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MISSION STATEMENT

The mission of Energy Regulation Quarterly (ERQ) is to provide a forum for debate and discussion on issues surrounding the regulated energy industries in Canada, including decisions of regulatory tribunals, related legislative and policy actions and initiatives and actions by regulated companies and stakeholders. The role of the ERQ is to provide analysis and context that go beyond day-to-day developments. It strives to be balanced in its treatment of issues.

Authors are drawn from a roster of individuals with diverse backgrounds who are acknowledged leaders in the field of energy regulation. Other authors are invited by the managing editors to submit contributions from time to time.

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EDITORIAL

Managing Editors

Rowland J. Harrison Q.C. and Gordon E. Kaiser

Professor David Mullan's annual review of "Developments in Administrative Law Relevant to Energy Law and Regulation" is eagerly anticipated within the energy regulation community. This, the first issue of the tenth volume of *Energy Regulation Quarterly*, opens with his review of 2021 developments.

The review provides a detailed analysis of a significant decision of the Alberta Court of Appeal that Professor Mullan concludes "almost certainly will have implications for the way in which the Alberta Utilities Commission…deals with matters engaging the rights, claims, and interests of Indigenous peoples as a component of its public interest jurisdiction."

Professor Mullan's review also revisits two "lingering issues" following from the 2019 leading decision of the Supreme Court of Canada in *Vavilov v Canada (Minister of Citizenship and Immigration)*[1]: firstly, the standard of review that appeal courts should apply to their scrutiny of judicial review or appellate judgments; and, secondly, "does jurisdiction (or a very close approximation) still have legs in the Vavilovian era of judicial review?"

His review concludes with a comment, arising from a recent proceeding before the Alberta Utilities Commission on an application by the Commission's Enforcement Branch, on "the obligations of regulated sectors towards those who are charged with regulating them."

Amidst the controversy surrounding the enactment of Bill C-69, little attention was paid to the introduction, as part of the *Canadian Energy Regulator Act*[2], of a federal regulatory framework for the development of offshore renewable energy (ORE). As long ago as 1973, Gérard V. La Forest (later Mr. Justice La Forest of the Supreme Court of Canada) wrote that "full and rational development" of the ORE sector in Atlantic Canada required effective federal legislative involvement. It would take more than 35 years for such involvement to materialize, in the form of a regulatory scheme for the permitting of ORE projects and offshore power lines, administered by the Commission of the newly-established Canadian Regulatory Agency.

In "The Regulation of Offshore Renewable Energy under the *Canadian Energy Regulator Act*: Towards Full and Rational Development of ORE in Atlantic Canada", Daniel Watt and Lucia Westin provide a comprehensive introduction to both the potential of ORE and the regulatory framework that now governs its development.

As has been discussed in past issues of *ERQ*[3], the establishment of the Alberta Energy Regulator in 2012 introduced a new "tripartite" model for regulatory tribunals in Canada that has since been adopted federally (with the replacement of the National Energy Board by the Canadian Energy Regulator) and for the Ontario Energy Board. The origins of the model and the reasons for its adoption are unclear. More importantly, several questions arise about the appropriateness of the model and its implications for the integrity and effectiveness of energy regulation. Robert B. Warren's article on "The Governance of Regulatory Agencies – A Further Case Study of

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[1] 2019 SCC 65.

[2] SC 2019, c 28, s 10, replacing the former *National Energy Board Act*, RSC 1985, c N-7.

[3] See e.g. Rowland J. Harrison QC, Neil McCrank QC and Ron Wallace, "The Structure of the Canadian Energy Regulator: A Questionable New Model for Governance of Energy Regulation Tribunals?" (2020) 8:1 Energy Regulation Q 48.

the Ontario Energy Board" offers an important contribution to the ongoing discussion.

This issue of *ERQ* closes with two book reviews by Kenneth A. Barry. The books — Dr. Steven E. Koonin's *Unsettled* (2021) and Saul Griffith's *Electrify: An Optimist's Playbook for Our Clean Energy Future* (2021) — are described by Barry as "bookends in the ongoing debate over whether society should dramatically ramp down its dependence on hydrocarbons to meet its energy needs as the linchpin for stabilizing the presence of greenhouse gases…in the atmosphere." ■

2021 DEVELOPMENTS IN ADMINISTRATIVE LAW RELEVANT TO ENERGY LAW AND REGULATION

*David J. Mullan**

I. INTRODUCTION

In last year's survey,[1] I discussed briefly the Alberta Court of Appeal's granting of leave to appeal in *AltaLink Management Ltd. v Alberta Utilities Commission*,[2] a case which appeared to raise significant issues about the application of the honour of the Crown to regulatory proceedings in which the rights, claims and interests of Indigenous peoples were at stake. My prediction at that time was that, if the appeal were to succeed,

> …it may very well presage more frequent appeals to the honour of the Crown in regulatory proceedings… Process, not in the sense of the mechanics of consultation but the canvas on which such decision-making takes place (the range of relevant factors), may expand considerably.[3]

On June 17, 2021, the appeal was allowed,[4] and, while the majority judgment of Watson and Wakeling JJA was not grounded in the constitutional principles of the honour of the Crown and Reconciliation, it almost certainly will have implications for the way in which the Alberta Utilities Commission (hereafter "Commission" or "AUC") deals with matters engaging the rights, claims, and interests of Indigenous peoples as a component of its public interest jurisdiction. I am therefore devoting a considerable portion of this year's survey to an analysis and evaluation of that decision.

I also revisit two of *Vavilov's*[5] lingering issues: What standard of review should appeal courts apply to their scrutiny of judicial review or appellate judgments? Despite that judgment's explicit sidelining of the concept of jurisdiction as not only a ground of review but also one attracting the correctness standard, does jurisdiction (or a very close approximation) still have legs in the Vavilovian era of judicial review? Finally, in the context of recent proceedings before the Commission, I will comment on the obligations of regulated sectors towards those who are charged with regulating them.

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[1] David J. Mullan, "2020 Developments in Administrative Law Relevant to Energy Law" (2021) 9:1 Energy Regulation Q 21, online: *ERQ* <energyregulationquarterly.ca/regular-features/2020-developments-in-administrative-law-relevant-to-energy-law1#sthash.GE4Qu5Ra.dpbs>.

[2] 2019 ABCA 482.

[3] Mullan, *supra* note 1 at 41.

[4] *AltaLink Management Ltd v Alberta (Utilities Commission)*, 2021 ABCA 342.

[5] *Canada (Minister of Citizenship and Immigration) v Vavilov*, 2019 SCC 65 [*Vavilov*].

II. *ALTALINK MANAGEMENT LTD V ALBERTA (UTILITIES COMMISSION)*[6]

i. Introduction and Factual Background

For several reasons, this was one of the most eagerly awaited Energy Law judgments of 2021 involving as it did an appeal from the Commission's decision in a matter in which principles of rate regulation encountered the rights, claims, and interests of two Alberta First Nations. More specifically, the Alberta Court of Appeal had to assess whether to uphold the Commission's ruling that limited partnerships, in each of which one of the two First Nations held a majority interest, could not recover certain costs, as a component of their revenue requirements, in rates charged to customers. These were recurring audit and regulatory costs resulting from the approval of an agreement between AltaLink Management Ltd. (hereafter "AltaLink") and the two limited partnerships transferring to the partnerships those portions of the assets of an electrical transmission line which were located on the reserves of the two First Nations.

The project giving rise to the proceedings before the Commission had had a lengthy and complicated gestation period. It could be traced back to 2002. That year, AltaLink had purchased TransAlta's transmission system and the right to operate it. At that time, AltaLink realised that the transmission facilities in southwest Alberta needed upgrading. This epiphany led it eventually to conclude that the preferred siting of a new transmission line was one that involved the traversing of land belonging to the two First Nations. This required the consent of the two First Nations and that consent was given. In return for the First Nations' consent, in 2010, AltaLink conferred an irrevocable option on the First Nations for the purchase of a percentage of the transmission assets crossing the First Nations' territory using the vehicle of the two limited partnerships. In each of these partnerships, AltaLink in various corporate forms was also a party. However, the option conferred on the First Nations gave each of them a right to acquire up to 51% of the relevant partnership units. Shortly thereafter, the new transmission line became operational, and, by February 2014, both First Nations had exercised their options to acquire the maximum 51% provided for under the option contract with partnership agreements concluded three years later. At that point, the final round of regulatory proceedings that were the subject of the Commission's hearing and its challenged ruling commenced with the filing of an application by AltaLink for the approval of the sale of the transmission assets crossing the First Nations land to the two limited partnerships as well as approval of interim general tariffs based on their revenue requirements for 2017 and 2018.

With respect to the matter of audit and regulatory costs estimated at $60,000 annually for each partnership, these were costs that arose out of the severing of the ownership of the transmission system and would not have otherwise been necessary. Neither an annual audit nor separate regulatory filings for the hived off portions of the transmission line would have been required.

ii. The Commission's Ruling on the Audit and Regulatory Filing Costs

Section 101 of the *Public Utilities Act*[7] requires Commission approval for any transfer of transmission assets, while section 17(1) of the *Alberta Utilities Commission Act* (hereafter "*AUC Act*")[8] mandates that, in any such proceeding, the Commission

> …shall, in addition to any other matters that it may or must consider…give consideration to whether…operation of the proposed…transmission line…is in the public interest, having regard to the social and economic effects of the…line…and the effects of the…line on the environment.

For the purposes of exercising its authority under these sections, the Commission had developed a formula named the "no-harm" test. This test involves a balancing of the extent to which the asset transfer will benefit ratepayers against the negative impacts of the transfer. If, on balance, approval will benefit

[6] *Supra* note 4.

[7] RSA 2000, c P-45.

[8] SA 2007, c A-37.2.

ratepayers or leave them no worse off, the project could be approved. If they will be worse off, the Commission will consider whether the harm can be mitigated by making approval subject to conditions. Among the factors that are considered are the impact of the transfer on rates charged to customers and reliability of service.

In this instance,[9] the Commission concentrated on the extent to which rates charged by the partners as system operators would be increased were the audit and regulatory costs to be passed on to customers.[10] However, the Commission refused to take into account a range of what AltaLink and the partnerships argued were more than trivial offsetting impacts:

> [S]avings from routing the transmission line through First Nations lands that AltaLink Management asserted amounted to $32 million, and intangible benefits arising from the partnership with the First Nations generally described as "(1) access to the First Nations workforce; (2) strengthening AltaLinks's relationship with other First Nations in Canada and the United States; and (3) support for the alignment of interests between AltaLink and the First Nations to enhance the long-term safe and reliable operation of utility assets on their reserve land".[11]

In imposing on its approval of the transfers the condition that the audit and regulatory costs not be passed on to customers, the Commission[12] ruled that the cost savings occasioned by the routing of the transmission lines through First Nations territory were irrelevant to the application of the "no-harm" test. The application of the test was specific to the nature of the particular application — the transfer of assets. It was also a forward-looking standard. The location of the new transmission line had been resolved in the past and in separate proceedings and agreements. As for the intangible benefits, even if forward-looking, they were too speculative and unsupported by the evidence before the Commission. It was also unclear whether they or any component of them represented forward-looking benefits for ratepayers.

Given that there were no relevant or proven offsets to the negative impact of allowing the partnerships to pass the annual audit and regulatory approval costs on to ratepayers, the Commission held that the "no-harm" test dictated that, in approving the transfer of assets application and the interim General Tariffs, it was necessary to mitigate the financial harm by ruling that the contested costs not be passed on to ratepayers. It was agreed that the Commission had not previously made such an order.[13]

iii. The Review Proceedings

AltaLink then sought leave to appeal the Commission's decision and particularly the ruling on the recovery of the annual audit and regulatory costs to the Alberta Court of Appeal. Section 29 of the *AUC Act* provided for such an appeal on a question of law or jurisdiction with the leave of a single judge of the Court. Strekaf JA granted leave on two of the grounds relied upon by AltaLink in three of its legal capacities including as a partner with the two First Nations in the ownership of the transmission line assets. Described as questions of law, the two grounds were:

a. Did the AUC improperly fetter its discretion when considering the transfers by applying the "no-harm" test?

b. Did the AUC err by failing to consider all relevant factors?[14]

A Court of Appeal panel consisting of Watson, Wakeling, and Feehan JJA allowed the appeal and ordered that the two partnerships be

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[9] *Re AltaLink L.P. Transfer of Specific Transmission Assets to PiikaniLink L.P. and KainaiLink L.P. and the Associated 2017-2018 General Tariff Applications* (13 November 2018), 22612-D01-2018, online (pdf): *AUC* <efiling-webapi.auc.ab.ca/Document/Get/637186>.

[10] *Ibid* at paras 39, 62 (as summarized by the Court of Appeal, *supra* note 4 at para 37).

[11] As quoted and summarized by the Court of Appeal, *supra* note 4 at para 37.

[12] As quoted and summarized by the Court of Appeal, *ibid* at paras 39-41, 53.

[13] *Ibid* at para 1.

[14] *Supra* note 2 at para 15.

permitted to include the audit and regulatory process costs in their tariff applications and thereby recover them from ratepayers. The principal judgment was delivered by Watson and Wakeling JJA, with Feehan JA concurring but also proceeding to canvas constitutional bases for challenging the Commission's ruling. Having granted the appeal on administrative law grounds, Watson and Wakeling JJA felt no need to explore the constitutional arguments albeit that they had been a significant presence in the grounds of appeal advanced by the appellant partnerships including AltaLink.[15]

As for the administrative law grounds, the principal judgment held that the Commission had "erred"[16] in adopting and applying an absolute rule that it need consider only forward-looking benefits. There was no warrant in the statute for taking such a narrow and formalistic approach. The Commission also "misfired"[17] when it rejected the relevance of the previous stages of this undertaking and, especially, the costs savings occasioned by the routing and construction of the new transmission line. The savings from that phase were ones that would continue to be realized beyond the initial construction and operational phases and into the future. Included in those "predictable future benefits"[18] were ones that benefited the environment. There were also the benefits that would accrue from the fostering of relationships with First Nations through participation in projects such as this, including the promotion of economic activity on reserves as contemplated for this very project.

> In short, a broader view of the no-harm test and the public interest is appropriate. It includes any factors that the Commission considers relevant to the transfer and sale application whether or not those factors arise before or after the application.[19]

Watson and Wakeling JJA then catalogued many of the historic barriers faced by Indigenous peoples to full participation in the wealth and opportunities afforded to others in Canada and particularly education and meaningful employment. As an antidote, participation in projects such as this were to be promoted and encouraged.[20]

Feehan JA, while concurring with Watson and Wakeling JJA,[21] went even further and advocated a template in which the evaluation of legal challenges such as this were rooted in the constitutional obligations arising out of the honour of the Crown and the imperative of Reconciliation.

iv. Analysis

Gordon Kaiser (in these pages)[22] and Kristen van de Biezenbos (in the University of Calgary Faculty of Law Blog)[23] have both provided an assessment, for the most part favourable, of this judgment. In particular, they have emphasised and expressed support for the Court's recognition of the importance of the Commission factoring into the exercise of its public interest mandate over transmission line approval and operation the interests of First Nation groups participating in the industry as owners, partners, and operators. For Watson and Wakeling JJA, that sense of mandate should imbue the interpretation and application of relevant statutory provisions, an exercise rooted in an expansive sense of the scope of the "public interest" in the applicable

[15] *Supra* note 4 at paras 13, 79.

[16] *Ibid* at para 54.

[17] *Ibid* at para 55.

[18] *Ibid*.

[19] *Ibid* at para 57.

[20] *Ibid* at para 58–75.

[21] *Ibid* at para 81.

[22] Gordon E. Kaiser, "Reconciliation: The Public Interest and a Fair Deal" (2021), 9:4 Energy Regulation Q 38, online: *ERQ* <energyregulationquarterly.ca/articles/reconciliation-the-public-interest-and-a-fair-deal#sthash.t9RK8GI2.dpbs>.

[23] Kristen van de Biezenbos, "Alberta Court of Appeal Rules on Role of Honour of the Crown and Reconciliation in AUC Rate Applications" (26 October 2021), online (pdf): *Ablawg* <ablawg.ca/wp-content/uploads/2021/10/Blog_KVDB_AUC_Reconciliation.pdf> (I should say however that I find the title somewhat misleading. A majority of the Court of Appeal did not rule on the role of the honour of the Crown and Reconciliation).

statutory provision and structure. For Feehan JA, it seemingly went further than this in the sense that not only the statutory interpretation exercise but also presumably the constitutional validity of the statutory provisions themselves should be addressed by reference to the constitutional imperatives arising out of not just the honour of the Crown but also the pursuit of the constitutionally recognized principle of Reconciliation. I have little quarrel with most of what these commentators had to say. However, I do want to inject into the discussion of this judgment some cautionary elements especially from the perspective of administrative law and the principles of judicial review and its remedial capacities.

a. Scope of Appeal and Standard of Review

Watson and Wakeling JJA spent next to no time on the scope of the appeal provision in section 29(1) of the *AUC Act*. As noted already, it required leave of a single judge of the Court of Appeal and was confined to questions of law and jurisdiction. In a footnote, the joint judgment simply stated:

> The appellate standards of review apply. *Canada v. Vavilov*, 2019 SCC 65, para. 37. An appeal court may substitute its view for those of the original adjudicator on questions of law.[24]

This, of course, reflects the change wrought by *Vavilov*[25] in which, absent statutory modification, the standards of review to be applied on an appeal to a court from a statutory decision-maker are those customarily applied to appeals in civil matters: correctness on issues of law and "palpable and overriding error" for findings of fact and mixed law and fact unless there is a "readily extricable" issue of law, these being the standards established for most civil appeals by *Housen v Nikolaisen*.[26]

Aside from the fact that this element of the Supreme Court's majority judgment in *Vavilov* has been subject to considerable criticism,[27] there was nothing problematic with the application of this standard to the specifically legal determinations of the Commission in this matter. However, the grounds of appeal on which Strekaf JA gave leave — fettering of discretion and failure to consider all relevant factors — do raise questions as to whether they are properly characterized as pure questions of law or questions of mixed law and fact from which there is no readily extricable question of law, the latter being apparently beyond the scope of the appeal provision as not being questions of law or jurisdiction.[28]

In this context, it is worth recalling the admonition of McLachlin CJ in *Dr. Q v College of Physicians and Surgeons of British Columbia*:

> The nominate grounds [such as fettering of discretion and failure to take account of relevant factors], language of jurisdiction, and ossified interpretations of statutory formulae, while still useful as familiar landmarks, no longer dictate the journey.[29]

By the time we reach *Vavilov*, fettering of discretion features not as a ground of review but as an element in one of the contextual factors, the "governing statutory scheme",[30] that the

[24] *Supra* note 4 at para 1, n 1.

[25] *Ibid* at paras 36–54.

[26] 2002 SCC 33. For a very recent discussion of the reach of *Housen* in the context of professional disciplinary proceedings and discretionary decision making, see *Dhalla v College of Physicians and Surgeons of Manitoba*, 2022 MBCA 7.

[27] Among those first out of the gate was Nigel Bankes in his blog posting: "Statutory Appeal Rights in Relation to Administrative Decision-Maker Now Attract an Appellate Standard of Review; A Possible Legislative Response" (3 January 2020), online (pdf): *Ablawg* <ablawg.ca/wp-content/uploads/2020/01/Blog_NB_Vavilov.pdf>.

[28] In the past, however, I have asserted that in some applications for leave to appeal, questions of law have been interpreted to include inextricably mixed and factually suffused questions of law and fact: David J. Mullan, "2015 Developments in Administrative Law Relevant to Energy Law and Regulation" (2016), 5:1 Energy Regulation Q 15 at 30.

[29] 2003 SCC 19 at para 24.

[30] *Vavilov*, *supra* note 5 at paras 108–10.

majority lists as relevant to the content and application of reasonableness review:

> The statutory scheme also informs the acceptable approaches to decision making: for example, where a decision maker is given wide discretion, it would be unreasonable for it to fetter that discretion.[31]

The question then becomes where this leaves for the purposes of section 29 allegations of fettering and failure to take account of relevant factors particularly in the context of the exercise of a broadly-based public interest discretion from which there is an appeal restricted to questions of law and jurisdiction. In the instance of fettering, where is the line to be drawn for access to appeal purposes between fact driven structuring of discretion, and fettering that, as a matter of law, is contingent much more directly on the meaning and purposes of the relevant sections of the statute and those of the statute as a whole? At what point, is discretion constrained by principally legal imperatives as opposed to the regulator's assessment of the factual underpinnings and background to the matter before it, the latter being the territory of mixed law and fact determinations from which there is no readily extricable pure question of law? Indeed, the same question may be posed about a failure to take account of relevant factors (as alleged in this case) or, for that matter, taking account of irrelevant factors. Where is the boundary to be drawn between largely fact driven determinations as to relevance, on the one hand, and legally contingent assessments, on the other?

Looking at the judgment of Watson and Wakeling JJA from this perspective, three things stand out. First, it seems as though they have no problem with the mere existence of the general parameters of the "no-harm" test — an assessment of the impact of the project on ratepayers and on the reliability of electricity transmission with a view to establishing whether any harms will outweigh the benefits. It is an exercise in a regulator structuring of a discretion for the more efficient and predictable consideration of applications.[32] Secondly, in many respects and situations, this is very much a largely fact driven inquiry. Thirdly, its exercise either generally, or, as here, with reference to the particular application may however generate purely or principally legal questions with the resulting opening of access to the *AUC Act's* appeal provision as a pure question of law.

Interestingly, the majority judgment in its Brief Answers characterizes the Commission's error solely in terms of "failing to take into account all relevant factors that determine whether a sale is in the public interest."[33] There is no mention of an unlawful fettering of discretion. However, that aside, the focus of the judgment is on its rejection of the Commission's interpretation and application of the "no-harm" test on the basis that, properly applied, it allows only forward-looking benefits to be factored into the calculus and the balancing exercise the test requires.

For the Commission, this had meant that past benefits resulting from previous stages in the evolution of the overall project could not be advanced in support of the contention that the benefits far outweighed the costs of the approval in the form of the incidental and recurring audit and regulatory approval costs. Integral to the Commission's analysis was the proposition that various stages in the overall development and approval processes had to be assessed separately for regulatory purposes and not accumulated in order to establish whether the benefits outweighed the costs to ratepayers and any adverse impacts on the reliability of the services provided. The Commission had also questioned whether any of the intangible benefits asserted by the applicants were even forward-looking, and, in the case of various collateral advantages to the two First Nations, sufficiently established or too speculative.[34]

To the extent that the rejection of the Commission's reasoning was rooted in the Court's sense of a proper interpretation of the relevant provisions and the overall purpose

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[31] *Ibid* at para 108, referencing *Delta Air Lines Inc. v Lukács*, 2018 SCC 2 at para 18.

[32] For an authoritative discussion of the legitimacy of and limits on such structuring exercises, see, albeit in a very different context, the judgment of Evans JA in *Thamotharem v Canada (Minister of Citizenship and Immigration)*, 2007 FCA 198.

[33] *Supra* note 4 at para 11.

[34] *Ibid* at paras 40, 53, where the Court summarized and quoted from the Commission's decision.

of this aspect of the Act, it is hard to quarrel with these elements of the decision on the basis that they were not truly the subject of an appeal under the Act because they constituted determinations of questions of mixed law and fact, and not extricable questions of pure law. Disaggregating the various phases in the history of the siting, operation, and ownership of the new transmission line rather than treating it as an in effect integrated whole, could be characterized readily as productive of artificiality in the reality of the development and the application to it of the "no-harm" test. As such, the critical question of whether it was appropriate to restrict the benefit side of the balancing required by the "no-harm" rule to only forward-looking benefits can be classified as a pure question of law or a question of law readily extricable from a question of mixed fact and law, and thereby both legitimately subject to an appeal on law and/or jurisdiction and, after *Vavilov*, correctness review.

Putting this in terms of the questions on which Strekaf JA granted leave to appeal and the ground on which the Court of Appeal allowed the appeal, this error of law can be seen as having led to a failure on the part of the Commission to take account of relevant factors (the exclusion from the calculus of benefits that were not "forward-looking"), or maybe a fettering of discretion (the development and application of a gloss on the "no-harm" rule that restricted unduly the inquiry required by the statute and the Commission's discretionary authority over the approval of the sale of transmission lines).

Nonetheless, this leaves over at least four questions. Probably the easiest of those questions is whether the Court of Appeal was justified as a remedial response to the finding of legal error in allowing the appeal and directing the Commission to permit the two partnerships to recover the contested incidental costs from ratepayers. Does it necessarily follow from the legal errors that the Commission's order that the partnership bear the incidental costs must be seen as fatally flawed? Could it still be justified? In other words, should the matter have been remitted to the Commission for reconsideration based a legally proper reading of the "no-harm" rule?[35] Though Watson and Wakeling JJA do not expressly state it, it seems implicit in their analysis that a proper interpretation and application of the "no-harm" rule would inevitably have led the Commission to the conclusion that there was no basis for denying the partnerships the right to pass on to ratepayers the contested incidental costs. This is underscored by a comparison between the magnitude of the benefits that the Commission excluded from its application of the "no-harm" rule and the seemingly trivial amount of those incidental costs.

The other three questions are more problematic.

Unlike Feehan J, Watson and Wakeling JJA were unwilling to take on board the constitutional challenges to the Commission's determination based on the honour of the Crown and the principles of Reconciliation. Rather, they seemingly adopted the position that respected the admonition that, except in rare situations, it is not appropriate for a court to entertain constitutional arguments when a dispute can be determined by reference to common law rules and principles and/or the terms of the governing legislation. One can, however, make a similar argument with respect to the actual holding of Watson and Wakeling JJA. Why, having determined that the Commission had erred in law in its failure to factor forward-looking benefits into the calculus, did they then go on at length to discuss in general terms the benefits that might flow from the participation of Indigenous peoples in projects such as this? Was it in any way necessary for the determination of the relatively narrow issue that was at hand?

There may be two explanations for this lack of restraint. The one relates back to the first question. By identifying and quantifying in general terms the benefits that might flow to the appellants from participatory engagement in projects such as this, the decision to allow the appeal but not remit for further consideration might be even more dramatically justified. Secondly, the majority may have felt that at least they owed it to the parties to give some indication of the factors that might be relevant to a consideration of what count as intangible benefits in the calculus required by the "no-harm" rule and that preoccupied the parties in their approach to the appeal.

[35] See the discussion of the question of when not to remit but instead step into the shoes of the decision-maker in *Vavilov*, *supra* note 5 at paras 139–42.

However, van de Biezenbos questions the practical utility of the judgment's essay on the extent to which participation in energy projects such as this might advance the welfare of those living on First Nations reserves:

> [B]ut in listing the benefits provided by "projects that increase the likelihood of economic activity on reserves," the court doesn't make clear what evidence could be used to provide proof that a particular project will do this… In fact, much of what the court cites in support of intangible benefits in this case is general information such as the high rate of unemployment on reserves (though no statistics are given for the [two reserves], nor is any evidence cited that the [two reserves] are providing specific economic benefits to their respective communities) and broad statements of approval for Indigenous efforts to "participate in mainstream commercial activities".[36]

More generally, van de Biezenbos worries legitimately about how, within the parameters of the "no-harm" test, any at large consideration of the importance of joint enterprises such as this to the advancement of the welfare of Indigenous peoples is to be assessed in the context of a balancing process that has in the past usually involved a

> …highly specific and data-driven assessment of costs under the no-harm test and could conflict with its statutory mandate to ensure just and reasonable rates in the province.[37]

In fact, the Court of Appeal recognizes this. First, Watson and Wakeling JJA accept that "a broader view of the no-harm test and the public interest is appropriate."[38] It was said to include "any factors the Commission considers relevant to the transfer and sale application whether those factors arise before or after the application."[39] Even more pointedly, the judgment recognizes the consequences of such an approach for the regulatory process and the costs that it is likely to involve in terms of time, the extent of participatory rights, and especially the assembly, presentation, and consideration of relevant evidence:

> [A] forward-looking focus will result in consideration of all the relevant public interest factors **most of the time** [emphasis added].[40]

In the name of a policy aimed at encouraging "the likelihood of economic activity on a reserve"[41] and, with this case as an example, it might be argued that the Court of Appeal is condemning the Commission to a process the cost of which, as in this case, will probably be far in excess of the annual incidental audit and regulatory costs that are in issue. It also begs questions such as how the balancing process might work out in a proceeding where the Commission is confronted with having to decide whether to give approval to the siting of a transmission line that might cost more than the realistic alternatives but where that choice is being justified on the basis that it would be to the advantage of First Nations peoples over the lands of which the line would now cross.[42]

Further complicating any evaluation of how the Commission should engage in inquiries of

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[36] van de Biezenbos, *supra* note 23.

[37] *Ibid*.

[38] *Supra* note 4 at para 57.

[39] *Ibid*.

[40] *Ibid* at para 58.

[41] *Ibid* at para 59.

[42] On the more general question of the capacity or legitimacy of energy regulators to implement broadly-based social objectives, see the contrasting judgments of the Ontario Divisional Court in *Advocacy Centre for Tenants-Ontario v Ontario Energy Board* (2008), 293 DLR (4th) 684 (Ont Div Ct), and *Dal Legal Aid Services v Nova Scotia Power*, 2006 NSCA 74, with the former upholding the setting of lower power rates as part of combatting poverty and the earlier, admittedly under a differently configured statute, denying the regulator's capacity to act in that manner. More recently, in *Manitoba (Hydro-Electric Board) v Manitoba (Public Utilities Board)*, 2020 MBCA 60, the Court set aside as impermissibly discriminatory a policy of zero rates for those Indigenous peoples living on reserves. Interestingly, the judgment does not engage in any analysis as to whether the statute properly interpreted should allow for special consideration to be given to the fact that the policy was directed at the improvement of conditions on First Nations reserves whether as a matter of statutory interpretation or overarching constitutional considerations. Of the considerations that animated the Court in *AltaLink*, in the Manitoba Court of Appeal's judgment, there was but one passing reference to the financial difficulties faced by First Nations peoples in Northern Manitoba.

this kind is the concurring judgment of Feehan JA in which he explored a view of the process on the assumption that constitutional rights were in play. More particularly, what should be the consequences of engrafting onto the Commission's discretionary decision-making process under section 17 of the *AUC Act* (approving transfers of ownership) and sections 121–125 of the *Electric Utilities Act* (approving of tariffs) the constitutional entitlements of Indigenous peoples derived from the honour of the Crown and the principles of Reconciliation?

