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1-1-2014

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### Recommended Citation

Sara L. Seck, *Energy in the Great Lakes Region*, 39 Can.-U.S. L.J. 20 (2015)

Available at: <https://scholarlycommons.law.case.edu/cuslj/vol39/iss/2>

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# ENERGY IN THE GREAT LAKES REGION: IMAGINING A SHARED STRATEGY

*Sara L Seck\**

ABSTRACT: This article will reflect upon what it might mean to devise an energy strategy for the Great Lakes region in light of our shared responsibility as stewards of a globally significant fresh water resource at a time of increasing water scarcity associated with climate change. The article argues that we must not let short-term economic fears drive our decision-making or risk adopting policies that will prove detrimental to the long-term futures of our children's children.

## INTRODUCTION

The launch of the Council of the Great Lakes Region (CGLR) in April 2013 provides an opportunity to reflect upon what it might mean to imagine a shared strategy for energy policy in the North American Great Lakes Region. As highlighted at the launch conference, the region is defined by a great and shared resource – indeed, one of the greatest in the world. The Great Lakes, a “chain of five large freshwater lakes covering an area of 95,000 square miles,” are the “largest lake group in the world” and contain approximately “18% of the world’s surface fresh water stores.”<sup>1</sup> Representing “84% of North America’s fresh water supply,” the Great Lakes “provide drinking water to over 40 million households” in Canada and the United States.<sup>2</sup> Given the importance of this critical resource to the region, indeed, to the world, it is vital that governance systems ensure that the quality and quantity of Great Lakes water is protected for both present and future generations. Sadly, as was evident during the CGLR launch panel discussion entitled “Water Governance in the Great Lakes – St. Lawrence Region,” this is a time of concern for water in the region, with low water levels and other negative impacts being attributed in part to the challenges of climate change.

Global carbon emissions are clearly linked to energy policy, yet the impact of climate change on the Great Lakes is not exclusively caused by greenhouse gas (GNG) emissions originating from the Great Lakes region.<sup>3</sup> Climate change

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\* The author would like to thank the organizers of the Council of the Great Lakes Region (CGLR) Launch Conference, held in Cleveland, Ohio April 11-12, 2013, for inviting her to speak on the energy panel. Thanks are also due to Western Law J.D. candidate Claire Lehan for excellent research assistance.

<sup>1</sup> *CGLR Brochure*, COUNCIL OF THE GREAT LAKES REGION, [http://councilgreatlakesregion.org/wp-content/uploads/pdfs/CGLR\\_Brochure.pdf](http://councilgreatlakesregion.org/wp-content/uploads/pdfs/CGLR_Brochure.pdf).

<sup>2</sup> *Id.*

<sup>3</sup> *See, e.g.*, David A. Grossman, *Tort-Based Climate Litigation*, in *ADJUDICATING CLIMATE CHANGE: STATE, NATIONAL, AND INTERNATIONAL APPROACHES* 193 at 217 (William C.G. Burns & Hari M. Osofsky, eds., 2009) (issues of causation). *See also* Hari M. Osofsky, *Is Climate Change “International”? Litigation’s Diagonal Regulatory Role*, 49:3 VA. J. INT’L L. 585 at 587 (2009).

is a global problem that does not respect state or regional borders. Similarly, many energy choices involve the exploitation of natural resources, such as oil & gas, or uranium for nuclear power, that leave a large environmental footprint not contained within the borders of a single state or region. Yet “green” energy choices such as large-scale wind turbines, have been subject to critique for alleged impacts on local environmental health as well as protected species and migratory birds.

Formulating an energy strategy that embraces the essential need for sustainability in the region might seem easy if decision-making was guided purely by concerns with contributing to the avoidance of long-term significant environmental harms on a global scale. But sustainability thinking traditionally embraces a balancing of environment with economic and social concerns. Even while arguably, this balance would over the long-term align with global concerns, the process of devising an energy strategy must in reality confront economic and social challenges that create political pressures for short-term quick-fix solutions. Increasingly, scholars are highlighting that sustainability thinking must also confront the reality of climate change, with some proposing that the concept of resilience may be better suited to decision-making in the Anthropocene than sustainability.<sup>4</sup>

This article will reflect upon what it might mean to devise an energy strategy for the Great Lakes region in light of our shared responsibility as stewards of a globally significant fresh water resource at a time of increasing water scarcity associated with climate change. These reflections will touch upon another theme evident at the CGLR launch – the struggle that the region is facing in economic and employment terms as a consequence of the global economic downturn. The article will argue that we must not let short-term economic fears drive our decision-making or risk adopting policies that will prove detrimental to the long-term futures of our children’s children. Drawing upon established principles of international environmental law, and guided by new understandings of the responsibilities of business to respect human rights, the paper will argue that whatever energy strategy is endorsed in the region, it must be one that is developed through an inclusive process that respectfully embraces the challenges put forward by indigenous peoples, and environmentally-concerned individuals and communities. Ultimately, it is crucial that decision-makers in the Great Lakes region no longer deceive themselves into thinking that environmental and economic concerns must be “balanced” off against one another – in truth, these concerns and the future of the Great Lakes region are inextricably intertwined.

#### ENERGY AND ENVIRONMENT

Energy law has traditionally been:

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<sup>4</sup> See, e.g., Robin Kundis Craig & Melinda Harm Benson, *Replacing Sustainability*, 46:4 AKRON L. REV. 841-880 (2013). See also WELCOME TO THE ANTHROPOCENE (Mar. 6, 2015), <http://www.anthropocene.info/en/-anthropocene>.

[F]ocused on the extraction and production of energy resources with specific goals of short-term efficiency and economic growth. The field has substantively covered in general (1) electricity generation, transmission, and markets, including the laws governing the production, transportation, and sale of fuels used for electricity generation such as nuclear energy, coal, and natural gas; (2) the laws governing fuels used in transportation such as oil and biofuels; and, more recently (3) renewable energy including wind, solar, hydropower, and geothermal energy.<sup>5</sup>

Environmental law, on the other hand:

[H]as focused primarily on conservation and protection of land, water, air, species, and resources for purposes of protecting human health as well as for long-term preservation of environmental, culture, and aesthetic values. On a structural level, environmental law did not grow out of economic regulation like energy law, but instead focused on risk assessment and the creation of regulatory tools to limit the environmental impacts of an industrialized society, leading to command-and-control regulation for industrial and other sources of pollution.<sup>6</sup>

Increasingly, scholars are arguing that to solve contemporary problems environmental and energy law must converge.<sup>7</sup> From a sustainability perspective, it is crucial that energy choices involve an integrated consideration of economic, social and environmental concerns. Importantly, this requires grappling with the full life cycle assessment of environmental impacts of each choice, from raw material extractions through use to recycling and ultimate disposal, including risk assessment of accidents.<sup>8</sup> An energy strategy in the Great Lakes region should naturally focus much environmental concern upon water, and, indeed, the “inextricably linked” nature of energy and water has been clearly recognized by the Great Lakes Commission.<sup>9</sup> The next parts will sketch what it might mean to consider a variety of energy choices in this way.

