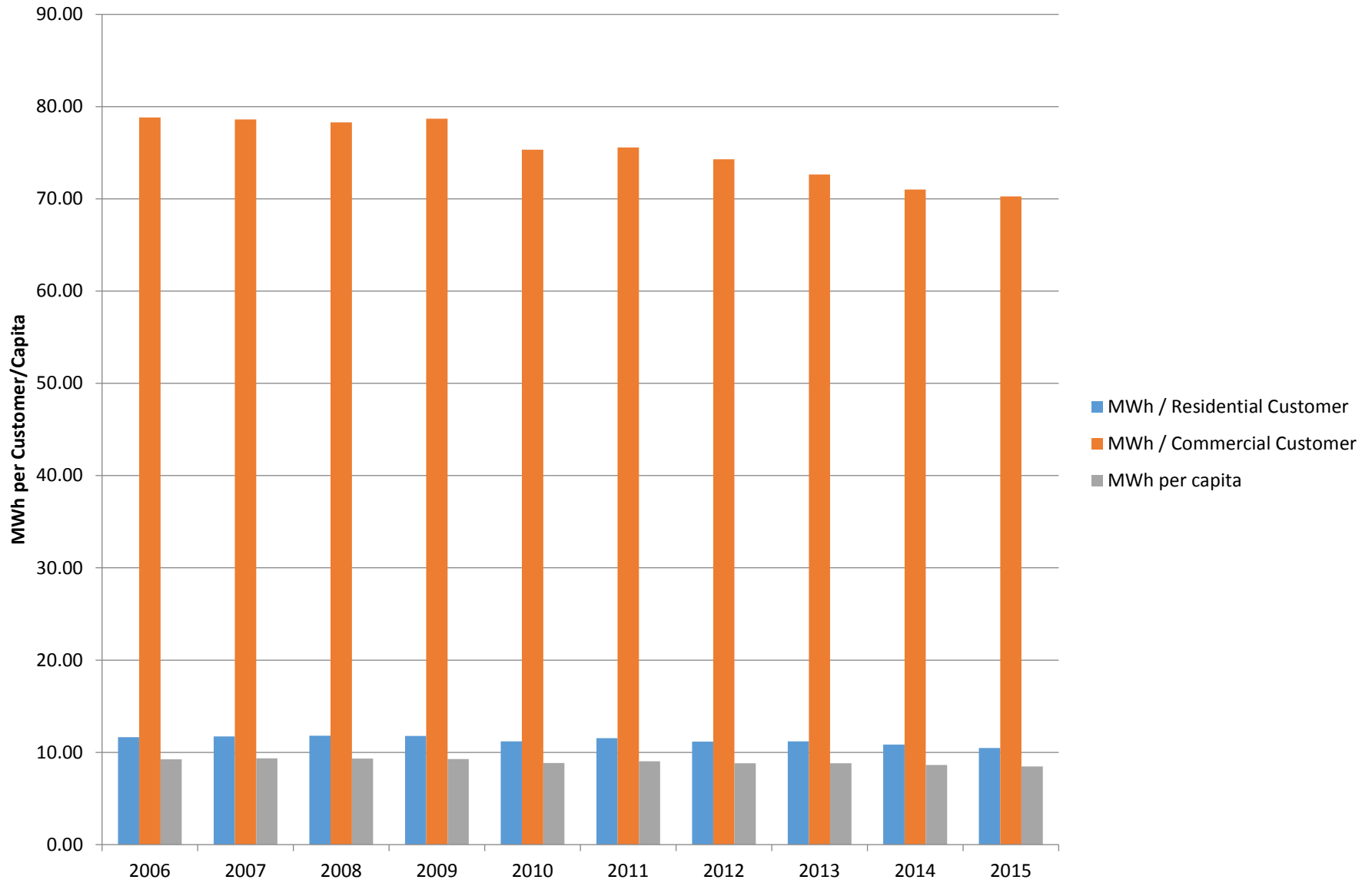


## Energy Intensity Metrics 2006 - 2015



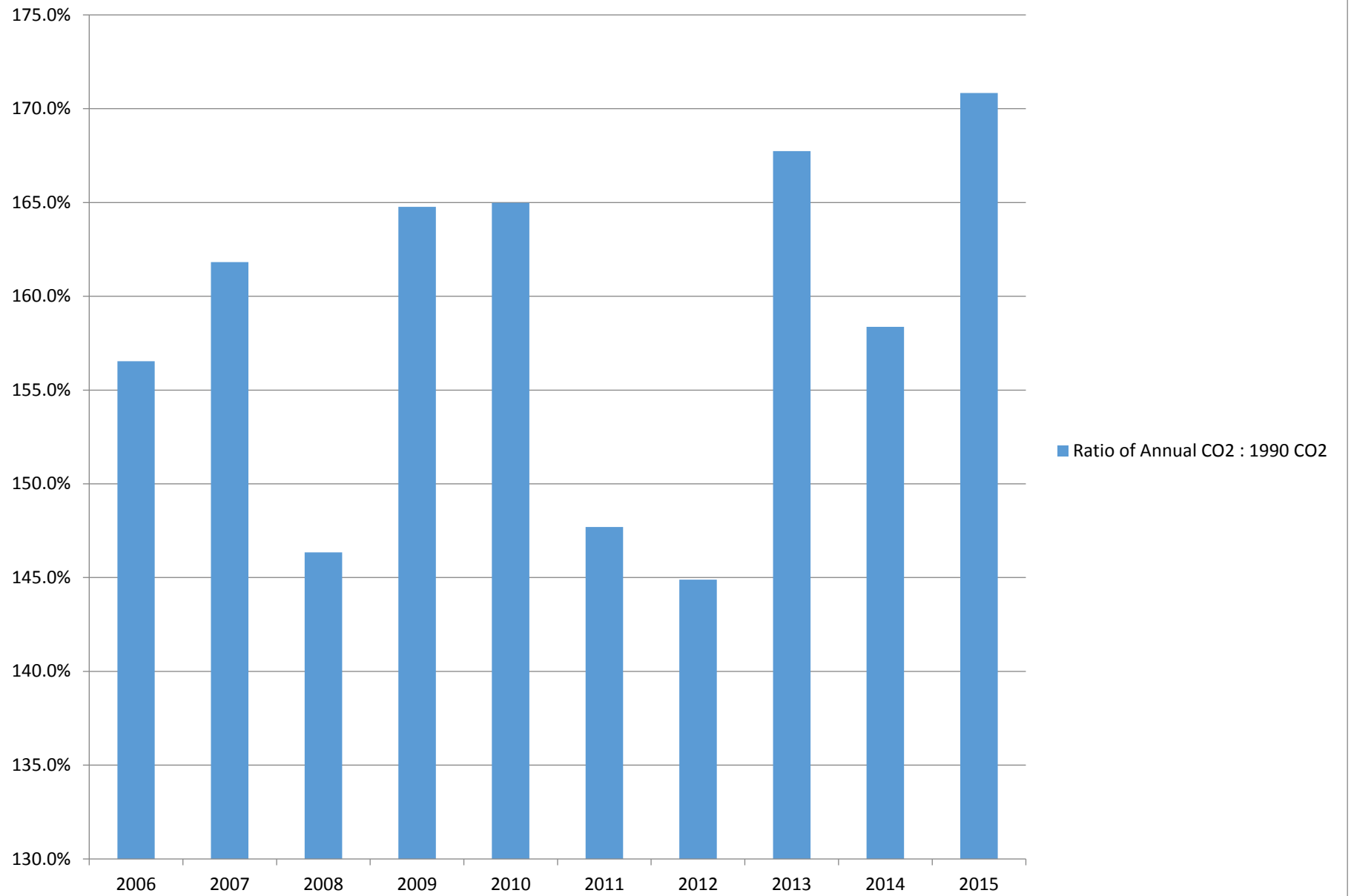
## Comparison of Emission from Unknown Resources: Commerce Fuel Mix Methodology versus eGrid (NWPP)



## Unknown Resources: Generation Delivered and Attributed Emissions



## Ratio of Annual CO2 : 1990 CO2



- Average MWh per residential customer
- Average MWh per commercial customer
- MWh per capita
- Annual CO<sub>2</sub> emissions (short tons)
- Ratios of Annual CO<sub>2</sub> emissions to CO<sub>2</sub> emissions in 1990

***Subtotal Metrics - Energy and Emissions from Unknown Generation***

- Annual CO<sub>2</sub> emissions (short tons) from unknown generation sources
- Annual MWh delivered to retail customers from unknown generation sources
- Percentage of load served by unknown generation sources

	2006	2007	2008
MWh / Residential Customer	11.64	11.74	11.80
MWh / Commercial Customer	78.83	78.61	78.30
MWh per capita	9.25	9.34	9.33

	2006	2007	2008
Ratio of Annual CO <sub>2</sub> : 1990 CO <sub>2</sub>	156.5%	161.8%	146.3%

Annual Emissions (see other file)

	2006	2007	2008
Annual Emissions CO <sub>2</sub> from Unknown Generation	3,101,016	3,136,942	2,787,287
Annual MWh delivered from Unknown Generation	6,117,349	5,220,403	5,441,422
% Load Served by Unknown Generation	27.1%	22.5%	23.1%

	2006	2007	2008
Population Served	2,267,102	2,307,477	2,340,766

	1990
1990 Residential Customers Served	732291 (from 1990 10k)
1990 Population Served	1,824,620.63

Comparison of Emission from Secondary Sources: Commerce Fuel Mix Methodology v

	2006	2007	2008
Original Commerce Spreadsheet (May 2016 Update)	3,101,016	3,136,942	2,787,287
(2013, 2014), and Average (2006, 2008, 2011)	2,585,443	2,241,614	2,299,768

*n Sources*

2009	2010	2011	2012	2013	2014
11.78	11.20	11.54	11.17	11.20	10.84
78.68	75.34	75.58	74.28	72.63	71.02
9.28	8.86	9.03	8.82	8.82	8.64

2009	2010	2011	2012	2013	2014
164.8%	165.0%	147.7%	144.9%	167.7%	158.4%

2009	2010	2011	2012	2013	2014
2,465,915	1,897,917	3,064,415	3,489,259	3,326,881	3,167,831
4,408,167	3,185,183	6,774,738	7,727,006	5,877,233	6,189,748
18.8%	14.1%	29.6%	34.5%	25.8%	27.8%

2009	2010	2011	2012	2013	2014
2,360,348	2,374,059	2,384,581	2,396,763	2,383,976	2,393,758

ersus eGrid (NWPP)

2009	2010	2011	2012	2013	2014
2,465,915	1,897,917	3,064,415	3,489,259	3,326,881	3,167,831
1,805,603	1,341,885	2,863,282	2,572,144	3,326,881	2,154,893

2015  
10.47  
70.25  
8.48

2015  
170.8%

2015  
2,072,888  
3,964,233  
18.0%

2015  
2,418,979

2015  
2,072,888  
1,200,541

	A	B	C	D	E	F	G	H	I	J	K	L	
1	<b>Summary Energy and Emissions Intensity Report</b>												
2													
3		Utility :	Puget Sound Energy										
4	Reporting for year :	2006	<b>MWh per Capita</b>										
5	Population Served :	2,267,102	<b>9.25</b>										
6													
7	<i>Energy Intensity Metrics</i>												
8						Customer	<b>MWh per</b>						
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>						
10	Residential Customers			10,593,340	50.5%	909,876	<b>11.6</b>						
11	Commercial Customers			9,009,721	43.0%	114,299	<b>78.8</b>						
12	Industrial Customers			1,368,672	6.5%								
13	Total Load Served			20,971,733									
14													
15	<i>Emissions Intensity Metrics</i>												
16					Percent of	<b>Short</b>							
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>							
18	Known Resources Serving WA			16,470,704	72.9%	7,771,666							
19	Unknown Resources Serving WA			<b>6,117,349</b>	<b>27.1%</b>	<b>3,101,016</b>	<b>% of 1990 CO<sub>2</sub></b>						
20				2006	Tons CO <sub>2</sub>	<b>10,872,682</b>	<b>156.5%</b>						
21													
22					1990 Short Tons CO <sub>2</sub>	6,946,064	<i>Example number, use correct number from cells below.</i>						
23													
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>												
25						1990							
26						Short Tons CO <sub>2</sub>							
27						Avista	1,131,957						
28						Pacific Power	2,399,078						
29						Puget Sound Energy	6,946,064						



	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2007	<b>MWh per Capita</b>						
5	Population Served :	2,307,477	<b>9.34</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			10,869,347	50.4%	926,080	<b>11.7</b>		
11	Commercial Customers			9,317,624	43.2%	118,533	<b>78.6</b>		
12	Industrial Customers			1,364,264	6.3%				
13	Total Load Served			21,551,235					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			17,976,918	77.5%	8,103,199			
19	Unknown Resources Serving WA			<b>5,220,403</b>	<b>22.5%</b>	<b>3,136,942</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2007	Tons CO <sub>2</sub>	<b>11,240,141</b>	<b>161.8%</b>		
21									
22						1990 Short Tons CO <sub>2</sub>	6,946,064		
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2008	<b>MWh per Capita</b>						
5	Population Served :	2,340,766	<b>9.33</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			11,082,670	50.7%	939,440	<b>11.8</b>		
11	Commercial Customers			9,453,940	43.3%	120,743	<b>78.3</b>		
12	Industrial Customers			1,304,662	6.0%				
13	Total Load Served			21,841,272					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			18,130,450	76.9%	7,378,102			
19	Unknown Resources Serving WA			<b>5,441,422</b>	<b>23.1%</b>	<b>2,787,287</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2008	Tons CO <sub>2</sub>	<b>10,165,388</b>	<b>146.3%</b>		
21									
22					1990 Short Tons CO <sub>2</sub>	6,946,064			
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2009	<b>MWh per Capita</b>						
5	Population Served :	2,360,348	<b>9.28</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			11,163,371	51.0%	947,299	<b>11.8</b>		
11	Commercial Customers			9,584,670	43.8%	121,817	<b>78.7</b>		
12	Industrial Customers			1,148,060	5.2%				
13	Total Load Served			21,896,101					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			19,034,284	81.2%	8,978,707			
19	Unknown Resources Serving WA			<b>4,408,167</b>	<b>18.8%</b>	<b>2,465,915</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2009	Tons CO <sub>2</sub>	<b>11,444,623</b>	<b>164.8%</b>		
21									
22						1990 Short Tons CO <sub>2</sub>	6,946,064		
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2010	<b>MWh per Capita</b>						
5	Population Served :	2,374,059	<b>8.86</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			10,672,888	50.8%	952,802	<b>11.2</b>		
11	Commercial Customers			9,192,953	43.7%	122,015	<b>75.3</b>		
12	Industrial Customers			1,160,586	5.5%				
13	Total Load Served			21,026,427					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			19,409,091	85.9%	9,562,115			
19	Unknown Resources Serving WA			<b>3,185,183</b>	<b>14.1%</b>	<b>1,897,917</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2010	Tons CO <sub>2</sub>	<b>11,460,032</b>	<b>165.0%</b>		
21									
22					1990 Short Tons CO <sub>2</sub>	6,946,064			
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2011	<b>MWh per Capita</b>						
5	Population Served :	2,384,581	<b>9.03</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			11,045,116	51.3%	957,025	<b>11.5</b>		
11	Commercial Customers			9,275,081	43.1%	122,720	<b>75.6</b>		
12	Industrial Customers			1,214,232	5.6%				
13	Total Load Served			21,534,429					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			16,075,429	70.4%	7,195,140			
19	Unknown Resources Serving WA			<b>6,774,738</b>	<b>29.6%</b>	<b>3,064,415</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2011	Tons CO <sub>2</sub>	<b>10,259,555</b>	<b>147.7%</b>		
21									
22						1990 Short Tons CO <sub>2</sub>	6,946,064		
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4		Reporting for year :	2012	<b>MWh per Capita</b>					
5		Population Served :	2,396,763	<b>8.82</b>					
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			10,744,641	50.8%	961,914	<b>11.2</b>		
11	Commercial Customers			9,192,545	43.5%	123,757	<b>74.3</b>		
12	Industrial Customers			1,208,801	5.7%				
13		Total Load Served		21,145,987					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			14,688,684	65.5%	6,574,991			
19	Unknown Resources Serving WA			<b>7,727,006</b>	<b>34.5%</b>	<b>3,489,259</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2012	Tons CO <sub>2</sub>	<b>10,064,250</b>	<b>144.9%</b>		
21									
22						1990 Short Tons CO <sub>2</sub>	6,946,064		
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2013	<b>MWh per Capita</b>						
5	Population Served :	2,383,976	<b>8.82</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			10,718,566	51.0%	956,782	<b>11.2</b>		
11	Commercial Customers			9,086,128	43.2%	125,099	<b>72.6</b>		
12	Industrial Customers			1,215,442	5.8%				
13	Total Load Served			21,020,136					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			16,925,901	74.2%	8,324,309			
19	Unknown Resources Serving WA			<b>5,877,233</b>	<b>25.8%</b>	<b>3,326,881</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2013	Tons CO <sub>2</sub>	<b>11,651,191</b>	<b>167.7%</b>		
21									
22						1990 Short Tons CO <sub>2</sub>	6,946,064		
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2014	<b>MWh per Capita</b>						
5	Population Served :	2,393,758	<b>8.64</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			10,412,460	50.4%	960,708	<b>10.8</b>		
11	Commercial Customers			9,043,539	43.7%	127,346	<b>71.0</b>		
12	Industrial Customers			1,216,903	5.9%				
13	Total Load Served			20,672,902					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			16,087,761	72.2%	7,833,030			
19	Unknown Resources Serving WA			<b>6,189,748</b>	<b>27.8%</b>	<b>3,167,831</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2014	Tons CO <sub>2</sub>	<b>11,000,861</b>	<b>158.4%</b>		
21									
22						1990 Short Tons CO <sub>2</sub>	6,946,064		
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		



	A	B	C	D	E	F	G	H	I
1	<b>Summary Energy and Emissions Intensity Report</b>								
2									
3		Utility :	Puget Sound Energy						
4	Reporting for year :	2015	<b>MWh per Capita</b>						
5	Population Served :	2,418,979	<b>8.48</b>						
6									
7	<i>Energy Intensity Metrics</i>								
8						Customer	<b>MWh per</b>		
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>		
10	Residential Customers			10,164,709	49.6%	970,830	<b>10.5</b>		
11	Commercial Customers			9,087,102	44.3%	129,347	<b>70.3</b>		
12	Industrial Customers			1,257,958	6.1%				
13	Total Load Served			20,509,769					
14									
15	<i>Emissions Intensity Metrics</i>								
16					Percent of	<b>Short</b>			
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>			
18	Known Resources Serving WA			18,066,615	82.0%	9,793,361			
19	Unknown Resources Serving WA			<b>3,964,233</b>	<b>18.0%</b>	<b>2,072,888</b>	<b>% of 1990 CO<sub>2</sub></b>		
20				2015	Tons CO <sub>2</sub>	<b>11,866,249</b>	<b>170.8%</b>		
21									
22						1990 Short Tons CO <sub>2</sub>	6,946,064		
23									
24	<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>								
25							1990		
26							Short Tons CO <sub>2</sub>		
27						Avista	1,131,957		
28						Pacific Power	2,399,078		
29						Puget Sound Energy	6,946,064		

## Known Resources Serving WA Customers

2006

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	67,270	-	-
Lower Baker	334,145	-	-
Snoqualmie Falls #1	47,557	-	-
Snoqualmie Falls #2	161,751	-	-
Upper Baker	338,553	-	-
Colstrip 1 & 2	2,180,745	2,483	2,707,654
Colstrip 3 & 4	2,619,283	2,451	3,210,066
Encogen	259,963	1,063	138,107
Crystal Mountain	1,060	1,719	912
Freddie #1	393,030	765	150,410
Fredonia	42,874	1,279	27,429
Fredrickson 1 & 2	12,684	1,725	10,940
Hopkins Ridge (W184)	361,587	-	-
Whitehorn 2&3	13,578	1,596	10,838
Wild Horse (W183)	11,242	-	-
BC Hydro (Point Roberts)	22,243	845	9,401
BPA	7,077	-	-
BPA Firm - WNP#3 Exchange	362,075	845	153,028
Chelan PUD - Rock Island Syst #2	1,294,355	-	-
Chelan PUD - Rocky Reach	2,365,522	-	-
Douglas PUD - Wells Project	1,133,871	-	-
Grant PUD - Priest Rapids	443,113	-	-
Grant PUD - Wanapum	455,505	-	-
NWestern Energy(MPC) Firm Contract	723,917	2	892
Snohomish PUD Conservation	89,664	845	37,896
VanderHaak Dairy Digester	1,823	-	-
WASCO Hydro	36,732	-	-
Hutchinson Creek	2,171	-	-
Koma Kulshan Associates	33,468	-	-
March Point Cogen. - 1 & 2	983,696	727	357,475
Nooksack	17,653	-	-
Port Townsend Paper Co.	1,847	1,056	976
Puyallup Energy Recovery Company	4,829	-	-
Spokane MSW	141,325	4,574	323,188
Sumas Cogeneration	579,514	927	268,748
Sygitowicz Creek	586	-	-
Tenaska	844,472	861	363,708
Twin Falls Hydro	67,233	-	-
Weeks Falls	12,691	-	-

16,470,704

7,771,666

## Unknown Resources For WA Customers

2006

[WA Dept. of Cc](#)


Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Arizona Public Service	2,000	1014	1,014
ATCO Power Canada	820	1014	416
Avista Corp. WWP Division	102,667	1014	52,044
Avista Energy	713,907	1014	361,895
Barclays Bank Plc	7,600	1014	3,853
Bear Energy LP	48	1014	24
Benton County PUD	22,518	1014	11,415
Black Hills Power	12,360	1014	6,266
Book Outs - EITF 03-11	(2,421,278)	1014	(1,227,398)
BP Energy Co.	181,121	1014	91,814
BPA	739,012	1014	374,621
Burbank, City of	4,195	1014	2,127
Cargill Power Markets	48,374	1014	24,522
Chelan County PUD #1	40,907	1014	20,737
Cincinnati Gas & Electric Co	7,400	1014	3,751
Cinergy Services	21,330	1014	10,813
Citigroup Energy Inc	117,050	1014	59,335
Clatskanie PUD	9,785	1014	4,960
Conoco, Inc.	17,475	1014	8,858
Constellation Power Source, Inc.	320,060	1014	162,245
DB Energy Trading LLC	27,200	1014	13,788
Douglas County PUD #1	292,497	1014	148,273
ENMAX Energy Marketing, Inc.	175	1014	89
Epcor Merchant & Capital	63,703	1014	32,292
Eugene Water & Electric	63,650	1014	32,266
Fortis Energy Marketing & Trading	16,400	1014	8,314
Franklin County PUD #1	15,035	1014	7,622
Grant County PUD #2	89,108	1014	45,171
Grays Harbor PUD #1	21,400	1014	10,848
Iberdrola Renewables (PPM Energy)	400,182	1014	202,861
Idaho Falls Power	84,230	1014	42,698
Idaho Power Company	99,558	1014	50,468
J. Aron & Company	20,000	1014	10,138
JP Morgan Ventures Energy	10,000	1014	5,069
King County	40	1014	20
Klamath Falls, City of	31,207	1014	15,819
Lehman Bros Commodity Services	7,800	1014	3,954
Los Angeles Dept. Water & Power	1,275	1014	646
Macquarie Energy LLC	83,200	1014	42,176
Merrill Lynch Commodities	24,400	1014	12,369
Modesto Irrigation District	852	1014	432
Morgan Stanley CG	276,663	1014	140,246
N. California Power Agency	1,315	1014	667

New Mexico, Public Service Company	3,200	1014	1,622
Noble Americas Energy Solutions	29,225	1014	14,815
NorthPoint Energy Solutions, Inc.	1,342	1014	680
Northwestern Energy	9,629	1014	4,881
Occidental Power Services	1,064	1014	539
Okanogan PUD	3,761	1014	1,907
Pacific Northwest Generatin Coop.	181,909	1014	92,214
Pacificorp	352,506	1014	178,693
PG&E Energy Trading	24,945	1014	12,645
Pinnacle West Capital Corp	889,475	1014	450,894
Portland General Electric	500,872	1014	253,903
Powerex Corp.	504,275	1014	255,628
PP&L Montana, LLC.	41,793	1014	21,186
Public Service of Colorado	19,800	1014	10,037
Rainbow Energy Marketing	121,336	1014	61,508
Redding, City of	2,903	1014	1,472
Sacramento Municipal	5,025	1014	2,547
San Diego Gas & Electric	6,904	1014	3,500
Seattle City Light Marketing	172,078	1014	87,230
Sempra Energy Trading	1,226,010	1014	621,491
Shell Energy (Coral Pwr)	730,645	1014	370,380
Sierra Pacific Power	26,329	1014	13,347
Silicon Valley Pwr - Santa Clara	448	1014	227
Snohomish County PUD #1	80,505	1014	40,810
Southern Cal - Edison	29,334	1014	14,870
SUEZ Energy Marketing (Tractebel)	116,640	1014	59,127
Sumas Cogeneration	21,788	1014	11,045
Tacoma Power	107,444	1014	54,466
Tenaska	1,537	1014	779
TransAlta Energy Marketing	1,162,941	1014	589,520
TransCanada Power Corp.	3,828	1014	1,940
Turlock Irrigation District	13,371	1014	6,778
UBS AG	100,496	1014	50,944
Western Area Power Association	473	1014	240
Wild Horse Test Power	144,854	1014	73,430
Williams Power Company	425	1014	215
Avista Energy	305,656	1014	154,944
Black Creek Hydro	2,816	1014	1,427
BPA	102,038	1014	51,725
Cargill Power Markets	30,396	1014	15,408
Deviation	(24,938)	1014	(12,641)
Douglas County PUD #1	75	1014	38
Pacific Gas & Elec - Exchange	412,904	1014	209,310
Powerex - Exchange	610,192	1014	309,319
Seattle City Light Marketing	78,400	1014	39,743
Tacoma Power	24,876	1014	12,610
Tacoma, City of	210	1014	106

TransAlta Energy Marketing	895,958	1014	454,180
Avista Energy	(309,216)	1014	(156,748)
Black Creek Hydro	(3,057)	1014	(1,550)
BPA	(103,655)	1014	(52,545)
Cargill Power Markets	(31,096)	1014	(15,763)
Douglas County PUD #1	(75)	1014	(38)
Pacific Gas & Elec - Exchange	(413,000)	1014	(209,359)
Powerex - Exchange	(610,192)	1014	(309,319)
Seattle City Light Marketing	(78,400)	1014	(39,743)
Storage/Interchange - Out	(21)	1014	(11)
Tacoma Power	(25,065)	1014	(12,706)
TransAlta Energy Marketing	(895,958)	1014	(454,180)
Arizona Public Service	(3,400)	1014	(1,724)
Avista Corp. WWP Division	(41,478)	1014	(21,026)
Avista Energy	(307,922)	1014	(156,092)
Barclays Bank Plc	(6,000)	1014	(3,042)
Bear Energy LP	(3,298)	1014	(1,672)
Benton County PUD	(4,433)	1014	(2,247)
Black Hills Power	(650)	1014	(329)
Book Outs - EITF 03-11	2,421,278	1014	1,227,398
BP Energy Co.	(95,783)	1014	(48,554)
BPA	(141,345)	1014	(71,651)
British Columbia Transmission Corp	(23)	1014	(12)
Burbank, City of	(3,121)	1014	(1,582)
Cargill Power Markets	(84,873)	1014	(43,024)
Chelan County PUD #1	(1,200)	1014	(608)
Cincinnati Gas & Electric Co	(13,200)	1014	(6,691)
Cinergy Services	(24,697)	1014	(12,519)
Citigroup Energy Inc	(88,920)	1014	(45,075)
Clatskanie PUD	(4,691)	1014	(2,378)
Conoco, Inc.	(44,413)	1014	(22,514)
Constellation Power Source, Inc.	(80,970)	1014	(41,045)
DB Energy Trading LLC	(30,000)	1014	(15,208)
Douglas County PUD #1	(980)	1014	(497)
ENMAX Energy Marketing, Inc.	(6,322)	1014	(3,205)
Epcor Merchant & Capital	(21,189)	1014	(10,741)
Eugene Water & Electric	(16,203)	1014	(8,214)
Fortis Energy Marketing & Trading	(45,575)	1014	(23,103)
Franklin County PUD #1	(1,725)	1014	(874)
Grant County PUD #2	(16,830)	1014	(8,531)
Grays Harbor PUD #1	(4,477)	1014	(2,269)
Hinson Power Company	(3,200)	1014	(1,622)
Iberdrola Renewables (PPM Energy)	(183,683)	1014	(93,113)
Idaho Power Company	(77,637)	1014	(39,356)
J. Aron & Company	(13,600)	1014	(6,894)
JP Morgan Ventures Energy	(20,000)	1014	(10,138)
Klamath Falls, City of	(9,281)	1014	(4,705)

Lehman Bros Commodity Services	(49,275)	1014	(24,979)
Los Angeles Dept. Water & Power	(3,215)	1014	(1,630)
Macquarie Energy LLC	(77,000)	1014	(39,033)
Merrill Lynch Commodities	(40,881)	1014	(20,723)
Modesto Irrigation District	(8,394)	1014	(4,255)
Morgan Stanley CG	(252,602)	1014	(128,049)
N. California Power Agency	(3,417)	1014	(1,732)
Noble Americas Energy Solutions	(2,072)	1014	(1,050)
NorthPoint Energy Solutions, Inc.	(17,324)	1014	(8,782)
Northwestern Energy	(25,569)	1014	(12,961)
Occidental Power Services	(5,300)	1014	(2,687)
Okanogan PUD	(260)	1014	(132)
Pacific Northwest Generatin Coop.	(7,665)	1014	(3,886)
Pacificorp	(299,493)	1014	(151,819)
PG&E Energy Trading	(10,225)	1014	(5,183)
Pinnacle West Capital Corp	(11,000)	1014	(5,576)
Portland General Electric	(84,922)	1014	(43,049)
Powerex Corp.	(546,974)	1014	(277,273)
PP&L Montana, LLC.	(54,840)	1014	(27,800)
Public Service of Colorado	(12,930)	1014	(6,554)
Rainbow Energy Marketing	(182,633)	1014	(92,581)
Redding, City of	(2,030)	1014	(1,029)
Sacramento Municipal	(9,398)	1014	(4,764)
San Diego Gas & Electric	(11,112)	1014	(5,633)
Seattle City Light Marketing	(43,046)	1014	(21,821)
Sempra Energy Trading	(186,355)	1014	(94,467)
Shell Energy (Coral Pwr)	(215,517)	1014	(109,250)
Sierra Pacific Power	(23,099)	1014	(11,709)
Silicon Valley Pwr - Santa Clara	(16,202)	1014	(8,213)
Snohomish County PUD #1	(29,170)	1014	(14,787)
Southern Cal - Edison	(18,966)	1014	(9,614)
SUEZ Energy Marketing (Tractebel)	(115,860)	1014	(58,732)
Tacoma Power	(9,162)	1014	(4,644)
TransAlta Energy Marketing	(618,699)	1014	(313,632)
TransCanada Power Corp.	(15,432)	1014	(7,823)
Turlock Irrigation District	(2,765)	1014	(1,402)
UBS AG	(74,264)	1014	(37,646)
Western Area Power Association	(515)	1014	(261)
Williams Power Company	(425)	1014	(215)
	6,117,349		3,101,016

[Commerce Fuel Mix Report =](#)

1,014


lbs CO<sub>2</sub> per MWh

For Year	2006
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## Known Resources Serving WA Customers

2007

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	88,729	-	-
Lower Baker	436,208	-	-
Snoqualmie Falls #1	52,146	-	-
Snoqualmie Falls #2	176,100	-	-
Upper Baker	401,050	-	-
Colstrip 1 & 2	2,366,043	2,510	2,968,949
Colstrip 3 & 4	2,776,869	2,421	3,360,762
Encogen	182,970	1,128	103,153
Goldendale	636,737	784	249,585
Crystal Mountain	313	1,963	308
Freddie #1	440,914	392	86,407
Fredonia	7,928	1,600	6,341
Fredonia 3 & 4	19,647	1,159	11,390
Fredrickson 1 & 2	8,908	1,325	5,899
Hopkins Ridge (W184)	402,465	-	-
Whitehorn 2&3	13,208	1,471	9,717
Wild Horse (W183)	612,858	-	-
BC Hydro (Point Roberts)	22,373	859	9,607
BPA	6,923	-	-
BPA Firm - WNP#3 Exchange	339,510	859	145,784
Chelan PUD - Rock Island Syst #2	1,279,176	-	-
Chelan PUD - Rocky Reach	2,478,149	-	-
Douglas PUD - Wells Project	1,143,974	-	-
Grant PUD - Priest Rapids	437,351	-	-
Grant PUD - Wanapum	471,766	-	-
Klondike Wind Power III	8,570	-	-
NWestern Energy(MPC) Firm Contract	744,477	2	916
Snohomish PUD Conservation	89,728	859	38,529
VanderHaak Dairy Digester	2,092	-	-
WASCO Hydro	43,893	-	-
Hutchinson Creek	1,860	-	-
Koma Kulshan Associates	43,644	-	-
March Point Cogen. - 1 & 2	1,025,308	716	367,300
Nooksack	22,964	-	-
Port Townsend Paper Co.	2,611	1,071	1,398
Puyallup Energy Recovery Company	2,757	-	-
Spokane MSW	141,747	4,476	317,244
Sumas Cogeneration	228,957	849	97,162
Sygitowicz Creek	458	-	-
Tenaska	729,134	885	322,748
Twin Falls Hydro	73,012	-	-
Weeks Falls	13,390	-	-



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17,976,918

8,103,199

## Unknown Resources For WA Customers

2007

[WA Dept. of Cc](#)


Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
ATCO Power Canada	343	1202	206
Avista Corp. WWP Division	78,344	1202	47,077
Avista Energy	213,884	1202	128,523
Barclays Bank Plc	61,000	1202	36,655
Bear Energy LP	160,006	1202	96,148
Benton County PUD	23,621	1202	14,194
Black Hills Power	4,400	1202	2,644
Book Outs - EITF 03-11	(2,169,507)	1202	(1,303,658)
BP Energy Co.	32,332	1202	19,428
BPA	246,829	1202	148,320
British Columbia Transmission Corp	85	1202	51
Burbank, City of	1,105	1202	664
Cargill Power Markets	87,029	1202	52,296
Chelan County PUD #1	57,329	1202	34,449
Citigroup Energy Inc	186,496	1202	112,066
Clatskanie PUD	17,582	1202	10,565
Conoco, Inc.	46,240	1202	27,786
Constellation Power Source, Inc.	927,668	1202	557,436
CP Energy Marketing (Epcor)	79,114	1202	47,540
Credit Suisse Energy, LLC	153,200	1202	92,058
DB Energy Trading LLC	25,400	1202	15,263
Douglas County PUD #1	299,493	1202	179,965
ENMAX Energy Marketing, Inc.	1,711	1202	1,028
Eugene Water & Electric	94,235	1202	56,626
Fortis Energy Marketing & Trading	93,400	1202	56,124
Franklin County PUD #1	18,589	1202	11,170
Grant County PUD #2	56,689	1202	34,064
Grays Harbor PUD #1	32,287	1202	19,401
Highland Energy LLC	950	1202	571
Hinson Power Company	1,600	1202	961
Iberdrola Renewables (PPM Energy)	297,538	1202	178,791
Idaho Falls Power	42,710	1202	25,664
Idaho Power Company	60,463	1202	36,332
J. Aron & Company	22,050	1202	13,250
JP Morgan Ventures Energy	79,600	1202	47,832
Klamath Falls, City of	139,856	1202	84,040
Lehman Bros Commodity Services	67,050	1202	40,290
Los Angeles Dept. Water & Power	1,425	1202	856
Merrill Lynch Commodities	16,400	1202	9,855
Modesto Irrigation District	2,538	1202	1,525
Morgan Stanley CG	744,517	1202	447,381
N. California Power Agency	521	1202	313
Noble Americas Energy Solutions	2,096	1202	1,259

NorthPoint Energy Solutions, Inc.	6,276	1202	3,771
Northwestern Energy	12,808	1202	7,696
Occidental Power Services	10,803	1202	6,492
Okanogan PUD	4,694	1202	2,821
Pacific Northwest Generatin Coop.	170,767	1202	102,614
Pacific Summit Energy LLC	5,580	1202	3,353
Pacificorp	207,443	1202	124,653
PG&E Energy Trading	7,857	1202	4,721
Pinnacle West Marketing & Trading	21,000	1202	12,619
Portland General Electric	315,978	1202	189,871
Powerex Corp.	287,187	1202	172,571
PP&L Montana, LLC.	61,832	1202	37,155
Public Service of Colorado	18,791	1202	11,292
Rainbow Energy Marketing	181,241	1202	108,908
Redding, City of	1,171	1202	704
Sacramento Municipal	4,925	1202	2,959
San Diego Gas & Electric	3,300	1202	1,983
Seattle City Light Marketing	132,332	1202	79,518
Sempra Energy Trading	934,094	1202	561,297
Shell Energy (Coral Pwr)	700,864	1202	421,149
Sierra Pacific Industries	13,296	1202	7,990
Sierra Pacific Power	16,272	1202	9,778
Silicon Valley Pwr - Santa Clara	80	1202	48
Snohomish County PUD #1	72,772	1202	43,729
Southern Cal - Edison	10,850	1202	6,520
SUEZ Energy Marketing (Tractebel)	106,896	1202	64,234
Tacoma Power	81,554	1202	49,006
Talen Energy (PPL Energy Plus)	11,082	1202	6,659
Tenaska	658	1202	395
The Energy Authority	13,880	1202	8,340
TransAlta Energy Marketing	1,681,755	1202	1,010,567
TransCanada Energy Marketing	9,169	1202	5,510
TransCanada Power Corp.	5,615	1202	3,374
Turlock Irrigation District	8,922	1202	5,361
UBS AG	20,016	1202	12,028
Western Area Power Association	171	1202	103
Williams Power Company	90	1202	54
Avista Energy	31,945	1202	19,196
Black Creek Hydro	2,245	1202	1,349
BPA	82,864	1202	49,793
Cargill Power Markets	28,800	1202	17,306
Deviation	24,866	1202	14,942
Douglas County PUD #1	122	1202	73
Pacific Gas & Elec - Exchange	412,900	1202	248,112
Powerex - Exchange	483,866	1202	290,755
Shell Energy (Coral Pwr)	28,832	1202	17,325
Tacoma Power	30,800	1202	18,508

TransAlta Energy Marketing	602,125	1202	361,817
Avista Energy	(32,120)	1202	(19,301)
Black Creek Hydro	(2,959)	1202	(1,778)
BPA	(83,521)	1202	(50,188)
Cargill Power Markets	(28,800)	1202	(17,306)
Citigroup Energy Inc	(50,000)	1202	(30,045)
Douglas County PUD #1	(122)	1202	(73)
Pacific Gas & Elec - Exchange	(413,001)	1202	(248,172)
Powerex - Exchange	(483,866)	1202	(290,755)
Shell Energy (Coral Pwr)	(28,832)	1202	(17,325)
Tacoma Power	(30,800)	1202	(18,508)
TransAlta Energy Marketing	(552,125)	1202	(331,772)
Avista Corp. WWP Division	(24,864)	1202	(14,941)
Avista Energy	(123,747)	1202	(74,360)
Barclays Bank Plc	(78,600)	1202	(47,231)
Bear Energy LP	(63,113)	1202	(37,925)
Benton County PUD	(5,756)	1202	(3,459)
Black Hills Power	(4,759)	1202	(2,860)
Book Outs - EITF 03-11	2,169,507	1202	1,303,658
BP Energy Co.	(29,896)	1202	(17,965)
BPA	(166,938)	1202	(100,313)
British Columbia Transmission Corp	(144)	1202	(87)
Burbank, City of	(990)	1202	(595)
Cargill Power Markets	(103,403)	1202	(62,135)
Chelan County PUD #1	(1,500)	1202	(901)
Citigroup Energy Inc	(177,691)	1202	(106,775)
Clatskanie PUD	(8,512)	1202	(5,115)
Conoco, Inc.	(27,645)	1202	(16,612)
Constellation Power Source, Inc.	(35,515)	1202	(21,341)
CP Energy Marketing (Epcor)	(46,075)	1202	(27,686)
Credit Suisse Energy, LLC	(32,236)	1202	(19,371)
DB Energy Trading LLC	(5,600)	1202	(3,365)
Douglas County PUD #1	(220)	1202	(132)
ENMAX Energy Marketing, Inc.	(4,053)	1202	(2,435)
Eugene Water & Electric	(20,381)	1202	(12,247)
Fortis Energy Marketing & Trading	(82,563)	1202	(49,612)
Franklin County PUD #1	(1,984)	1202	(1,192)
Grant County PUD #2	(10,136)	1202	(6,091)
Grays Harbor PUD #1	(4,011)	1202	(2,410)
Highland Energy LLC	(50)	1202	(30)
Hinson Power Company	(4,843)	1202	(2,910)
Iberdrola Renewables (PPM Energy)	(168,650)	1202	(101,342)
Idaho Power Company	(47,675)	1202	(28,648)
J. Aron & Company	(35,775)	1202	(21,497)
JP Morgan Ventures Energy	(30,400)	1202	(18,267)
Klamath Falls, City of	(1,172)	1202	(704)
Lehman Bros Commodity Services	(42,162)	1202	(25,335)

Los Angeles Dept. Water & Power	(4,310)	1202	(2,590)
Merrill Lynch Commodities	(20,775)	1202	(12,484)
Modesto Irrigation District	(5,467)	1202	(3,285)
Morgan Stanley CG	(308,680)	1202	(185,486)
N. California Power Agency	(789)	1202	(474)
Noble Americas Energy Solutions	(5,000)	1202	(3,005)
NorthPoint Energy Solutions, Inc.	(12,286)	1202	(7,383)
Northwestern Energy	(19,257)	1202	(11,572)
Occidental Power Services	(1,275)	1202	(766)
Pacific Northwest Generatin Coop.	(15,299)	1202	(9,193)
Pacific Summit Energy LLC	(5,250)	1202	(3,155)
Pacificorp	(137,660)	1202	(82,720)
PG&E Energy Trading	(2,250)	1202	(1,352)
Pinnacle West Marketing & Trading	(1,034)	1202	(621)
Portland General Electric	(98,543)	1202	(59,215)
Powerex Corp.	(337,035)	1202	(202,524)
PP&L Montana, LLC.	(29,839)	1202	(17,930)
Public Service of Colorado	(1,668)	1202	(1,002)
Rainbow Energy Marketing	(174,730)	1202	(104,995)
Redding, City of	(702)	1202	(422)
Sacramento Municipal	(2,980)	1202	(1,791)
San Diego Gas & Electric	(1,200)	1202	(721)
Seattle City Light Marketing	(45,037)	1202	(27,063)
Sempra Energy Trading	(137,302)	1202	(82,505)
Shell Energy (Coral Pwr)	(155,921)	1202	(93,693)
Sierra Pacific Power	(15,870)	1202	(9,536)
Silicon Valley Pwr - Santa Clara	(1,548)	1202	(930)
Snohomish County PUD #1	(25,283)	1202	(15,193)
Southern Cal - Edison	(5,734)	1202	(3,446)
SUEZ Energy Marketing (Tractebel)	(83,511)	1202	(50,182)
Tacoma Power	(6,646)	1202	(3,994)
Talen Energy (PPL Energy Plus)	(1,217)	1202	(731)
The Energy Authority	(511)	1202	(307)
TransAlta Energy Marketing	(1,339,719)	1202	(805,038)
TransCanada Energy Marketing	(3,855)	1202	(2,316)
TransCanada Power Corp.	(2,083)	1202	(1,252)
Turlock Irrigation District	(1,311)	1202	(788)
UBS AG	(18,330)	1202	(11,015)
Western Area Power Association	(410)	1202	(246)
Williams Power Company	(1,186)	1202	(713)
	5,220,403		3,136,942

[Commerce Fuel Mix Report =](#)

1,202


lbs CO<sub>2</sub> per MWh

For Year
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2007
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## Known Resources Serving WA Customers

