gas	× 0.028 = cubic metres gas
cubic metres gas	× 35.3 = cubic feet gas
million tones LNG	× 48.7 = billion cubic feet gas

Energy:

cubic feet gas	× 1,025 = British thermal units
British thermal units	× 1,055 = joules
gigajoules	× 0.95 = thousand cubic feet gas

Acknowledgments

Sometimes it is difficult to pinpoint the moment that a research interest begins. I suspect that the politics of petroleum exploration in the Scotian Basin first came to my attention during work on a different frontier. Northern Canada experienced its own oil and gas boom in the 1970s and 1980s, when offshore exploration touched a number of basins and the Beaufort Sea received special attention. At that time, land claim negotiations were under way between the Inuit and the Government of Canada, and the Canada–Nova Scotia joint management arrangement of 1982 attracted considerable attention as a possible model for Inuit-Crown resource governance. After moving to Nova Scotia in 1986, my interest was reinforced by an article in the excellent but, sadly, now-discontinued *New Maritimes* magazine. The title – “Oil and Gas, She’s Fadin’ Fast” – was an apt comment on the day but, fortunately for this project, premature.

Perhaps because of its ongoing cyclical, the Scotian Basin has not attracted the scholarly attention it so richly deserves. In Newfoundland, Doug House produced a pivotal study of that province’s petroleum industry to 1985, but no companion piece emerged in Nova Scotia. Eventually my curiosity got the better of me, and the present effort is the result.

Along the way, I have had assistance and support from many quarters, and it is a pleasure to acknowledge them, beginning with the Social Science and Humanities Research Council of Canada (SSHRC), which supported

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OFFSHORE PETROLEUM POLITICS

1

Introduction

Half a century after the Canadian petroleum industry first turned its attention to the Atlantic offshore region, the Scotian Basin remains a promise unfulfilled. This is not for lack of effort by either industry or government. Significant investments, in both business finance and public policy, have been committed to the search for hydrocarbons on the continental shelf. Tens of thousands of kilometres of seismic lines have been shot, and more than two hundred wells have been sunk in Nova Scotia waters. Two fields have reached the production phase – the Cohasset-Panuke oil project (1992) and the Sable offshore energy project (1999). A third, Deep Panuke gas field, is under development and is scheduled to flow in 2011.

In a comparative context, however, these results are disappointing. In the North Sea, where exploration also began in the mid-1960s, a series of world-class discoveries were confirmed within a decade, and an elaborate ocean infrastructure soon linked dozens of fields in both the British and Norwegian sectors. North Sea production peaked in the 1980s, and by the turn of the millennium the basin was considered a mature petroleum play. Nonetheless, the region, which has hundreds of producing fields and a northerly advancing exploration frontier, remains important in a global context. In Western Australia, the offshore sector also kicked off during the late 1960s. Here, too, a rapid series of discoveries led to a dramatic run-up in production. By the close of the century, the petroleum industry encircled the Australian

continent, and the “elephant” gas finds in the North West supported a world-class business in liquefied natural gas. Finally, and most dramatically, the US sector of the Gulf of Mexico emerged from promising beginnings in shallow water to cover the outer continental shelf. The first twenty-year boom came to an abrupt end in the late 1980s. Renewed deep-formation drilling, however, together with expanded operations on the deepwater continental slope after 1995, opened an entirely new horizon.

This book delineates the economic fortunes of the Scotian Basin, from the earliest airborne magnetometer surveys of the 1960s to deepwater exploration efforts of the early 2000s. It is a political and economic history of an offshore petroleum formation in contemporary times. It explores why things happened the way they did. What underlying forces drove the industry through its various phases? How did wider currents in this highly globalized business affect events in the Scotian Basin? Equally significant, what part did state authorities play in shaping these outcomes? How have the political complications of federalism, Crown title, and administrative intervention shaped the offshore oil and gas industry? To answer these questions, it is necessary to explore the complex interplay of regulation and risk.

If the commercial results of Scotian Basin exploration have been modest, it has not been for lack of political effort. In Canada, the state sector was certainly aware of the potential of discovering offshore hydrocarbons. Aided by the terms of the 1958 Geneva Convention on the Continental Shelf, Ottawa fashioned a licensing and rights-holding regime for so-called Canada lands. East Coast resources also assumed a strategic dimension under the 1960 National Oil Policy. By its terms, the Ottawa River divided the country into a western sector supplied by Alberta and an eastern sector supplied from abroad, principally Venezuela. The Organization of Petroleum Exporting Countries (OPEC) price spike of 1973 illustrated the exposed character of the eastern market and underlined the economic significance of an Atlantic offshore production base. At the same time, the federal government was obliged to take a national view of new petroleum sources; in the process, the Scotian Shelf and Newfoundland’s Grand Banks emerged as two potential basins. Ottawa’s National Energy Program (NEP), unveiled in 1980, again redefined the relationship. Along with the territorial north and offshore British Columbia, the Atlantic petroleum shelves were treated as frontier lands. In other words, the federal government sought to use its Crown jurisdiction to shift exploration and production beyond the western sedimentary basin. This policy resulted in a rapid if brief explosion of industry activity that laid the groundwork for East Coast production in the 1990s.

Then the federal Conservative government rapidly undid the central terms of the NEP after 1984. With a broad marketizing sweep, oil prices were released from controls, pipeline regulation was liberalized, and rich fiscal incentives for frontier exploration were eliminated. In short, Ottawa was a major player in the story of offshore petroleum exploration. In the chapters below, the effects of this prominence can be seen.

The East Coast provinces were also keenly aware of the value of an offshore industry. In a petroleum-consuming region, provincial leaders could perhaps be forgiven for grandiose visions of energy self-sufficiency, not to mention a new industrial sector on the crest of a burgeoning world hydrocarbon trade. In Nova Scotia, the Liberal government of Gerald Regan cast envious glances westward, where Peter Lougheed in Alberta was fashioning a long-term growth strategy based on “seeding the oil.”¹ The Calgary oil patch not only dominated the western sedimentary basin, it also fed an emerging petrochemical sector, underwrote the province’s Heritage Savings Trust Fund, and generated powerful export earnings. In 1971, images of a beaming Regan, holding a small vial of dark Sable Island liquid and exclaiming “It’s Oil!” appeared in newspapers throughout Nova Scotia.² Six years later, the premier joined his Maritime counterparts in signing an intergovernmental agreement with Ottawa that covered petroleum revenue sharing and established a single administrative and regulatory regime for exploration and production. Although that particular deal was never fulfilled, it inaugurated a period of federal-provincial collaboration on joint offshore petroleum authorities that continues today. The agreement generated some innovative institutions that lowered the political risk quotient for capital while entrenching some resilient rules of offshore governance.

