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# NORTHWEST POWER AND CONSERVATION COUNCIL
# February 10-11, 2009

The Council, meeting in Portland, issued draft economic and load forecasts for the Sixth Power Plan, and staff laid out assumptions about the costs of CO2 emissions, which are dramatically higher than in the Fifth Plan. Assumptions about CO2 costs will affect the economics of future resource choices, including what is cost-effective conservation. It took four votes to pass the fish and wildlife program, with Oregon's members asking to split off the mainstem provisions so they could vote against them without rejecting the rest of the program. In a final contested revision, the Council strengthened oversight of the Fish Passage Center by enabling the Oversight Board to develop a policy that could require peer review before analyses are released. Next Meeting: March 10-12 in Boise, ID.

**IN THIS ISSUE**



## THE AGENDA

### Carbon Fingerprints on the Power Plan

Staffer John Fazio briefed the Council on the treatment of climate change in the Sixth Power Plan, outlining proposed $CO_2$ price assumptions, as well as assumptions about financial incentives and credits for renewable energy. For the plan, we need to include "a central tendency for $CO_2$ price" in the electricity price forecast, and a high and low range, and a probability distribution of $CO_2$ prices, he explained. We also need to have assumptions for renewable energy credits (RECs) and other incentives, like production tax credits (PTCs) and investment tax credits, Fazio said.

For the Sixth Plan, staff is proposing an average price of $47.74 per ton, compared with $7.85 per ton in the Fifth Plan, he went on. The high end of the range of prices would be $100 per ton, compared with $30 per ton at the high end in the Fifth Plan, according to Fazio. We look at a range of "futures" for the plan, and we are assuming in 95 percent of the cases there would

be a $CO_2$ price, he said, adding that the PTC range is under review, and staff is proposing to drop RECs from the analysis.

Consulting firm EcoSecurities provided the supporting analysis for our assumptions about carbon prices, Fazio continued. They gave us price assumptions for three scenarios, he said: implementing regional initiatives; reaching 1990 emission levels or 15 percent below 2005 levels by 2030; and stabilizing atmospheric $CO_2$ emissions to 550 parts per million by 2100. With the latter case, it would take a $30 to $50/ton carbon price to reach such levels, Fazio added.

In addition to estimates of the average price, EcoSecurities provided probabilities over a range of prices, he said. For example, while there are futures that could see a $100 per ton $CO_2$ price, the likelihood is 1 percent, Fazio explained.

He cited several ways in which the price of $CO_2$ and level of emissions pose questions for the power plan. The assumptions about price affect loads, resource prices, and what is cost-effective conservation, Fazio said. Other questions he listed include: the level of $CO_2$ reduction that is achieved by existing renewable portfolio standards (RPS) and whether the RPS are meeting proposed targets; the portion of $CO_2$ reduction targets that should be met by the electricity sector; the costs of various methods of reducing carbon; and the least-cost approach for achieving $CO_2$ reduction targets in the electricity sector.

For the Sixth Power Plan, the staff proposes to do the following analysis, Fazio stated: identify a least-cost plan given state RPS mandates; identify a least-cost plan achieving $CO_2$ reduction similar to the RPS but removing the mandates from the analysis; and identify the least-cost path to achieve various levels of $CO_2$ reduction. He pointed out that the proposal had been reviewed and approved by the Generating Resources Advisory Committee (GRAC).

Fazio said Dick Adams of PNUCC suggested at the Power Committee meeting that staff run a scenario that puts the carbon tax at zero and see what happens. There was also a suggestion that we do a sensitivity analysis of how the physical impacts of climate change would affect the system, he said. In the Fifth Power Plan, we dealt with the physical impacts by reducing the amount of hydro generation by 450 MW, Fazio said. We could take that approach in the Sixth Plan, too, he added.

The Independent Scientific Advisory Board (ISAB) has also suggested that we look at both a decrement and increase to hydro generation, including the increase that would result from installing removable spillway weirs at dams, Fazio continued. We have also had a suggestion that we explore how funds from a carbon tax might be used, he said.

Council chair Bill Booth asked staff to consider how to translate the carbon price into impacts on individuals. Could you put this into per-kilowatt-hour terms? he asked. We could do that, staffer Terry Morlan agreed.

