Policy Agenda Connecting Energy, Climate and Water: Working Within the Prior Appropriation System

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Many, if not all, governmental entities today are facing tough and controversial questions involving energy demand and consumption. In the western United States, these energy questions are often inextricably linked to water resource availability and demand issues. With increased population and development pressure the challenges involving energy and water are likely to increase. Moreover, as the impacts from changes to climate and weather patterns increase various areas of the country will see changes to precipitation patterns, increased drought cycles, increased storm events and/or changes to snow pack and spring melt, among other hydrologic changes. Unfortunately, the laws and policies that deal with energy and those that address water policy have developed as independent and separate bodies of authority. Often various pieces of the applicable law and policy reside at different jurisdictional levels of government – the municipal land use board may have authority to approve or disapprove a new housing development, but the state government has the authority to grant or deny water rights associated with the development and the federal government may ultimately run the reservoir system that could provide the water or energy needed to support the development. Both within and among most jurisdictions the connections between energy and water policy are absent.

In 2005, Congress provided $500,000 in the Consolidated Appropriations Act (H.R. 4818) for a report on the interdependency of energy and water. In 2006, the Environmental and Energy Study Institute in Washington DC sponsored a congressional briefing entitled "Understanding the Energy-Water-Climate Nexus: Implications for Policy." This briefing offered members of Congress information on the connections between the continued security and economic health of the United States and the presence of a sustainable supply of energy and water. The presenters recognized that water and energy needs are inextricably linked. The production of energy requires large volumes of water and the treatment and distribution of water requires large quantities of energy. For example, "electricity production requires approximately 136 billion gallons of freshwater per day, accounting for over 40% of all daily freshwater withdrawals in the

nation."[1] On the energy side, in 2000 the "United States used 123 billion kilowatt-hours to supply water and great waste water, just under 4% of total electricity sales."[2]

In this presentation, I hope to provide several examples of the important connections between energy and water policy and encourage national, state, municipal and local governments to begin to coordinate the exercise of their various authorities. Not only will elected leaders and policy makers benefit from making connections between energy, land-use and water policy at their jurisdictional level, but they will also be well served from efforts to integrate energy and water policy through the various levels of local, state and national government. By way of specific example, I will examine the doctrine of prior appropriation, particularly the provisions found in the Oregon water code, to investigate the places where existing water law can incorporate and address questions of energy efficiency and land-use. I will conclude by offering some specific water policy ideas that state water agencies, particularly those in the western United States, may want to explore.

The significance of the relationship between energy and water policy comes into clear focus as governments face the challenges of adopting new policies to address climate change. As we adapt to the inevitable changes that our cities, towns, states and communities will face in coming decades, it is extremely important to look at *how* we adapt.[3] If we are not careful about *how we adapt*, we may inadvertently and with good intentions, compound the very problems we set out to address. For example, assume that increases in average annual temperatures, caused by warming of the atmosphere, result in increased water evaporation from reservoirs, lakes and other water supplies. In response to water shortages, governmental entities turn to proposals to desalinate seawater. Using existing technology the desalinization of seawater requires huge quantities of energy, currently generated primarily through the burning of fossil fuels.[4] Burning more fossil fuel increases the carbon emitted into the atmosphere and exacerbates the warming cycle in the atmosphere. As a result, a decision made regarding water policy has enormous impacts on energy policy and only contributes to the source of the initial problem. Another example can be found in looking at proposed alternatives to fossil fuel usage. If policy makers determine that ethanol is the best alternative to carbon-based fuels, the impact on water resources should be consider. Corn, the source of ethanol, and the process used to convert corn to ethanol is water intensive.[5] If increased corn production is proposed in areas of the country that already face water shortage concerns, then again,

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[1] Environmental and Energy Study Institute, Briefing Announcement, Wednesday, September 13, 2007.
[2] *Id*.
[3] Mathew D. Zinn, *Adapting to Climate Change: Environmental Law in a Warmer World*, 34 Ecology Law Quarterly 61.
[4] Peter H. Gleick, *The World's Water 2006-2007: The Biennial Report on Freshwater Resources*, 69.
[5] Andy Aden, National Renewable Energy Laboratory, *Water Usage for Current and Future Ethanol Production*, Southwest Hydrology, September/October 2007, 22-23.

the lack of understanding the relationship between energy and water policy may exacerbate the problem we set out to solve.