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<sup>5</sup> Alexandra Klass, *Climate Change and the Convergence of Energy and Environmental Law*, 24 *FORDHAM ENVTL. L. REV.* 180, 185 (2013). See also Lincoln L. Davies, *Alternative Energy and the Energy-Environment Disconnect*, 46 *IDAHO L. REV.* 473 at 475-76 (2010) (as cited in Klass).

<sup>6</sup> Klass, *supra* note 5, at 185-86.

<sup>7</sup> Davies, *supra* note 5, at 507; Amy J. Wildermuth, *The Next Step: The Integration of Energy Law and Environmental Law*, 31:2 *UTAH ENVTL. L. REV.* 369 (2011). See also Klass, *id.* at 187 (noting that when attention is paid to state law, law school teaching, and firm practice groups, the convergence is already evident).

<sup>8</sup> G. Rebitzer et al., *Life Cycle Assessment: Part 1: Framework, goal and scope definition, inventory analysis, and applications*, 30:5 *ENV'T INT'L* 701 at 702 (2004). See also Eric Mallia & Geoffrey Lewis, *Life Cycle Greenhouse Gas Emissions of Electricity Generation in the Province of Ontario, Canada*, 18 *INT'L J. LIFE CYCLE ASSESSMENT* 377 (2013); Jayant Sathaye et al., *Renewable Energy in the Context of Sustainable Development*, in *IPCC SPECIAL REPORT ON RENEWABLE ENERGY SOURCES AND CLIMATE CHANGE MITIGATION* (2011), [http://srren.ipcc-wg3.de/report/IPCC\\_SRREN\\_Ch09.pdf](http://srren.ipcc-wg3.de/report/IPCC_SRREN_Ch09.pdf).

<sup>9</sup> See, e.g., THE GREAT LAKES COMMISSION, *RESOLUTION: THE WATER ENERGY-NEXUS: LINKING WATER AND ENERGY PLANNING IN THE GREAT LAKES* (2009), <http://glc.org/files/main/resolutions/FINAL-20090930-waterenergy.pdf>

## FOSSIL FUELS

A significant portion of the energy use in the Great Lakes region comes from fossil fuels, which are important contributors of GHGs.<sup>10</sup> Indeed, fossil fuels provide about 80% of world energy needs.<sup>11</sup> Much discussion at the CGLR launch panel “Shared Energy Resources and Strategies in the Great Lakes-St. Lawrence Region” focused upon the importance of natural gas for the region, due to discoveries of shale gas deposits together with the development of hydraulic fracturing technologies that facilitate the extraction of deposits which were previously technologically and economically unfeasible.<sup>12</sup> The potential of natural gas extraction to synergize with economic linkages in the Great Lakes region was highlighted through, for example, a reconfiguring of regional auto-plant manufacturing to support the use of natural gas fuel in regional and even global transportation.<sup>13</sup>

The two CGLR launch conference speakers who focused their remarks on the advantages of natural gas, downplayed environmentalist’s concerns with the negative impacts of horizontal hydraulic fracturing. Yet, these concerns clearly exist, and include the venting and flaring of natural gas with the resultant increase in GHG emissions,<sup>14</sup> reduced incentives to move away from fossil fuels due to the low cost of natural gas extraction, thereby exacerbating climate change,<sup>15</sup> and increased impacts on wildlife.<sup>16</sup> In addition, serious concerns are raised with regard to water. For example, according to Schroek & Karisny, the integrity of Great Lakes water:

[I]s threatened by the practice of high-volume, slick-water hydraulic fracturing (or fracking) in the Great Lakes basin. This technique, used to “stimulate” oil and natural gas wells, allowing for increased production,

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<sup>10</sup> Great Lakes Commission Work Plan, April 18 2008, <http://www.glc.org/energy/pdf/GLC-Biennial-Workplan-2008-2010-FINAL-4-08-p11.pdf>; Susan Arndt et al, US Environmental Protection Agency, *State of the Great Lakes 2009 - Energy Consumption*, : <http://www.epa.gov/solec/sogl2009/7057energycons.pdf>.

<sup>11</sup> Robert F. Mann, *Smart Incentives for the Smart Grid*, 43 NEW MEXICO L REV. 127 at 128 (2013). See also, Zhenguang Yang et al., *Enabling Renewable Energy and the Future Grid with Advanced Electricity Storage*, 62 JOM (THE JOURNAL OF THE MINERALS, METALS & MATERIALS SOCIETY) 14-23 (2010).

<sup>12</sup> Ms. Julie Dill, President and CEO, Spectra Energy Partners and Group Vice President of Strategy, Spectra Energy Corp. (discussant) and Mr. Milos Barutciski, Partner, Co-Head of International Trade, Bennett Jones, LLP (panelist) at the CGLR launch conference (Apr. 12, 2013). See also Kalyani Robbins, *Awakening the Slumbering Giant: How Horizontal Drilling Brought the Endangered Species Act to Bear on Hydraulic Fracturing*, 63 CASE W. RES. L. REV. 1143 at 1146 (2013).

<sup>13</sup> Mr. Milos Barutciski (panelist), *id.*

<sup>14</sup> Elizabeth Burleson, *Climate Change and Natural Gas Dynamic Governance*, 63 CASE W. RES. L. REV. 1217 at 1219 (2013).

<sup>15</sup> Thomas W. Merrill, *Four Questions About Fracking*, 63 CASE W. RES. L. REV. 971 at 981 (2013).

<sup>16</sup> Robbins, *supra* note 12, at 1144.

requires the use of millions of gallons of water and has the potential to cause significant water depletion and aquifer contamination.<sup>17</sup>

Contamination concerns arise due to the use of chemicals additives in fracking fluids which are injected into the ground together with large quantities of water and sand, the precise nature of which are often kept secret for commercial confidentiality reasons.<sup>18</sup> As a result of these concerns, local community protests against proposed fracking developments are increasingly evident around the world.

Thus, local environmental concerns with the potential for water pollution impacts are raised in connection with natural gas fracking, even as proponents advocate that natural gas could serve a global need as a transition fuel to a carbon-free future, due to its lower GHG emissions when compared to coal.<sup>19</sup>

While a comprehensive comparison is beyond the scope of this article, it is clear that at present there is no consistency in the environmental regulation of hydraulic fracturing in the Great Lakes region. Notably, while hydraulic fracturing is exempt from some environmental regulations in the United States,<sup>20</sup> the province of Quebec recently proposed a temporary moratorium on hydro-fracking due to concern over potential environmental impacts; a decision for which the Canadian government is likely to be sued under NAFTA as it has been for an earlier similar proposal.<sup>21</sup> The most recent Quebec bill, if passed, would

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<sup>17</sup> *The Process of Hydraulic Fracturing*, EPA, <http://www2.epa.gov/hydraulicfracturing/process-hydraulic-fracturing> (last updated Feb. 7, 2013), cited in Nicholas Schroeck & Stephanie Karisny, *Hydraulic Fracturing and Water Management in the Great Lakes*, 63 CASE W. RES. L. REV. 1167 at 1169 (2013) (noting that “flowback” containing chemicals may reach surface water). See also Merrill, *supra* note 15.