Dick Wallace pointed out that climate change is a big uncertainty for the system. As we go through this, we need to keep in mind the implications for the fish and wildlife (F&W) program, he stated.

**In a Flurry of Votes, Council Passes F&W Program**

Booth teed up Council adoption of an amended Columbia River Basin F&W Program, saying the staff and Council had worked on the program for months and hammered out final issues in Missoula. After the Missoula meeting, we had another opportunity to suggest changes, he said. Booth asked if members were agreeable to a list of suggestions that had come in since January. With no one

voicing an objection, he said the changes would be included in the program language.

Bruce Measure proposed a change to language related to the Fish Passage Center (FPC) Oversight Board. He suggested dropping the last part of the following statement, starting with "before": The Oversight Board shall determine the requirements for peer review of analytical products *before dissemination to an audience broader than the manager(s) requesting the analysis*.

The FPC has come under criticism from time to time, and to allay the concerns of its detractors and supporters, I'd suggest making the change and having a peer review requirement established, Measure said.

Melinda Eden objected to the change. The FPC was set up so managers would have a way to analyze and discuss the operations of the hydro system, she said. I have no problem with peer review or developing a policy, but I don't want others to determine what peer review is needed for a manager's request, Eden indicated. It's up to the fish managers "to take the risk" if they use data that has not been peer reviewed, she said.

I support the motion, Tom Karier stated. We set up the oversight board to give guidance to the FPC, he said. The board is capable of setting up the peer review process, Karier said, adding that such review would avoid problems.

There has been a problem with information that has gone out to the public too early, Measure agreed. An example is the information from FPC that the large sockeye return in 2008 was attributable to spill, when the NOAA Science Center's later review of the analysis came to a different conclusion, he noted. Measure made a motion that his proposed change be adopted.

Eden said Measure's proposal could put the peer review requirement ahead of an analysis being released to the manager making the request. I want to protect the rights of the manager to use the analysis in the way he or she wants to, she stated.

Joan Dukes agreed, saying peer review does not necessarily resolve anything. It often results in multiple opinions, she said. The FPC came about at the request of the fish managers so they could get analyses done, Dukes pointed out. We are now saying some other group decides if they can have the analysis they want, she said. Maybe the oversight board will agree with the request, but maybe they won't, and "that's not fair to the fish managers," Dukes stated.

Measure's motion passed on a five-to-three vote, with Eden, Dukes, and Jim Yost voting no.

When Measure made a motion to adopt the F&W program, Eden offered a proposal to "bifurcate" the vote by splitting out the mainstem section from the rest of the program.

"It should be no surprise that Oregon has trouble supporting the operations called for in the mainstem section," she stated. Separating the mainstem operations from the rest of the program "would give the Oregon members an opportunity to vote in favor of a large portion of the program," Eden said. She added that there was a precedent in previous amendment processes for voting separately on sections of the program.

Multiple Votes, Bad Precedent

Karier said he opposed the amended motion, calling it "a new precedent and not a good one." He said states should not "pick and choose" pieces of the program to support. My preference is for a package vote – dissenters have the opportunity to voice their position on the record, Karier added.

Dukes said the program was adopted section by section in 1994 as a courtesy to Montana. But

"maybe that was a time of greater courtesy" to the states, she said. Eden's motion to bifurcate the vote passed on a five-to-three vote, with Measure, Rhonda Whiting, and Karier voting no.

Measure offered a motion to approve the F&W program without the mainstem section and Eden seconded. The vote was unanimous in favor of the motion. Measure then made a motion to approve the program with the inclusion of the mainstem provisions, Section 6. Karier seconded the motion.

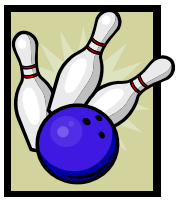
Dukes expressed regret that "we ended up here." Oregon submitted recommendations on the mainstem that were not accepted, and we take issue with the Biological Opinion, which is the basis for the Council's mainstem provisions, she explained. Oregon is in a lawsuit challenging the BiOp, and "we cannot support what we do not think will benefit anadromous fish," Dukes said, adding that she would vote no.