Ultimately, the goal is to ensure in the face of climate change and increased demand on our natural resources that we make our communities and ecosystems resilient and able to deal with change. A recent summary issued by the IPCC states, "non-climate stresses can increase vulnerability to climate change by reducing resilience and can also reduce adaptive capacity because of resource deployment to competing needs."[6] Ironically perhaps, making communities resilient to climate change often looks very similar to good conservation practices. For example, maintaining intact flood plains and functional watersheds, promoting efficient energy use, conducting comprehensive land use planning and establishing urban growth boundaries to concentrate population centers all help make communities more resilient. By making the connections between water, land-use development and energy policy, policy makers can ensure that they are doing their part of help communities be prepared to deal with change. As we face the challenges of increased demand on natural resources, decision-makers must also considered the ethical and moral dimensions of increased demand. All too often the greatest impact fall on disenfranchised and lower income segments of the population. Good adaptation and resiliency strategies will account for the need to allocate and share natural resources among all the members of our communities.

Climate Change Impacts on Water Resources

Increasingly, governmental leaders are recognizing that climate change is not an environmental issue, but a risk management problem for many communities. As a result, many state water agencies and local land use boards are beginning to grapple with difficult questions about water availability and precipitation patterns. The IPCC in 2001 stated that "increases in atmospheric temperatures accelerate the rate of evaporation and demand for cooling water in human settlements, thereby increasing overall water demand while simultaneously either increasing or decreasing water supplies (depending on whether precipitation increases or decreases and whether additional supply, if any, can be captured or simply runs off and is lost)."[7]

Regardless of whether policy makers believe that changes to water availability are related to climate change, increased pressures on freshwater supplies throughout the United States is well documented. This increase in pressure on freshwater supply has also emerged in the eastern United States with major metropolitan areas like Atlanta facing the real potential of draining existing drinking water supply. Moreover, the upswing in interstate water conflicts, long common in the western United States, indicates pressure

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[6] IPCC, WGII, *Climate Change 2007:Impacts, Adaptation and Vulnerability*, 4th Assessment Report, http://www.ipcc.wg2.org/index.html at 427,

[7] Intergovernmental Panel on Climate Change, Working Group 1 (2001), *Climate Change 2001 Synthesis Report, Summary for Policymakers: An Assessment of the Intergovernmental Panel on Climate Change*, 3rd Assessment Report, Geneva, Switzerland.

on eastern states to address water availability for their populations. In the western United States, the increase in proposals to transfer rural water supplies toward population centers provides additional evidence of the pressure on our freshwater resources. In many areas of the western United States the availability of freshwater is the primary constraint of future development. Pat Mulroy, head of the Southern Nevada Water Authority, has indicated that one of the primary limiting factors for the continued growth of Las Vegas and the southern Nevada is the availability of water.[8]

While scientists have done a relatively complete job in modeling temperature changes that we are likely to see as a result of climate change, data that extrapolates precipitation predictions from the temperature models is still under development. To the extent that precipitation data has been generated and modeled, the changes in hydrology due to a warming atmosphere are quite variable. Some areas will see increases in the precipitation; some areas will see decreases; some annual precipitation amount will remain the same, but the water will come in differing patterns. Many predict increases in major storm events that may overwhelm reservoir capacity, increased evaporation due to higher temperatures and early snow pack melt in mountainous states. Some models predict that the greatest impact will be at the 4000-foot elevation and above watersheds and the lower elevation communities that rely on those watersheds to supply their drinking and agricultural water. Many of the impacts will be felt first on those entities that manage reservoirs, hydropower producers, and irrigation and drinking water suppliers.

A recent study of water and energy use in California provides a powerful example of the connections between water, climate and energy policy. In response to the need to reduce carbon releases into the atmosphere, Assembly Bill 32 in California set ambitious carbon reduction targets for the state.[9] The California Energy Commission conducted a study looking at energy use throughout the state and discovered that nearly 20% of the energy consumed in the state is used to treat, transport and deliver water. "Peter Gleick from the Pacific Institute for Studies in Development, Environment and Security, testified [before the California Water Resource Agencies] that according the California Energy Commission, reductions in energy consumption by water programs would result in almost identical energy savings as the energy efficiency program identified by the Public Utilities Commission, but at about half the cost."[10] With the energy cost associated with water usage reaching nearly 20%, the question is whether California can hope to meet its ambitious carbon targets without addressing the use of energy to transport, treat and deliver water. In fact, Senate Bill 820 adopted in both Houses of the California legislature in 2005, but ultimately vetoed, "would have required urban water management

