

# Notes from The 'Oil, Water, and Oregon' Symposium Held June 2, 2006 in Portland

## About the Symposium

The full-day symposium began with a [plenary session](#) on global oil and water issues, and how changing resource supplies are likely to affect the Pacific Northwest. [The afternoon featured several panel discussions](#) with local agency officials, elected representatives, and business and community leaders. The panels covered topics including Oregon's economy and global trade, energy innovation, transportation, agriculture, water issues, and neighborhood life.

The plenary session included three speakers. Background on the three speakers is provided at the end of this summary.

## Summary of Plenary Talks

### Peaking of World Oil Production

The first speaker, Roger Bezdek, provided a summary of a report he helped co-author entitled "Peaking of World Oil Production: Impacts, Mitigation, & Risk Management", more commonly referred to as the 'Hirsch Report'. In his talk, Roger covered the following points:

- Peak oil is not an energy crisis, it is a liquid fuels shortage
- Peaking of oil refers to the maximum point of production, not running out of oil
- Peak oil is an issue because global consumption is outstripping new oil discoveries
- While there are a wide range of forecasts of when peaking of oil production will occur, the real problem is the time it will take to develop and implement substitutes
- Analysis in report looked at three peak oil mitigation scenarios:
  - Begin development of substitutes when peaking of oil occurs
  - Begin development of substitutes 10 years before peaking of oil occurs
  - Begin development of substitutes 20 years before ,peaking of oil occurs
- Outcome of three scenarios expressed in terms of the expected gap between the demand for liquid fuels and the supply (oil plus substitutes)
- Results suggest that there will be significant gaps even is development of substitutes is begun 10 years before peaking of oil (which, by some forecasts, may already be too late)
- Conclusions:

- No magic bullets, only poison pills
- Takes a long time to build capacity for alternatives
- Vehicle fleet has a long life (low mileage cars remain in fleet for decades)
- All solutions inherently expensive
- There will be a shortage of labor skilled in the development of the alternative fuels
- Environmental protection will not fare well in the situation where we wait until there is widespread economic downturn resulting from peaking of oil production
- Suggestions for Public Agency Action
  - Increase fuel efficiency standards and initiate liquid fuels mitigation options (federal)
  - Increase use of smart growth, telecommunications, mass transit, expedite siting of substitute liquid fuels plants (state, regional, local)
  - Implement broad public education measures – this is a controversial issue and will likely require unpopular measures to both reduce demand and increase supply of liquid fuels

### *Comments on Peaking of Oil Production Talk*

The audience asked questions concerning the fact that the analysis only focused on liquid fuel options and did not consider the effects of other options (electric, demand side conservation strategies).

### Water and the New West

The second speaker, Peter Gleick, provided an overview of issues associated with water in the western U.S. as well as globally. He suggested that our planet would be more aptly named “Water” than Earth, as most of the Earth’s surface is covered with water, of which 97% is salt water.

- The usable water is badly distributed in space and time, e.g., we have established large cities in areas where there is little drinking water and in many areas water is plentiful seasonally but in short supply at other times of the year.
- There are disparities in how we use water—within the U.S., between countries, among various non-domestic uses (irrigation for agriculture, cooling power plants, hydropower, ecosystem demands).
- Worldwide, 2.6 billion people lack access to clean water and sanitation. These are basic human rights. Two million people per year (mostly children) die from waterborne diseases.
- Climate change will have impacts on water resources.

- Water is a component in conflict:
  - There is a link between environmental issues and international security.
  - Potential for conflict over shared water resources is greater than potential conflicts over oil
  - There is no substitute for water
  - Fresh water resources are widely shared—half of the world's water resources are internationally shared—there are 260 major international rivers.
    - The Danube is shared by 18 countries.
  - Historically, there have been many disputes over water.
    - Arizona called out the National Guard in 1933 over a dispute with California about water from the Colorado River.
  - Scarcity/population/politics come together in a dangerous combination.
  - There are international mechanisms for resolving disputes over water, such as diplomacy and treaties.
  - Sub national water disputes are growing, e.g. farmer to farmer, state to state.
  - Conflicts among users competing for a fixed resource are increasing, e.g. agriculture/urban/environment

#### Comments about the liquid fuels problem

- There are carbon implications for many of the solutions to the liquid fuels problem.
- It takes 3000-10,000 gallons of water to produce 1 gallon of ethanol.
- There are critical links between energy and water, e.g. California pumps water over the mountains to supply cities along the coast.

