Harvard Electricity Policy Group

Can we mitigate utilities' "self-build" bias?

Regulatory Treatment of Purchased Power

Robert Kahn, Executive Director

Northwest & Intermountain Power Producers Coalition

October 3, 2008

Defending the Paradigm of Competitive Wholesale Markets

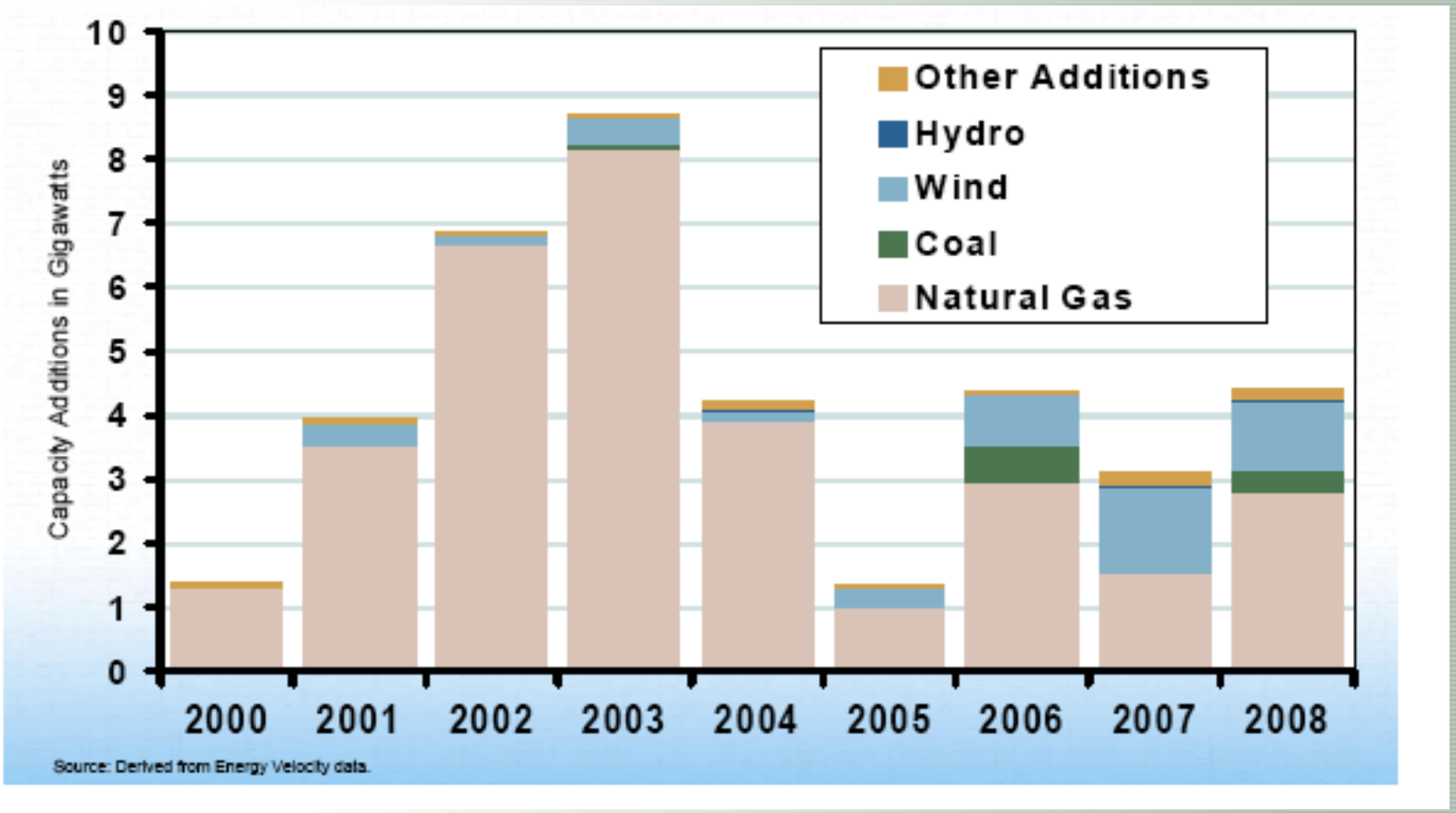
- Represents 5000 MW thermal (coal, gas) and 1000 MW renewable generation (wind, biomass)
- Active in Oregon, Washington, Idaho, Utah
- Advocates for fair, transparent markets in generation and ancillary services
- Supports transmission policy that expands total transmission capacity
- Promotes competitive procurement to help utilities secure lowest cost/lowest risk power