[8] *Lake Mead Could Be Within a Few Years of Going Dry, Study Finds,* New York Times, February 13, 2008; *The Future is Drying Up*, New York Times Magazine, October 21, 2007.
[9] See, 11 Western Water Law and Policy Reporter 11, 307.
[10] *Id.*

plans to include information about the amount of energy produced and consumed by current and future water sources" and an analysis of energy-related coasts and benefits.[11]

The Burdens and Benefits of Prior Appropriation

In order to make sound decisions regarding water policy, energy considerations needs to be taken into account and vice versa. Fortunately, western water law in particular, may offer some tools for addressing energy and efficiency issues in the context of existing water law. Prior appropriation, the common structure of water codes in the seventeen western states, has long been criticized as being an antiquated system that protects older and often inefficient uses of water. The *first-in-time, first-in-right* principle in prior appropriation ensures that older uses, that may not be the best use of water in current times, must be fully satisfied before newer uses can be met. The prior appropriation system has been described as rigid and lacking the necessary flexibility to respond to current water management needs because the priority system essentially locks in time and place the use of water. Transfers of water rights are allowed but the process allows existing users to protest the transfer of water and claim harm. The burden of providing that a transferred use does not harm other existing users usually falls on the party requesting the transfer. Prior appropriation is also criticized as creating incentives to waste water as a *use-or-loose* system. If a user fails to use water, she risks losing her right under principles of abandonment and forfeiture. Thus, regardless of whether a permitted water user needs all the water secured by her water rights, she is likely to divert the full amount to protect against claims that she has not fully used her right. Moreover, prior appropriation law, in most states, lacks a mechanism for re-evaluating water uses outside the formal water transfer process. Thus, the state water agency usually has very limited, or non-existent, authority to reconsider water use. Water dedicated to particular use in 1910, even though that use may not be of high public value in 2008 is protected under prior appropriation because water rights are permitted in perpetuity. Provided a water right holder continues to use the water for the established purpose, the state has little authority to shift water use. The appropriative system contrasts with the time-limited permits common in regulated riparian jurisdictions in the eastern United States. As a result, prior appropriation affords little opportunity for the state water agency to reevaluate decisions about the appropriate use of water and often creates expectations of private property interests in water among users.

All that said, the western system of prior appropriation may inherently embody concepts that would allow state and local governments to address energy and efficiency issues within the context of the existing legal structure. First, prior appropriation is build on the principles of shortage as expressed in the priority system. Thus, water users in western states are more accustomed to the idea that there may not be enough water to satisfy all uses in a given year. Prior appropriation may use the wrong factors – *first in time* and *use or loose* – to determine which uses are satisfied, but at least the notion of limited water supply is embedded in the foundation of the doctrine. Second, water use in prior appropriation states is premised on putting water to "beneficial use." Each western state

[11] *Id.*

defines what uses constitute a beneficial use of water. Over the years, states have made modifications to the definition of beneficial use and as a result, there may be some inherent flexibility, given the necessary political will, to make modifications to the definition of beneficial use to address the efficiency or amount of energy consumption associated with particular uses. Third, nearly every western state requires a public interest review as part of approving new water rights. The public interest review process, both when granting new water rights and when consider applications for transfers of water rights, may be a place in the existing water code to address questions of energy consumption and efficiency of water use.

To examine these particular provisions of prior appropriation law in more detail, the next section looks in detail at the Oregon water code[12] and how the provisions contained therein might be used to address energy and climate policy.

A Closer Look at Prior Appropriation in the Western United States – The Oregon Experience

Oregon's water code follows the prior appropriation doctrine, which provides an administrative answer to questions of priority. The system is based on the idea that waters of the state belong to the public, and the state may vest in people the right to use water by granting a water right permit.[13] Prior appropriation functions as a first-in-time, first-in-right priority system. Under this system senior uses take priority over junior uses of water. Thus, the priority date associated with a particular water use is extremely important. In principle, a senior user takes their full right before a junior user receives any water. Prior appropriation is also based on principles of beneficial use. A water user cannot secure a water right unless the use is deemed beneficial, and conducted without waste. Finally, prior appropriation operates on a use or lose system. So, if a water user fails to put water to beneficial use, the user may forfeit or abandon their right due to non-use. The water code is codified in various sections of OR. REV. STAT. Chapters 536, 537, 538, and 540.

