



# Bonneville Power Administration

Integrated Program Review

(IPR)

Renewable Resources Program

Technical Workshop

May 22, 2008



# BPA's Renewable Resource Facilitation Policy

- BPA's Policy goal for renewable resources as stated in July 2007 Regional Dialogue Policy:
  - Ensure the development of its share of all cost-effective regional renewable resources.
  - BPA's share will be based on the public power customers share of regional load growth (about 40 percent)
  - BPA expects to continue to use the Northwest Power and Conservation (Counsel) Plan as the basis for the amount of regional cost-effective renewables, including updates to the plan.
  - BPA will meet this target at the least possible cost to BPA ratepayers.
  - Any renewables acquired by BPA for service to publics, acquired by publics with our without assistance from BPA, counts toward this goal.
  - BPA initially estimated it could accomplish this goal at a cost no more than \$21 million per year, but reserved the flexibility to put into rates the amount actually needed.
  - BPA will forecast each rate period the amount of facilitation funds it needs in that rate period to meet this goal.



# Translating the Power Plan into a BPA Target

The 5th Power Plan forecasted 5,000 MW\* of incremental wind over 20 years, which the Council broke into 3 phases of development:

1. 50-100 MW wind per year to resolve wind integration uncertainties and 50-100 MW of diversely located wind per year to explore new wind resources over years 2005-2011.
2. 700 MW of incremental wind per year in 2012-2013.
3. 273 MW per year of new wind during years 2014 -2025.

Public power's share of each of these developmental phases appear as slightly different slopes in the attached graph.

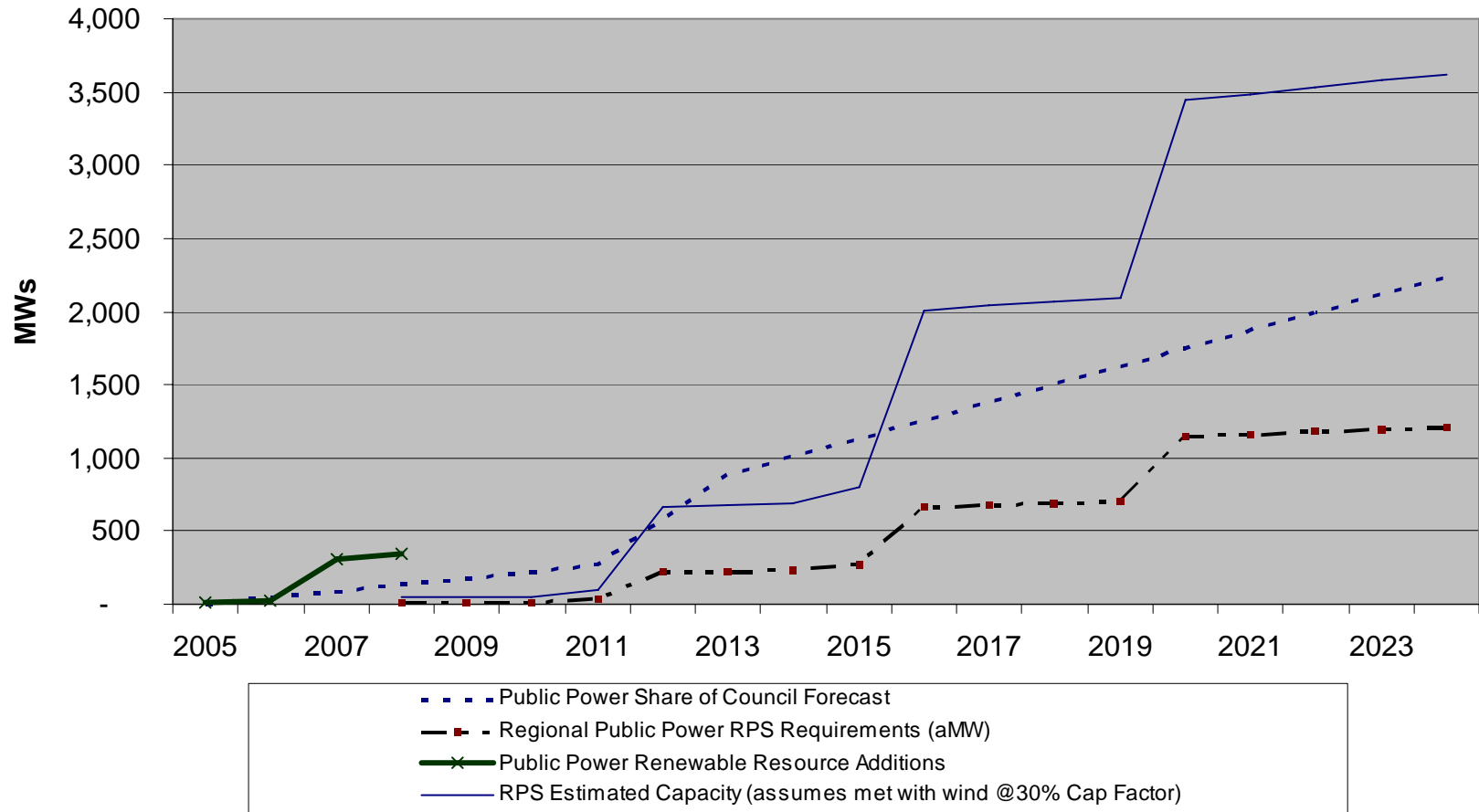
- BPA's FY 2007-2011 renewable target is based on the first phase of development called for in the plan.
  - Based on current load estimates, public power load is 44% of regional load, giving rise to a target of at least 44 MW per year of public power renewables during FY 2007-2010.
  - **In round numbers, BPA has translated this to a BPA target of 50 MW per year for FY 2007-2011.**
- BPA is measuring the target by annually counting the number of MW of new renewable generation reaching commercial operation which is acquired by BPA and/or public power.