The initial question is undoubtedly whether the honour of the Crown and the need for Reconciliation exist as free-floating or untethered constitutional obligations that potentially infuse the making of discretionary decisions that in any way implicate the rights, claims, and interests of Indigenous peoples. Feehan JA seems to accept that they do. However, in terms of the honour of the Crown, Supreme Court of Canada authority still supports the proposition that it is not a free-floating constitutional norm but rather one that must be located within at least one of four currently recognized and specific categories:

1. The duty to consult

2. A fiduciary duty arising out of the Crown's assumption of "discretionary control over a specific Aboriginal interest"

3. Treating making and implementation giving rise to requirements such as "honourable negotiation and the avoidance of the appearance of sharp dealing", and

4. Acting in such a way as to accomplish "the intended purpose of treaty and statutory grants to Aboriginal peoples."[43]

Of these four categories, my sense is that the only one that might have been relevant is that of fiduciary duty. However, even there, it is difficult on the face of the regulatory regime in question to see Indigenous peoples' participation as partners with the private sector in energy projects as involving a situation where the Crown has assumed discretionary control over those participatory choices albeit that they may involve dealings with First Nation lands or territory. Whether viewed from the perspective of *sui generis* or *ad hoc* fiduciary duties, the Supreme Court has been cautious in its recognition of the existence of such obligations.[44] The Court's position is well summarized by the Alberta Court of Appeal in *Fort McKay First Nation v Prosper Petroleum Ltd.*:

1. "While the honour of the Crown is always at stake in its dealings with Aboriginal peoples, it is not engaged by every transaction."

2. "Rather than being an independent cause of action, the honour of the Crown 'speaks to *how* obligations that attract it must be fulfilled'."[45]

This stands in sharp contrast to the judgment of Feehan JA in *AltaLink*. Not only is his elaboration of the relevance of the honour of the Crown not rooted specifically in one of the four categories, but, at face value, appears to conflict with the first of the *Fort McKay First Nation* propositions. Maybe, it is implicit that Feehan JA is locating his elaboration of the scope of the honour of the Crown as arising out of the triggering of a fiduciary duty. Nonetheless, the following statement is not consistent with the more restrained approach to the existence of a fiduciary duty outlined in the Supreme Court's jurisprudence as explained in *Fort McKay First Nation*:

> I conclude that the Commission in exercising its statutory powers and responsibilities, must consider the honour of the Crown and reconciliation **whenever** the Commission engages with Indigenous collectives or their governance entities, and include in its decisions an analysis of the impact of such principles upon the orders

[43] *Manitoba Metis Federation Inc. v Canada (Attorney General)*, 2013 SCC 14 at para 73.

[44] See the judgments of Wagner J (majority) and Brown J (minority) in *Williams Lake Indian Band v Canada (Aboriginal Affairs and Northern Development)*, 2018 SCC 4 (*ad hoc* fiduciary duty) at para 163 (Brown J), and Binnie J in *Wewaykum Indian Band v Canada*, 2002 SCC 79 (*sui generis* fiduciary duty) at paras 79–85. See also for a discussion of this case law, *Fort McKay First Nation v Prosper Petroleum Ltd.*, 2020 ABCA 163 at paras 53–58.

[45] *Fort McKay First Nation*, *supra* note 44 at para 54.

> made, when raised by the parties and relevant to the public interest [emphasis added].[46]

Of course, if the approval of such transactions and associated tariff setting does engage the Crown's fiduciary duties, the Commission (as the Crown's agent for the regulation of the participation of Indigenous peoples) may very well be seen as responsible for a constitutionally infused exercise of its discretionary powers, though presumably not one that treats (as in the case of *ad hoc* fiduciary duties) the regulator as having "assumed a paramount obligation to one particular group at the expense of all others".[47]

This, however, does leave open the formal status of the principle of Reconciliation. Even if my analysis is correct and there are restraints on locating the existence of a fiduciary duty as one of the components of the honour of the Crown, the principle of Reconciliation may be of a different order. As outlined by Feehan JA, it might serve to place demands on regulators such as the Commission to always consider in the context of regulatory proceedings to which Indigenous peoples are in any form participants whether the proceedings contain any opportunities for the furthering of Reconciliation. This could be so as either a free-floating principle or another category in which the honour of the Crown is engaged.

In any event, if the threshold for the application of constitutional rights or even values is crossed in proceedings such as this, what is clear is that it will add to the Commission's evaluation or application of the "no-harm" test and, more generally, its exercise of discretionary powers, a further dimension that does not lend itself to any precise quantification as part of the harms versus benefits calculus.

In terms of where this discussion commenced — the scope and application of the appeal provision in section 29(1) of the *AUC Act* — what should also be kept in mind, even where fiduciary duties are in play, is the following statement by Wagner J (as he then was) for the majority in *Williams Lake Indian Band*:

> Finally, although specific legal questions may arise, questions about the existence and breach of a fiduciary duty — the latter requiring an assessment of what are the applicable legal duties required of the fiduciary in the circumstances — are questions of mixed fact and law.[48]

In other words, even where the exercise of a statutory discretionary power is infused with constitutional obligations, unless there are clearly extricable pure questions of law, the exercise of those powers will not be subject to correctness review. In the instance of access to a section 96 court by way of common law judicial review, deferential reasonableness review will be the standard albeit infused with the *Vavilov* reasonableness contextual factors.

In contrast, where resort to the court is by way of statutory appeal, the standard for review of inextricably questions of mixed fact and law will be that of palpable and overriding error. However, where access to an appeal or an application for judicial review is confined (as in *AltaLink*) to questions of law and jurisdiction, a literal reading of these principles might mean no access to court scrutiny except where a credible case can be made that the contested territory involves an extricable question of law as in the instance of a misfire in terms of a regulator's application of a standard or the application of a set of criteria that is legally vulnerable as a matter of statutory interpretation irrespective of the facts.

The only possible ways around this may be:

> (1) that the right to appeal on questions of law, as a matter of interpretation, should be read expansively as actually including mixed questions of law and fact even where there is no readily extricable question of pure law[49];

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[46] *Supra* note 4 at para 84.

[47] See *Williams Lake Indian Band*, *supra* note 44 at para 163 (*per* Brown J).

[48] *Supra* note 44 at para 38.

[49] See footnote 28, *supra*.

> (2) that, where constitutional principles are in play, all questions, whether of pure law, fact, or mixed law and fact, will come within the scope of an appeal on a question of jurisdiction; or
>
> (3) that, if the right of appeal is read as excluding review even on jurisdictional grounds (of which more below), save for pure questions of law whether constitutional or otherwise, there will nonetheless (as foreshadowed by Nigel Bankes[50]) be a residual category of common law judicial review (instead of the statutory appeal) for constitutional issues that involve inextricably tied mixed questions of law and fact or pure fact.

So much for *Vavilov* providing much needed clarity to the law of judicial review and the standards to be applied!

III. TWO *VAVILOVIAN* SIDEBARS

i. The Standards Applicable to Appeals from Courts on Statutory Appeals or Judicial Review Applications

In last year's article,[51] I foreshadowed the Supreme Court's hearing of the appeal in *Northern Regional Health Authority v Horrocks*.[52] Among the issues raised in that case was whether the normal *Housen v Nicolaisen* standards applicable to appeals from judges to higher level courts (and now applied generally to appeals to courts from statutory authorities) should govern appeals from lower courts in the context of an initiating statutory appeal from or judicial review of a statutory body — correctness for questions of law generally including questions of law readily extricable from a finding of mixed fact and law, and palpable and overriding error for all other questions of mixed fact and law and questions of fact.

Horrocks has now been decided and an answer provided to this question. That answer was to the effect that there was no pressing need to overrule a comparatively recent Supreme Court judgment on this very question: *Agraira v Canada (Public Safety and Emergency Preparedness)*.[53] *Housen* did not apply. Relying on the judgment of LeBel J, Brown J (for the majority) stated:

> A reviewing judge's selection and application of the standard of review is reviewable for correctness… This approach accords no deference to the reviewing judge's application of the standard of review. Rather the appellate court performs a *de novo* review of the administrative decision.[54]

In this instance, given that the standard of review was that of correctness and that the first instance judge had correctly selected the standard of review, the appellate court's next role had been to determine whether the first instance court's ruling on the disputed question was correct.[55] In contrast, if the appropriate standard had not been that of correctness but reasonableness, then the role of the appellate court would have been to step into the shoes of the first instance judge and review the decision *de novo* on a reasonableness standard.

ii. Flirting with the Revival of Jurisdiction[56]

Horrocks started in the Manitoba Court of Queen's Bench by way of an application for judicial review, not a statutory appeal.[57]

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[50] *Supra* note 27.

[51] *Supra* note 1.

[52] 2021 SCC 42. For a fuller discussion of this aspect of *Horrocks*, see Paul Daly, "Life After *Vavilov*? The Supreme Court of Canada and Administrative Law in 2021" (18 November 2021), online: *SSRN* <papers.ssrn.com/sol3/papers.cfm?abstract_id=3962286>.

[53] 2013 SCC 36.

[54] *Supra* note 52 at para 10.

[55] And similarly on further appeal to the Supreme Court of Canada.

[56] For other commentary on this issue, see Mark Mancini, "Jurisdiction and the Post-Vavilov Supreme Court: Part 1" (4 November 2021), online (blog): *Double Aspect* <doubleaspect.blog/2021/11/04/jurisdiction-and-the-post-vavilov-supreme-court-part-i/>.

[57] 2016 MBQB 89, rev'd 2017 MBCA 98.

However, because it was a classic case of duelling jurisdictions, it came within *Vavilov's* third category of situation where the presumption of reasonableness review was rebutted. It involved "questions regarding jurisdictional boundaries between two or more administrative bodies."[58] In this instance, the possibilities were that both competing tribunals (labour arbitrator or Human Rights Commission) had jurisdiction or only one of them and, if the latter, which one. On that and related questions (such as possible priorities if both had jurisdiction), the standard of review was that of correctness. This was a classical jurisdictional stand off issue paralleling the 2000 judgment of the Supreme Court in *Regina Police Assn. Inc. v Regina (City) Board of Police Commissioners*[59], a judgment which in its adherence to correctness review based on the concept of jurisdiction had survived the apparent purge of the concept of jurisdiction in *Vavilov*.

> We would cease to recognize jurisdictional questions as a distinct category attracting judicial review.[60]

From this, it appears as if it is only within the three *Vavilov* exceptional categories where the presumption of reasonableness review is rebuttable that the concept of jurisdiction will have any traction.

However, as I noted two years ago in my 2019 review of administrative law developments,[61] in *Bell Canada v Canada (Attorney General)*,[62] released the same day as *Vavilov* and involving the first application of the application of correctness review for questions of law coming to the court by way of appeal, the Court

> …seemed perfectly comfortable in viewing the critical interpretative issue in that case as "go[ing] directly to the CRTC's statutory grant of power." This seems like a definition of a true question of jurisdiction, and later this is further underscored by the majority's reference to the "appellant's primary jurisdictional argument" as well as this being an issue about "the scope of its authority".[63]

Despite the majority in *Vavilov* denying that they were reinsinuating the concept of true questions of jurisdiction into their formulation of the various contextual factors bearing on the conduct of reasonableness review,[64] it is difficult to treat the following statement as anything other than a synonym for a form of jurisdictional assessment:

> Reasonableness review does not allow administrative decision makers to arrogate powers to themselves that they were never intended to have and an administrative body cannot exercise authority which was not delegated to it.[65]

This tension within the judgments in the two foundational cases aside, there remains the matter of statutory references to jurisdiction as a ground of appeal as in *AltaLink* and section 29(1) of the *AUC Act* and many other appeal provisions in regulatory legislation, not to mention section 18.1(4)(a) of the *Federal Courts Act*, enshrining jurisdictional error as one among its legislated catalogue of grounds of review. Are these to be taken as having been implicitly repealed by *Vavilov*, for some a heretical notion? Or, might such provisions be seen as an indirect legislative enshrining of both the concept of jurisdiction and its historical position as a correctness ground of review, thereby constituting "derogation[s]"[66] from the presumption of reasonableness review?

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[58] *Vavilov*, *supra* note 5 at para 63.

[59] 2000 SCC 14.

[60] *Vavilov*, *supra* note 5 at para 65. The minority in *Vavilov* agreed with this position: see para 282.

[61] David J. Mullan, "2019 Developments in Administrative Law Relevant to Energy Law and Regulation" (2020), 8:1 Energy Regulation Q 28, online: *ERQ* <energyregulationquarterly.ca/regular-features/2019-developments-in-administrative-law-relevant-to-energy-law-and-regulation>.

[62] 2019 SCC 66.

[63] Mullan, *supra* note 61 at 30 (citations omitted).

[64] *Vavilov*, *supra* note 5 at para 109.

[65] *Ibid*.

[66] *Ibid* at paras 33–35.

Albeit that it trades in the concept of jurisdiction in the context of an initial application for judicial review, *Horrocks* does not start to give an answer to these questions. The scenario of duelling jurisdictions takes place against the background of a category-based exception to the presumption of reasonableness review in which jurisdiction is a defining concept.

Ward v Commission des droits de la personne et des droit de la jeunesse[67] is somewhat different in that it commenced as an appeal to the Quebec Court of Appeal[68] from the Quebec Human Rights Tribunal.[69] The relevant provision did not include a specific reference to jurisdiction but its exercise nonetheless, by reference to *Vavilov*, attracted automatically the new world of non-deferential, correctness review on statutory appeals to courts from administrative decisions. However, what is interesting is the extent to which the Supreme Court majority seemed quite comfortable in describing the fatal error in *Ward* in terms of the Tribunal in effect arrogating to itself "jurisdiction"[70] over what was in effect an action in defamation and not within the reach of the anti-discrimination provisions of the *Quebec Charter of Human Rights and Freedoms*.[71]

Similarly, in the *Manitoba (Hydro-Electric Board)* case,[72] in the context of an appeal from the Manitoba Public Utilities Board in a case involving a challenge to preferential rates for those living on reserves, where jurisdiction as well as law were grounds of appeal, the Court of Appeal saw the issue of impermissible discrimination in terms of both law and jurisdiction.[73]

While the parameters are by no means clear and the continued existence of a concept of jurisdiction by no means generally accepted, I would suggest that there is at least some case law support for its survival whether under its own name or in the guise of questions of "authority." It may, however, take a long time before a coherent and authoritative account of its place emerges.

IV. FAIR DEALING WITH THE ALBERTA SECURITIES COMMISSION – THE ATCO SAGA[74]

On November 29, 2021, following on an investigation, the Alberta Utilities Commission's Enforcement branch applied[75] to the Commission for the commencement of a proceeding under sections 8 and 63 of *AUC Act* with a view to determining whether ATCO had acted unlawfully in the context of rate setting and, if so, should pay an administrative penalty. In particular, it was alleged that ATCO had acted in such a way as to transfer to ratepayers responsibility for a contract that it had entered into at above fair market rates in order to benefit a non-regulated affiliate. In particular, the report of the Enforcement branch asserted that ATCO had documented the scheme in such a way as to "conceal the [relevant] facts and other important information from the Alberta Utilities Commission (AUC) to mitigate the risk of regulatory disallowance."[76]

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[67] 2021 SCC 43, delivered on October 29, 2021, just one week after *Horrocks*.

[68] 2019 QCCA 2042.

[69] 2016 QCTDP 18.

[70] *Supra* note 67 at paras 1, 4, 22, 27, 28, 52, 113.

[71] CQLR, c C-12.

[72] *Supra* note 42.

[73] *Ibid* at para 22–27.

[74] For further details, see Bob Weber, "Alberta Utilities Commission investigators want probe of ATCO dealings on TMC camps", *The Canadian Press* and *Calgary Herald* (30 November 2021), online: <calgaryherald.com/pmn/news-pmn/canada-news-pmn/alberta-utilities-commission-investigators-want-probe-of-atco-dealings-on-tmx-camps/wcm/dbc6fbc3-24b9-48af-85f2-938b040865c1>.

[75] Alberta Utilities Commission Enforcement Staff, "Application of AUC Enforcement staff for the commencement of a proceeding pursuant to sections 8 and 63 of the *Alberta Utilities Commission Act*" (29 November 2021), 27013-X0034, online (pdf): *AUC* <www2.auc.ab.ca/Proceeding27013/ProceedingDocuments/27013_X0034_Application%20of%20Enforcement%20Staff%20re%20ATCO%20Electric_Redacted%202021-12-10_000042.pdf> (As of February 12, 2022, this matter had not been finalized as the Commission has provided ATCO and the Commission's enforcement staff further time, until March 4, to reach a settlement against the background of the investigation report's request to the Commission that there be an enforcement hearing. See The Canadian Press, "ATCO, investigators get more time" (12 February 2022) A2, online: *The Calgary Herald* <epaper.calgaryherald.com/calgary-herald/20220212/page/2>.)

[76] *Ibid* at para 1(b) (Summary of Application and Relief Requested).

Aside from allegations of specific instances of illegality, Enforcement staff contended that the ATCO had breached its

> …fundamental duty of honesty and candour to its regulator — the duty upon which the entire regulatory system relies to function efficiently and effectively.[77]

In the body of the report on its investigation, the Enforcement branch relied upon precedents in the domain of law society disciplinary proceedings to the effect that

> …regulatory bodies cannot protect the public in any meaningful way if they are not privy to accurate information concerning their members.[78]

The professional disciplinary setting might not, as matter of initial impression, appear to have much to offer in the establishing of ethical and transparency obligations within the energy sector. However, in terms of general principles, there is a strong case for reading many of the same obligations into participatory conduct in the regulatory processes to which ATCO was subject. As the report points out, especially given the disparity in access to relevant information and resources as between ATCO and the Commission, anything less than such a duty has the potential to bring the regulatory system into disrepute and to compromise the integrity of the Act's regulatory objectives.[79]

The report also referenced[80] the 2020 Report of the AUC Procedures and Processes Review Committee,[81] all but one of the recommendations of which were adopted by the Commission and were applied to the proceeding under scrutiny. To the extent that these recommendations were aimed at reducing regulatory burden and creating a more efficient regulatory process, it became even more important that the information provided by regulated utilities be "full, fair and accurate".[82] In the new environment of "limited discovery processes and the elimination of oral evidence",[83]

> [t]he benefits of a more efficient and reduced rates regulatory proceeding can be achieved only with a corresponding obligation on regulated utilities to be transparent, honest and candid.[84]

The report then went on to assert that, in this proceeding, ATCO had been a beneficiary of the changes "without fulfilling its corresponding obligations"[85]

As one[86] of the members of the Procedures and Processes Review Committee, I endorse enthusiastically the principles identified and espoused by the Enforcement branch in its report. More generally, it is to be hoped that energy regulators generally and the entities that they regulate will treat these principles as implicit in the regulatory mandate. ■

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[77] *Ibid* at para 2(d) (Summary of Application and Relief Requested).

[78] *Ibid* at para 141, n 125, citing especially *Kumar v Law Society of Saskatchewan* 2015 SKCA 132 at para 7.

[79] *Ibid* at para 141.

[80] *Ibid* at para 142.

[81] Kemm Yates, David J. Mullan & Rowland J. Harrison, "Report of the AUC Procedures and Processes Review Committee" (14 August 2020), online (pdf): *AUC* <www.auc.ab.ca/Shared%20Documents/2020-10-22-AUCReviewCommitteeReport.pdf>.

[82] *Supra* note 77 at para 141.

[83] *Ibid* at para 143.

[84] *Ibid*.

[85] *Ibid*.

[86] The other two members were C. Kemm Yates, Q.C. (Chair) and Rowland J. Harrison, Q.C.

THE REGULATION OF OFFSHORE RENEWABLE ENERGY UNDER THE *CANADIAN ENERGY REGULATOR ACT*: TOWARDS FULL AND RATIONAL DEVELOPMENT OF ORE IN ATLANTIC CANADA

*Daniel Watt and Lucia Westin**

INTRODUCTION

Offshore renewable energy ("ORE") sources — offshore wind, tidal and wave energy — have the potential to materially benefit the four provinces of Atlantic Canada.[1] Through project work, clean power exports and the invigoration of offshore supply chains, ORE activity can drive sustainable economic activity in a region of historically low growth. Nor are ORE's benefits limited to the economy. Shifting to ORE sources can help achieve net-zero goals and, one hopes, mitigate the effects of climate change that particularly threaten coastal communities: rising seas, erosion and damage to ocean ecosystems.

To borrow a phrase from Justice Gerald La Forest, the "full and rational development"[2] of the ORE sector in Atlantic Canada requires effective federal legislative involvement, preferably in close cooperation with the provinces.[3] Until recently, Parliament was absent from the ORE legislative space, leaving it to the provinces, whose ability to regulate ORE is restricted to provincial territory.[4] But

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[1] Comprising New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland & Labrador.

[2] Gérard V La Forest, *Water Law in Canada: The Atlantic Provinces* (Ottawa: Department of Regional Economic Expansion, 1973) at 17 ("La Forest").

[3] See Meinhard Doelle et al, "The Regulation of Tidal Energy Development Off Nova Scotia: Navigating Foggy Waters" (2006) 55 UNBLJ 27 at 34–41 ("Tidal Energy"); See also Sara Mahaney & Daniel Watt, "Canada's New Ocean Economy: Charting a Course for Good Governance of Emerging Ocean Resources", Canadian Institute of Resources Law, Occasional Paper #61 (September 2017), at 6-7, online: <cirl.ca/sites/default/files/Occasional%20Papers/Occasional%20Paper%20%2361.pdf> ("Ocean Economy"); See also Daniel Watt, "The *Impact Assessment Act*, *Canadian Energy Regulator Act* and Offshore Energy: A View from Atlantic Canada" (2018) 6:2 Energy Regulation Q 41 at 47 ("IAA Atlantic Canada").

[4] Tidal Energy, *supra* note 3 at 34–41.

change is underway. In August 2019, the *Canadian Energy Regulator Act*[5] ("CERA"), Part 5 of which provides a framework for federal regulation of ORE activities, entered into force. And at the time of writing, Natural Resources Canada had commenced engaging stakeholders on the department's proposed approach to developing the Offshore Renewable Energy Regulations ("ORER") to implement Part 5.[6]

Federal progress in the ORE legislative space is promising for Atlantic Canada's ORE sector, but key issues remain unsettled. This paper examines the current state of the federal ORE regulatory regime and some issues that may affect the regime's ultimate effectiveness. For context, we first briefly describe the main ORE technologies and the activity occurring in Atlantic Canada's ORE sector. We then describe the jurisdictional framework and disparate regulatory approaches taken by the Atlantic Provinces to date. With this context in mind, we examine and assess the new federal ORE regime under Part 5 of CERA and the ORER. Finally, we identify some potential shortfalls of CERA and propose some solutions.

A) ORE TECHNOLOGIES AND ACTIVITY IN ATLANTIC CANADA

For the purposes of this paper, ORE refers to three categories of renewable energy sources that are derived from or situated in marine (*i.e.* ocean) waters: offshore wind; tidal energy; and wave energy. The following section summarizes these categories and their occurrence in Atlantic Canada.

i. Offshore Wind

Offshore wind is an established commercial technology, having been used in Europe for three decades.[7] Similar to onshore wind farms, offshore wind farms use wind to drive turbines in order to generate electricity. The turbines used offshore are essentially the same as onshore technology, but adapted for harsh marine environments. Offshore wind turbines may be installed on substructures fixed to the seabed, or on floating substructures that are anchored in place. Fixed substructures account for the majority of installed capacity globally.[8] Floating substructure technology is largely in the developmental stages,[9] but in 2017, the world's first full-scale floating wind farm, Hywind Scotland, began operating.[10] Floating substructures are anticipated to represent an increasing share of substructures in the future.[11]

There are unique advantages associated with offshore wind farms. These include: stronger, more consistent wind (including during daytime, when demand is highest); spatial proximity to coastal load centres; the absence of height or noise restrictions; decreased competition for space; and, decreased public opposition.[12] These advantages have contributed to manufacturers developing larger, more efficient, higher capacity machines for the offshore.

Siting wind farms in offshore also has disadvantages. Offshore wind farms are more costly and difficult to construct than their onshore counterparts. Corrosion and punishing weather conditions require more maintenance

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[5] *Canadian Energy Regulator Act*, SC 2019, c 28, s 10 ("CERA").

[6] See Natural Resources Canada, "The Offshore Renewable Energy Regulations Initiative" (last visited 10 February 2022), online: <rncanengagenrcan.ca/en/collections/offshore-renewable-energy-regulations-initiative> ("ORER Website").

[7] National Energy Board, "Canada's Adoption of Renewable Power Sources: Energy Market Analysis" (May 2017) at 25, online (pdf): *Canada Energy Regulator* <cer-rec.gc.ca/en/data-analysis/energy-commodities/electricity/report/2017-canadian-adoption-renewable-power/2017cnddptnrnwblpwr-eng.pdf> ("Energy Market Analysis").

[8] National Renewable Energy Laboratory, "2014–2015 Offshore Wind Technologies Market Report", Technical Report NREL/TP-5000-64283 (September 2015) at 56, online: <nrel.gov/docs/fy15osti/64283.pdf>.

[9] *Ibid* at 59.

[10] See Equinor AS, "Industrialising floating offshore wind" (last accessed 10 February 2021), online: <equinor.com/en/what-we-do/floating-wind.html>.

[11] Carbon Trust, "Floating Offshore Wind: Market Technology and Review" (June 2015), online (pdf): <prod-drupal-files.storage.googleapis.com/documents/resource/public/Floating%20Offshore%20Wind%20Market%20Technology%20Review%20-%20REPORT.pdf>.

[12] Aldo Chircop & Peter L'Esperance, "Functional Interactions and Maritime Regulation: The Mutual Accommodation of Offshore Wind Farms and International Navigation and Shipping" in A. Chircop, S. Coffen-Smout & M. L. McConnell, eds, *Ocean Yearbook 30*, eds A. Chircop et al. (Leiden, Boston: Brill, 2016); International Energy Agency, "Renewables: Wind Energy", online: <web.archive.org/web/20170501051252/http://www.iea.org/topics/renewables/subtopics/wind/>.

and shorten equipment lifespans. Installations are also at risk of collision with vessels and icebergs.[13]

At time of writing, there are no offshore wind farms operating in Atlantic Canada or, indeed, Canada. However, wind farms have been proposed for sites off each Atlantic Province.[14]

ii. Tidal Energy

Tidal technologies aim to generate electricity by harnessing the hydrokinetic energy of tidal currents. There are four main technologies: tidal streams; tidal barrages; tidal lagoons; and dynamic tidal power. They are currently in the demonstration, pre-commercial and, in the case of dynamic tidal power, conceptual stages. Briefly:

- ***Tidal stream*** generators employ underwater turbines to capture energy from currents.
- ***Tidal barrages*** and ***tidal lagoons*** operate similar to hydroelectric dams. Tidal barrages are dams that enclose tidal estuaries, allowing water to enter the estuary as tides rise. The barrage is closed at high tide to capture a reservoir of water, which is then released through a turbine at low tide. A tidal lagoon operates on similar principles to a barrage, but involves constructing an artificial lagoon rather than exploiting an estuary.
- ***Dynamic tidal power*** involves capturing energy from tidal currents that move parallel to shore. Purely conceptual at present, dynamic tidal power involves a long T-shaped dam extending perpendicularly from the coast, generating electricity as tidal currents pass through turbines embedded in the structure.[15]

Unlike wind, tidal energy is regular and largely predictable. It is particularly promising for New Brunswick and Nova Scotia, whose respective boundaries likely extend into the Bay of Fundy. The estimated theoretical potential of Bay of Fundy tidal energy is up to 60,000 MW of energy, of which up to 2,400 MW may be extracted without significant impact on the marine environment.[16]

Tidal activity in Atlantic Canada to date has been limited to Nova Scotia. The in-stream barrage at Annapolis Royal ceased operating in 2019 and will be decommissioned,[17] but various tidal technologies have been tested or are underway at the Fundy Ocean Research Center for Energy (FORCE) tidal testing site in Minas Passage.[18] Marine Renewables Canada recently described tidal activity in Nova Scotia as follows:[19]

> Currently, approximately 30 MW of renewable electricity is permitted and under development. At FORCE, DP Energy will be developing its Uisce Tapa project, a 9 MW project awarded $29.7 million by the Government of Canada under its Emerging Renewable Power Program (ERPP). More recently, Sustainable Marine was awarded $28.5 million through the ERPP to deliver up to 9MW at the FORCE site using its PLAT-I floating in-stream tidal energy technology and BigMoon

[13] Energy Market Analysis, *supra* note 7 at 25.

[14] As of 2017, Beothuk Energy Inc. had proposed offshore wind farms totalling 3,200 MW at sites in waters off PEI, NS, NL and NB, while NaiKun Wind Development Inc., had proposed a 400 MW farm in Hecate Strait, BC: see Energy Market Analysis, *supra* note 7 at 25.

[15] Energy Market Analysis, *supra* note 7 at 24; Marine Renewables Canada, "Clean, Blue Energy: Powering Canada's Economy with Marine Renewable Energy" (June 2021) at 2, 5, online (pdf): <marinerenewables.ca/wp-content/uploads/2021/06/MRC-Blue-Economy-Strategy-Submission-FINAL-1.pdf> ("Blue Energy").