Prior to 1909, water rights were recognized through the common law, which generally followed principles of prior appropriation. When the Oregon legislature enacted the water code in 1909, the code's provisions pertained only to surface waters, not groundwater. Starting in 1927 the state required permits to use groundwater east of the Cascades, but the Oregon Legislature did not enact a statewide groundwater permitting

[12] Much of the information contained in this section is part of a larger study of freshwater conservation in Oregon that I recently completed for The Nature Conservancy in Oregon. The project was made possible with generous financial support from the Laird Norton Foundation and The Nature Conservancy. Copies of the report can be obtained directly from The Nature Conservancy by contacting Leslie Bach, lbach@tnc.org or emailing me at aamos@uoregon.edu.

[13] OR. REV. STAT. §537.110 (2005).

code until 1955.[14] The code, known as the "Ground Water Act of 1955," is codified at OR. REV. STAT. §537.505-537.795 and 537.992.

An appointed Commission in Oregon sets rules and policies regulating water permitting and the Department of Water Resources carries out those rules and issues the actual permits. OR. REV. STAT. §§537.130 to 537.220 govern surface water permitting, while OR. REV. STAT. §§537.615 to 537.635 govern groundwater permitting. Both provisions entail a seven-step process consisting of: (1) filing the Department's "Application for a Permit to Use [Surface or Ground] Water"; (2) a determination of whether the application is complete and whether the proposed use is prohibited by statute; (3) an initial review to determine whether water is available and whether the proposed use is restricted or limited by statute; (4) public notice of the application and a thirty-day comment period; (5) a proposed final order explaining the proposed decision to approve or deny the application; (6) another public notice with a 45 day period for the filing of a protest or standing statement; and (7) a final order approving, rejecting, or approving with modifications the proposed final order.[15] Although the process for surface and groundwater permitting is similar, the Department uses different standards of review when considering the important public interest aspect of surface and groundwater permitting.

In Oregon today, virtually all of the surface water has been appropriated. Thus, to meet changing and increasing water demands, parties will necessarily rely more heavily on the water rights transfer process. If a right holder wishes to use water for a purpose other than what is stated in the water right, use the water in a different location, or divert the water from a different spot, the right holder must file a transfer application with the Department.[16] A surface water user may also transfer her point of diversion to appropriate groundwater.[17] Only certain rights may be transferred, namely those that:

- Have been adjudicated and have received a court decree;
- Have received a water right certificate;
- Have a permit for which a request for issuance of a water right certificate has been received and approved; or

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[14] OR. REV. STAT. §537.505.

[15] Water Resources Department, Water Use Permit Application Procedures and Review.

[16] OR. REV. STAT. §540.520(1). OR. REV. STAT. Chapter 540 codifies the requirements and process for transferring a water right. A water right holder may apply for a permanent or temporary transfer. The Department will grant a temporary transfer for a period no longer than five years. OR. ADMIN. R. §690-380-2000 (2007); OR. REV. STAT. §§ 540.520-.523 (2007).

[17] OR. REV. STAT. §540.531 (2007). However, the Department must find that: (1) the aquifer is hydraulically connected to the surface water, (2) the change will not result in enlargement or injury to existing water rights, (3) the change will affect the surface water the same as the authorized use, and (4) the proposed groundwater use is located within 500 feet of the surface water, and when the surface water is a stream, is also located within 1,000 feet upstream or downstream of the original point of diversion. OR. REV. STAT. §540.531(2)(a)(A)-(D) (2007).

- The Department has approved a previous a transfer for and satisfactory proof of completion has been filed with the Commission.[18]

The application for a transfer must include: the applicant's name, mailing address, and telephone number; how the water was previously used; a description of the premises where the water is used; a description of the premises where the application proposes to use the water; the water's proposed use; the reasons for making the proposed change; and evidence that the water has been used over the past five years, such that it is not subject to forfeiture. [19] Furthermore, if the applicant is filing for a change in the point of diversion, the right holder must provide a proper fish screen at the new point of diversion if requested by the Department of Fish and Wildlife.[20] For a temporary transfer, the Commission may require the applicant to include any other information that may be required by rule.[21]

After an applicant has filed for a transfer, the Department must publish a public notice in a local newspaper for three weeks.[22] After the final notification, a thirty-day protest period begins.[23] During this time any person may file a protest with the Department.[24] Essentially, any filing that shows a relationship to the water source and contains the appropriate fee constitutes a protest. A protest triggers in the contested case process.[25] Following the opportunity for protest, and contested case hearing if applicable, there is a three-month appeals period, after which the transfer order may not be challenged.[26]

The Department's criteria for a transfer application differ from its criteria for a new permit application. For example, during the transfer process, the Department does not conduct a water availability analysis.[27] Also, except for analyzing injury to existing water rights and checking for compliance with statewide planning goals, the Department does not conduct a full public interest review during the transfer process.[28] The Department is mainly concerned if the transfer will result in enlargement or injury to

