

## STUDY OF ELECTRICITY TAXATION

### WASHINGTON STATE DEPARTMENT OF REVENUE

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<http://dor.wa.gov/index.asp?misc/electricity/final.htm>

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The Legislature directed the Department of Revenue to study and report on the taxation of the electricity industry. The need for this study arose out of the federal deregulation of the electricity wholesale market that changed and continues to change the manner in which this industry functions.

In Washington, the option exists for large users of electricity to pressure their local provider to lower prices or to fashion a method to leave the local system to obtain better prices. While local electricity service providers may be chafing under this pressure, conversely, they are finding new business opportunities to sell electricity to out-of-state customers.

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The question is whether current state and local tax codes efficiently and effectively operate in this new and changing environment.

In order to answer that question the Legislature directed the Department of Revenue to:

- ✦ analyze taxes paid by the electricity industry
- ✦ analyze trends in the electricity industry and how those trends may affect tax revenues
- ✦ analyze whether current tax law equitably responds to this new environment and,
- ✦ to present taxation options.

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## Trends In The Electricity Industry

Goal was to identify trends in the electricity industry that may significantly impact state revenues.

A broad group of trends were identified through discussions with industry experts. We spoke to:

- ✦ Consultants
- ✦ Industry Representatives
- ✦ Federal, State and Local Representatives
- ✦ Other Groups Interested in Energy Policy

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Not all trends were agreed upon by the study participants.

The study team, with the help of the advisory committee, chose which trends were significant and which were not.

A baseline revenue forecast was produced using a forecast of electricity rates published by the Northwest Power Planning Council.

Fiscal Years	Public Utility State (\$000)	Public Utility City (\$000)	Change	PUD Privilege (\$000)	Change	Property (\$000)	Change
Base 1998	\$130,224	\$107,872		\$27,794		\$44,869	
Forecasted							
1999	\$136,736	\$113,266	4.80%	\$27,658	-0.50%	\$46,439	3.40%
2003	\$153,299	\$126,986	2.70%	\$30,061	2.70%	\$53,290	3.40%
2005	\$162,004	\$134,197	2.70%	\$31,768	2.70%	\$57,086	3.40%



### Identified Trends

#### A. Market Price and Access

Large industrial or commercial users are increasingly able to purchase electricity directly from suppliers.

What is the potential for revenue loss/gain? Electricity purchased directly from out of state suppliers is not taxed by Washington.

Using various prices for electricity and industry estimates of shifts in load, the potential loss in PUT revenue was estimated.



### Inputs To The Analysis

Estimated Amount of Electricity Consumption Purchased From Out-of-state Suppliers				
	Price (mills per kWh)		Estimated Per 2831 Study	Estimated by L&Ps
Year	Low	High	(MWh 000)	
2000	19.0	31.0	28,832	16,371
2003	19.7	36.8	29,971	17,018
2006	22.6	43.1	31,155	17,691

**Data Sources:** *Washington State Electricity System Study*, Washington Utilities and Transportation Commission and Dept. of Community, Trade and Economic Development, for ESSB 6560, (December 31, 1998). ; Northwest Power Planning Council, BPA Stranded Cost Simulation Model (2002-2006).

*Washington Electric Utility Service Quality, Reliability, Disclosure and Cost Report*, Washington Utilities and Transportation Commission and Office of the State Auditor, for ESHB 2831, (December 1, 1998).

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Potential Lost Revenues				
Based on Estimates by Light and Power Businesses				
	Low Price		High Price	
Year	Lost PUT (000)	% Total PUT	Lost PUT (000)	% Total PUT
2000	\$12,009	8.54%	\$5,596	3.98%
2003	\$13,056	8.52%	\$0	0.00%
2006	\$12,862	7.72%	\$0	0.00%

Potential Lost Revenues				
Based on Estimates Per 2831 Study				
	Low Price		High Price	
Year	Lost PUT (000)	% Total PUT	Lost PUT (000)	% Total PUT
2000	\$20,418	14.53%	\$8,596	6.12%
2003	\$22,198	14.48%	\$0	0.00%
2006	\$20,699	12.43%	\$0	0.00%

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## B. Other Services Provided/New Entrants In The Market

- ✦ Efficiency-enhancing services: new services that reduce costs (power trading, futures contracts, options, swaps).
- ✦ Energy conservation services: services that intend to reduce consumption of electricity (insulation, efficient lighting).
- ✦ Value-added services: new services that create value (on-site energy management, UPS, power quality).
- ✦ Unbundled services: those services that are traditionally offered as part of bundled electricity service (metering, billing, transmission).