[16] One Nova Scotia Coalition, "We Choose Now: A Playbook for Nova Scotians" (2015) at 72, online (pdf): <static1.squarespace.com/static/560e8359e4b015462b7d4b37/t/5638d589e4b0ce96e22646ad/1446565257252/15-43356+We+Choose+Now+FOR+WEB+Nov+2.pdf>.

[17] Paul Withers, "Nova Scotia Power to pull plug on tidal station, seeks $25M from ratepayers", *CBC* (23 February 2021), online: <www.cbc.ca/news/canada/nova-scotia/nova-scotia-power-annapolis-generating-station-1.5924509>.

[18] FORCE is a non-profit research facility that acts as "host to turbine developers, providing a permitted site, electrical infrastructure, an observation facility, and connection to the power grid." See FORCE, "About Us", online: <fundyforce.ca/about-us>.

[19] Blue Energy, *supra* note 15 at 12.

> Power was successful in winning a bid to occupy FORCE's vacant berth. In addition to these larger projects, there a number of smaller developments underway in other areas of the Bay of Fundy, with Nova Innovation, Jupiter Hydro, and New Energy Corporation all having received permits.

While the sector has not grown as quickly as expected, the technology remains promising. As Marine Renewables Canada notes, "modelling suggests that the rates of growth seen in the offshore wind sector in the last 20 years will be reproduced in the wave and tidal sector between 2030 and 2050."[20]

iii. Wave Technology

Wave technologies generate electricity from the surface motion or underwater pressure fluctuations caused by wave action. There are various wave technologies undergoing testing and consideration at the demonstration and conceptual stages. Canada, with its abundance of coastline, could benefit from the commercialization of wave technology. Some estimate the extractable potential for wave energy in Canada at 16,000 MW.[21]

British Columbia is currently the epicentre for Canada's wave energy research and development, with research projects underway. There is also significant wave energy potential in Atlantic Canada,[22] but no wave energy projects are active on the East Coast.

B) JURISDICTIONAL ISSUES AND EXISTING PROVINCIAL ORE REGULATION

The nascent federal foray into ORE regulation cannot be effectively assessed without understanding the constitutional principles that complicate this legislative subject, and noting the current state of provincial efforts in this area. As Justice La Forest points out, "federal-provincial cooperation will on many occasions be required for a full and rational development of water resources."[23] Developing "full and rational" regulation of ORE is just such an occasion.

i. Constitutional Framework – Division of Powers and Boundary Issues

A full exposition of the jurisdictional and unsettled state of marine boundaries in Atlantic Canada is beyond the scope of this paper.[24] Below is a summary of the relevant issues.

Federal Legislative Authority and Property

The bulk of legislative power over those aspects of ORE that occur at sea falls to Parliament. Crucial to ORE is Parliament's residual power to "make Laws for the Peace, Order, and good Government of Canada, in relation to all Matters not coming within the Classes of Subjects by this Act assigned exclusively to the Legislatures of the Provinces".[25] This clause gives Parliament the authority to regulate offshore oil and gas activities occurring beyond provincial territory,[26] and it will similarly apply to any ORE activity in such areas.

Additionally, Parliament has exclusive jurisdiction over the ocean-related classes of subjects enumerated at Section 91. Section 91 allocates authority to Parliament over the following: "Beacons, Buoys, Lighthouses, and Sable Island"; "Navigation and Shipping"; "Sea Coast and Inland Fisheries"; and "Ferries between a Province and any British or Foreign Country".[27] Of these, navigation and fisheries are particularly important powers in relation to ORE activities.

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[20] Blue Energy, *supra* note 15 at 5.

[21] Marine Renewables Canada, "Facts: Wave Energy" (last visited 10 February 2022), online: <marinerenewables.ca/facts/wave-energy/>.

[22] *Ibid*.

[23] La Forest, *supra* note 2 at 17.

[24] We commend the reader to the thorough review provided in Tidal Energy *supra* note 3.

[25] *Constitution Act, 1867* (UK), 30 & 31 Vict, c 3, s 91, reprinted in RSC 1985, Appendix II, No 5.

[26] *Reference Re: Offshore Mineral Rights (British Columbia)* [1967] SCR 792, 65 DLR (2d) 353 ("BC Offshore Reference"); *Reference re Newfoundland Continental Shelf*, [1984] 1 SCR 86, 5 DLR (4th) 385 ("Hibernia Reference").

[27] *Constitution Act, 1867*, *supra* note 25, ss 91(9), (10), (12), (13).

Federal authority is also relevant to the regulation of trans-boundary transmission lines and energy exports. Parliament may legislate in respect of matters "expressly excepted" from the powers assigned exclusively to the provinces,[28] while provincial power to regulate "local works and undertakings" specifically excludes international or interprovincial works and undertakings.[29] Parliament also has declaratory authority to exempt from provincial jurisdiction undertakings wholly situate within a province, on the basis that such undertaking is for the "general advantage of Canada" or the advantage of two or more provinces.[30]

It is also notable that Canada's proprietary and quasi-proprietary rights as a coastal state in and to the adjacent ocean and seabed beyond its internal waters arise under international law.[31] Because international law generally does not recognise political sub-units of federal states,[32] the rights to ocean and seabed resources conceded by international law fall to the federal government.[33] Thus, the *Oceans Act* provides that, unless within a province, the seabed and subsoil beneath Canada's internal waters and territorial sea vest in the federal Crown.[34] Similarly, all rights to the seabed or subsoil beneath the exclusive economic zone, and to the continental shelf, vest in the federal Crown.[35]

Aside from ORE-specific regulation under Part 5 of CERA, certain federal laws will apply to ORE projects. Some federal legislation will apply only to ORE projects located outside provincial territory. For instance, the *Physical Activities Regulations*[36] designate activities related to certain offshore wind and tidal projects occurring in "offshore areas" (defined by reference to CERA as being outside a province)[37] as being subject to the *Impact Assessment Act* ("IAA").[38]

In other cases, regulatory requirements under paramount federal legislation will apply to ORE projects even if sited within provincial marine areas. For instance, regulatory and permitting requirements under the following federal laws (among others) will be overlaid on top of provincial requirements for ORE projects sited in provincial territory:[39] *Canadian Navigable Waters Act*;[40] *Canada Shipping Act, 2001*;[41] *Fisheries Act*;[42] *Species at Risk Act*;[43] *Migratory Birds Convention Act*;[44] and the *Canadian Environmental Protection Act, 1999*.[45]

Provincial Legislative Authority and Property

The provinces clearly have powers over key land-based aspects of ORE, including the regulation of electricity within the province. Further, where the Atlantic Provinces' boundaries extend to marine areas, they control the seabed and have jurisdiction over ORE projects sited in these areas.

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[28] *Ibid*, s 91(29).

[29] *Ibid*, s 92(10)(a).

[30] *Ibid*, ss 91(29), 92(10)(a).

[31] See generally BC Offshore Reference and Hibernia Reference, *supra* note 26.

[32] H Kindred et al, eds, *International Law: Chiefly as Interpreted and Applied in Canada*, 7th ed (Toronto: Emond Montgomery Publications Limited, 2006) at 38–43; BC Offshore Reference, *supra* note 26; Hibernia Reference, *supra* note 26.

[33] Hibernia Reference, *supra* note 26; Tidal Energy, *supra* note 3 at 34–45; Ocean Economy, *supra* note 3 at 23–26, 30-31.

[34] *Oceans Act*, SC 1996, c 31, s 8(1).

[35] *Ibid*, ss 15(1), 19(1).

[36] SOR/2019-285, Schedule – Physical Activities, ss 42–45.

[37] CERA, *supra* note 5, s 2, "*offshore area*".

[38] SC 2019, c 28, s 1 ("IAA").

[39] See discussion in Tidal Energy, *supra* note 3 at 49–53.

[40] RSC 1985, c N-22.

[41] SC 2001, c 26.

[42] RSC 1985, c F-14.

[43] SC 2002, c 29.

[44] SC 1994, c 22.

[45] SC 1999, c 33.

Provincial authority over the following legislative subjects is relevant to ORE: the management and sale of the public lands belonging to the province; local works and undertakings; property and civil rights; and all matters of a merely local or private nature.[46] These powers are particularly relevant to land-based aspects of ORE, such as the construction and operation of shore-based infrastructure, the connection of ORE power to provincial power grids, the regulation of power purchase agreements and utilities within the province, environmental regulations, and labour and employment rules.

Section 92A is also relevant, providing exclusive authority to make laws in respect of the "development, conservation and management of sites and facilities in the province for the generation and production of electrical energy."[47] Provinces have property in land and resources and may make laws only "within" the respective province. [48] The section 92A power is crucial to a province's ability to regulate ORE projects in marine areas within that province's territory.

It is thus unfortunate that the marine boundaries of the Atlantic Provinces are, in some cases, uncertain.[49] The general rule is that the "realm" and thus a province's territory ends at the low water mark, unless specifically extended by Parliament.[50] There are some applicable exceptions to this rule, however. First, at common law, inland waters, such as harbours, bays or other waters lying "between the jaws of the land" (*inter fauces terrae*), form part of the adjacent county, and thus the province.[51] To the extent that ORE is sited within such inland waters, it is relatively clear that the relevant province controls the seabed and can legislate in respect of ORE projects sited therein.

A second exception is where a province's pre-Confederation boundaries were defined to encompass marine areas beyond the low water mark and outside land *inter fauces terrae*. Such boundaries became fixed at the time of union, and the land, mines and minerals therein that belonged to the province at union continued to belong to the province.[52] The result in such cases is that the province owns the seabed and, by virtue of ss. 92A(1)(c) of the *Constitution Act, 1867*, will have jurisdiction over ORE projects in such areas.

As Professor Doelle *et al* note, the Atlantic Provinces have unsettled historical claims to various marine areas, including to pre-Confederation jurisdiction over three-nautical mile territorial seas.[53] Importantly, New Brunswick and Nova Scotia have strong historical claims that their pre-Confederation boundaries extend to the middle of the Bay of Fundy, while New Brunswick may claim to share the Baies des Chaleur with Quebec.[54] But these claims have not, to the authors' knowledge, been clearly conceded by the federal Crown.[55] The precise limits of Atlantic Provinces' marine territory and thus the extent of their primary jurisdiction over ORE projects remains uncertain.

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[46] *Constitution Act, 1867*, *supra* note 25 at ss 92(5), (10), (13), (16).

[47] *Constitution Act, 1867*, *supra* note 25 at ss 92A(1)(c).

[48] Peter Hogg, Constitutional Law of Canada, 2006 Student Ed (Toronto: Thomson Carswell, 2006) at 318.

[49] Tidal Energy, *supra* note 3 at 34–45.

[50] See *Reference re: Ownership of the Bed of the Strait of Georgia and Related Areas*, [1984] 1 SCR. 388 at 400, 8 DLR (4th) 161 ("*Straits Reference*"), citing *R. v Keyn* (1876), 2 Ex. D. 63.

[51] Hogg, *supra* note 48 at 319; *Straits Reference*, *supra* note 50 at 396; La Forest, *supra* note 2 at 464.

[52] See *Constitution Act, 1867*, *supra* note 25 at s 7 (in respect of NB and NS) and s 109 with respect to NL, see the *Newfoundland Act (British North America Act, 1949)* 12-13 Geo. VI, c 22 (U.K.), reprinted in RSC 1985, App II, No 32, Schedule I Terms of Union, s 2 and s 37 (which are analogous to ss. 7 and 109 of the *Constitution Act, 1867*). With respect to PEI, see *Prince Edward Island Terms of Union* (UK), 1873, reprinted in RSC 1985, App II, No 12.

[53] Tidal Energy, *supra* note 3 at 37.

[54] Tidal Energy, *supra* note 3 at 39–41; La Forest, *supra* note 2 at 464.

[55] The Nova Scotia Offshore Area, as defined in the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, SC 1988, c 28, s 2 "*offshore area*" and Schedule I, and *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act*, SNS 1987, c 3 (together, the "NS Accord Acts") at ss 2(r) and Schedule I, encompasses Nova Scotia's claimed portion of the Bay of Fundy. However, those acts were the result of political compromise between NS and Canada, and both acts (at s 3) expressly provide that the acts shall not be interpreted as providing a basis for any claim by or on behalf of the other government for any interest in or jurisdiction over any offshore area or any living or non-living resources therein.

ii. Existing Provincial Approaches to ORE

CERA and other federal laws will operate in marine areas that abut provincial marine areas and will govern some aspects of ORE projects sited in provincial marine areas. To date, only NS has enacted ORE specific legislation. NL, NB and PEI have different energy mixes and policy priorities, but may follow suit with ORE-specific regulation as technologies progress. A detailed examination of how the Atlantic Provinces' energy legislation applies to ORE is beyond the scope of this paper. The following section provides an overview of current provincial approaches to ORE.

New Brunswick

NB's generation results from a roughly equal portion of renewables, nuclear and fossil fuels. Between renewables and nuclear power, about 70 per cent of the province's electricity is from non-emitting sources. Hydro accounts for the bulk of renewable generation, followed by wind and biomass. In addition to generation for domestic consumption, NB also generates about three-quarters of PEI's electricity.[56]

NB's *Electricity* Act[57] does not specifically address ORE and the province has generally taken a cautious approach to ORE. In 2007, the Department of Natural Resources developed an interim policy on allocating Crown lands in support of tidal energy research, which was replaced in 2011 by the *Allocation of Crown Lands for Tidal In-Stream Energy Conversion Projects* policy.[58] As the title suggests, the policy is limited to land tenure requirements for tidal projects. It expressly excludes any application to wave energy or offshore wind projects.[59] NB's *Allocation of Crown Land for Wind Power Projects* policy does not apply to submerged Crown lands.[60] Similarly, NB's policy on submerged Crown lands expressly excludes the development of wave, wind and tidal energy projects.[61]

Newfoundland & Labrador

NL is Canada's third largest hydroelectric generator, and a significant exporter of electricity. In 2018, NL generated around 96 per cent of its total generation from renewable sources, with the vast bulk being hydro and a small portion from wind.[62]

NL's *Electrical Power Control Act, 1994*[63] does not specifically address ORE. In December 2021, the NL government released a Renewable Energy Plan[64] that outlines a five-year plan for pursuing renewable energy opportunities. It does not appear that ORE is a priority focus for the province. The plan describes the province's undeveloped renewable resources in the following terms:[65]

> However, the province's wind data, demonstrates a consistently strong resource that few jurisdictions

[56] Canadian Energy Regulator, "Canada's Renewable Power – New Brunswick" (last modified 16 April 2021), online (pdf): <cer-rec.gc.ca/en/data-analysis/energy-commodities/electricity/report/canadas-renewable-power/canadas-renewable-power/provinces/renewable-power-canada-new-brunswick.html>.

[57] SNB 2013, c 7.

[58] New Brunswick, Department of Natural Resources, *Allocation of Crown Lands for Tidal In-Stream Energy Conversion Projects*, Policy Number CLM-022-2009 (Fredericton: Department of Natural Resources, 1 June 2011), online (pdf): <www2.gnb.ca/content/dam/gnb/Departments/nr-rn/pdf/en/Publications/CLM0222009.pdf>.

[59] *Ibid*, s 1.6.

[60] New Brunswick, Department of Natural Resources, *Allocation of Crown Lands for Wind Power Projects*, Policy Number CLM 017 2005 (Fredericton: Department of Natural Resources, 7 February 2012) at s 5.2, online (pdf): <www2.gnb.ca/content/dam/gnb/Departments/nr-rn/pdf/en/Publications/CLM0172005.pdf>.

[61] New Brunswick, Department of Natural Resources, *Submerged Crown Lands Policy*, Policy Number CLM 014 2004 (Fredericton: Department of Natural Resources, 12 May 2014) at s 4.1.2, online (pdf): <www2.gnb.ca/content/dam/gnb/Departments/nr-rn/pdf/en/Publications/CLM0142004.pdf>.

[62] Canadian Energy Regulator, "Canada's Renewable Power – Newfoundland and Labrador" (last modified 19 March 2021), online: <cer-rec.gc.ca/en/data-analysis/energy-commodities/electricity/report/canadas-renewable-power/canadas-renewable-power/provinces/renewable-power-canada-newfoundland-labrador.html>.

[63] SNL 1994, c E-5.1.

[64] Newfoundland and Labrador, Department of Industry, Energy and Technology,, "Maximizing Our Renewable Future: A Plan for Development of the Renewable Energy Industry in Newfoundland and Labrador" (December 2021), online (pdf): <www.gov.nl.ca/iet/files/Renewable-Energy-Plan-Final.pdf>.

[65] *Ibid* at 14.

> can match. This offers potential opportunities to provide grid energy, power offshore oil and gas, and power the production of green hydrogen/ ammonia) for export.… **Further, as the province has vast ocean access, some participants raised the future potential of offshore wind, as well as wave/ tidal generation as technology becomes more commercially available and economic.** [Emphasis added]

The plan does express the government's intention to review and update the province's regulatory framework with a view to facilitating "foreseeable renewable energy development scenarios."[66]

Interestingly, efforts to move NL's active offshore oil and gas sector to net-zero emissions through electrification provide impetus for facilitating ORE and, in particular, offshore wind. NL's renewables plan notes as follows:[67]

> Newfoundland and Labrador's offshore oil and gas platforms are primarily powered by natural gas that is produced as a by-product of the offshore oil extraction process.… To achieve its net-zero goal, a multi-faceted approach is envisioned, including electrification from onshore or offshore renewable energy projects.

In this regard, the oil and gas industry's not-for-profit association, Energy Research & Innovation NL, with funding from NRCan's Emission Reduction Fund, has commissioned a project to examine the suitability of floating wind concepts to power offshore oil and gas facilities.[68]

Prince Edward Island

PEI imports about 75 per cent of its consumed electricity from NB. With respect to generation on the Island, in 2018 onshore wind farms generated 99.2 per cent of total generation, with the balance made up of oil and diesel generation for peaking and emergency back-up.[69] The province's *Electrical Power Act*[70] and *Renewable Energy Act*[71] do not specifically address ORE. PEI's Provincial Energy Strategy 2016/2017[72] provides a ten-year strategy aimed at developing a more sustainable and energy independent province. The strategy is not optimistic about PEI's tidal potential:[73]

> As indicated, even with projected reductions in tidal energy costs, tidal is still forecast to be considerably more expensive than other renewable energy resources for the foreseeable future. Previous research had suggested that the Northumberland Strait area of the Island offered some tidal energy resource potential. Further analysis of this region indicates that the maximum tidal currents are weak, less than 2 knots, and well below the benchmark flow speed of 4 knots for present-day technology. Therefore, the Provincial Government will continue to monitor developments with respect to tidal energy, in particular the potential for meaningful cost reductions. However, in terms of concrete actions, there are other, more cost-effective, actions we can take in the next ten years.

PEI's strategy is decidedly more bullish on wind energy than tidal, both with respect to generation for consumption on the Island and

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[66] *Ibid* at 25-26.

[67] *Ibid* at 19.

[68] Energy Research & Innovation Newfoundland & Labrador, "Projects: Evaluation of Floating Wind Technology", online: <energyresearchinnovation.ca/projects/>.

[69] Canadian Energy Regulator, "Canada's Renewable Power – Prince Edward Island" (last modified 19 March 2021), online: <cer-rec.gc.ca/en/data-analysis/energy-commodities/electricity/report/canadas-renewable-power/canadas-renewable-power/provinces/renewable-power-canada-prince-edward-island.html>.

[70] RSPEI 1988, c E-4.

[71] RSPEI 1988, c R-12.1.

[72] Government of Prince Edward Island, "Provincial Energy Strategy 2016/2017" (August 2016), online (pdf): <princeedwardisland.ca/sites/default/files/publications/pei_energystrategymarch_2017_web.pdf>.

[73] *Ibid* at 31.

opportunities to export wind power to the New England market.[74] However, the strategy does not separately consider offshore wind as a potential generation source.[75]

Nova Scotia

NS is first mover among the Atlantic Provinces in relation to regulating ORE and viewing developing the tidal sector in particular as a priority opportunity. In 2012, the province published a Marine Renewable Energy Strategy, summarized as follows: [76]

> The Strategy consists of three main plans to address Research, Development, and Regulatory initiatives that have been established to achieve Nova Scotia's vision to be a global leader in the development of technology and systems that produce environmentally sustainable, competitively priced electricity from the ocean. Wave and offshore wind power are part of the mix in the strategy, but tides are the primary focus, given Nova Scotia's unique advantage in developing and growing a new tidal industry.

Following on the above strategy, the province introduced the *Marine Renewable-energy Act* ("NS MRA") in December 2015, and it entered force in January 2018.[77] Prior to the enactment of the NS MRA, ORE development in NS was effectively limited to the deployment of in-stream tidal energy devices at the FORCE site in the Bay of Fundy. Permitting was facilitated through the One-Window Standing Committee comprising a litany of federal and provincial regulators,[78] which provided proponents access to applicable departments to discuss and review a proposed project. Projects connected to Nova Scotia Power Inc.'s ("NSPI") electricity grid required among other interconnection requirements, a Developmental Tidal Feed-In Tariff under the *Renewable Electricity Regulations*.[79]

Under the NS MRA, proponents no longer need to fit within the FORCE or feed-in tariff regimes, and the regime has expanded from in-stream tidal to contemplate permitting projects for waves and "winds blowing over marine waters."[80] Proponents must have a licence or permit issued under the Act in order to construct, install or operate within a marine renewable-energy priority area a generator, or a cable or any other equipment or structure used or intended to be used with a generator.[81] The Act designates two marine renewable energy "priority areas", currently located in the Bay of Fundy and Cape Breton's Bras d'Or Lakes.[82] Smaller "marine renewable-electricity areas" (MREAs) are designated within the larger Bay of Fundy priority area; currently these are the FORCE, Digby Gut, Grand Passage, and Petit Passage MREAs.[83] The only type of "connected generators" (*i.e.* generators producing ORE electricity for use or consumption onshore) that currently may be licensed to operate in each of these MREAs are in-stream tidal-energy

[74] *Ibid* at 27–30.

[75] The sole reference to "off-shore wind" in the strategy is as an example of one of the "increasingly expensive renewable energy resources" that the New England market may have to rely on to meet state renewable portfolio standards. See *ibid* at 29.

[76] Nova Scotia, Department of Energy, "Marine Renewable Energy Strategy" (Halifax: Department of Energy, May 2012) at 2, online (pdf): <energy.novascotia.ca/sites/default/files/Nova-Scotia-Marine-Renewable-Energy-Strategy-May-2012.pdf>.

[77] *Marine Renewable-energy Act*, SNS 2015, c 32 (the "NS MRA").

[78] Among others, NRCan, Environment Canada, Fisheries and Oceans Canada, Canadian Environmental Assessment Agency (now the Impact Assessment Agency), Transport Canada, NS Environment, NS Labour, NS Energy, NS Fisheries and Aquaculture, and the NS Department of Natural Resources. See Nova Scotia, Department of Energy and Department of Natural Resources, "Guidelines for Permitting of a Pre-Commercial Demonstration Phase for Offshore Renewable Energy Devices (Marine Renewables) in Nova Scotia" (August 2012) at 4, online (pdf): <energy.novascotia.ca/sites/default/files/Final-Guidelines-for-Permitting-Demonstration-Phase.pdf>.

[79] *Renewable Electricity Regulations*, NS Reg 155/2010 made under the *Electricity Act*, SNS 2004, c 25, ss 3(1), 22.

[80] NS MRA, *supra* note 77, s 3(1)(n)(i) "marine renewable-energy resources".

[81] *Ibid*, s 12.

[82] *Ibid*, s 10(1).

[83] *Ibid*, ss 13-16.

converters.[84] However, the province may by regulation add additional technologies that may be licensed within the MREAs.[85] Technologies other than in-stream tidal may be operated under permit regardless of location, provided they involve "unconnected generators".[86] A limited demonstration permit program of up to 10 MW capacity is also available, which allows connected generators of up to 5 MW nameplate capacity to operate outside MREAs.[87]

It is notable the marine spaces claimed pursuant to NS MRA reflect NS's historical claims to marine areas, particularly its claim to roughly half of Canada's Bay of Fundy. The Fundy Area of Marine Renewable-energy Priority ("Fundy Priority Area") described at Schedule B to the NS MRA encompasses some 7,260 square kilometres of territory in and around the Bay of Fundy, up to its shared border with NB.[88] However, Schedule B expressly excludes from the Fundy Priority Area "any private or federal lands or Provincial islands within" the bounds described at Schedule B. Since NS's historical claim has not been settled by courts nor fully conceded by Canada,[89] the territorial application of the NS MRA remains uncertain.

The above overview indicates that three of the four Atlantic Provinces have not yet developed regulatory frameworks for ORE. This does not mean that ORE cannot fit within these provinces' existing energy legislation. However, it does provide an opportunity for cooperation with the federal government and each other in the development of a more comprehensive management system. NS, as first mover in the ORE legislative space, has existing legislation that must operate alongside and in conjunction with CERA. However, the line that divides the territorial application of the NS MRA and CERA will be unclear unless Canada and NS take action to clarify that issue.

C) THE FEDERAL REGIME UNDER CERA

Bearing in mind the above context, the following section examines Part 5 of CERA, NRCan's approach to the ORER, and current guidance from the federal government on the process for securing land rights for ORE sites in federal marine areas.

i. Part 5 of CERA

Part 5 of CERA addresses the permitting of ORE projects and offshore power lines and, together with the pending ORER, will be the primary legislation for ORE situated outside provincial territory. A description of key elements of Part 5 follows.

Regulated Activity – ORE Projects and Offshore Power Lines

The fundamental regulatory mechanism in Part 5 of CERA is the requirement to obtain an authorization from the Commission of the Canadian Energy Regulator ("CER") for activities related to "offshore renewable energy projects" ("ORE Projects") and "offshore powerlines" ("OPL"). ORE Project encompasses not only generation from ORE, but also includes storage, transmission and research/assessment work.[90] The Act defines the term as follows:[91]

> ***offshore renewable energy project*** means any of the following that are carried on in the offshore area:
>
> (a) any research or assessment conducted in relation to the exploitation or potential exploitation of a renewable resource to produce energy;
>
> (b) any exploitation of a renewable resource to produce energy;

[84] *Ibid*, ss 13(2), 14(2), 15(2) and 16(2).

[85] *Ibid*, ss 13(4)(b), 14(4)(b), 15(4)(b), 16(4)(b) and 70(1)(b).

[86] *Ibid*, ss 36(a)-(b).

[87] *Ibid*, s 35(7).

[88] *Ibid*, ss 10(1)(b), Schedule B.

[89] See *supra* note 55.

[90] CERA, *supra* note 5, s 2.

[91] *Ibid*, s 2 "offshore renewable energy project".

> (c) any storage of energy produced from a renewable resource; or
>
> (d) any transmission of such energy, other than the transmission of electricity to a province or a place outside Canada

OPL is defined as "facilities constructed or operated for the purpose of transmitting electricity from an offshore renewable energy project to a province or a place outside Canada."[92]

Territorial Application

As noted, ORE Projects are those carried on in the "offshore area", defined as: [93]

> (a) the part of the internal waters of Canada or of the territorial sea of Canada that is not situated in
>
> > (i) a province other than the Northwest Territories, or
> >
> > (ii) the onshore, as defined in section 2 of the *Northwest Territories Act*; and
>
> (b) the continental shelf of Canada and the waters superjacent to the seabed of that shelf.

Two notable points arise from the above. First, CERA purports to apply to ORE projects sited out to the full extent of Canada's continental shelf and superjacent waters. Canada undoubtedly has sovereign rights under the *United Nations Convention on the Law of the Sea* (UNCLOS) to exploit "the production of energy from the water, currents and winds" within the bounds of its 200 NM exclusive economic zone ("EEZ").[94] However, Canada has delineated the outer limits of its continental shelf in the Atlantic Ocean as extending beyond the 200 NM limit of the EEZ.[95] It is not clear that Canada's continental shelf rights support a claim for jurisdiction over ORE, particularly beyond 200 NM, where Canada cannot rely on its co-extensive and broader EEZ rights. With respect to the shelf, Canada has "sovereign rights for the purpose of exploring it and exploiting its natural resources."[96] However, UNCLOS defines the shelf's "natural resources" as "mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species".[97] Wind, waves and currents are non-living resources of airspace and the water column, not the seabed or subsoil. UNCLOS is clear that "the rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters or of the airspace above those waters."[98]

It is thus uncertain that ORE is among the natural resources of the continental shelf to which Canada has sovereign rights under UNCLOS. Wind turbines installed to power oil and gas installations likely fall within Canada's continental shelf rights, but whether stand-alone wind farms in the high seas fall under the continental shelf rights is another question.

If UNCLOS indeed allows coastal states to authorize ORE activity on their continental shelves beyond 200 NM, a further question is how UNCLOS's international royalty regime will apply to any resulting ORE production. Article 82(1) of UNCLOS provides that coastal states "shall make payments or contributions in kind in respect of the exploitation of the

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[92] *Ibid*, s 2 "offshore power line".

[93] *Ibid*, s 2.

[94] *United Nations Convention on the Law of the Sea*, 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994; ratified by Canada 7 November 2003) ("UNCLOS") at art 56(1)(a).

[95] Canada, Foreign Affairs, Trade and Development Canada, *Partial Submission of Canada to the Commission on the Limits of the Continental Shelf regarding its continental shelf in the Atlantic Ocean: Part I – Executive Summary,* Catalogue No FR5-82/1-2013E (Ottawa: Foreign Affairs, 2013), online (pdf): <www.un.org/depts/los/clcs_new/submissions_files/can70_13/es_can_en.pdf>.

[96] UNCLOS, *supra* note 94, art 77(1).

[97] *Ibid*, art 77(4).

[98] *Ibid*, art 78(1).

non-living resources of the continental shelf beyond 200 nautical miles."[99] It seems clear that the royalty regime contemplates production of mineral resources from the seabed and subsoil. Production of ORE does not fit neatly into this scheme.