Northwest & Intermountain Power Producers Coalition

- Calpine
- Constellation Energy Control & Dispatch
- ENMAX Corporation
- enXco
- EPCOR
- EverPower Renewables
- Horizon Wind Energy
- Invenergy
- National Energy Systems Co.
- Mint Farm Energy Center
- Shell Energy/Shell Wind Energy
- Sierra Pacific Industries
- TransAlta Energy Marketing, Inc.
- Transcanada Power
- Sea Breeze Power Corp.

Western Generation Additions

(non-California)

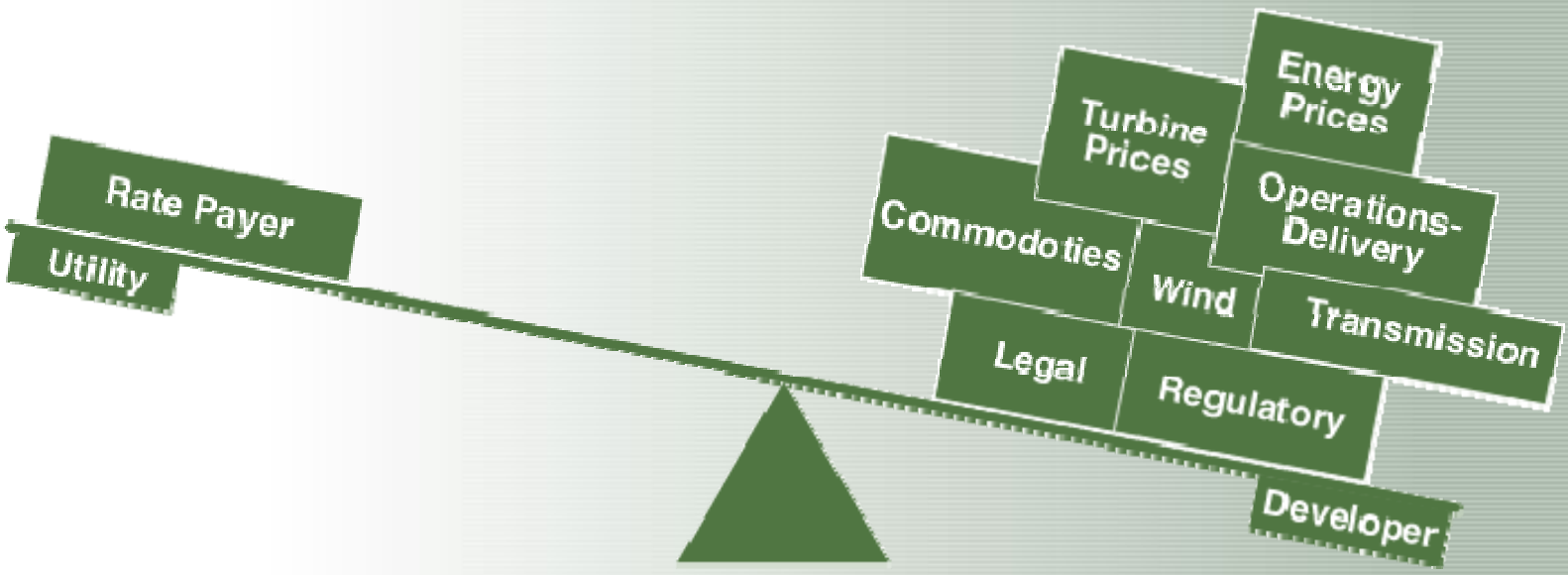


Flip the Switch on Competition?

What do IPPs do for ratepayers?