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[18] OR. REV. STAT. §540.505(4) (2007).
[19] OR. REV. STAT. §540.520(2)(a)-(g) (2006); *See also* OR. ADMIN. R. §690-380-3000(1-25) (2007).
[20] OR. REV. STAT. §540.525 (2007); OR. ADMIN. R. §690-380-5060 (2007).
[21] OR. REV. STAT. §540.523(1)(d) (2007).
[22] OR. REV. STAT. §540.520(5) (2007).
[23] OR. REV. STAT. §540.520(6) (2007).
[24] OR. REV. STAT. §540.520 (6) (2007).
[25] *Id*. Interview with OWRD, November 2007. See also, OR. REV. STAT. §537.110 (2006).
[26] Kerivan v. Water Resources Commission, 188 Or.App. 491, 495; 72 p.3d 659, 663 (2003)
[27] *See, e.g.*, OR. REV. STAT. §§540.505–560 (2007); OR. ADMIN. R. §690 Division 380 (2007); Rick Bastach, THE OREGON WATER HANDBOOK 136 (Rev. ed.) (2006).
[28] *See* section 2 for the public interest analysis of new permit applications. *See, e.g.*, OR. REV. STAT. §§540.505-560 (2007); OR. ADMIN. R. §690 Division 380 (2007); Rick Bastach, THE OREGON WATER HANDBOOK 136 (Rev. ed.) (2006).

existing rights.[29] The instream transfer procedure includes the same application process as other transfers, but the Department evaluates the application with additional criteria.[30] For instance, the Department considers the return flows of the original right, the amount and timing of the proposed instream right, and the proposed reach.[31]

The transfer process becomes extremely important as the state looks to moving uses of water to those that are more critical or in higher demand in the state. Because there is very little unused or unaccounted for water left to allocate, the primary tool for shifting water use toward conservation and emerging consumptive needs will be the transfer process. As part of the transfer process, the Department must evaluate whether existing rights will be injured. The contours and factors in the injury analysis are critical because this will determine whether water is locked into established existing uses, or can be transferred to more efficient or higher demand current uses.

In nearly every western state the water rights appropriation process includes a public interest review. These reviews are a recognition that the entire public is impacted when private appropriations of water are granted and that the State, as the trustee for the water resources of the state, carries an obligation to evaluate the appropriations in light of the overall public interest.

In Oregon, when the Water Resources Department is determining whether or not to issue a water right permit, the public interest review functions as perhaps the most critical finding and encompasses many of the other findings required by the water code. For a surface water right, the Department will presume that a proposed surface water use preserves the public interest if: (1) the use is allowed in the applicable basin program[32] or is statutorily preferred;[33] (2) if water is available; (3) if the use will not injure other water

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[29] Interview with Bob Rice, Water Resources Department, March 4, 2008. *See also* OR. ADMIN. R. §690-380-4010(2)(c)-(d) (2007). In point of diversion transfers, the holders of the injured water rights can consent to the proposed change. The Department must get a consenting affidavit from every holder of the injured water right. OR. ADMIN. R. §690-380-5030 (2007). If the proposed transfer will injure an instream right, the Department may consent to its injury only if it receives a recommendation from the agency that requested the instream right. OR. ADMIN. R. §690-380-5050 (2007).

[30] OR. ADMIN. R. §690-077-0075(1)-(5) (2007). For a further discussion of instream right transfers, see section 4.3.

[31] OR. ADMIN. R. §690-077-0075(2)(a) (2007).

[32] Basin programs are established pursuant to OR. REV. STAT. §536.300 and 536.340 and governed by OR. ADMIN. R. §690.500 to 690.520. The Water Resources Commission has adopted basin programs for the following basins: North Coast Basin; Willamette Basin; Sandy Basin; Hood Basin; Deschutes Basin; John Day Basin; Umatilla Basin; Grand Ronde Basin; Powder Basin; Malheur—Owyhee Basins; Goose and Summer Lakes Basin; Rogue Basin; Umpqua Basin; South Coast Basin; Mid Coast Basin; Columbia River; Middle Snake River Basin. OR. ADMIN. R. §690.500 to 690.520.