#### There are some taboos in the U.S. water discussion:

- Some areas of the U.S. should not have been brought under cultivation.
- There should be less of some crops.
- The location of development should relate to the location of water.
- We are not efficient in our use.
- Prior appropriations as a water rights doctrine no longer makes sense.
- We do not pay enough for water.
- We need to accelerate the use of reclaimed and recycled water.
- There is no such thing as a free market for water.

#### Solutions

- Hard path—20<sup>th</sup> century approach. Large scale, centralized big infrastructure for water and wastewater. Focus is on delivering water.

- Soft path—21<sup>st</sup> century approach. Complements the components of the hard path with small scale, decentralized facilities that integrate surface and groundwater systems, and uses wastewater for some uses. Provides goods and services with less water. Focus is on delivering services.

The U.S. uses less water than it did 20 years ago. We are more efficient and doing things differently. For example, it used to take 200 tons of water to make a ton of steel. Now, it takes 3-4 tons of water to make a ton of steel.

### The Future of Energy and Water in the West

The final speaker, Patricia Limerick, provided an overview of lessons from history which provided a context for the previous two speakers. She provided 10 lessons from history and 10 proposals for the future. These lessons and proposals are attached to this summary.

Some highlights of her talk include:

- History suggests that, rather than clear lines of opposition, most forms of disagreement over natural resource policy in the American West have been matters of muddled categories and contradiction between principles and practice. When it comes to attitudes toward oil and water, “hybridity” is far more the rule than “simplicity and clarity.”
- History may look like it and is often presented as being inevitable. However, it was not – the reality of any given moment in time involves far more in the way of contingency and choice.
- “: Count on unintended consequences and unexpected outcomes, even though you cannot at this moment know what it is you are “counting on”! And, therefore, monitor the results of your actions and be prepared to modify the policy when that becomes necessary.”
- At least once a month, attempt an improbable alliance, on behalf of energy or water conservation, with a person or group who you have thought of as an adversary.
- Reduce the citizens’ sense of being overwhelmed by separate problems (“Should we make climate change or water or energy or transportation or sprawl or biodiversity, etc., our priority?”) by showing how the problems—and their solutions!—connect.

Patricia Nelson Limerick  
MAIN POINTS  
“The Future of Water and Energy in the West”  
June 2, 2006

**Historical Lessons:**

1. The last two and a half centuries—the era that began with the “industrial revolution” and the shift to coal, oil, and other fossil fuels—is an entirely new and distinctive era of human history, and that, at the very least, explains why we are struggling to figure out what to do next.
2. In the last two centuries, the United States has been a giant experiment in democracy and representative government (an experiment, ironically enough, made possible by the abundant energy of fossil fuel!), and in the last century and a half, the state of Oregon has played an unusual and distinctive role in that experiment, with a well-established “tradition of innovation.”
3. One of the most remarkable and consequential aspects of this experiment in democracy tests the following hypothesis: given that centralized authority (monarchy, aristocracy, empire) provides the greatest efficiency in managing natural resources, how compatible will democratic practices and resource-conservation practices prove to be?
4. One very difficult challenge of the twenty-first century West requires us to ask the question, “Was the installation of the agrarian ideal (and the corresponding allocation of water and energy to agriculture) in the American West, especially in its arid sections, a mistake in policy? If so, is it our obligation to ‘correct’ that mistake? Do the cultural and open-space values of agriculture overrule the narrow terms of cost/benefit analysis?”
5. To date, every form of energy has come with significant costs or impacts that some group found deeply disturbing and worth fighting, and that pattern will simply have to be lived with since it is not going to let up. (The Pacific Northwest’s hydropower is a prime example of this point.)
6. “The market” has guided and shaped the development of the American West, and the market will no doubt guide and shape the future of energy and water. But market transitions can occur with more pain or less pain, and factors other than market factors will determine the degree of pain. (In other words, “the market” could use some “speech therapy” to clarify its message!)
7. Rather than clear lines of opposition, most forms of disagreement over natural resource policy in the American West have been matters of muddled categories and contradiction between principles and practice. When it comes to attitudes toward oil and water, “hybridity” is far more the rule than “simplicity and clarity.”
8. In hindsight, the patterns of historical change can look predetermined, fated, and inevitable, but the reality of any given moment in time involves far more in the way of contingency and choice.
9. History proves that Americans have limited (and could limit again) their consumer needs when they have been persuaded (or will be again persuaded) that there is a compelling cause that requires their support and sacrifice.
10. And now, the most evidence-based historical conclusion of all: Count on unintended consequences and unexpected outcomes, even though you cannot at this moment know what it is you are “counting on”! And, therefore, monitor the results of your actions and be prepared to modify the policy when that becomes necessary.