- IPPs deliver power at least cost/least risk
  - IPPs pioneer utility-scale generation technology
    Examples: CCCT, wind turbine technology, etc.
  - Assume "dry hole" under-performance risk
  - Assume technology, compliance, O&M risk
  - Leverage construction experience
  - Tap economies of scale
- Provide ratepayers a "competitive check" on utility self-build, ownership

Balancing Development Risk



Project Risk Allocation & Potential Impact on Rate Payers

Who Bears Risk - Typically

Risk Factor	IPP Build	Utility Build	$ Impact to Ratepayers
Fixed Costs:			
Capital Cost Overrun – 5%	IPP	Ratepayers/EPC	$24M
Fixed Operation & Maintenance Expense (5% higher than utility projection)	IPP	Ratepayers	$3M
Cost of debt increases (1% higher than projection)	IPP	Ratepayers	$13M
ROE increases (1% higher than projection)	IPP	Ratepayers	$20M
Equity portion of capital structure increases (equity 1% higher than projection)	IPP	Ratepayers	$3M
Fixed O&M Inflation rate changes (2.5% to 3.5%)	IPP	Ratepayers	$7M
Capital recovery during outage (6 months)	IPP	Ratepayers	$8M
Total Cumulative Charge			**$78M**
Base NPV of $350M Plant Investment			$551M
Fixed Cost Risk Percentage			14%

Assumptions:
$-NPV per $350 million investment, discount rate = 7.5% . Typical 2x1 525 MW CCCT.
35 year plant life
IPP has capability to bear risk.

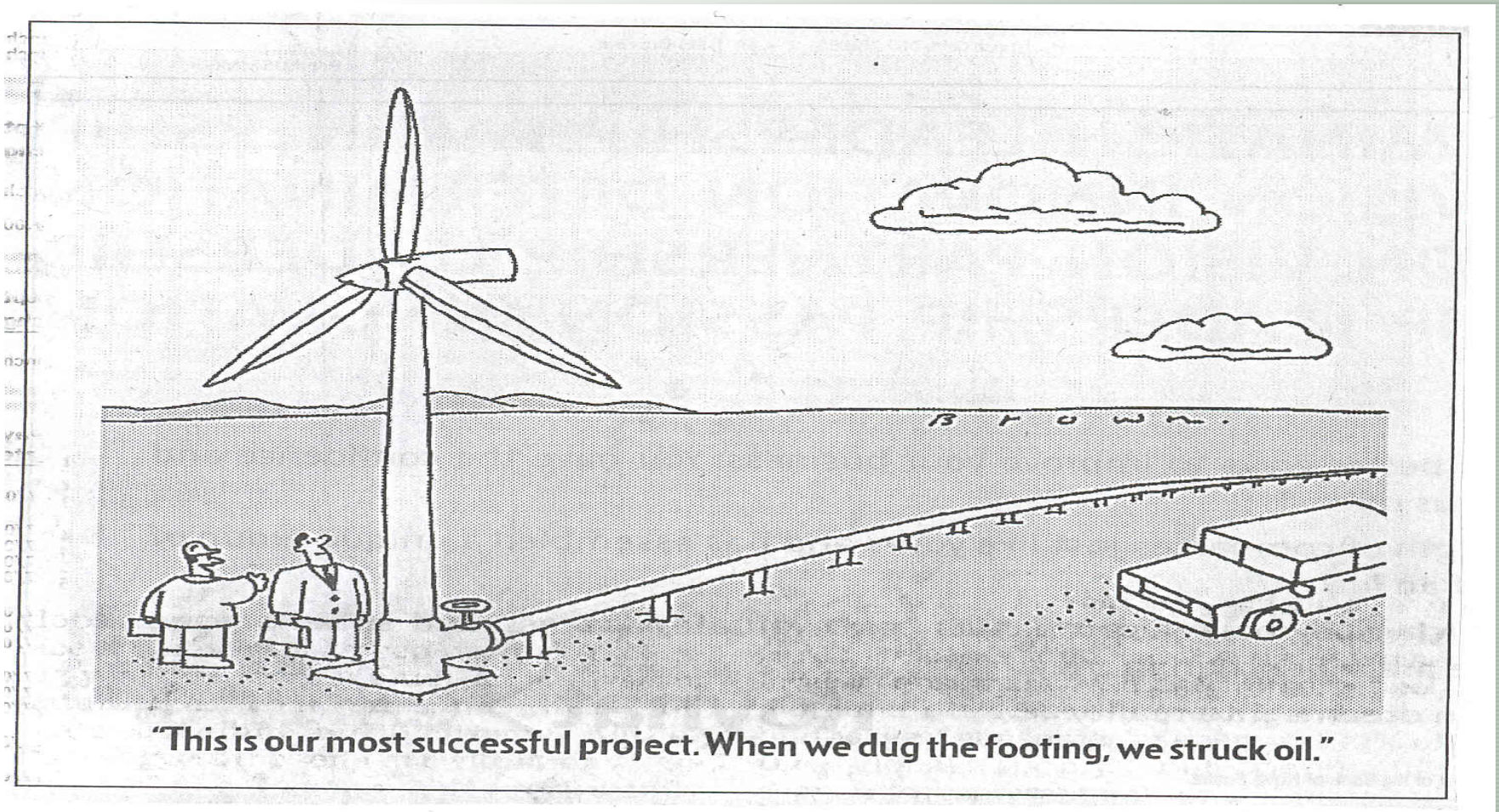
Project Risk Allocation & Potential Impact on Rate Payers