*\*The plan forecasted 6,000 MW of wind but 1,000 MW of the 6000 MW were attributed to near-term renewable development by Oregon Investor Owned Utilities as a direct result of the Oregon system benefit charge. An additional 100 MW of non-wind renewable IOU development was also forecasted. This additional 1,100MW was not included in BPA's calculation..*



# BPA's Renewable Facilitation Target

## Public Power Share of Regional Renewable Generation Development Actual vs. Targets (MW)





# Actual Public Power Renewable Development

## 2005:

City of Great Falls	Biomass	0.5 MW
South Treatment Plant	Biomass	8.0 MW

## 2006:

Tieton Hydro (Yakima)	Hydro	13.6 MW
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## 2007:

Hampton Lumber	Biomass	3.5 MW
Klondike III	Wind	75.0 MW
Sierra Pacific (Fredonia)	Biomass	5.0 MW
White Creek	Wind	204.0 MW
9 Canyon Phase III*	Wind	<u>32.2 MW</u>

**Total: 341.8 MW**

*\*9-Canyon Phase III achieved commercial operation Feb. 2008.*



# History of BPA's Renewable Program

- History:
  - 1977 wind and solar monitoring networks
  - 1980 Mod-2 wind demonstration project
  - 1997- 2001 Demonstration of commercial-scale wind (Foote Creek I, II & IV\*, Condon and Stateline) and commercial scale geothermal (Fourmile Hill)
  - 2001-present Cost-effective wind acquisitions: Klondike I and Klondike III.
  - Wind purchases total 65 aMW (248 MW)
- Short-Term Regional Dialogue Record Of Decision (ROD) covering FY 2007-2011 (2/4/05):
  - BPA identified up to \$21M/per year to cover the net cost of renewable acquisitions which included a \$6M/per year Renewable Option to the Conservation Rate Credit (RCRC) and a facilitation budget of up to a maximum of \$15M/year.
- Power Function Review II Final Close Out Report (6/01/06):
  - Due to uncertainty surrounding the need for maximum facilitation, actual facilitation expenses were set at \$4 million in FY 2007, and \$8 million in FY 2008 and FY 2009. An additional \$ 5million was added to the FY 2009 budget as a backstop for under utilizing the rate credit program for renewables during FY 2002-2006.