2008

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	96,154	-	-
Lower Baker	321,027	-	-
Snoqualmie Falls #1	59,492	-	-
Snoqualmie Falls #2	181,143	-	-
Upper Baker	317,108	-	-
Colstrip 1 & 2	2,124,142	2,267	2,408,203
Colstrip 3 & 4	2,943,303	2,143	3,153,532
Encogen	98,884	907	44,831
Goldendale	1,368,284	686	469,580
Sumas	218,930	798	87,328
Crystal Mountain	361	1,689	305
Freddie #1	545,866	350	95,622
Fredonia	7,453	1,941	7,234
Fredonia 3 & 4	9,931	1,159	5,755
Fredrickson 1 & 2	15,741	2,256	17,756
Hopkins Ridge (W184)	425,322	-	-
Whitehorn 2&3	4,135	1,772	3,663
Wild Horse (W183)	682,097	-	-
BC Hydro (Point Roberts)	22,695	845	9,592
BPA	7,063	-	-
BPA Firm - WNP#3 Exchange	374,999	845	158,490
Chelan PUD - Rock Island Syst #2	1,327,464	-	-
Chelan PUD - Rocky Reach	2,144,307	-	-
Douglas PUD - Wells Project	1,045,492	-	-
Grant PUD - Priest Rapids	464,474	-	-
Grant PUD - Wanapum	456,458	-	-
Klondike Wind Power III	148,311	-	-
NWestern Energy(MPC) Firm Contract	795,395	2	802
Snohomish PUD Conservation	89,984	845	38,031
VanderHaak Dairy Digester	2,232	-	-
WASCO Hydro	41,552	-	-
Hutchinson Creek	2,058	-	-
Koma Kulshan Associates	36,092	-	-
March Point Cogen. - 1 & 2	1,022,961	712	364,270
Nooksack	19,741	-	-
Port Townsend Paper Co.	2,366	2,524	2,986
Puyallup Energy Recovery Company	1,747	-	-
Spokane MSW	128,135	4,609	295,317
Sygitowicz Creek	652	-	-
Tenaska	491,579	874	214,806
Twin Falls Hydro	73,323	-	-
Weeks Falls	11,994	-	-

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18,130,450

7,378,102



## Unknown Resources For WA Customers

2008

[WA Dept. of Cc](#)


Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Avista Corp. WWP Division	228,885	1024	117,243
Barclays Bank Plc	54,188	1024	27,757
Bear Energy LP	82,433	1024	42,225
Benton County PUD	5,473	1024	2,803
Black Hills Power	4,193	1024	2,148
Book Outs - EITF 03-11	(1,458,513)	1024	(747,101)
BP Energy Co.	8,471	1024	4,339
BPA	287,771	1024	147,406
Burbank, City of	1,205	1024	617
Cargill Power Markets	156,466	1024	80,147
Chelan County PUD #1	60,076	1024	30,773
Citigroup Energy Inc	176,981	1024	90,656
Clatskanie PUD	29,829	1024	15,279
Conoco, Inc.	260,284	1024	133,327
Constellation Power Source, Inc.	447,128	1024	229,035
CP Energy Marketing (Epcor)	30,330	1024	15,536
Credit Suisse Energy, LLC	28,450	1024	14,573
DB Energy Trading LLC	43,073	1024	22,063
Douglas County PUD #1	239,272	1024	122,563
ENMAX Energy Marketing, Inc.	868	1024	445
Eugene Water & Electric	123,300	1024	63,159
Fortis Energy Marketing & Trading	145,965	1024	74,768
Franklin County PUD #1	4,960	1024	2,541
Grant County PUD #2	40,063	1024	20,522
Grays Harbor PUD #1	10,385	1024	5,320
Highland Energy LLC	14,297	1024	7,323
Hinson Power Company	2,000	1024	1,024
Iberdrola Renewables (PPM Energy)	448,401	1024	229,687
Idaho Power Company	55,219	1024	28,285
Integrus Energy Services, Inc	2,400	1024	1,229
J. Aron & Company	36,400	1024	18,645
JP Morgan Ventures Energy	96,579	1024	49,471
Lehman Bros Commodity Services	14,444	1024	7,399
Los Angeles Dept. Water & Power	480	1024	246
Louis Dreyfus Energy	285	1024	146
Modesto Irrigation District	430	1024	220
Morgan Stanley CG	1,248,783	1024	639,670
N. California Power Agency	439	1024	225
NorthPoint Energy Solutions, Inc.	8,475	1024	4,341
Northwestern Energy	27,923	1024	14,303
Occidental Power Services	200	1024	102
Okanogan PUD	3,660	1024	1,875
Pacific Northwest Generatin Coop.	156,918	1024	80,379

Pacific Summit Energy LLC	82,391	1024	42,204
Pacificorp	290,962	1024	149,041
PG&E Energy Trading	506	1024	259
Portland General Electric	106,316	1024	54,459
Powerex Corp.	352,187	1024	180,402
Public Service of Colorado	9,806	1024	5,023
Rainbow Energy Marketing	82,452	1024	42,235
Redding, City of	1,284	1024	658
Sacramento Municipal	2,095	1024	1,073
San Diego Gas & Electric	1,032	1024	529
Seattle City Light Marketing	113,723	1024	58,253
Sempra Energy Trading	894,356	1024	458,120
Shell Energy (Coral Pwr)	940,286	1024	481,647
Sierra Pacific Power	7,828	1024	4,010
Silicon Valley Pwr - Santa Clara	1,820	1024	932
Snohomish County PUD #1	76,572	1024	39,223
Southern Cal - Edison	6,100	1024	3,125
SUEZ Energy Marketing (Tractebel)	24,295	1024	12,445
Tacoma Power	100,697	1024	51,581
Talen Energy (PPL Energy Plus)	103,775	1024	53,157
Tenaska	114,114	1024	58,453
The Energy Authority	54,630	1024	27,983
TransAlta Energy Marketing	583,432	1024	298,854
TransCanada Energy Marketing	11,288	1024	5,782
TransCanada Power Corp.	5,120	1024	2,623
Turlock Irrigation District	6,176	1024	3,164
UBS AG	32,800	1024	16,801
Western Area Power Association	796	1024	408
Black Creek Hydro	4,649	1024	2,381
BPA	97,704	1024	50,047
Constellation Power Source, Inc.	70,000	1024	35,856
Deviation	(28,008)	1024	(14,347)
Pacific Gas & Elec - Exchange	413,116	1024	211,612
Powerex - Exchange	25,607	1024	13,117
Seattle City Light Marketing	18,800	1024	9,630
TransAlta Energy Marketing	1,099,250	1024	563,074
Black Creek Hydro	(4,708)	1024	(2,412)
BPA	(99,125)	1024	(50,775)
Constellation Power Source, Inc.	(70,000)	1024	(35,856)
Pacific Gas & Elec - Exchange	(413,016)	1024	(211,561)
Powerex - Exchange	(25,607)	1024	(13,117)
Seattle City Light Marketing	(18,800)	1024	(9,630)
TransAlta Energy Marketing	(1,099,250)	1024	(563,074)
Arizona Public Service	(15)	1024	(8)
Avista Corp. WWP Division	(41,915)	1024	(21,470)
Barclays Bank Plc	(32,027)	1024	(16,405)
Bear Energy LP	(43,931)	1024	(22,503)

Benton County PUD	(1,335)	1024	(684)
Black Hills Power	(2,123)	1024	(1,087)
Book Outs - EITF 03-11	1,458,513	1024	747,101
BP Energy Co.	(28,512)	1024	(14,605)
BPA	(138,425)	1024	(70,906)
British Columbia Transmission Corp	(23)	1024	(12)
Burbank, City of	(1,085)	1024	(556)
Cargill Power Markets	(177,806)	1024	(91,078)
Chelan County PUD #1	(7,327)	1024	(3,753)
Citigroup Energy Inc	(232,727)	1024	(119,211)
Clatskanie PUD	(17,042)	1024	(8,730)
Conoco, Inc.	(8,142)	1024	(4,171)
Constellation Power Source, Inc.	(86,673)	1024	(44,397)
CP Energy Marketing (Epcor)	(7,691)	1024	(3,940)
Credit Suisse Energy, LLC	(1,600)	1024	(820)
DB Energy Trading LLC	(53,578)	1024	(27,445)
Douglas County PUD #1	(461)	1024	(236)
ENMAX Energy Marketing, Inc.	(2,690)	1024	(1,378)
Eugene Water & Electric	(38,663)	1024	(19,805)
Fortis Energy Marketing & Trading	(131,275)	1024	(67,244)
Franklin County PUD #1	(690)	1024	(353)
Grant County PUD #2	(13,801)	1024	(7,069)
Grays Harbor PUD #1	(937)	1024	(480)
Highland Energy LLC	(14,406)	1024	(7,379)
Hinson Power Company	(10,318)	1024	(5,285)
Iberdrola Renewables (PPM Energy)	(97,329)	1024	(49,855)
Idaho Power Company	(22,104)	1024	(11,322)
Integrus Energy Services, Inc	(3,600)	1024	(1,844)
J. Aron & Company	(20,700)	1024	(10,603)
JP Morgan Ventures Energy	(98,388)	1024	(50,398)
Lehman Bros Commodity Services	(5,520)	1024	(2,828)
Louis Dreyfus Energy	(1,113)	1024	(570)
Merrill Lynch Commodities	(5,200)	1024	(2,664)
Modesto Irrigation District	(180)	1024	(92)
Morgan Stanley CG	(491,984)	1024	(252,011)
N. California Power Agency	(260)	1024	(133)
NorthPoint Energy Solutions, Inc.	(5,792)	1024	(2,967)
Northwestern Energy	(13,384)	1024	(6,856)
Okanogan PUD	(455)	1024	(233)
Pacific Northwest Generatin Coop.	(11,857)	1024	(6,074)
Pacific Summit Energy LLC	(80,207)	1024	(41,085)
Pacificorp	(122,205)	1024	(62,598)
PG&E Energy Trading	(800)	1024	(410)
Portland General Electric	(37,229)	1024	(19,070)
Powerex Corp.	(317,422)	1024	(162,595)
Public Service of Colorado	(15,435)	1024	(7,906)
Rainbow Energy Marketing	(74,196)	1024	(38,006)

Redding, City of	(1,257)	1024	(644)
Sacramento Municipal	(2,305)	1024	(1,181)
San Diego Gas & Electric	(30,998)	1024	(15,878)
Seattle City Light Marketing	(51,896)	1024	(26,583)
Sempra Energy Trading	(38,348)	1024	(19,643)
Shell Energy (Coral Pwr)	(158,471)	1024	(81,174)
Sierra Pacific Power	(17,217)	1024	(8,819)
Silicon Valley Pwr - Santa Clara	(166)	1024	(85)
Snohomish County PUD #1	(22,679)	1024	(11,617)
Southern Cal - Edison	(4,250)	1024	(2,177)
SUEZ Energy Marketing (Tractebel)	(15,700)	1024	(8,042)
Synergy Power Marketing	(2,578)	1024	(1,321)
Tacoma Power	(3,208)	1024	(1,643)
Talen Energy (PPL Energy Plus)	(22,392)	1024	(11,470)
The Energy Authority	(11,297)	1024	(5,787)
TransAlta Energy Marketing	(200,683)	1024	(102,797)
TransCanada Energy Marketing	(14,678)	1024	(7,519)
Turlock Irrigation District	(2,835)	1024	(1,452)
UBS AG	(1,600)	1024	(820)
Western Area Power Association	(275)	1024	(141)
	5,441,422		2,787,287

[Commerce Fuel Mix Report =](#)

1,024


lbs CO<sub>2</sub> per MWh

For Year
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2008
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## Known Resources Serving WA Customers

2009

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	90,894	-	-
Lower Baker	344,847	-	-
Snoqualmie Falls #1	62,769	-	-
Snoqualmie Falls #2	151,915	-	-
Upper Baker	337,354	-	-
Colstrip 1 & 2	2,310,597	2,654	3,066,301
Colstrip 3 & 4	2,140,507	2,551	2,730,520
Encogen	384,510	1,108	213,081
Goldendale	1,368,799	888	607,905
Mint Farm	1,426,828	914	651,926
Sumas	539,532	1,080	291,289
Crystal Mountain	419	1,824	383
Freddie #1	454,203	938	213,104
Fredonia	64,045	1,569	50,257
Fredonia 3 & 4	89,229	1,397	62,317
Fredrickson 1 & 2	18,586	1,770	16,449
Hopkins Ridge (W184)	381,219	-	-
Whitehorn 2&3	16,995	1,739	14,777
Wild Horse (W183)	565,275	-	-
BC Hydro (Point Roberts)	22,271	819	9,122
BPA	7,014	-	-
BPA Firm - WNP#3 Exchange	393,717	819	161,268
Chelan PUD - Rock Island Syst #2	1,263,318	-	-
Chelan PUD - Rocky Reach	2,007,333	-	-
Douglas PUD - Wells Project	959,848	-	-
Farm Power Rexville LLC	1,523	-	-
Grant PUD - Priest Rapids	234,580	-	-
Grant PUD - Priest Rapids Project	82,584	-	-
Grant PUD - Wanapum	313,799	-	-
Klondike Wind Power III	132,569	-	-
NWestern Energy(MPC) Firm Contract	591,921	2	717
Qualco Energy	3,036	-	-
Snohomish PUD Conservation	89,728	819	36,753
VanderHaak Dairy Digester	2,346	-	-
WASCO Hydro	39,992	-	-
Koma Kulshan Associates	36,065	-	-
March Point Cogen. - 1 & 2	995,858	711	354,048
Nooksack	23,210	-	-
Port Townsend Paper Co.	1,817	999	907
Puyallup Energy Recovery Company	344	-	-
Spokane MSW	133,987	1,701	113,963
Sygitowicz Creek	1,018	-	-
Tenaska	866,455	885	383,621

Twin Falls Hydro	69,082	-	-
Weeks Falls	12,348	-	-
	<u>19,034,284</u>		<u>8,978,707</u>

## Unknown Resources For WA Customers

2009

[WA Dept. of Cc](#)

Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Avista Corp. WWP Division	165,618	1119	92,646
Barclays Bank Plc	16,746	1119	9,368
Black Hills Power	3,800	1119	2,126
Book Outs - EITF 03-11	(3,599,695)	1119	(2,013,658)
BP Energy Co.	37,192	1119	20,805
BPA	334,870	1119	187,325
Burbank, City of	175	1119	98
Cargill Power Markets	380,859	1119	213,051
Chelan County PUD #1	29,209	1119	16,339
Citigroup Energy Inc	338,327	1119	189,259
Clatskanie PUD	50,919	1119	28,484
Conoco, Inc.	73,722	1119	41,240
Constellation Power Source, Inc.	562,741	1119	314,796
CP Energy Marketing (Epcor)	28,908	1119	16,171
Credit Suisse Energy, LLC	445,000	1119	248,932
DB Energy Trading LLC	147,600	1119	82,567
Douglas County PUD #1	187,749	1119	105,026
Eagle Energy Partners	106,240	1119	59,430
EDF Trading NA LLC	31,850	1119	17,817
Endure Energy LLC	30,600	1119	17,118
ENMAX Energy Marketing, Inc.	2,456	1119	1,374
Eugene Water & Electric	89,317	1119	49,964
Fortis Energy Marketing & Trading	133,941	1119	74,926
Grant County PUD #2	53,441	1119	29,895
Hinson Power Company	800	1119	448
Iberdrola Renewables (PPM Energy)	882,331	1119	493,573
Idaho Falls Power	37,654	1119	21,064
Idaho Power Company	92,731	1119	51,873
Integritys Energy Services, Inc	1,800	1119	1,007
J. Aron & Company	14,000	1119	7,832
JP Morgan Ventures Energy	143,436	1119	80,238
Los Angeles Dept. Water & Power	50	1119	28
Merrill Lynch Commodities	400	1119	224
Modesto Irrigation District	90	1119	50
Morgan Stanley CG	992,212	1119	555,040
N. California Power Agency	323	1119	181
Noble Americas Energy Solutions	3,400	1119	1,902
NorthPoint Energy Solutions, Inc.	6,592	1119	3,688
Northwestern Energy	7,969	1119	4,458
Occidental Power Services	31,600	1119	17,677
Okanogan PUD	3,810	1119	2,131
Pacific Northwest Generatin Coop.	216,587	1119	121,158
Pacific Summit Energy LLC	68,094	1119	38,092




Pacificorp	185,612	1119	103,831
Portland General Electric	208,659	1119	116,723
Powerex Corp.	316,076	1119	176,812
Public Service of Colorado	3,600	1119	2,014
Rainbow Energy Marketing	222,154	1119	124,272
Redding, City of	496	1119	277
Sacramento Municipal	6,590	1119	3,686
Seattle City Light Marketing	211,502	1119	118,314
Sempra Energy Trading	2,267,825	1119	1,268,614
Shell Energy (Coral Pwr)	485,252	1119	271,448
Sierra Pacific Power	25	1119	14
Snohomish County PUD #1	57,116	1119	31,951
Southern Cal - Edison	7,805	1119	4,366
Tacoma Power	75,813	1119	42,410
Talen Energy (PPL Energy Plus)	407,444	1119	227,923
Tenaska	2,895	1119	1,619
The Energy Authority	122,625	1119	68,596
TransAlta Energy Marketing	278,480	1119	155,781
TransCanada Energy Marketing	7,326	1119	4,098
TransCanada Energy Sales Ltd	9,898	1119	5,537
Turlock Irrigation District	850	1119	475
Western Area Power Association	360	1119	201
Black Creek Hydro	6,088	1119	3,406
BPA	76,504	1119	42,796
Deviation	(23,318)	1119	(13,044)
Morgan Stanley CG	20,000	1119	11,188
Pacific Gas & Elec - Exchange	413,000	1119	231,031
Powerex Corp.	38,000	1119	21,257
TransAlta Energy Marketing	1,533,600	1119	857,891
Black Creek Hydro	(4,172)	1119	(2,334)
BPA	(81,545)	1119	(45,616)
Deviation	(43,829)	1119	(24,518)
Morgan Stanley CG	(17,200)	1119	(9,622)
Pacific Gas & Elec - Exchange	(413,000)	1119	(231,031)
Powerex Corp.	(68,795)	1119	(38,484)
TransAlta Energy Marketing	(1,533,600)	1119	(857,891)
Avista Corp. WWP Division	(39,571)	1119	(22,136)
Barclays Bank Plc	(33,513)	1119	(18,747)
Black Hills Power	(1,600)	1119	(895)
Book Outs - EITF 03-11	3,599,695	1119	2,013,658
BP Energy Co.	(152,945)	1119	(85,557)
BPA	(254,156)	1119	(142,174)
British Columbia Transmission Corp	(35)	1119	(20)
Cargill Power Markets	(240,421)	1119	(134,491)
Chelan County PUD #1	(3,890)	1119	(2,176)
Citigroup Energy Inc	(635,716)	1119	(355,618)
Clatskanie PUD	(15,633)	1119	(8,745)

Conoco, Inc.	(111,736)	1119	(62,505)
Constellation Power Source, Inc.	(61,701)	1119	(34,515)
CP Energy Marketing (Epcor)	(605)	1119	(338)
Credit Suisse Energy, LLC	(8,444)	1119	(4,724)
DB Energy Trading LLC	(182,400)	1119	(102,034)
Douglas County PUD #1	(450)	1119	(252)
Eagle Energy Partners	(10,242)	1119	(5,729)
ENMAX Energy Marketing, Inc.	(6,394)	1119	(3,577)
Eugene Water & Electric	(19,889)	1119	(11,126)
Fortis Energy Marketing & Trading	(110,920)	1119	(62,048)
Grant County PUD #2	(22,571)	1119	(12,626)
Hinson Power Company	(3,950)	1119	(2,210)
Iberdrola Renewables (PPM Energy)	(485,458)	1119	(271,564)
Idaho Power Company	(31,952)	1119	(17,874)
Integrus Energy Services, Inc	(4,800)	1119	(2,685)
J. Aron & Company	(43,800)	1119	(24,502)
JP Morgan Ventures Energy	(162,587)	1119	(90,951)
Los Angeles Dept. Water & Power	(400)	1119	(224)
Modesto Irrigation District	(2,329)	1119	(1,303)
Morgan Stanley CG	(660,584)	1119	(369,529)
N. California Power Agency	(558)	1119	(312)
Natur Ener USA	(9)	1119	(5)
NorthPoint Energy Solutions, Inc.	(40,364)	1119	(22,579)
Northwestern Energy	(22,137)	1119	(12,383)
Occidental Power Services	(33,200)	1119	(18,572)
Okanogan PUD	(180)	1119	(101)
Pacific Northwest Generatin Coop.	(15,026)	1119	(8,405)
Pacific Summit Energy LLC	(141,740)	1119	(79,289)
Pacificorp	(175,631)	1119	(98,247)
PG&E Energy Trading	(1,400)	1119	(783)
Portland General Electric	(88,446)	1119	(49,476)
Powerex Corp.	(547,840)	1119	(306,460)
Public Service of Colorado	(6,800)	1119	(3,804)
Rainbow Energy Marketing	(57,994)	1119	(32,442)
Redding, City of	(441)	1119	(247)
Sacramento Municipal	(11,919)	1119	(6,667)
San Diego Gas & Electric	(1,032)	1119	(577)
Seattle City Light Marketing	(33,841)	1119	(18,931)
Sempra Energy Trading	(272,319)	1119	(152,334)
Shell Energy (Coral Pwr)	(446,690)	1119	(249,877)
Sierra Pacific Power	(3,532)	1119	(1,976)
Silicon Valley Pwr - Santa Clara	(35)	1119	(20)
Snohomish County PUD #1	(10,967)	1119	(6,135)
Southern Cal - Edison	(502,250)	1119	(280,957)
Tacoma Power	(2,294)	1119	(1,283)
Talen Energy (PPL Energy Plus)	(71,305)	1119	(39,888)
The Energy Authority	(14,698)	1119	(8,222)

TransAlta Energy Marketing	(297,158)	1119	(166,229)
TransCanada Energy Marketing	(4,687)	1119	(2,622)
TransCanada Energy Sales Ltd	(10,850)	1119	(6,069)
Turlock Irrigation District	(3,013)	1119	(1,685)
Western Area Power Association	(80)	1119	(45)
	4,408,167		2,465,915

[Commerce Fuel Mix Report =](#)

1,119


lbs CO<sub>2</sub> per MWh

For Year	2009
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## Known Resources Serving WA Customers

