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Energy Independence: Challenges Facing the West in Adopting Alternative and Renewable Energy Sources

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ENERGY INDEPENDENCE: CHALLENGES FACING THE WEST IN ADOPTING ALTERNATIVE AND RENEWABLE ENERGY SOURCES

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INTRODUCTION

During the 7.5 hours in which the symposium for this Law Review edition takes place, the human inhabitants of this planet will use 3 million gallons of crude oil, 94 billion cubic feet of natural gas, and 12 billion pounds of coal.[1] In the United States, this energy consumption drives our industrial sector, including food production; our transportation sector; and, quite simply, makes the very high standard of living we enjoy possible.[2] Idaho's 1.5 million residents obtain 80% of their electrical consumption from hydropower, classified as a renewable energy source by the U.S. Department of Energy.[3] Owned by Idaho Power, the Hells Canyon Complex of dams is the largest private hydropower generation complex in the United States[4] and was the focal point of national debate, resulting in an energy policy shift from public to private power in the post-World War II era.[5] Idaho also possesses substantial potential for the development of wind, solar, and geothermal power.[6] Idaho is not among the western states with vast coal, petroleum, or natural gas reserves.[7] Nevertheless, despite these individual differences, through its reliance on national and international energy sources, Idaho provides a snapshot of the larger, national view. Through its connection to the western power grid it purchases electricity from neighboring states. Idaho's petroleum supply comes primarily from refineries in Utah and Montana, and it receives natural gas via pipeline from Canada.[8] Its reliance on hydropower produced by the Snake River's dams ties Idaho's energy future to downstream states on the Columbia River simply through the continuity of the water resource.

Recognizing the importance of engagement in the national debate over energy security, the 2010 Idaho Law Review Symposium focuses on Energy Independence: Challenges Facing the West in Adopting Alternative and Renewable Energy Sources. The engaging articles in this symposium edition explore issues of particu-

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1. U.S. Dep't of Energy, U.S. Energy Information Administration: Independent Statistics and Analysis, Annual Energy Review for 2008, Report No. DOE/EIA-0384 (2008), *available at* http://tonto.eia.doe.gov/cfapps/ipdbproject/iedindex3.cfm?tid=1&pid=1&aid=2&cid=ww,&syid=2007&eyid=2008&unit=TST.

2. U.S. Dep't of Energy, U.S. Energy Information Administration: Independent Statistics and Analysis, Annual Energy Review for 2008, Report No. DOE/EIA-0384 (2008), U.S. Energy Consumption by Source, *available at* http://www.eia.doe.gov/emeu/aer/pecss_diagram.html.

3. U.S. Dep't of Energy, U.S. Energy Information Administration: Independent Statistics and Analysis, State Energy Profiles, Idaho (updated March 4, 2010), *available at* http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=ID.

4. *Id.*

5. KARL BOYD BROOKS, PUBLIC POWER, PRIVATE DAMS: THE HELLS CANYON HIGH DAM CONTROVERSY 4–5 (2006).

6. U.S. Dep't of Energy, State Energy Profiles, *supra* note 3.

7. *See id.*

8. *Id.*

lar importance to Idaho and the regions of the Pacific and Inland Northwest, including the energy grid and development of alternative energy in general and in Indian Country.

We begin this symposium edition with University of Idaho College of Law's own Dr. Jerrold Long looking at the need for integration of resource consumption issues into our plans for the built environment. As a starting point he turns to the existing process of local comprehensive plan development as a place where the vision of a sustainable low-carbon energy supply may be incorporated into our choices for building and transportation, providing a path toward sustainable communities and, thus, sustainable energy use.

Next, we turn to a discussion of electric transmission. James Holtkamp of Holland & Hart LLP surveys the requirements for electrical transmission line siting in eight western states, offering recommendations on how to improve the process. Idaho is served primarily by the ColumbiaGrid and the Northern Tier Transmission Group.[9] Through physical intertie and coordination these grids are "closely integrated" into the overall Western grid.[10] This integration is of particular importance due to its high levels of reliance on hydro and wind power. Both have a natural component of variable supply. In particular, wind can be highly variable over a short time period. Because hydropower is easily ramped up and down and variable on a longer time scale than wind, it can be used for balancing.[11] However, the ability to balance is dependent on transmission capacity and flexibility.[12] Thus, as wind generation increases, the need for integration in transmission will increase. In addition, both wind and geothermal energy are geographically constrained. Their potential exists where nature determines, not where humans seek to build a power plant for transmission convenience. With construction costs as high as two to three million dollars per mile,[13] transmission siting issues must be addressed upfront.