In subsequent decades, the province’s leaders carved out different priorities in the offshore sector. For Conservative premier John Buchanan (1978-90), the focus was exploration benefits, including equity participation (through the state corporation known as Nova Scotia Resources Limited) and onshore commercial linkages in supply, employment, and manufacturing. For Liberal premier John Savage (1993-97), the focus shifted to securing offshore production, particularly pushing the Sable subbasin to the next phase of development. To this end, new royalty and tax regimes, along with streamlined regulatory protocols, were instituted to support the Sable offshore energy project. Under Russell MacLellan’s Liberal government (1997-99), policy shifted to transporting and marketing Sable gas. MacLellan left his signature on two important fields. The first was the licence for the Maritimes & Northeast Pipeline, built to carry offshore gas across the

Maritimes and for export to New England. The second was the launch of a new natural gas distribution system to make the product available within Nova Scotia. When the Conservatives returned to power under Premier John Hamm (1999-2006), the prospect of offshore exploration could not have looked better. A new exploration boom was under way, commercial gas was flowing, and Hamm's attention turned to securing maximum provincial revenue benefits for a generation. His "campaign for fairness" marked a return to a traditional provincial concern – seeking to win complete Crown revenues without prejudice to the province's equalization entitlement. Hamm's successor, Rodney MacDonald (2006-9), inherited the fiscal fight with Ottawa, which ultimately contributed to the defeat of his government. The election of Nova Scotia's first New Democratic government in June 2009 opened yet another chapter whose shape is not yet clear. Nova Scotia's strategic outlook on its petroleum resource is, therefore, far from static. As with Ottawa, a kaleidoscope of shifting forces has driven the province's approach to offshore politics.

Parenthetically, it should be mentioned that across the Cabot Strait in Newfoundland, Conservative premier Brian Peckford charted a different course in the 1980s. His inspiration came from the North Sea, where Norway was fashioning a development strategy with more statist overtones. Its National Petroleum Directorate exercised unified regulatory control over all phases of offshore licensing. In addition, the state oil company, Statoil, was designated a compulsory partner in all development projects. Finally, the Norwegians took a firm regulatory position on industrial supply and service linkages to the onshore economy. Not surprisingly, as exploration results turned favourable in the Jeanne d'Arc Basin, Peckford established his own petroleum directorate and the Newfoundland and Labrador Petroleum Corporation. Unlike the unitary Kingdom of Norway, however, the province found itself locked in a jurisdictional tangle with Ottawa. Subsequent premiers have followed Peckford's lead and championed offshore jurisdiction as a non-negotiable provincial birthright. Indeed Danny Williams, the provincial premier from 2003-10, revived Peckford's style as a "fighting Newfoundlander" to devastating electoral success.³

Over the past generation, then, Canada's two Atlantic offshore petroleum-producing provinces have been linked with the national government in a complicated political dialectic, and private petroleum capital has usually provided a third animating force. The geopolitics of federalism has meant that Nova Scotia and Newfoundland can be allies or rivals. They share a provincial interest in maximizing political leverage with Ottawa and the

petroleum industry. However, since they claim authority over separate tracts of the continental shelf, and thereby separate offshore petroleum basins, they are sensitive to matters that could give them a political or business advantage in the promotion and management of their resources. Halifax and St. John's have each harboured ambitions to become the Houston (or Aberdeen) of the Atlantic offshore play.

Clearly, the political economy of the Scotian Basin is complicated, and the complications begin with the physical setting. Offshore petroleum deposits are found principally under the earth's continental shelves, the geological formations that are submerged today in relatively shallow water. Although depths vary considerably, the shelf surrounding Nova Scotia is about 90 metres deep on average. On the Atlantic coast, the depth can reach up to 100 metres in the initial 25 kilometres offshore. Beyond this, the water depth increases only gradually over the next 175 kilometres to 150 metres. The Scotian Shelf seabed is not uniform, however. It is punctuated by multiple basins and banks. One of the best known of these banks surrounds Sable Island. At the outer edge of the shelf, the continental slope marks a sharper decline toward deepwater. The depth drops by several hundred metres in a surface distance of 5 to 10 kilometres. Beyond that, the seabed plunges thousands of metres to the abyssal ocean floor.

Not all parts of continental shelves are petroleum prone. However, in places where organic materials were deposited in volume over the past four hundred million years, often by the work of massive prehistoric rivers flowing off of the continents, the materials could be trapped in sedimentary layers and compressed and heated. The root meaning of *petroleum* is "rock oil," and the challenge of oil and gas exploration is to locate sedimentary formations in which significant volumes of rock oil is trapped. Although the resource was first discovered and exploited on land at a time before petroleum geology emerged as scientific discipline, the modern industry could not have materialized without this knowledge domain. It is at the exploratory phase of the petroleum cycle that geological science plays a determining role. In addition, the move from terrestrial to offshore petroleum activity has required a series of engineering and technological adaptations to make exploration and production feasible.

The story continues with the entry of corporate and industrial agents that locate commercial reserves and develop petroleum extractive systems. This is an extremely complex field of business interests – sometimes particular and sometimes shared – that have coalesced and dissolved with the passage of time or with the shift from issue to issue. In Houston or Calgary, the oil

patch is justifiably regarded as a bastion of competitive individualism. Firms may engage in a series of distinct activities in exploration, production, servicing, transport, refining, and retailing. The players range along a continuum from super-majors (such as ExxonMobil, Shell, and Chevron) to majors (Petro-Canada and Imperial Oil), independents (Kerr-McGee and EnCana), and juniors (Canadian Superior and Corridor Resources). Douglas House captures the industry's spirit of risk and rivalry in the phrase "the last of the free enterprisers."⁴ However, he also stresses the partnerships and allied ventures that are integral to this sector. It is precisely the scale of risk that has made the joint venture and the farm-in such crucial relationships in the oil patch as a whole.

It would be wrong to focus on petroleum capital alone. A number of well-established industries responded to the newly emerging energy segment by defending economic and political interests of their own. The Atlantic fishery recognized the dangers of petroleum exploration and development: threats to freedom of movement, damage to gear, ecological degradation from spills, blowouts and routine discharges, and lost catch. On the other hand, a series of land-based manufacturing and supply-and-service businesses – ranging from shipyards and design-engineering services to well, scientific, pipeline, diving, air transport, and marine supply services – stood to gain significantly from the presence of offshore exploration and production. By 1980, the Offshore Technology Association of Nova Scotia had been formed as a trade voice for these interests.

A third pillar of power is the federal and provincial states. From the point of view of politics, it is the combined properties of petroleum extraction and sea-based operations that make the offshore sector distinctive. But they also render the offshore domain considerably more involved than its terrestrial counterpart. As the two jurisdictions have asserted their rival claims to sub-sea resource ownership and to broader offshore jurisdiction, the industry has faced a dilemma. Political uncertainty constitutes a significant dimension of business risk. The prospect of intergovernmental warfare, divergent legislation, multiple regulatory regimes, and cumulative royalty and tax burdens is a nightmare. Tactically, petroleum operators had two choices: to withhold activity until the jurisdictional smoke cleared or to ally with one or the other of the sovereign authorities. In many respects, it was a classic case of market interests being "caught in the vise of federalism."⁵ When the underlying coordinates of Canadian energy policy eroded several times during this period, relationships within and between states were complicated further.

The history of Scotian Basin petroleum comprises a series of political challenges, accommodations, and settlements. Among them are the negotiation of serial intergovernmental agreements and accords, the passage of detailed pieces of legislation in both Ottawa and Halifax, and the delegation of a multitude of legal and regulatory mandates to diverse administrative boards and agencies. The joint management agency known as the Canada–Nova Scotia Offshore Petroleum Board (CNSOPB) has played a central role in the disposition of the Crown resource during the exploratory and development phases. Authorized in 1986 and operational three years later, it continues to be integral to offshore governance. However, it does not exhaust the range of government authorities. The comprehensive delineation and assessment of the offshore petroleum state is a central concern of this book.