2010

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	88,025	-	-
Lower Baker	366,338	-	-
Snoqualmie Falls #1	13,051	-	-
Snoqualmie Falls #2	101,677	-	-
Upper Baker	360,505	-	-
Colstrip 1 & 2	2,293,375	2,459	2,820,139
Colstrip 3 & 4	2,904,730	2,254	3,273,215
Encogen	197,772	1,048	103,636
Freddie #1	418,446	852	178,267
Goldendale	1,541,236	802	618,132
Mint Farm	1,441,302	853	614,819
Sumas	410,626	1,004	206,118
Crystal Mountain	114	2,093	119
Fredonia	11,885	1,779	10,571
Fredonia 3 & 4	62,288	1,251	38,956
Fredrickson 1 & 2	10,272	2,013	10,337
Hopkins Ridge (W184)	381,271	-	-
Whitehorn 2&3	8,367	1,870	7,824
Wild Horse (W183)	609,655	-	-
BC Hydro (Point Roberts)	20,921	843	8,814
Book Outs - EITF 03-11	(753,803)	-	-
BPA	7,000	-	-
BPA Firm - WNP#3 Exchange	406,710	843	171,343
Chelan PUD - Rock Island Syst #2	1,213,235	-	-
Chelan PUD - Rocky Reach	1,914,094	-	-
Credit Suisse Energy, LLC	107,950	843	45,478
Douglas PUD - Wells Project	871,104	-	-
Farm Power Lynden LLC	204	-	-
Farm Power Rexville LLC	4,874	-	-
Grant PUD - Priest Rapids Project	331,731	-	-
Klondike Wind Power III	120,632	-	-
NWestern Energy(MPC) Firm Contract	788,313	2	850
Powerex Corp.	179,999	843	75,832
Qualco Energy	3,520	-	-
Sempra Energy Trading	547,795	843	230,780
Shell Energy (Coral Pwr)	330,050	843	139,047
Snohomish PUD Conservation	14,464	843	6,094
VanderHaak Dairy Digester	2,552	-	-
WASCO Hydro	40,782	-	-
Hutchinson Creek	1,107	-	-
Koma Kulshan Associates	42,708	-	-
March Point Cogen. - 1 & 2	1,081,243	713	385,211
Nooksack	25,922	-	-

Port Townsend Paper Co.	2,886	1,034	1,492
Spokane MSW	141,480	4,609	326,048
Sygitowicz Creek	1,228	-	-
Tenaska	652,723	885	288,992
Twin Falls Hydro	73,498	-	-
Weeks Falls	13,234	-	-
	<u>19,409,091</u>		<u>9,562,115</u>

## Unknown Resources For WA Customers

2010

[WA Dept. of Cc](#)


Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Avista Corp. WWP Division	165,695	1192	98,730
Barclays Bank Plc	138,700	1192	82,646
Black Hills Power	1,224	1192	729
BNP Paribas Energy Trading	15,600	1192	9,295
Book Outs - EITF 03-11	(3,094,185)	1192	(1,843,695)
BP Energy Co.	78,616	1192	46,844
BPA	206,160	1192	122,842
Burbank, City of	59,686	1192	35,564
Cargill Power Markets	183,821	1192	109,531
Chelan County PUD #1	15,633	1192	9,315
Citigroup Energy Inc	775,756	1192	462,241
Clatskanie PUD	25,594	1192	15,250
Conoco, Inc.	82,208	1192	48,984
Constellation Power Source, Inc.	95,234	1192	56,746
CP Energy Marketing (Epcor)	10,876	1192	6,481
DB Energy Trading LLC	117,600	1192	70,073
Douglas County PUD #1	184,451	1192	109,907
Eagle Energy Partners	31	1192	18
EDF Trading NA LLC	320,131	1192	190,753
Endure Energy LLC	17,600	1192	10,487
ENMAX Energy Marketing, Inc.	430	1192	256
Eugene Water & Electric	63,929	1192	38,093
Fortis Energy Marketing & Trading	4,000	1192	2,383
Grant County PUD #2	20,495	1192	12,212
Iberdrola Renewables (PPM Energy)	682,132	1192	406,454
Idaho Power Company	17,382	1192	10,357
J. Aron & Company	32,200	1192	19,187
JP Morgan Ventures Energy	136,924	1192	81,587
Merrill Lynch Commodities	55,600	1192	33,130
Modesto Irrigation District	45	1192	27
Morgan Stanley CG	1,135,590	1192	676,651
NextEra Energy Power Marketing	20,186	1192	12,028
Noble Americas Energy Solutions	24,200	1192	14,420
NorthPoint Energy Solutions, Inc.	4,037	1192	2,405
Northwestern Energy	2,854	1192	1,701
Occidental Power Services	30,400	1192	18,114
Okanogan PUD	2,374	1192	1,415
Pacific Northwest Generatin Coop.	87,811	1192	52,323
Pacific Summit Energy LLC	46,767	1192	27,866
Pacificorp	80,243	1192	47,813
Portland General Electric	292,936	1192	174,548
Powerex Corp.	300,036	1192	178,779
Public Service of Colorado	6,500	1192	3,873

Rainbow Energy Marketing	98,150	1192	58,483
Redding, City of	173	1192	103
Sacramento Municipal	5,475	1192	3,262
San Diego Gas & Electric	684	1192	408
Seattle City Light Marketing	249,821	1192	148,858
Sempra Energy Trading	995,085	1192	592,930
Shell Energy (Coral Pwr)	355,579	1192	211,875
Sierra Pacific Power	1,600	1192	953
Snohomish County PUD #1	45,702	1192	27,232
Southern Cal - Edison	13,647	1192	8,132
Tacoma Power	47,836	1192	28,503
Talen Energy (PPL Energy Plus)	147,357	1192	87,804
Tenaska	1,038	1192	619
The Energy Authority	78,028	1192	46,494
TransAlta Energy Marketing	1,107,783	1192	660,082
TransCanada Energy Sales Ltd	8,791	1192	5,238
Turlock Irrigation District	52,383	1192	31,213
Western Area Power Association	20	1192	12
Black Creek Hydro	11,424	1192	6,807
BPA	65,580	1192	39,076
Pacific Gas & Elec - Exchange	412,908	1192	246,035
TransAlta Energy Marketing	1,533,400	1192	913,689
Black Creek Hydro	(10,438)	1192	(6,220)
BPA	(57,475)	1192	(34,247)
Deviation	20,831	1192	12,413
Pacific Gas & Elec - Exchange	(413,000)	1192	(246,089)
TransAlta Energy Marketing	(1,536,249)	1192	(915,387)
Avista Corp. WWP Division	(27,014)	1192	(16,097)
Barclays Bank Plc	(40,109)	1192	(23,899)
Black Hills Power	(2,465)	1192	(1,469)
BNP Paribas Energy Trading	(29,925)	1192	(17,831)
Book Outs - EITF 03-11	3,847,988	1192	2,292,855
BP Energy Co.	(259,544)	1192	(154,651)
BPA	(159,865)	1192	(95,257)
British Columbia Transmission Corp	(49)	1192	(29)
Burbank, City of	(530)	1192	(316)
Cargill Power Markets	(261,663)	1192	(155,914)
Chelan County PUD #1	(5,161)	1192	(3,075)
Citigroup Energy Inc	(767,741)	1192	(457,465)
Clatskanie PUD	(10,025)	1192	(5,973)
Conoco, Inc.	(111,624)	1192	(66,512)
Constellation Power Source, Inc.	(42,662)	1192	(25,421)
CP Energy Marketing (Epcor)	(54,095)	1192	(32,233)
DB Energy Trading LLC	(150,800)	1192	(89,855)
Douglas County PUD #1	(1,065)	1192	(635)
Eagle Energy Partners	(831)	1192	(495)
EDF Trading NA LLC	(58,348)	1192	(34,767)



Endure Energy LLC	(1,200)	1192	(715)
ENMAX Energy Marketing, Inc.	(1,808)	1192	(1,077)
Eugene Water & Electric	(14,553)	1192	(8,672)
Fortis Energy Marketing & Trading	(12,000)	1192	(7,150)
Grant County PUD #2	(45,909)	1192	(27,355)
Iberdrola Renewables (PPM Energy)	(442,218)	1192	(263,499)
Idaho Power Company	(60,759)	1192	(36,204)
J. Aron & Company	(800)	1192	(477)
JP Morgan Ventures Energy	(92,601)	1192	(55,177)
Merrill Lynch Commodities	(75,385)	1192	(44,919)
Modesto Irrigation District	(10)	1192	(6)
Morgan Stanley CG	(454,431)	1192	(270,776)
N. California Power Agency	(356)	1192	(212)
Natur Ener USA	(2)	1192	(1)
NextEra Energy Power Marketing	(294)	1192	(175)
NorthPoint Energy Solutions, Inc.	(10,173)	1192	(6,062)
Northwestern Energy	(48,784)	1192	(29,068)
Okanogan PUD	(175)	1192	(104)
Pacific Northwest Generatin Coop.	(4,755)	1192	(2,833)
Pacific Summit Energy LLC	(111,596)	1192	(66,495)
Pacificorp	(167,918)	1192	(100,055)
Portland General Electric	(68,889)	1192	(41,048)
Powerex Corp.	(330,673)	1192	(197,034)
Public Service of Colorado	(4,400)	1192	(2,622)
Rainbow Energy Marketing	(46,883)	1192	(27,936)
Redding, City of	(463)	1192	(276)
Sacramento Municipal	(4,178)	1192	(2,489)
San Diego Gas & Electric	(10,399)	1192	(6,196)
Seattle City Light Marketing	(24,056)	1192	(14,334)
Sempra Energy Trading	(112,120)	1192	(66,808)
Shell Energy (Coral Pwr)	(449,454)	1192	(267,811)
Sierra Pacific Power	(2,937)	1192	(1,750)
Snohomish County PUD #1	(6,352)	1192	(3,785)
Southern Cal - Edison	(1,236,986)	1192	(737,068)
Tacoma Power	(2,132)	1192	(1,270)
Talen Energy (PPL Energy Plus)	(176,278)	1192	(105,037)
The Energy Authority	(8,119)	1192	(4,838)
TransAlta Energy Marketing	(318,081)	1192	(189,531)
TransCanada Energy Sales Ltd	(9,650)	1192	(5,750)
Turlock Irrigation District	(5,147)	1192	(3,067)
	3,185,183		1,897,917

[Commerce Fuel Mix Report =](#)

1,192


lbs CO<sub>2</sub> per MWh

For Year
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2010
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## Known Resources Serving WA Customers

2011

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	50,341	-	-
Lower Baker	332,792	-	-
Snoqualmie Falls #1	(290)	-	-
Snoqualmie Falls #2	(175)	-	-
Upper Baker	301,309	-	-
Colstrip 1 & 2	1,897,910	2,327	2,208,276
Colstrip 3 & 4	2,312,673	2,380	2,751,525
Encogen	88,888	1,095	48,657
Freddie #1	135,218	868	58,692
Goldendale	609,013	795	242,000
Mint Farm	702,081	871	305,693
Sumas	178,397	1,016	90,630
Crystal Mountain	273	1,835	251
Fredonia	27,940	1,632	22,806
Fredonia 3 & 4	48,850	1,232	30,081
Fredrickson 1 & 2	9,976	12,617	62,931
Hopkins Ridge (W184)	433,219	-	-
Whitehorn 2&3	22,501	1,901	21,384
Wild Horse (W183)	730,659	-	-
3 Bar G Wind Turbine #3 LLC	105	-	-
Barclays Bank Plc	109,875	845	46,438
BC Hydro (Point Roberts)	22,074	845	9,329
Black Creek Hydro Inc	9,716	-	-
Book Outs - EITF 03-11	(509,390)	-	-
BPA	7,000	-	-
BPA Firm - WNP#3 Exchange	413,808	845	174,892
Chelan PUD - RI & RR	129,926	-	-
Chelan PUD - Rock Island Syst #2	1,647,786	-	-
Chelan PUD - Rocky Reach	2,517,798	-	-
Douglas PUD - Wells Project	1,061,183	-	-
Farm Power Lynden LLC	3,412	-	-
Farm Power Rexville LLC	4,904	-	-
Grant PUD - Priest Rapids Project	253,731	-	-
Island Community Solar LLC	15	-	-
JP Morgan Ventures Energy	385,873	845	163,086
Klondike Wind Power III	132,950	-	-
Knudsen Wind Turbine #1	86	-	-
Powerex Corp.	180,000	845	76,075
Qualco Energy	3,315	-	-
Sempra Energy Trading	161,925	845	68,436
Shell Energy (Coral Pwr)	437,989	845	185,112
Skookumchuck Hydro	5,017	-	-
Smith Creek Hydro	170	-	-

Van Dyk - S Holsteins	750	-	-
VanderHaak Dairy Digester	3,919	-	-
WASCO Hydro	38,437	-	-
Hutchinson Creek	1,180	-	-
Koma Kulshan Associates	41,095	-	-
March Point Cogen. - 1 & 2	769,775	712	274,126
Nooksack	24,529	-	-
Port Townsend Paper Co.	2,962	1,037	1,536
Spokane MSW	143,386	4,486	321,649
Sygitowicz Creek	1,154	-	-
Tenaska	81,307	776	31,534
Twin Falls Hydro	90,260	-	-
Weeks Falls	15,834	-	-
	<u>16,075,429</u>		<u>7,195,140</u>

## Unknown Resources For WA Customers

2011


[WA Dept. of Cc](#)

Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Avista Corp. WWP Division	117,376	905	53,093
Barclays Bank Plc	27,750	905	12,552
Black Hills Power	3,515	905	1,590
BNP Paribas Energy Trading	119,000	905	53,827
Book Outs - EITF 03-11	(3,113,284)	905	(1,408,231)
BP Energy Co.	345,552	905	156,303
BPA	382,105	905	172,837
British Columbia Transmission Corp	9	905	4
Burbank, City of	2,000	905	905
Cargill Power Markets	318,865	905	144,232
Chelan County PUD #1	8,620	905	3,899
Citigroup Energy Inc	1,028,188	905	465,080
Clark Public Utilities	8,570	905	3,876
Clatskanie PUD	15,878	905	7,182
Constellation Power Source, Inc.	298,689	905	135,106
CP Energy Marketing (Epcor)	5,848	905	2,645
DB Energy Trading LLC	197,398	905	89,289
Douglas County PUD #1	277,494	905	125,519
EDF Trading NA LLC	585,729	905	264,943
Eugene Water & Electric	63,900	905	28,904
Exelon Generation Co LLC	10,000	905	4,523
Grant County PUD #2	57,335	905	25,934
Hinson Power Company	20,800	905	9,408
Iberdrola Renewables (PPM Energy)	587,403	905	265,700
Idaho Power Company	73,320	905	33,165
J. Aron & Company	400	905	181
JP Morgan Ventures Energy	1,148,676	905	519,580
Merrill Lynch Commodities	350,800	905	158,677
Morgan Stanley CG	1,335,550	905	604,109
NextEra Energy Power Marketing	30,168	905	13,646
Noble Americas Energy Solutions	10,800	905	4,885
Noble Americas Gas & Power	3,200	905	1,447
NorthPoint Energy Solutions, Inc.	430	905	195
Northwestern Energy	6,224	905	2,815
Okanogan PUD	4,945	905	2,237
Pacific Northwest Generatin Coop.	337,472	905	152,649
Pacific Summit Energy LLC	1,952	905	883
Pacificorp	78,506	905	35,511
PG&E Energy Trading	104,400	905	47,223
Portland General Electric	41,895	905	18,950
Powerex Corp.	168,076	905	76,026
Public Service of Colorado	800	905	362
Rainbow Energy Marketing	48,216	905	21,810

Sacramento Municipal	5,763	905	2,607
San Diego Gas & Electric	556	905	251
Seattle City Light Marketing	251,794	905	113,894
Sempra Energy Trading	77,538	905	35,073
Shell Energy (Coral Pwr)	484,678	905	219,234
Sierra Pacific Power	125	905	57
Snohomish County PUD #1	43,003	905	19,452
Southern Cal - Edison	14,057	905	6,358
Tacoma Power	108,837	905	49,230
Talen Energy (PPL Energy Plus)	122,522	905	55,420
Tenaska	202	905	91
Tenaska Power Services Co.	400	905	181
The Energy Authority	55,496	905	25,102
TransAlta Energy Marketing	2,238,117	905	1,012,367
Turlock Irrigation District	37,399	905	16,917
Western Area Power Association	1,669	905	755
Black Creek Hydro	3,049	905	1,379
BPA	45,405	905	20,538
Pacific Gas & Elec - Exchange	413,092	905	186,854
Black Creek Hydro	(6,556)	905	(2,965)
BPA	(46,691)	905	(21,120)
Deviation	34,040	905	15,397
Pacific Gas & Elec - Exchange	(413,000)	905	(186,812)
Avista Corp. WWP Division	(30,733)	905	(13,901)
Barclays Bank Plc	(29,465)	905	(13,328)
Black Hills Power	(2,654)	905	(1,200)
BNP Paribas Energy Trading	(20,616)	905	(9,325)
Book Outs - EITF 03-11	3,622,674	905	1,638,643
BP Energy Co.	(148,410)	905	(67,130)
BPA	(84,760)	905	(38,339)
British Columbia Transmission Corp	(1)	905	(0)
Burbank, City of	(800)	905	(362)
Cargill Power Markets	(141,861)	905	(64,168)
Chelan County PUD #1	(1,600)	905	(724)
Citigroup Energy Inc	(167,241)	905	(75,648)
Clark Public Utilities	(6,320)	905	(2,859)
Clatskanie PUD	(8,952)	905	(4,049)
Conoco, Inc.	(40)	905	(18)
Constellation Power Source, Inc.	(50,578)	905	(22,878)
CP Energy Marketing (Epcor)	(9,659)	905	(4,369)
DB Energy Trading LLC	(73,077)	905	(33,055)
Douglas County PUD #1	(1,531)	905	(693)
EDF Trading NA LLC	(95,429)	905	(43,165)
ENMAX Energy Marketing, Inc.	567	905	256
Eugene Water & Electric	(33,425)	905	(15,119)
Exelon Generation Co LLC	(15,200)	905	(6,875)
Grant County PUD #2	(27,856)	905	(12,600)

Iberdrola Renewables (PPM Energy)	(428,020)	905	(193,606)
Idaho Power Company	(24,625)	905	(11,139)
J. Aron & Company	(21,600)	905	(9,770)
JP Morgan Ventures Energy	(47,261)	905	(21,378)
Los Angeles Dept. Water & Power	(1,150)	905	(520)
Merrill Lynch Commodities	(18,800)	905	(8,504)
Morgan Stanley CG	(586,129)	905	(265,124)
N. California Power Agency	(482)	905	(218)
Natur Ener USA	(30)	905	(14)
NextEra Energy Power Marketing	(9,250)	905	(4,184)
Noble Americas Energy Solutions	(800)	905	(362)
Noble Americas Gas & Power	(3,388)	905	(1,532)
NorthPoint Energy Solutions, Inc.	(7,683)	905	(3,475)
Northwestern Energy	(56,370)	905	(25,498)
Okanogan PUD	(855)	905	(387)
Pacific Northwest Generatin Coop.	(1,655)	905	(749)
Pacific Summit Energy LLC	(57,339)	905	(25,936)
Pacificorp	(246,935)	905	(111,696)
PG&E Energy Trading	(790,398)	905	(357,521)
Portland General Electric	(251,716)	905	(113,859)
Powerex Corp.	(294,366)	905	(133,150)
Public Service of Colorado	(1,600)	905	(724)
Rainbow Energy Marketing	(69,776)	905	(31,562)
Redding, City of	(69)	905	(31)
Sacramento Municipal	(28,531)	905	(12,905)
San Diego Gas & Electric	(22,412)	905	(10,138)
Seattle City Light Marketing	(23,444)	905	(10,604)
Shell Energy (Coral Pwr)	(457,267)	905	(206,835)
Sierra Pacific Power	(14,123)	905	(6,388)
Snohomish County PUD #1	(9,938)	905	(4,495)
Southern Cal - Edison	(526,126)	905	(237,982)
Tacoma Power	(19,779)	905	(8,947)
Talen Energy (PPL Energy Plus)	(185,885)	905	(84,081)
Tenaska Power Services Co.	(3,600)	905	(1,628)
The Energy Authority	(19,100)	905	(8,639)
TransAlta Energy Marketing	(212,919)	905	(96,310)
TransCanada Energy Sales Ltd	(14,806)	905	(6,697)
Turlock Irrigation District	(24,869)	905	(11,249)
Western Area Power Association	(1,265)	905	(572)
	6,774,738		3,064,415

[Commerce Fuel Mix Report =](#)

905


lbs CO<sub>2</sub> per MWh

For Year
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2011
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## Known Resources Serving WA Customers

2012

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	49,583	-	-
Lower Baker	349,273	-	-
Snoqualmie Falls #1	(1,203)	-	-
Snoqualmie Falls #2	(636)	-	-
Upper Baker	349,723	-	-
Colstrip 1 & 2	1,424,335	2,350	1,673,470
Colstrip 3 & 4	2,385,189	2,394	2,854,790
Encogen	108,457	1,049	56,908
Ferndale Co-Generation	1,607	19,631	15,774
Freddie #1	175,177	1,749	153,218
Goldendale	909,497	789	358,642
Mint Farm	1,098,069	870	477,773
Sumas	223,750	1,050	117,437
Crystal Mountain	298	72,577	10,823
Fredonia	17,193	14,671	126,117
Fredonia 3 & 4	25,360	1,267	16,064
Fredrickson 1 & 2	31,650	2,995	47,389
Hopkins Ridge (W184)	430,640	-	-
Lower Snake River	714,783	-	-
Whitehorn 2&3	29,278	5,720	83,735
Wild Horse (W183)	677,390	-	-
3 Bar G Wind Turbine #3 LLC	190	-	-
Barclays Bank Plc	217,875	666	72,526
BC Hydro (Point Roberts)	21,417	666	7,129
Black Creek Hydro Inc	11,481	-	-
Book Outs - EITF 03-11	(449,210)	-	-
BPA	6,832	-	-
BPA Firm - WNP#3 Exchange	400,153	666	133,202
CC Solar 1 and CC Solar 2	3	-	-
Chelan PUD - RI & RR	2,300,840	-	-
Chelan PUD - Rock Island Syst #2	716,417	-	-
Chelan PUD - Rocky Reach	(80,276)	-	-
Douglas PUD - Wells Project	979,910	-	-
Edaleen Dairy LLC	1,391	-	-
Farm Power Lynden LLC	4,188	-	-
Farm Power Rexville LLC	5,803	-	-
Grant PUD - Priest Rapids Project	75,568	-	-
Island Community Solar LLC	58	-	-
JP Morgan Ventures Energy	549,589	666	182,946
Klamath Falls (Iberdrola)	500	802	200
Klondike Wind Power III	124,794	-	-
Knudsen Wind Turbine #1	135	-	-
Powerex Corp.	120,000	666	39,945