President Barack Obama's January 27, 2010, State of the Union Address called for "building a new generation of safe, clean nuclear power plants in this country." [14] Development of additional nuclear power in the United States slowed substantially following the initial interest in its potential due to concerns with safety and establishment of a permanent site for storage of waste. Number one on the list of potential sites has been Nevada's Yucca Mountain. On February 15, 2002, President George Bush approved "the Department of Energy's recommendation of Yucca Mountain, Nevada, for underground disposal of used nuclear fuel from nuclear power plants and high-level waste from U.S. defense programs."[15] On January 29, 2010, President Obama established the Blue Ribbon Commission on America's Nuclear Future, charged with a "comprehensive review of polices for managing the back end of the nuclear fuel cycle, including all alternatives for the storage,

9. Northwest Power and Conservation Council, Draft Sixth North West Power Plan 7-2, Feb. 2010, *available at* http://www.nwcouncil.org/energy/powerplan/6/default.htm.

10. *Id.*

11. *Id.* 12-5 to -7.

12. *Id.*

13. *Id.* 7-5.

14. President Barack Obama, State of the Union Address (Jan. 27, 2010), *available at* http://www.whitehouse.gov/the-press-office/remarks-president-state-union-address.

15. Press Release, Nuclear Energy Institute, President Bush OKs Recommendation of Yucca Mountain as Disposal Site for Nuclear Material (Feb. 15, 2002), *available at* http://www.nei.org /newsandevents/bushoksrecommendation/.

processing, and disposal of civilian and defense used nuclear fuel, high-level waste, and materials derived from nuclear activities."[16] Then on March 3, 2010, the U.S. Department of Energy filed a motion with the Nuclear Regulatory Commission "to withdraw its pending license application for a permanent geologic repository at Yucca Mountain."[17] Symposium edition author Marta Adams, in her capacity as Senior Deputy Attorney General for Nevada, led Nevada's legal battle to prevent establishment of the repository at Yucca Mountain. Her article provides an overview of nuclear waste regulation in the context of Nevada's long battle, providing insight for states that may face the next round of efforts to identify a site.

The edition then discusses other sources of low or non-carbon energy. First, it is useful to understand the overall planning process in which these sources are being pursued. The Northwest Power and Conservation Council, established by the Northwest Power Act of 1980,[18] is composed of political appointees from the four member states: Idaho, Montana, Oregon, and Washington.[19] The Council is charged with, among other things, developing a power plan for the region.[20] It does so in twenty year cycles and recently released a draft sixth power plan for the period 2010 to 2030.[21] Based on an assumption of growth in the region, the plan basis demands projections on a population "increase from 12.7 million in 2007 to 16.7 million by 2030."[22] The draft plan predicts that with aggressive conservation through improvement in use and transmission efficiency,[23] new demand can be met with limited new generation from low carbon sources such as wind and natural gas combined-cycle plants and other small sources such as bioresidue, geothermal, and upgraded hydropower.[24] Already wind generation is increasing. Bonneville Power now has 2800 megawatts installed capacity and predicts it may rise to 6000 by 2013.[25] With the possibility that the plan will be adopted, legal impediments and incentives to the development of alternative energy sources must be understood. The remaining articles address those issues and the path to sustainability.

Elizabeth Kronk, Professor at the University of Montana School of Law, looks at the high potential for development of wind and solar energy in Indian Country and identifies the inability to utilize federal tax incentives and the remote locations of reservations with respect to transmission lines as impediments to realization of this full potential. Lincoln Davies and Amy Wildermuth, both faculty at

16. Advisory Committee Charter, U.S. Dep't of Energy, Blue Ribbon Commission on America's Nuclear Future 1 (March 1, 2010), *available at* http://www.energy.gov/news/documents/BRC_Charter.pdf.

17. *In re* U.S. Dep't of Energy (High-Level Waste Repository), Nuclear Regulatory Commission: Atomic Safety and Licensing Board Petition No. 09-892-HLW-CAB04, Docket No. 63-001 at 1, (March 3, 2010) *available at* http://www.energy.gov/news/documents/DOE_Motion_to_Withdraw.pdf.

18. Pacific Northwest Electric Power Planning and Conservation Act of 1980, 16 U.S.C. § 839 (2006).

19. *Id.* § 839b(a)(2)(B).

20. *Id.* § 839b(a)(1).

21. Draft Sixth North West Power Plan, *supra* note 9. It should be noted that although all states agreed to the release of the draft for comment purposes, release does not mean all four states agree on the content of the plan.

22. *Id.* at 2-1.

23. *See id.* at 4-1.

24. *Id.* at 6-2.

25. *Id.* at 12-11.

the University of Utah College of Law, provide companion articles analyzing the intersection between energy and environmental law, seeking ways in which the combination of the two might be used or altered to encourage development of alternative energy. The edition concludes with Hadassah Reimer and Sandra Snodgrass of Holland & Hart LLP examining the protected-species issues implicated in green energy development and expansion.

This symposium is a tribute to the hard work of its editors and coordinators, Katherine Murdock and Graham Cease, and their colleagues, and the continued dedication of the University of Idaho College of Law to serving the state of Idaho and the regions of the Pacific and Inland Northwest.