Eden said she agreed with Dukes' comments. I can't vote against my state's interest, she said. There are some good things in the mainstem section, such as the nexus between our program and toxics, as well as climate change, Eden said. I appreciate you giving us the opportunity to vote this way, she added.

Section 6 was adopted on a six-to-two vote, with Dukes and Eden voting no. Eden served notice that there would be a minority report from Oregon.

I appreciate Oregon's position, Measure stated. Many people worked hard on this plan and on the BiOp, he said. The BiOp "represents compromise," Measure noted. Some worked on it "and others drug their feet and did not," he said. I strongly support the mainstem section of our program and the BiOp, Measure stated.

Booth said he was disappointed there was not consensus on the entire program. But I respect Oregon's point of view, he stated. There were "mountains of input" into the program, and each of us compromised, Booth said. "It's a good program and will do good things for F&W," he said, adding that the Council relied heavily on the recommendations of its F&W partners. We reached consensus on all but a narrow part of the program, and "I'm proud of the work we did," Booth added.



**Economics and Demand Underpin Plan**

The power planning process starts with a load forecast and economic assumptions, staffer Massoud Jourabchi explained. To forecast residential load, we look at population growth and other changes, like demographics and lifestyle, he said. The pattern of residential energy use has changed with lifestyles that involve more communications technology, and we are now aware of a growing segment of the residential load referred to as ICE, information, communication, and entertainment, Jourabchi said. There has also been an increase in residential air conditioning, and homes have gotten larger, he said, all factors that affect the electricity load.

In the commercial sector, we look at floor space and patterns of additions to floor space, Jourabchi continued. We've updated our data and incorporated changes in the commercial floor space forecast, he reported. We have also updated information on the industrial sector, Jourabchi said, noting that the direct service industrial load has diminished, but a new load has emerged in the form of data centers.

In preparing an economic forecast, we take into account such factors as fuel prices, and we have considered the effects of a carbon tax on the economy, he said. We have also used alternative economic forecasts to see their effects and will be incorporating climate change factors, Jourabchi explained.

Our load forecast indicates a growth rate of about 1.5 percent annually, but that may go down, he said, noting that the staff has compared its forecasts to those done by others, and there is "good agreement" with them. Jourabchi pointed out that the region is moving away from a winter peaking load and that by 2020, the Northwest may be a summer peaking system.

Staff feels the economic and load forecasts are ready for release, he stated. There are companion Excel spreadsheets to the written text, which people may want to review, Jourabchi noted.

Eden, who chairs the Power Committee, said the committee agreed with the recommendation to release the forecasts. We thought it would be helpful to release them early, ahead of the draft power plan, so they could be reviewed, she added.

Seeing no objections, Booth directed staff to release the forecasts for public review.

**Super Models Key to Power Plan**

Morlan gave a status report on development of the Sixth Power Plan, including the following parts of the analysis:

- draft fuel price forecast is complete, including public review;
- draft economic and demographic forecasts have been sent out for public comment;
- draft electricity demand forecast has been sent out for public comment;
- draft supply curves for efficiency levels are under review by the Regional Technical Forum (RTF), and a Conservation Resources Advisory Committee (CRAC) is taking shape; and
- draft technology assessments have been completed for major generating resources, with review by GRAC, and additional assessments for smaller resources are under way.

The Council uses three major models, Genesis, Resource Portfolio, and Aurora, to bring together supply and demand, resources to meet demand, and prices for the plan, Morlan explained. We have made many model enhancements and began running the Resource Portfolio model, which takes days for a single run, on February 9, he reported. "We've run into problems with some models, but we always do," Morlan added.

With regard to electricity price and conservation levels, he said a third draft of the forecast is done and staff is incorporating data on new generation technologies and costs, as well as new assumptions about the cost of $CO_2$. As for other parts of the plan, staff has written the introduction and background chapters, Morlan stated.

We are looking forward 20 years toward a new electricity system, one that will operate "more synergistically," Karier stated. Maybe we need to jump ahead and look at what we want the system to look like and how to get there, he said. Karier suggested the Council may want to state its vision for what that future should look like.

Morlan agreed, adding that the Sixth Plan is more complex than in the past because of concerns about system capacity and flexibility, plus new objectives related to responding to climate change.