Themes and Variations in the Literature on Offshore Exploration

Offshore petroleum is best understood as a staple resource domain poised between local, national, and international forces.⁶ Local conditions are a significant variable for an industry that operates in many basins and under many state authorities. At the same time, local interests have often struggled to have a voice in offshore policy regimes controlled by higher powers. For their part, sovereign states have guarded their jurisdictional claims to continental shelf formations while adapting terrestrial petroleum policies to subsea regions. This policy, in turn, has engendered tensions between central and regional authorities on questions ranging from rights allocation to environmental protection to industrial and employment linkages with onshore economies. The policy also helps account for incipient “national traditions” in offshore practice. Finally, over the past half century, offshore petroleum has evolved rapidly into a global domain. Although its commercial roots are on the US Gulf Coast, where Texas independents underwrote early exploration in the 1940s, international oil giants and their subsidiaries soon rose to prominence. By the time new offshore basins were attracting attention in Europe, Latin America, West Africa, and the Asia-Pacific, a fully rounded multinational complex (including not only operators but also supply and service sectors) had assumed a predominant competitive position. The development of second- and third-generation prospects therefore led to sharp tensions between host states and overseas capital, particularly over the respective terms of domestic and foreign participation. All the while, offshore areas have come to constitute a global frontier in a physical sense as advances in technology, finance, equipment, and expertise have pushed operational prospects into ever-deeper waters and more severe

climate zones. This trend is likewise transforming the calculus of commercial viability and posing formidable new challenges to state authorities.

A Distinctive Political Economy

Offshore petroleum can be treated, commercially and politically, as an industry *sui generis*. From the 1950s, US oil interests have pressed both Congress and the administration with arguments that offshore operations are by nature qualitatively different from those on land.⁷ Government has been urged to legislate, tax, and regulate accordingly. Geography was not the only consideration, however: the offshore industry could not be fully severed from the national energy and hydrocarbon policies of sovereign states.⁸ Indeed, early legal and policy templates were forged in terrestrial contexts.

Over time, however, the differences between offshore and land-based operations have become as pronounced as the similarities, in both corporate and state circles. Offshore petroleum exists by virtue of complex engineering and technology systems that are among the most dynamic on the globe.⁹ Moreover, the transfer of these technologies from one hydrocarbon basin to another may be affected by interfirm or intrafirm transactions. At the same time, developments in the law of the sea have extended and deepened jurisdictional claims by national and regional authorities, enabling states to regulate commercial activities through novel and experimental development strategies.¹⁰ Finally, the offshore sector has had to reckon, in political terms, with complications not encountered onshore. Overlaps and intersections with other ocean businesses – marine transport, communications, fishing, and so on – have complicated the management of hydrocarbon resources. Most recently, a new challenge has emerged in the form of ocean policy and governance, a framework predicated on the integrated resource management of extensive marine spaces, usually for ecosystem health. To date, this approach has no counterpart in terrestrial oil and gas administration, where a pillared regime separates petroleum from the administration of adjacent resources such as agriculture or forests.¹¹ Offshore, however, the growing presence of policy metaframeworks threatens to complicate, if not entirely overturn, normal sectoral practice.¹²

Spatial and Temporal Dimensions

Policy diffusion can be explored in at least two dimensions: the spatial and the temporal. The spatial is evident on any global petroleum map that highlights the interplay of offshore basins and geopolitical authorities. Each

emerging basin in the expansion of the offshore frontier has drawn lessons from its predecessors, from the Gulf of Mexico in the 1950s to the North Sea in the 1960s to Australia, Brazil, and West Africa in the 1970s. As this set of offshore frontiers has expanded, it has become a political and a geological reference group. For example, when operations were pioneered in the Gulf of Mexico after 1945, coastal states vied with Washington for legal jurisdiction. The judicial settlement confined Louisiana, Texas, California, and other states to a coastal strip of three nautical miles, while the balance of the offshore continental shelf fell to the Department of Interior and its Minerals Management Service.¹³

By the time offshore plays were contemplated in the North Sea, the coastal nations had a different preoccupation. Negotiating boundary limits, they carved the ocean into a series of national sectors. Beginning in southern waters adjacent to the Netherlands, Denmark, and the United Kingdom, the exploration frontier pushed out across the North Sea.¹⁴ In subsequent decades, most of the world-class fields were found in mid-basin, where the major state beneficiaries proved to be the United Kingdom and Norway, unitary states in which the central government enjoys exhaustive jurisdiction.¹⁵ In the 1990s, the frontier moved again, this time into the far northern reaches.

Perhaps Australia comes closest, in political-economic terms, to matching the key institutional and structural characteristics of Canada. It is a British dominion with Westminster-style parliamentary arrangements and a federal state based on former colonies in the Empire.¹⁶ At the same time, Australia is a settler society with an Aboriginal minority, and it is endowed with extensive physical resources to fuel a primary industrial base.¹⁷ Not surprisingly, a considerable amount of learning took place in the formative decade of 1965-75. Since then, however, Australia's offshore petroleum sector has far outpaced that of Canada; now entering its fifth decade, it has upstream activities on multiple coasts and operations in all phases of the product cycle.¹⁸ In key respects, Australia suggests what the future might hold for Canada, if and when the Scotian Basin advances toward maturity.

Three other offshore regions have become significant since 1990. The first is in Brazil, where continental shelf petroleum has grown explosively through discoveries of several vast basins off the Atlantic coast. These discoveries have enabled the Brazilian state oil company, Petrobras, to follow the Norwegian path and emerge as a sophisticated global leader in offshore development. The second region is the West African coast from the Gulf of Guinea south to Angola, where a series of states – including Nigeria,

Ghana, Equatorial Guinea, Gabon, Cameroon, Congo-Brazzaville, Angola, and Sao Tome and Principe – have joined the offshore club. Geological prospectivity is high, and international oil capital has negotiated extremely favourable terms with the largely autocratic ruling state elites.¹⁹ The third region is in the Russian Pacific around Sakhalin Island, where one of the world's largest liquefied natural gas production systems has recently come on stream.

The temporal dimension is equally significant to offshore development and is evident in all longitudinal analyses of offshore fields or basins. This dimension highlights the life-cycle stages of an offshore play and its tightly woven policy correlates. Four stages are generally posited. The first covers the exploration stage, beginning with legal permits that require a stipulated work program over a designated period of five to ten years. Prospective explorers are invited to nominate blocks of seabed space that they judge promising or the selection is determined by state authorities. Bids are then invited, and awards are made based on the highest level of work commitments pledged. When the results are sufficiently suggestive to warrant further investigation, permittees move to exploration drilling, by which holes are sunk at designated locations to test for hydrocarbon reservoirs. Significant finds are generally followed up by delineation drilling to establish field boundaries and volumes.

The second development stage begins when a commercial discovery is declared. Exploration permit holders have the opportunity to convert their rights into longer-term development leases tapered to the expected life of the field. At this point, plans are designed for petroleum production systems, including subsea wells, seabed control facilities and gathering lines, production platforms, and pipeline or ship-based transport and storage facilities. It is at this phase that major capital commitments are required. The rights holders often turn to global engineering and construction contractors to deliver complex facilities. As well, state authorities exercise regulatory approval over development activities as they unfold.

The production phase begins when oil, natural gas, or other petroleum liquids begin to flow. Rates of flow will vary over the life of a reservoir, and extraction practices can affect both the volume and duration of production. Reservoir management, then, is a central challenge if maximum returns are to be realized. Although the production phase is more modest in its capital and labour commitments, supply and service is a continuing function over the life of a project. As fields mature, it is also common for the initial investors to sell their holdings and with new ownership can come new business

strategy. The public policy challenges of managing field or basin transitions from emergent to expansive to mature conditions are complex and have not always been sufficiently acknowledged. For example, the state has an interest in maximizing and extending hydrocarbon extraction, even as the rate of flow declines. The state's interest can be at odds with the operator's desire to terminate a project as soon as marginal returns on the field fall below those of bellwether corporate holdings. State authorities once took a rather passive stance in the face of such corporate decisions. In recent times, however, state interests have been projected more actively to put the right field in the right hands.