The above issues will likely stay hypothetical for some time, but if wind farms in the high seas become reality, they may require resolution.

The second point is more immediate. CERA does not clearly delineate the marine areas that Canada claims are outside a province and thus subject to CERA. As noted, the "offshore area" includes those parts of Canada's inland waters and territorial sea "not situated in a province other than the Northwest Territories."[100] But CERA does not specify what portions of these waters Canada considers to be within a province. As noted above, the NS MRA similarly excludes "any private or federal lands" from its various defined marine areas without delineating those excluded areas. Together, the two statutes do not provide clear guidance to the regulated or regulator on the boundary between their respective areas of application. This is a key shortcoming of the NS and federal approaches thus far.

ORE Authorizations

The permitting requirements in Part 5 resemble those for offshore oil and gas work and activity under Part 3 of the constating legislation of the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB)[101] and Canada-Newfoundland & Labrador Offshore Petroleum Board (CNLOPB).[102] An authorization is required in order for any person to carry on any work or activity in the offshore area related to ORE Projects or OPL.[103] An authorization is similarly required to carry on any work or activity to construct, operate or abandon any part of an OPL that is in a province.[104]

The CER's Commission is responsible for providing authorizations and regulating ORE Projects and OPLs. It appears that CERA will require that the Commission issue an authorization for "each work or activity" proposed to be carried on in relation to ORE Projects or OPL.[105] Applications for authorizations must contain any information about the ORE Project or OPL that is required by the CER or prescribed by regulation. This may include information on any facility, equipment, system or vessel related to the project or OPL.[106] Relevant considerations enumerated in CERA include:[107]

> (a) environmental effects, including any cumulative effects;
>
> (b) the safety and security of persons and the protection of property and the environment;
>
> (c) the health, social and economic effects, including with respect to the intersection of sex and gender with other identity factors;
>
> (d) the interests and concerns of the Indigenous peoples of Canada, including with respect to their current use of lands and resources for traditional purposes;
>
> (e) the effects on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the *Constitution Act, 1982*;
>
> (f) the extent to which the effects of the project or power line hinder

[99] *Ibid*, art 82(1).

[100] CERA, *supra* note 5, s 2 "*offshore area*".

[101] NS Accord Acts, *supra* note 55.

[102] *Canada-Newfoundland and Labrador Accord Atlantic Accord Implementation Act*, SC 1987, c 3; *Canada-Newfoundland and Labrador Accord Atlantic Accord Implementation Newfoundland and Labrador Act*, RSNL1990, c C-2 (together, the "NL Accord Acts" and, with the NS Accord Acts, the "Accord Acts").

[103] CERA, *supra* note 5, s 297(a).

[104] *Ibid*, s 297 (b).

[105] *Ibid*, s 298(1).

[106] *Ibid*, s 298(2).

[107] *Ibid*, ss 298(3)(a)-(g).

> or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change; and
>
> (g) any relevant assessment referred to in section 92, 93 or 95 of the *Impact Assessment Act*.

The above provision does not apply where the ORE Project or OPL relates to a designated project subject to an impact assessment under the IAA. In such cases, the Commission has to make its determination based solely on the report issued pursuant to ss. 51(1)(d) of the IAA by the review panel charged with the impact assessment.[108]

CERA imposes time limits in which the Commission must issue the authorization or dismiss the application. The limit is specified by the Lead Commissioner but cannot exceed 300 days after the provision of a complete application. The time limits, however, are subject to exceptions and ministerial extensions, and there is no statutory consequence if the Commission fails to meet the specified timeline.[109] Further, where the ORE Project or OPL at issue is a designated project subject to an impact assessment under the IAA,[110] the 300-day timeline in CERA is modified such that the Commission must issue its decision within seven days after the day on which the Minister's decision statement in respect of the impact assessment is posted on the internet under section 66 of the IAA.[111]

Authorizations may be issued subject to a broad range of conditions imposed by the Commission or prescribed by regulation.[112] These may include conditions with respect to: approvals; deposits of money; liability for loss, damage, costs or expenses related to debris; the carrying out of safety studies or environmental programs or studies; and certificates of fitness and who may issue them.[113] In the absence of any regulations imposing parameters on Commission discretion, the Commission's power to attach conditions to authorizations is very broad one, and one used on occasion by the CNSOPB and CNLOPB to fill legislative gaps in the regulation of offshore oil and gas activities.[114]

As discussed below, applicants for authorizations are also required to provide the Commission with certain financial assurances regarding the applicant's ability to satisfy liability for losses, damages and claims associated with the authorized activity.

CERA allows the Commission to vary an authorization, whether on its own initiative or on application. Authorizations are also transferable on application to the Commission. Variation or transfer of an authorization allows the Commission to impose any conditions in addition to or in lieu of those to which the authorization was previously subject.[115]

Authorizations may also be suspended or revoked by the Commission, but only where the authorization holder applies or consents thereto, or where they have contravened a condition of the authorization. In the latter case, the Commission must provide the holder with notice of the alleged contravention and an opportunity to be heard.[116]

Liability for Debris and Financial Assurances

CERA contains a liability regime for losses caused by "debris" from ORE Projects and OPLs, similar to that for spills and debris in

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[108] CERA, *supra* note 5, ss 299(b)-(c).

[109] *Ibid*, ss 298(4)-(8), (11). Section 42(1) gives the Lead Commissioner certain powers over commissioners if the Lead Commissioner is satisfied that certain time limits imposed under the Act will not be met. However, the time limits in Part 5 are not among those enumerated in s 42(1).

[110] IAA, *supra* note 38.

[111] CERA *supra* note 5, s 299(a).

[112] *Ibid*, s 298(9).

[113] *Ibid*, s 298(9).

[114] Shawn Denstedt & R J. Thrasher, "The Accord Acts Twenty Years Later" (2007) 30:2 Dal LJ 287.

[115] CERA *supra* note 5 at s 300.

[116] *Ibid*, s 301.

Canada's offshore oil and gas legislation. Debris means:[117]

> any facility, equipment or system that was put in place in the course of any work or activity required to be authorized under this Part and that has been abandoned without an authorization, or anything that has broken away or been jettisoned or displaced in the course of any such work or activity.

The regime covers three categories of loss: loss of non-use value, which is recoverable only by action commenced by the Crown;[118] actual loss or damage; and any costs or expenses of the Crown reasonably incurred in taking any action or measure in relation to debris.[119] CERA includes both fault-based and absolute liability regimes. Under the fault-based provisions, all persons to whose fault or negligence debris is attributable, or who are vicariously liable for persons who are at fault or negligent, are jointly and severally liable for the categories of loss.[120] CERA also makes holders of authorizations jointly and severally liable for losses caused by debris as a result of the fault or negligence of any contractors they have retained.[121]

Under the absolute liability provisions, holders of authorizations for the work or activity from which debris originated are liable without proof of fault or negligence up to the applicable limit of liability.[122] The limits of liability are $1 billion in respect of all work or activity, except for work or activity in an area referred to in at subsection 6(1)(a) of the *Arctic Waters Pollution Prevention Act*,[123] in which case the limit is the amount by which $1 billion exceeds the amount prescribed under section 9 of that Act.[124] These limits can increase by regulation on the recommendation of the Minister.[125] The Minister may, by order on the Commission's recommendation, approve lower amounts for a particular authorization.[126]

In connection with the liability regime, applicants must provide certain financial assurances to the Commission in order to obtain an authorization. First, an applicant must provide proof that it has sufficient financial resources to necessary to pay an amount determined by the Commission. The proof must be in a form prescribed by regulations or specified by the Commission in the absence of regulations. When setting the amount, the Commission is not required to consider any potential loss of non-use value.[127]

Second, applicants must provide proof of financial responsibility in an amount determined by the Commission. The proof must be a letter of credit, guarantee, indemnity bond or other form satisfactory to the CER. The intention is to provide the CER with unrestricted access to a pool of funds out of which the CER may order that claims for losses from debris be paid.[128]

Both forms of financial assurances must be in place for the duration of the work or activity in respect of which the authorization is issued.[129]

Restrictions on Transfer of ORE Projects and OPL

In addition to the power to control transfer of authorizations, the Commission has a say in whether an authorization holder may dispose of or acquire rights in ORE Projects and OPL.

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[117] *Ibid*, s 296(1) "*debris*".

[118] *Ibid*, ss 302(1), (8).

[119] *Ibid*, s 302(1).

[120] *Ibid*, s 302(1)(a).

[121] *Ibid*, s 302(2).

[122] *Ibid*, s 302(1)(b).

[123] RSC 1985, c. A-12.

[124] CERA, *supra* note 5, s 302(3).

[125] *Ibid*, s 302(5).

[126] *Ibid*, s 302(4).

[127] *Ibid*, s 303.

[128] *Ibid*, s 304.

[129] *Ibid*, ss 303(3), 304(2).

Authorization holders must obtain leave of the Commission by order to:[130]

> (a) sell or otherwise transfer to any person its offshore renewable energy project or offshore power line, in whole or in part;
>
> (b) purchase or otherwise acquire an offshore renewable energy project or offshore power line from any person, in whole or in part;
>
> (c) lease to any person its offshore power line or any facility, equipment or system related to its offshore renewable energy project, in whole or in part;
>
> (d) lease from any person an offshore power line — or any facility, equipment or system related to an offshore renewable energy project — other than the one in respect of which the authorization is issued, in whole or in part; or
>
> (e) if the holder is a company, amalgamate with another company.

The above oversight powers are similar to those granted to the Commission in respect of pipelines under Part 3.[131]

OPL – Application of Parts 4 & 6

Part 5 makes applicable to OPL certain provisions governing interprovincial and international power lines under Part 4, as if each reference to international or interprovincial power lines in those provisions were references to OPL, and permits or certificates referred to authorizations.[132] These include:

- the prohibition under s. 272 against constructing OPL that passes on, over, along or under a facility except under a permit under s. 248 or a certificate under s. 262;
- the prohibition under s. 273 against constructing a facility across, on, along or under an OPL or engaging in an activity that causes a ground disturbance within a prescribed area, unless such construction or activity is authorized by order or regulations under s. 275 and carried out in accordance with them;
- the Commission's authority under s. 274 to direct, by order and on conditions that it considers appropriate, the holder of an authorization to relocate a section or part of OPL if the Commission is off the opinion that the relocation is necessary to facilitate the construction, reconstruction or relocation of a facility;
- the Commission's broad authority under s. 275 to give directions, by order, in relation to OPL, including the power under s. 276 to provide in such orders for the temporary prohibition of ground disturbances; and
- the offence and punishment provision at s. 292.

Similarly, CERA makes applicable to any part of an OPL that is located in a province certain provisions of Part 6 that allow a company operating (or intending to operate) an OPL that is in a province to obtain access to land, and the compensation requirements that result therefrom.[133] As discussed further below, CERA does not, however, address how ORE proponents can obtain seabed rights within the offshore area for the purpose of siting ORE Projects.

Interaction with *Impact Assessment Act*

The CERA authorization process for ORE Projects and OPL is integrated with the impact assessment processes under the IAA.[134] As indicated above, if the ORE Project or OPL is a "designated project" subject to an impact assessment under the IAA, some of CERA's rules relating to authorizations and time limits

[130] *Ibid*, s 308.

[131] *Ibid*, s 181.

[132] *Ibid*, s 305.

[133] *Ibid*, s 306(1) & Part 6.

[134] *Ibid*, s 299.

are modified. Pursuant to the *Physical Activities Regulations* made under the IAA, the following are "designated projects" for the purposes of IAA assessments:[135]

> 42 The construction, operation, decommissioning and abandonment of one of the following:
>
> […]
>
> (b) a new in-stream tidal power generating facility with a production capacity of 15 MW or more;
>
> (c) a new tidal power generating facility that is not an in-stream tidal power generating facility.
>
> 43 The expansion of one of the following:
>
> […]
>
> (b) an existing in-stream tidal power generating facility, if the expansion would result in an increase in production capacity of 50% or more and a total production capacity of 15 MW or more;
>
> (c) an existing tidal power generating facility that is not an in-stream tidal power generating facility, if the expansion would result in an increase in production capacity of 50% or more.
>
> 44 The construction, operation, decommissioning and abandonment in an offshore area or in boundary water of a new wind power generating facility that has 10 or more wind turbines.
>
> 45 The expansion in an offshore area or in boundary water of an existing wind power generating facility, if the expansion would result in an increase in production capacity of 50% or more and a total number of wind turbines of 10 or more.

Pursuant to the IAA, all designated projects that are regulated under CERA are subject to a mandatory assessment by a review panel, rather than the Impact Assessment Agency.[136] Where an application under Part 5 relates to an ORE Project or OPL captured by the above provisions, the Commission is required to approve or deny the related application solely based on the review panel's report issued under the IAA and CERA's time limits are modified.[137] For applications relating to projects not listed above, the Commission must consider the specific enumerated factors at s. 298(3) of CERA, excerpted above, prior to issuing its approval or denial of an authorization.[138]

Indigenous Participation and Consultation

CERA recognizes the rights of the Indigenous peoples of Canada under section 35 of the *Constitution Act, 1982*,[139] and incorporates those rights into the act.[140] This paper does not provide a detailed exploration of how Aboriginal and treaty rights and the interests of Indigenous communities generally are taken into account in the ORE regime in Atlantic Canada. Yet it is without question that Indigenous communities in Atlantic Canada must play an active role in ORE development in the region. Not only is there a real possibility that pursuant to section 35 of the *Constitution Act, 1982*, Indigenous communities require consultation, and possibly accommodation, where these rights may be negatively affected by an ORE development,[141] but CERA itself

[135] *Supra* note 36.

[136] IAA, *supra* note 38, s 43(b).

[137] *Ibid*, s 299; CERA, *supra* note 5, s 299(b).

[138] CERA, *supra* note 5, s 298(3).

[139] *Ibid*, s 3.

[140] *Ibid*, s 56(1)-(2).

[141] *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at para 35.

requires Indigenous participation in ORE development. For instance, one director of the CER and one full-time Commissioner must be an Indigenous person;[142] an advisory committee for the CER is established for the purpose of enhancing the involvement of Indigenous peoples of Canada and Indigenous organizations in respect of various matters, including ORE projects;[143] and when determining whether to issue an authorization for ORE projects, the Commission must consider Indigenous knowledge that has been provided to them and take into account the interests and concerns of the Indigenous people and their section 35 rights.[144]

Aside from engagement within CERA or provincial regulatory processes, it is also crucial that Indigenous communities whose rights or interests may be affected by ORE activities be engaged in broader oceans use planning and management processes. As discussed further below, these would include regional and strategic assessments under the IAA or provincial environmental assessment legislation, or integrated management plans under the *Oceans Act*.

The involvement of Indigenous peoples in ORE development is also not necessarily limited to Indigenous communities in Canada. CERA's definition of "indigenous peoples of Canada"[145] is tied to the meaning assigned by the definition "aboriginal peoples of Canada" in subsection 35(2) of the *Constitution Act, 1982*.[146] In *R v Desautel*, the Supreme Court of Canada recognized that Indigenous groups located outside Canada can be "Aboriginal peoples of Canada" for the purposes of s. 35.[147] It is conceivable that Indigenous peoples outside of Canada may also have rights in relation to consultation and accommodation on ORE projects in Atlantic Canada. This may be particularly relevant to ORE projects near American borders, such as Passamaquoddy Bay in the Bay of Fundy.

ORE Regulations

Part 5 offers skeletal framework for the authorization process and associated requirements. The meat of what will be required of the proponents of authorized ORE Projects and OPL in terms of technical, safety, environmental and operational matters will eventually be set out in regulations. In this regard, the Governor in Council is empowered to make regulations:[148]

> (a) respecting works and activities related to offshore renewable energy projects and to offshore power lines, for the purposes of safety, security and environmental protection;
>
> (b) respecting the conditions [of authorizations] referred to in subsection 298(9);
>
> (c) prohibiting the introduction into the environment of substances, classes of substances and forms of energy in specified circumstances;
>
> (d) respecting the creation, updating, conservation and disclosure of records;
>
> (e) respecting arbitrations for the purposes of subsection 309(2), including the costs of or incurred in relation to such arbitrations; and
>
> (f) prescribing anything that is to be prescribed under this Part, other than the circumstances referred to in subsection 298(6).

As discussed below, NRCan is, at time of writing, working on developing the ORER that will flesh out the regulatory framework. Until the ORER come into effect, much detail will be left to the broad discretion of the CER or the Commission. Some key areas left to CER or Commission

[142] CERA, *supra* note 5, s 14(2).

[143] *Ibid*, s 57(1).

[144] *Ibid*, s 298(3).

[145] *Ibid*, s 2.

[146] *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c 11.

[147] *R. v Desautels*, 2021 SCC 17 at para 22.

[148] CERA, *supra* note 5 at s 312.

discretion in the absence of regulations are as follows: the CER may determine the contents of an application for an ORE authorization;[149] the Commission may impose conditions of authorizations, including approvals, deposits, debris liability, safety and environmental studies or programs, and certificates of fitness;[150] and, the Regulator may fix the amount payable to claimants, and the manner of payment, out of funds available under the letter of credit or other security posted by the authorization holder.[151]

Whether the CER and Commission's discretion under the above areas will be made subject to regulations remains to be seen.

ii. The *Offshore Renewable Energy Regulations* (ORER) Initiative

NRCan, with support from the CER, is currently leading an initiative to develop environmental protection and safety regulations, the ORER, to be applied to exploration, construction, operation and decommissioning of ORE Projects and OPL under CERA.[152] Under Phase 1 of the initiative, NRCan released a discussion paper setting out its proposed approach to the ORER,[153] and a further paper summarizing stakeholder comments arising from the Phase 1 engagement was also released.[154] Phase 2, which is underway at time of writing, involves yet another engagement paper, addressing NRCan's proposed technical requirements in more detail.[155] NRCan indicated that it would accept feedback on the proposed requirements until February 21, 2022. NRCan intends to pre-publish the proposed ORER in Part 1 of the *Canada Gazette* in 2023.[156]

NRCan's current vision for the ORER will generally follow the life-cycle phases of an ORE project,[157] broken down into the five parts summarized below.[158]

General requirements – this first part will address general duties and responsibilities of operators of ORE projects that will apply over the project life-cycle. In this section, NRCan contemplates including requirements for: development and implementation of management systems to address safety, security, reliability and environmental matters; general operator duties; compliance with and regular updates to management plans; compliance with conditions of certificates of fitness; monitoring of compliance by personnel; support operations; safety zones; evacuation systems; general reporting obligations and incident reporting; and record keeping and document accessibility.[159]

Site assessment work or activities – This section would address site assessment work such as surveys, geotechnical sampling and testing, installation, operation and decommissioning of measuring equipment like met masts and buoys. NRCan contemplates specifying in this section the site assessment information that is to be included in applications for authorizations for site assessment work. Applicants will be required to have CER approve a safety plan, environmental protection plan and emergency management plan prior to undertaking any site assessment work or activity. This section also includes proposed requirements for certification of vessels, aircraft landing facilities, and equipment used in these activities.[160]

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[149] *Ibid*, s 298(2).

[150] *Ibid*, s 298(9).

[151] *Ibid*, ss 304(3)-(4).

[152] ORER Website, *supra* note 6.

[153] Natural Resources Canada, *Discussion Paper: Canada's Approach to Offshore Renewable Energy Regulations,* Catalogue No M134-64/2020E-PDF (Ottawa: Natural Resources, 2020), online: <rncanengagenrcan.ca/sites/default/files/pictures/participate/orer-paper-accessible-pdf-fip-wm-en.pdf> ("Discussion Paper").

[154] Natural Resources Canada, "Phase One Engagement Summary: Natural Resources Canada's Offshore Renewable Energy Regulations Initiative" (2021), online (pdf): <rncanengagenrcan.ca/sites/default/files/pictures/home/orer_-_summary_paper_-_en_-_acc.pdf> ("Engagement Summary Paper").

[155] Natural Resources Canada, "Offshore Renewable Energy Regulations: Proposed Technical Requirements" (2021), online (pdf): <rncanengagenrcan.ca/sites/default/files/pictures/home/orer_-_technical_requirements_paper_-_en.pdf> ("Technical Paper").

[156] ORER Website, *supra* note 6.

[157] *Ibid*.

[158] Technical Paper, *supra* note 155 at 6.

[159] *Ibid* at 10–17.

[160] *Ibid* at 18–24.

Transportation, construction, installation and commissioning – This section will set out requirements relating to activities after site assessment and leading up to the operation of the project. It is intended to apply to all components of the planned project including the generation devices, substructures and foundations, electrical service platforms, substations, inter-array and export cables, and any other permanently installed auxiliary structures. The section will address:

- design requirements for facilities, equipment and systems (including personnel safety, structural integrity, and protection of the environment);
- the information and plans required to support an application for any authorization to transport, construct, install or commission ORE facilities, including any follow up approvals;
- specific requirements for fabrication, transportation, installation and commissioning work and activities; and
- procedures for obtaining certificates of fitness for an ORE facility and associated equipment and systems.

Some of the specific requirements contemplated include: safety, environmental protection, and emergency management plans; quality assurance programs; design requirements; approvals for facility design reports, facilities reliability reports, fabrication and construction reports; and procedures and provisions addressing certificates of fitness and certifying authorities.[161]

Operations and maintenance – This section covers operations and maintenance work and activities, including monitoring, inspection, repairs and maintenance of the certificate of fitness. This section will require self-inspection, continuous monitoring, repairs according to an approved program and periodic maintenance. It sets out the required contents for applications for authorizations and follow up approvals. Among specific requirements are the following: safety, environmental protection, emergency management and integrity management plans; and obligations for the certifying authority in respect of the continued validity of the facility's certificate of fitness.[162]

Decommissioning, repowering and life extension – the final section will address the decommissioning, repowering and life extension work or activities. As with the previous sections covering the other life-cycle stages, this section will include requirements for the contents of applications for authorizations and follow up approvals. Environmental protection, safety emergency management plans will similarly be required. A final decommissioning and abandonment plan will also be required.[163]

There are some areas that the proposed ORER do not address. First, it does not appear that the ORER will include any details around the form of proof of financial resources that applicants must provide. As noted above, in connection with the liability regime for damage caused by debris, CERA requires applicants to provide proof that the applicant has sufficient financial resources necessary to pay an amount that is determined by the Commission.[164] That section contemplates the form of proof being either "prescribed by regulation" or "in the absence of regulations", specified by the CER.[165] Regulations are similarly contemplated to specify amounts, classes of claimants, and the form and manner of payments out of funds posted by proponents to enable the CER to satisfy claims relating to debris.[166] If these issues are not addressed in the ORER or, more likely, separate regulations, they will fall to the CER's discretion.

Second, and more significant, is the federal government's proposed approach to the land tenure regime through which proponents will obtain authorizations to use federal seabed lands for ORE projects. NRCan has indicated that land tenure will be the responsibility of

[161] *Ibid* at 25–38.

[162] *Ibid* at 39–46.

[163] *Ibid* at 47–53.

[164] CERA, *supra* note 5, s 303(1).

[165] *Ibid*, s 303(1).

[166] *Ibid*, ss 304(3)-(4).

Public Services and Procurement Canada ("PSPC") under the *Federal Real Properties and Federal Immovables Act* ("FRPFI Act").[167] This issue is examined further below.

The final content and structure of the proposed ORER of course remain subject to change following public feedback and publication in the *Canada Gazette*. Regulation of the matters outlined above will therefore be largely subject to Commission and CER discretion until 2024 at the earliest.[168] Practically speaking, it seems unlikely that any ORE project in a federal area will progress through the authorization process until the supporting ORER are in force.

iii. Land Tenure Regime

CER and the proposed ORER, as noted above, do not include any land tenure process by which proponents can obtain authorizations to use federal seabed lands. NRCan explains as follows: [169]

> For renewable energy developers interested in applying for an authorization to use the federal seabed, a request must be submitted to PSPC, who would require at a minimum that proponents submit: a business case and company profile; a detailed description of the project; preliminary project drawings; and a proposed project schedule. The applicant would also be required to provide:
>
> 1. Details on any record of any consultations and/or agreed accommodations with First Nations communities, undertaken in accordance with potential or established Aboriginal or treaty rights recognized and affirmed under section 35 of the *Constitution Act, 1982*;
>
> 2. A record of consultations with all potential stakeholders, including but not limited to adjacent provinces, territories and municipalities, and other users of the seabed area who may have a stake in the seabed area in question; and,
>
> 3. A record of consultations with adjacent provinces whose government might assert a competing claim to the subject area, in order to obtain provincial collaboration.
>
> Direct negotiation with PSPC for seabed authorization may be possible. However, in the case where PSPC determines that direct negotiation is not appropriate, in order to ensure fairness and transparency, a bidding or a request for proposals process will be initiated.

ORE proponents interested in projects in federal areas will thus have to engage with PSPC under the FRPFI Act. A review of the FRPFI Act is beyond the scope of this paper. For present purposes, a few points are worth noting. First, it is not clear that the FRPRI Act applies to lands in Canada but outside a province. "Federal real property" means "any real property belonging to Her Majesty, and includes any real property of which Her Majesty has the power to dispose."[170] However, "real property" is defined as "land in any province other than Quebec, and land outside Canada".[171] By its terms, the definition of "federal real property" would thus appear to include lands within a province and lands outside Canada, but not lands that are within Canada but outside a province. Importantly, the latter would include any lands of the territorial sea that are outside a province, as such lands are, pursuant to the *Oceans Act*, part

[167] *Federal Real Property and Federal Immovables Act*, SC 1991, c 50, s 4 ("FRPFI Act").

[168] Engagement Summary Paper, *supra* note 154 at 4.

[169] Discussion Paper, *supra* note 153 at 3.

[170] FRPRI Act, *supra* note 166, s 2 "federal real property".

[171] *Ibid*, s 2 "real property".

of Canada.[172] It is likely that the FRPFI Act was intended to apply to all federal lands inside or outside of Canada, but the issue remains.

Second, and in any case, the FRPFI Act and regulations[173] address rules and processes for acquisitions, administration and disposition of real property and immovables by the federal government. The legislation contains no provisions specifically addressing ORE or federal seabed lands. The FRPRI Act and its legislation provide little guidance to ORE proponents.

Third, the seabed authorization process described above is notably light on detail. PSPC has not as yet publicly released any guidance for ORE proponents about the process, application forms, expectations of applicants in terms of information and consultations, or likely timelines for obtaining authorizations.

Fourth, the process described above leaves it unclear whether PSPC will engage in a call for bids or request for proposal process in relation to specific marine areas, leave the nomination of marine areas to the ORE proponents, or a mixture of both. Given the early state of the ORE sector in Atlantic Canada, it seems likely that at least in the near term, PSPC will negotiate directly with ORE proponents. However, as the industry grows, seabed access may become more competitive and a bidding or request for proposal process may be undertaken.

Finally, the more fundamental issue is the apparent intention to bifurcate the process for securing seabed land rights from the other ORE project regulatory requirements that are centralized under CERA.

D) TOWARDS THE FULL AND RATIONAL DEVELOPMENT OF ORE: SOME OUTSTANDING ISSUES

CERA's ORE regime is a welcome development for Atlantic Canada's ORE sector, and will eventually facilitate the progress of ORE activity in marine areas outside of provincial territory. However, the above discussion indicates that there are several outstanding areas that stand in the way of a regulatory regime that will facilitate the full and rationale development of the ORE sector in Atlantic Canada. The following discussion highlights some of these potential barriers.

i. Land Tenure and Marine Boundary Issues

The ability to secure rights to adequate seabed lands is a key requirement for the development of the ORE industry. CERA does not address land tenure and the CER has no responsibility for this crucial regulatory component. From a proponent perspective, hiving off the land tenure regime to a separate department such as PSPC from the regulation of ORE work and activity under CER jurisdiction, as NRCan suggests is the federal government's plan,[174] is not an ideal approach.

A bifurcated approach increases regulatory complexity and the number of regulatory departments and agencies that ORE proponents will be required to interact with. ORE, like much offshore resource activity, is already subject to complex and multi-faceted regulatory burden.[175] Creating a bifurcated approach when devising a new regulatory regime seems short-sighted, unless the federal government anticipates that comprehensive joint federal-provincial regulation will be negotiated in the future.

The offshore oil and gas regime under the NS and NL Accord Acts offers existing precedent for assigning land tenure and life-cycle regulation to a single lead regulator. The CNSOPB and

[172] *Oceans Act*, *supra* note 34, s 7.

[173] *Federal Real Property and Federal Immovables Regulations*, SOR/92-502.

[174] Discussion Paper, *supra* note 153 at 3.

[175] See Robert O. Fournier, "Marine Renewable Energy Legislation: A Consultative Process" (18 July 2011) at 50–52, online (pdf): <oera.ca/sites/default/files/2019-05/Marine%20Renewable%20Energy%20Legislation%20%E2%80%93%20Report.pdf> ("Fournier").

CNLOPB have authority to issue interests in respect of any portion of the respective offshore areas.[176] It would likely be preferable to take a similar approach under CERA.

However, if amending CERA to give the CER authority to authorize the use of federal seabed lands is not considered an option for the federal government, the regulatory burden can be mitigated through appropriate steps. Assuming PSPC remains the department charged with the seabed authorization process, it should develop and make public detailed guidelines or other guidance about the authorization process for ORE proponents. This should include information on required forms, a clear description of PSPC's expectations in terms of informational and consultative requirements, and reasonable timelines for decisions. To the extent the requirements may overlap with those required by other federal departments and agencies, such as the CER or Impact Assessment Agency, PSPC should enter into memoranda of understanding with such agencies to delineate roles and information-sharing responsibilities, and reduce overlap wherever possible.

In the early stages of ORE activity in federal marine areas, allowing proponents to negotiate directly with PSPC for use of suitable marine areas makes sense. As activity increases, a call for bids or request for proposals process with clear rule would be appropriate. In both cases, clear guidance on the process should be made available to proponents, and preferably public.