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A table showing the tax impacts of each trend was developed.

Tax impacts are based on increases/decreases in power generation, consumption and price.

<b>Effects on Tax Revenues</b>	
<b>Increase in Efficiency-Enhancing Services</b>	
(Less Power Sold To End Users)	
<b>Tax Type</b>	<b>Effect</b>
PUT	Decrease
PUD Privilege Ñ Self-Generation	No Effect
PUD Privilege Sales to End Users	Decrease
B&O Tax	Increase
Sales and Use Tax	No Effect
Property Tax	No Effect

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## TAX EQUITY ANALYSIS

In order to analyze differences in tax obligations, hypothetical electricity entities were created and taxed.

The hypothetical entities represent all activities in the electricity industry from generation to the sale to the final consumer.

Although hypothetical, the entities are typical representatives of Washington's electricity industry.

The typical businesses were created using actual data from Washington's electricity industry.

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- ✦ Taxes were summed and compared on a kWh and percentage of revenue basis to give common frame of reference for each scenario.
- ✦ For each comparison, the amount of electricity sold and the price are assumed to be the same (except in the scenario that compares the effect of price on total residential tax bill), so that the comparison can be focused only on taxes.
- ✦ The number of kilowatt-hours and price is meant to represent what is sold to a typical industrial consumer in a year.
- ✦ Actual data from federal and local sources were used to determine typical kilowatt-hour purchases and a typical price.

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## **Tax Scenarios**

### Bundled Electricity Service

Compares the range of taxes implicit in the purchase of electricity from the various types of local light and power businesses.

### The Effect of Price on Total Residential Tax Bill

This scenario demonstrates how price effects the overall tax burden.

### Competitive Sale to End-User

Models the incremental sale to an end-user, ignoring distribution, transportation, and other fixed costs.

### Out-of-state Sale

Focuses on the sale of electricity to customers in other states.

### Unbundled Services

Illustrates the tax consequences of unbundling, where associated services such as metering and billing are provided by businesses other than the light and power business.

### Sales for Resale

This comparison illustrates the tax impact of the sale of electricity for resale based upon the type of purchaser

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## **Bundled Electricity Services**

Compares range of taxes implicit in the purchase of electricity from various light and power businesses.

Focus - large industrial customer purchases electricity from the following entities:

- ✓ IOU which generates its own electricity
- ✓ IOU with no generation capacity
- ✓ Municipal light and power business generating electricity with a local turbine
- ✓ Municipal light and power business with a hydro plant in another county
- ✓ Municipal light and power business with no generating capacity
- ✓ Mutual/Cooperative which generates its own electricity
- ✓ Mutual/Cooperative with no generation capacity
- ✓ PUD which purchased the electricity on the wholesale market
- ✓ PUD which generated the electricity itself
- ✓ Large industrial customer which generates its own electricity
- ✓ DSI which buys electricity directly from the BPA

### **Conclusions**

Taxes vary from between .31 to .48 cents per kWh. This represents only 10% of the difference in prices when comparing the weighted average price per entity type.