Qualco Energy	3,402	-	-
Rainier Bio Gas	58	-	-
Shell Energy (Coral Pwr)	439,124	666	146,174
Skookumchuck Hydro	6,422	-	-
Smith Creek Hydro	215	-	-
Swauk Wind	29	-	-
Van Dyk - S Holsteins	2,762	-	-
VanderHaak Dairy Digester	3,538	-	-
WASCO Hydro	38,227	-	-
Bio Energy Washington (BEW)	2,787	-	-
Hutchinson Creek	1,244	-	-
Koma Kulshan Associates	42,519	-	-
Lake Washington -- Finn Hill	96	-	-
Nooksack	25,295	-	-
Port Townsend Paper Co.	1,475	989	729
Sygitowicz Creek	1,478	-	-
Twin Falls Hydro	95,827	-	-
Weeks Falls	17,114	-	-
	<u>14,688,684</u>		<u>6,574,991</u>

## Unknown Resources For WA Customers

2012


[WA Dept. of Cc](#)

Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Deferral Offsets	(52)	903	(24)
Deferral Offsets	(102)	903	(46)
Avista Corp. WWP Division	126,962	903	57,332
Barclays Bank Plc	22,000	903	9,934
Black Hills Power	1,600	903	723
Book Outs - EITF 03-11	(2,428,057)	903	(1,096,430)
BP Energy Co.	1,236,010	903	558,141
BPA	384,113	903	173,453
Brookfield Energy Marketing	1,200	903	542
Calpine Energy Services	467,588	903	211,147
Cargill Power Markets	252,059	903	113,821
Chelan County PUD #1	124,383	903	56,167
Citigroup Energy Inc	1,014,046	903	457,909
Clark Public Utilities	26,743	903	12,076
Clatskanie PUD	11,019	903	4,976
Constellation Power Source, Inc.	65,386	903	29,526
CP Energy Marketing (Epcor)	1,133	903	512
DB Energy Trading LLC	502,043	903	226,706
Douglas County PUD #1	336,342	903	151,881
EDF Trading NA LLC	222,630	903	100,532
ENMAX Energy Marketing, Inc.	75	903	34
Eugene Water & Electric	42,962	903	19,400
Grant County PUD #2	36,506	903	16,485
Iberdrola Renewables (PPM Energy)	561,582	903	253,592
Idaho Falls Power	25	903	11
Idaho Power Company	10,082	903	4,553
J. Aron & Company	2,400	903	1,084
JP Morgan Ventures Energy	1,278,611	903	577,378
Merrill Lynch Commodities	269,356	903	121,632
Morgan Stanley CG	1,078,306	903	486,927
Natur Ener USA	448	903	202
NextEra Energy Power Marketing	113,935	903	51,449
Noble Americas Energy Solutions	800	903	361
Noble Americas Gas & Power	800	903	361
NorthPoint Energy Solutions, Inc.	4	903	2
Northwestern Energy	3,418	903	1,543
Okanogan PUD	1,487	903	671
Pacific Summit Energy LLC	1,179	903	532
Pacificorp	76,562	903	34,573
PG&E Energy Trading	70,000	903	31,610
Portland General Electric	24,419	903	11,027
Powerex Corp.	231,003	903	104,313
Rainbow Energy Marketing	23,628	903	10,670

Sacramento Municipal	3,654	903	1,650
San Diego Gas & Electric	451	903	204
Seattle City Light Marketing	246,052	903	111,109
Shell Energy (Coral Pwr)	182,238	903	82,293
Snohomish County PUD #1	176,041	903	79,494
Southern Cal - Edison	62,658	903	28,294
Tacoma Power	200,033	903	90,328
Talen Energy (PPL Energy Plus)	109,330	903	49,370
Tenaska Power Services Co.	32,812	903	14,817
The Energy Authority	457,673	903	206,670
TransAlta Energy Marketing	1,404,952	903	634,430
TransCanada Energy Marketing	200	903	90
TransCanada Energy Sales Ltd	(200)	903	(90)
Tri-State Generation and Transmissi	124	903	56
Turlock Irrigation District	3,343	903	1,510
BPA	35,599	903	16,075
Pacific Gas & Elec - Exchange	413,000	903	186,497
BPA	(35,375)	903	(15,974)
Deviation	42,717	903	19,289
Pacific Gas & Elec - Exchange	(412,995)	903	(186,495)
Avista Corp. WWP Division	(37,126)	903	(16,765)
Barclays Bank Plc	(2,400)	903	(1,084)
Black Hills Power	(18,302)	903	(8,265)
Book Outs - EITF 03-11	2,877,267	903	1,299,278
BP Energy Co.	(97,731)	903	(44,132)
BPA	(147,151)	903	(66,448)
British Columbia Transmission Corp	(57)	903	(26)
Brookfield Energy Marketing	(2,000)	903	(903)
Calpine Energy Services	(142,467)	903	(64,333)
Cargill Power Markets	(311,820)	903	(140,808)
Chelan County PUD #1	(6,435)	903	(2,906)
Citigroup Energy Inc	(93,176)	903	(42,075)
Clark Public Utilities	(13,840)	903	(6,250)
Clatskanie PUD	(5,387)	903	(2,433)
Constellation Power Source, Inc.	(22,185)	903	(10,018)
CP Energy Marketing (Epcor)	(1,299)	903	(587)
DB Energy Trading LLC	(242,964)	903	(109,714)
Douglas County PUD #1	(1,410)	903	(637)
EDF Trading NA LLC	(34,355)	903	(15,514)
ENMAX Energy Marketing, Inc.	(225)	903	(102)
Eugene Water & Electric	(17,869)	903	(8,069)
Exelon Generation Co LLC	(2,800)	903	(1,264)
Fortis BC	(56,236)	903	(25,394)
Grant County PUD #2	(11,925)	903	(5,385)
Iberdrola Renewables (PPM Energy)	(541,878)	903	(244,694)
Idaho Power Company	(25,835)	903	(11,666)
J. Aron & Company	(2,800)	903	(1,264)

JP Morgan Ventures Energy	(52,134)	903	(23,542)
Morgan Stanley CG	(310,918)	903	(140,400)
Natur Ener USA	(6)	903	(3)
NextEra Energy Power Marketing	(2,739)	903	(1,237)
Noble Americas Energy Solutions	(2,800)	903	(1,264)
Noble Americas Gas & Power	(7,600)	903	(3,432)
NorthPoint Energy Solutions, Inc.	(8,404)	903	(3,795)
Northwestern Energy	(84,493)	903	(38,154)
Okanogan PUD	(470)	903	(212)
Pacific Summit Energy LLC	(430)	903	(194)
Pacificorp	(116,892)	903	(52,785)
PG&E Energy Trading	(216,530)	903	(97,778)
Portland General Electric	(72,993)	903	(32,961)
Powerex Corp.	(406,530)	903	(183,575)
Rainbow Energy Marketing	(58,846)	903	(26,573)
Sacramento Municipal	(10,011)	903	(4,521)
San Diego Gas & Electric	(29,918)	903	(13,510)
Seattle City Light Marketing	(46,589)	903	(21,038)
Shell Energy (Coral Pwr)	(299,293)	903	(135,151)
Sierra Pacific Power	(1,542)	903	(696)
Snohomish County PUD #1	(9,531)	903	(4,304)
Southern Cal - Edison	(20,000)	903	(9,031)
Tacoma Power	(19,628)	903	(8,863)
Talen Energy (PPL Energy Plus)	(67,867)	903	(30,646)
Tenaska Power Services Co.	(36,412)	903	(16,442)
The Energy Authority	(34,934)	903	(15,775)
TransAlta Energy Marketing	(443,951)	903	(200,474)
TransCanada Energy Sales Ltd	(49,555)	903	(22,377)
Tri-State Generation and Transmissi	(12,499)	903	(5,644)
Turlock Irrigation District	(3,606)	903	(1,628)
Western Area Power Association	(407)	903	(184)
	7,727,006		3,489,259

[Commerce Fuel Mix Report =](#)

903


lbs CO<sub>2</sub> per MWh

For Year	2012
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## Known Resources Serving WA Customers

2013

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	57,768	-	-
Lower Baker	350,428	-	-
Snoqualmie Falls #1	(173)	-	-
Snoqualmie Falls #2	76,307	-	-
Upper Baker	353,240	-	-
Colstrip 1 & 2	2,322,485	2,417	2,806,950
Colstrip 3 & 4	2,023,723	2,311	2,338,102
Encogen	268,267	1,090	146,207
Ferndale Co-Generation	869,394	1,001	435,310
Freddie #1	416,397	1,735	361,260
Goldendale	1,469,094	817	599,992
Mint Farm	1,614,348	864	697,586
Sumas	536,585	1,027	275,548
Crystal Mountain	49	2,629	64
Fredonia	112,471	1,470	82,689
Fredonia 3 & 4	12,944	1,252	8,104
Fredrickson 1 & 2	27,905	2,728	38,062
Hopkins Ridge (W184)	406,600	-	-
Lower Snake River	816,895	-	-
Whitehorn 2&3	27,796	2,273	31,594
Wild Horse (W183)	659,105	-	-
3 Bar G Wind Turbine #3 LLC	203	-	-
Barclays Bank Plc	216,075	1,132	122,312
BC Hydro (Point Roberts)	21,366	1,132	12,095
Bio Energy Washington (BEW)	1	-	-
Black Creek Hydro Inc	12,819	-	-
Book Outs - EITF 03-11	(204,155)	-	-
BPA	7,000	-	-
BPA Firm - WNP#3 Exchange	374,969	1,132	212,256
CC Solar 1 and CC Solar 2	28	-	-
Chelan PUD - RI & RR	2,436,603	-	-
Chelan PUD - Rock Island Syst #2	(43,063)	-	-
Chelan PUD - Rocky Reach	(78,804)	-	-
Douglas PUD - Wells Project	1,064,303	-	-
Edaleen Dairy LLC	3,925	-	-
Farm Power Lynden LLC	4,129	-	-
Farm Power Rexville LLC	5,448	-	-
Grant PUD - Priest Rapids Project	72,986	-	-
Island Community Solar LLC	59	-	-
JP Morgan Ventures Energy	161,925	1,132	91,660
Klamath Falls (Iberdrola)	8,450	807	3,411
Klondike Wind Power III	134,050	-	-
Knudsen Wind Turbine #1	128	-	-

Qualco Energy	3,381	-	-
Rainier Bio Gas	5,795	-	-
Shell Energy (Coral Pwr)	107,950	1,132	61,106
Skookumchuck Hydro	6,742	-	-
Smith Creek Hydro	147	-	-
Swauk Wind	10,572	-	-
Van Dyk - S Holsteins	2,315	-	-
VanderHaak Dairy Digester	2,970	-	-
Bio Energy Washington (BEW)	27	-	-
BIO FUEL WA	1,565	-	-
Hutchinson Creek	815	-	-
Koma Kulshan Associates	40,136	-	-
Lake Washington -- Finn Hill	288	-	-
Nooksack	23,772	-	-
Sygitowicz Creek	1,170	-	-
Twin Falls Hydro	83,479	-	-
Weeks Falls	14,707	-	-
	<u>16,925,901</u>		<u>8,324,309</u>



## Unknown Resources For WA Customers

2013


WA Dept. of Cc

Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Avista Corp. WWP Division	231,202	1132	130,875
Black Hills Power	4,600	1132	2,604
Book Outs - EITF 03-11	(3,157,200)	1132	(1,787,173)
BP Energy Co.	1,103,049	1132	624,395
BPA	417,735	1132	236,464
Brookfield Energy Marketing	800	1132	453
Burbank, City of	200	1132	113
California ISO	34,629	1132	19,602
Calpine Energy Services	82,375	1132	46,629
Cargill Power Markets	475,057	1132	268,912
Chelan County PUD #1	15,616	1132	8,840
Citigroup Energy Inc	209,900	1132	118,817
Clark Public Utilities	16,000	1132	9,057
Clatskanie PUD	2,268	1132	1,284
Constellation Power Source, Inc.	12,317	1132	6,972
CP Energy Marketing (Epcor)	5,815	1132	3,292
DB Energy Trading LLC	433,233	1132	245,237
Douglas County PUD #1	305,577	1132	172,976
EDF Trading NA LLC	163,552	1132	92,581
Eugene Water & Electric	14,487	1132	8,201
Exelon Generation Co LLC	60,279	1132	34,122
Grant County PUD #2	27,401	1132	15,511
Iberdrola Renewables (PPM Energy)	862,192	1132	488,055
Idaho Power Company	8,565	1132	4,848
J. Aron & Company	16,200	1132	9,170
JP Morgan Ventures Energy	1,017,850	1132	576,167
Morgan Stanley CG	2,038,800	1132	1,154,088
Natur Ener USA	2	1132	1
NextEra Energy Power Marketing	38,830	1132	21,980
Noble Americas Energy Solutions	8,800	1132	4,981
Noble Americas Gas & Power	400	1132	226
Northwestern Energy	26,622	1132	15,070
Okanogan PUD	26,282	1132	14,877
Pacificorp	82,864	1132	46,906
Portland General Electric	43,399	1132	24,567
Powerex Corp.	176,702	1132	100,024
Rainbow Energy Marketing	20,918	1132	11,841
Sacramento Municipal	1,700	1132	962
San Diego Gas & Electric	76	1132	43
Seattle City Light Marketing	144,546	1132	81,822
Shell Energy (Coral Pwr)	611,302	1132	346,035
Snohomish County PUD #1	49,476	1132	28,007
Southern Cal - Edison	49,519	1132	28,031

Tacoma Power	104,948	1132	59,407
Talen Energy (PPL Energy Plus)	172,219	1132	97,487
Tenaska Power Services Co.	5,800	1132	3,283
The Energy Authority	97,683	1132	55,295
TransAlta Energy Marketing	1,129,071	1132	639,125
TransCanada Energy Sales Ltd	681	1132	385
Turlock Irrigation District	60,816	1132	34,426
Vitol Inc.	262,136	1132	148,385
Pacific Gas & Elec - Exchange	413,000	1132	233,784
Deviation	47,849	1132	27,085
Pacific Gas & Elec - Exchange	(413,000)	1132	(233,784)
Avista Corp. WWP Division	(45,139)	1132	(25,551)
Barclays Bank Plc	(35)	1132	(20)
Black Hills Power	(1,762)	1132	(997)
Book Outs - EITF 03-11	3,361,355	1132	1,902,737
BP Energy Co.	(297,433)	1132	(168,366)
BPA	(165,628)	1132	(93,756)
British Columbia Transmission Corp	(65)	1132	(37)
Brookfield Energy Marketing	(800)	1132	(453)
Burbank, City of	(2,200)	1132	(1,245)
California ISO	(8,579)	1132	(4,856)
Calpine Energy Services	(390,795)	1132	(221,214)
Cargill Power Markets	(158,112)	1132	(89,501)
Chelan County PUD #1	(25,371)	1132	(14,362)
Citigroup Energy Inc	(60,746)	1132	(34,386)
Clark Public Utilities	(18,922)	1132	(10,711)
Clatskanie PUD	(5,659)	1132	(3,203)
Constellation Power Source, Inc.	(1)	1132	(1)
CP Energy Marketing (Epcor)	(1,115)	1132	(631)
DB Energy Trading LLC	8	1132	5
Douglas County PUD #1	(3,025)	1132	(1,712)
EDF Trading NA LLC	(40,695)	1132	(23,036)
Eugene Water & Electric	(35,479)	1132	(20,083)
Exelon Generation Co LLC	(34,998)	1132	(19,811)
Fortis BC	(144,215)	1132	(81,635)
Grant County PUD #2	(26,969)	1132	(15,266)
Iberdrola Renewables (PPM Energy)	(646,518)	1132	(365,970)
Idaho Power Company	(27,009)	1132	(15,289)
J. Aron & Company	(52,425)	1132	(29,676)
JP Morgan Ventures Energy	(54,818)	1132	(31,030)
Morgan Stanley CG	(389,258)	1132	(220,344)
Natur Ener USA	(9)	1132	(5)
NextEra Energy Power Marketing	(1,181)	1132	(669)
Noble Americas Energy Solutions	(5,999)	1132	(3,396)
Noble Americas Gas & Power	(6,600)	1132	(3,736)
NorthPoint Energy Solutions, Inc.	(23,745)	1132	(13,441)
Northwestern Energy	(83,310)	1132	(47,159)

Okanogan PUD	(2,675)	1132	(1,514)
Pacificorp	(277,031)	1132	(156,817)
Portland General Electric	(192,170)	1132	(108,780)
Powerex Corp.	(403,044)	1132	(228,148)
Rainbow Energy Marketing	(35,434)	1132	(20,058)
Sacramento Municipal	(7,107)	1132	(4,023)
San Diego Gas & Electric	(975)	1132	(552)
Seattle City Light Marketing	(23,533)	1132	(13,321)
Shell Energy (Coral Pwr)	(279,421)	1132	(158,170)
Sierra Pacific Power	(2,095)	1132	(1,186)
Snohomish County PUD #1	(30,000)	1132	(16,982)
Southern Cal - Edison	(175)	1132	(99)
Tacoma Power	(36,049)	1132	(20,406)
Talen Energy (PPL Energy Plus)	(64,235)	1132	(36,361)
Tenaska Power Services Co.	(870)	1132	(492)
The Energy Authority	(43,118)	1132	(24,407)
TransAlta Energy Marketing	(391,631)	1132	(221,688)
TransCanada Energy Marketing	(3,692)	1132	(2,090)
TransCanada Energy Sales Ltd	(27,429)	1132	(15,527)
Turlock Irrigation District	(3,960)	1132	(2,242)
Vitol Inc.	(466,011)	1132	(263,791)
	5,877,233		3,326,881

[Commerce Fuel Mix Report =](#)

1,132


lbs CO<sub>2</sub> per MWh

For Year	2013
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## Known Resources Serving WA Customers

2014

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Electron	42,364	-	-
Lower Baker	429,609	-	-
Snoqualmie Falls #1	40,375	-	-
Snoqualmie Falls #2	147,767	-	-
Upper Baker	340,085	-	-
Colstrip 1 & 2	2,114,046	2,408	2,545,659
Colstrip 3 & 4	2,395,521	2,342	2,804,661
Encogen	218,069	1,067	116,340
Ferndale Co-Generation	722,557	1,016	366,904
Freddie #1	346,743	1,725	299,122
Goldendale	1,029,457	829	426,497
Mint Farm	1,284,786	872	560,102
Sumas	446,065	1,033	230,368
Crystal Mountain	358	1,823	326
Fredonia	56,805	1,772	50,330
Fredonia 3 & 4	11,338	1,329	7,536
Fredrickson 1 & 2	14,347	3,747	26,882
Hopkins Ridge (W184)	442,303	-	-
Lower Snake River	883,475	-	-
Whitehorn 2&3	24,458	2,654	32,453
Wild Horse (W183)	649,976	-	-
3 Bar G Wind Turbine #3 LLC	144	-	-
Barclays Bank Plc	216,079	696	75,226
BC Hydro (Point Roberts)	20,697	696	7,205
Bio Energy Washington (BEW)	14	-	-
Black Creek Hydro Inc	14,183	-	-
Book Outs - EITF 03-11	(10,172)	-	-
BPA	7,000	-	-
BPA Firm - WNP#3 Exchange	360,022	696	125,338
CC Solar 1 and CC Solar 2	28	-	-
Chelan PUD - RI & RR	2,323,845	-	-
Chelan PUD - Rock Island Syst #2	(38,431)	-	-
Chelan PUD - Rocky Reach	(81,380)	-	-
Douglas PUD - Wells Project	1,048,857	-	-
Edaleen Dairy LLC	3,734	-	-
Farm Power Lynden LLC	4,947	-	-
Farm Power Rexville LLC	5,242	-	-
Grant PUD - Priest Rapids Project	50,317	-	-
Island Community Solar LLC	60	-	-
Klamath Falls (Iberdrola)	1,200	814	488
Klondike Wind Power III	129,205	-	-
Knudsen Wind Turbine #1	152	-	-
Qualco Energy	290	-	-

Rainier Bio Gas	5,028	-	-
Skookumchuck Hydro	6,471	-	-
Smith Creek Hydro	174	-	-
Swauk Wind	11,216	-	-
Transalta Centralia Generation LLC	133,020	2,369	157,594
Van Dyk - S Holsteins	2,189	-	-
VanderHaak Dairy Digester	3,511	-	-
BIO FUEL WA	36,677	-	-
Electron Hydro, LLC	8,568	-	-
Hutchinson Creek	233	-	-
Koma Kulshan Associates	48,523	-	-
Lake Washington -- Finn Hill	271	-	-
Nooksack	25,212	-	-
Sygitowicz Creek	1,168	-	-
Twin Falls Hydro	92,558	-	-
Weeks Falls	16,407	-	-
	<u>16,087,761</u>		<u>7,833,030</u>

## Unknown Resources For WA Customers

2014

[WA Dept. of Cc](#)


Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Avista Corp. WWP Division	321,265	1024	164,419
Black Hills Power	875	1024	448
Book Outs - EITF 03-11	(2,005,870)	1024	(1,026,577)
BP Energy Co.	1,096,755	1024	561,305
BPA	169,672	1024	86,836
Burbank, City of	200	1024	102
California ISO	65,176	1024	33,356
Calpine Energy Services	47,482	1024	24,301
Cargill Power Markets	609,585	1024	311,977
Chelan County PUD #1	4,821	1024	2,467
Citigroup Energy Inc	145,653	1024	74,543
City of Idaho Falls	10	1024	5
Clark Public Utilities	5,396	1024	2,762
Clatskanie PUD	2,270	1024	1,162
Constellation Power Source, Inc.	20	1024	10
CP Energy Marketing (Epcor)	825	1024	422
Douglas County PUD #1	277,023	1024	141,777
EDF Trading NA LLC	611,857	1024	313,140
ENMAX Energy Marketing, Inc.	100	1024	51
Eugene Water & Electric	12,875	1024	6,589
Exelon Generation Co LLC	187,630	1024	96,027
Grant County PUD #2	12,652	1024	6,475
Iberdrola Renewables (PPM Energy)	716,696	1024	366,795
Idaho Power Company	12,466	1024	6,380
J. Aron & Company	20,400	1024	10,440
JP Morgan Ventures Energy	156,705	1024	80,200
Morgan Stanley CG	1,790,503	1024	916,356
Natur Ener USA	1	1024	1
NextEra Energy Power Marketing	56,233	1024	28,779
Noble Americas Energy Solutions	4,000	1024	2,047
Noble Americas Gas & Power	4,000	1024	2,047
NorthPoint Energy Solutions, Inc.	871	1024	446
Northwestern Energy	1,948	1024	997
Okanogan PUD	7,707	1024	3,944
Pacificorp	71,357	1024	36,520
Portland General Electric	183,483	1024	93,904
Powerex Corp.	100,896	1024	51,637
Rainbow Energy Marketing	5,071	1024	2,595
Sacramento Municipal	2,075	1024	1,062
Seattle City Light Marketing	69,998	1024	35,824
Shell Energy (Coral Pwr)	365,203	1024	186,906
Snohomish County PUD #1	20,464	1024	10,473
Southern Cal - Edison	47,417	1024	24,267