\*BPA does not own FC IV RECs.



# FY 2008 Renewable Budget

- Base: FY 2008 forecasts:
  - FY 2008 wind power purchases \$29 million (65 aMW).
  - Renewable Option to the Conservation Rate Credit (RCRC): \$6 million.
  - Facilitation.
    - FY 2008- Budgeted at \$8 million:
      - Actual expenditures are expected to be \$2.5 million
        - » \$2 million will be used in FY 2008 to staff cross agency Wind Integration Team and \$0.5 million to cover the cost of the Klondike III purchase in excess of forecasted augmentation expenses.
    - Continue to fund wind and solar monitoring networks, membership fees, publications etc. at \$0.5M/per year.
    - Green Energy Premiums from Environmentally Preferred Power (EPP) and Renewable Energy Certificate (REC) sales transferred to Technology Innovation (TI) to fund renewable research projects. Forecasted at about \$3 million for FY 2008.
    - Additional TI expenses in excess of the those covered by the Green Energy Premiums are shared by all customer classes.



# Changes to Renewable Spending Levels

- Proposed Changes for FY 2009:
  - Addition of the Klondike 3 (not contemplated in the 2007 rate case).
    - Although this addition increases rates, costs are mitigated by revenues generated from the sale of project's generation and attributes.
  - Public power is meeting the Council's forecasted renewable development without BPA facilitation spending. Therefore, BPA is proposing to reduce the FY 2009 Facilitation budget from \$13 million\* to \$2.5 million.
    - \$2 million to the Wind Integration Team and
    - \$0.5 million to cover Klondike III costs in excess of forecasted augmentation expenses.
  - RCRC will remain at \$6 million.

\*\$8 million for facilitation & \$5 million for a RCRC back-stop (hold over from FY 2002-2006 rate period).





# Changes to Renewable Spending Levels

- Proposed Changes for FY 2010-2011:
  - Fourmile Hill geothermal estimated online date moved from FY 2010 to FY 2012.
  - Set the facilitation budget at \$4M/per year in light of public customer progress towards meeting Council's forecasted renewables.
  - Eliminate the renewable option to the conservation rate credit. The program is not forecasted to be needed to meet the Council's forecasts due to public power's continued Renewable Portfolio Standard (RPS) requirements.
- Status Quo budget items for FY 2010-2011 :
  - 36% of Green Energy Premiums are directed to Bonneville Environmental Foundation through 2011.
  - 64% of Green Energy Premiums associated with the sale of EPP and REC's will continue to fund renewable research projects through 2011.
    - Renewable research and development program administered by TI.
  - Green Energy Premiums associated with sale of Klondike 3 EPP/REC's credit PF rates.



# Renewable Generation Program

\$ in Thousands	Actuals		SOY	Rate Case Average	Rate Case	IPR	IPR	IPR
	FY 2006	FY 2007	FY 2008	FY 2007-09	FY 2009	FY 2009	FY 2010	FY 2011
<b>Program Level Spending</b>	19,172	26,824	44,381	36,362	41,917	43,955	41,588	43,438
<b>Increase/Decrease*</b>		7,652	17,557		(2,464)	2,038	(2,367)	1,850

\* for FY 2006-2008, Rate Case FY 2009, 2010 and 2011, change is from the prior year. For FY 2009 Forecast, change is calculated from "Rate Case".

## Program Background:

- BPA's Policy goal for renewable resources is to ensure the development of its share of all cost-effective regional renewable resources at the least possible cost to BPA ratepayers. BPA's share will be based on the public power customers share of regional load growth (about 40 percent). Any renewables acquired by BPA for service to publics, acquired by publics with our without assistance from BPA, counts toward this goal.