Finally, a significant issue for the land tenure regime is the continued uncertainty around potentially competing claims to marine areas by the federal and provincial governments, most notably in the Bay of Fundy, but also other areas. NRCan's Discussion Paper hints at this issue by indicating that PSPC will require proponents to provide "a record of consultations with adjacent provinces whose government might assert a competing claim to the subject area, in order to obtain provincial collaboration." ORE proponents — and their investors or lenders — will require some degree of certainty around securing seabed rights. The prospect of competing claims arising at some point during the seabed authorization process creates significant uncertainty, as such claims would likely cause delay or ultimately prevent securing any rights to the disputed area. It is unlikely that proponents will welcome being thrust into the role of initial intermediator between the federal and provincial governments in respect of such claims.

As Professor Doelle *et al* note, delineation of federal/provincial boundaries in Atlantic marine areas, whether through confrontation, settlement, or a cooperative approach, would be particularly helpful for regulation of the ORE industry.[177] Settlement of marine boundaries between the federal government and all four Atlantic Provinces would be ideal. But competing governmental claims to marine areas in Atlantic Canada do not need to be fully and finally settled in order to overcome the uncertainty they create for ORE regulation. The "without prejudice" joint federal-provincial management of offshore oil and gas under the Accord Acts[178] is an example of a legislative approach that effectively resolves boundary disputes and creates certainty for regulated entities without resolving claims between the governments.

ii. Minimizing Complexity through Joint Management

ORE projects will inevitably be subject to an array of regulatory requirements from a variety of regulators, including, among others, the CER, Transport Canada, Fisheries and Oceans Canada, the Impact Assessment Agency. Projects in federal areas involving transmission into or facilities within provincial territory will also encounter provincial regulators. Uncertainty around marine boundaries compounds the complexity, while ORE proponents will also face a different regulatory system for projects sited in areas subject to the NS MRA. The other Atlantic Provinces may ultimately create their own, potentially inconsistent, ORE regimes.

[176] Accord Acts, *supra* notes 55, 102, at Part II, Division II. The issuance of interests by the respective boards is a "fundamental decision" and thus subject to ministerial intervention: see NS Accord Acts, *supra* note 55, ss 32–35, 60(2); NL Accord Acts, *supra* note 102, ss 31–40, 57(2).

[177] Tidal Energy, *supra* note 3 at 68–69.

[178] See *supra* note 55.

Such an outcome will not effectively facilitate development of the ORE sector in the region.[179]

As we have argued elsewhere, there is a strong case that joint federal-provincial management of ORE, achieved through political negotiation rather than the strict application of constitutional principles, is the more efficient, more expert, fairer and more responsive basis ORE management.[180] A joint federal-provincial effort similar to the offshore oil and gas regime would be an optimal solution to the boundary issues and problems arising from competing and overlapping federal and provincial regimes.

Other benefits could be achieved through a joint management approach, including regulatory consistency. If all or some Atlantic Provinces and the federal government could reach agreement, joint management could achieve regulatory consistency across Atlantic Canada waters, rather than competing and possibly inconsistent regulations. As we have stated elsewhere:[181]

> A federal legislative basis for regulation constrains the coastal provinces' ability and occasional wont to enact regulatory schemes that differ from, and may be incompatible with, neighbouring provincial regimes. Federal primacy can impose a measure of regulatory consistency throughout Atlantic Canadian waters. Regulatory stability is attractive to industry and can enhance public trust, since industry rules are not in constant flux. A federally imposed constraint may help avoid a race to the bottom among coastal provinces competing for ocean resources investment. The Newfoundland and Labrador and Nova Scotia offshore oil and gas regime provides a good example, as it is based on the same rights issuance system and operational laws governing all oil and gas activities in the federally regulated "frontier" lands and offshore.

From the federal perspective, it appears that CERA's Part 5 and NRCan's work on the ORER do not preclude a later joint management approach. NRCan has confirmed federal openness to joint management:[182]

> The regulations made under the CER Act will apply to ORE projects in Canada's offshore areas. However, respecting the long history of federal-provincial collaboration in the joint management of energy resources in the offshore (e.g., laws establishing the Canada-Nova Scotia and Canada-Newfoundland and Labrador Offshore Petroleum Boards) this work does not prevent Canada and interested provinces from exploring joint management approaches for ORE projects in the future. Any potential federal-provincial joint management regime for offshore renewables will also require safety and environmental protection regulations. Therefore, these regulations developed under the CER Act could serve as the basis for similar regulations under potential future offshore energy joint management regimes.

The Atlantic Provinces' respective positions are less clear. At time of writing, there is no public indication that any of these governments are pursuing a joint management solution.

iii. Provincial Benefits of ORE in Federal Areas

One gap in the federal approach to ORE under CERA, at least from a provincial perspective, is the absence of provisions requiring that benefits from ORE activity flow to the adjacent provinces. This stands in contrast to the offshore oil and gas regime. In that context, the federal government has conceded that NS and NL should receive fiscal revenues from offshore production and be the primary beneficiaries of offshore employment and industrial activity.

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[179] Ocean Economy, *supra* note 3 at 34–37, 45; IAA Atlantic Canada, *supra* note 3 at 47. For a description of proponent perception of the ORE regulatory "swamp", see Fournier, *supra* note 175 at 50–52.

[180] *Ocean Economy*, *supra* note 3 at 34.

[181] *Ibid* at 35–36.

[182] Discussion Paper, *supra* note 153 at 4.

Under the Accord Acts, benefits from offshore development and related activities flow to the respective provinces in two ways. First, provincial oil and gas fiscal legislation, setting out royalties, interest and penalties, is effectively applied to the offshore areas as if the petroleum were produced from areas within the provinces.[183] Royalty-type regimes may not be readily applicable to the ORE context, but provinces should arguably nevertheless have responsibility for and control of revenues from ORE activities through provincial fiscal instruments.

A more fitting mechanism to transfer benefits of ORE activity to the provinces is the Accord Acts' requirement proponents to submit and obtain approval of "benefits plans" as a condition of operating offshore.[184] A benefits plan is: [185]

> a plan for the employment of Canadians and, in particular, members of the labour force of the Province and, subject to paragraph (3)(d), for providing manufacturers, consultants, contractors and service companies in the Province and other parts of Canada with a full and fair opportunity to participate on a competitive basis in the supply of goods and services used in any proposed work or activity referred to in the benefits plan.

Under the Accord Acts, the offshore petroleum boards must approve benefits plans as a pre-condition for the issuance of work authorizations and the approval of development plans.[186] Benefits plans must contain provisions intended to ensure that:[187]

> (a) before carrying out any work or activity in the offshore area, the corporation or other body submitting the plan shall establish in the Province an office where appropriate levels of decision-making are to take place;
>
> (b) consistent with the *Canadian Charter of Rights and Freedoms*, individuals resident in the Province shall be given first consideration for training and employment in the work program for which the plan was submitted and any collective agreement entered into by the corporation or other body submitting the plan and an organization of employees respecting terms and conditions of employment in the offshore area shall contain provisions consistent with this paragraph;
>
> (c) a program shall be carried out and expenditures shall be made for the promotion of education and training and of research and development in the Province in relation to petroleum resource activities in the offshore area; and
>
> (d) first consideration shall be given to services provided from within the Province and to goods manufactured in the Province, where those services and goods are competitive in terms of fair market price, quality and delivery.

There is no obvious reason why the federal agreement that provinces should be the beneficiaries of offshore industrial and employment activity should not also apply to the ORE regime.[188]

Of course, any scheme to ensure the adjacent provinces receive employment and industrial benefits from ORE activity should be carefully designed so that any obligations on proponents will not stifle activity in the nascent industry. This would apply particularly to new and emerging technologies, such as tidal and wave power.

If one or more of the Atlantic Provinces seeks to develop a joint ORE management regime

[183] NL Accord Act, *supra* note 102, ss 97–100; NS Accord Act, *supra* note 55, ss 99–100.

[184] NL Accord Act, *supra* note 102, s 45; NS Accord Act, *supra* note 55, s 45.

[185] NL Accord Act, *supra* note 102, s 45(1); NS Accord Act, *supra* note 55, s 45(1).

[186] NL Accord Act, *supra* note 102, ss 45(2), 138.3; NS Accord Act, *supra* note 55, ss 45(2), 142.3.

[187] NL Accord Act, *supra* note 102, s 45(3); NS Accord Act, *supra* note 55, s 45(3).

[188] Ocean Economy, *supra* note 3 at 41.

with the federal government, the Accord Acts would likely form a precedent for negotiation, and benefits plans might thus be on the table. Absent a joint regime or significant pressure from the provincial governments, it is hard to imagine a gratuitous federal amendment to CERA to include a benefits scheme in favour of the provinces.

iv. Broader Planning and Management Tools – Balancing Competing Interests

One of the challenges to an effective regulation of ocean resources is how to ensure that different and sometimes conflicting human activities are effectively planned for and balanced, while also protecting the marine environment. This is no easy task. A plethora of stakeholders will have interests in the marine areas where ORE facilities may be built and operated. Consideration must be given to the interaction between the ORE activities with other valid competing ocean uses, including fishing, aquaculture, offshore oil and gas, shipping, and recreational activities. However, the multitude of potentially competing established ocean uses should not only be seen as a hurdle for ORE industry and its regulators to overcome, but also as an opportunity. As noted by Marine Renewables Canada, studies have found that ORE can "provide a cost competitive solution for ocean industries that require access to consistent reliable and clean power untethered to land-based power grids… These include traditional ocean sectors such as shipping, offshore oil and gas, fisheries and ports".[189] Carefully planned co-location of ORE and other ocean industrial activities could provide real benefits in terms of maximizing the use of ocean space.

Aside from human activities, consideration must also be given to the competing conservation imperative. In recent years, the federal government has designated a number of areas as marine protected areas ("MPAs") under the *Oceans Act*, including the Laurentian Channel,[190] Banc-des-Américains,[191] Tuvaijuittuq,[192] and St. Ann's Bank MPAs.[193] These and other marine conservation efforts must also be carefully planned for and balanced with sustainable ocean resource activities. While offshore development may pose a threat to ocean biodiversity, ORE production may also mitigate the effects of climate change and thereby may reduce the negative effects of climate change on ocean ecosystems.[194] Potential project specific risks must therefore be weighed in a broader context.

A truly effective regulatory system will fairly and efficiently balance the sometimes competing imperatives of sustainable economic activity (involving a variety of occasionally conflicting industries), other ocean uses and conservation. Further, it must be able to do so in the complex and uncertain jurisdictional framework in the offshore. It seems unlikely that the regulators charged with making ORE project approval decisions — whether the CER or provincial — will be able to do this without the support of broader ocean planning and management tools. As others have suggested in the context of tidal power in NS, what is required is "a broad policy context, an integrated planning process, and a fair and efficient regulatory process that implements the results of the first two steps."[195] From a broader regional perspective, the policy and planning processes would ideally also involve collaboration among the Atlantic Provinces and federal government.

Given the jurisdictional complexities, developing integrated planning and management processes on an inter-jurisdictional basis seems a tall order. But there are tools that may assist. For instance, strategic assessments or regional assessments of ORE activities in Atlantic Canada[196] could be valuable for planning purposes, and smooth the path for

[189] Blue Energy, *supra* note 15 at 8.

[190] *Laurentian Channel Marine Protected Area Regulations*, SOR/2019-105.

[191] *Banc-des-Américains Marine Protected Area Regulations*, SOR/2019-50.

[192] *Order Designating the Tuvaijuittuq Marine Protected Area*, SOR/2019-282.

[193] *St. Anns Bank Marine Protected Area Regulations*, SOR/2017-106.

[194] Blue Energy, *supra* note 15 at 20.

[195] Tidal Energy, *supra* note 3 at 70.

[196] See for instance the IAA, *supra* note 38, ss 92 (in respect of regional assessments in entirely federal lands), 93 (in respect of regional assessment in other regions), and 95 (in respect of strategic assessments).

eventual project assessments and approvals. As Professors Doelle and Sinclair have observed:[197]

> Among the key benefits are the ability to address broader policy issues, to consider the interaction among a range of past, current and possible future activities, to improve the consideration of alternatives and cumulative effects, to streamline assessments at the project level, and to attract better projects as a result of improved clarity on what types of projects are desired.

Another tool is the further development of integrated management plans for ocean regions under the *Oceans Act*. The *Oceans Act* calls for the Minister of Fisheries and Oceans to lead the development of integrated management plans for Canada's oceans. Per Section 31: [198]

> 31 The Minister, in collaboration with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements, shall lead and facilitate the development and implementation of plans for the integrated management of all activities or measures in or affecting estuaries, coastal waters and marine waters that form part of Canada or in which Canada has sovereign rights under international law.

Fisheries and Oceans Canada ("DFO") explains its view of integrated management as follows:[199]

> The Integrated Management concept involves comprehensive planning and managing of human activities to minimize the conflict among users; a collaborative approach that cannot be forced on anyone; and a flexible and transparent planning process that respects existing divisions of constitutional and departmental authority, and does not abrogate or derogate from any existing Aboriginal or treaty rights.

DFO's integrated management approach recognizes the need to include provincial and Indigenous authorities, affected ocean industries and coastal communities in the management process.[200] If well designed and implemented, integrated management plans may offer a valuable forum for planning, management and possible resolution of conflicting priorities and ocean uses.

In this regard, continued development of the Regional Oceans Plan for the Scotian Shelf / Atlantic Coast / Bay of Fundy, which commenced following the 2012 completion of the Eastern Scotian Shelf Integrated Management (ESSIM) initiative, could prove useful in the regulation of ORE.[201] This Regional Oceans Plan encompasses all of the Bay of Fundy, the Atlantic Coast off NS out to the outer limit of the territorial sea, and the offshore Scotian Shelf to the outer limit of the EEZ.[202] It expressly contemplates ORE activities, noting as follows:[203]

> The Bay of Fundy planning area has been the focus of efforts to harness

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[197] Meinhard Doelle, "Regional & Strategic Assessments in the Proposed Federal Impact Assessment Act (IAA)" (February 25, 2018) in *Environmental Law News: Climate Change, EA, Regulation, Governance*, online (blog): <blogs.dal.ca/melaw/2018/02/25/regional-strategic-assessments-in-the-proposed-canadian-impact-assessment-act-ciaa/>.

[198] *Oceans Act*, *supra* note 34 at 31.

[199] Canada, Department of Fisheries and Oceans, *Canada's Ocean Strategy: Policy and Operational Framework for Integrated Management of Estuarine, Coastal And Marine Environments In Canada*, Catalogue No Fs77-2/2002E-IN (Ottawa: Fisheries and Oceans Canada, 2002) at ii, online (pdf): <waves-vagues.dfo-mpo.gc.ca/Library/264678.pdf>.

[200] *Ibid* at 7.

[201] Canada, Department of Fisheries and Oceans, Maritimes Region, *Regional Oceans Plan – Scotian Shelf, Atlantic Coast, Bay Of Fundy: Background and Program Description*, Catalogue No Fs104-32/1-2014E-PDF (Dartmouth: Fisheries and Oceans Canada, 2014) at 5, online (pdf): <waves-vagues.dfo-mpo.gc.ca/Library/365205.pdf>.

[202] *Ibid* at 13–16.

[203] *Ibid* at 18–19.

> renewable tidal energy. There is currently one tidal power station in the bay. Seven locations have been identified as potential sites for tidal in-stream turbines on the Nova Scotia side of the bay, while eight sites have been identified on the Ne Brunswick side. In-stream technology remains at the testing stage. Other parts of the bioregion have been identified as having high potential for wind and wave energy. As interest in this sector increases, it will be important to coordinate between this and other sectors, and to consider the environmental impacts of any renewable energy developments.

This plan, which includes oceans management (including marine spatial planning), development and management of MPAs, and collaboration and engagement, could form part of a broader management system for ocean use planning in the applicable region. Similar plans, such as the Gulf of St. Lawrence Integrated Management Plan[204] and Placentia Bay/Grand Banks Large Ocean Area Management Plan,[205] may also assist.

The upshot is that CERA, or any eventual joint federal-provincial ORE management scheme, will be more effective to the extent broader oceans planning and management tools are leveraged. Such tools should engage applicable federal and provincial regulators, ORE and other oceans industries and Indigenous and non-Indigenous coastal communities. Thoughtfully crafted strategic and regional assessments and integrated management plans may provide such tools.

CONCLUSION

The continued development of the ORE sector in Atlantic Canada does not depend solely on having an effective regulatory regime. Economic considerations, such as price and market access, will be key determinants, among other factors. Nevertheless, a comprehensive and efficient regulatory regime is a necessary if not sufficient condition to ORE's success in the region. In this regard, progress on the federal ORE regulatory regime under CERA's Part 5 is a welcome development. The eventual development of the ORER should eventually help facilitate ORE activity, and offshore wind in particular, across the region. As this paper has shown, however, there remain several significant opportunities to improve upon the ORE regulatory environment. The continued uncertainty around the Atlantic Provinces' maritime boundaries, and thus jurisdictional limits, is an ongoing barrier that should be addressed by both levels of government. This issue could be resolved through a joint federal-provincial management scheme or schemes. Such a regime would also help minimize regulatory complexity and inconsistency in the region. Formal regulatory mechanisms to ensure employment and industrial benefits from ORE activities flow to the adjacent province would also be welcome. Giving responsibility for the federal land tenure regime to a separate department, rather than the CER under CERA, seems likely to create unnecessary complication. Finally, any regime — whether solely federal under CERA or a joint management — would benefit from the use of broader governance tools, such as regional or strategic assessments and the continued development of integrated management plans under the *Oceans Act*. Addressing these issues on a cooperative basis would go a long way towards achieving the full and rational development of Atlantic Canada's ORE resources. ■

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[204] Canada, Department of Fisheries and Oceans, Gulf Region, *Gulf of St. Lawrence Integrated Management Plan,* Catalogue No Fs149-7/2013E-PDF (Moncton: Fisheries and Oceans Canada, 2013), online: <waves-vagues.dfo-mpo.gc.ca/Library/356406.pdf>.

[205] Fisheries and Oceans Canada, "Placentia Bay/Grand Banks Large Ocean Management Area Integrated Management Plan (2012-2017)" (February 2012), online (pdf): <waves-vagues.dfo-mpo.gc.ca/Library/347923.pdf>.

THE GOVERNANCE OF REGULATORY AGENCIES – A FURTHER CASE STUDY OF THE ONTARIO ENERGY BOARD

*Robert B. Warren**

INTRODUCTION AND OVERVIEW

The Ontario Energy Board (OEB) has a new governance structure, the product of the "Ontario Energy Board Modernization Review Panel" (the "Dicerni Panel") and the recommendations of its Report (the "Dicerni Report")[1] enacted by the *Fixing the Hydro Mess Act, 2019* (Bill 87).[2] The new governance structure differs in several respects from the one it replaces, chiefly in the use of what will be referred to herein as the corporate business model.[3]

The way the new corporate structure was developed, and the form it takes, raise a number of questions. This paper focusses on three of those questions, as follows:

1. Is the new governance structure necessary?
2. Is the new governance structure appropriate for a regulatory agency?
3. Did the way the new governance structure was developed and implemented reflect good public policy?

Before addressing those questions, I will do the following:

1. Describe what governance is and the principles which should inform it;

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[1] Richard Dicemi, Cara Clairman & Bruce Campbell, "Ontario Energy Board Modernization Review Panel – Final Report" (October 2018), online (pdf): *Government of Ontario* <files.ontario.ca/endm-oeb-report-en-2018-10-31.pdf> ("Dicemi Report").

[2] *Fixing the Hydro Mess Act*, 2019, SO 2019, c 6.

[3] The new governance structure provides an opportunity to revisit an analysis of the governance of the OEB which I undertook in 2014. In that analysis I noted a number of evident deficiencies in the governance of the OEB. Among other things, a study of the new governance structure, and of the process by which it was developed, provide an opportunity to assess whether, and if so how, the deficiencies I noted in the earlier analysis have been corrected. This paper is, in effect, a continuation of that earlier analysis, which is why this paper is described as "further case study." Robert B. Warren, "The Governance of Regulatory Agencies: A case Study of the Ontario Energy Board" (January 2015), online (pdf): *Council for Clean & Reliable Electricity* <thinkingenergy.ca/wp-content/uploads/2021/03/CCRE-The-Governance-of-Regulatory-Agencies-A-Case-Study-of-the-Ontario-Energy-Board-by-Robert-B.-Warren-January-2015.pdf> ("The 2015 Paper").

2. Describe what I mean by public policy or perhaps more accurately good public policy;

3. Set out the principal functions of the OEB and describe how the performance of those functions relate to governance;

4. Describe the governance structure which the new one replaces; and

5. Describe the new governance structure.

GOVERNANCE AND PUBLIC POLICY

Governance is a term used to describe the roles, mechanisms and processes by which an organization is governed. What those roles, mechanisms and processes will consist of, how they will operate and for what purposes will depend on, among other things, the nature of the organization, its objectives and its obligations. For a regulatory agency, governance may be defined, broadly, as the mechanism or instruments, processes, and relations by which the regulator is controlled and directed, and by which its decisions and actions are measured and held to account. The mechanisms and processes would include the regulatory agency's own structure, rules, and practices.[4]

The OEB was created by statute (The *Ontario Energy Board Act, 1998*) (*OEBA*) to serve the public interest as that interest is defined in that and other statutes.[5] The *OEBA* makes the OEB accountable to the government and to the legislature. The OEB must exercise the powers granted to it in accordance with the common law and relevant provincial statutes. The exercise of its powers is subject to oversight by the courts. The governance structure of the OEB is determined in part by the provisions of the *OEBA* and in part by how those provisions are interpreted and applied by the responsible minister and by the OEB itself.

Business corporations, by contrast, although they must comply with statutory requirements with respect to their formation and operations, are not created by statute and serve a fundamentally different purpose, principally that of enhancing shareholder value.[6] As a result the governance requirements for business corporations differ in fundamental ways from those a regulatory agency like the OEB.

While the governance needs of business corporations may superficially resemble the governance needs of a regulatory agency like the OEB, such as achieving identified objectives and, and while the vocabulary used to describe the principles of their governance structures may be the same, there are fundamental differences between the two. This means that the use of a governance structure applicable to a business corporation may be inappropriate for a regulatory agency like the OEB and, indeed, may pose a risk that the OEB will not be able to fulfill the functions assigned to it by statute.

There are a number of generally accepted principles of good governance, for business corporations and regulatory agencies. In this paper, as in the 2015 Paper, I use the principles developed by the Organization for Economic Co-operation and Development (OECD).[7] Those principles include transparency and accountability. The content of those principles differs between business corporations and regulatory agencies. In addition, certain principles, for example role clarity and independence, apply to regulatory agencies because of particular statutory requirements and the common law, requirements which do not apply to business corporations. Throughout this paper I refer to the OECD principles for regulatory governance as the principles of good regulatory governance.

I also use the terms "public policy" and "good public policy" interchangeably. They are, of course, not the same. Public policy may be

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[4] Organization for Economic Co-operation and Development, "The Governance of Regulators" (2014), online: <read.oecd-ilibrary.org/governance/the-governance-of-regulators_9789264209015-en#page1>.

[5] *Ontario Energy Board Act, 1998*, SO 1998, c 15, Schedule B [*OEBA*].

[6] The OECD's official definition of corporate governance in business is: "the purpose of corporate governance is to help build an environment of trust, transparency and accountability necessary for fostering long-term investment, financial stability and business integrity, thereby supporting stronger growth and more inclusive societies." OECD, "G20/OECD Principles of Corporate Governance" (2015) at 7, online (pdf): <www.oecd.org/daf/ca/Corporate-Governance-Principles-ENG.pdf>.

[7] OECD, "The Governance of Regulators" (last visited 18 February 2022), online: <www.oecd.org/gov/regulatory-policy/governance-of-regulators.htm>.

understood, in its most basic form, as the way governments develop and apply their policies. In that sense it is a neutral term. Good public policy, by contrast, is public policy informed by certain values. The values which should inform public policy include respect for the rule of law, integrity, transparency and accountability. For the purpose of this paper, I will focus on the last two principles, namely transparency and accountability. I suggest that those two principles, when applied to the development and implementation of a new governance structure for the OEB, required the following:

1. A description of the deficiencies in the existing governance structure, so that the public would know why it needed to be replaced;

2. A description of how the new governance structure would correct those deficiencies;

3. A description, in other words, of the reasons for the replacement of one governance structure by another;

4. A description of the benefits for the public of the new governance structure; and

5. A description of how the new governance structure is to operate.

Adherence to these principles requires the government to use language that is clear and understandable, to avoid, in other words, the use of language that is devoid of any real meaning and which may be misleading.

THE FUNCTIONS OF THE OEB

The OEB is created by statute and has only those powers and obligations which are set out in statutes and regulations, or powers which are required by necessary implication to fulfill its statutory obligations. In exercising those powers and fulfilling those obligations the OEB is subject both to the terms of the statutes and regulations, and to the requirements, whether in statute or at common law, as to how those the powers must be exercised. The decisions resulting from the exercise of certain of its powers are subject to review by the superior courts, though it is how the powers are exercised rather than the substance of the decisions which the courts review.

The OEB is required by statute to make certain decisions by order following a hearing. In doing so the OEB is acting as a quasi-judicial decision-maker. When it acts in that capacity it must comply with the rules of natural justice as codified in the *Statutory Powers Procedure Act*.[8] That the OEB must act as a quasi-judicial decision-maker, subject to those legal constraints, is one of the principal differences between it and a business corporation. This has important implications for the governance structure of the OEB, implications which are discussed later in this paper.

It is commonly, and incorrectly, said that the OEB regulates the energy sector in Ontario. It does not. The decisions of the OEB affect something less than 20 per cent of the cost of energy. The objectives it serves are set out in its empowering statutes, chiefly the *OEBA* and the *Electricity Act* (*EA*).[9] Those objectives relate principally to determining the prices to be paid for the transmission and distribution of gas and electricity. The empowering statutes also indicate the process the OEB is to use to achieve those objectives.

In fulfilling its objectives, the OEB is required to balance often competing interests. It cannot serve the interests of one group. That is why it is incorrect to characterize the OEB, as the government and indeed the OEB itself frequently and misleadingly do, as serving the interests of consumers. Some of the OEB's powers authorize it to protect consumers from fraudulent practices in the retailing of natural gas and electricity. That does not mean that the OEB, in carrying out its core obligations to approve just and reasonable rates for the transmission and distribution of gas and electricity, is acting as a consumer protection agency. The implications of this misunderstanding of the OEB's role for the development of the new governance structure are examined later in this paper.

The functions of the OEB may broadly be divided into three types, as follows.

[8] *Statutory Powers Procedure Act*, RSO 1990, c S.22.

[9] *Electricity Act*, RSO 1998, c 15, Schedule A.

Quasi-Judicial Functions

The first type are quasi-judicial functions, one in which the OEB exercises a broad discretion to apply its expertise in the interpretation and application of statutory standards. In performing quasi-judicial functions, the OEB is required to hold a hearing and adhere to the rules of natural justice. In carrying out these functions the OEB is authorized to use its expertise to determine the meaning of generally worded standards and apply that meaning to the facts in the individual cases that come before it. In some instances, no decision criteria may be specified, leaving it to the OEB to use its expertise to develop and apply criteria, including previously articulated regulatory policy or regulatory policy informed by the context of the adjudicative process, that are consistent with the objectives of the relevant statutes. However, each case must be decided on its own merits and on its own facts.

The OEB's quasi-judicial functions include the following:

1. Approving the rates to be charged by natural gas transmitters, distributors, and storage companies. The criteria to be used in deciding to approve the rates are whether they are "just and reasonable";[10]

2. Approving a change of ownership of a gas transmitter, gas distributor or storage company. No criteria for whether to grant approval is specified;[11]

3. Approving rates for the transmission and distribution of electricity. The criteria are whether the proposed rates are "just and reasonable";[12]

4. Approving a change of control of an electricity transmitter or developer;[13] and

5. Approving the construction of a hydrocarbon or electricity transmission line.[14]

Natural justice has two principal components: the right to be heard and the right to an impartial decision-maker. The latter component engages the issue of the independence of the decision-makers. What independence requires in the context of a regulatory agency like the OEB, and how the new governance structure may affect the independence of the OEB's decision-making, are matters examined later in this paper.

In carrying out these quasi-judicial functions the OEB must take into consideration any relevant government policies, and any directives issued to the OEB by the government under the authority granted to it by the *OEBA* or the *EA*. However, the OEB cannot fetter its discretion by simply applying those policies or directives regardless of the facts and merits of the matter it is dealing with, unless required to by statute or regulation. Nor can the OEB itself develop policies or guidelines which, directly or by necessary implication, limit or fetter the exercise of its discretion. The OEB's expertise, in interpreting and applying the statutory criteria, must be consistent with the objectives of the *OEBA* and the *EA*.

Functions Which Do Not Attract the Full Application of the Rules of Natural Justice

The second type of function is where there is a power to make a decision, and that power must be exercised by giving notice to affected parties and receiving and considering submissions from those parties before making a decision. There is no requirement to hold a hearing. The exercise of these functions does not attract the application of the full range of the rules of natural justice. Examples of these functions are the making of rules[15] and making codes.[16]

[10] *OEBA*, *supra* note 5, s 36.

[11] *Ibid*, s 43.

[12] *Ibid*, s 78.

[13] *Ibid*, s 86.

[14] *Ibid*, ss 90, 92.

[15] *Ibid*, s 44.

[16] *Ibid*, s 70.1.

Administrative Functions

The third type of function is a largely administrative one, that is a function which requires a limited use of discretion. In carrying out these functions the OEB is not acting as a quasi-judicial decision-maker. An example of such an administrative function is the issuance of a licence to a distributor of electricity. As long as the distributor meets the prescribed requirements a licence is issued. The issuance of the licence does not involve the exercise of discretion.