<sup>18</sup> Merrill, *supra* note 15, at 972. See generally Robin Kundis Craig, *Hydraulic Fracturing (Fracking), Federalism, and the Water-Energy Nexus*, 49 IDAHO L. REV. 241 (2013). See also Keith B. Hall, *Hydraulic Fracturing: Trade Secrets and the Mandatory Disclosure of Fracturing Water Composition*, 49 IDAHO L. REV. 399 (2013).

<sup>19</sup> Ms. Dill & Mr. Barutciski, *supra* note 12; Joseph P. Tomain, *Shale Gas and Clean Energy Policy*, 63 CASE W. RES. L. REV. 1187 at 1188 (2013); Burleson, *supra* note 14, at 1270. But see Anthony R. Ingraffea, Op-Ed., *Gangplank to a Warm Future*, N.Y. TIMES, July 28, 2013, [http://www.nytimes.com/2013/07/29/opinion/-gangplank-to-a-warm-future.html?nl=opinion&emc=edit\\_ty\\_20130729&\\_r=0](http://www.nytimes.com/2013/07/29/opinion/-gangplank-to-a-warm-future.html?nl=opinion&emc=edit_ty_20130729&_r=0) (disputing claim that natural gas is better than coal in terms of GHG emissions).

<sup>20</sup> Schroeck & Karisny, *supra* note 17, at 1180. See also Christopher S. Kulander, *Shale Oil and Gas State Regulatory Issues and Trends*, 63 CASE W. RES. L. REV. 1101, 119-129 (2013) (laws regulating shale oil and gas in Ohio and Pennsylvania).

<sup>21</sup> See generally *Quebec Fracking Ban Lawsuit: Lone Pine Resources Wants \$250M from Ottawa*, Huffington Post, Nov. 23, 2012, [http://www.huffingtonpost.ca/2012/11/23/quebec-fracking-ban-lawsuit-lone-pine\\_n\\_2176990.html](http://www.huffingtonpost.ca/2012/11/23/quebec-fracking-ban-lawsuit-lone-pine_n_2176990.html). See also An Act to prohibit certain shale natural gas exploration and production activities, Bill 37, (May 15, 2013) (Can.), <http://www.assnat.qc.ca/en/travaux-parlementaires/projets-loi/projet-loi-37-40-1.html> (the most recent legislation to impose a ban on hydraulic fracturing); An Act to limit oil and gas activities, Bill 18, (May 12, 2011)(Can.), <http://www.assnat.qc.ca/en/travaux-parlementaires/projets-loi/projet-loi-18-39-2.html> (the bill which led to the lawsuit; received Royal assent on June 10<sup>th</sup> 2011); *Cases Filed Against the Government of Canada: Lone Pine Resources Inc. v. Government of Canada*, NAFTA, <http://www.international.gc.ca/trade-agreements-accords-commerciaux/topics-domaines/disp-diff/lone.aspx?lang=eng> (last modified Sept. 24, 2013) (a notice of intent in the NAFTA claim has been filed).

place a moratorium on all hydraulic fracking in the St. Lawrence Region and remain in effect until the province enacts new legislation on hydraulic fracking or until five years have passed.<sup>22</sup> Yet, while the state of Michigan “banned oil & gas drilling under the Great Lakes in 2002”, as did the US federal government in 2005,<sup>23</sup> Ontario currently allows it and “has over 500 (onshore and offshore) wells producing natural gas from ‘under the bed of Lake Erie.’”<sup>24</sup>

Although not the subject of the CGLR panel discussion, consideration of energy choices in the North American Great Lakes region must, at least from a Canadian perspective, also take seriously the role of the Alberta oil sands, a magnet for controversy in Canada-United States relations in 2013 due to the Keystone XL pipeline proposal,<sup>25</sup> and a key component of any discussions of Canadian energy strategy.<sup>26</sup> To the extent that fossil fuels and oil in particular are considered essential to the North American economy, oil from Alberta is often said to be the best choice, a conflict-free alternative in a world where revenues from oil extraction have all too often propped up regimes of questionable merit, or contributed to violent internal conflicts.<sup>27</sup> However, beyond the global climate change implications of increased fossil fuel development (carbon capture and storage technology notwithstanding), bitumen extraction from the oil sands is itself not without local controversy, due to concerns of First Nations and environmentalists over water use, negative impacts on caribou herds, and environmental pollution more generally.<sup>28</sup>

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<sup>22</sup> Leiter et al., *Quebec Fracking Moratorium Legislation Introduced*, LEXOLOGY (May 20, 2013), <http://www.lexology.com/library/detail.aspx?g=1a07ff93-5bff-4f31-8a22-c330f9b0e5ed>.

<sup>23</sup> Schroeck & Karisny, *supra* note 17, at 1177; Energy Policy Act, 42 U.S.C. § 15941(2006).

<sup>24</sup> *Crude Oil & Natural Gas Resources*, ONT. MINISTRY NATURAL RES., [http://www.mnr.gov.on.ca/en/-Business/OGSR/2ColumnSubPage/STEL02\\_167105.html](http://www.mnr.gov.on.ca/en/-Business/OGSR/2ColumnSubPage/STEL02_167105.html) (last updated Aug. 2, 2012), *cited in* Schroeck & Karisny, *supra* note 17, at 1177. *But see* Media Release, Council of Canadians, Time is right for a fracking ban to protect Ontarians from NAFTA lawsuit says Council of Canadians (Dec. 3, 2012), <http://canadians.org/media/water/2012/03-Dec-12.html> (it does not appear that any fracking is currently taking place in Ontario, although it seems unlikely that there are plans to ban it at any point soon).

<sup>25</sup> Douglas Macdonald & Matthew Lesch, *Competing Visions and Inequitable Costs: the National Energy Strategy and Regional Distributive Conflicts*, 25 J. ENVTL. L. & PRAC. 2, 10 (2013).

<sup>26</sup> James Munson, *Canada's National Energy Strategy Coming in Summer 2014: Premiers*, IPOLITICS (July 25, 2013), <http://www.ipolitics.ca/2013/07/25/national-energy-strategy-coming-in-summer-2014-premiers/>; *See also id.* at 10.

<sup>27</sup> MICHAEL A. LEVI, THE CANADIAN OIL SANDS: ENERGY SECURITY VS. CLIMATE CHANGE, COUNCIL ON FOREIGN RELATIONS: SPECIAL REPORT No. 47, at 32 (2009). *See also* EZRA LEVANT, ETHICAL OIL: THE CASE FOR CANADA'S OIL SANDS 228 (2010). *See generally* Richard Nimjjean, *Rebranding the Oil Sands*, 29 INROADS J. 76 (2011).