## Drivers of Change:

- FY 2009:
  - Addition of the Klondike 3 (not contemplated in the 2007 rate case). Although this addition increases rates, costs are mitigated by revenues generated from the sale of project's generation and attributes.
  - Public power is meeting the Council's forecasted renewable development without BPA facilitation spending. Therefore, BPA is proposing to reduce the FY 2009 Facilitation budget from \$13 million to \$2.5 million.

## Proposed Changes for 2010-2011:

- Fourmile Hill geothermal estimated online date moved from FY 2010 to FY 2012.
- Set the facilitation budget at \$4 million per year in light of public customer progress towards meeting Council's forecasted renewables.
- Eliminate the renewable option to the conservation rate credit. The program is not forecasted to be needed to meet the Council's forecasts due to public power's continued Renewable Portfolio Standard (RPS) requirements.

## Opportunities for Improvement:

- Continue to manage budget to meet Renewable Program goals and targets.



# Proposed Renewables Program Cost Forecast for the Integrated Program Review (Revised 5/7/2008)

	2007 Rate Case			
	FY 2009 (\$)	FY 2009 (\$)	FY 2010 (\$)	FY 2011 (\$)
<b>RENEWABLES PURCHASE COSTS</b>				
<i>Wind</i>				
Foote Creek I	2,697,005	2,697,005	3,342,589	3,462,447
Foote Creek II	241,465	241,465	247,442	252,745
Foote Creek IV (generation)	2,833,969	2,833,969	2,891,333	2,949,857
Condon	6,656,312	6,656,312	6,842,689	7,034,284
Stateline	5,525,460	5,525,460	5,663,597	5,805,187
Klondike I	2,207,484	2,207,484	2,262,671	2,319,238
Klondike III		9,579,060	9,579,060	9,579,060
<i>Subtotal</i>	\$ 20,161,695	\$ 29,740,755	\$ 30,829,380	\$ 31,402,817
<i>Solar</i>				
Ashland Solar Project	0	0	0	0
<i>Geothermal</i>				
Fourmile Hill	0	0	0	0
<i>Subtotal</i>	\$ -	\$ -	\$ -	\$ -
<b>Total Purchase Costs of Power Projects</b>	<b>\$ 20,161,695</b>	<b>\$ 29,740,755</b>	<b>\$ 30,829,380</b>	<b>\$ 31,402,817</b>
<b>Facilitation Costs</b>	<b>13,000,000</b>	<b>2,495,378</b>	<b>4,000,000</b>	<b>4,000,000</b>
<b>PTL POWER PURCHASE BUDGET AMOUNT</b>	<b>\$ 33,161,695</b>	<b>\$ 32,236,133</b>	<b>\$ 34,829,380</b>	<b>\$ 35,402,817</b>
<b>RENEWABLE RATE CREDIT</b>	<b>\$ 6,000,000</b>	<b>\$ 6,000,000</b>	<b>0</b>	<b>0</b>
<b>SUPPORT AND OTHER COSTS</b>				
Solar Data Collection - University of Oregon	114,518	114,518	117,953	121,492
Wind Data Collection - Oregon State University	79,204	79,204	81,580	84,028
Membership Fees, Publications, Etc.	352,642	352,642	363,220	374,117
<b>SUPPORT COSTS</b>	<b>546,364</b>	<b>546,364</b>	<b>562,754</b>	<b>579,637</b>
<b>REINVESTMENT OF REVENUES FROM GREEN TAGS AND EPP 1/</b>				
BEF (RD&D, Education & Distributed Generation)	388,562	1,341,384	1,341,384	1,341,384
BPA Technology Innovation for Renewable RD&D	690,778	2,764,247	2,384,682	2,384,682
BPA Technology Innovation carry forward from FY2007/2008		430,265		
Reinvestment of Revenues from Green Tags and EPP	1,081,913			
Corporate Charges - Environmental Planning and Analysis	20,256	0	0	0
Corporate Charges - General Counsel	27,149	27,150	21,705	22,682
Corporate Charges - Technology Innovation		615,407	2,448,387	3,706,879
<b>Total Corporate Charges</b>	<b>\$ 47,405</b>	<b>\$ 27,150</b>	<b>\$ 21,705</b>	<b>\$ 22,682</b>
<b>RENEWABLES PROGRAM COST FORECAST</b>	<b>\$ 41,916,717</b>	<b>\$ 43,960,950</b>	<b>\$ 41,588,292</b>	<b>\$ 43,438,080</b>

1/ Slice customers do not pay for any expense made with reinvested green premium revenues.