**NEET Lays Groundwork for Hosting**

Ken Canon, facilitator of the Northwest Energy Efficiency Taskforce (NEET), and Darby Collins of BPA briefed the Council on recommendations from the NEET workgroups and the direction being taken toward implementation. The

recommendations, submitted in mid-December, were the topic of a January 9 NEET executive committee meeting, and we're now working through comments that have since come in, Canon reported.

He noted that the federal stimulus package offers potential opportunities for funding energy-efficiency efforts in the region. We sent out a survey asking for ideas and got back 35 responses, Canon said, adding that the availability of money "has that effect on people."

Collins outlined the NEET process and workgroup topics, and Canon reported on the "lessons learned." Among them, he said it is clear "there is no silver bullet." The region has been doing a lot of work on energy efficiency over the past few decades and there is "no magic" for getting results, Canon explained. In addition, we learned that collaboration is a very powerful way to get things done, and "it doesn't just happen," he said.

In addition, it became clear that just like utilities have a distribution infrastructure to deliver electricity, we are talking about building a similar infrastructure for energy efficiency that can exist long term, Canon continued. We also saw that "we could overwhelm an infrastructure with money," and that a good infrastructure is needed to be effective over time, he indicated.

We also pulled out common themes from the workgroup recommendations, Canon said, including the need for collaboration; the importance of a structured energy-efficiency forum; the focus on behavior as "the next frontier"; the need for a mechanism for crediting and counting energy efficiency; and the need to clarify institutional roles so that what can best be done regionally is set up that way and unnecessary overlap and duplication of efforts are avoided.

After seeing the recommendations, we came up with the idea of having existing entities "host" various functions, he continued. We talked about developing business plans to have the Northwest Energy Efficiency Alliance, BPA, and the Council administer these functions, Canon explained. Going forward, we will refine the approach, he said.

Canon outlined the main topics identified for more work going forward: the regional forum function; marketing research; work force development; and the role of the RTF. He said it was important to wrap up NEET's role soon. I see the business plan and forum planning as being complete within six months, Canon said, adding that the taskforce shouldn't stand in the way of other efforts in the region.

Collins reported that the comments submitted about NEET and the workgroup recommendations were positive and enthusiastic. There was agreement across the board that we need to take the information developed and get into more detail to turn it into "actionable items," she added.

Eden, who serves on the NEET executive committee, said she was impressed with the product. Behavior is going to be an important focus for energy efficiency, as well as using existing entities to get things done "without a whole new organization," she said.

Canon agreed, noting that coordination among organizations is paramount. For example, if someone is conducting a pilot program related to energy efficiency, it is worthwhile to consider whether it might benefit from broader collaboration and participation, he said. "We need speed in a lot of this," Canon added.

Karier said the purpose of NEET was to look for lost opportunities, identifying where the gaps were and clarifying the roles of various organizations. We are close to the place where

"we can disappear and let the region take it from there," he said.

Wallace expressed support for more work on the behavioral aspects of promoting energy efficiency. "We have a teachable moment" with climate change, he stated. Coupled with things we are doing in the power plan, "we can save money, save energy, and save the environment," Wallace commented.

**Cassidy Reports from Post at POST**

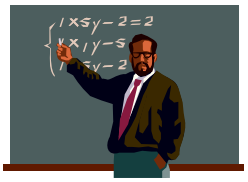
Former Council member Larry Cassidy, who chairs the management board of the Pacific Ocean Shelf Tracking Project (POST), described POST's current activities. POST, which allows for seamless tracking of marine animals through a network of undersea tracking arrays, is part of an effort that involves over 2,000 scientists in 80 countries, he said.

POST maintains a database where all of the tracking information from the field projects is delivered and stored, Cassidy stated. POST aims to eventually have a tracking system in place from Baja California to the Bering Sea, he explained, noting that current installations reach as far south as Point Reyes in California, and as far north as Graves Harbor in Alaska.

Jim Bolger, POST's executive director, said what started as a tool to track salmon is now following 15 aquatic species. The data being collected has implications for planning and management of species and helps inform recovery and conservation plans, he stated. Bolger cited the example of Sacramento River sturgeon that POST tracked north to Canada, well outside the range they were presumed to inhabit in proximity to the river delta. He said POST serves as a clearinghouse for the tracking data, and there is free access to the information.