[33] OR. REV. STAT. §536.310(12).

rights; and (4) if the use complies with Water Resources Commission rules.[34] The presumption is rebuttable, however, and may be overcome upon either the Department's finding that one or more of the criteria for establishing the presumption is absent, or that public comments, a protest, or a Department finding specifically show, by a preponderance of evidence, an aspect of the public interest that the proposed use would impair.[35]

Before 1995, the Department or Commission[36] did not presume that a proposed use was within the public interest.[37] Instead, the Commission was required to consider whether the proposed use impaired the public interest.[38] The change was due to the 1995 water-focused Oregon legislature that passed 60 water-related bills.[39] In particular, Senate Bill 674 was the changing force of the public interest standard.[40] Before the bill was passed, the Commission considered seven factors to determine whether the proposed use would impair the public interest.[41] Following the state's enactment of SB 674, the Department now applies these seven factors only if the presumption of public interest is rebutted.[42] Clearly, SB 674 shifted the burden of proof from the new appropriator to the protestor. Before its passage, a new applicant had to prove that the proposed use would not hinder the public interest.[43] Now, the burden is on the protestor who believes the proposed use

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[34] OR. REV. STAT. §537.621(2).
[35] OR. REV. STAT. §537.621(2); OR. REV. STAT. §537.153(2).
[36] The law changed over the years as to which agency, the Commission or Department, conducted the public interest analysis.
[37] OR. REV. STAT. §537.170 (1993), *amended by* S.B. 674, 68th Leg.,1995. *See also,* Gail L. Achterman, Peter D. Mostow, *Senate Bill 674: Increasing the Flow Rate of Oregon's Water Rights Permitting Process*, 32 WILLAMETTE L. REV. 187 (1996).
[38] 41 Or. Op. Att'y Gen. 61 *2 (1980). The attorney general wrote, "the [D]irector must determine whether the proposed application prejudicially affects the public interest."
[39] *See*, Gail L. Achterman, Peter D. Mostow, *Senate Bill 674: Increasing the Flow Rate of Oregon's Water Rights Permitting Process*, 32 WILLAMETTE L. REV. 187 (1996).
[40] 68th Leg., 1995 Or. Laws 416 (codified at OR. REV. STAT § § 537.170,173 (1995); *See*, Gail L. Achterman, Peter D. Mostow, *Senate Bill 674: Increasing the Flow Rate of Oregon's Water Rights Permitting Process*, 32 WILLAMETTE L. REV. 187 (1996).
[41] OR. REV. STAT. §537.170(5) (1993), *amended by* S.B. 674, 68th Leg.,1995 Or. Laws 416 § 13(8) (codified at OR. REV. STAT. §537.170(8) (1995)). The seven factors are: "(1) conservation of the highest use of the water for all purposes, (2) maximum economic development, (3) control of water for all beneficial purposes, (4) water availability, (5) prevention of waste, (6) existing water rights, and (7) the state water resources policy." Gail L. Achterman, Peter D. Mostow, *Senate Bill 674: Increasing the Flow Rate of Oregon's Water Rights Permitting Process*, 32 WILLAMETTE L. REV. 187, 209 (1996).
[42] Gail L. Achterman, Peter D. Mostow, *Senate Bill 674: Increasing the Flow Rate of Oregon's Water Rights Permitting Process*, 32 WILLAMETTE L. REV. 187, 209 (1996).
[43] OR. REV. STAT. §537.170 (1993), *amended by* S.B. 674, 68th Leg.,1995. "[i]f in the judgment of the Water Resources Commission, the proposed use may prejudicially affect the public interest…the commission shall hold a public hearing."

is detrimental to the public interest.[44] Arguably, SB 674 also changed the state's water allocation focus. Pre-1995, the state's focus was on protecting the public interest; and post-1995 it is on getting people their water.[45]

The public interest review is, at least in theory,[46] stricter for groundwater permits than for surface water permits because the statutory language contains an affirmative obligation not present in the surface water provisions.[47] When reviewing an application for surface water withdrawal, the Department must consider whether the proposed use would impair the public interest employing the presumption in favor of finding the public interest has been satisfied.[48] In contrast, when reviewing a groundwater application the Department must affirmatively show that the proposed withdrawal will preserve the public welfare,

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[44] OR. REV. STAT. §537.153(2)(b)(A)-(B) (2005). The burden of proof is a preponderance of the evidence.

[45] Also, one of the motivations to pass SB 674 was to speed up the process of the water right permitting process. Gail L. Achterman, Peter D. Mostow, *Senate Bill 674: Increasing the Flow Rate of Oregon's Water Rights Permitting Process*, 32 WILLAMETTE L. REV. 187, 196-7 (1996).