Tacoma Power	151,109	1024	77,336
Talen Energy (PPL Energy Plus)	235,629	1024	120,592
Tenaska Power Services Co.	4,534	1024	2,320
The Energy Authority	51,948	1024	26,586
TransAlta Energy Marketing	1,300,789	1024	665,726
TransCanada Energy Sales Ltd	2,410	1024	1,233
Turlock Irrigation District	81,172	1024	41,543
Vitol Inc.	452,905	1024	231,791
Avista Nichols Pump	22,326	1024	11,426
Pacific Gas & Elec - Exchange	413,000	1024	211,368
Deviation	76,074	1024	38,934
Exelon Generation Co LLC	(25)	1024	(13)
Pacific Gas & Elec - Exchange	(413,000)	1024	(211,368)
Avista Corp. WWP Division	(60,183)	1024	(30,801)
Black Hills Power	(390)	1024	(200)
Book Outs - EITF 03-11	2,016,042	1024	1,031,783
BP Energy Co.	(51,111)	1024	(26,158)
BPA	(159,211)	1024	(81,482)
British Columbia Transmission Corp	(49)	1024	(25)
Brookfield Energy Marketing	(800)	1024	(409)
Burbank, City of	(2,400)	1024	(1,228)
Calpine Energy Services	(117,424)	1024	(60,096)
Cargill Power Markets	(190,421)	1024	(97,455)
Chelan County PUD #1	(16,609)	1024	(8,500)
Citigroup Energy Inc	(26,800)	1024	(13,716)
Clark Public Utilities	(9,222)	1024	(4,720)
Clatskanie PUD	(4,124)	1024	(2,111)
Conoco, Inc.	(1,200)	1024	(614)
Constellation Power Source, Inc.	(119)	1024	(61)
CP Energy Marketing (Epcor)	(947)	1024	(485)
Douglas County PUD #1	(1,819)	1024	(931)
EDF Trading NA LLC	(136,984)	1024	(70,107)
Eugene Water & Electric	(38,757)	1024	(19,835)
Exelon Generation Co LLC	(16,580)	1024	(8,485)
Fortis BC	(27,508)	1024	(14,078)
Grant County PUD #2	(27,899)	1024	(14,278)
Iberdrola Renewables (PPM Energy)	(536,036)	1024	(274,336)
Idaho Power Company	(15,235)	1024	(7,797)
J. Aron & Company	(2,600)	1024	(1,331)
JP Morgan Ventures Energy	(5,071)	1024	(2,595)
Morgan Stanley CG	(332,554)	1024	(170,197)
Natur Ener USA	(24)	1024	(12)
Nevada Power Company	(159)	1024	(81)
NextEra Energy Power Marketing	(159)	1024	(81)
Noble Americas Gas & Power	(400)	1024	(205)
NorthPoint Energy Solutions, Inc.	(3,481)	1024	(1,782)
Northwestern Energy	(68,236)	1024	(34,922)



Okanogan PUD	(1,855)	1024	(949)
Pacificorp	(109,675)	1024	(56,130)
Portland General Electric	(123,272)	1024	(63,089)
Powerex Corp.	(401,453)	1024	(205,458)
Rainbow Energy Marketing	(21,430)	1024	(10,968)
Sacramento Municipal	(4,593)	1024	(2,351)
Seattle City Light Marketing	(20,865)	1024	(10,678)
Shell Energy (Coral Pwr)	(210,325)	1024	(107,642)
Snohomish County PUD #1	(12,377)	1024	(6,334)
Tacoma Power	(14,402)	1024	(7,371)
Talen Energy (PPL Energy Plus)	(52,930)	1024	(27,089)
Tenaska Power Services Co.	(512)	1024	(262)
The Energy Authority	(36,276)	1024	(18,566)
TransAlta Energy Marketing	(302,261)	1024	(154,693)
TransCanada Energy Sales Ltd	(20,682)	1024	(10,585)
Turlock Irrigation District	(311)	1024	(159)
Vitol Inc.	(221,200)	1024	(113,207)
	6,189,748		3,167,831

[Commerce Fuel Mix Report](#) =

1,024


lbs CO<sub>2</sub> per MWh

For Year	2014
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## Known Resources Serving WA Customers

2015

Resource	WA MWh	2015	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Lower Baker	308,611	-	-
Snoqualmie Falls #1	17,891	-	-
Snoqualmie Falls #2	100,980	-	-
Upper Baker	278,750	-	-
Colstrip 1 & 2	1,756,858	2,595	2,279,098
Colstrip 3 & 4	2,738,174	2,359	3,229,428
Crystal Mountain	294	1,823	268
Encogen	297,658	1,059	157,600
Ferndale Co-Generation	868,467	1,029	446,779
Freddie #1	623,181	875	272,686
Fredonia	113,691	1,577	89,625
Fredonia 3 & 4	47,604	1,200	28,566
Fredrickson 1 & 2	39,935	2,385	47,632
Goldendale	1,498,666	811	607,527
Hopkins Ridge (W184)	364,779	-	-
Lower Snake River	741,768	-	-
Mint Farm	1,701,036	888	755,178
Sumas	601,053	1,036	311,307
Whitehorn 2&3	38,733	1,953	37,815
Wild Horse (W183)	608,886	-	-
3 Bar G Wind Turbine #3 LLC	138	-	-
Barclays Bank Plc	106,200	696	36,972
BC Hydro (Point Roberts)	19,584	696	6,818
Bio Energy Washington (BEW)	2	-	-
Black Creek Hydro Inc	6,366	-	-
Book Outs - EITF 03-11	(2,253)	-	-
BPA	7,000	-	-
BPA Firm - WNP#3 Exchange	343,584	696	119,615
CC Solar 1 and CC Solar 2	23	-	-
Chelan PUD - RI & RR	2,299,343	-	-
Chelan PUD - Rock Island Syst #2	(39,940)	-	-
Chelan PUD - Rocky Reach	(82,401)	-	-
Douglas PUD - Wells Project	1,094,705	-	-
Edaleen Dairy LLC	4,697	-	-
Farm Power Lynden LLC	4,858	-	-
Farm Power Rexville LLC	4,485	-	-
Grant PUD - Priest Rapids Project	53,743	-	-
Island Community Solar LLC	62	-	-
Klamath Falls (Iberdrola)	400	806	161
Klondike Wind Power III	119,141	-	-
Knudsen Wind Turbine #1	130	-	-
Rainier Bio Gas	4,950	-	-
Skookumchuck Hydro	4,961	-	-

Smith Creek Hydro	163	-	-
Swauk Wind	11,369	-	-
Transalta Centralia Generation LLC	1,135,396	2,407	1,366,285
Van Dyk - S Holsteins	1,619	-	-
VanderHaak Dairy Digester	3,455	-	-
BIO FUEL WA	32,657	-	-
Electron Hydro, LLC	62,833	-	-
Emerald City Renewables	1,087	-	-
Hutchinson Creek	744	-	-
Koma Kulshan Associates	36,094	-	-
Lake Washington -- Finn Hill	279	-	-
Nooksack	22,257	-	-
Sygitowicz Creek	739	-	-
Twin Falls Hydro	52,604	-	-
Weeks Falls	8,527	-	-
	<u>18,066,615</u>		<u>9,793,361</u>

## Unknown Resources For WA Customers

2015


[WA Dept. of Cc](#)

Resource	WA MWh	Fuel Mix	Short
	2015	lbs CO <sub>2</sub> /MWh	Tons CO <sub>2</sub>
Avista Corp. WWP Division	127,355	1046	66,594
Barclays Bank Plc	-30	1046	(16)
Black Hills Power	1,200	1046	627
Book Outs - EITF 03-11	-5,721,875	1046	(2,991,955)
BP Energy Co.	340,839	1046	178,224
BPA	141,462	1046	73,970
British Columbia Transmission Corp	67	1046	35
California ISO	12,114	1046	6,334
Calpine Energy Services	350,294	1046	183,168
Cargill Power Markets	779,739	1046	407,724
Chelan County PUD #1	857	1046	448
Citigroup Energy Inc	507,518	1046	265,380
Clark Public Utilities	5,045	1046	2,638
Clatskanie PUD	2,021	1046	1,057
Conoco, Inc.	2,000	1046	1,046
Constellation Power Source, Inc.	7	1046	4
Douglas County PUD #1	271,759	1046	142,102
EDF Trading NA LLC	2,085,606	1046	1,090,558
ENMAX Energy Marketing, Inc.	990	1046	518
Eugene Water & Electric	10,905	1046	5,702
Exelon Generation Co LLC	183,085	1046	95,735
Grant County PUD #2	14,148	1046	7,398
Iberdrola Renewables (PPM Energy)	677,785	1046	354,412
Idaho Power Company	14,768	1046	7,722
J. Aron & Company	10,400	1046	5,438
JP Morgan Ventures Energy	67,092	1046	35,082
Morgan Stanley CG	1,304,649	1046	682,198
NextEra Energy Power Marketing	113,998	1046	59,609
Noble Americas Energy Solutions	800	1046	418
NorthPoint Energy Solutions, Inc.	300	1046	157
Northwestern Energy	10,619	1046	5,553
Okanogan PUD	15,430	1046	8,068
Pacificorp	26,590	1046	13,904
Portland General Electric	109,691	1046	57,357
Powerex Corp.	144,388	1046	75,500
Public Service of Colorado	800	1046	418
Rainbow Energy Marketing	12,393	1046	6,480
Sacramento Municipal	5,966	1046	3,120
Seattle City Light Marketing	96,380	1046	50,397
Shell Energy (Coral Pwr)	309,247	1046	161,705
Snohomish County PUD #1	18,557	1046	9,703
Southern Cal - Edison	42,837	1046	22,399
Tacoma Power	38,385	1046	20,071

Talen Energy (PPL Energy Plus)	242,781	1046	126,950
Tenaska Power Services Co.	297	1046	155
The Energy Authority	57,242	1046	29,932
TransAlta Energy Marketing	1,275,174	1046	666,785
TransCanada Energy Sales Ltd	15,993	1046	8,363
Turlock Irrigation District	24,277	1046	12,694
Vitol Inc.	1,563,318	1046	817,455
Western Area Power Association	3	1046	2
Avista Nichols Pump	22,743	1046	11,892
Pacific Gas & Elec - Exchange	413,000	1046	215,957
Interchange-out deviation	52,887	1046	27,654
Pacific Gas & Elec - Exchange	-413,000	1046	(215,957)
Avista Corp. WWP Division	-59,334	1046	(31,026)
Black Hills Power	-30	1046	(16)
Book Outs - EITF 03-11	5,724,128	1046	2,993,133
BP Energy Co.	-303,763	1046	(158,837)
BPA	-284,002	1046	(148,504)
British Columbia Transmission Corp	-28	1046	(15)
Calpine Energy Services	-117,995	1046	(61,699)
Cargill Power Markets	-176,345	1046	(92,210)
Chelan County PUD #1	-4,207	1046	(2,200)
Citigroup Energy Inc	-327,954	1046	(171,486)
Clark Public Utilities	-6,032	1046	(3,154)
Clatskanie PUD	-3,692	1046	(1,931)
Conoco, Inc.	-5,200	1046	(2,719)
Constellation Power Source, Inc.	-89	1046	(47)
CP Energy Marketing (Epcor)	-902	1046	(472)
Douglas County PUD #1	-2,350	1046	(1,229)
EDF Trading NA LLC	-1,158,465	1046	(605,759)
ENMAX Energy Marketing, Inc.	-346	1046	(181)
Eugene Water & Electric	-22,601	1046	(11,818)
Exelon Generation Co LLC	-154,413	1046	(80,742)
Fortis BC	-13,980	1046	(7,310)
Grant County PUD #2	-34,904	1046	(18,251)
Iberdrola Renewables (PPM Energy)	-465,716	1046	(243,522)
Idaho Power Company	-28,166	1046	(14,728)
J. Aron & Company	-10,000	1046	(5,229)
JP Morgan Ventures Energy	-64,335	1046	(33,641)
Morgan Stanley CG	-799,848	1046	(418,239)
Natur Ener USA	-61	1046	(32)
Nevada Power Company	-1,267	1046	(663)
NextEra Energy Power Marketing	-1,748	1046	(914)
NorthPoint Energy Solutions, Inc.	-50	1046	(26)
Northwestern Energy	-27,585	1046	(14,424)
Okanogan PUD	-1,425	1046	(745)
Pacificorp	-270,353	1046	(141,367)
Portland General Electric	-154,103	1046	(80,580)

Powerex Corp.	-165,730	1046	(86,660)
Public Service of Colorado	-600	1046	(314)
Rainbow Energy Marketing	-5,067	1046	(2,650)
Sacramento Municipal	-15,711	1046	(8,215)
Seattle City Light Marketing	-34,982	1046	(18,292)
Shell Energy (Coral Pwr)	-349,844	1046	(182,933)
Snohomish County PUD #1	-7,576	1046	(3,961)
Southern Cal - Edison	-200	1046	(105)
Tacoma Power	-15,061	1046	(7,875)
Talen Energy (PPL Energy Plus)	-70,877	1046	(37,061)
Tenaska Power Services Co.	-828	1046	(433)
The Energy Authority	-41,339	1046	(21,616)
TransAlta Energy Marketing	-637,562	1046	(333,380)
TransCanada Energy Sales Ltd	-7,621	1046	(3,985)
Turlock Irrigation District	-208	1046	(109)
Vitol Inc.	-1,812,075	1046	(947,530)
Western Area Power Association	-2	1046	(1)
Transalta Contract - Source "Other" and Bookouts	515,781	1046	269,701
	3,964,233		2,072,888

[Commerce Fuel Mix Report =](#)

1,046


lbs CO<sub>2</sub> per MWh

For Year
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2015
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
	King	King	King	Jefferson	Island	Pierce	Skagit	Whatcom	Thurston											
	County,	County,	County,	County,	County,	County,	County,	County,	County,											
	Washington	Washington	Washington	Washington	Washington	Washington	Washington	Washington	Washington											
1	People																			
2	Population																			
3	Population estimates, July 1, 2015. (V2015)																			
4	Population estimates, July 1, 2014. (V2014)																			
5	Population estimates base, April 1, 2010. (V2010)																			
6	Population estimates base, April 1, 2010. (V2014)																			
7	Population, percent change - April 1, 2010 (estimates base) to July 1, 2015. (V2015)																			
8	Population, percent change - April 1, 2010 (estimates base) to July 1, 2014. (V2014)																			
9	Population, percent change - April 1, 2010 (estimates base) to July 1, 2014. (V2014)																			
10	Population, percent change - April 1, 2010 (estimates base) to July 1, 2014. (V2014)																			
11	Age and Sex																			
12	Persons under 5 years, percent, July 1, 2014. (V2014)																			
13	Persons under 5 years, percent, April 1, 2010. (V2014)																			
14	Persons under 18 years, percent, July 1, 2014. (V2014)																			
15	Persons under 18 years, percent, April 1, 2010. (V2014)																			
16	Persons 65 years and over, percent, July 1, 2014. (V2014)																			
17	Persons 65 years and over, percent, April 1, 2010. (V2014)																			
18	Female persons, percent, July 1, 2014. (V2014)																			
19	Female persons, percent, April 1, 2010. (V2014)																			
20	Race and Hispanic Origin																			
21	White alone, percent, July 1, 2014. (V2014) (a)																			
22	White alone, percent, April 1, 2010. (a)																			
23	Black or African American alone, percent, July 1, 2014. (V2014) (a)																			
24	Black or African American alone, percent, April 1, 2010. (a)																			
25	American Indian and Alaska Native alone, percent, July 1, 2014. (V2014) (a)																			
26	American Indian and Alaska Native alone, percent, April 1, 2010. (a)																			
27	Asian alone, percent, July 1, 2014. (V2014) (a)																			
28	Asian alone, percent, April 1, 2010. (a)																			
29	Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2014. (V2014) (a)																			
30	Native Hawaiian and Other Pacific Islander alone, percent, April 1, 2010. (a)																			
31	Two or More Races, percent, July 1, 2014. (V2014)																			
32	Two or More Races, percent, April 1, 2010. (a)																			
33	Hispanic or Latino, percent, July 1, 2014. (V2014)																			
34	Hispanic or Latino, percent, April 1, 2010. (a)																			
35	White alone, not Hispanic or Latino, percent, July 1, 2014. (V2014)																			
36	White alone, not Hispanic or Latino, percent, April 1, 2010. (a)																			
37	Population Characteristics																			
38	Persons, 2010-2014																			
39	Foreign born persons, percent, 2010-2014																			
40	Housing																			
41	Housing units, July 1, 2014. (V2014)																			
42	Housing units, April 1, 2010																			
43	Owner-occupied housing unit rate, 2010-2014																			
44	Median value of owner-occupied housing units, 2010-2014																			
45	Median selected monthly owner costs - with a mortgage, 2010-2014																			
46	Median selected monthly owner costs - without a mortgage, 2010-2014																			
47	Median gross rent, 2010-2014																			
48	Building permits, 2014																			
49	Family and living arrangements																			
50	Households, 2010-2014																			
51	Persons per household, 2010-2014																			
52	Living in same house 1 year ago, percent of persons age 1 year, 2010-2014																			
53	Language other than English spoken at home, percent of persons age 5 years, 2010-2014																			
54	Education																			
55	High school graduate or higher, percent of age 25 years, 2010-2014																			
56	Bachelor's degree or higher, percent of persons age 25 years, 2010-2014																			
57	Health																			
58	With a disability, under age 65 years, percent, 2010-2014																			
59	Persons without health insurance, under age 65 years, percent																			
60	Economy																			
61	Civilian labor force, total, percent of population age 16 years, 2010-2014																			
62	Civilian labor force, female, percent of population age 16 years, 2010-2014																			
63	Total accommodation and food services sales, 2012 (S1,000)																			
64	Total health care and social assistance (receipts/revenue, 2012 (S1,000)																			
65	Total manufacturers shipments, 2012 (S1,000)																			
66	Total merchant wholesale sales, 2012 (S1,000)																			
67	Total retail sales, 2012 (S1,000)																			
68	Total retail sales per capita, 2012																			
69	Transportation																			
70	Mean travel time to work (minutes), workers age 16 years, 2010-2014																			
71	Income and Poverty																			
72	Median household income (in 2014 dollars), 2010-2014																			
73	Per capita income in past 12 months (in 2014 dollars), 2010-2014																			
74	Persons in poverty, percent																			
75	Businesses																			
76	Total employer establishments, 2013																			
77	Total employment, 2013																			
78	Total annual payroll, 2013																			
79	Total employment, percent change 2012-2013																			
80	Total nonemployer establishments, 2013																			
81	All firms, 2012																			
82	Men-owned firms, 2012																			
83	Women-owned firms, 2012																			
84	Minority-owned firms, 2012																			
85	Nonminority-owned firms, 2012																			
86	Hetero-owned firms, 2012																			
87	Nonhetero-owned firms, 2012																			
88	Geography																			
89	Population per square mile, 2010																			
90	Land area in square miles, 2010																			
91	FIPS code																			
92	This geographic level of poverty and health estimates are not comparable to other geographic levels of these estimates																			
93	Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info -img src="img/14pxwidth14px" alt="selected_hover.png" icon to the left of each row in TABLE view to learn about sampling error.																			
94	The vintage year (e.g., V2015) refers to the final year of the series (2010 thru 2015). Different vintage years of estimates are not comparable.																			
95	(a) Includes persons reporting only one race (b) Hispanics may be of any race, so also are included in applicable race categories																			
96	(c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data																			
97	(d) Suppressed to avoid disclosure of confidential information																			
98	(e) Fewer than 25 firms																			
99	(f) Footnote on this item in place of data																			
100	NA: Not available																			
101	S: Suppressed; does not meet publication standards																			
102	D: Not applicable																			
103	+ Value greater than zero but less than half unit of measure shown																			
104	QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.																			