The hydrocarbon yield eventually diminishes to the point where closure takes place. This final phase entails the permanent seal off of seabed well facilities and the decommissioning of offshore installations. Developers first dealt with this challenge in the Gulf of Mexico. Since then, hundreds of offshore platforms have been abandoned, and thousands will face this prospect in future years. Seal offs began in the North Sea in the 1990s, and the famous *Brent Spar* dispute was its signature controversy.²⁰ A variety of industry protocols and state regulations have emerged in response. Options range from the complete removal of facilities above the sea floor to partial dismantling below navigable depths to virtual abandonment in situ. The US Rigs-to-Reef program promotes the potential for abandoned jacket structures to sustain pelagic and benthic ecosystems that originated during the production years.²¹ On the Scotian Shelf, the only offshore system to reach this stage is the Cohasset-Panuke project, which quit flowing in 1999.

As with any cycle framework, there is no strict linearity. Stages can be arrested, reversed, or reset. For example, the Gulf of Mexico was widely regarded as a spent basin (the so-called dead sea) by the early 1990s, when exploration stalled and production volumes plummeted. Yet a new boom began in 1995 sparked by the advent of deepwater drilling (in subsurface depths exceeding 305 metres) and deep structure drilling (more than 4,500 metres below the seabed). These new technologies gave dramatic life to what had been regarded as a mature and declining sector.²²

In sum, the prospects for offshore comparative analysis, on both the spatial and the temporal dimensions, are both rich and promising.

Offshore Petro-Capital as a Political Factor

The offshore petroleum industry is sufficiently unique in its upstream operations to be considered a distinct subindustry within the hydrocarbon sector. Yet a plethora of intriguing questions remain. How does the offshore

segment express its shared interests on political and policy questions? Is the field or basin a relevant political denominator? The role of farm-ins and joint ventures has long been evident as a source of industry solidarity.²³ What are the prospects for coalition building along the offshore value chain? Alternatively, how does offshore petroleum relate to other ocean industries in terms of alliances or rivalries? Do associational structures give voice to offshore interests?

These are complicated questions. Few if any firms restrict their operations to offshore settings alone; rather, they assemble portfolios of property interests of varying degrees of risk in a comprehensive effort to acquire proven and commercially exploitable reserves. They are likely to combine fields and basins in many locations. An intricate process, internal to the firm, dictates where exploration and development funds are spent in a given year, and regional and project managers bring rosters of projects to the corporate table, where they compete for support. Relative attractiveness can change quickly over time, according to exploration results, market conditions, and political contexts.

So long as the zone of operations is confined to a single state's jurisdiction (as, for example, in Alberta during the period from 1918 to 1958), the lines of political mobilization and response may be relatively concurrent. The upstream industry depended upon provincial tenure and licensing policy, and the Alberta Petroleum Association (renamed the Canadian Petroleum Association in 1952) functioned as the collective voice of the major companies when dealing with the government in Edmonton. As activities proliferate into multiple state jurisdictions, however, the challenge of aggregating and articulating the political interests of shifting corporate subsets grows. The Canadian Petroleum Association, like other trade associations that service increasingly diversified memberships, opted for specialized internal sections or divisions where relevant business constituencies could coalesce for shared concerns while remaining part of the umbrella association. The Saskatchewan and British Columbia divisions emerged in this way.

A separate vehicle, the Independent Petroleum Association of Canada, represented companies whose activities were concentrated in the upstream exploration and production stages. This organization sprang in part from postwar tensions between independents and the integrated "majors" over the shape of the Canadian oil market. Wishing to supply the largest possible domestic market (at a time when oil exports were tightly controlled), the Prairie independents pushed for a coast-to-coast pipeline network. The foreign-owned majors, who already supplied Quebec and Maritime markets

from non-Canadian sources, pushed for a west-east divide, which was ultimately put in place.²⁴ Although the Canadian Petroleum Association and the Independent Petroleum Association of Canada had memberships of similar size by the 1970s, the companies securing acreage off the East Coast were largely, though not exclusively, foreign-owned majors.

In the United States, a specialized offshore association emerged shortly after the war. The Offshore Operators Committee was created to speak for the offshore upstream segment of US petroleum operators and to aggregate the concerns of firms active in the Gulf of Mexico. Still active, the committee focuses on regulatory rule-making processes in federal government agencies. By 2002, the group included seventy operating firms and twenty-five service companies.

In Canada, an analogue to the Offshore Operators Committee appeared in two frontier regional associations following the start of offshore drilling. The Arctic Petroleum Operators Association represented the federal northlands. On the Atlantic continental shelf, the parallel body was the East Coast Petroleum Operators Association. According to the newsletter *Offshore News*, each numbered about a dozen firms, and the costs of collective action were met by an assessment on acreage-holding member companies. A decade later, in 1983, the eastern association was absorbed into the Canadian Petroleum Association as its Offshore Operators Division. Three years later, the Arctic section followed suit. (This consolidation coincided with a mid-decade market slump and massive industry retrenchment.) The arrangement continues today in the Atlantic section of the renamed Canadian Association of Petroleum Producers.

Even within the Canadian Association of Petroleum Producers, it would be wrong to assume a uniformity of corporate purpose on offshore matters, for structural tensions permeate the membership. For example, corporate mega-mergers at the turn of the twenty-first century created a new tier of internationalized interests that have dwarfed all other oil producers. The appearance of supermajors such as ExxonMobil, Chevron Texaco, Total, and ConocoPhillips has altered the offshore business in a number of ways. First, it has halved the number of giant players in the international corporate game, significantly curbing rivalry in the exploration field. In addition, the rationalization of budgets, staff, rights holdings, and planned projects has significantly cut the amount of exploration capital being directed at high-risk basins. This, in turn, has had a knock-on effect in the offshore services and supply sector, which has been squeezed by the same developments. Furthermore, consolidation reinforces the tendency of megafirms to

limit their interest to truly giant finds, passing over promising prospects whose profit potential fails to match their newfound scale. Of course, there are many firms of lesser scale that can exploit this situation. Instead of targeting global elephant fields, they seek more modest portfolios, concentrating either on the prospects that the supermajors decline or abandon or on secondary or tertiary extraction from maturing fields that have been cast off by their initial developers.²⁵

The Technological Imperative

One of the strongest sources of business and political solidarity for offshore petroleum has been its reliance on advanced technology. Indeed, technological breakthroughs were instrumental in creating the offshore sector.²⁶ It is worth noting the primitivity of early offshore exploration in the Gulf of Mexico region and the dramatic innovations that have followed. In the 1940s, drill barges were simply dragged into shallow swamp-water positions and submerged. As ambitions turned toward open water, military surplus landing ships were refitted with derricks and drill support systems.²⁷ The first true standing rig, the Kerr-McGee 16, was placed some eighteen kilometres offshore in 1947 to drill in 5.5 metres of water. In the half century since, however, the Gulf's geological province (along with its industrial and political regime) has been transformed repeatedly.