[46] Bastach 75. Rick Bastasch writes that, in practice, the stricter standard has not been applied. *Id.* (Citing Chapin Clark, Survey of Oregon's Water Laws, Oregon State University Water Resources Research Institute, WRRI 18 Corvallis: Oregon Law Institute). OR. REV. STAT. §537.621(2) is worded in the affirmative and provides that the Department must determine "whether the proposed use will ensure the preservation of the public welfare, safety and health." Bastasch recognizes that in practice the standard has not been applied in more stringent manner. Some commentators actually observe less scrutiny applied to groundwater applications and note that in a situation where the Department has no information regarding the public interest the Department simply grants the permit.

[47] The statute regarding groundwater reads:

> [T]he department *shall determine whether the proposed use will ensure* the preservation of the public welfare, safety and health. . . .[t]he department shall presume that a proposed use will ensure the preservation of public, welfare, safety and health if. . .[same criteria as surface water provision]. OR. REV. STAT. §537.621(2).

The statute regarding surface water contains no language like the italicized language above, but rather moves directly to the presumption, reading:

> [The] department shall presume that a proposed use will not impair or be detrimental to the public interest if the proposed use is. . . [allowed in the basin program; water is available; use causes not injury; and use complies with rules of Water Resources Commission]. OR. REV. STAT.§537.153(2).

[48] OR. REV. STAT. §537.153(3)(e). "The proposed final order shall cite findings of fact and conclusions of law and shall include . . . An assessment of whether the proposed use would impair or be detrimental to the public interest."

safety, and health.[49] This stricter standard of review, in theory, could make the burden on a groundwater applicant greater than the burden on a surface water applicant. In practice, however, parties indicate no difference in the burdens between groundwater and surface water applications.

Once the Department determines that the application meets the presumption of public interest preservation, the Department evaluates any comments received, information available in its files or received from other interested agencies to determine if the presumption is overcome.[50] The presumption may be overcome and the permit denied if a preponderance of evidence shows that the proposed use will not preserve the public interest.[51] In making this determination, the Department may consult with state and federal agencies and local governments and must consider at least the following factors: water use efficiency and avoiding waste; threatened, endangered, or sensitive species; water quality; fish or wildlife; recreation; economic development; local comprehensive plans (including supporting provisions such as public facilities plans); and, for groundwater sources, stability of groundwater levels; and thermal characteristics of the groundwater source.[52]

If the Department finds that the presumption has not been overcome by a preponderance of the evidence, the Department will issue a proposed final order recommending that the permit be issued subject to any appropriate modifications or conditions.[53] If the presumption is not satisfied, the Department's proposed final order will deny the application.[54]

One of the policies under the "water allocation" section of the statewide water regulations notes that when allocating water for new uses (i.e. surface or groundwater permitting), the Commission shall assure that the new use complies with statewide planning goals and local comprehensive plans.[55] This policy is expanded upon in OR. ADMIN. R. §690-005-0020, which recognizes that land use and water management are integrally related.[56] The regulation also states that the Commission places a "high priority" on complying with

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[49] OR. REV. STAT. §537.621(2). "In reviewing the application . . . the department shall determine whether the proposed use will ensure the preservation of the public welfare, safety, and health."
[50] OR. ADMIN. R. §690-310-0140(3)(a) (groundwater); OR. ADMIN. R. §690-310-0120(3) (surface water).
[51] OR. ADMIN. R. §690-310-0140(3)(a) (groundwater); OR. ADMIN. R. §690-310-0120(3)(a) (surface water).
[52] OR. ADMIN. R. §690-310-0140(3)(b)-(c) (groundwater); OR. ADMIN. R. §690-310-0120(3)(b)-(c) (surface water).
[53] OR. ADMIN. R. §690-310-0140(4) (groundwater); OR. ADMIN. R. §690-310-0120(4) (surface water).
[54] OR. ADMIN. R. §690-310-0140(5) (groundwater); OR. ADMIN. R. §690-310-0120(5) (surface water).
[55] OR. ADMIN. R. §690-410-0070(2)(i).
[56] OR. ADMIN. R. §690-005-0020(1).

statewide planning goals and comprehensive plans.[57] Again, in order to find that the public interest is preserved, the Department must determine whether the new right is consistent with these plans. From a practical perspective, the land use consistency form signed by the local government must be included for all applications.[58]

The public interest review process also provides the opportunity for the Department to evaluate new water rights appropriations for consistency with statewide water management policies. Further investigation could be done to examine how the Department analyzes the broad policies in the administrative process, particularly those policies that relate directly or indirectly to instream flow values, such as OR. ADMIN. R. §690-410-030 or OR. ADMIN. R. §690-410-070. In addition, the public interest review provides a clear opportunity for other agencies to weigh in on many of these issues and the influence of those agencies warrants further study.