<b>Sort Order</b>	<b>Year</b>	<b>Facility / Firm</b>	<b>MWh</b>
295	2006	Electron	67270.35
296	2006	Lower Baker	334144.54
299	2006	Snoqualmie Falls #1	47557.4
300	2006	Snoqualmie Falls #2	161751.4
302	2006	Upper Baker	338552.67
305	2006	Colstrip 1 & 2	2180745
306	2006	Colstrip 3 & 4	2619283
307	2006	Encogen	259963.15
309	2006	Crystal Mountain	1060.42
311	2006	Freddie #1	393030
312	2006	Fredonia	42874.4
314	2006	Fredrickson 1 & 2	12684.3
315	2006	Hopkins Ridge (W184)	361586.578
318	2006	Whitehorn 2&3	13578
319	2006	Wild Horse (W183)	11241.772
321	2006	BC Hydro (Point Roberts)	22242.52
322	2006	BPA	7077
323	2006	BPA Firm - WNP#3 Exchange	362075
325	2006	Chelan PUD - Rock Island Syst #2	1294355
326	2006	Chelan PUD - Rocky Reach	2365522
327	2006	Douglas PUD - Wells Project	1133871
328	2006	Grant PUD - Priest Rapids	443113
329	2006	Grant PUD - Wanapum	455505
330	2006	NWestern Energy(MPC) Firm Contract	723917
331	2006	Snohomish PUD Conservation	89664
332	2006	VanderHaak Dairy Digester	1823.28
333	2006	WASCO Hydro	36732
335	2006	Hutchinson Creek	2171.36
336	2006	Koma Kulshan Associates	33468
338	2006	March Point Cogen. - 1 & 2	983695.89
339	2006	Nooksack	17652.95
340	2006	Port Townsend Paper Co.	1847.064
341	2006	Puyallup Energy Recovery Company	4828.61
342	2006	Spokane MSW	141325
343	2006	Sumas Cogeneration	579513.65
344	2006	Sygitowicz Creek	585.6
345	2006	Tenaska	844472.04
346	2006	Twin Falls Hydro	67233
347	2006	Weeks Falls	12691
617	2007	Electron	88728.5
618	2007	Lower Baker	436208.3
620	2007	Snoqualmie Falls #1	52146.4
621	2007	Snoqualmie Falls #2	176100.2
623	2007	Upper Baker	401050.43
627	2007	Colstrip 1 & 2	2366043
628	2007	Colstrip 3 & 4	2776869

629	2007 Encogen	182970
630	2007 Goldendale	636737.2
632	2007 Crystal Mountain	313.42
634	2007 Freddie #1	440914
635	2007 Fredonia	7927.5
636	2007 Fredonia 3 & 4	19646.9
637	2007 Fredrickson 1 & 2	8908
639	2007 Hopkins Ridge (W184)	402465.2
642	2007 Whitehorn 2&3	13208
643	2007 Wild Horse (W183)	612858.346
645	2007 BC Hydro (Point Roberts)	22373.44
646	2007 BPA	6923
647	2007 BPA Firm - WNP#3 Exchange	339510
649	2007 Chelan PUD - Rock Island Syst #2	1279176
650	2007 Chelan PUD - Rocky Reach	2478149
651	2007 Douglas PUD - Wells Project	1143974
652	2007 Grant PUD - Priest Rapids	437351
653	2007 Grant PUD - Wanapum	471766
654	2007 Klondike Wind Power III	8570
655	2007 NWestern Energy(MPC) Firm Contract	744477
656	2007 Snohomish PUD Conservation	89728
657	2007 VanderHaak Dairy Digester	2091.6
658	2007 WASCO Hydro	43893
660	2007 Hutchinson Creek	1860.32
661	2007 Koma Kulshan Associates	43644
663	2007 March Point Cogen. - 1 & 2	1025307.58
664	2007 Nooksack	22963.77
665	2007 Port Townsend Paper Co.	2611.32
666	2007 Puyallup Energy Recovery Company	2756.55
667	2007 Spokane MSW	141747
668	2007 Sumas Cogeneration	228957.17
669	2007 Sygitowicz Creek	458.4
670	2007 Tenaska	729134
671	2007 Twin Falls Hydro	73012
672	2007 Weeks Falls	13389.6
954	2008 Electron	96154.205
955	2008 Lower Baker	321027.4
956	2008 Snoqualmie Falls #1	59492
957	2008 Snoqualmie Falls #2	181143.4
959	2008 Upper Baker	317108.09
963	2008 Colstrip 1 & 2	2124142
964	2008 Colstrip 3 & 4	2943303
965	2008 Encogen	98884
966	2008 Goldendale	1368284
967	2008 Sumas	218930.3
970	2008 Crystal Mountain	360.91
972	2008 Freddie #1	545866.187

973	2008 Fredonia	7453.4
974	2008 Fredonia 3 & 4	9931.3
975	2008 Fredrickson 1 & 2	15741.2
977	2008 Hopkins Ridge (W184)	425322.08
981	2008 Whitehorn 2&3	4135
982	2008 Wild Horse (W183)	682096.784
984	2008 BC Hydro (Point Roberts)	22695.39
985	2008 BPA	7063
986	2008 BPA Firm - WNP#3 Exchange	374999
988	2008 Chelan PUD - Rock Island Syst #2	1327464
989	2008 Chelan PUD - Rocky Reach	2144307
990	2008 Douglas PUD - Wells Project	1045492
991	2008 Grant PUD - Priest Rapids	464474
992	2008 Grant PUD - Wanapum	456458
993	2008 Klondike Wind Power III	148311
994	2008 NWestern Energy(MPC) Firm Contract	795395
995	2008 Snohomish PUD Conservation	89984
996	2008 VanderHaak Dairy Digester	2232
997	2008 WASCO Hydro	41552
999	2008 Hutchinson Creek	2058.24
1000	2008 Koma Kulshan Associates	36091.56
1002	2008 March Point Cogen. - 1 & 2	1022961.27
1003	2008 Nooksack	19741.44
1004	2008 Port Townsend Paper Co.	2366.18
1005	2008 Puyallup Energy Recovery Company	1746.732
1006	2008 Spokane MSW	128135
1008	2008 Sygitowicz Creek	651.84
1009	2008 Tenaska	491579.42
1010	2008 Twin Falls Hydro	73323
1011	2008 Weeks Falls	11993.8
1267	2009 Electron	90893.71
1268	2009 Lower Baker	344847.472
1269	2009 Snoqualmie Falls #1	62769
1270	2009 Snoqualmie Falls #2	151915.2
1272	2009 Upper Baker	337353.652
1274	2009 Colstrip 1 & 2	2310597
1275	2009 Colstrip 3 & 4	2140507
1276	2009 Encogen	384510
1278	2009 Goldendale	1368799
1279	2009 Mint Farm	1426827.5
1280	2009 Sumas	539532.2
1283	2009 Crystal Mountain	419.45
1285	2009 Freddie #1	454203
1286	2009 Fredonia	64044.5
1287	2009 Fredonia 3 & 4	89229
1288	2009 Fredrickson 1 & 2	18586.1
1290	2009 Hopkins Ridge (W184)	381219.264

1295	2009 Whitehorn 2&3	16995.3
1296	2009 Wild Horse (W183)	565274.874
1298	2009 BC Hydro (Point Roberts)	22270.57
1299	2009 BPA	7014
1300	2009 BPA Firm - WNP#3 Exchange	393717
1302	2009 Chelan PUD - Rock Island Syst #2	1263318
1303	2009 Chelan PUD - Rocky Reach	2007333
1304	2009 Douglas PUD - Wells Project	959848
1305	2009 Farm Power Rexville LLC	1523.01
1306	2009 Grant PUD - Priest Rapids	234580
1307	2009 Grant PUD - Priest Rapids Project	82584
1308	2009 Grant PUD - Wanapum	313799
1309	2009 Klondike Wind Power III	132569
1310	2009 NWestern Energy(MPC) Firm Contract	591921
1311	2009 Qualco Energy	3036
1312	2009 Snohomish PUD Conservation	89728
1313	2009 VanderHaak Dairy Digester	2345.92
1314	2009 WASCO Hydro	39992
1316	2009 Koma Kulshan Associates	36065.16
1318	2009 March Point Cogen. - 1 & 2	995857.89
1319	2009 Nooksack	23209.796
1320	2009 Port Townsend Paper Co.	1816.917
1321	2009 Puyallup Energy Recovery Company	343.577
1322	2009 Spokane MSW	133987
1323	2009 Sygitowicz Creek	1018.08
1324	2009 Tenaska	866454.6
1325	2009 Twin Falls Hydro	69081.6
1326	2009 Weeks Falls	12348
1571	2010 Electron	88025.31
1572	2010 Lower Baker	366338.204
1573	2010 Snoqualmie Falls #1	13051.4
1574	2010 Snoqualmie Falls #2	101676.9
1576	2010 Upper Baker	360504.884
1578	2010 Colstrip 1 & 2	2293375
1579	2010 Colstrip 3 & 4	2904730
1580	2010 Encogen	197771.9
1581	2010 Freddie #1	418445.701
1582	2010 Goldendale	1541236
1583	2010 Mint Farm	1441302.4
1584	2010 Sumas	410625.5
1587	2010 Crystal Mountain	113.77
1590	2010 Fredonia	11884.6
1591	2010 Fredonia 3 & 4	62288.3
1592	2010 Fredrickson 1 & 2	10272.1
1594	2010 Hopkins Ridge (W184)	381270.988
1599	2010 Whitehorn 2&3	8366.7
1600	2010 Wild Horse (W183)	609654.955

1602	2010 BC Hydro (Point Roberts)	20921
1603	2010 Book Outs - EITF 03-11	-753803
1604	2010 BPA	7000
1605	2010 BPA Firm - WNP#3 Exchange	406710
1607	2010 Chelan PUD - Rock Island Syst #2	1213235
1608	2010 Chelan PUD - Rocky Reach	1914094
1609	2010 Credit Suisse Energy, LLC	107950
1610	2010 Douglas PUD - Wells Project	871104
1611	2010 Farm Power Lynden LLC	204.023
1612	2010 Farm Power Rexville LLC	4873.87
1614	2010 Grant PUD - Priest Rapids Project	331731
1616	2010 Klondike Wind Power III	120632
1617	2010 NWestern Energy(MPC) Firm Contract	788313
1618	2010 Powerex Corp.	179999
1619	2010 Qualco Energy	3520
1620	2010 Sempra Energy Trading	547795
1621	2010 Shell Energy (Coral Pwr)	330050
1622	2010 Snohomish PUD Conservation	14464
1623	2010 VanderHaak Dairy Digester	2551.8
1624	2010 WASCO Hydro	40782
1626	2010 Hutchinson Creek	1106.72
1627	2010 Koma Kulshan Associates	42708.48
1629	2010 March Point Cogen. - 1 & 2	1081243.416
1630	2010 Nooksack	25921.554
1631	2010 Port Townsend Paper Co.	2886.24
1632	2010 Spokane MSW	141480
1633	2010 Sygitowicz Creek	1227.84
1634	2010 Tenaska	652723.44
1635	2010 Twin Falls Hydro	73497.6
1636	2010 Weeks Falls	13234.2
1882	2011 Electron	50340.805
1883	2011 Lower Baker	332792.353
1884	2011 Snoqualmie Falls #1	-290.36
1885	2011 Snoqualmie Falls #2	-174.56
1887	2011 Upper Baker	301309.366
1889	2011 Colstrip 1 & 2	1897910
1890	2011 Colstrip 3 & 4	2312673
1891	2011 Encogen	88887.6
1892	2011 Freddie #1	135217.964
1893	2011 Goldendale	609012.735
1894	2011 Mint Farm	702080.6
1895	2011 Sumas	178397.424
1898	2011 Crystal Mountain	273.13
1901	2011 Fredonia	27939.9
1902	2011 Fredonia 3 & 4	48850.4
1903	2011 Fredrickson 1 & 2	9975.6
1905	2011 Hopkins Ridge (W184)	433218.608

1909	2011 Whitehorn 2&3	22501
1910	2011 Wild Horse (W183)	730658.806
1912	2011 3 Bar G Wind Turbine #3 LLC	105.014
1913	2011 Barclays Bank Plc	109875
1914	2011 BC Hydro (Point Roberts)	22073.61
1915	2011 Black Creek Hydro Inc	9716.46
1916	2011 Book Outs - EITF 03-11	-509390
1917	2011 BPA	7000
1918	2011 BPA Firm - WNP#3 Exchange	413808
1919	2011 Chelan PUD - RI & RR	129926
1921	2011 Chelan PUD - Rock Island Syst #2	1647786
1922	2011 Chelan PUD - Rocky Reach	2517798
1923	2011 Douglas PUD - Wells Project	1061183
1924	2011 Farm Power Lynden LLC	3412.36
1925	2011 Farm Power Rexville LLC	4903.569
1926	2011 Grant PUD - Priest Rapids Project	253731
1927	2011 Island Community Solar LLC	15.23
1928	2011 JP Morgan Ventures Energy	385873
1929	2011 Klondike Wind Power III	132950
1930	2011 Knudsen Wind Turbine #1	85.938
1931	2011 Powerex Corp.	180000
1932	2011 Qualco Energy	3315
1933	2011 Sempra Energy Trading	161925
1934	2011 Shell Energy (Coral Pwr)	437989
1935	2011 Skookumchuck Hydro	5017.4
1936	2011 Smith Creek Hydro	169.594
1937	2011 Van Dyk - S Holsteins	749.882
1938	2011 VanderHaak Dairy Digester	3919
1939	2011 WASCO Hydro	38437
1941	2011 Hutchinson Creek	1180.2
1942	2011 Koma Kulshan Associates	41094.68
1944	2011 March Point Cogen. - 1 & 2	769775.106
1945	2011 Nooksack	24528.506
1946	2011 Port Townsend Paper Co.	2962.03
1947	2011 Spokane MSW	143386
1948	2011 Sygitowicz Creek	1153.68
1949	2011 Tenaska	81307.08
1950	2011 Twin Falls Hydro	90259.6
1951	2011 Weeks Falls	15834
2209	2012 Electron	49582.501
2210	2012 Lower Baker	349273.416
2211	2012 Snoqualmie Falls #1	-1203.37
2212	2012 Snoqualmie Falls #2	-636.02
2214	2012 Upper Baker	349723.137
2217	2012 Colstrip 1 & 2	1424335.012
2218	2012 Colstrip 3 & 4	2385189
2220	2012 Encogen	108457.07

2221	2012 Ferndale Co-Generation	1607.07
2222	2012 Freddie #1	175177.486
2223	2012 Goldendale	909496.565
2224	2012 Mint Farm	1098069.371
2225	2012 Sumas	223749.874
2228	2012 Crystal Mountain	298.26
2233	2012 Fredonia	17192.718
2234	2012 Fredonia 3 & 4	25360
2235	2012 Fredrickson 1 & 2	31650.31
2237	2012 Hopkins Ridge (W184)	430639.962
2238	2012 Lower Snake River	714783.177
2245	2012 Whitehorn 2&3	29277.7
2246	2012 Wild Horse (W183)	677389.93
2248	2012 3 Bar G Wind Turbine #3 LLC	190.138
2249	2012 Barclays Bank Plc	217875
2250	2012 BC Hydro (Point Roberts)	21416.769
2251	2012 Black Creek Hydro Inc	11481.12
2252	2012 Book Outs - EITF 03-11	-449210
2253	2012 BPA	6832
2254	2012 BPA Firm - WNP#3 Exchange	400153
2255	2012 CC Solar 1 and CC Solar 2	3.48
2256	2012 Chelan PUD - RI & RR	2300840
2258	2012 Chelan PUD - Rock Island Syst #2	716417
2259	2012 Chelan PUD - Rocky Reach	-80276
2260	2012 Douglas PUD - Wells Project	979910
2261	2012 Edaleen Dairy LLC	1390.963
2262	2012 Farm Power Lynden LLC	4187.861
2263	2012 Farm Power Rexville LLC	5803.073
2264	2012 Grant PUD - Priest Rapids Project	75568
2265	2012 Island Community Solar LLC	57.93
2266	2012 JP Morgan Ventures Energy	549589
2267	2012 Klamath Falls (Iberdrola)	500
2268	2012 Klondike Wind Power III	124794
2269	2012 Knudsen Wind Turbine #1	134.729
2270	2012 Powerex Corp.	120000
2271	2012 Qualco Energy	3402
2272	2012 Rainier Bio Gas	58.277
2273	2012 Shell Energy (Coral Pwr)	439124
2274	2012 Skookumchuck Hydro	6421.8
2275	2012 Smith Creek Hydro	215.179
2276	2012 Swauk Wind	29.4
2278	2012 Van Dyk - S Holsteins	2762.123
2279	2012 VanderHaak Dairy Digester	3538.12
2280	2012 WASCO Hydro	38227
2282	2012 Bio Energy Washington (BEW)	2787.312
2283	2012 Hutchinson Creek	1243.96
2284	2012 Koma Kulshan Associates	42519.24



2285	2012 Lake Washington -- Finn Hill	95.68
2288	2012 Nooksack	25294.784
2289	2012 Port Townsend Paper Co.	1475.007
2290	2012 Sygitowicz Creek	1478.24
2292	2012 Twin Falls Hydro	95827.2
2293	2012 Weeks Falls	17113.6
2527	2013 Electron	57768.31
2528	2013 Lower Baker	350427.556
2529	2013 Snoqualmie Falls #1	-173.11
2530	2013 Snoqualmie Falls #2	76306.593
2532	2013 Upper Baker	353239.953
2535	2013 Colstrip 1 & 2	2322485
2536	2013 Colstrip 3 & 4	2023723
2537	2013 Encogen	268267.325
2538	2013 Ferndale Co-Generation	869393.886
2539	2013 Freddie #1	416396.539
2540	2013 Goldendale	1469093.627
2541	2013 Mint Farm	1614347.759
2542	2013 Sumas	536584.62
2545	2013 Crystal Mountain	48.722
2549	2013 Fredonia	112470.95
2550	2013 Fredonia 3 & 4	12943.957
2551	2013 Fredrickson 1 & 2	27905.3
2553	2013 Hopkins Ridge (W184)	406599.78
2554	2013 Lower Snake River	816895.07
2561	2013 Whitehorn 2&3	27795.7
2562	2013 Wild Horse (W183)	659105.342
2564	2013 3 Bar G Wind Turbine #3 LLC	202.654
2565	2013 Barclays Bank Plc	216075
2566	2013 BC Hydro (Point Roberts)	21366.07
2567	2013 Bio Energy Washington (BEW)	0.894
2568	2013 Black Creek Hydro Inc	12819.279
2569	2013 Book Outs - EITF 03-11	-204155
2570	2013 BPA	7000
2571	2013 BPA Firm - WNP#3 Exchange	374969
2572	2013 CC Solar 1 and CC Solar 2	28.17
2573	2013 Chelan PUD - RI & RR	2436603
2574	2013 Chelan PUD - Rock Island Syst #2	-43063
2575	2013 Chelan PUD - Rocky Reach	-78804
2576	2013 Douglas PUD - Wells Project	1064303
2577	2013 Edaleen Dairy LLC	3924.854
2578	2013 Farm Power Lynden LLC	4128.73
2579	2013 Farm Power Rexville LLC	5448.142
2580	2013 Grant PUD - Priest Rapids Project	72986
2581	2013 Island Community Solar LLC	59.14
2582	2013 JP Morgan Ventures Energy	161925
2583	2013 Klamath Falls (Iberdrola)	8450

2584	2013 Klondike Wind Power III	134050
2585	2013 Knudsen Wind Turbine #1	127.961
2586	2013 Qualco Energy	3381
2587	2013 Rainier Bio Gas	5794.989
2588	2013 Shell Energy (Coral Pwr)	107950
2589	2013 Skookumchuck Hydro	6742.462
2590	2013 Smith Creek Hydro	147.297
2591	2013 Swauk Wind	10571.721
2592	2013 Van Dyk - S Holsteins	2314.859
2593	2013 VanderHaak Dairy Digester	2969.871
2596	2013 Bio Energy Washington (BEW)	27.051
2597	2013 BIO FUEL WA	1564.512
2598	2013 Hutchinson Creek	814.8
2599	2013 Koma Kulshan Associates	40135.912
2600	2013 Lake Washington -- Finn Hill	288.08
2601	2013 Nooksack	23771.707
2602	2013 Sygitowicz Creek	1170.082
2603	2013 Twin Falls Hydro	83478.722
2604	2013 Weeks Falls	14706.681
2801	2014 Electron	42364.24
2802	2014 Lower Baker	429609.103
2803	2014 Snoqualmie Falls #1	40375.218
2804	2014 Snoqualmie Falls #2	147766.713
2806	2014 Upper Baker	340085.381
2809	2014 Colstrip 1 & 2	2114046
2810	2014 Colstrip 3 & 4	2395521
2811	2014 Encogen	218068.829
2812	2014 Ferndale Co-Generation	722557.118
2813	2014 Freddie #1	346742.947
2814	2014 Goldendale	1029457.112
2815	2014 Mint Farm	1284786.434
2816	2014 Sumas	446064.98
2819	2014 Crystal Mountain	357.8
2823	2014 Fredonia	56804.9
2824	2014 Fredonia 3 & 4	11337.6
2825	2014 Fredrickson 1 & 2	14347.32
2827	2014 Hopkins Ridge (W184)	442302.622
2828	2014 Lower Snake River	883474.771
2835	2014 Whitehorn 2&3	24458.1
2836	2014 Wild Horse (W183)	649976.241
2838	2014 3 Bar G Wind Turbine #3 LLC	143.748
2839	2014 Barclays Bank Plc	216079
2840	2014 BC Hydro (Point Roberts)	20696.929
2841	2014 Bio Energy Washington (BEW)	13.751
2842	2014 Black Creek Hydro Inc	14182.659
2843	2014 Book Outs - EITF 03-11	-10172
2844	2014 BPA	7000

2845	2014 BPA Firm - WNP#3 Exchange	360022
2846	2014 CC Solar 1 and CC Solar 2	28.02
2847	2014 Chelan PUD - RI & RR	2323845
2848	2014 Chelan PUD - Rock Island Syst #2	-38431
2849	2014 Chelan PUD - Rocky Reach	-81380
2850	2014 Douglas PUD - Wells Project	1048857
2851	2014 Edaleen Dairy LLC	3733.995
2852	2014 Farm Power Lynden LLC	4946.95
2853	2014 Farm Power Rexville LLC	5241.931
2854	2014 Grant PUD - Priest Rapids Project	50317
2855	2014 Island Community Solar LLC	59.67
2856	2014 Klamath Falls (Iberdrola)	1200
2857	2014 Klondike Wind Power III	129205
2858	2014 Knudsen Wind Turbine #1	151.547
2859	2014 Qualco Energy	290
2860	2014 Rainier Bio Gas	5027.634
2861	2014 Skookumchuck Hydro	6471.095
2862	2014 Smith Creek Hydro	174.334
2863	2014 Swauk Wind	11215.539
2864	2014 Transalta Centralia Generation LLC	133020
2865	2014 Van Dyk - S Holsteins	2188.82
2866	2014 VanderHaak Dairy Digester	3510.782
2868	2014 BIO FUEL WA	36676.847
2870	2014 Electron Hydro, LLC	8568.067
2871	2014 Hutchinson Creek	233.12
2872	2014 Koma Kulshan Associates	48522.929
2873	2014 Lake Washington -- Finn Hill	271.08
2874	2014 Nooksack	25212.422
2875	2014 Sygitowicz Creek	1168.214
2876	2014 Twin Falls Hydro	92557.659
2877	2014 Weeks Falls	16407.221
3062	2015 Lower Baker	308611.2
3063	2015 Snoqualmie Falls #1	17890.858
3064	2015 Snoqualmie Falls #2	100979.7
3065	2015 Upper Baker	278749.55
3066	2015 Colstrip 1 & 2	1756858
3067	2015 Colstrip 3 & 4	2738174
3068	2015 Crystal Mountain	293.68
3069	2015 Encogen	297657.6
3070	2015 Ferndale Co-Generation	868466.832
3071	2015 Freddie #1	623181.113
3072	2015 Fredonia	113691.1
3073	2015 Fredonia 3 & 4	47603.8
3074	2015 Fredrickson 1 & 2	39935.4
3075	2015 Goldendale	1498666
3076	2015 Hopkins Ridge (W184)	364779.478
3077	2015 Lower Snake River	741767.96