It is not always possible to draw a bright line between administrative functions and quasi-judicial functions. For example, the development of rules governing the conduct of the retailers of gas and electricity may be administrative in nature. But enforcing those, with the possibility of the application of some form of penalty, may require the OEB to act in a quasi-judicial capacity.

The OEB is not a government policy-making body. Its empowering statutes do not give the OEB the power, directly or by necessary implication, to make policies for the energy sector.

The courts have acknowledged that regulatory agencies like the OEB have the power to make what they describe as "soft law," for example policies or guidelines as to how they will exercise their powers.[17] However, while such policies or guidelines may guide the exercise of discretion, they cannot fetter the exercise of that discretion. Moreover, the power to make such soft law does not extend to making substantive policies outside the expertise of the regulatory agency let alone limiting the exercise their discretion on the basis of such policies.

The limits on the OEB's authority to make policies, and the implications of those limits for its new governance structure, are matters discussed later in this paper.

THE PREVIOUS GOVERNANCE STRUCTURE

In this section I will set out the principal components of the governance structure which existed before they were replaced by the new governance structure.

The *OEBA*, as it then was, provided for the appointment by the government of the chair and two vice-chairs as well as members of the OEB. The chair and the two vice-chairs were to constitute a Management Committee, which was responsible for the management of the OEB. Every three years the chair and the responsible minister were to enter into a Memorandum of Understanding (MOU) that was to define the relationship between the minister and the OEB. The OEB was authorized to make by-laws setting out how it was to operate. The chair of the OEB was to prepare an annual report to be provided to the minister who was then to lay the report before the legislature.

The MOU also provided for the appointment of a Chief Operating Officer (COO). By-law #1 set out the duties of the COO.

The length of the terms of the chair, the vice-chairs and the members were prescribed by statute, and by custom almost all were full-time members. Part-time members were the exception.

Beginning in roughly 2012, the internal structure and operating practices of the OEB began to change. Full-time members were replaced by part-time members. The positions of part-time members are less secure than the positions of full-time members. When a second vice-chair left he was not replaced even though the *OEBA* required that there be a second vice-chair. The position of the COO was left vacant.

As I noted in the 2015 Paper, the *OEBA* and the MOU assigned managerial responsibilities to the Management Committee of the OEB. In carrying out those responsibilities, the vice-chairs would bring areas of expertise, for example in administrative law, to the management of the OEB. That the *OEBA* made the management of the OEB the responsibility of three people suggests that it was the intention of the legislature that the members of the Management Committee were to function, if not as a "team of rivals," then at least as a counterbalance to the to the power of

[17] See e.g. *Thamotharem v Canada (Minister of Citizenship and Immigration)*, 2007 FCA 198 at paras 55ff.

the chair in providing a diversity of opinion and expertise to the management of the OEB. That structure of governance was important because it helped to ensure what the OECD describes as the "culture of independence."

The fact that the OEB had failed to comply with the statutory requirements for its governance structure was well known to everyone including, presumably the minister. Yet the minister did nothing to correct the deficiency. The annual reports which the chair of the OEB delivered to the minister, and which the minister then lay before the legislature, while referring in one report to the OEB's "review of its organizational structure" leading to the implementation of a "restructuring of the executive leadership" made no reference to these deficiencies and provided no explanation for them.[18] What was an open and notorious failure of governance was allowed to continue for several years.

The evident failures of governance gave raise to concerns about the independence of the OEB's decision-making and, in particular, whether decisions made by the OEB were being made free from influence by the chair and/or the minister. These concerns were heightened during a period when the government was using the OEB to implement a number of its policies on conservation, policies the implementation of which (in contracts to acquire electricity from renewable energy sources) was the subject of sharp criticism in two reports of the Auditor General. Whether decision of the OEB were in fact being dictated by, or influenced by, the minister could not be determined in the absence of an enquiry into the operations of the OEB. The important point is that the evident deficiencies in governance, and the government's tolerance of those deficiencies, undermined trust in the OEB.

The governance of the OEB during this period evidently violated the principles of good governance set out by the OECD. It did not follow the statutory requirements. It was not transparent. There was no true accountability. The result was a decline in the willingness of stakeholders to trust the integrity of OEB decision-making.

Neither the government nor the OEB acknowledged these deficiencies in governance and took no overt steps to correct them. In March of 2015, the OEB created what it described as two Standing Committees, one for regulatory affairs and one for industry affairs, in what it described as "part of our new framework for engaging with stakeholders." The OEB engaged in a number of policy-making initiatives, for example issuing what it described as its "Strategic Blueprint: Keeping Pace with the Evolving Energy Sector," an exercise the OEB described as an effort to "support cost-effective innovation in energy services to consumers."

It was against this background that the government commissioned the Dicerni Panel. It is striking that, in commissioning the Dicerni Panel, the government made no mention of any existing governance deficiencies. The public was left to assume that there was a problem that needed to be addressed. It should also be mentioned that the OEB had been engaged in a number of policy-making initiatives before the Dicerni Panel was commissioned, which gives rise to the question of why the government directed to Dicerni Panel to examine the OEB's policy-making function as if that were a new activity. I will return to the question of why the new governance structure the Dicerni Report recommended was needed for the OEB to carry on the same policy-making functions it had been carrying on.

There was nothing in the previous governance structure that inevitably resulted in its failure. It is certainly arguable that what was required was that the governance structure be operated on the basis adherence to the governance requirements of the *OEBA*, and of good faith and respect for the principles of good regulatory governance by those parties principally responsible for governance, namely the chair of the OEB, the responsible Minister and, ultimately, the members of the legislature. If that was the case, why was a new governance structure needed and what does it do that could not have been done under the structure it replaced?

[18] Ontario Energy Board, "2014-2017 Business Plan" (21 August 2014), online (pdf): <www.oeb.ca/oeb/_Documents/Corporate/OEB_Business_Plan_2014-2017.pdf>.

THE DICERNI REPORT

The Dicerni Panel was asked by the Minister of Energy, Northern Development and Mines (throughout this paper I will refer to the cabinet member with responsibility for the OEB and the energy sector by the generic word "minister") to provide "advice and recommendations" in three areas:

1. The OEB's internal governance structure, including opportunities to enhance oversight, transparency and accountability;

2. Options for utilizing the OEB's policy expertise while protecting the independence of adjudicative processes; and

3. The OEB's internal operations, including opportunities to better align activities with outcomes that produce enhanced value for the sector.[19]

It is important to note what the Minister did not do in that mandate. He did not identify any deficiencies in "oversight, transparency and accountability." While by implication identifying the tension between policy expertise and the independence of the adjudicative processes, he did not indicate what the OEB's "policy expertise" consisted of. And he did not indicate what "enhanced value for the sector" was.

As set out in the preceding section of this paper, the evident deficiencies in the governance of the OEB were not only those related to the internal governance of the regulator. The failures included the evident failure of the minister, and of the legislature, to fulfill their obligations with respect to oversight and accountability. But the Dicerni Panel was not asked to consider those failures and how they might be remedied, thus leaving a material gap in any analysis of governance deficiencies and how those deficiencies might be corrected.

In delivering the mandate to the Dicerni Panel the Minister asked for recommendations on how the OEB's governance and operations can deliver "better outcomes for consumers."[20] What such "better outcomes" might consist of, or in what way previous outcomes were deficient, the Minister did not say. The choice of that vague language does help to create the expectation that the results of the Dicerni Panel's work will be better for people. More importantly, by focusing on "consumers" the Minister was, by implication, repeating the canard that the OEB is a consumer protection agency. It is not, particularly with respect to its core obligations of approving just and reasonable rates.

Given what was known about the deficiencies in the governance of the OEB, the Dicerni Panel should have done the following:

1. Undertake a review of the existing governance structure of the OEB, and how it operated, and in the process identify deficiencies in that structure and how it operated;

2. Since the governance of the OEB is not limited to the internal operations of the OEB, include in that review the reasons for the failure of the minister and the legislature to fulfill their governance obligations;

3. Indicate why changes in that governance structure were required and why, in particular, the adoption of a corporate business model was necessary and appropriate;

4. Describe how a board of directors of the OEB was to operate, what analyses it was to undertake, what decisions it was to make, and what criteria it was to use in making those decisions;

5. In particular, describe the relationship between the board of directors and the adjudicative arm of the OEB;

6. Identify the policy expertise of the OEB and the nature and extent of the OEB's policy-making functions;

[19] Dicerni Report, *supra* note 1, Appendix A at 24.

[20] *Ibid*, Appendix A at 23.

7. Identify the respective roles of the OEB and the government in making policy; and

8. Undertake this review and report its findings fully and openly.

In the end the Dicerni Panel did none of those things, and the failure to do so undermined the value of its recommendations and of the restructuring of the OEB legislated on the basis of those recommendations. The way the Dicerni Panel was commissioned, its analyses and its report do not reflect good public policy.

The Dicerni Report made a number of recommendations. For the purpose of this analysis, the most important of the recommendations was "the establishment of a new governance framework which would include a Board of Directors with a non-executive Chair (the Board), a president, and a Chief Commissioner responsible for adjudication."[21] The Report did not indicate why that new governance framework was either necessary or appropriate.

The Report indicated that the Board would focus on what it called "three critical roles in the leadership of the organization," as follows:

1. Performing the usual governance responsibilities of a board, including overseeing the development and implementation of [OEB] strategy;

2. Serving as the primary interface with the Minister and the government; and

3. Ensuring the independence and effectiveness of the adjudication process.

The Report did not indicate what the "usual governance responsibilities of a board" (which presumably means the board of a business corporation) would be in the context of a regulatory agency exercising statutory powers, in the performance of which it was to act as a quasi-judicial decision-maker.[22] The Report did not indicate how the board was to protect the "independence and effectiveness of the adjudication process" without, for example, involving itself in that process. The report also did not indicate the nature or sources of any threat to independence.

There are two additional components of the Dicerni Report that should be noted.

The Report cites a number of academic papers on regulatory governance and refers to the governance arrangements in other jurisdictions. But beyond references to the principles of good governance, already widely known, the Report does not indicate which of the governance models in those academic papers or other jurisdiction it prefers and, more importantly, why any of the models would be necessary or appropriate to be used the OEB.[23]

The Report also refers to the submissions received from individuals and groups. The Report does not indicate which of those submissions had merit and which of the proposals in the submissions it accepted. Following that practice gives the appearance, but not the reality, of genuine, meaningful "engagement."

It is possible to try to determine from the recommendations in the Report which of the models in other jurisdictions and which of the stakeholder submissions were adopted. It might be possible, in other words, to undertake a form of reverse engineering. Whether having to do so represents good public policy is another matter.

IMPLEMENTING THE DICERNI REPORT RECOMMENDATIONS – BILL 87, THE MEMORANDUM OF UNDERSTANDING AND OEB BY-LAW #1

The recommendations of the Dicerni Report with respect to the governance structure were legislated in Bill 87 in the form of amendments to the *OEBA*. The principal features of the

[21] *Ibid* at 12.

[22] *Ibid* at 15.

[23] The Dicerni Report refers to the governance structure of the Alberta Energy Regulator (AER), which includes the use of a board of directors. Whether the governance structure of the AER is an appropriate model for the governance of the OEB is an issue that is beyond the scope of this paper.

legislation, and of the amendments to the *OEBA*, are:

1. The OEB is to be composed of a board of directors, a chief executive officer and commissioners, including a chief commissioner;[24]

2. The board of directors is to manage and supervise the management of the OEB's business and affairs;[25]

3. The government is to appoint a chair of the board of directors whose duties include being accountable to the minister for the independence of persons and entities hearing and determining matters withing the jurisdiction of the OEB in their decision-making;[26]

4. No power given to the board of directors or a director under the OEBA or any other Act permits the board of directors or a director to interfere with or influence the hearing or determination of a matter over which the OEB has jurisdiction;[27]

5. The board of directors is to appoint a chief executive officer who is to be responsible for the "effective and efficient" management of the operations of the OEB;[28]

6. The board of directors is to appoint commissioners for the hearing and determination of matters over which the OEB has jurisdiction;[29]

7. Every three years the chair of the board of directors and the minister are to enter into an MOU which, among other things is to set out the respective roles and responsibilities of the minister, the chair and the board of directors and set out the accountability relationships between the chair, the board of directors and the minister.[30]

Bill 87 describes the duties of members of the board as follows:

a. Act honestly and in good faith in the best interests of the OEB; and

b. Exercise the care diligence and skill that a reasonably prudent person would exercise in comparable circumstances.[31]

That description of the duties of the board is identical to that in section 134 of the *Ontario Business Corporations Act* (*OBCA*).[32] How those duties are to operate in the context of the OEB is a matter discussed later in this paper.

Pursuant to section 4.6 of the *OEBA* the chair of the board of directors and the minister have entered into an MOU, dated February 11, 2021.[33] Section 1.1 of the MOU provides that it is the purpose of the MOU to establish the accountability relationships between the minister and the chair of the board of directors and to clarify the roles and responsibilities of the minister, the board of directors and the CEO of the OEB.

Section 6.3 of the MOU provides that the board of directors is accountable to the minister for, among other things, the "governance of the OEB" and for "the oversight of the OEB's performance in fulfilling its mandate," terms so vague as to be of limited value in understanding exactly what the board is to do and how it is to do it. Determining the content of those matters, crucial to the OEB being able to operate according to the principles of good

[24] *OEBA*, *supra* note 5, s 4(5).

[25] *Ibid*, s 4.1(1).

[26] *Ibid*, ss 4.1(8),(9).

[27] *Ibid*, s 4.1(18).

[28] *Ibid*, ss 4.2(1), (2).

[29] *Ibid*, s 4.3(1).

[30] *Ibid*, s 4.6(1).

[31] *Ibid*, s 4.1(7).

[32] *Business Corporations Act*, RSO 1990, c B.16.

[33] "Memorandum of Understanding Between The Minister of Energy, Northern Development and Mines and The Chair of the Ontario Energy Board" (11 February 2021), online (pdf): <www.oeb.ca/sites/default/files/Memorandum-of-Understanding-OEB-Ministry-2021.pdf>.

regulatory governance is presumably left to the board of directors itself.

Section 7 of the MOU sets out the responsibilities of the minister, which include meeting with the chair regularly and as necessary to "discuss issues relating to the effective discharge of the OEB's mandate" and consulting "as appropriate" with the chair on "significant new directions or initiatives affecting the energy industry and/ or the OEB."

Section 7.2 of the MOU sets out the responsibilities of the chair of the board, which include "consulting with the Minister with respect to the OEB's roles and responsibilities in meeting Government public policy objectives, current priorities and initiatives."

There is nothing unusual or insidious about the MOU's description of the respective roles and responsibilities of the minister and the chair. The OEB, as is the case with every regulatory agency, is required to be aware of and to the extent possible consistent with its obligations as a quasi-judicial decision maker, give effect to government policies and initiatives. The important point is that the description of the respective roles and responsibilities of the minister and what was formerly the chair of the OEB was essentially the same in previous versions of the MOU. And yet the previous governance arrangements were not working. How then is this an improvement? And how will the carrying out of the roles and responsibilities be overseen? Is it the board of directors and, if so, how?

Section 7.3 of the MOU sets out the responsibilities of the board of directors. The description of those responsibilities does not provide an answer to the question posed at the end of the preceding paragraph. Indeed, section 7.3 provides no meaningful guidance as to the responsibilities of the board. It is responsible for "establishing the goals, objectives and strategic directions of the OEB." I do not know what that means, particularly when the goals and objectives of the OEB are prescribed by statute.

Two other provisions of the MOU should be noted. Section 5 of the MOU, under the heading "Guiding Principles" provides that the parties recognize that "the OEB plays a meaningful role in the development of the policies and programs of the Government, as well as in the implementation of those policies and delivery of programs." The second part of that statement may be accurate; it is the role of every regulatory agency. But the first part is not. The OEB's role in policy-making is by law circumscribed.

Section 11.1 of the MOU provides that communications between the minister and the OEB are to be "conducted in an appropriate manner that respects the status of the OEB as an independent quasi-judicial regulator." The section further provides that communications between the ministry and the OEB "shall not include discussion or information exchange between OEB personnel and ministry staff about current applications before the OEB."

The provisions of section 11.1 are, on one level, salutary. They are based on a recognition of one of the principles of good regulatory governance, namely that the decisions of a quasi-judicial decision maker must be made independently. Indeed, the provisions reflect one of the rules of natural justice. What is troubling about the section is that it strongly implies that the decision-making of the OEB had not been independent. If that was the case it should have been examined and disclosed in the Dicerni Report, so that, among other things, the public would know which decisions had been tainted and with what effect. Such an examination and disclosure would have, incidentally, been consistent with the principles of good governance, and in particular the principles of transparency and accountability.

The newly-reconstituted OEB has passed By-Law # 1 which, according to section 2.2, relates to the "internal affairs" of the OEB.[34] Section 3.1 describes the powers, duties and function of the board of directors. The board is responsible for the governance of the OEB, with a focus on "ensuring that sound governance and management practices are in place to promote the achievement of desired results and outcomes and mitigate risk." What the "desired results and outcomes are," given the narrow statutory mandate of the OEB, are not specified; nor is the nature of the "risk."

[34] Ontario Energy Board, "By-law #1" (effective 2 October 2020), online (pdf): <www.oeb.ca/sites/default/files/OEB-bylaw-1-20201002.pdf>.

The Dicerni Report recommended a major structural change in the governance of the OEB, in the form of the adoption of a corporate business model. It did so without explaining why that model was necessary to correct any perceived deficiencies in the governance model that previously existed or appropriate for a quasi-judicial regulator. The government adopted the recommendation to the Dicerni Report, adding to it a description of the duties of the board of directors taken directly from the *OBCA*. The instruments giving effect to the new governance structure, the MOU and By-law #1 describe how the new governance structure is operate but do so in terms so vague as to be of little value.

At no point in this process were the deficiencies in the previous governance arrangements identified, except perhaps by implication, nor were the effects of those deficiencies identified. Indeed, one of the deficiencies, namely the failures of the chair of the OEB, the minister and the legislature to insist on compliance with statutory requirements with respect to governance, was not even addressed. At no point in the process was the need for, and the appropriateness of, the new governance structure explained or justified.

THE NEW GOVERNANCE STRUCTURE

In the preceding section I discussed the question of whether the Dicerni Report and Bill 87 implementing the Report's recommendations establish that the new governance structure for the OEB was necessary. I suggested that they did not, with the result that there was no evidence that it was. In this section I turn to the question of whether it is appropriate. In examining that question I will focus on two matters. The first is the use of the corporate business model, including the role of a board of directors. The second is the role of the OEB as a policy-making organization, and the implications of that role for the new governance structure.

I will begin with an analysis of the use of the corporate business model. I use the term "corporate business model" because the new governance structure is identical to that contemplated by the *OBCA*.

Bill 87 created a governance structure based on the corporate business model and used concepts and language to describe the obligations of the directors that are identical to the language and concepts used in section 134 of the *OBCA*. It bears stating the obvious, namely that the OEB is not a commercial corporation and has no shareholders. I acknowledge that creating a board of directors and imposing upon it obligations identical to those of the directors of an *OBCA* or a *Canada Business Corporations Act*[35] (*CBCA*) corporation does not make the OEB a conventional business corporation subject to the *OBCA*. That said, I must assume that the corporate business model was chosen for a reason, although there is no obvious reason why the governance structure should be based on a model which applies in fundamentally different circumstances. I have to assume that the model was chosen in order that there be a board of directors protecting some interest. What that interest is, and why it needs a board of directors to protect it, is the question that must be addressed.

In order to try to understand what the corporate model may entail I will set out a simplistic breakdown of the two principal duties of a board of directors of a business corporation, namely the fiduciary duty and the duty of care.

The first obligation of the directors is the fiduciary duty to act in the best interests of the corporation.

I do not know what is meant by the best interests of the OEB. The use of that language suggests that the OEB has its own interests as an organization, an interest somehow different from the obligation to fulfill its statutory obligations. The difference is not a theoretical one. For example, I argue later in this paper that there is a risk that policy-making might impinge on the independence of the OEB's adjudicative functions. In that case, the interests of the OEB as a policy-making organization may be in conflict with its interests as an adjudicative body. How are those interests resolved? Is it the function of the board of directors to resolve those conflicts and, if so, according to what criteria? At a minimum, the use of concepts and language applicable to a business corporation creates an unnecessary confusion.

[35] RSC 1985, c C-44.

The risk of confusion arising from the use of the concept of "acting in the best interests of the corporation" is also apparent when considering the question of stakeholder engagement. The Dicerni Report places emphasis on the importance of stakeholder engagement. And the OEB, in most of its policy-making exercises, has created stakeholder bodies to consult with. To give effect to this, the OEB has in many instances provided funding to stakeholder groups to allow them to participate. There is nothing inherently wrong with stakeholder engagement; indeed, the OECD includes stakeholder engagement as one of the principles of good governance. There is, however, an open question as to whether the OEB should fund stakeholder engagement. To begin with, the OEB does not, and cannot, provide sufficient funding to allow stakeholders groups to participate on an equal footing with industry groups. In addition, the funded stakeholder groups are dependent on the OEB for funding. They become part of an OEB-centered ecosystem that may erodes the appearance, and perhaps the reality, of independence.

If it is in the best interests of the OEB to create and maintain this ecosystem of engagement, would a board of directors be fulfilling its obligation if it were to conclude that a different system of engagement, for example one with a publicly-funded energy consumer advocate, was in the public interest? Would a board of directors even ask itself that question? Put another way, does the concept of acting on the best interests of the OEB not create a conflict of interest that is at odds with the principles of good regulatory governance?

It is generally understood that the fiduciary duty of directors to act in the best interests of the corporation has three components.

The first component is to protect the shareholders from the management of the corporation engaging in self- enrichment or otherwise taking actions which serve the interests of the management rather than those of the shareholders. That is one of the reasons for the current emphasis in corporate law on the importance of having independent directors on the board. It is difficult to imagine how the management of the OEB could engage in actions which prefer their interests to those of anyone else or why a board of directors is required to prevent it from happening. What are the risks that the board is supposed to protect against?

The second component if the fiduciary duty of a board of directors is to protect the interests of shareholders. For a long time protecting the interests of shareholders was regarded as the sole component of the fiduciary duty, and the interests of the shareholders were seen in largely if not entirely in monetary terms. That remains the case, though some recent case law has suggested that the board of directors have an obligation to at least consider the interest of a broader range of stakeholders. The OEB has no shareholders. It has obligations defined by statutes to protect the public interest, in specified ways, in one sector of the Ontario economy. It adds nothing to an understanding of the statutory obligations of the OEB, and instead adds a measure of confusion, to regard the members of the public in the energy sector as shareholders of the OEB or indeed to regard the OEB itself as a body which somehow requires protection.

The third component of the fiduciary duty of a board of directors is to have regard to the interests of the stakeholders of the corporation. The Supreme Court of Canada, in the *BCE v 1976 Debenture Holders*, discussed the fiduciary duty of directors to the corporation as follows:

> In considering what is in the best interests of the corporation, the directors may look to the interests of (among other things) shareholders, employees, creditors, consumers, governments and the environment to inform their decisions.[36]

It is difficult to imagine how that standard could be applied by the board of directors of the OEB. The OEB has statutory obligations to make specific kinds of decisions. Those decisions may affect, in each instance, an identifiable range of stakeholders. Is the newly constituted board of directors now to assess each OEB decision to see if the interests of the appropriate stakeholders have been properly considered and, if not, to substitute its own decisions?

[36] *BCE Inc. v 1976 Debenture Holders*, 2008 SCC 69 at para 40.

The confusion about the role of the board of directors is compounded when one considers the question of the relief from a decision of the OEB that may be sought. Would decisions of the OEB now be subject to the remedies analogous to those available to shareholders of commercial corporations, for example the oppression remedy? Decisions of the OEB are, as a matter of law, subject to review by the superior courts. Would the courts review the decisions of the adjudicative panel or of the board of directors or both?

The second duty of the directors of a business corporation is the duty of care. That duty requires a director to exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances. What would fulfilling that duty mean in the context of the OEB? Would it require the members of the board to possess and exercise the same skills as the commissioners? Again, the exercise of the duty creates the risk of confusion and conflict.

If the objective of the new governance structure is to ensure that the adjudicative functions of the OEB, which are its core obligations, are fulfilled in compliance with the rules of natural justice, there are more effective ways to do so while ensuring transparency and accountability. A culture of respect for the law and for the principles of good regulatory governance by the OEB and the minister should be sufficient. Introducing a corporate model is not necessary. In addition, it is not appropriate given the nature of the OEB and its obligations because it risks having the board of directors interfere in the adjudicative processes in order to fulfill its vaguely worded oversight responsibility.

As I noted in the preceding section, none of the documents which gave rise to the new governance structure provided a description of the role of a board of directors for a regulatory agency exercising quasi-judicial powers. The absence of that description, and indeed the absence of a justification for the new structure, creates risks.

Absent a clear rationale for its existence, the new structure is a solution in search of a problem. A board of directors will inevitably need to find something to do. That is a risk in circumstances where the core obligation of the OEB is to make decisions in compliance with the rules of natural justice. There is a risk that the board of directors will interfere, or be perceived to have interfered, in the independence of the members of the OEB exercising adjudicative functions. How is the board of directors to ensure that the adjudicative function is carried out correctly unless it involves itself somehow in that function? The fact that Bill 87, the MOU and By-law # 1 all refer to the importance of independence and to ensuring that neither the directors nor ministry interfere in quasi-judicial decision making, while at a superficial level appropriate, is not sufficient to ensure independence in practice. Is it the board of directors which is to ensure independence and, if so, how?

Compliance with the principles of good regulatory governance, and indeed with the rules of natural justice is not only, or even principally, a function of governance structures. It is primarily a function of the willingness of the members of the OEB and of the government to understand and respect the rules of good regulatory governance. That is what was lacking in the previous governance arrangements. Correcting that deficiency did not require a new governance structure, one carrying with it a new set of risks to good regulatory governance.

The new structure is stated to have been created to reflect an enhanced policy-making function for the OEB. The mandate of the Dicerni Panel included reporting on "options for utilizing the OEB's policy expertise." Section 5.5 of the MOU states that the OEB "plays a meaningful role in the development of the policies and programs of the Government."

It bears repeating that the enabling statutes give the OEB no policy-making power. The courts have allowed regulatory agencies a narrow policy-making function, one that the courts have said must not be used to fetter the discretion of regulatory agencies in the performance of quasi-judicial functions. Given those limitations, the nature of the OEB's policy-making expertise and how it was to be used should have been made clear. The failure to do so risks having the OEB play an inappropriate role in policy-making and, in so doing, prejudice its ability to fulfill its quasi-judicial obligations.

The OECD, in its discussion of the principles of good regulatory governance, has identified the need for what it calls "role clarity." The OECD made the following observation:

> Where a regulator has a range of functions, it is important that these are complementary and not

> potentially in conflict. This means that the performance of one function should not limit, or appear to compromise, the regulator's ability to fulfil other functions (including its core regulatory function).[37]

The functions of the OEB do not include policy-making except in the narrow sense described by the courts. And carrying out some broadly-defined policy-making function may very well impede the OEB's ability to carry out its obligations as a quasi-judicial decision-maker.

One example may illustrate this concern. The OEB has initiated what it calls the "Framework for Energy Innovation" (FEI). It is intended to address the use of distributed energy resources (DER) and the integration of DER into the electricity distribution system. The OEB has no expertise in the technical issues related to DER use. Its expertise is in assessing the prudence of utility costs and the allocation of those costs to classes of ratepayers. Discussing DER use and integration will inevitably involve consideration of costs and the allocation of those costs. To the extent the OEB, as part of the FEI process, considers those matters it risks fettering its discretion in considering applications by individual utilities for approval of the costs of DER and the allocation of those costs to utilities.

Three related questions arise. The first is why the OEB needs to be engaged in these kinds of policy-making processes at all. Does the ministry not have the required expertise or know where to get it if it does not? And why does the OEB need to be engaged in these kinds of policy-making processes if it risks prejudicing, or appearing to prejudice, its functions as a quasi-judicial decision-maker?

The second question relates to the role of the board of directors. Is the board to police the policy-making functions of the OEB in order to ensure that the quasi-judicial functions are properly fulfilled. The *OEBA* requires the directors to act in the best interests of the OEB. Are those interests those of the OEB as a quasi-judicial decision-maker or a policy-maker? And what criteria would the board use in deciding what the best interest are? And who would oversee those decisions of the board?

The third question is why the new structure has need for a policy-making role. I noted above that in the years prior to the commissioning of the Dicerni Panel the OEB had been engaged in policy-making. Indeed, The FEI referred to above appears indistinguishable in its objectives from the "Strategic Blueprint" process created under the old dispensation. Aside from the question of whether the OEB should be engaged in this kind of policy-making, how does the new structure affect it in ways the old one could not?

These are not idle or academic questions. They go to the heart of the new governance structure and reveal fundamental flaws in how it came to be and how it is supposed to operate. The policy-making role of the OEB should have been defined and explained, and the relationship of that function to the quasi-judicial function should have been explained. And the role of the board of directors in policing the relationship should have been explained. None of those things were done.

CONCLUSION

The first question I posed was whether the new regulatory structure was necessary. Nether the Dicerni Report nor the government in implementing the recommendations of that report provided evidence that it was.

The second question was whether the new structure was an appropriate one for a regulatory agency. In my view it is not. The use of the commercial corporate model, with a board of directors subject to duties that have no relationship to the statutory obligations of a regulatory agency, creates at best confusion and at worst conflicts of interest that undermine the principle of good regulatory governance.

The third question was whether the way the changes were made to the governance structure of the OEB, and the changes themselves, reflected good public policy. In my view they did not.

The OEB is not the only regulatory agency in Ontario, nor is it arguably the most important.