<sup>28</sup> Dayna Nadine Scott, *Situating Sarnia: 'Unimagined Communities' in the New National Energy Debate*, 25 J. ENVTL. L. & PRAC. 81 at 110 (2013) [hereinafter Scott]. *See also* Press Release, Ecojustice, Ecojustice research reveals oilsands facilities pollute Athabasca River (Mar. 21, 2013), <http://www.ecojustice.ca/media-centre/press-releases/ecojjustice-research-reveals-oilsands-facilities-pollute-athabasca-river>; Simon Dyer, *Federal Recovery Strategy confirms protecting habitat is key to protecting caribou*, PEMBINA INSTITUTE (Oct. 15, 2012),

The Keystone XL Pipeline is not the only controversial pipeline proposal in the works, with the Northern Gateway pipeline and Line 9 reversal also receiving much attention in Canada.<sup>29</sup> While First Nations resistance to the Northern Gateway pipeline is clearly evident in the Yinka Dene Alliance,<sup>30</sup> the local environmental impacts of fossil fuel refining rarely seems to draw much attention.<sup>31</sup> According to the work of Dayna Scott, “energy infrastructure decisions, such as those to build pipelines, create complex systems of interconnection and exchange amongst natural, social, economic, and built environments.”<sup>32</sup> Cumulative impacts on the health and environment of communities like Sarnia, Ontario and the Aamjiwnaang First Nation are often hidden from view, although the recent Chemical Valley Charter Challenge of environmental approvals claiming that cumulative impacts violate the right to life of the Aamjiwnaang might, if successful, have the power to change this dynamic.<sup>33</sup> Yet the reality is often one of conflicted local communities, seeking jobs on the one hand, yet on the other hoping that job-seekers and their families will not pay too steep a price in health and environmental terms. The same can be said at many sites along the path of fossil fuel production and distribution, with the tragedy at Lac Mégantic in Quebec this summer highlighting the spatial dimensions of the environmental and social costs associated with fossil fuel dependence, here arising en route by train.<sup>34</sup>

Whether a global or local environmental perspective is taken on fossil fuel extraction and the Great Lakes, a heavy and spatially diverse environmental footprint is evident. Troubling, from a Canadian perspective, has been the attitude of our federal government to environmentalists and First Nations communities who try to raise awareness of these global and local environmental concerns, wishing to contribute to, and participate in processes of decision-making over these important and complex choices.<sup>35</sup> Increasingly, they have been shut out as “interested parties” must prove “direct impacts” before their

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<http://www.pembina.org/blog/651>; *Who are the ACFN?*, ATHABASCA CHIPEWYAN FIRST NATION AND THE TAR SANDS, =<http://acfnchallenge.wordpress.com/about/>.

<sup>29</sup> *Line 9A Reversal (Phase 1) Overview*, ENBRIDGE, <http://www.enbridge.com/ECRAI/Line9ReversalProject>.

<sup>30</sup> Gordon Christie, *Indigenous Authority, Canadian Law, and Pipeline Proposals*, 25 J. ENVTL. L. & PRAC. 225 at 226 (2013) [hereinafter Christie].

<sup>31</sup> Scott, *supra* note 28, at 84.

<sup>32</sup> *Id.*

<sup>33</sup> See generally *Defending the rights of Chemical Valley residents – Charter Challenge*, ECOJUSTICE, <http://www.ecojustice.ca/case/defending-the-rights-of-chemical-valley-residents-charter-challenge> (last updated Feb. 10, 2015); Scott, *id.* at 99.

<sup>34</sup> Andy Blatchford, *Railway says it can't pay for Lac Mégantic disaster clean up*, THE GLOBE & MAIL, July 30, 2013, <http://www.theglobeandmail.com/news/national/mma-lays-off-nearly-one-third-of-quebec-workforce-union/article13496970/>.

<sup>35</sup> Meinhard Doelle, *The Role of EA in Achieving a Sustainable Energy Future in Canada: A Case Study of the Lower Churchill Panel Review*, 25 J. ENVTL. L. & PRAC. 113 (2013). See also Meinhard Doelle, *CEAA 2012: The End of Federal EA as We Know It?*, 24 J. Env'tl. L. & Prac. 1 at 15-16 (2012); Robert B Gibson, *In full retreat: the Canadian government's new environmental assessment law undoes decades of progress*, 30 IMPACT ASSESSMENT AND PROJECT APPRAISAL 179 (2012).



voices are considered relevant enough to merit a hearing.<sup>36</sup> Instead, the deceptive language of economic development has prevailed, in denial of the inextricable interconnections between economy, environment and society, even in the face of recent climate harms such as the Calgary and Toronto floods.<sup>37</sup>

An additional and often not discussed dimension of energy production from fossil fuels by way of thermoelectric power generation is its circular relationship with water in the Great Lakes. As discussed in a recent report of the Great Lakes Commission:<sup>38</sup>

Energy in the form of electric power and fossil fuel consumption is used to pump, convey, store, heat and treat water. On the other hand, the power sector withdraws more water than any other sector in the United States and is heavily dependent upon available water resources.<sup>39</sup>

This observation reinforces the conclusion that energy, water and environment in the Great Lakes Basin are, indeed, “inextricably linked.”<sup>40</sup>

#### OTHER SOURCES: NUCLEAR, HYDRO & WIND ENERGY

Notably, it is not just fossil fuels that are implicated in the energy/water linkage; nuclear energy in the Great Lakes region also involves thermoelectric power production with implications for Great Lakes water.<sup>41</sup> While nuclear energy is sometimes spoken of as a green energy solution due to the lack of GHG emissions,<sup>42</sup> a full life cycle assessment of nuclear energy production reveals a less green footprint. For nuclear energy to proceed, uranium must first be extracted, a process that has faced local community resistance due to concerns

<sup>36</sup> Christie, *supra* note 30, at 232. See also Scott, *supra* note 28, at 206 (on Northern Gateway hearings and discrediting of environmentalists); John Bennett, *Pipeline Snakes and Ladders: Energy Board Changes Pipeline Hearing Rules*, Rabble.ca (April 16, 2013), <http://rabble.ca/blogs/bloggers/john-bennett/2013/04/pipeline-snakes-and-ladders-energy-board-changes-pipeline-hearin>; Gloria Galloway, *Energy Board Changes Pipeline Complaint Rules*, THE GLOBE & MAIL, Apr. 5, 2013, <http://www.theglobeandmail.com/news/national/energy-board-changes-pipeline-complaint-rules/article10824925/>.