Who Bears Risk - Typically

Risk Factor	**IPP Build**	**Utility Build**	**$ Impact to Ratepayers Gas Price $4.00/mmbtu**	**$ Impact to Ratepayers Gas Price $6.00/mmbtu**
Variable Costs:				
Natural Gas Price Risk (Tolling Agreement)	Ratepayers	Ratepayers	N/A	N/A
Heat Rate 5% > than Projected	IPP	Ratepayers	$68M	$102M
Heat Rate Degrades .25%/yr.	IPP	Ratepayers	$36M	$53M
Total				**$104M** **$155M**
Base NPV of Fuel Costs			$1,355M	$2,032M

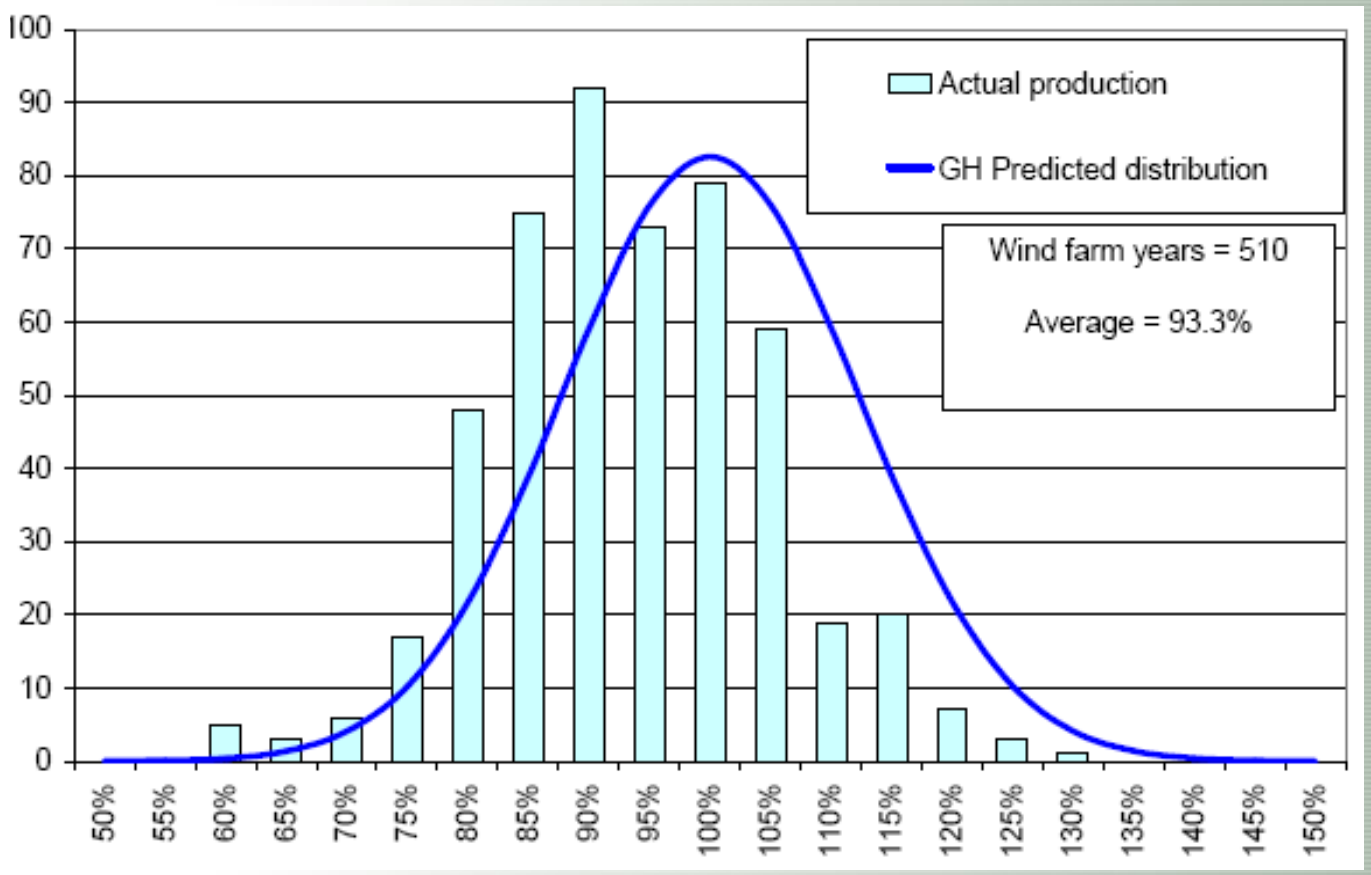
Assumptions:
$-NPV per $350 million investment, discount rate = 7.5% . Typical 2x1 525 MW CCCT.
35 year plant life