[37] OECD, *supra* note 4 at 33.

But it is the highest profile one, in part because of its involvement, however limited in scope, in determining the price paid for an essential service and in part because it can serve as a useful shield for the government from criticisms of the government's energy policy. Because of that profile, major changes to the governance structure of the OEB should have been based on a full and open examination of the deficiencies in the existing governance structure, the effects of those deficiencies and an explanation for how the deficiencies were to be corrected. That examination should have included the roles of the minister and the legislature in any failures of governance.

Doing all of that would, I suggest, represent good public policy. To put that another way, it would have reflected good governance. It would have been transparent, and the government would have been accountable not just for the substance of the process but for the results the process produced or failed to produce. It would have allowed the public, those ultimately affected by OEB decisions, to understand why the changes had been made and to assess whether they were necessary and appropriate. The public would have been able to ask, for example, why the Dicerni Panel had not been asked to examine the evident failure of the minister and the legislature to fulfill their governance obligations. And doing all of that would have enhanced trust, one of the OECD's principles of good regulatory governance.

The process leading to the creation and implementation of a new governance structure for the OEB was fundamentally flawed. It did not identify the deficiencies in the governance structure it replaced and did not explain how the new structure would remedy those deficiencies. It adopted a governance model from the corporate business sector without explaining why that model was appropriate. It did not explain how that model was to operate, and in particular how the board of directors which is central to the model was to operate in a way that was consistent with the obligations of a quasi-judicial regulator.

The process leading to the creation and implementation of the new governance structure represents a failure of good public policy. Perhaps those responsible for the process felt that they could not disclose the effects of the failure of good governance under the previous regime. The public deserves to know what the deficiencies were, what the effects of the deficiencies were and how they are to be corrected. They deserve more than to be fobbed off with the assurance that all of this was necessary in the interests of "modernization," a term that combines the unhappy qualities of being vague, meaningless and misleading.

It may be asked why any of this matters. Changes to the governance structure of the OEB may seem an arcane topic, particularly in the absence of any evidence that the changes will affect the prices consumers pay for energy. I suggest that there are at least two possible answers to the question.

The first relates to the possible public perception of the restructuring exercise. It is a matter of common knowledge that the increases in electricity prices have been and continue to be a source of public discontent. The high prices are largely due to the poorly designed and badly executed decisions by the previous government to acquire electricity from renewable energy sources. Those decisions were the subject of searing critiques by the Auditor General in a series of reports beginning in 2011.[38] Governments have made several attempts to mitigate the effects of those decisions, for example by shifting costs among classes of consumers or simply paying rebates to consumers. Those attempts have been unsuccessful because they cannot avoid the iron logic and stark consequences of those earlier decisions.

I am not aware of any evidence that decisions of the OEB have caused or contributed to the high cost of electricity. The Auditor General made no such finding. I am also not aware of any evidence that the governance structure of the OEB caused or contributed to high electricity prices. Had that been the case the Dicerni Panel would surely have noted it. But by including the changes to the OEB's governance structure in legislation entitled *Fixing the Hydro Mess* the public might reasonably conclude that changing the governance structure would somehow fix

[38] Auditor General of Ontario, "2011 Annual Report" (2011) at 87–120 (Chapter 3, Section 3.03), online (pdf): <www.auditor.on.ca/en/content/annualreports/arreports/en11/303en11.pdf>; See also Auditor General of Ontario, "2013 Annual Report" (2013) at 305–07 (Chapter 4, Section 4.02), online (pdf): <www.auditor.on.ca/en/content/annualreports/arreports/en13/402en13.pdf>.

that "mess" and help reduce electricity prices. That would at best be an attempt to distract the public from the inability of this government, or any government, to materially reduce electricity prices and at worst a deliberate attempt to mislead the public. Doing either would not represent good public policy.

More broadly, I suggest it matters because the government and its regulatory agencies a owe the public an obligation, indeed arguably a moral obligation, to act in accordance with good public policy. The failure to do so, however arcane the particular circumstances may appear to be, is a breach of that obligation, a breach which corrodes, in however small a way, the rule of law. ■

REVIEW OF STEVEN KOONIN'S *UNSETTLED*[1]

*Kenneth A. Barry**

The key messages of Dr. Steven E. Koonin's new book, *Unsettled* (2021), on the current state of climate science and its implications for energy policy, though cogently organized and expressed, are nonetheless disorienting. Rather than offering the conventional warnings of a collapsing climate and impending natural disasters, Koonin comes from the opposite direction. He argues, with considerable passion, that much of what you have heard about the gravity and certainty of the science underlying the parade of doomsday predictions (absent a swift transition away from fossil fuels) is overwrought at best and deceptive at worst. Asking us to rethink the well-documented foundations and Cassandra prophesies of climate science is, well, unsettling.

Koonin cannot be dismissed as an anti-science kook or front man for the oil and gas industry. He boasts a long and distinguished resume, spanning the academic world, government service, and private industry. A longtime professor of theoretical physics and senior administrator at Caltech, he currently teaches at New York University. In between, he has had stints as BP's chief scientist in charge of researching alternative and renewable fuels and — perhaps most notably — with the Obama Administration as Undersecretary for Science within the U.S. Department of Energy.[2] Though not strictly a climate scientist, his career has taken him deep into the fields of energy use, weather phenomena, and the climate — leading him to express counter-consensus views in *Wall Street Journal* op-eds beginning in 2014.[3]

As can be readily imagined, the pushback from the climate science establishment to Koonin's book-length *cri de coeur* has been considerable.[4] Moreover, the publication of *Unsettled* narrowly preceded the latest U.N. International Panel on Climate Change (IPCC) report, issued in August 2021, so the volume aims its fire at an older (2013) IPCC report of comparable scale and scope (among other official studies). The 2021 IPCC report raised louder alarm bells than ever, and only Koonin can defend the durability of his critique in light of the more recent findings. However, the focus of this review is on the core contentions of *Unsettled*, not the inevitable jousting between the author and his adversaries in the climate science and advocacy communities.

CENTRAL CONCERNS OF *UNSETTLED*

It should be emphasized at the outset that Koonin embraces certain concepts at the heart of the climate consensus. He acknowledges that carbon dioxide emissions from human activities (especially from fossil fuel burning) are on the increase; that they remain in the atmosphere for an exceptionally long time; and that, in combination with other greenhouse gases

[1] The following article is a reprint with permission of the one that appeared in the Energy Law Journal, Volume 43, No 1.

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[2] For a more complete account of Dr. Koonin's professional career and credentials, see Steven E. Koonin, *Unsettled* (Dallas: BenBella Books, 2021) at 305–06.

[3] Steven E. Koonin, "Climate Science is Not Settled", *The Wall Street Journal* (19 September 2014), online: <www.wsj.com/articles/climate-science-is-not-settled-1411143565>.

[4] See e.g. Marianne Lavelle, "A New Book Feeds Climate Doubters, but Scientists Say the Conclusions are Misleading and Out of Date" *Inside Climate News* (4 May 2021), online: <insideclimatenews.org/news/04052021/a-new-book-feeds-climate-doubters-but-scientists-say-the-conclusions-are-misleading-and-out-of-date/>.

(GHG), they are contributing to the ongoing warming of the planet. In these respects, he separates himself from so-called climate change "deniers." His principal issues have to do with the *extent* to which human activities (versus natural cycles) are driving the warming; how the complexities of the climate may respond over time to "human influences"; whether recent incidences of extreme weather can be attributed to the build-up of atmospheric carbon dioxide in recent decades; whether serious adverse economic impacts are likely to result from the temperature increases foreseen by the IPCC and in similar reports; how much confidence can be placed on the climate models that ominous predictions rely upon; and, above all, whether it is realistic to expect that governments around the world will, anytime soon, mandate radical transformation of the systems and activities that generate GHG. In all these matters, Koonin casts a critical look at the reigning consensus and attempts to undermine it with a wealth of examples and graphs.

Where Koonin comes out is that:

- There is far too much uncertainty in the projections of global warming and attendant doom on which to base massive societal changes and investments in alternative systems;
- In any event, the transformative actions proposed have not been happening at anywhere near the pace sought by the 2015 Paris climate accords to achieve its ambitious milestones; and
- The world would be best served by researching geoengineered climate remedies and "adaptation" solutions if the feared outcomes of inaction do eventuate.

Koonin supports the development and deployment of cost-effective, lower-carbon technologies, but questions how far, realistically, they can get you down the path of stabilizing the seemingly inexorable increase of atmospheric carbon dioxide.

CLIMATE CHANGE'S GRIP ON THE PUBLIC CONSCIOUSNESS

Koonin covers a lot of ground in this 300-page assessment of climate change science and its collision with the world's (especially developing nations') increasing appetite for energy as part of the quest for a higher standard of living. The book's early chapters provide a concise primer on the elements that drive climate and the complex interactions between them (stressing how the oceans and vegetation-covered land masses, the atmosphere protecting us from space, and the sun all interchange heat and energy). On these natural cycles, he superimposes the impacts of human intervention, most importantly GHG emissions from burning carbon fuels, from industrial processes, and from agriculture. The clarity of this basic science overview makes the book worthwhile for lay readers, even if they disagree with Koonin's doubts about the imminence of the "climate crisis."

The meaty middle chapters of *Unsettled* set forth the author's efforts to deconstruct the alarming conclusions of previous IPCC reports along with the parallel reports issued by the U.S. government — *i.e.*, the quadrennial National Climate Assessment (NCA).[5]

However important these sections may be to buttressing Koonin's argument, the introductory and concluding chapters of *Unsettled* capture best what animates the author. In the opening pages, he distills the essence of what he somewhat derisively terms "The Science":

> *"Humans have already broken the earth's climate. Temperatures are rising, sea level is surging, ice is disappearing, heat waves, storms, droughts, floods, and wildfires are an ever-worsening scourge on the world. Greenhouse gases are causing all of this. And unless they're eliminated promptly by radical changes to society and its energy systems, 'The Science' says Earth is doomed"* [emphasis in original].[6]

[5] As mentioned above, the most recent IPCC report dissected by Koonin is *not* relatively recent, dating from 2013. However, the NCAs also challenged by Koonin are more recent, dating from 2018. Koonin explains that these latest U.S. government reports came out in two volumes — one released in late 2017 entitled the "Climate Science Special Report," or CSSR, focusing on "physical climate science"; and a second issued in late 2018, focusing on the "impacts and risks" of the changing climate, and how mankind might adapt. See Koonin, *supra* note 2 at 21–22.

[6] *Ibid* at 1.

Having laid out these hyperbolic (in his view) claims, Koonin seeks to deflate them by asserting the data shows: (1) heat waves in the U.S. are no more common than in 1900; (2) the "warmest temperatures" have not risen in the U.S. in the past 50 years; (3) humans have had no detectable impact on hurricanes; (4) the ice sheet in Greenland isn't shrinking any more rapidly now than 80 years ago; and (5) the "net economic impact of human-induced climate change" is expected to be "minimal."[7] The book posits, in short, that there is a vast gap between the public's understanding of the impacts of climate change versus the actual data. Even worse, he believes, is that *policymakers* are being misled, as they get their information only after it has been "put through several different wringers."[8]

Unsettled is as much a subjective account of one scientist's journey through the maze of climate science as it is a skeptic's interrogation of the consensus. Koonin tells us how his career in 2004 began to concentrate on "the subject of climate and its implications for energy technologies," first as an inhouse scientist with BP and then in his tour of duty with the Obama Administration's Department of Energy. In these roles, reflects Koonin, "I found great satisfaction…helping to define and catalyze actions that would reduce carbon dioxide emissions, the agreed-upon imperative that would 'save the planet.'"[9] But his "doubts" began in late 2013, when a professional society of physicists asked him to lead a team to "update its public statement" on climate science, leading him to convene a workshop to "stress test" the current state of climate science.[10] Koonin emerged from this process "shaken," he claims, by "the realization that climate science was far less mature than I had supposed."[11]

Central to the revision of his view was his "discovery" that:

- Human influences exert a "growing but physically small" warming effect, but the "deficiencies" of climate data hinder scientists' ability to "untangle the responses to human influences from poorly understood natural changes";

- The results of climate models disagree with each other, and "sometimes" the modelers apply "expert judgment" to "adjust the model results and obfuscate shortcomings";

- The government and UN press releases and summaries "do not accurately reflect" the reports themselves;

- The science is "insufficient to make useful projections" about how the climate is likely to change over time and the effect of human actions upon it.[12]

It was following his enlightenment, Koonin relates, that he went public with a lengthy essay published in the *Wall Street Journal* denouncing a "comfort of certainty" surrounding climate science that is, in reality, a hindrance to "the scientific enterprise."[13] Many online comments in response were supportive, but many of his scientific colleagues were "outraged," suggesting he had "broken some code of silence" by highlighting the uncertainties.[14]

Six years on, notes the author, "climate alarmism" has come to dominate U.S. politics, especially in Democratic circles (in which he otherwise feels most comfortable), while in the 2020 Democratic primaries, candidates sought to outduel one another in issuing "over-the-top statements about the 'climate emergency.'"[15] The political discussions included the sweeping

[7] *Ibid* at 1-2.

[8] *Ibid*.

[9] *Ibid* at 3.

[10] *Ibid*.

[11] *Ibid* at 4.

[12] *Ibid* at 4.

[13] *Ibid* at 4-5.

[14] *Ibid* at 4 (Koonin recounts that the chair of a "respected university earth sciences department" informed him privately that he agreed with pretty much everything Koonin wrote but that he didn't "dare say that in public").

[15] *Ibid* at 5.

"Green New Deal" and culminated with the appointment of John Kerry as "climate envoy," whose mission was to spend "almost two trillion dollars to fight 'this existential threat to humanity'" — all of which has left Koonin "increasingly dismayed."[16]

A bit later in the book, Koonin describes how the media amps up its climate change stories, with headlines often more alarming than the underlying content. Scientists, the media, and politicians all come in for their share of blame for the distortions Koonin finds are rife in the public's understanding of climate science. In the last paragraph of his "Apocalypses that Ain't" chapter, he lowers the boom on the lot of them:[17]

> "It's clear that media, politicians, and often the assessment reports themselves blatantly misrepresent what the science says about climate and catastrophes. Those failures indict the scientists who write and too-casually review the reports, the reporters who uncritically repeat them, the editors who fan the fires of alarm, and the experts whose public silence endorses the deception. The constant repetition of these and many other climate fallacies turns them into accepted 'truths.'"

UNMOORED MODELS

While multiple chapters of *Unsettled* undertake to dissect the apprehensions raised by climate science researchers, one of the most central is his challenge to the respect accorded climate models. The point is pivotal because so many of the studies hinge on model-based predictions of upsets in the earth's climate and ecosystems. Koonin wades into the subject with enthusiasm, advising he has a deep background in the development of computer modeling as a tool of science (noting he "wrote one of the first textbooks on the subject.")[18] To foreground the chapter, he quotes the celebrated remark of a University of Wisconsin statistician: "All models are wrong, but some are useful."[19]

Far from opposing the use of modeling — to the contrary, he calls them "central to climate science [to] help us understand how the climate system works"[20] — he nonetheless warns that "usefully describing the earth's climate remains one of the most challenging scientific simulation problems there is." Despite such caveats, the temptation to lean on modeling to project the future of the climate in the face of GHG emissions is almost Faustian. Koonin states:[21]

> "It's easy to be seduced by the notion that we can just feed the present state of the atmosphere and oceans into a computer, make some assumptions about future human and natural influences, and so accurately predict the climate decades into the future. Unfortunately, that's just a fantasy…"

Koonin proceeds to offer a highly granular description of how climate models are built from the ground up. That is complicated enough stuff, but he then layers on nuances and challenges so "excruciatingly difficult [that] anyone who says climate models are 'just physics' either doesn't understand them or is being deliberately misleading."[22] Koonin does his best to explain what the models can and can't take account of, the assumptions and "tunings" (*i.e.*, "necessary but perilous" fudge factors), and the problems of estimating "feedback" loops.[23] These "tunings," he elaborates, are required to make models match "the far more numerous observed properties of the climate system"; but this perforce "casts doubt on whether the conclusions of the

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[16] *Ibid*.

[17] *Ibid* at 163 (Prior to the conclusion quoted below, the chapter examines several examples of climate science calamity predictions — involving deaths from weather-related events, adverse impacts to the food supply, and direct overall damage to the U.S. economy — and concludes the data does not support the headline fears).

[18] *Ibid* at 78.

[19] *Ibid* at 77 (attributing the remark to George Box).

[20] *Ibid* at 78.

[21] *Ibid* at 79.

[22] *Ibid* at 81.

[23] *Ibid* at 84-85.

models can be trusted," while making it "clear we don't understand features of the climate to anywhere near the level of specificity required given the smallness of human influences."[24]

Koonin maintains that periodic state-of-the-science assessments such as IPCC and NCA provide an illusion of general agreement among models by averaging the results of an "ensemble" of models; but, unless you read "deep into the IPCC report," this practice masks the fact that the models "disagree wildly with each other."[25] He is also troubled by the models being unable to duplicate or explain why the climate experienced a "strong warming" trend from 1910-40.[26] Finally, he posits that the failure of the models to reflect warming in the early part of the twentieth century "suggests that it's possible, even likely, that internal variability — the natural ebbs and flows of the climate system — has contributed significantly to the warming of recent decades."[27]

With such a "lot to fret about in the climate modeling business," Koonin concludes, "No wonder we've got a poor understanding of how the climate will respond to rising GHG concentrations. The more we learn about the climate system, the more we realize how complicated it is."[28]

THE IMPRACTICABILITY OF DECARBONIZING THE ECONOMY

In several concluding chapters, Koonin swings back from the technical and granular to the macro. Here, his overriding question is whether it is realistic to suppose that societies will make the major changes, expenditures, and sacrifices necessary to achieve the IPCC's goal of "stabilizing" GHG emissions by mid-century and thereby imposing a ceiling on global temperature increases of either 2 or 1.5 degrees C.[29] In "The Chimera of Carbon Free" chapter,[30] he concludes that these emission goals, whether or not effective to halt warming, are simply unattainable.

He begins this discussion with the truism that energy systems evolve slowly over decades. The reasons, he elaborates, have to do with the complexity of the infrastructure, the long-lived investments in it, and society's need for reliability (leading to conservativism in making changes). In the U.S., the three most dominant sources of GHG emissions are transportation, electricity, and industry.[31] Koonin notes that, while the U.S. has reduced emissions by 16 per cent since their peak in 2005 — a not inconsiderable feat, largely propelled by the transition from coal to natural gas fuelling electric generators — *global* emissions increased by one-third over the same period.[32] This fact alone illustrates the uphill nature of the challenge.

The chapter then surveys the obstacles and headwinds to any rapid decarbonization of the systems that produce, transport, and consume energy in the U.S. alone. The discussion is substantive and detailed, raising issues about technical feasibility (including reliability), political will, and economics that any advocate of urgency in replacing fossil fuels with "clean energy" substitutes must address and solve. Koonin agrees that "government has an important role to play" in sponsoring research, both basic and developmental, and does not dismiss the notion that cleaner and technically feasible technologies are out there;

[24] *Ibid* at 85.

[25] *Ibid* at 86 (Indeed, he continues, the simulated global average surface temperatures vary by "about 3 degrees C, three times greater than the observed value of twentieth century warming they're purporting to describe and explain").

[26] *Ibid* at 88–89.

[27] *Ibid* at 90–91.

[28] *Ibid* at 95.

[29] The global Paris conference of 2015 adopted a straddle of these two temperatures limitation goals, compared with a baseline of the pre-industrial age. The 1.5 degree ceiling is aspirational, while the 2 degree ceiling is viewed as the maximum tolerable increase.

[30] Koonin, *supra* note 2 at 211–24.

[31] *Ibid* at 226 (Agriculture comes in a poor fourth, followed by commercial and residential).

[32] *Ibid* at 227.

but he cautions that they "aren't ready for the marketplace."[33] Likewise, he submits:

> "…creating an emissions-free energy system will be broadly disruptive — both economically and behaviorally. The question is whether the country will choose to invest the financial and political capital needed to bring that transformation about…. I think that's unlikely to happen anytime soon.[34]

Moreover, Koonin challenges the notion that a more urgent transition to low-carbon fuels in the U.S. would make much of a difference to the global climate, since it represents only 13 per cent of worldwide GHG emissions. While some, he acknowledges, would argue that the U.S., by setting an example, would see the rest of the world follow suit, he wonders "how likely they are to do so when their energy needs are so pressing and the benefits of reductions so murky."[35]

"PLANS B" AND CONCLUSION

In his last two chapters ("Plans B" and "Final Thoughts"), Koonin advances options deemed almost unthinkable by many climate scientists and advocates. The first is that "geoengineering" merits research and practical studies. The underlying premise is that, even though the more worrisome scenarios depicted by "consensus" climate scientists aren't likely to play out, neither can they be ruled out. Under the rubric of geoengineering, Koonin sketches two possibilities: (1) for a relatively economical cost, it is possible to spread reflective particles (aerosols) in the atmosphere to cut down on the solar energy reaching the earth (imitating what happens for extended periods after volcanic eruptions); and (2) at a higher cost, equipment could be deployed to directly remove carbon dioxide from the atmosphere.[36] While neither of these options is technologically pie in the sky (so to speak), neither is a panacea, and hence Koonin delineates the obstacles — practical, economic, and political — associated with each.

Plan B-2 in Koonin's book is simply "adaptation," a resort which most environmentalists consider anathema. The author argues that human beings have proven adaptable to many types of climates; and, besides, this recourse represents what he believes "*will* be our primary response," not necessarily what *ought* to happen.[37] Moreover, to the extent that climate change is partially due to natural cycles (a thesis that holds more water in Koonan's judgment than that of his adversaries) , it may be unavoidable.[38] Either way, Koonin recommends more studies on adaptation that go beyond mere "identification" (the main way it has been addressed so far) and delve into "implementation issues" and "cost/benefit analysis" directed to different strategies. Further, he notes, since adaptation is more accessible for wealthier societies, the precursor to enabling adaptation is to focus in the shorter term on "alleviating poverty, which would be a good thing for many reasons having nothing to do with the climate."[39]

In his closing paragraphs, Koonin first asserts that the role of the scientist is to describe, not to prescribe, and that he's written his book accordingly.[40] But after this disclaimer, he shifts gears to recommend (as you would expect, given his critique) that climate science need "more sustained and improved observations of the climate system" and a better understanding of "the tremendously complex climate models we've built."[41] He adduces to this a plea for "more honest discussion" that is "goes beyond slogans and polemics, and is free of accusations of

[33] *Ibid* at 234 (He cites advanced solar, fission, fusion, and next-generation biofuels as examples of technology worth pursuing).

[34] *Ibid* at 235 (He cites the "barriers" he has already discussed and other, more pressing "demands on the nation's attention and resources" as the reasons for his skepticism).

[35] *Ibid*.

[36] *Ibid* at 237–48.

[37] *Ibid* at 245.

[38] *Ibid* at 246.

[39] *Ibid* at 248.

[40] *Ibid* at 250.

[41] *Ibid* at 251.

skullduggery…. Let's further our understanding, rather than repeating orthodoxy."[42]

It should be concerning that any scientist who casts doubt on the more ominous conclusions of climate scientists is branded an apostate. On that ground if no other, Koonin has a valid point; science does, indeed, thrive on skepticism and hard testing of hypotheses. On the other hand, since new data is constantly being generated and periodically fed into the models Koonin has criticized, it would be desirable for *Unsettled* to be updated to take into account the projections contained in latest IPCC report. One can only hope that the scrutiny of The Science continues, with an open mind to the wide range of possibilities. Whether Koonin's book is a dead-on-target refutation of the "climate emergency" or, as his critics would have it, little more than a compendium of quibbles needs to be sorted out, not just in the scientific journals but also in the public square. ■

[42] *Ibid*.

REVIEW OF SAUL GRIFFITH'S *ELECTRIFY: AN OPTIMIST'S PLAYBOOK FOR OUR CLEAN ENERGY FUTURE*[1]

Kenneth A. Barry

An impassioned plea to retire and replace all existing equipment in the fossil fuel chain — from exploration and production to utilization — Saul Griffith's *Electrify: An Optimist's Playbook for our Clean Energy Future* (2021) (hereafter, "*Electrify*") is quite the opposite of Dr. Steven E. Koonin's *Unsettled* (2021). The two scientist-authors represent bookends in the debate over whether society must rapidly ramp down its dependence on hydrocarbons to meet its energy needs and mitigate the presence of greenhouse gases (GHG) in the atmosphere.

Griffith[2] — unlike Koonin — does not hesitate to prescribe concrete solutions; his book is full of them. Indeed, the author characterizes *Electrify* as an "action plan to fight for the future," as well as a technical roadmap to a clean-energy future.[3] In his opening salvo ("Preface," pp. xi – xiii), he invokes the language of war preparation to underscore both the scale and urgency of his recommendations:

> "America needs nothing short of a concerted mobilization of technology, industry, labor, regulatory reform, and, critically, finance."[4]

To pull off the transformation, Griffith declares: "We need to triple the amount of electricity delivered in the U.S.[5] What is required is a moonshot engineering project to deliver a new energy grid with new rules — a grid that operates more like the internet."[6] However, consistent with his subtitle — "an optimist's playbook" — Griffith contends that if his remedies are adopted, energy will be cheaper and more plentiful in the long run, advising "The consequence of getting the technology, financing, and regulations right is that every family in the U.S. can save thousands of dollars each year."[7] He also envisions an avalanche of employment to help the country rebound from the "pandemic and economic crisis," citing a colleague's opinion

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[1] The following article is a reprint with permission of the one that appeared in the Energy Law Journal, Volume 43, No 1.

[2] The book jacket describes Griffith as an "inventor, entrepreneur, and engineer," founder of Rewiring America (a nonprofit organization whose mission is to "decarbonize America by electrifying everything). In the text, he labels himself an "expert in energy systems." Saul Griffith, *Electrify: An Optimist's Playbook for Our Clean Energy Future* (Cambridge: MIT Press, 2021) at 2 ("*Electrify*").

[3] *Ibid* at xi, 2.

[4] *Ibid* at xi.

[5] Griffith's book is aimed squarely at policies and practices in the United States, though he occasionally broadens his perspective.

[6] *Ibid* at xiii.

[7] *Ibid*.

that "as many as 25 million good-paying jobs" will flow from the conversion of all U.S. energy systems to "clean energy" solutions.[8]

Occasionally, Griffith's enthusiasm can bubble over into odd statements. For example, he muses in his Preface that "[with] our future in jeopardy.… Billionaires may dream of escaping to Mars, but the rest of us…we have to stay and fight." Readers may reflect that Mars's atmosphere is less hospitable than earth's may be under even the worst-case scenarios painted by climate scientists.

Consistent with his call for radical and sweeping action, Griffith pounds the table for a halt to building or procuring "machines or technologies" that utilize fossil fuels. "There isn't time," he pleads, "for everyone to install one more natural gas furnace in their basement; there is no place for a new natural gas 'peaker' plant…. Whatever fossil fuel machinery you own, whether it is as a grid operator, a small business, or a home, that fossil machinery needs to be your last."[9]

THE "SCIENCE IS IN"; THE DANGERS ARE LOOMING

Griffith insists that "we can no longer debate the science," even if "for some people, science-based arguments will never be enough."[10] He evinces complete faith in climate models and their oftentimes frightening predictions:

> "Scientists have written a large body of work on global warming and can predict the future climate from estimates of our current carbon emissions. We know, with certainty, that we are hurtling toward multiple environmental and human catastrophes."[11]

As a foretaste of impending disaster, Griffith provides a litany of specific, weather-related calamities the planet's inhabitants have endured in recent years — or will face more frequently in the future, he believes — *if* global average temperatures are allowed to increase beyond the red lines drawn by the U.N.'s Intergovernmental Panel on Climate Change (IPCC) (*i.e.*, 1.5 C. or, at worst, 2 C. above preindustrial levels).[12] Such calamities are directly traceable, in Griffith's view, to the build-up of excessive GHG emissions. The stark choice according to *Electrify* is this: either nations can continue down the perilous path they're now on, or — through bold, visionary action — not only avert a proliferation of environmental crises but also kick a virtuous economic cycle into gear:

> This is a chance to revitalize our cities, rejuvenate our suburbs, and reignite our small towns. We can rebuild a prosperous and inclusive middle class, as we enjoyed after World War II, with tens of millions of good new jobs…. If America does it right, everyone's energy costs will go down. Everyone has a role to play in the war effort.[13]

Thus, at the heart of the book is an unabashedly populist message — often repeated — that making the necessary changes to ward off a climate crisis won't be a bitter pill, but rather a pathway to a healthier — and financially more solvent — society.

EFFICIENCIES APLENTY

Another pillar of Griffith's optimistic outlook is his anticipation of substantial efficiency gains attainable in a greener energy economy. However, this is not anything like the conservation-first, "make-do-with-less"

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[8] *Ibid*. As an indication of how quickly things change in the economy, however, as of early 2022 (the date of this review), unemployment back to the low single digits in the U.S., and the biggest challenge is to find applicants to fill the numerous open jobs.

[9] *Ibid* at 2.

[10] *Ibid* at 11.

[11] *Ibid*. The book at this point refers readers to a "primer on climate science" in appendix C.

[12] *Ibid* at 12, 14.

