Mission Statement:
The UTC protects consumers by ensuring that utility and transportation services are fairly priced, available, reliable, and safe.

Issues facing the WUTC

Prepared for: The Kyrgyz Republic SEA

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# Presentation Order

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Washington is a Hydroelectric Region

- Region includes the Columbia River system that crosses four states and Canada.
- High cost to disturbing the flow of this water system - fisheries, farming, recreation and municipal water supply.
- System became run-of-river, without much storage.
- Dispatch system for water management and daily peak load-shaving, not hourly marginal cost.
Weather Issues

- Rain and snowfall vary - output of the system can vary greatly. Shortfalls covered by purchases from thermal plants.

- Causes large changes in the prices or costs which consumers face year-to-year.

- Changes can bring real economic disruption, consumer irritation, and political consequences for decision-making.
Fuel Prices Driving Issues at WUTC

- Gas is mined in Canada, the Rocky Mountains, the Gulf Coast and other parts of the USA.
- Pipelines deliver to other states.
- Washington buys in the national market.
- Heating use causes the seasonal price pattern underlying the commodity price of gas.
- Month-to-Month and Day-to-Day gas price variations cause variations in average costs.
Fuel Prices Driving Issues at WUTC

Gas Daily Sumas Index

Natural Gas prices declined after FERC deregulation
Fuel Prices Driving Issues at WUTC

Sumas Gas Daily Prices 7-21 to 7-03

US$/mmBtu
Fuel Impact on Rates

- Dual goals of “price signal” and rate stability.
- Utility is a buffer between consumer and market sources.
- For the electric company, this has been tried with Power Cost Adjustment devices.
- For gas utilities, the Purchased Gas Adjustment is used.
Bonneville Power Administration (Bonneville)  
Resource Benefit Sharing

- Federal organization Bonneville uses hydro natural resources with local environmental impact.
- Physical power sold to public power companies, not regulated utilities.
- Equity for customers of regulated utilities comes from cash transfer from Bonneville to regulated utilities to reduce power costs.
- Socialized public system shares with regulated monopoly system.
BPA Residential & Farm Energy Exchange Benefit Example

Puget Sound Energy Residential & Farm Service Rate Schedule 8

All energy @ 6.621 cents / kWh

Exchange Credit @ 1.74 cents / kWh

26.28 % discount to bill
Western Power Disturbance
2000 to 2001

- May 2000 to May 2001 energy market disturbance.
- California Restructuring harmed western market.
- Consensus on causes:
  - Capacity shortfall
  - Poor day-ahead market design
  - No alternatives to the daily market
  - Poor hydro conditions.
- Dishonest marketing and bidding made severe problem worse. Some government lassitude too.
Dow Jones Index: Mid-C

Market disruption in the year 2000 which damaged Washington
January 2001 FERC response to Western Electricity Price Market: *sleeping on the job*

- drawing by Stephen B Samerjan iii
Western Power Markets

• Year-long disruption brought several issues to the WUTC and continues to do so.

• PSE Lawsuit, which ended in a settlement, created a small set of industrial customers with direct access to wholesale power markets.

• Regulated utilities were damaged directly or indirectly by the extreme wholesale prices of this period and filed for significant rate cases.
Renewed Interest in Resource Planning

• One cause of the Western Power Market problem was inadequate capacity. Highlights value of vertical integration & resource planning.

• Resource Plans include study of the adequacy of capacity and energy.

• Mix of conservation and supply.

• Diversity of fuel and technology type to provide stable, low-cost, long-term power supply.
2001 Demand Response

- Customer Buyback Programs
  ⇒ Total of 758,986 MWh curtailed
- Industrial Curtailment Programs
  ⇒ Total of 12,928 MWh curtailed
- Irrigation Buyback Programs
  ⇒ Total of 28,076 MWh curtailed
- Time-of-Use Program
- Conservation Programs
  ⇒ Puget Sound Energy = 107,321 MWh saved
  ⇒ Avista = 143,246 MWh saved
Resource Planning

• Retreat from restructuring has placed renewed interest on **Integrated Resource Planning**.

• Resource Planning was codified in Washington in mid-1980s—then known as Least Cost Planning.

• “Each electric utility has the responsibility to meet its load with a least cost mix of generating resources and improvements in the efficient use of electricity.” WAC 480-100-238(1)
WUTC’s Resource Planning Rule

• Company must file a plan every 2 years.
• Plan must include:
  – Forecasts of demand (20-year)
  – Assessment of demand-side potential
  – Assessment of generating technologies
  – Integration of demand forecast with cost-effective resource opportunities
  – Short-term (2-year) action plan
  – Progress report from last plan
• Public involvement in creation of plan is required.
Stakeholders Involved in Resource Planning

- WUTC Staff
- Public Counsel
- Industrial customer representatives
- Environmentalists
- Low-income advocates
- Washington Energy Policy Office
- Northwest Power Planning Council
Current Issues in Planning

• De-emphasis of reliance on day-ahead market
• Ensuring resource adequacy for core customers
• Minimizing exposure to fuel price volatility (risk mitigation)
  – Hedging
  – Demand-side resources
  – Renewable resources
• Integration of demand-side resources with supply-side in models
• Recognizing externalities
• Hydro re-licensing
Use of Resource Plans

- Commission acknowledges plans—does not approve them.
- Plans provide strategic direction for long-term planning.
- Planning is a dynamic process.
- Plans identify key factors and analytical methods for making resource additions.
- Plans do not commit utilities to acquisition of specific resource types.
Resource Bidding Rule

- Commission administers a Federal law for small power sellers and observes acquisition of resources.
- Filing of Resource Plan mandates filing Request For Proposals.
- Request For Proposals attracts bids using Resource Plan data.
- Bids evaluated on objective basis.
- Resources outside of bidding process considered.
- Company has no obligation to accept any bid and bidders have no claim to a contract.
Puget Sound Energy
Supply Mix

Estimated Annual Energy Resource Mix, 2003

- Natural Gas: 28%
- Coal: 28%
- Hydro: 39%
- Renewables: 1%
- Market: 3%

Estimated Annual Energy Resource Mix, 2013

- Coal: 33%
- Conservation: 5%
- Renewables: 10%
- Hydro: 32%
- Natural Gas: 20%
Puget Sound Energy Preferred Resource Strategies
Avista Supply Mix

2013
- Hydro: 26%
- Contracts: 2%
- Base Thermal: 18%
- Gas-Fired: 31%
- Wind: 4%

2004
- Hydro: 35%
- Contracts: 2%
- Base Thermal: 43%
- Gas-Fired: 31%
- Wind: 1%

2023
- Hydro: 28%
- Contracts: 12%
- Base Thermal: 4%
- Gas-Fired: 49%
- Wind: 1%

Legend:
- Hydro
- Contracts
- Base Thermal
- Gas-Fired
- Wind
Current and Up-Coming Regulatory Proceedings

• Commission currently reviewing resource planning rule
• Request For Proposals review and publication
• Rate case for resource acquisition
• New filings for demand-side programs
• Purchase Cost Adjustments
• Purchase Gas Adjustments