In the context of the public interest review, there may also be room for the Department to consider the definition of beneficial use or reasonably efficient use. As policymakers look for tools in the existing water code to address climate change and energy policy the process of evaluating water allocation decisions against the public interest is key. In many states the definition of the public interest is broad enough to encompass questions of energy consumption and public necessity. As demand on water supplies increases, agencies across the west may consider new rules that take into account the most efficient use of water or the use of the best available technology to determine if a particular use is consistent with the non-waste and beneficial use principles embedded in the water code. Moreover, the public interest review could be more robust when transferring water rights to new uses. Employing the public interest review at the transfer stage would allow the state to manage future water use in a way that accounts for shortage and increased demand on the resource.

Conclusion

Increased Recognition of the Relationship between Water and Energy Policy

As we attempt to use law and policy to adapt to changes to our climate, decision makers must recognize the links between energy, land-use and water policy. In particular, any examination of water policy must address and account for the inevitable impacts of climate change. The tools available under the existing water code – from the definitions of beneficial use and waste to the comprehensive planning mechanisms to the connections between land use and water planning – should be explored. In addition to an exploration of existing water law tools, new and innovative mechanisms may be particularly beneficial as we face a time when policymakers may be ready and willing to consider more far-reaching changes to a water allocation system that has often been criticized as out-dated and reactive rather than proactive in addressing conservation needs. The next decade may provide the opportunity to proactively consider conservation

[57] OR. ADMIN. R. §690-005-0020(1).
[58] Tamra Mabbott's paper & OWRD response letter.

and ecosystem protection at the same time that we are considering reform to the overall management and allocation system.

Second, given that much of the water in the western United States is already subject to water rights permits under the prior appropriation system, the transfer process becomes the primary mechanism for re-allocating water to new and emerging needs. The public interest review is the primary mechanism for considering public policy goals such as energy efficiency in the new water rights permitting process. While most western states conduct this review for new water rights, very few, including Oregon, conduct the public interest review for transferred water rights. Because of the importance of the transfer process, decision makers may want to explore some mechanism for addressing energy consumption and land use questions when applications to transfer water rights are processed.

Finally, jurisdictions may want to more fully explore their planning and water management authorities. The provisions of existing water codes that provide for comprehensive water availability studies and basin management plans may be important tools in the future as governments face pressure to respond to climate change. Recently, in Oregon and elsewhere, two trends have emerged to increase supply in response to increased demand – accessing groundwater supplies and increasing storage capacity. Both of these have important considerations with regard to energy consumption. Groundwater takes a significant amount of energy to pump to the surface and distribute and building increased storage capacity also requires significant energy at the construction stage. Many policymakers are poised to move forward on new storage projects in basins that may not have comprehensive water management plans in place. Before moving forward, it is critical to fully understand the current and future demand on the system and the tools may be available to better manage and reallocate water resources. While the energy consumption associated with these water supplies may ultimately be worthwhile, it is important for the decision to pursue these sources take into account and evaluate the energy that will be used.

Working Within the Prior Appropriation System in the West

The broad definition of beneficial use gives the state flexibility in determining whether a particular use meets the definitions of beneficial at the time when the application is presented. The technical aspects of beneficial use, however, remain very undefined. In particular, waste is defined based on the amount of water needed for beneficial use. The lack of a more precise beneficial use definition can make enforcement of waste extremely difficult. The first opportunity to address waste occurs at the permitting stage when the Department makes a determination of beneficial use. At this point the Department could conduct a robust analysis of whether a particular proposed use of water qualifies as wasteful. Furthermore, because much of the water of the state has already been appropriated, it is important to look at how the principles of waste are addressed during the process for transferring water rights. For example, a state could evaluate a proposed water use based on the amount of energy required to put the water to the proposed use. The concept of beneficial use without waste could be expanded to address the energy

consumption associated with various water uses and state water agencies could use this evaluation when making decisions to grant new water rights or transfer existing rights.

Ultimately, water resource agencies may need to shift their central goals away from water allocation and toward water management. Traditionally water resource agencies in the western United States have seen their mission as focused on the allocation of water rights and not necessarily on the overall management and conservation of water and energy resources. As we face challenges with regard to water and energy policy it will be vital for these agencies to begin to see themselves as water managers with the goal of efficient water use.