<sup>37</sup> Amber Hildebrandt, *Calgary Floods Spotlight Cities' costly failure to plan for climate change*, CBC NEWS, June 28 2013, <http://www.cbc.ca/news/canada/story/2013/06/26/f-climate-change-flooding-weather-preparation.-html>; *Toronto floods leave power system 'hanging by a thread'*, CBC NEWS, July 9 2013, <http://www.cbc.ca/news/canada/toronto/story/2013/07/09/toronto-rain-flooding-power-ttc.html>. See also David R. Hodas, *Law, the Laws of Nature, and Ecosystem Energy Services: A Case of Wilful Blindness* 16 POTCHEFSTROOM ELECTRONIC L. J., (2013), <http://dx.doi.org/10.4314/pelj.v16i2.4>.

<sup>38</sup> THE GREAT LAKES COMMISSION, INTEGRATING ENERGY AND WATER RESOURCES, DECISION MAKING THE GREAT LAKES BASIN (2011), [http://glpf.org/sites/default/files/project\\_files/922%20GLEW-Phase-I-Report-FINAL.pdf](http://glpf.org/sites/default/files/project_files/922%20GLEW-Phase-I-Report-FINAL.pdf).

<sup>39</sup> *Id.* at 3.

<sup>40</sup> *Id.*

<sup>41</sup> *Id.* at 10.

<sup>42</sup> J. NATHWANI & Z. CHEN, CANADA'S LOW CARBON ELECTRICITY ADVANTAGE: THE CASE FOR AN INTER-REGIONAL TRADE STRATEGY 20 (2013), <http://www.thinkingpower.ca/PDFs/Roundtable2013/Canada's%20Clean%20Electricity%20Advantage%20Case%20for%20Inter-regional%20Trade%20JN%20Final%20April%2002.pdf>.

with radioactive waste.<sup>43</sup> While large-scale nuclear accidents have so far (to public knowledge) been few, those that have occurred have been associated with tragic and long-term consequences for local communities, as well as transboundary harms often reaching far beyond the borders of the state of origin.<sup>44</sup> Indeed, the recent Fukushima accidents in Japan have highlighted the troubling implications of such accidents, particularly at a time when unforeseen and catastrophic weather events are on the rise due to climate change.<sup>45</sup> Extraction and potentially hazardous accidents are not the only concern with nuclear energy, however, as disposal of nuclear waste raises long-term sustainability challenges, with proposals to ship nuclear waste in the form of spent fuel through the Great Lakes in order to pursue recycling possibilities in other jurisdictions subject to challenge by First Nations and environmentalists in Ontario.<sup>46</sup>

A second alternative to fossil fuels that was discussed during the CLGR launch energy panel is the potential of hydro-electricity.<sup>47</sup> Here it was suggested that the “inter-connected electricity system between Canada and the US, with significant further enhancements, has the potential to become a powerful regional asset to allow a vast number of distant and dispersed generation sources (hydro,

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<sup>43</sup> Jayant Sathaye et al., *Renewable Energy in the Context of Sustainable Development*, in IPP SPECIAL REPORT ON RENEWABLE ENERGY SOURCES AND CLIMATE CHANGE MITIGATION 740 (2011), [http://srren.ipcc-wg3.de/report/IPCC\\_SRREN\\_Ch09.pdf](http://srren.ipcc-wg3.de/report/IPCC_SRREN_Ch09.pdf). See also *Uranium Mining Protests Gain Traction in Quebec*, HAZMAT MAG. (Mar. 21, 2013), <http://www.hazmatmag.com/news/uranium-mining-protests-gain-traction-in-quebec/1002157783/> (on recent protests and the push to ban uranium mining in Quebec).

<sup>44</sup> W.G. de Ruig & T. D. van der Struijs, *Radioactive contamination of Food Sampled in the Areas of the USSR Affected by the Chernobyl Disaster*, 117 ANALYST 545 (1992) including implications for Europe food safety post accident; PAUL L. JOSKOW & JOHN E. PARSONS, THE FUTURE OF NUCLEAR POWER AFTER FUKUSHIMA (2012), <http://web.mit.edu/ceepr/www/publications/workingpapers/2012-001.pdf>; Vienna Convention on Civil Liability for Nuclear Damage, IAEA, Mar. 20, 1996, INFCIRC/500, <https://www.iaea.org/publications/documents/infcircs/vienna-convention-civil-liability-nuclear-damage>. See also Treaty on the Non-Proliferation of Nuclear Weapons, IAEA, 22 Apr. 1970, INFCIRC/140, <https://www.iaea.org/publications/-documents/infcircs/treaty-non-proliferation-nuclear-weapons> (another oft-ignored aspect of nuclear energy is the international security dimension as all state parties to the Nuclear Non-Proliferation Treaty are entitled to access uranium for the peaceful purpose of energy production).

<sup>45</sup> Frauke Urban & Tom Mitchell, *Climate Change, Disasters and Electricity Generation*, Strengthening Climate Resilience Discussion Paper 8, at 14 (2011), <http://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/2504/Climate%20Change%2c%20Disasters%20and%20Electricity%20Generation.pdf?sequence=1>.

<sup>46</sup> *Nuclear Waste Site on Lake Huron Concerns Michigan, Sarnia*, CBC News (May 27, 2013), <http://www.cbc.ca/news/canada/windsor/story/2013/05/27/wdr-nuclear-waste-lake-huron-ontario-power-generation.html>; *Bruce Power Lets Transport Permits Lapse, Great Lakes Shipment of Radioactive Goods on Hold*, MANITOULIN EXPOSITOR (July 31, 2013), <http://www.manitoulin.ca/2013/07/31/bruce-power-lets-transport-permits-lapse-great-lakes-shipment-of-radioactive-goods-on-hold/>; Pierre Hamilton, *Environmentalists want court to revoke license for construction of new nuclear reactors in Ontario*, (2012), <https://www.ecojustice.ca/blog/environmentalists-want-court-to-stop-construction-of-new-nuclear-reactors-in-ontario>.

<sup>47</sup> Panel Remarks by Dr. Jarin Nathwani, Executive Director, Waterloo Institute for Sustainable Energy and Professor, Department of Civil and Environmental Engineering, University of Waterloo. See also Nathwani & Chen, *supra* note 42.

wind, nuclear, bioenergy, geothermal) to play an active part in an integrated market that is responsive to the challenge of decarbonizing the North American energy economy.<sup>48</sup> Notably, Canada has what Nathwani and Chen call a “green energy advantage” with total electricity generation in Canada in 2010 including 61% hydro and 18% coal, compared to 6.2% hydro and 44.8% coal in the United States.<sup>49</sup> Accordingly, large-scale electricity trade, based in part on further development of hydro power, could serve as a solution. However, as with other energy sources discussed so far in this article, hydroelectric development is not without its opponents due to social and environmental impacts of new projects, with particular concerns raised over the flooding of land and relocation of people.<sup>50</sup>

A third alternative to fossil fuels that has received much attention in the Great Lakes region is the potential of wind energy. While development of wind energy in the Great Lakes region has been encouraged by government policies and, at least in the United States, the commitment of the Great Lakes Commission through its Great Lakes Wind Collaborative,<sup>51</sup> Ontario appears to have fallen out of step.<sup>52</sup> Initially Ontario was arguably a trailblazer in the promotion of green energy and wind with the *2009 Green Energy Act*<sup>53</sup> and the system of renewable energy approvals (REAs).<sup>54</sup> However, the setback requirements for industrial wind turbines have come under fire from citizens concerned about possible health implications,<sup>55</sup> and municipal pressure to no longer be excluded from the expedited approval process has prevailed.<sup>56</sup> Concerns over migratory birds and endangered species have also been raised in relation to wind turbines, drawing a global or transboundary element into an otherwise local siting issue.<sup>57</sup>

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<sup>48</sup> Nathwani & Chen, *id* at 4.