[13] *Ibid* at 20. In the chapter that immediate follows ("Emergencies Are Opportunities for Lasting Change," at 21–28), Griffith offers a montage of moments in U.S. history where leadership has responded to challenges or crises with major programs, often entailing heavy financial lifts. The New Deal, the mobilization for WW II, and the Space Race are a few examples of this tour of inflection points in 20th C. history.

efficiency preached from the 1970s on, when oil became a scarcer and dearer commodity in the aftermath of OPEC's market manipulations. Rather, Griffith prophesizes a "new narrative":

> …a "story about what we stand to win — a cleaner electrified future with comfortable homes and zippy cars — which is better than nightmares about what we have to lose. We have a path to decarbonization that will require changes, to be sure, but not deprivation."[14]

Griffith's rejection of efficiency as sacrifice is followed by extended examination of the ways fuels are currently produced and consumed — broken down by individual sectors of the economy (*e.g.*, industrial, commercial, and residential) and by application (*e.g.*, space heating or cooling, transportation, or manufacturing processes).[15] It turns out the author spent a good part of his career studying fuel characteristics and sector-based energy usage, and has a lot to say on the topic. A distinctive argument in *Electrify* is that developing a greener fuel mix should *not* focus on producing decarbonized liquid or gaseous fuels — that is, the kinds of fuels that could more easily replace fossil fuels in the existing infrastructure. Griffith predicates this advice on efficiency — specifically, his belief that the steps involved in producing, transporting, and converting such fuels to useful energy entail excessive losses at each phase. In sum, the author submits that "machines" that run on the combustion of liquid or gaseous fuels — whether petroleum-based or one of the greener alternatives — waste too much energy versus an across-the-board conversion to infrastructure running on electricity (preferably sourced from the wind or the sun).

Griffith employs charts (sometimes rather busy ones) to illustrate the energy flows and losses occurring in the value chain from extraction and refining to transportation and utilization. Notwithstanding the complex detail of this presentation, Griffith has an overarching point to drive home: that through much greater electrification coupled with decarbonized power generation, "we probably only need 42% of the primary energy we need today…."[16] After offering that arresting data point, he retreats from being so "granular," acknowledging that a country's aggregate energy demands fluctuate with advancements in technology, new inventions, and new pastimes:[17]

> Taking these variables into account, it is simplest to say that Americans will only need half the energy they use today, if we electrify everything while improving our lives. What a win.[18]

In this unmistakably upbeat manner, *Electrify* reassures us that we won't have to downsize or turn down the thermostats in our homes; that our cars can be "sportier when they are electric"; that air quality will improve; that we won't have to switch to mass transport or "wear a Jimmy Carter sweater"; and that we won't even have to "ban flying."[19]

GROWING THE GRID

To achieve the wholesale benefits Griffith envisions that by electrifying the energy economy, he acknowledges that we'll need a lot more of the stuff — in fact, three times the current amount of power production.[20] So he devotes a chapter — "Where Will We Get All That Electricity?" — to pondering this sizeable question.

Since the energy of the future must be all decarbonized in Griffith's worldview, he looks for supply to the major renewables — wind, solar, hydroelectric — and "possibly" also some nuclear (penciling in the latter because not all regions have ample solar, wind, or hydro resources).[21] In

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[14] *Ibid* at 47.

[15] See generally *ibid* at 51–61 ("Electrify!" chapter).

[16] *Ibid* at 61.

[17] *Ibid*.

[18] *Ibid*.

[19] *Ibid*. For the airplane application, Griffith clarifies that biofuels, rather than batteries, will be a sustainable replacement.

[20] *Ibid* at 63.

[21] *Ibid* at 65.

areas near the ocean, he expects "offshore wind likely to be the big producer."[22] In a digression on whether nuclear energy arguably fits into the big picture, Griffith alludes to a fierce controversy among university professors over whether "solar, wind, and water" can, on their own, provide the required capacity and reliability. When a Stanford professor, Mark Jacobson, contended that these renewable resources were indeed equal to the task, it produced "pushback to this proposal that was vicious…even by academia's petty standards…."[23] The author implies that Jacobson may be "too anti-nuclear," but then hints that achieving reliability from renewables alone may be "easier than we think," ultimately deferring to a later chapter for more on the question.[24]

Returning to his vision of the future's generation mix, Griffith observes that the "heavy lifting" will be done by solar and wind; that the "majority" of renewable energy will come from these two resources plus geothermal and hydro (supplemented by "moderate nuclear and some biofuels as a backstop"), and — finally — that the "exact balance" will be shaped by regional considerations, market forces, and public opinion.[25]

In any event, *Electrify* foresees "solar panels and windmills" becoming ubiquitous. An all-solar grid, Griffith notes, would require occupying about 1 per cent of the land mass — an amount equivalent to the space taken up by roads.[26] Rooftops, parking lots, and commercial and industrial buildings would do "double duty" as solar panel collectors, while lands currently used to farm crops would also host wind farms. In round numbers, Griffith estimates that the U.S. would need to generate 1500–1800 gigawatts (GW) to serve his all-electric society, which would require 15 million acres of panels in an all-solar scenario, or 100 million acres of wind farms (in an all-wind-energy construct).[27] If these numbers seem overwhelming, Griffith reminds us that the playing field — the entire U.S. land mass — contains 2.4 billion acres.[28]

Delving further into exactly where all these solar panels might go, for starters Griffith sets up — and knocks down — two straw men. His first extreme hypothesis is a central station in the Arizona desert that would power "all of America"; the other, which he says is favoured by some environmentalists, is an all-distributed model (*i.e.*, limited to the rooftops of occupied buildings). But the former doesn't work, Griffith maintains, because the transmission and distribution would be prohibitively costly; and the other — a fully distributed model — would be untenable because there simply isn't enough residential or small business roof space to go around; industrial and commercial installations, *inter alia*, will also be needed. His conclusion, unsurprisingly, is that system expansion will require an all-of-the-above approach: some centralized installations (presumably *not* in remote deserts), along with exploiting "all the distributed energy we can harness."[29] Highway medians and parking lots are also fair game, in Griffith's spectrum of possibilities.[30]

Similarly, Griffith takes stock of lands that can play host to wind farms — emphasizing active and idle cropland, along with pasturage tracts — and finds these more than sufficient.[31] As to the possibility that "not in my backyard" attitudes could resist the prospect of windmills dotting the landscape, he offers this series of retorts: (1) fossil fuels "are pervasive and pollute

[22] *Ibid*.

[23] *Ibid*.

[24] *Ibid*.

[25] *Ibid* at 66.

[26] *Ibid*.

[27] *Ibid*.

[28] *Ibid*. To help us visualize the relative land space required, Griffith includes a page with various-sized squares indicating how much land, proportionately, is devoted to croplands, forests, pasture, rural parks, cities, roadways, *etc*. *Ibid* at 67.

[29] *Ibid* at 68. It may be that some homeowners don't want to see solar panels adorning their own roofs or those of their neighbors; but aesthetic consideration isn't addressed. Further, inasmuch as distribution systems are already installed where people live, it is not clear that a relatively more centralized approach to siting solar collectors would cost too much on the transmission and distribution side.

[30] *Ibid*.

[31] *Ibid* at 69.

everyone's back yard"; (2) society has "learned to live with a lot of changes" to the landscape; (3) we'll have in return "cheaper energy" and cleaner air; and (4) "we will have to balance land use with energy needs."[32] Whether these arguments will resonate in rural America — especially in hydrocarbon-producing states — or persuade conservationists who may prefer not to see windmill panoramas wherever they turn — remains to be seen. On the other hand, some farmers and ranchers may be eager for any incremental income from wind power installations. It could make for quite a policy tussle down the road.

In a longer discussion on the long-term viability of nuclear energy — a mature, low-carbon technology now in place — Griffith observes that the total cost has proven far greater than once anticipated ("likely more expensive than renewables") even though he concedes operating costs are low and output is reliable.[33] He also takes on the traditional paradigm of system planners who hold that some "baseload" energy is essential, claiming this is now debated by experts. In support of the premise that baseload supply won't be necessary in the future, he cites the "inherent storage capacity of EVs," the "shiftable thermal loads" in homes, businesses, and industrial plants, and the "potential capacity of back-up biofuels and various batteries."[34] His conclusion is that "we likely need less baseload power than people think and perhaps none at all."

Doubling down on this theme, Griffith points out that Japan and Germany both closed their nuclear units, while China is "slowing down on nuclear technology."[35] However, *Electrify* could have provided a fuller context in this regard. Japan's closure and safety review of all nuclear units following the 2011 Fukushima disaster, while comprehensive, was provisional: although many nuclear units were ultimately decommissioned, nine reactors at five locations had returned to commercial operation by March 2021.[36] Moreover, a government agency has observed that Japan will need to activate more nuclear capacity to displace its gas and coal-fired generation, if it is to achieve its goals under the Paris climate accord.[37] Germany, for its part, has encountered a range of reliability and economic challenges by following through with its controversial decision to dismantle its nuclear capacity, while resorting to more fossil fuel-burning capacity to supplement its large fleet of renewables. Finally, it would seem to bear mention that France and other European countries have not retrenched on nuclear generation.

Skeptic though he is, Griffith refrains from predicting the end of nuclear power. He predicts that (1) for "reasons of national security," the U.S. won't eliminate nuclear power; and (2) beyond U.S. borders, very densely populated nations — or those with a "lack of renewable resources" — will either have to avail themselves of nuclear or access renewable energy through imports.[38] He also keeps the door open a crack to decarbonizing technologies he doesn't think can stand on their own two feet at present. Perhaps liquified renewables or carbon sequestration, he allows, will eventually prove their worth, but starkly adds: "it's too late and too dangerous to rely on miracles."[39] Griffith closes the chapter with a gust of green-populist rhetoric, first lambasting those who contend, with "cynical and specious arguments" and "massive misinformation," that renewables can't "do it all," and then upbraiding "the state-sponsored utility monopoly which

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[32] *Ibid* at 69–70.

[33] *Ibid*.

[34] *Ibid*.

[35] *Ibid* at 71. To say China is "slowing down" would appear to be a stretch. A quick survey of online literature readily yields the information that China is emphasizing nuclear construction as a mean to diversify away from its current heavy reliance on fossil fuels, and has indicated its plans to build scores of new reactors as part of its commitment at the global climate change conference in Glasgow in 2021. See "Nuclear power in China" (last modified 10 March 2022), online: *Wikipedia* <en.wikipedia.org/wiki/Nuclear_power_in_China>.

[36] See "Japan's Nuclear Power Plants in 2021" (31 March 2021), online: *Nippon* <www.nippon.com/en/japan-data/h00967/>.

[37] See "Nuclear power in Japan" (last modified 9 March 2021), online: *Wikipedia* <en.wikipedia.org/wiki/Nuclear_power_in_Japan>.

[38] *Electrify*, *supra* note 2 at 71.

[39] *Ibid* at 72.

gives low interest rates to big projects instead of consumers who need to swap their gas heaters for solar and heat pump."[40]

RELIABILITY ROUND THE CLOCK

Given Griffith's dismissal of the idea that renewables can't do for the grid what baseload energy does, it's hardly surprising that he dedicates a chapter[41] to imagining reliability in a renewables-heavy environment. He begins by blasting "people who resist decarbonization" on grounds of reliability as "dinosaurs" who "often have vested interests."[42] Continuing in this mode, he touches on the "grand bargain" of the 20th century that gave utilities a monopoly in exchange for the understanding that service would be both continuous and affordable to the "under-served."[43] This "deal worked pretty well," he concedes, during the last century but accuses both "corporate utilities" and rural co-ops of having "a mixed bag of incentives" that prevent them from rapidly decarbonizing to address climate change.[44]

Griffith's focus then turns to a set of concepts he says will enable the grid to meet demand continuously despite relying to a much greater extent on "intermittent" resources. The keys lie in both ramping up, by a factor of "three to four times," the quantity of power generated and reimagining the grid:

> "We won't do this by tuning up the old grid; it will require rebuilding the grid with new twenty-first century rules and internet-like technology."[45]

Griffith first describes the inherent lumpiness of residential loads, and acknowledges they will get even lumpier if, as he recommends, all forms of home energy consumption (plus transportation) are converted to electricity. He paints a picture of heavier demand in the morning, almost "no electricity" demand at 3 p.m., and a big surge in demand (including EV recharging) when the family returns home in the evening.[46] Finally, on the supply side, he sketches the natural daily and seasonal variabilities of wind and solar energy production before asking how all these load and supply swings can be matched up.

The solution, according to Griffith, lies in creating "lots of storage" for renewable energy.[47] This is nothing new for the energy industry writ large, he points out, noting the substantial amounts of storage for natural gas and oil in the U.S. as well as the coal piles beside coal-fired generation plants.[48] Chemical battery storage, while "quite expensive," he admits, is falling in cost rapidly, and "large-scale deployment…is becoming a realistic possibility."[49] But the hitch, he proceeds to relate, is that batteries are suited to "ironing out" hourly or diurnal variations, not acting as longer-term storage reservoirs, as they are too costly; still, he foresees a time in the not-too-distant future when domestic battery storage coupled with rooftop solar will beat the current cost of utility-grid electricity.[50]

The chapter goes on to survey other types of energy storage — battery or otherwise. The former is represented mainly by EVs serving as supplemental batteries to feed the grid (Griffith envisions hundreds of millions of EVs doing this, providing a major new supply source, once the U.S. transportation fleet is converted to electric). Other types are "thermal storage," pumped hydro storage, and an assortment of other technologies Griffith does not regard as

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[40] *Ibid*.

[41] *Ibid* at 75–95.

[42] *Ibid* at 76.

[43] *Ibid*.

[44] *Ibid*.

[45] *Ibid* at 77.

[46] *Ibid* at 78. Here, *Electrify* doesn't take account of the new stay-at-home patterns wrought by the pandemic for office workers; nor does such a simplified diurnal cycle seem to recognize that home heating or air-conditioning loads remain active in the afternoon, depending on the time of year, in most climates — though Griffith almost simultaneously acknowledges "thermal [electric] loads are big and heavy."

[47] *Ibid* at 83.

[48] *Ibid*.

[49] *Ibid*.

[50] *Ibid* at 84.

ready for prime time.[51] Finally, the author raises biofuels — from wood to agriculture waste to sewage — as surrogates for batteries to "bridge seasonal gaps…"[52]

Returning to demand management, Griffith also suggests running big factory loads in the daytime to take advantage of the new abundance of solar energy, observing: "We reacted to cheap power at night by creating night shifts in heavy industry so that industry could consume that power," but in a "solar- and wind-powered world, we will have the opportunity to rethink some of these decisions."[53] However, readers might pause on the notion that night shifts were created to take advantage of cheaper power. While it is a bonus in places where time-of-day rates are in effect (or special contracts were negotiated), heavy, capital-intensive industries with 24-hour shifts and continuous production are mainly set up that way to reduce unit costs by averaging fixed costs over as many units as possible. In addition, some major industrial processes lend themselves to continuous operation rather than cycling up and down.[54] Also, Griffith probably overstates the flexibility of manufacturers to shift production schedules around to better synch up with the ebbs and flows of intermittent generation when he asserts: "Manufacturers can still produce the same amount of goods in the long-term, but they can match their major loads to the available energy supply over time."[55]

To bring off such a future grid predicated on all (or largely) intermittent renewables, Griffith, as might be expected, also calls for constructing a great deal more transmission infrastructure — most critically, to take advantage of interregional wind and solar diversities.[56] He further advocates — as a self-styled "radical" idea — going overboard in the amount of solar and wind capacity to be developed, with a view to satisfying even winter peaks (when a renewables-only system is strained for capacity as solar availability wanes, just as heating and lighting demands increase). Griffith offers two rationales to buttress his "radical" proposal: first, that the incremental cost of building extra wind and solar to meet the winter peak would be cheaper than the alternative of constructing sufficient battery storage; [57] and second, that the resulting summertime solar surplus could be put to good use "in the production of hydrogen or ammonia or even the scrubbing of carbon from the atmosphere" (*i.e.*, carbon sequestration) — strategies he's previously relegated to the impracticable or improbable.

HOME IS WHERE THE INFRASTRUCTURE IS

Electrify has much to say about the cost and financing of a top-to-bottom decarbonizing of households and driveways. From universal rooftop solar to electric furnaces and water heaters, Griffith envisions a massive replacement cycle along with, not coincidently, an employment boom and attendant prosperity in all corners of the economy. One of his fundamental precepts is that our understanding of "infrastructure" must be expanded to encompass these new, all-electric home devices, battery storage and EVs included.[58]

Labeling such home equipment as "infrastructure" is Griffith's stepping-stone to urging adoption of expansive new public policies to finance their purchase. Federal loan guarantees and subsidies to homeowners (and to landlords, where homes are not individually owned) are critical catalysts in making the replacement

[51] *Ibid* at 84–85. It is less than clear in this chapter how thermal storage works as electricity storage, unless Griffith is merely talking about incentives for demand interruption and load shifting. A few pages later, the author discusses "demand response" as a methodology for managing load and supply mismatches.

[52] *Ibid* at 86.

[53] *Ibid* at 87.

[54] This reviewer is familiar with the aluminum industry, for example, which is designed for continuous production. The industry negotiates for lower-cost power associated with round-the-clock service and can withstand some temporary interruptions, but not for many hours at a time. A cloudy day resulting in an extended shortage of solar energy could be a disaster for an aluminum smelter.

[55] *Ibid* at 87.

[56] *Ibid* at 90–91.

[57] *Ibid* at 93. Notably, Griffith uses a hypothetical production cost for wind/solar of just 2-4 cents per kwh — which seems on the low end even for utility-scale solar, and does not account for incremental transmission investment costs.

[58] *Ibid* at 98–101.

cycle affordable. Throughout the book, Griffith likens the decarbonization of the economy to a war effort, so recharacterizing energy devices in homes as semi-public infrastructure enhances the theme: *i.e.*, it is the duty of government in public emergencies to drive mobilization and lead change.[59] With his typically cheery air, he writes:

> "Redefining infrastructure allows us to contemplate the intriguing notion that the U.S. might be just an interest rate away from a climate cure…. [L]owest-cost infrastructure-grade financing is crucial."[60]

In the ensuing chapter (Chap. 10, "Too Cheap to Meter"), Griffith goes into detail to make his pitch that, with today's technology, utility-scale solar and wind generation already outcompete natural gas and coal power from a cost perspective.[61] But Griffith's ultimate quest is to convince readers that *virtually every roof in America* should be fitted with solar panels, to attain even greater savings than utility-scale renewables can offer. His vision is encapsulated in this excerpt:

> "Here is the transformative point about rooftop solar: because there are no transmission and distribution costs, it can be phenomenally cheap. Even if the cost of utility-scale generation were free, we don't know how to transmit it to you and sell it to you for less than the cost of rooftop solar. This doesn't mean the whole world will run on solar and distributed resources, but it does mean that if we are looking to make the lowest-cost energy system, an awful lot of America's energy will come from our rooftops and our communities."[62]

The chapter goes on to sketch how the costs of wind and solar generation have fallen precipitously in recent years, projecting that they will tumble even further, "likely halv[ing] the cost of renewables again — a nail in the coffin of fossil fuels."[63]

In his clincher chapter, "Bringing it all Home,"[64] Griffith rolls out an elaborate modeling effort to demonstrate how a big capital expenditure program with low-cost financing to equip homes for maximum renewable energy production and usage would, in the long run, "save us all money" versus the status quo.[65] The chapter is informative in depicting the full spectrum of household costs, where energy fits into the total budget, and the extent to which energy costs might be driven down by full adoption of the book's recommendations.[66] Griffith's rollup of the data projects that rooftop solar ought to cover about 75 per cent of total home energy needs; and, figuring a long-term cost of 5 cents/kWh for this home-generated energy (based on financing costs of 2.9%) while assuming a national average cost of 14 cents per kWh for utility-delivered electricity, Griffith emerges with an estimated annual savings per household of *at least* $1000 and "if we do very well," $2500.[67]

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[59] Later in the book Griffith includes an entire chapter — "Mobilizing for World War Zero" — to embellish the point, lest it's been lost on readers thus far. *Ibid* at 163–72.

[60] *Ibid* at 101.

[61] *Ibid* at 104ff. Generation cost comparisons are always a complicated subject, and highly dependent on assumptions. An immediate observation is that the comparison in the subject chapter uses "levelized cost of energy" for wind, solar, and fossil-fuel capacity. But a great deal of natural gas and coal-fired capacity is already built and in service; hence, their variable operating cost is relevant to a comparison as well.

[62] *Ibid* at 105.

[63] *Ibid* at 109. Griffith neglects to mention that much of the reductions in solar costs have come from China's takeover of the industry. *See*, Daniel Yergin, *The New Map* (New York: Penguin Random House, 2020) at 396–97, reporting that almost 70% of solar panels are made in China; over 80% by Chinese companies within or outside China, and that almost 95% of the solar wafers that are the heart of panels are produced there. Yergin notes that "the cost of solar panels came down by an extraordinary 85% between 2010 and 2019, driven mainly by Chinese manufacturing and massive capacity and by technical improvements" as well as by what a renewables advocacy organization has labeled "cutthroat pricing" thanks to China's overcapacity. *Ibid* at 397–98.

[64] *Electrify*, *supra* note 2 at 112–29 (Chapter 10).

[65] *Ibid* at 112.

[66] The chapter even contains a chart depicting state-by-state household use of energy, broken down by fuel source. *Ibid* at 116.

[67] *Ibid* at 121–22.

Necessarily, any such modeling is chock-full of assumptions. Griffith allows that his assumptions are "aggressive," but "not without precedent."[68] What may leave readers scratching their heads is what happens to the transmission and distribution costs the book recognized are big ticket items in the cost of delivered energy, not to mention the fixed costs of maintaining central stations at the ready. Griffith apparently leaves these costs off the books when it comes to figuring out the purportedly massive end-user savings.[69] But distributed energy owners still depend on the grid for backup — *i.e.*, nocturnal or cloudy-day energy — unless they're prepared to decouple and rely on their EV batteries (or fossil-fuel home generators) to carry them through sunless hours. But even Griffith does not go that far.

Griffith's argument for major government involvement in financing the electrification of homes and cars also draws on "climate justice" considerations. He fairly points out that the wealthy can best afford the "upfront capital costs" of rooftop solar, EVs, and other decarbonizing gadgets because "they have access to easy credit and home equity loans."[70] Indeed, some well-heeled Americans can afford to pay for their luxury EVs out of savings and cashflow. Yet, as the author points out, the low-income segment of the population would benefit the most from any cost savings attributable to electrification. And obviously, a mass conversion to all-electric domestic and transportation systems requires a "no household left behind" approach. Hence, Griffith seizes the moment of "historically low interest rates," coincident with the 2020–21 pandemic, to "finance the household technology and infrastructure that will decarbonize our future lifestyles."[71]

COMPENSATING THE LEGACY ENERGY COMPANIES

Perhaps surprisingly, given Griffith's frequent expressions of scorn for the "fossil fuel industry," *Electrify* proposes a compensation package for the "stranded assets" of legacy hydrocarbon companies. To do otherwise, he posits, would invite the kind of financial calamity the U.S. (and much of the developed world) experienced during the mortgage market crisis and stock market crash of 2008. "Clearly," he states, "we can't just pull the rug out from underneath the industry that gave us modernity. We need a plan."[72]

The author tosses out some assumptions about the profit margins for proven reserves (figures that are not necessarily compensatory, given the dramatic rise in oil and gas prices since mid-2021), and comes up with a multi-trillion-dollar buyout hypothesis. The section is far from fleshed out; it is more like a gesture — an opening bid in an imaginary negotiation — and it's not clear either who exactly would *pay* the trillions or whether international and state-owned energy companies (*e.g.*, Russian, Saudi, and Venezuelan companies) would *receive* payouts, or whether the rescue package would be limited to Western democracy companies.

It's also less than clear regarding the time frame in which the fossil fuel companies would be bought out. Elsewhere, Electrify implies what amounts to a gradual phase-out, with those new, "clean energy" machines being purchased when the older ones reach the end of their useful lives.[73] That could take decades. Yet, in the chapter on industry compensation, while applauding the spirit behind "divestment" campaigns to "slowly starve the fossil fuel industry of the precious capital they need," the author argues that the strategy is too slow

[68] *Ibid*.

[69] In addition to the "transformative point" quote above (*Ibid* at 105), Griffith stresses (*Ibid* at 104) that even the "impressively low" costs of utility-scale solar can be beaten with home generation: "Oddly, though, rooftop solar can be even cheaper because if you're generating electricity yourself, you don't have to pay for distribution" (*Ibid*).

[70] *Ibid* at 125.

[71] *Ibid* at 129. Readers in 2022 will note, however, that the near-zero interest rates Griffith invokes are transitioning towards higher rates as inflation become a prevailing concern.

[72] *Ibid* at 133.

[73] See e.g. where Griffith argues that the government's payout for the cost for the transition would "only amount to about $300 billion per year for the 15 years of mobilization." *Ibid* at 154, or where Griffith suggests the large sticker price for the Green New Deal should be put in perspective: "…this amount will be spread out over 15–20 years. This is mostly spending the country was going to do anyway — everyone is going to buy a new car or two in that 20 years, and appliances, and home retrofits…" *Ibid* at 153.

to be effective in light of "the urgency and inevitability of climate change…"[74]

In a chapter of particular interest to the regulatory community ("Rewrite the Rules!"),[75] Griffith surveys the diverse field of federal and local laws and regulations and declares them largely unsuited to expediting the transition to a clean energy world. The chapter touches on numerous aspects, from construction codes to ratemaking, and notably takes aim at "net metering" — generally thought of as a boon to home solar generators — as *not* "good enough," because customers offering up excess energy to the grid are only offered the wholesale, not the retail, value of their kWh. Likewise, time-of-use pricing "isn't good enough either" in Griffith's judgment because "not everyone has that choice" of when to consume.[76]

Instead, Griffith advocates a construct he calls "grid neutrality," which he evidently sees as democratizing the power system, much like the internet has done for information and trade.[77] Under this scheme, households, like utilities, could buy and sell energy to each other. The public utilities, he admits, "don't love this idea, especially those that are also trying to protect their natural gas business," but such patent self-interest should not, in Griffith's view, intimidate the public from imposing more forward thinking:

> "But remember that 'we the people' regulate the utilities, so we don't need to fear them. We can control them; we just need to express our collective will."[78]

CONCLUSION

Griffith's ambitious, multi-pronged, 269-page "playbook" for a decarbonized energy future is both exhaustive and exhausting. Part of the reader's challenge is to sort out, from the bushels full of facts, figures, charts, and opinions, what is incontestable from what is more controversial or "out there." The contentions that fall into the latter two categories will force readers to think and, if their expertise is limited, reach out for other sources to fully more inform themselves — and brace for debate.

Griffith is not the most objective of guides. In a field generally calling for empiricism, balance, conservative assumptions, and sober judgments, he frequently comes off as a cheerleaderand prophet for a movement he regards as literally world-saving. The earnestness and passion he brings to the task seem genuine. And it helps that, even as *Electrify* burrows into the technical and policy-wonkish depths of its material, Griffith's writing style is commendably clear and easy-going — frequently jokey and sometimes even profane — as he strives to lighten the mood and forge a camaraderie with his readership.

Occasionally, Griffith simply gets things wrong. He inexplicably refers to the "2016 [sic] Paris Agreement to avert climate crisis."[79] In his chapter about preparing for "war," he tells us that in 1939, the "mood of the country, particularly among the New Deal Democrats, was against intervening in international affairs." While the sentiment against getting involved in Europe in the late 1930s had both left- and right-wing adherents, President Roosevelt — the leader of the New Deal — sought *more* involvement, as he navigated the political headwinds against actively assisting the Allies.[80] Griffith's chapter kindling enthusiasm for an explosion of government expenditures to address unemployment and lift the country out of a recession[81] seems almost quaint in early 2022, as unemployment is low, good jobs go begging,

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[74] *Ibid* at 133–34.

[75] *Ibid* at 137–44.

[76] *Ibid* at 142.

[77] *Ibid* at 143–44.

[78] *Ibid* at 143.

[79] *Ibid* at 14. The agreement was struck in December 2015.

[80] Conversely, Senator Robert Taft, a prominent Republican leader, ardently opposed any U.S. involvement in the conflict in Europe, up until the bombing of Pearl Harbor in December 1941, though Taft's isolationism drew cross-fire from liberal Republicans. See generally Sarah Churchwell, *Behold, America* (New York: Basic Books 2018) for an account of U.S. support for, or tolerance of, Fascist regimes in Europe in that era.

[81] *Electrify*, *supra* note 2 at 145–61 (Chapter 15: "Jobs, Jobs, Jobs").

and inflation (partly from government stimuli) is a real concern. In an appendix,[82] Griffith takes hard sideswipes at carbon sequestration and use (even as an adjunct to burning carboniferous fuels) as well as denouncing fracking and natural gas — all 21st century energy mainstays (or in the case of carbon sequestration, a promising frontier technology).[83]

Two major caveats should be kept in mind. First, Griffith is a scientist and engineer, but not a climate scientist, and does not attempt to reexamine the mainstream consensus on GHG. Rather, he wholeheartedly embraces its most dire predictions, using them as a springboard for challenging the incumbent energy industry to accept a raft of changes. Second, Griffith's analysis and prescriptions for reform are targeted expressly for the U.S. Although climate change is obviously a worldwide issue, the rest of the globe only comes in for only glancing attention; his premise is that if the U.S. cleans up its act, the rest of the world will follow. Whether that premise holds water is a question readers can contemplate for themselves.

For those already inclined to accept that climate change is mankind's most forbidding challenge, the author's absolutism and devotion to radical action will prove stimulating. His remedial strategies, tinged with a sunny optimism, will equip persuaded readers to enter the fray with specific concepts, along with armloads statistics and graphs. On the other hand, energy pragmatists and climate change skeptics should find the volume of use as a compendium of positions green energy advocates will stake out in public forums, so they might as well get more familiar with them. ■

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[82] *Ibid* at 193–94.

[83] See Yergin, *supra* note 63 at 405 ("The 2015 Paris climate compact provided new impetus to develop 'carbon capture and storage,' or CCS. Around the same time, a "U" for "use" was added to the acronym…. CCUS takes many forms today. For instance, captured carbon is being used to manufacture products like cement and steel. 'Direct air capture' — pulling CO_2 out of the air — had seemed fanciful, but progress is being made and units are being scaled up.")