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Alastair R. Lucas
University of Calgary

Gregory S. Weber
Pacific McGeorge School of Law

Patricia K. Wouters
University of Dundee

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Recommended Citation

22 Pac. McGeorge Global Bus. & Dev. L.J. 135

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Symposium—Critical Intersections for Energy & Water Law: Exploring New Challenges and Opportunities

Foreword

*Alastair R. Lucas**, *Gregory S. Weber*** and *Patricia K. Wouters****

“The consequences for humanity are grave. Water scarcity threatens economic and social gains and is a potent fuel for wars and conflict.”

—Ban-Ki Moon, U.N. Secretary General.¹

“Water and energy are the critical elements of sustainable economic developmen—without access to both economies cannot grow, jobs cannot be created, and people cannot move out of poverty.”

—Dr. Allan R. Hoffman, U.S. Dept. of Energy.²

The “perfect storm” of food, energy and water shortages threatens global security in a number of complex ways, and the solutions require innovative thinking across disciplinary and sectoral boundaries.³ Three international law partners⁴ convened in Calgary (May 2009) for the conference, “Critical Intersections for Energy and Water Law: Exploring New Challenges and Opportunities,” bringing together leading experts in water and energy law to address current relevant global issues. Their papers from the conference follow. This collection examines the relevance and the role that law plays in identifying and addressing the topics currently emerging from the convergence of security concerns with water and energy issues.

* Professor and Dean, Faculty of Law, University of Calgary (Alberta, Canada).

** Professor of Law, University of the Pacific, McGeorge School of Law, (Sacramento, California, USA). Director, Pacific McGeorge Institute for Sustainable Development.

*** Professor of International Water Law and Director, University of Dundee UNESCO Centre for Water Law, Policy and Science, Scotland, UK; email: p.k.wouters@dundee.ac.uk). The Centre conducts research and runs the innovative Water Law, Water Leaders graduate teaching / training programme. www.dundee.ac.uk/water.

1. Leo Lewis, *Water Shortages are likely to be Trigger for Wars, says UN Chief Ban Ki Moon*, THE TIMES (U.K.), Dec. 4, 2007, available at <http://www.timesonline.co.uk/tol/news/world/asia/article2994650.ece>.

2. Dr. Allan R. Hoffman, Dep’t of Energy, Presentation to Roundtable on Science and Technology for Sustainability: The Linkage Between Water and Energy 10 (Sept. 24, 2009), available at <http://dels.nas.edu/sustainability/pdfs/Hoffman.pdf>.

3. According to John Beddington, the demand for energy and food will increase by 50% by 2030, while the demand for freshwater will increase by 30%. See Christine McGourty, *Global Crisis ‘to Strike by 2030’*, B.B.C. NEWS, Mar. 15, 2009, available at <http://news.bbc.co.uk/1/hi/uk/7951838.stm>.

4. University of Calgary Faculty of Law (Calgary, Alberta, Canada); University of the Pacific McGeorge School of Law (Sacramento, California, USA) and University of Dundee UNESCO Centre for Water Law, Policy and Science Dundee, Scotland, UK).

Given the complexity of the water/energy nexus and its interconnectedness with most other local and global resource issues (such as food security, climate change and poverty), the challenge has been to focus on particular problems and to determine where and how law might contribute to solutions. While lawyers consider this approach rather obvious, most other actors fail to recognise the important role that law can play in this context. This keeps innovative thinking boxed in silos. From a policy perspective, at local, national and international levels, key economic objectives, including poverty alleviation, “cannot be achieved without adequate and equitable access to resources, and the most fundamental of these are water and energy.”⁵ Current discussions under the rubric of the World Economic Forum,⁶ including the work of its Global Agenda Councils (e.g., Water Security and Energy Security), aim to highlight fundamental problems related to national, regional and global economic development. One of its recent reports, *Energy Vision Update: Thirsty Energy: Water and Energy in the 21st Century*,⁷ examined some of the interconnections between water and energy. It noted that, “concerns about energy security and climate change are not always aligned with water security and conservation.”⁸ Connecting the dots is not easy. Moreover, the way that different legal systems identify and connect the dots will inevitably impact the types of connections made. The default scenario, post-factum litigation, will almost inevitably offer a narrower and less creative range of options, accommodations and solutions than a more proactive prognostic approach that seeks to anticipate and respond to real problems and related challenges.