Successive waves of innovation have been dramatic, as evidenced each year at the Offshore Technology Conference in Houston.²⁸ The results have improved the prospect of locating petroleum deposits; opened access to ever more remote sites; altered the techniques of hydrocarbon collection, processing, storage, and transport; and (through resurvey and rediscovery processes) turned apparently mature or exhausted sites and basins into new, high-growth prospects.²⁹ In exploration, three- and four-dimensional seismic image measurement has dramatically refined the accuracy of pre-drill intelligence. (This innovation has had major implications for offshore regions that have been inactive in recent decades, either because of formal moratorium policies or lapses in interest. The reopening of such areas allows for qualitative reappraisals through new seismic campaigns.) Directional drilling has likewise become far more sophisticated, allowing for both angled and horizontal access to reservoirs and the subsurface linkage of small, complex deposits. In offshore environments, this innovation allows companies to drill multiple wells from a single platform site or in dispersed configurations and to utilize seabed lines to gather the product together. Finally, techniques of measurement while drilling allow ongoing well data to

be compiled as drilling proceeds. In high-cost settings, where single wells run from \$50 million to 75 million in shallow water and twice that amount at greater depths on the continental slope, all of these innovations represent dramatic economies.

In production, the most visible symbols of technology are new above-water structures, including a variety of production platforms, from jacket and compliant towers and semi-submersibles to floating production, storage, and offloading (FPSO) vessels that offer an alternative to pipeline transport. Until recently, the latter option was restricted to oilfield development. In the past few years, however, it has been extended to gas fields, where ship-based plants liquefy and store natural gas before offloading it to liquefied natural gas (LNG) tankers, the so-called floating liquid natural gas (FLNG) system.

Although the technical and engineering dimensions of offshore operations have been widely celebrated, the societal implications of offshore operations have been neglected. Yet one promising analytic school – the technology assessment system school – seeks to assess the societal dimension. In the mid-1970s, an Office of Technology Assessment was established in the US Congress, and the Science Council of Canada took up the theme in Ottawa. Technology assessment was advanced “as a policy tool for alerting public and private policy-makers to the likely consequences of making a decision either to deploy a particular technology or to choose from among competing technologies.”³⁰ A celebrated first-generation technology assessment project, based at the University of Oklahoma, tackled US outer continental shelf oil and gas operations. In Canada, the Science Council mounted a similar program that shed considerable light on the emerging offshore petroleum frontier.³¹

For its part, the offshore industry expressed frustration that step changes in technology were not adequately acknowledged or appreciated by either the policy establishment or the interested public. This perceived neglect was a cause of ongoing frustration because, it was argued, many of these advances altered, sometimes decisively, the risk equations that apply to offshore activities. Technological advances were especially pertinent to a sector whose periodic political crisis moments – the Santa Barbara oil blowout of 1968, the Mexican Ixtoc 1 blowout of 1979, the Ocean Ranger rig loss of 1982, and the Piper Alpha platform fire of 1988 – seemed increasingly distant from contemporary practice. Of course, the situation changed on 20 April 2010, when a blowout destroyed the Deepwater Horizon rig at BP’s Macondo well and released five million barrels of crude oil into the Gulf.³²

Sharp questions once again attend the design, installation, and operation of complex systems, particularly in deepwater basins. The report of the presidential commission on the Macondo blowout highlights these questions, along with the urgent need for regulatory renewal.³³

Even without the Macondo catastrophe, the relentless drive to develop new technologies raises questions about reliability, transferability, and risk of unintended consequences. In Western states, the organized public will continue to pose such questions as long as offshore operations are under way.³⁴ Indeed, as offshore operators seek and obtain permission to drill in water depths exceeding 1,000 metres and to subfloor depths of 10,000 metres, it could hardly be otherwise.³⁵ As a result, project assessment, both environmental and socio-economic, is a central and politically charged terrain. It demands continued monitoring by regulatory authorities as it triggers policy debates on optimal regulatory instruments and policy mixes, particularly the role of prescriptive and performance-based regulations, different kinds of industry self-regulation and third-party certification, and the dangers of regulatory capture.³⁶

Federalism and the Offshore Domain

The history of commercial petroleum in federal systems is in large part a history of intergovernmental conflict.³⁷ Petroleum has pitted national governments against provinces and provinces against one another in struggles over jurisdiction, resource ownership, fiscal policy, environmental security, and industrial linkages, to name only the most prominent issues. What began on land has carried over to the water. Washington faces coastal states from Louisiana to Maine to Alaska. Ottawa deals with provinces and territories on all three coasts. Australia has a similar dynamic. In all these cases, there has been a proclivity for constitutional litigation, in which rival governments advance sovereign claims that are determined by judicial review, and central authorities have emerged legally dominant. Supreme Courts generally found the national governments' case for sovereign power over continental shelf resources to be superior to provincial and state arguments. This is far from the end of the story, however, for provincial and state authorities have spent the past half century seeking alternative paths to control over the resource.

In the first generation of offshore petroleum exploration and development (1950-75), central jurisdictions appeared to be self-contained and exhaustive. That is, all political questions pertaining to title and management fell to central state institutions. Indeed, if continental shelves were

significant only for their petroleum reserves, this arrangement might have lasted longer. Federal authorities would administer leases, collect royalties, and regulate projects in much the same way that Texas and Alberta did on land. However, the very fact of ocean jurisdiction introduced complicating factors. One was the presence of parallel and potentially rival industries – such as fishing, marine transport, and coastal tourism – that had prior claims to ocean use.³⁸ Their effective political mobilization not only challenged offshore resource administrators to expand their policy repertoires but also provided provincial and state authorities with avenues to reassert an offshore presence.

Another key force, which began in the 1970s, was growing awareness of ocean ecology. This awareness owed much to damaging environmental episodes such as the blowouts, along with tanker spills, marine animal welfare campaigns, and a growing appreciation of the scale of shore-based pollution. The ocean commons were revealed to be profoundly complex and fragile systems in desperate need of integrated governance.³⁹ Where the ocean is concerned, policy issues are linked, overlaps abound, and intergovernmental and interagency conflicts are latent in almost all commercial and regulatory questions. Recognition of this reality has hastened the breakdown of traditional sectoral approaches to continental shelf resources. Previously separate domains – oil, fish, transport, communications, parks, and protection – are now increasingly connected, pointing toward a new era of ocean governance. A new repertoire of policy instruments and planning tools is emerging, one that includes cross-jurisdictional coastal and open-ocean initiatives.⁴⁰

Although the institutions of ocean governance are still rudimentary, they point to a new political space that is being actively contested by an expanding range of interests. The risks of this situation have not been lost on the offshore petroleum bloc, which recognizes that holistic ocean policies have the potential to erode or even supplant sectoral resource regimes. Much will depend on how existing regulatory arrangements are reconciled with new initiatives and on where the seats of ministerial and bureaucratic authority are lodged. As a result, the interface between management regimes will be politically contested in the foreseeable future.

State Strength and Capacity

Much of the struggle of offshore politics ultimately comes down to the coastal states' capacity to manage hydrocarbon resources. An understanding of capacity can draw on some classic analytic debates about strong and

weak states, policy coherence and fragmentation, and institutional autonomy and permeability.⁴¹ The need to unpack these complex problems became clear as offshore studies progressed. It seems that part of the answer lies in the properties of state management institutions.⁴² Another part lies in the properties of the policy subsectors being assessed.⁴³ In addition, a panoply of policy instruments figures in any offshore management effort. Policy borrowing, learning, and diffusion is common among offshore agencies.⁴⁴ Linda Weiss offers a helpful insight with her observation that “states are not uniformly capable across all policy areas.”⁴⁵ Just as a state’s capacity may vary among broad policy areas such as fiscal management, industrial adjustment, and social redistribution, so too can it vary among the several subsectors of offshore oil and gas policy.