### **And Then, after Contemplating the Past, Some Proposals for the Future:**

1. Repeat regularly—in positive terms—the proposition that life on this planet is a matter of constant change, and it is the privilege given us, by the miracle of human consciousness, to notice that change and adapt to it. In other words, we can rise to the challenge of designing and adopting new customs in the use of energy and water.
2. Celebrate the connection tying patriotism and national security together with renewable energy, as well as energy conservation and efficiency.
3. Reclaim and revitalize the word “progress,” and use it every time we and our fellow citizens take even a tiny step toward future-oriented policies on energy and water.
4. At least once a month, attempt an improbable alliance, on behalf of energy or water conservation, with a person or group who you have thought of as an adversary.
5. Reduce the citizens’ sense of being overwhelmed by separate problems (“Should we make climate change or water or energy or transportation or sprawl or biodiversity, etc., our priority?”) by showing how the problems—and their solutions!—connect.
6. Design and attempt experiments to stretch the capacity of American citizens and consumers to think in units of time longer than the next election cycle or corporate quarterly report.
7. Find incentives for public officials—or maybe just private counseling sessions and telephone help-lines for public officials!—who will, in the words of the morning’s first speaker Roger Bezcek, have to find, in their hearts and souls, the courage to support “controversial and unpopular measures.”
8. In a non-scolding and cheerful tone, help American citizens and consumers recover from their very bad case of the “out-of-sight/out-of-mind” affliction, by which they want an abundance of cheap commodities, from natural gas to forest products, but they do not want to see the sites of production of these commodities.
9. Recognize the way in which the management of water and energy (not to mention wildlands fire, air quality, and a hundred other environmental topics!) ask us to reconsider some of our basic ideas about governance and especially to show some flexibility in dealing with jurisdictional lines between units of government.
10. Pretend that historians have a greater gift for prophecy than they may actually have, and see what happens if we take the following proposition to heart: If the theme of the nineteenth century West was development, and the theme of the twentieth century West was the effort to balance development with conservation and preservation, the theme of the twenty-first century West will be at once a continuation of the effort to balance development with conservation and preservation, and an ever-rising and ever-expanding theme of *restoration, repair, and remediation* of nature and landscapes. (And this theme will require us to be a lot less fussy about purity and pristineness than we have been.)

## **Background on Plenary Speakers:**

**Roger H. Bezdek:** *Peaking of World Oil Production: Impacts and the Scope of the Mitigation Problem*

Roger Bezdek is president of [Management Information Services](#), an internationally recognized, Washington D.C.-based economic research and consulting firm with expertise in the analysis of energy, environmental and electric utility issues, and labor markets. He is the co-author of a widely-distributed report prepared for the U.S. Department of Energy entitled, "[Peaking of World Oil Production: Impacts, Mitigation, & Risk Management](#)" (sometimes known as the Hirsch Report). He received his Ph.D. in economics from the University of Illinois at Urbana-Champaign in 1971 and has worked extensively in academia and for the federal government.

**Peter H. Gleick:** *Water and the New West - Economics, Politics, and Nature*

Dr. Peter Gleick is co-founder and President of the [Pacific Institute for Studies in Development, Environment, and Security](#) in Oakland, California. His research and writing address the critical connections between water and human health, the hydrologic impacts of climate change, sustainable water use, privatization and globalization, and international conflicts over water resources.

Dr. Gleick is an internationally recognized water expert and was named a MacArthur Fellow in October 2003 for his work. In 2001, Gleick was dubbed a "visionary on the environment" by the British Broadcasting Corporation. That same year he was also appointed to the Water Science and Technology Board of the National Academy of Sciences based in Washington, D.C. In 1999, was elected an Academician of the International Water Academy, in Oslo, Norway.

**Patricia Limerick:** *The Future of Energy and Water in the West*

Historian Patricia Limerick argues that the West has a history grounded primarily in economic reality--in hardheaded questions of profit, loss, competition, and consolidation. Limerick is chair of the [Center of the America West](#) at the University of Colorado and a MacArthur Fellow.

Limerick has published a wide variety of books, articles, and reviews. Her best known work, *The Legacy of Conquest*, has had a major impact on the field of Western American History. In addition to numerous scholarly articles and book reviews, she writes frequent columns and op-ed pieces for "The New

York Times," "USA Today," "The Denver Post," "The Daily Camera," and "The Rocky Mountain News."

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