The work collected in this publication, and in the companion articles to be published in the *Journal of Energy & Natural Resources Law*,⁹ attempt to take this latter, anticipatory path. The reader of this volume will find articles relating to topics as diverse as California’s collaborative approach to the development of new recycled water standards, to transbasin issues arising out of hydropower development in southeast Asia’s Se San River basin. Readers of the companion

5. U.N. Educ. Scientific and Cultural Org. [UNESCO], World Water Assessment Programme, *U.N. World Water Development Report: Water for People, Water for Life*, 6 (2003), available at <http://unesdoc.unesco.org/images/0012/001295/129556e.pdf>.

6. The World Economic Forum is an independent international organization committed to improving the state of the world by engaging leaders in partnerships to shape global, regional and industry agendas. Incorporated as a foundation in 1971, and based in Geneva, Switzerland, the World Economic Forum is impartial and not-for-profit; it is tied to no political, partisan or national interests. See World Economic Forum—About Us, <http://www.weforum.org/en/about/index.htm> (last accessed Nov. 14, 2009).

7. WORLD ECONOMIC FORUM, *ENERGY VISION UPDATE 2009: THIRSTY ENERGY: WATER AND ENERGY IN THE 21ST CENTURY* (2009).

8. *Id.* at 26.

9. The *Journal of Energy & Natural Resources Law* is published by the International Bar Association’s Section on Energy, Environment, Natural Resources and Infrastructure Law (SEERIL). Additional information about the journal can be found at their website. IBA—Journal of Energy & Natural Resources Law, http://www.ibanet.org/Publications/publications_journal_of_energy_and_natural_resources_law.aspx (last accessed Nov. 13, 2009).

volume can expect to find a similar geographic and topical diversity. Areas to be explored—in multiple senses of the word—will extend from Alberta’s oilsands to India’s legal landscape. The breadth of topics covered and parts of the world explored in these collected papers demonstrate the complexities of the field and its importance across a wide swath of economies and communities.

Beneath the topical and geographic divergence sketched above lie multiple, overlapping commonalities. For example, transbasin issues are addressed in several papers. These include a paper on coalbed methane production and coal mining in the Flathead drainage basin (Ingelson); the Se San River basin hydropower paper mentioned above (Rieu-Clark); and a paper on successful negotiation of mutually beneficial agreements for international watercourses (Grzybowski, McCaffrey, Neville & Paisley.)

Complementing the last mentioned paper on a smaller scale is the description of California’s collaborative approach to water recycling (Aladjem). Why a paper on water recycling? In a state like California, where so much energy is spent on pumping water over mountains, it is far less energy intensive to reuse water already in place than to pump more in.

The California theme plays out, at least in part, in two other papers: Weissman’s description of the California Energy Commission’s exploration of the energy-water nexus, and in Craig’s paper on Desalination.

Craig’s paper, in turn, also raises the critical role that technology plays in causing and, maybe, solving some of these energy-water challenges. Callison’s paper on geothermal energy is another area where the role of technology is prominent. And technology plays an important role in the development of the hydrocarbon resources described in Ingelson’s above-described paper on coalbed methane production. The careful reader will undoubtedly find many other thematic convergences among the seemingly divergent topics addressed in this compilation of papers.

Collectively, this panorama of water/energy legal thought-pieces provides a sample of the broad range of issues that need attention through legal prisms, but within the context of real-world problems. There are many other areas where fruitful work could be done. The conference program invited prospective contributors to address topics such as:

What are the key (legal) issues in the water/energy nexus and how do they articulate at international, regional and national levels of engagement?

Within any one given nation, how well do the often separate legal regimes interact? Between nations and across political borders, how do differences in legal regimes affect investment, development and consumption decisions?

What opportunities/challenges do the laws governing one of these resources pose for the sustainable development and use of the other,

either domestically or transnationally?

Will a change in the laws governing one of these resources pose unintended consequences to the sustainable development and use of the other, either domestically or transnationally?

What opportunities exist for greater coherency or integration between legal systems, either domestically or transnationally, with a specific focus on the energy/water nexus?

What is the relevance and role of law (energy/water) within the new economic order and what specific challenges arise within this context?

The papers collected here are but a start at addressing this complex field. The conference sponsors hope that the important work begun here will continue.

By the end of the physical conference, the conference sponsors perceived a consensus among participants beginning to emerge. The Calgary consensus, arrived at through informal discussions in plenary with many of the participants at the session, appeared to coalesce around three core themes: (1) the water/energy nexus was under-studied, especially within the legal field and new thinkers needed to be at the table; (2) water must take a higher place in climate change negotiations, especially in light of the forthcoming Copenhagen meetings; (3) there was a demonstrated need for more collaboration across boundaries—disciplinary, sectoral, national, and a clear desire for broader cooperation. This collected work is a first-step in achieving some of these objectives—but there is much more that can, and should, be done.