<sup>49</sup> Nathwani & Chen, *id* at 11-12.

<sup>50</sup> See for example *Labrador Native Group looks to Federal Court to Stop Muskrat Falls dam project*, THE GLOBE AND MAIL (July 25, 2013), <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/native-group-threatens-to-take-ottawa-to-court-over-muskrat-falls/article13431735/>.

<sup>51</sup> *Great Lakes Wind Collaborative*, : <http://www.glc.org/energy/wind/>

<sup>52</sup> Tyler Hamilton, *Offshore Wind Energy Grows in Great Lakes But Not in Ontario*, The Energy Collective (March 10, 2013), <http://theenergycollective.com/tyhamilton/196626/offshore-wind-opportunity-grows-great-lakes-not-ontario>.

<sup>53</sup> S.O. 2009, c. 12; see also Rodney Northey, *The Role of Municipalities in Canada's Energy Strategy*, 25 J. ENVTL. L. & PRAC. 135 at 143 (2013); Fred D. Cass, CANADIAN GREEN ENERGY LAW AND POLICY 197-98 (2012).

<sup>54</sup> Northey, *id.* at 148.

<sup>55</sup> *Hanna v. Ontario*, 105 O.R. (3d) 111 (Ont. S.C.J.) (Can.); *Erikson v. Director, Ministry of the Environment*, 2011 E.R.T. No. 10-121; Stephen D. Hill & James D. Knott, *Too Close for Comfort: Social Controversies Surrounding Wind Farm Noise Setback Policies in Ontario*, 2 RELP 153 (2013).

<sup>56</sup> Thomas J Timmins & Leslie Blumer, *Ontario Minister of Energy Changes to Feed in Tariff program*, June 2013, <http://www.gowlings.com/KnowledgeCentre/article.asp?pubID=2923>.

<sup>57</sup> *Alliance to Protect Prince Edward County v Director, Ministry of Environment*, 2013 REA No. 13-002 (first rejection of REA, based upon species protection); re migratory birds see Joshua Wise, *Keep Wind Turbines out of Important Bird Areas* (Oct. 2, 2012), <http://www.ontarionature.org/connect/blog/keep-wind-turbines-out-of-important-bird-areas>.

## SUMMARY CONCLUSIONS

The above brief and incomplete survey of energy choices in the Great Lakes region has served to highlight the complexity of energy/environment/water linkages associated with the most often discussed sources of energy in the region. There are, of course, many other options, from solar, to biofuels, to geothermal energy production, that are beyond the scope of this article to discuss. Instead, the paper will turn to tools from international law that, by taking long-term sustainability seriously, could serve to guide the development of energy strategy in the Great Lakes region.

*Designing an Energy Strategy*

Before turning to principles of international law that could be drawn upon to inform the design of a Great Lakes regional energy strategy, it is important to briefly consider what might be meant by such a strategy. Curiously, despite Canada producing a diversity of sources of energy, Canada does not currently have a National Energy Strategy, although the push to develop one is increasing.<sup>58</sup> This is less surprising however when account is taken of the numerous competing energy interests that exist across the country. A reality of energy production to date has been that some communities benefit, while others suffer loss, including loss of land, culture, livelihoods and health.<sup>59</sup> Moreover, the conflict surrounding energy production goes beyond just the community level as each province has different energy needs and interests, and will fight against other provinces to ensure that policy decisions are made in their favour.<sup>60</sup> This makes any kind of coherent energy policy a great challenge, with energy strategies instead tending to reflect the views of particular interests.<sup>61</sup> However, the challenge of creating a coherent strategy may not be rooted in the differences of opinion, but rather the approach used to address the differences.

Joseph Arvai has recently characterized energy strategy as “a long-term adaptive framework for guiding decisions about energy development and delivery.”<sup>62</sup> He describes this as “a deliberative process that encourages

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<sup>58</sup> Marcia Valiante, *A greener grid? Canadian policies for renewable power and prospects for a national sustainable electricity strategy*, 25 J. ENVTL. L. & PRAC. 46 (2013). See further G. Bruce Doern & Monica Gattinger, *POWER SWITCH: ENERGY REGULATORY GOVERNANCE IN THE TWENTY-FIRST CENTURY* (University of Toronto Press, 2003) for a history of both Canadian energy policy with reference to the North American context. For the current push see Munson, *supra* note 26.

<sup>59</sup> Scott, *supra* note 28, at 83.

<sup>60</sup> Macdonald & Leach, *supra* note 25, at 2.

<sup>61</sup> Bruce Pardy, *Energy Visions versus Private Rights: Government Energy Strategies Game the System*, 25 J. ENVTL. L. & PRAC. 69 at 75 (2013): “Government energy visions and strategies are inconsistent with neutral, abstract rules and principles because they prescribe ends. A vision of Canada as an oil-exporting energy superpower champions oil exploration, development, production and sale. The purpose of such visions, ultimately, is to shuffle the legal deck to favour particular interests and facilitate the achievement of those outcomes.”

<sup>62</sup> Joseph Arvai, *What is a National Energy Strategy*, THE GLOBE AND MAIL, June 30, 2012, <http://www.theglobeandmail.com/commentary/what-is-a-national-energy-strategy/article4445534/>

involvement from all key stakeholders and gives each a legitimate role in addressing the tradeoffs that are key to the decisions at hand.<sup>63</sup> Essentially, an energy strategy should be a process-oriented strategy focused on engaging stakeholders, and making decisions based on evolving and current views. While Arvai proposes this approach in the context of development of a Canadian energy strategy, it is equally applicable in the context of the Great Lakes region where a lack of coherent energy strategy is clearly evident.<sup>64</sup> And indeed, the idea of stakeholder input as essential to strategy is not a new one. It is an idea that is integral to environmental management, where it is no longer accepted that an environmental technician working in isolation can exercise professional judgment on behalf of the public.<sup>65</sup> This consensus is reflected, as we shall see, in fundamental principles of international environmental law. The significance of participatory rights in environmental decision-making highlights the interconnection between environment and human rights, an area increasingly on the international agenda, and with implications for business engagement in energy and resource development.