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<b>Bundled Electricity Service</b>			
Focus: Purchasing From Different Types of Light and Power Businesses			
Large industrial customer purchases electricity from:	Taxes		
	Total \$	% of Gross Sales	Cents per kWh
Investor Owned Utility (generates own electricity)	\$4,640	15.89%	0.48
Investor Owned Utility (with no generation capacity)	3,454	11.83%	0.35
Municipal L&P (generated by local turbine) <sup>1</sup>	3,427	11.73%	0.35
Municipal L&P (w/ hydro plant in another county) <sup>2</sup>	3,719	12.73%	0.38
Municipal L&P (with no generation capacity)	2,984	10.22%	0.31
Mutual/Cooperative (generates own electricity)	4,640	15.89%	0.48
Mutual/Cooperative (with no generation capacity)	3,454	11.83%	0.35
PUD (purchases electricity on wholesale market)	3,609	12.36%	0.37
PUD (generates electricity for itself)	4,260	14.59%	0.44
Large Industrial Customer; generates own electricity <sup>3</sup>	1,937	NA	0.20
DSI Who Buys from an Out-of-State Seller, such as the BPA	0	0	0

The Effect of Price on Total Residential Tax Bill

This scenario demonstrates how price effects the overall tax burden.

We compared a high price PUD with a Low Price PUD

**Conclusions**

Higher prices cause a higher tax burden.

In this case a 67 percent price increase caused only a 52 percent tax increase. This is because some taxes (sales tax, property tax and a portion of PUD) are not dependent on price

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### Competitive Sale to End-User

Models the incremental sale to an end-user, ignoring distribution, transportation, and other fixed costs.

Compares in state Light and Power industries with an in state marketer and out of state marketers.

#### **Conclusions**

Out-of-state marketers enjoy a competitive advantage that ranges from over 1 percent to about 11.4 percent of the gross value of the sale compared to Washington entities.

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### Out-of-state Sale

Focuses on the sale of electricity to customers in other states.

Out-of-state consumer purchases electricity from each of the following:

- ✓ PUD
- ✓ Municipal Electric
- ✓ IOU
- ✓ Mutual/Cooperative
- ✓ In-state marketer
- ✓ Out-of-state seller without nexus

#### **Conclusions**

Because of the state PUT deduction for sales out of state, most light and power businesses do not face a competitive disadvantage compared to sales made by either in-state or out-of-state electricity sellers.

Municipals located in cities that do not have a local PUT exemption on exports are at a competitive disadvantage in relation to other entities that are not subject to a tax on exported electricity.

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## Unbundled Services

Illustrates the tax consequences of unbundling, where associated services such as metering and billing are provided by businesses other than the light and power business.

1. An end-user purchases electricity from a marketer. Delivery, metering and billing are done by a light and power business.
2. An end-user purchases electricity from a marketer. Delivery is done by a light and power business, metering and billing is done by the marketer.

### **Conclusions**

Having a marketer (or other non light and power business) provide metering and billing services reduces taxes associated with metering and billing by almost 50 percent.

This may be enough of an incentive to encourage some unbundling of services.

However, in comparing the total tax bill, unbundling metering and billing services only decreases taxes by 3 percent.

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## Sales for Resale

This comparison illustrates the tax impact of the sale of electricity for resale based upon the type of purchaser.

In-state light and power business sells to:

- ✓ In-state marketer
- ✓ Out-of-state marketer
- ✓ In-state light and power business

### **Conclusions**

In-state light and power businesses face a competitive disadvantage of nearly 4 percent compared to out-of-state marketers.

This is because a deduction is allowed for amounts derived from the sale of electricity from one light and power business to another for resale within Washington State.

This deduction does not apply to sales by a light and power business to a non-light and power business such as a marketer (Deduction now applies to all entities; HB 2755).

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## General Conclusions

For the majority of electricity sales that take place in Washington state, there are no significant differences in taxation

However, taxes cause some Washington light and power businesses a serious competitive disadvantage in the deregulated wholesale environment.

Out of state businesses can enjoy a competitive advantage of 1 to 11 percent because PUT and PUD privilege tax apply only to businesses located within Washington State.

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## Recently Passed Legislation

▶ A retail sales/use tax exemption for equipment used to generate 200 kilowatts or less electrical power by the use of wind, solar, landfill gas, for fuel cells. Applies to home owners and other small systems.

▶ Public utility and use tax credits for purchases of natural gas from Washington suppliers by DSIs that construct a gas turbine facility.

A similar credit against public utility tax for electric utilities that construct new facilities to supply power to DSIs.

▶ Public utility and business and occupation tax deductions for all sales of electricity for resale within.

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