Offshore petroleum exploration and development on the East Coast is a curious institutional hybrid that has emerged over the past twenty-five years. Its roots lay in a succession of federal-provincial disputes over offshore resource ownership that were exacerbated by the twin energy (OPEC) price spikes of the 1970s. When exploration began to yield significant discoveries (particularly the Venture gas and Hibernia oil strikes) in the late 1970s, the need to resolve uncertainties over state jurisdiction became more urgent. Industry hesitated to move forward so long as the status of tenures remained cloudy. It was at this point that the rival ownership dispute was transformed into a joint management regime by means of a series of negotiated intergovernmental accords.

The concept of a joint federal-provincial management board has a mixed provenance that originated in the 1970s. Parallel negotiations over power sharing arose in northern Aboriginal land claims talks and in renewable resource co-management.⁴⁶ In petroleum, however, the prototype was the tri-province Maritime Offshore Mineral Resources Agreement of 1977. It was succeeded by the Canada–Nova Scotia Agreement on Offshore Oil and Gas Resource Management and Revenue Sharing of 1982, which was modified in turn by the Canada–Newfoundland Atlantic Accord and the Canada–Nova Scotia revised deal one year later.⁴⁷ Talks on a parallel Pacific accord between Ottawa and British Columbia were under way after 1987 but came to a halt when it was decided that the West Coast’s long-standing moratorium on drilling would stay in place. Interbasin comparisons can, however, still be made.⁴⁸

A new template for offshore management was established by the East Coast accords: jointly appointed petroleum boards, supported by professional staff, exercise delegated regulatory powers under federal and provincial

statutes and with a mandate to coordinate the essential administrative functions of exploration and production. Although the boards enjoy substantial autonomy as Crown agents, they are responsible to designated federal and provincial ministers, who also have the power to review, confirm, and override selected types of decisions through “an elaborate series of trumping arrangements” vis-à-vis the boards.⁴⁹ At each level of government, a range of bureaus and agencies are bound into the board structure by formal memoranda of agreement, while industry and public interests enjoy access through a shifting network of advisory committees.

The joint-board design raises a number of questions. How open is it to organized lobbying? Within its broad jurisdictional template, what are the formative or valence issue areas? How meaningful are the options for ministerial appeal? The literature on capital-state bargaining certainly has a role to play here, particularly given that petroleum basins have to date been developed largely on a project basis, by which each sponsoring consortium advances an omnibus plan to be adjudicated by public authorities.

Also relevant here is the question of issue boundaries and characteristics. In policy terms, how can the offshore development field most usefully be delineated? In response to this question, Derek Fee advances the concept of the petroleum exploitation strategy, which consists of “those instruments, both legal and fiscal, that define the relationship between the state and the oil companies involved in the petroleum exploitation process.”⁵⁰ For Fee, this concept highlights a range of critical elements of which three – the exploration agreement, licensing policy, and taxation – form the core. It is worth noting that this framework was developed in reference to leading oil supply states during the years of OPEC hegemony. A more nuanced version can be established in reference to offshore petroleum regimes.

This Book

When this study was conceived shortly after the turn of the millennium, I expected the Canada–Nova Scotia Offshore Petroleum Board to be the centrepiece of the analysis. This assumption derived in part from the board’s distinctive institutional traits and its role in resolving the jurisdictional uncertainties of earlier decades. A uniquely Canadian response to a problem faced by many federal states exploiting offshore resources, the board has not yet attracted the attention it deserves. As the investigation proceeded, however, it became evident that the board, although a central protagonist in Scotian Basin politics, accounted for only a part of the story. The reasons for its prominence were in part circumstantial. The first generation of offshore

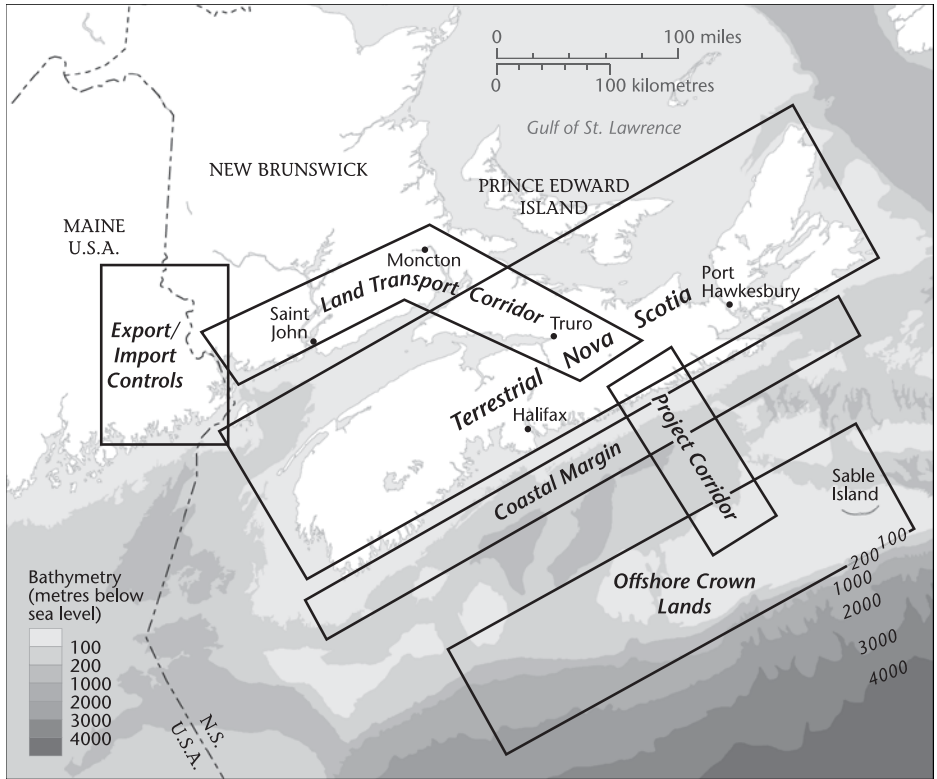
activity was confined overwhelmingly to exploratory efforts. As the Crown administrator of petroleum rights, the board stood squarely in the centre. Even then, however, there was evidence of a broader state presence and a more complex state structure overseeing the offshore industry. A more sweeping inquiry was needed to fully reveal the actors, settings, and issues affecting petroleum exploration and development in the Scotian Basin. The existence and importance of this wider structure has become increasingly evident in the past ten years as exploitation has followed exploration and as a variety of downstream businesses have entered the fray, along with terrestrial public interests.

Although the life and times of the CNSOPB loom large in this analysis, this book also offers a comprehensive picture of state involvement on the continental shelf. It captures the key role of federal agencies such as Environment Canada, Fisheries and Oceans, the National Energy Board, and Natural Resources Canada, to name only the lead players. On the Nova Scotia side, the Departments of Energy, Economic and Rural Development, and Environment and Labour enjoy a similar status, as does the Utilities Review Board. The local state is also added to the mix in recognition of the stakes of coastal counties, municipalities, and the communities they represent and to highlight the complications associated with this relatively disaggregated and weak state structure.

To illustrate the existence of multiple political contexts and potentially distinct governing structures, the offshore basin is placed in a regional geographic context. Map 1.1 offers one perspective, identifying a series of settings in which critical issues can arise.