# Upcoming Workshops

Workshop	Date	Time
Executive Welcome & Overview	Thurs. 05/15/2008	9:00am-3:00pm
FY 2009 Power Cost Overview, Misc.	Thurs. 05/15/2008	3:00pm-4:00pm
Asset Management Overview, Agency Service Costs	Tues. 05/20/2008	9:00am-9:30am 9:30am-12:30am
Power's Internal Operating Costs, Power's Transmission Acquisition & Residential Exchange	Tues. 05/20/2008	1:00pm-4:00pm
Fish & Wildlife Capital/Expense with emphasis on MOA costs overall and FY 2009 F&W Program Costs, and FY 2009 Columbia River Fish Mitigation Investment	Wed. 05/21/2008	9:00am-12:00pm
Corps/Reclamation – Capital/Expense Part 1 of 2	Wed. 05/21/2008	1:00pm-4:00pm
Conservation & Energy Efficiency – (Capital/Expense), Renewable Resources Program	Thurs. 05/22/2008	9:00am-12:00pm
Columbia Generating Station	Thurs. 05/22/2008	1:00pm-4:00pm
General Manager Meeting on 2009 Costs	Thurs. 06/11/2008	9:00am-12:00pm 1:00pm-2:00pm
Fish & Wildlife Capital/Expense with an emphasis on FY2010-2011 F&W Program Costs, Hydro Ops, Lower Snake River Comp. Program & Columbia River Fish Mitigation Investment & NWPC	Thurs. 06/12/2008	9:00am-12:00pm
Corps/Reclamation – Capital/Expense Part 2 of 2	Thurs. 06/12/2008	1:00pm-4:00pm
Transmission Capital/Expenses	Thurs. 06/19/2008	9:00am-12:00pm
Depreciation, Amortization and Interest, and Debt Management	Thurs. 06/19/2008	1:00pm-4:00pm
General Manager Meeting	Thurs. 06/26/2008	9:00am-12:00pm
IPR Concluding Workshop	Thurs. 06/26/2008	1:00pm-4:00pm



# Ways to Participate

- **All forums are open to the public and will be noticed on the IBR external web site at: <http://www.bpa.gov/corporate/Finance/IBR/IPR/> Staff from the Corps of Engineers, Bureau of Reclamation, and Energy Northwest will participate in presentations on costs they manage.**
- **All Technical and Managerial workshops will be held at BPA Headquarters.**
- **The comment period for the IPR opens Thursday, May 15, 2008. Close of comment for FY 2009 Power costs is June 19, 2008. Close of comment for all other costs is August 15, 2008. You have several options to provide comments to BPA:**
  1. Attend one or more of the scheduled workshops and give BPA your comments.
  2. Discuss your input with your Customer Account Executive, Constituent Account Executive, or Tribal Liaison.
  3. Submit written comments to Bonneville Power Administration, P.O. Box 14428, Portland, OR 97293-4428.
  4. Submit comments via e-mail to: [comment@bpa.gov](mailto:comment@bpa.gov) or submit on line at: <http://www.bpa.gov/comment>.
  5. Comments can also be sent via fax to (503) 230-3285.



# BPA's Financial Disclosure Information

1. All FY 2008-2013 information was provided in May 2008 and cannot be found in BPA-approved Agency Financial Information, but is provided for discussion or exploratory purposes only as projections of program activity levels, etc. This information is a derived estimate for presentation purposes and cannot be found in BPA-approved Agency Financial Information but is provided for discussion or exploratory purposes only as “projections of program activity levels, etc.”
2. All FY 2007 and earlier information was provided in May 2008 and is consistent with audited actuals that contain BPA-approved Agency Financial Information.