IPP has capability to bear risk.


"This is our most successful project. When we dug the footing, we struck oil."

“Dry Hole” Risk

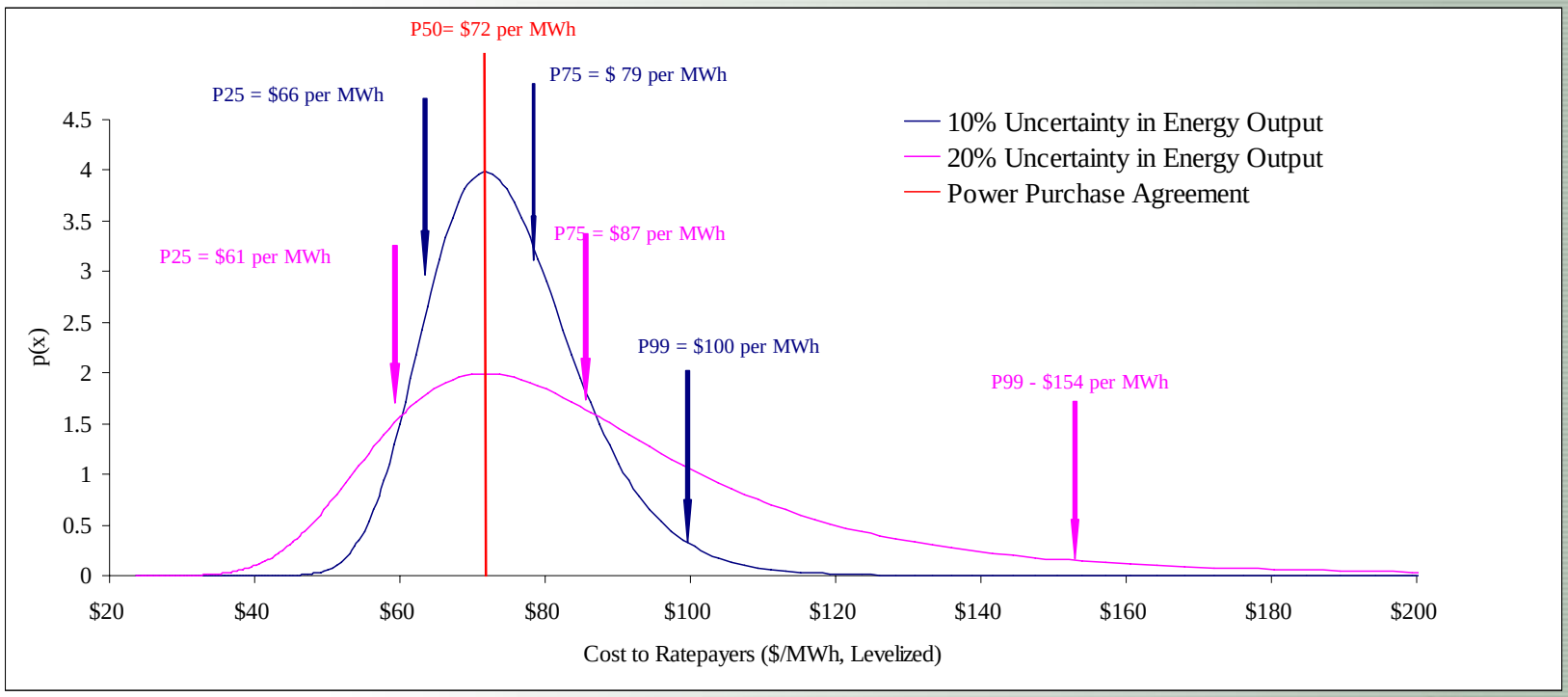
Source: Garrad Hassan, 2007

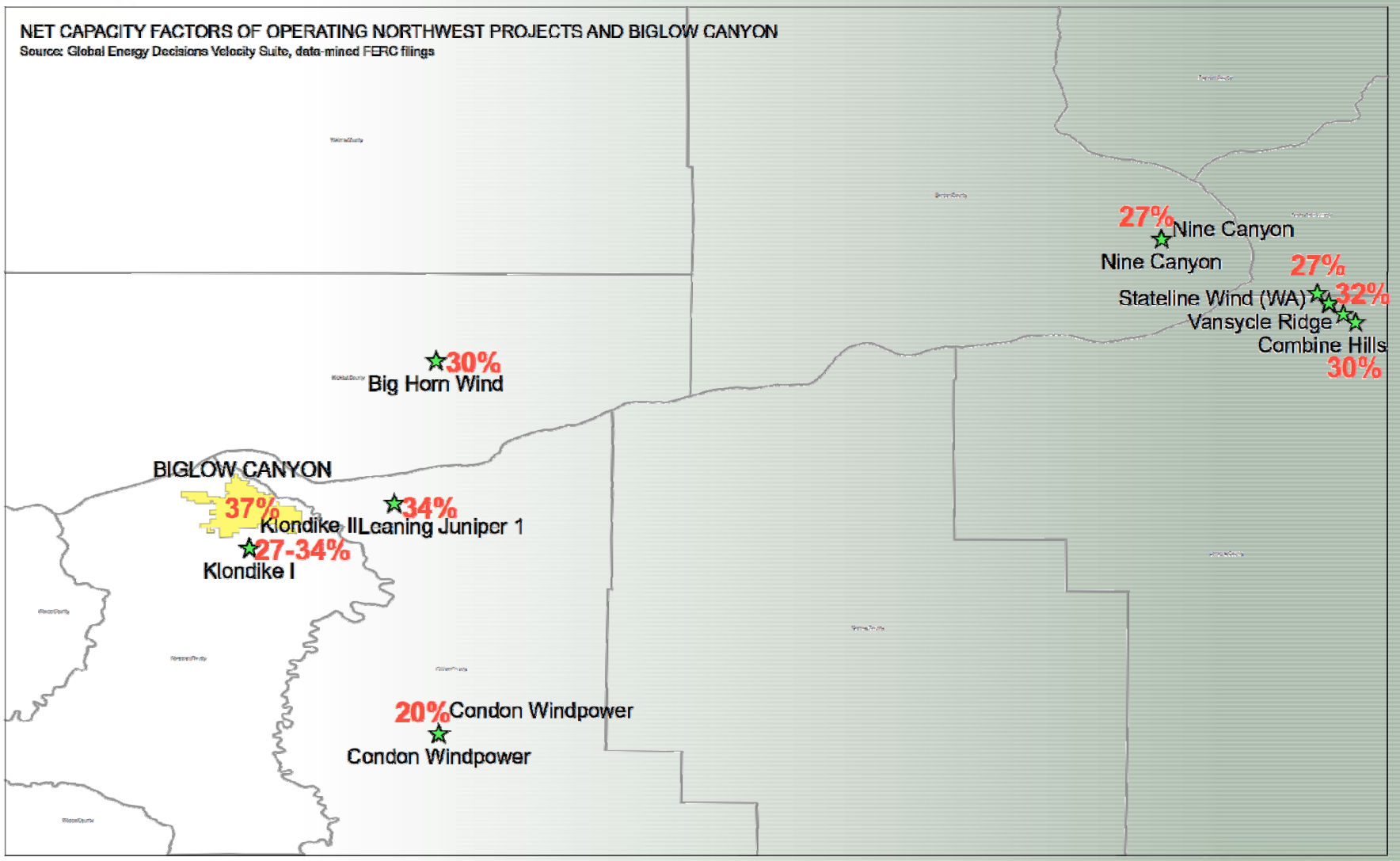


Under-performance Risk

150 MW utility-owned project with 20% overestimation =>
$21 million cost overruns to utility's consumers

Source: Horizon Wind Energy, 2007




NET CAPACITY FACTORS OF OPERATING NORTHWEST PROJECTS AND BIGLOW CANYON
Source: Global Energy Decisions Velocity Suite, data-mined FERC filings
27%
Nine Canyon
Nine Canyon
27%
Stateline Wind (WA)
32%
Vansycle Ridge
Combine Hills
30%
30%
Big Horn Wind
BIGLOW CANYON
37%
34%
Klondike II
Leaning Juniper 1
27-34%
Klondike I
20%
Condon Windpower
Condon Windpower

Wind Turbine Technology

- DEWI report findings
- Component failures
  - Gearboxes
  - Bearings
  - Shafts
  - Blades
- LT service agreements
  - Typically ≤ 5 years
  - Risk borne by owner/insurer/rate-payer/shareholder

Monopsony Market Power in action

Distort competitive procurement

- Extract BOT commitments
- Finesse regulatory regimes
- Revive “CWIP” for turbine deposits
- Direct landowners toward preferred IPPs
- Limit provision of transmission ancillary services
- Exaggerate debt equity impact
- Advance shareholder value…

Sweet Spot: Balance Shareholder Value with Ratepayer Protection

- PPAs don't sufficiently benefit utility shareholders
  - Unbalanced regulatory policy