The offshore Crown arena is the field in which Crown title is administered and corporate exploration and production activities are regulated. It is the domain of the CNSOPB, the agency that manages Crown title to seabed petroleum. In this sense, the board is the offshore equivalent to provincial departments that oversee the Crown's interest in terrestrial oil and gas. Simply put, the board is the licensor of exploration rights and production leases that play a critical role in shaping the pace and direction of initial field development. The board concentrates on the classic upstream activities that extend to the point of extracting petroleum from the ground. As will be discussed, the board links back to its parent authorities in a number of ways that allow policy direction from senior political levels. It also connects horizontally to other departments and agencies.

A spatially adjacent setting connects commercially viable oil or natural gas fields with points of onward sale. This involves field or project corridors



Map 1.1 Political contexts for offshore petroleum

that connect offshore wellheads with processing facilities. There are several possible configurations, including a FPSO (to tanker) facility for crude oil and a pipeline-to-shore based processing-plant system for natural gas. A key point is that new commercial interests, investments, and works emerge within the gathering-processing-storage infrastructure. The regulatory jurisdiction over these activities also tends to fall under separate authorities. For a FPSO system, the federal Ministry of Transport looms large; for offshore gas pipelines, the National Energy Board holds the lead.

A third setting is the territorial coastal margin, where shore-based authorities begin to play a role, particularly at the provincial and local levels. Any facility that is sited at tidewater, or otherwise directly connected to offshore industry, is affected in this domain. For example, natural gas processing plants, natural gas liquids separation facilities, and liquefied

gas-receiving terminals exert a significant footprint on the coastal margin. Senior jurisdictions hold environmental impact review powers for such installations, while local authorities exercise crucial zoning and taxation powers. Another aspect of coastal margin politics involves industrial linkages between offshore operators and onshore contractors.

A fourth arena with distinct political concerns is the province as a whole, which can be described as mainland Nova Scotia. It plays a role in so far as interests and issues arising from the terrestrial community are directed at offshore activities. Since there is little to no political community resident within the offshore belt, it is not surprising that certain interests may be asserted on the basis of adjacency. Nova Scotia citizens have raised pointed questions about the range and distribution of benefits from offshore petroleum. How do citizens benefit from provincial Crown title to the resource, by way of royalties, taxes, and other fiscal transfers? What benefit are petroleum supply, security, and use to citizens? Some have argued that provincial consumers should be given full and even preferred purchase rights to the landed resource. If accepted, this has implications for market-building policies targeting local gas distribution and petrochemical manufacturing facilities. Another possibility is the assertion of a new category of interests in offshore petroleum, over and above the general provincial community. It has been suggested, for example, that Aboriginal peoples in Nova Scotia possess an interest by virtue of their constitutional rights.

The fifth and final policy setting is the onward transmission and sale of hydrocarbon products to final consumers, which normally entails long-distance transit by pipeline or other means. This phase can also involve the shipping of products abroad. In a sense, this step completes the industry chain for offshore petroleum products by realizing a commercial return. Notably, the transit and export steps are each subject to regulatory regimes that constitute discrete political fields of action. When shipment has an interprovincial or international component, the federal National Energy Board plays a central role. As a result, a wide range of interests tend to coalesce at this point: commodity owners, rival shipping interests, rival buyers, host provinces, and civil society groups. In Map 1.1, these stages are represented by the “land corridor” and “export controls” designations.

Taken together, the policy domains that have grown up around these spatially defined functional steps capture the full complexity of offshore politics on the Scotian Shelf. In principle, the domains can apply to any offshore petroleum basin. Examining the basin at the level of institutions, interests, and decision processes allows for the identification of the distinguishing

features of basin politics. Yet several points should be clarified. First, the sequential logic of commercial production, as specified above, is seldom replicated literally in business and political practice. Put another way, there is no reason to expect that each stage stands alone and apart from the others. Indeed, the history of modern commerce suggests that corporate interests will adapt organizationally to prospective market uncertainties (as represented by external chain steps, for example) with strategic behaviour – equity partnerships, mergers and takeovers, or other business alliances. As a consequence, it is not surprising to find overlaps between these power arenas. In fact, the defining patterns of connection can offer crucial insights into prevailing power relations.

Second, the temporal logic of the industry chain seldom unfolds as a series of discrete steps. In other words, although commercial scale hydrocarbon discovery may be necessary to trigger other arenas, corporate planning and political reaction may proceed virtually simultaneously at multiple points along the chain. Infrastructure consortia may be formed and commence preliminary planning even before viable reserves have been confirmed. Similarly, long-term downstream delivery contracts are normally formalized between suppliers and buyers before oil or gas owners make regulatory applications for processing or transit.

Third, there is no reason to expect political processes to mirror, in structure, the industry chain. Indeed, discrepancies between the organization of the two, with all that this implies for interest holding and strategy, can account for much of the animating tension between market and state. Public authorities bent on petroleum exploitation have all discovered, sooner or later, that the political management of these endowments involves far more, in modern times, than getting the product to the surface and then stepping aside. Consequently, one of the most important questions for any authority is how the grid of sovereign institutions intersects with the chain of industry functions. This issue is one of the seldom-noted features of offshore petroleum management, and it is central to understanding the process. The configuration of agencies and authorities is commonly as diffuse as the business chain that it faces. Specialization is deeply embedded. Offices administering offshore Crown title, regulating indigenous business supply and labour use, enforcing environmental standards, licensing marine infrastructure, licensing terrestrial infrastructure, and conferring rights of export are scattered throughout multiple jurisdictions. It is important to consider that state authorities can achieve adaptive strategies different in form but parallel in function to those of business.

Offshore Politics and State Policy

The signature feature of offshore petroleum politics is that its sectoral unity breaks down under close analysis. Consequently, it cannot be captured on a single plane of analysis but only through a series of distinct, though still connected, policy domains. In effect, offshore petroleum politics consists of multiple arenas in which power – understood as the mobilization, clash, and resolution of organized interests – is exercised and affirmed. Each of these fields of power involves a potentially distinct and shifting configuration of interests, and the hierarchies of influence may vary from one field to the next. Insight into the cumulative patterns, or the ultimate distillation of offshore petroleum power, can only be drawn after a detailed study of the key constituent parts or policy subsectors, followed by their re-aggregation into a political-economic whole. It bears repeating that not all subsectors will be coordinate and equal in importance. To capture this reality, Rayner and colleagues advance the useful concept of the critical subsector, which plays an anchor role “capable of blocking or enabling overall levels or directions of sectoral policy change.”⁵¹

Power can be a difficult and elusive concept. It may be manifest in a visible contest between organized interests that advance distinct agendas fulfilled only at the expense of rivals. This is the realm of organizational and group politics, where firms, industry advocates, and popular groups express concerns and pursue the desired outcomes. This visible plane represents only a part of the political domain, however, if we consider what it leaves out. On the one hand, it neglects political stakeholders who have not achieved the effective threshold of formal organization because of disproportionate skews in the possession of material or symbolic resources or biases in participative procedure or decision-making rules. In either case, potential interest holders can be discouraged or outright excluded. At the least, such constraints mean that the associational universe is an incomplete reflection of political interests. On the other hand, the visible plane can also overlook the significance of institutional interests within the very state structures called upon to adjudicate conflicts. The premise that governmental channels offer neutral conduits to balance interests has long since been abandoned. More accurately, state interests need to be seen as integral to political decisions and manifest in concepts such as bureaucratic politics and clientelism, among others. All of these considerations underline the need to explore the biases of institutions.