#### *International Environmental and Human Rights Law*

The history of international environmental law is intertwined with that of Canada-United States relations, with the Trail Smelter arbitration from the 1930s serving as the oft-cited origin of the foundational “do no harm” principle.<sup>66</sup> Clearly then it is accepted at least in principle that states have an obligation to exercise due diligence to prevent transboundary environmental harm, whether air or water pollution, as well as an obligation to prevent harm to the global common areas and common concerns.<sup>67</sup> This understanding is codified in Principle 2 of the 1992 Rio Declaration,<sup>68</sup> all 27 Principles of which were re-endorsed by states in the 2012 Rio+20 outcome document *The Future We Want*.<sup>69</sup> Among the Principles of particular interest to development of a regional energy strategy are those that emphasize the importance of participatory rights in environmental decision-making. Thus Principle 10 states:

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<sup>63</sup> *Id.*

<sup>64</sup> See, e.g., Jacob Wheeler, *No Clear Path for Energy Policy in Great Lakes States* (August 20, 2012), <http://www.circleofblue.org/waternews/2012/world/no-clear-path-for-energy-policy-in-great-lakes-states/>

<sup>65</sup> See, e.g., R. Edward Freeman, *STRATEGIC MANAGEMENT – A STAKEHOLDER APPROACH* (1984); Steve Selin & Deborah Chavez, *Developing a Collaborative Model for Environmental Planning and Management*, 19 ENVIRONMENTAL MANAGEMENT 189-195 (1995).

<sup>66</sup> See generally *TRANSBOUNDARY HARM IN INTERNATIONAL LAW: LESSONS FROM THE TRAIL SMELTER ARBITRATION* (Rebecca M. Bratspies & Russell A. Miller eds., 2006).

<sup>67</sup> See generally Günther Handl, *Transboundary Impacts* and Jutta Brunnée, *Common Areas, Common Heritage, and Common Concern* in Daniel Bodansky et al., *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 531-49, 550-73 (2007); John H. Knox, *The Myth and Reality of Transboundary Impact Assessment*, 96 AM. J. INT’L L. 291 (2002).

<sup>68</sup> 1992 Rio Declaration on Environment and Development, 31 I.L.M. 876 (1992) [hereinafter *Rio Declaration*].

<sup>69</sup> *The Future We Want*, G.A. Res. 66/288, U.N. Doc. A/RES/66/288 (Sept. 11, 2012).

Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

While Principle 22 states:

Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

Principle 10 is often described as an enunciation of the three pillars of public participation rights: access to information, participation in decision-making, and access to justice. These pillars may be found in numerous instruments, with one of the most progressive articulations in the Aarhus Convention recognizing that sovereign borders should not stop the flow of information or preclude rights of transboundary participation.<sup>70</sup> In the days leading up to Rio +20, there was a movement to reinforce Principle 10, indeed, to place it at the heart of Rio +20.<sup>71</sup> Meanwhile, the rights of indigenous peoples have been elevated through the 2007 UN Declaration on the Rights of Indigenous Peoples.<sup>72</sup>

In addition to participatory environmental rights, substantive environmental human rights have increasingly been recognized within international law and domestic constitutions.<sup>73</sup> The recent appointment of Professor John Knox by the UN Human Rights Council as the Independent Expert on Human Rights and the

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<sup>70</sup> Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters, 25 June 1998, 2161 U.N.T.S. 447; see generally Jonas Ebbesson, *Public Participation* in Daniel Bodansky et al., *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 681 (2007); HUMAN RIGHTS IN NATURAL RESOURCE DEVELOPMENT (Donald Zillman et al. eds., 2002); Sara L. Seck, *Home State Responsibility and Local Communities: The Case of Global Mining*, 11 *YALE HUM. RTS. & DEV. L.J.* 177 (2008).

<sup>71</sup> Sara Mann, *Citizens Voices for Sustainable Development: Putting Principle 10 at the Heart of Rio + 20*, The Access Initiative (Jan. 13, 2012), <http://www.accessinitiative.org/blog/2012/01/citizen-voices-sustainable-development-putting-principle-10-heart-rio20>

<sup>72</sup> United Nations Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, U.N. Doc. A/RES/61/295 (Sept. 13, 2007); REFLECTIONS ON THE U.N. DECLARATION ON THE RIGHTS OF INDIGENOUS PEOPLES (Stephen Allen & Alexandra Xanthaki eds, 2011).

<sup>73</sup> John G. Merrills, *Environmental Rights* in Daniel Bodansky et al., *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 663 (2007); David Boyd, *THE ENVIRONMENTAL RIGHTS REVOLUTION: A GLOBAL STUDY OF CONSTITUTIONS, HUMAN RIGHTS AND THE ENVIRONMENT* (2012).

Environment is a sign of this trend,<sup>74</sup> although the issue was on the table at the United Nations Commission on Human Rights in its earlier work on export of hazardous wastes.<sup>75</sup> More recently, there is a movement to articulate climate harms as human rights violations,<sup>76</sup> an issue with clear implications for the conceptualization of an energy strategy. Recognition in 2010 of a human right to clean water and sanitation is also of relevance to deliberations over energy strategy in the Great Lakes region.<sup>77</sup>

Other principles of international environmental law that should inform the development of an energy strategy include the precautionary principle or approach,<sup>78</sup> the principle sustainable development,<sup>79</sup> the principle of intra-generational equity,<sup>80</sup> and the polluter pays principle.<sup>81</sup> Importantly, the principle of intergenerational equity, also known as the future generations principle, draws attention to the obligation of decision-makers today to pass the planet on to future generations in no worse if not a better condition than current generations enjoy today.<sup>82</sup>

While principles of international law are generally viewed as applicable only to states, increasingly international law is understood as having evolved to recognize a role for sub-national actors like provinces and states and non-state actors more generally.<sup>83</sup> Thus, reference to international law principles in the development of a regional Great Lakes energy strategy would be in keeping with

<sup>74</sup> *Independent Expert on Human Rights and the Environment*, <http://www.ohchr.org/EN/Issues/Environment/IEEnvironment/Pages/IEEnvironmentIndex.aspx>.

<sup>75</sup> See for example United Nations Commission on Human Rights, *Adverse Effects of the Illicit Movement and Dumping of Toxic and Dangerous Products and Wastes on the Environment of Human Rights*, UN Doc RES/2003/20, (April 22, 2003), [http://www.unhcr.ch/Huridocda/Huridoca.nsf/\(Symbol\)/E.CN.4.RES.2003.-20.En?Opendocument](http://www.unhcr.ch/Huridocda/Huridoca.nsf/(Symbol)/E.CN.4.RES.2003.-20.En?Opendocument).

<sup>76</sup> Daniel Bodansky, *Climate Change and Human Rights: Unpacking the Issues*, 38 GA. J. INT'L & COMP. L. 511 (2010); John H. Knox, *Linking Human Rights and Climate Change at the United Nations*, 33 HARV. ENVTL. L. REV. 477 (2009).