  - Innovation warranted
  - Competitively-procured PPAs benefit ratepayers

- NIPPC's dual objectives
  - Fair procurement rules
  - Reward utility for PPAs with risk assumption

OPUC UM 1182: Bidding Guidelines

- Minimize long-term energy costs, subject to economic, legal and institutional constraints
- Complement IRP process
- Not unduly constrain utility's prerogative
- Be flexible, allowing the contracting parties to negotiate mutually beneficial agreements
- Be understandable and fair

Key Elements I

- RFP Requirement:

  Utility must issue an RFP for all Major Resource acquisitions identified in its last acknowledged IRP.

  "Major Resources" are resources with durations greater than 5 years and quantities greater than 100 MW.

  Provisions for exceptions are provided.

- Utility Ownership Options:

  Utility may use a self-build option in an RFP. A site-specific, self-build option is known as a "Benchmark Resource." A utility may also consider ownership transfers within an RFP solicitation.

Key Elements II

- Independent Evaluator (IE):

  Must be used in each RFP.

  Commission Staff, with input from parties, will recommend an IE.

  IE must be truly independent and experienced.

  IE will contract with and be paid by the utility.

  IE assists Commission staff.

  Oversee all aspects of bid from prep of RFP - short list negotiations.

OPUC Proceeding UM 1276

Oregon's Pursuit of a Win/Win Solution to Build/Own Bias