Part 1 of this book explores the physical as well as the political-economic terrain of the Scotian Basin. It locates offshore petroleum in geological

terms and highlights the problem of oil and gas exploration. This is only a start, however, since commercial and political imperatives are also considered. Chapter 2 offers an alternative interpretation of offshore corporate politics based on the notion of basin development, a generic process that unfolds as a series of steps or stages. Analogous to the literature on product cycles in business and policy cycles in state decision making, I argue that the prime orientations and interests advanced by firms and governments evolve as a basin develops. Put simply, the priorities of firms at the early exploratory phases differ qualitatively from those of commercial exploitation. As a basin matures, new sets of issues arise; as it declines, the agenda shifts again.

Part 2 explores the processes of state building associated with Nova Scotia's offshore petroleum resource, beginning with the formative decades of the 1970s and 1980s and continuing to the present. Chapter 3 details the joint (federal-provincial) offshore Crown rights management regime, which emerged from a series of intergovernmental accords that were struck to clarify the rules and procedures for resource rights access. Although the accords dealt with more than management structures alone, the centrepiece was the Canada–Nova Scotia Offshore Petroleum Board. A product of institutional experimentation in the 1980s, the board has been a central force in Scotian Shelf development. Its origins reveal much about the state's expectations, and the board's mandate reveals its reach. The chapter offers an institutional analysis of the board's structure and identifies the logic and values embedded in its architecture.

Chapter 4 extends the investigation to the board's operational procedures, centring attention on the responsibilities the board has assumed and its means of translating mandate into action. The chapter reveals that the board exercises delegated powers in a number of policy fields. Questions of personnel, licensing processes, and reporting relationships loom large. The range of regulatory powers is impressively diverse and is illustrated by a case study of the first project to extract petroleum from the Scotian Basin, the Cohasset-Panuke oilfield. Ultimately, the chapter paints a picture of an offshore board practising regulatory politics in multiple dimensions.

The Crown rights regime does not exhaust the range of state policy options offshore, and the board was not its sole instrument. Not surprisingly, in light of the wider petroleum politics of the 1980s, the question of rent collection loomed large. Governments at all levels sought to supplement resource royalty and tax receipts with earnings from state corporations. Federal and provincial authorities both took this route. Petro-Canada was established explicitly as Ottawa's instrument for catalyzing new oil and gas

development, particularly in frontier areas. The Crown corporation played a significant role in the Atlantic offshore booms of the 1980s, and its story is relatively well known. Far less prominent but no less revealing is the history of the provincial rent collection vehicle known as Nova Scotia Resources Limited. Its story is the subject of Chapter 5.

Part 3 offers a series of case studies on decision making and power relations in the offshore petroleum commercial chain. The pace of commercial production is a critical indicator of basin development. In this respect, the Scotian Shelf remains at an embryonic stage. Chapter 6 presents a detailed analysis of the only major natural gas production system to date, the Sable offshore energy project. For the Scotian Basin to achieve commercial take-off, this system will have to be replicated many times over. For the moment, however, the Sable project offers significant insights into the complicated politics of linking fields to markets.

Chapter 7 explores the policy sector known as industrial benefits. Around the world, host states understandably want to maximize the domestic economic enterprise and employment advantages from offshore development. States also recognize that all phases of the offshore industry – from seismic work and rig construction to exploratory drilling, field development, and supply and service – has long been dominated by global firms. Left on their own, these firms, which are based in Houston, Singapore, Holland, or South Korea, will draw on prior networks of contractors to meet their needs, regardless of geographic location. As a result, host states have for decades stipulated domestic participation as a requirement for gaining and holding licences. The design and application of an industrial benefits regime to the Scotian Shelf is the subject of Chapter 7.

In a federal state such as Canada, the federal-provincial encounter over offshore jurisdiction is more than a matter of who has regulatory primacy. The fiscal dimension is also important, and Chapter 8 examines inter-governmental struggles over royalties, taxes, and equalization transfers. This matter was sufficiently fundamental to be written into the 1982 and 1986 accords. To a large extent, the subject remained dormant until commercial exploitation began. Beginning in 1999, however, the fiscal issue moved to centre stage. A satisfactory resolution to the question for Nova Scotia lay at the centre of Premier John Hamm's "campaign for fairness" over the course of his tenure. The offshore revenue question haunted Prime Minister Paul Martin in his early years in office. In 2007, the issue reignited, in spectacular fashion, when the Stephen Harper Conservatives again proposed modifications for the treatment of offshore revenues for purposes of

equalization finance. That the fiscal issue, above all others, has dominated the partisan and electoral dimensions of offshore development is highly revealing.

Chapter 9 explores the interests of land-based consumers of shelf petroleum. One of the advantages held out for Nova Scotian society as a whole has been secure and affordable local access to oil and gas. By 1997, provincial authorities, who had the prospect of landing Sable gas by the millennium, were planning to make good on this legacy. In this field the Government of Nova Scotia has taken a lead role and the outcomes offer a test case of the province's capacity to deliver results. The process of forging an entirely new industry structure and then licensing local gas-delivery franchises proved to be far from straightforward, illustrating not only the limits of provincial industrial planning but also the dangers of political overreach in pursuit of legitimacy.

The coastal margin represents a boundary between the offshore and on-shore worlds. It is a complex social space that may be thought of as a frontier of colliding political interests that links shore-dwelling residents, harbour communities, municipal authorities, and a variety of occupational interests. The prevalence of political cross-pressures is a signifying feature of the coastal margin. Chapter 10 considers the rise of a new potential industry that is pre-eminently coastal, that of liquefied natural gas import and processing. This sector arrived in Nova Scotia in the early 2000s, when several consortia announced plans to build shipping, storage, and regasification facilities on the Atlantic shore. For several years, liquefied natural gas import and processing was the most dynamic segment of the hydrocarbon industry and promised to both extend and upgrade the economy of the Scotian Shelf. Although the initial promise was not fulfilled in the expected fashion, the industry's early years offer important insights into power relations offshore.

Political margins can, of course, be measured socially as well as geographically. Chapter 11 explores a relatively recent and potentially profound challenge from the margin. Evidence is mounting that Aboriginal peoples in Nova Scotia may hold a position, in relation to resource title and use, that is coordinate with the federal and provincial authorities. Since the 1970s, Status and Non-Status Indian groups have asserted claims to lands and resources. Their claims are based on both the Mi'kmaq treaties of Peace and Friendship and the legal doctrines of Aboriginal rights and title recognized through litigation. Although a series of judicial rulings has confirmed a set of rights connected to hunting, fishing, and logging, the possible inclusion

of offshore resources, petroleum in particular, is a relatively recent turn. Although these matters are far from resolved, it may be that a third constitutional interest will be acknowledged within the domain of offshore governance.

The concluding chapter synthesizes analytic themes and explores their interconnections, allowing for a second look at questions of power and conflict, disaggregated state structure, and diffuse governance. The discussion underscores how an extended case study of the Scotian Basin speaks to a variety of concerns: the place of hydrocarbons in the regional energy mix, the challenges of locating and extracting petroleum, and the complications of regulating a strategic industry in a dynamic offshore polity. The offshore state in the Scotian Basin is revealed as a complex structure. Despite the innovative impulse of the joint management mandate, federal and provincial structures are far from fully coordinated. A variety of policy instruments have been deployed by federal, provincial, and joint agencies in attempts to shape the pace of oil and gas development. Integral to this is political pressure from petroleum capital that has fluctuated along with the identifiable cycles in upstream industry development. The struggle between governments and civil interests to secure “prime beneficiary” status is inherent in offshore management and is ongoing. In the future, lessons from the Nova Scotia experience may inform political practice on other coasts and in other basins.

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