<sup>77</sup> The human right to water and sanitation, United Nations General Assembly, Sixty Fourth Session UN Doc A/64/L.63/Rev.1 and Add.1 (3 August 2012), [http://www.un.org/ga/search/view\\_doc.asp?symbol=A-/RES/64/292](http://www.un.org/ga/search/view_doc.asp?symbol=A-/RES/64/292)

<sup>78</sup> Principle 15, Rio Declaration, *supra* note 68; Jonathan B Wiener, *Precaution* in Daniel Bodansky et al., *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 597 (2007).

<sup>79</sup> Daniel McGraw & Lisa Hawke, *Sustainable Development* in Daniel Bodansky et al., *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 613 (2007).

<sup>80</sup> Principle 6, Rio Declaration, *supra* note 68; Dinah Shelton, *Equity*, in Daniel Bodansky et al., *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 642-43 (2007).

<sup>81</sup> Principle 16, Rio Declaration, *supra* note 68.

<sup>82</sup> Principle 3, Rio Declaration, *supra* note 68; Edith Brown Weiss, *IN FAIRNESS TO FUTURE GENERATIONS: INTERNATIONAL LAW, COMMON PATRIMONY AND INTERGENERATIONAL EQUITY* (1989).

<sup>83</sup> See Jeffrey Dunoff, *Levels of Environmental Governance* and Thilo Maruhn, *The Changing Role of the State* in Daniel Bodansky et al., *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* 85, 727 (2007); Austen L Parrish, *Mixed Blessings: The Great Lakes Compact and Agreement, the IJC, and International Dispute Resolution*, [2006] MICH. ST. L. REV. 1299 (2006) (regretting this development in Great Lakes context). On non-state actors see generally International Law Association, Report of the Committee on Non-State Actors, Sophia Conference (2012), <http://www.ila-hq.org/en/committees/index.cfm/cid/1023>.

the evolving nature of international law itself. Moreover, endorsement in 2011 of the United Nations Guiding Principles on Business and Human Rights has illuminated society's expectation that businesses, despite being non-state actors, should also respect human rights.<sup>84</sup> According to the Guiding Principles, all businesses should adopt human rights policies, engage in human rights due diligence to prevent or mitigate adverse human rights consequences, and provide for remedy in the event of harm.<sup>85</sup> The importance of local community human rights in natural resource exploitation has been long recognized, where consequences clearly flow from a company's loss of its social license to operate.<sup>86</sup> To the extent that energy companies participate in the development of a Great Lakes regional energy strategy, it would equally be in keeping with the evolution of international law for these companies to acknowledge the importance of these environmental human rights considerations in energy choices.

### CONCLUSIONS

In practice, what might be the implications of considering international environmental and human rights law principles in the development of a regional Great Lakes energy strategy in the Anthropocene? Foremost, these principles remind us that the development of any strategy must be an inclusive participatory process that transcends the limitations of state borders. The contemporary political borders between Canada and the United States, and those that divide provinces and states from each other are "relatively recent creations."<sup>87</sup> Indeed, "prior to contact (ca. 1534) [the Great Lakes region] was home to hundreds of thousands of Aboriginal Nations living both in direct proximity to the lakes and their watershed or regularly making seasonal use of the region."<sup>88</sup> Ensuring participation from all within the region may not be enough, however, to take seriously a shared responsibility as stewards of a globally significant fresh water resource at a time of increasing water scarcity associated with climate change. Beyond ensuring participation of divergent voices within the Great Lakes region, an enlightened process would embrace views from beyond the Great Lakes region. This would recognize the global significance of the Great Lakes, as well as the global implications of energy choices that, by degrading our "global atmospheric trust", will exacerbate climate harms in regions of the world less

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<sup>84</sup> John Ruggie, *Report of the Special Representative of the Secretary-General on the Issues of Human Rights and Transnational Corporations and Other Business Enterprises: Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, U.N. Hum. Rights Council, 17th Sess, U.N. Doc. A/HRC/17/31 (2011) [hereinafter Guiding Principles].

<sup>85</sup> Principle 15, Guiding Principles, *id.*

<sup>86</sup> HUMAN RIGHTS IN NATURAL RESOURCE DEVELOPMENT (Donald Zillman at al. eds., 2002); Rachel Davis & Daniel M Franks, *The Costs of Conflict with Local Communities in the Extractive Industry* in SRMining2011, [http://shiftproject.org/sites/default/files/Davis%20%20Franks\\_Costs%20of%20Conflict\\_SRM.pdf](http://shiftproject.org/sites/default/files/Davis%20%20Franks_Costs%20of%20Conflict_SRM.pdf).

<sup>87</sup> LINES DRAWN UPON WATER: FIRST NATIONS AND THE GREAT LAKES BORDERS AND BORDERLANDS xiv-xv (Karl S. Hele ed., 2008).

<sup>88</sup> *Id.* at xiv.



able to adapt.<sup>89</sup> Creating space for local and global voices will bring in diverse and seemingly irreconcilable points of view, yet is crucial to environmental discourse and a participatory approach to the development of an energy strategy.<sup>90</sup>

Critically, it must be accepted that the competitive advantage of businesses in region is not compromised by fully integrating environmental & social concerns in energy strategy. In fact, the long-term well-being of the Great Lakes region, including its local business, depends on this. But recognizing this imperative is no easy task, as shared understandings of the importance of long-term sustainability, and the perhaps more elusive need for resilience thinking in the face of climate change, are not yet evident. If these understandings are to develop, it will be through inclusive and multi-stakeholder processes that facilitate participation by those with the courage to voice concerns that reflect both local and global ecological consciousness.

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<sup>89</sup> On atmospheric trust litigation see <http://wcel.org/resources/environmental-law-alert/atmospheric-trust-litigation> and Mary Wood, *Atmospheric Trust Litigation Around the World* in FIDUCIARY DUTY AND THE ATMOSPHERIC TRUST (Ken Coghill et al. eds, 2012). It is not enough then, as the International Joint Commission has suggested, to focus on adaptation as global mitigation is beyond the reach the IJC. See International Joint Commission, 16<sup>th</sup> *Biennial Report on Great Lakes Water Quality* 24 (April 15, 2013), [http://www.ijc.org/files/publications/16thBE\\_internet%2020130509.pdf](http://www.ijc.org/files/publications/16thBE_internet%2020130509.pdf).

<sup>90</sup> See generally ENVIRONMENTAL DISCOURSES IN PUBLIC AND PRIVATE INTERNATIONAL LAW (Brad Jessup & Kim Rubenstein eds, 2012). See also *Part Seven, Civil Society and the Procedural Requirements of Energy Law for Sustainable Development* in Adrian J Bradbrook et al., THE LAW OF ENERGY FOR SUSTAINABLE DEVELOPMENT 521 (2005).