"…we intend to open an additional investigation docket later this year to consider the use of performance-based ratemaking to offset utility bias in favor of owning its own resources."

Order No. 05-133, signed by Commissioners Lee Beyer, John Savage,

and Ray Baum, 3/17/05

A Work in Progress I: UM 1276

- NIPPC Proposal
  - Utility incentive: rate base10% post-tax on Oregon's share of total costs of "eligible" PPAs
  - "Eligible"
    - PPAs selected via competitive bid & "Benchmark" resource
    - Contracts 25 MW or greater, three years or longer
    - PPAs associated with specific assets
    - IPP explicitly assumes risks confirmed by IE and acknowledged by OPUC

    QF projects are not eligible

A Work in Progress II: UM 1276

- NIPPC Proposal, continued
  - Utility should not consider incentive in RFP
  - Annual reporting to OPUC
  - Review incentive after three years

Other stakeholders covered "the waterfront"

Docket closed 1Q 2008 with no decision rendered

Summary

- Monopsony power in traditionally regulated states is real
- Utility self-build/ownership preference real
- Consumer interests best served by robust competition at wholesale level
- IPPs pioneered renewables and offer willing to assume substantial risks through PPAs
- Shareholders need to see some benefit for utilities off loading rate payer risks through PPAs

Northwest & Intermountain Power Producers Coalition

1117 Minor Avenue, Suite 300
Seattle, WA 98101
206.624.1235 | www.nippc.org