POST is the flagship program for an international ocean tracking system, Bolger said. It is being used as a prototype for programs in other parts of the world, he wrapped up.

Booth asked what Cassidy foresees for the future of POST. Cassidy said the aim is to expand the accumulation of data and to bring on more collaborators. We want to find more answers from the ocean, he stated.



**Data and Science Point Way to Hatchery Reform**

Staffer Peter Paquet outlined the conclusions and recommendations that have emerged from the Hatchery Scientific Review Group (HSRG). The HSRG steering committee has wrapped up its meetings and is in the final stages of preparing a 1,000-page report that will be posted on the Council website by the end of the month, he said.

The review was a detailed and comprehensive study that covered 178 hatchery programs and 351 individual salmon and steelhead populations, Paquet explained. There are recommendations for all of the hatcheries, and the recommendations are the starting point for managing hatcheries in a more effective way in the future, he noted. Paquet said the HSRG reached a number of critical conclusions for hatchery reform.

He outlined several critical needs associated with current hatchery practices, including: broodstock management and genetic interactions; local adaptation; adverse ecological interactions between hatchery and natural stocks; effects of hatchery operations on the ecosystem; and reproductive success and survival of hatchery fish. Paquet also described recommendations for addressing each of the critical needs, such as managing hatchery broodstocks for proper integration with – or segregation from – natural populations; promoting local adaptation of hatchery and natural stocks; minimizing adverse

ecological interactions and the effects of hatcheries on the ecosystem; and maximizing survival of hatchery fish.

The HSRG came up with three major principles and 17 recommendations for hatchery reform, he continued. The group determined that the more closely a hatchery adheres to the principles and recommendations, the more likely it is to succeed in meeting its harvest or conservation goals, Paquet said.

He noted the following recommendations: develop clear, specific, quantifiable harvest and conservation goals for natural and hatchery populations within an "All H" context; design and operate hatchery programs in a scientifically defensible manner; and monitor, evaluate, and adaptively manage hatchery programs.

Booth asked how the reforms would be implemented. Paquet responded that implementation would depend on other processes in the region. This is a report by scientists to policymakers, who will decide how to go forward, he indicated. Paquet pointed out that the recommendations are "common sense" and there are already places where they are taking hold in the hatchery system.

Karier asked how success will be measured. Paquet said the "percent of natural influence" or PNI value will be a key factor in measuring success. Wallace said the review was a great start on hatchery reform and learning more about interactions between natural and hatchery fish. How do we keep the momentum going? he asked.

Paquet said it is important to better integrate efforts in the region to complement each other. The hatchery science review is the best process I've been involved during my 30 years of working in the basin, he wrapped up.

## END NOTES

**F&W Projects Net More Budget**. Staffer Mark Fritsch described within-year budget requests for six projects: Methow Valley Irrigation District East Diversion Dam Replacement; Protect and Restore Mill Creek; Non-Federal Smolt Monitoring; Research to Advance Hatchery Reform; Southern Idaho Wildlife Mitigation; and Upper Columbia United Tribes M&E Program. The Council voted unanimously to approve budget adjustments for these projects that total $703,904 in expense funds and $3.5 million in capital for fiscal year 2009.

**CBFWA Upgrades SOTR.** Executive director Brian Lipscomb outlined ways in which the Columbia Basin Fish and Wildlife Authority (CBFWA) plans to improve its Status of the Resource (SOTR) Report. Whiting pointed out the importance of citing the sources of information on the web-based tool CBFWA has developed. There should be easily accessible information about where the data comes from, she said. It's paramount, if the tool is to be useful, Whiting stated. Rob Walton of NOAA Fisheries, who co-chairs the project, agreed that the report would lose its value if it has "spin."

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**Council 2009 Calendar**

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| March 10-12 | Boise, MT |
| April 14-16 | Skamania, WA |
| May 12-14 | Walla Walla, WA |
| June 9-11 | Whitefish, MT |
| July 14-16 | Portland, OR |
| August 11-13 | Spokane, WA |
| September 9-10 | Oregon |
| October 7-9 | Ketchum, ID |
| November 12-13 | Teleconference |
| December 8-10 | Portland, OR |