3078	2015 Mint Farm	1701035.9
3079	2015 Sumas	601052.9
3080	2015 Whitehorn 2&3	38733.3
3081	2015 Wild Horse (W183)	608885.75
3082	2015 3 Bar G Wind Turbine #3 LLC	138.036
3083	2015 Barclays Bank Plc	106200
3084	2015 BC Hydro (Point Roberts)	19583.703
3085	2015 Bio Energy Washington (BEW)	1.859
3086	2015 Black Creek Hydro Inc	6365.997
3087	2015 Book Outs - EITF 03-11	-2253
3088	2015 BPA	7000
3089	2015 BPA Firm - WNP#3 Exchange	343584
3090	2015 CC Solar 1 and CC Solar 2	22.84
3091	2015 Chelan PUD - RI & RR	2299343
3092	2015 Chelan PUD - Rock Island Syst #2	-39940
3093	2015 Chelan PUD - Rocky Reach	-82401
3094	2015 Douglas PUD - Wells Project	1094705
3095	2015 Edaleen Dairy LLC	4697.428
3096	2015 Farm Power Lynden LLC	4857.809
3097	2015 Farm Power Rexville LLC	4485.2
3098	2015 Grant PUD - Priest Rapids Project	53743
3099	2015 Island Community Solar LLC	61.71
3100	2015 Klamath Falls (Iberdrola)	400
3101	2015 Klondike Wind Power III	119141
3102	2015 Knudsen Wind Turbine #1	129.628
3103	2015 Rainier Bio Gas	4950.266
3104	2015 Skookumchuck Hydro	4961.196
3105	2015 Smith Creek Hydro	162.849
3106	2015 Swauk Wind	11368.796
3107	2015 Transalta Centralia Generation LLC	1651177
3108	2015 Van Dyk - S Holsteins	1619.28
3109	2015 VanderHaak Dairy Digester	3455.446
3110	2015 BIO FUEL WA	32656.923
3111	2015 Electron Hydro, LLC	62833.254
3112	2015 Emerald City Renewables	1087.094
3113	2015 Hutchinson Creek	744.32
3114	2015 Koma Kulshan Associates	36094.142
3115	2015 Lake Washington -- Finn Hill	278.68
3116	2015 Nooksack	22257.174
3117	2015 Sygitowicz Creek	738.619
3118	2015 Twin Falls Hydro	52604.395
3119	2015 Weeks Falls	8526.616

<b>lbs CO2/MWh</b>	<b>Short Tons CO2</b>
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Sort Order	Year	Facility / Firm	MWh	lbs CO2/MWh
349	2006	Arizona Public Service	2,000	845
350	2006	ATCO Power Canada	820	845
351	2006	Avista Corp. WWP Division	102,667	845
352	2006	Avista Energy	713,907	845
353	2006	Barclays Bank Plc	7,600	845
354	2006	Bear Energy LP	48	845
355	2006	Benton County PUD	22,518	845
356	2006	Black Hills Power	12,360	845
357	2006	Book Outs - EITF 03-11	(2,421,278)	845
358	2006	BP Energy Co.	181,121	845
359	2006	BPA	739,012	845
360	2006	Burbank, City of	4,195	845
361	2006	Cargill Power Markets	48,374	845
362	2006	Chelan County PUD #1	40,907	845
363	2006	Cincinnati Gas & Electric Co	7,400	845
364	2006	Cinergy Services	21,330	845
365	2006	Citigroup Energy Inc	117,050	845
366	2006	Clatskanie PUD	9,785	845
367	2006	Conoco, Inc.	17,475	845
368	2006	Constellation Power Source, Inc.	320,060	845
369	2006	DB Energy Trading LLC	27,200	845
370	2006	Douglas County PUD #1	292,497	845
371	2006	ENMAX Energy Marketing, Inc.	175	845
372	2006	Epcor Merchant & Capital	63,703	845
373	2006	Eugene Water & Electric	63,650	845
374	2006	Fortis Energy Marketing & Trading	16,400	845
375	2006	Franklin County PUD #1	15,035	845
376	2006	Grant County PUD #2	89,108	845
377	2006	Grays Harbor PUD #1	21,400	845
378	2006	Iberdrola Renewables (PPM Energy)	400,182	845
379	2006	Idaho Falls Power	84,230	845
380	2006	Idaho Power Company	99,558	845
381	2006	J. Aron & Company	20,000	845
382	2006	JP Morgan Ventures Energy	10,000	845
383	2006	King County	40	845
384	2006	Klamath Falls, City of	31,207	845
385	2006	Lehman Bros Commodity Services	7,800	845
386	2006	Los Angeles Dept. Water & Power	1,275	845
387	2006	Macquarie Energy LLC	83,200	845
388	2006	Merrill Lynch Commodities	24,400	845
389	2006	Modesto Irrigation District	852	845
390	2006	Morgan Stanley CG	276,663	845
391	2006	N. California Power Agency	1,315	845
392	2006	New Mexico, Public Service Company	3,200	845
393	2006	Noble Americas Energy Solutions	29,225	845
394	2006	NorthPoint Energy Solutions, Inc.	1,342	845



395	2006 Northwestern Energy	9,629	845
396	2006 Occidental Power Services	1,064	845
397	2006 Okanogan PUD	3,761	845
398	2006 Pacific Northwest Generatin Coop.	181,909	845
399	2006 Pacifcorp	352,506	845
400	2006 PG&E Energy Trading	24,945	845
401	2006 Pinnacle West Capital Corp	889,475	845
402	2006 Portland General Electric	500,872	845
403	2006 Powerex Corp.	504,275	845
404	2006 PP&L Montana, LLC.	41,793	845
405	2006 Public Service of Colorado	19,800	845
406	2006 Rainbow Energy Marketing	121,336	845
407	2006 Redding, City of	2,903	845
408	2006 Sacramento Municipal	5,025	845
409	2006 San Diego Gas & Electric	6,904	845
410	2006 Seattle City Light Marketing	172,078	845
411	2006 Sempra Energy Trading	1,226,010	845
412	2006 Shell Energy (Coral Pwr)	730,645	845
413	2006 Sierra Pacific Power	26,329	845
414	2006 Silicon Valley Pwr - Santa Clara	448	845
415	2006 Snohomish County PUD #1	80,505	845
416	2006 Southern Cal - Edison	29,334	845
417	2006 SUEZ Energy Marketing (Tractebel)	116,640	845
418	2006 Sumas Cogeneration	21,788	845
419	2006 Tacoma Power	107,444	845
420	2006 Tenaska	1,537	845
421	2006 TransAlta Energy Marketing	1,162,941	845
422	2006 TransCanada Power Corp.	3,828	845
423	2006 Turlock Irrigation District	13,371	845
424	2006 UBS AG	100,496	845
425	2006 Western Area Power Association	473	845
426	2006 Wild Horse Test Power	144,854	845
427	2006 Williams Power Company	425	845
429	2006 Avista Energy	305,656	845
430	2006 Black Creek Hydro	2,816	845
431	2006 BPA	102,038	845
432	2006 Cargill Power Markets	30,396	845
433	2006 Deviation	(24,938)	845
434	2006 Douglas County PUD #1	75	845
435	2006 Pacific Gas & Elec - Exchange	412,904	845
436	2006 Powerex - Exchange	610,192	845
437	2006 Seattle City Light Marketing	78,400	845
438	2006 Tacoma Power	24,876	845
439	2006 Tacoma, City of	210	845
440	2006 TransAlta Energy Marketing	895,958	845
442	2006 Avista Energy	(309,216)	845
443	2006 Black Creek Hydro	(3,057)	845

444	2006 BPA	(103,655)	845
445	2006 Cargill Power Markets	(31,096)	845
446	2006 Douglas County PUD #1	(75)	845
447	2006 Pacific Gas & Elec - Exchange	(413,000)	845
448	2006 Powerex - Exchange	(610,192)	845
449	2006 Seattle City Light Marketing	(78,400)	845
450	2006 Storage/Interchange - Out	(21)	845
451	2006 Tacoma Power	(25,065)	845
452	2006 TransAlta Energy Marketing	(895,958)	845
504	2006 Arizona Public Service	(3,400)	845
505	2006 Avista Corp. WWP Division	(41,478)	845
506	2006 Avista Energy	(307,922)	845
507	2006 Barclays Bank Plc	(6,000)	845
508	2006 Bear Energy LP	(3,298)	845
509	2006 Benton County PUD	(4,433)	845
510	2006 Black Hills Power	(650)	845
511	2006 Book Outs - EITF 03-11	2,421,278	845
512	2006 BP Energy Co.	(95,783)	845
513	2006 BPA	(141,345)	845
514	2006 British Columbia Transmission Corp	(23)	845
515	2006 Burbank, City of	(3,121)	845
516	2006 Cargill Power Markets	(84,873)	845
517	2006 Chelan County PUD #1	(1,200)	845
518	2006 Cincinnati Gas & Electric Co	(13,200)	845
519	2006 Cinergy Services	(24,697)	845
520	2006 Citigroup Energy Inc	(88,920)	845
521	2006 Clatskanie PUD	(4,691)	845
522	2006 Conoco, Inc.	(44,413)	845
523	2006 Constellation Power Source, Inc.	(80,970)	845
524	2006 DB Energy Trading LLC	(30,000)	845
525	2006 Douglas County PUD #1	(980)	845
526	2006 ENMAX Energy Marketing, Inc.	(6,322)	845
527	2006 Epcor Merchant & Capital	(21,189)	845
528	2006 Eugene Water & Electric	(16,203)	845
529	2006 Fortis Energy Marketing & Trading	(45,575)	845
530	2006 Franklin County PUD #1	(1,725)	845
531	2006 Grant County PUD #2	(16,830)	845
532	2006 Grays Harbor PUD #1	(4,477)	845
533	2006 Hinson Power Company	(3,200)	845
534	2006 Iberdrola Renewables (PPM Energy)	(183,683)	845
535	2006 Idaho Power Company	(77,637)	845
536	2006 J. Aron & Company	(13,600)	845
537	2006 JP Morgan Ventures Energy	(20,000)	845
538	2006 Klamath Falls, City of	(9,281)	845
539	2006 Lehman Bros Commodity Services	(49,275)	845
540	2006 Los Angeles Dept. Water & Power	(3,215)	845
541	2006 Macquarie Energy LLC	(77,000)	845

542	2006 Merrill Lynch Commodities	(40,881)	845
543	2006 Modesto Irrigation District	(8,394)	845
544	2006 Morgan Stanley CG	(252,602)	845
545	2006 N. California Power Agency	(3,417)	845
546	2006 Noble Americas Energy Solutions	(2,072)	845
547	2006 NorthPoint Energy Solutions, Inc.	(17,324)	845
548	2006 Northwestern Energy	(25,569)	845
549	2006 Occidental Power Services	(5,300)	845
550	2006 Okanogan PUD	(260)	845
551	2006 Pacific Northwest Generatin Coop.	(7,665)	845
552	2006 Pacificorp	(299,493)	845
553	2006 PG&E Energy Trading	(10,225)	845
554	2006 Pinnacle West Capital Corp	(11,000)	845
555	2006 Portland General Electric	(84,922)	845
556	2006 Powerex Corp.	(546,974)	845
557	2006 PP&L Montana, LLC.	(54,840)	845
558	2006 Public Service of Colorado	(12,930)	845
559	2006 Rainbow Energy Marketing	(182,633)	845
560	2006 Redding, City of	(2,030)	845
561	2006 Sacramento Municipal	(9,398)	845
562	2006 San Diego Gas & Electric	(11,112)	845
563	2006 Seattle City Light Marketing	(43,046)	845
564	2006 Sempra Energy Trading	(186,355)	845
565	2006 Shell Energy (Coral Pwr)	(215,517)	845
566	2006 Sierra Pacific Power	(23,099)	845
567	2006 Silicon Valley Pwr - Santa Clara	(16,202)	845
568	2006 Snohomish County PUD #1	(29,170)	845
569	2006 Southern Cal - Edison	(18,966)	845
570	2006 SUEZ Energy Marketing (Tractebel)	(115,860)	845
571	2006 Tacoma Power	(9,162)	845
572	2006 TransAlta Energy Marketing	(618,699)	845
573	2006 TransCanada Power Corp.	(15,432)	845
574	2006 Turlock Irrigation District	(2,765)	845
575	2006 UBS AG	(74,264)	845
576	2006 Western Area Power Association	(515)	845
577	2006 Williams Power Company	(425)	845
674	2007 ATCO Power Canada	343	859
675	2007 Avista Corp. WWP Division	78,344	859
676	2007 Avista Energy	213,884	859
677	2007 Barclays Bank Plc	61,000	859
678	2007 Bear Energy LP	160,006	859
679	2007 Benton County PUD	23,621	859
680	2007 Black Hills Power	4,400	859
681	2007 Book Outs - EITF 03-11	(2,169,507)	859
682	2007 BP Energy Co.	32,332	859
683	2007 BPA	246,829	859
684	2007 British Columbia Transmission Corp	85	859

685	2007 Burbank, City of	1,105	859
686	2007 Cargill Power Markets	87,029	859
687	2007 Chelan County PUD #1	57,329	859
688	2007 Citigroup Energy Inc	186,496	859
689	2007 Clatskanie PUD	17,582	859
690	2007 Conoco, Inc.	46,240	859
691	2007 Constellation Power Source, Inc.	927,668	859
692	2007 CP Energy Marketing (Epcor)	79,114	859
693	2007 Credit Suisse Energy, LLC	153,200	859
694	2007 DB Energy Trading LLC	25,400	859
695	2007 Douglas County PUD #1	299,493	859
696	2007 ENMAX Energy Marketing, Inc.	1,711	859
698	2007 Eugene Water & Electric	94,235	859
699	2007 Fortis Energy Marketing & Trading	93,400	859
700	2007 Franklin County PUD #1	18,589	859
701	2007 Grant County PUD #2	56,689	859
702	2007 Grays Harbor PUD #1	32,287	859
703	2007 Highland Energy LLC	950	859
704	2007 Hinson Power Company	1,600	859
705	2007 Iberdrola Renewables (PPM Energy)	297,538	859
706	2007 Idaho Falls Power	42,710	859
707	2007 Idaho Power Company	60,463	859
708	2007 J. Aron & Company	22,050	859
709	2007 JP Morgan Ventures Energy	79,600	859
710	2007 Klamath Falls, City of	139,856	859
711	2007 Lehman Bros Commodity Services	67,050	859
712	2007 Los Angeles Dept. Water & Power	1,425	859
713	2007 Merrill Lynch Commodities	16,400	859
714	2007 Modesto Irrigation District	2,538	859
715	2007 Morgan Stanley CG	744,517	859
716	2007 N. California Power Agency	521	859
717	2007 Noble Americas Energy Solutions	2,096	859
718	2007 NorthPoint Energy Solutions, Inc.	6,276	859
719	2007 Northwestern Energy	12,808	859
720	2007 Occidental Power Services	10,803	859
721	2007 Okanogan PUD	4,694	859
722	2007 Pacific Northwest Generatin Coop.	170,767	859
723	2007 Pacific Summit Energy LLC	5,580	859
724	2007 Pacificorp	207,443	859
725	2007 PG&E Energy Trading	7,857	859
726	2007 Pinnacle West Marketing & Trading	21,000	859
727	2007 Portland General Electric	315,978	859
728	2007 Powerex Corp.	287,187	859
729	2007 PP&L Montana, LLC.	61,832	859
730	2007 Public Service of Colorado	18,791	859
731	2007 Rainbow Energy Marketing	181,241	859
732	2007 Redding, City of	1,171	859

733	2007 Sacramento Municipal	4,925	859
734	2007 San Diego Gas & Electric	3,300	859
735	2007 Seattle City Light Marketing	132,332	859
736	2007 Sempra Energy Trading	934,094	859
737	2007 Shell Energy (Coral Pwr)	700,864	859
738	2007 Sierra Pacific Industries	13,296	859
739	2007 Sierra Pacific Power	16,272	859
740	2007 Silicon Valley Pwr - Santa Clara	80	859
741	2007 Snohomish County PUD #1	72,772	859
742	2007 Southern Cal - Edison	10,850	859
743	2007 SUEZ Energy Marketing (Tractebel)	106,896	859
744	2007 Tacoma Power	81,554	859
745	2007 Talen Energy (PPL Energy Plus)	11,082	859
746	2007 Tenaska	658	859
747	2007 The Energy Authority	13,880	859
748	2007 TransAlta Energy Marketing	1,681,755	859
749	2007 TransCanada Energy Marketing	9,169	859
750	2007 TransCanada Power Corp.	5,615	859
751	2007 Turlock Irrigation District	8,922	859
752	2007 UBS AG	20,016	859
753	2007 Western Area Power Association	171	859
754	2007 Williams Power Company	90	859
756	2007 Avista Energy	31,945	859
757	2007 Black Creek Hydro	2,245	859
758	2007 BPA	82,864	859
759	2007 Cargill Power Markets	28,800	859
760	2007 Deviation	24,866	859
761	2007 Douglas County PUD #1	122	859
762	2007 Pacific Gas & Elec - Exchange	412,900	859
763	2007 Powerex - Exchange	483,866	859
764	2007 Shell Energy (Coral Pwr)	28,832	859
765	2007 Tacoma Power	30,800	859
766	2007 TransAlta Energy Marketing	602,125	859
768	2007 Avista Energy	(32,120)	859
769	2007 Black Creek Hydro	(2,959)	859
770	2007 BPA	(83,521)	859
771	2007 Cargill Power Markets	(28,800)	859
772	2007 Citigroup Energy Inc	(50,000)	859
773	2007 Douglas County PUD #1	(122)	859
774	2007 Pacific Gas & Elec - Exchange	(413,001)	859
775	2007 Powerex - Exchange	(483,866)	859
776	2007 Shell Energy (Coral Pwr)	(28,832)	859
777	2007 Tacoma Power	(30,800)	859
778	2007 TransAlta Energy Marketing	(552,125)	859
834	2007 Avista Corp. WWP Division	(24,864)	859
835	2007 Avista Energy	(123,747)	859
836	2007 Barclays Bank Plc	(78,600)	859

837	2007 Bear Energy LP	(63,113)	859
838	2007 Benton County PUD	(5,756)	859
839	2007 Black Hills Power	(4,759)	859
840	2007 Book Outs - EITF 03-11	2,169,507	859
841	2007 BP Energy Co.	(29,896)	859
842	2007 BPA	(166,938)	859
843	2007 British Columbia Transmission Corp	(144)	859
844	2007 Burbank, City of	(990)	859
845	2007 Cargill Power Markets	(103,403)	859
846	2007 Chelan County PUD #1	(1,500)	859
847	2007 Citigroup Energy Inc	(177,691)	859
848	2007 Clatskanie PUD	(8,512)	859
849	2007 Conoco, Inc.	(27,645)	859
850	2007 Constellation Power Source, Inc.	(35,515)	859
851	2007 CP Energy Marketing (Epcor)	(46,075)	859
852	2007 Credit Suisse Energy, LLC	(32,236)	859
853	2007 DB Energy Trading LLC	(5,600)	859
854	2007 Douglas County PUD #1	(220)	859
855	2007 ENMAX Energy Marketing, Inc.	(4,053)	859
857	2007 Eugene Water & Electric	(20,381)	859
858	2007 Fortis Energy Marketing & Trading	(82,563)	859
859	2007 Franklin County PUD #1	(1,984)	859
860	2007 Grant County PUD #2	(10,136)	859
861	2007 Grays Harbor PUD #1	(4,011)	859
862	2007 Highland Energy LLC	(50)	859
863	2007 Hinson Power Company	(4,843)	859
864	2007 Iberdrola Renewables (PPM Energy)	(168,650)	859
866	2007 Idaho Power Company	(47,675)	859
867	2007 J. Aron & Company	(35,775)	859
868	2007 JP Morgan Ventures Energy	(30,400)	859
869	2007 Klamath Falls, City of	(1,172)	859
870	2007 Lehman Bros Commodity Services	(42,162)	859
871	2007 Los Angeles Dept. Water & Power	(4,310)	859
872	2007 Merrill Lynch Commodities	(20,775)	859
873	2007 Modesto Irrigation District	(5,467)	859
874	2007 Morgan Stanley CG	(308,680)	859
875	2007 N. California Power Agency	(789)	859
876	2007 Noble Americas Energy Solutions	(5,000)	859
877	2007 NorthPoint Energy Solutions, Inc.	(12,286)	859
878	2007 Northwestern Energy	(19,257)	859
879	2007 Occidental Power Services	(1,275)	859
880	2007 Pacific Northwest Generatin Coop.	(15,299)	859
881	2007 Pacific Summit Energy LLC	(5,250)	859
882	2007 Pacificorp	(137,660)	859
883	2007 PG&E Energy Trading	(2,250)	859
885	2007 Pinnacle West Marketing & Trading	(1,034)	859
886	2007 Portland General Electric	(98,543)	859

887	2007 Powerex Corp.	(337,035)	859
888	2007 PP&L Montana, LLC.	(29,839)	859
889	2007 Public Service of Colorado	(1,668)	859
890	2007 Rainbow Energy Marketing	(174,730)	859
891	2007 Redding, City of	(702)	859
892	2007 Sacramento Municipal	(2,980)	859
893	2007 San Diego Gas & Electric	(1,200)	859
894	2007 Seattle City Light Marketing	(45,037)	859
895	2007 Sempra Energy Trading	(137,302)	859
896	2007 Shell Energy (Coral Pwr)	(155,921)	859
897	2007 Sierra Pacific Power	(15,870)	859
898	2007 Silicon Valley Pwr - Santa Clara	(1,548)	859
899	2007 Snohomish County PUD #1	(25,283)	859
900	2007 Southern Cal - Edison	(5,734)	859
901	2007 SUEZ Energy Marketing (Tractebel)	(83,511)	859
902	2007 Tacoma Power	(6,646)	859
903	2007 Talen Energy (PPL Energy Plus)	(1,217)	859
904	2007 The Energy Authority	(511)	859
905	2007 TransAlta Energy Marketing	(1,339,719)	859
906	2007 TransCanada Energy Marketing	(3,855)	859
907	2007 TransCanada Power Corp.	(2,083)	859
908	2007 Turlock Irrigation District	(1,311)	859
909	2007 UBS AG	(18,330)	859
910	2007 Western Area Power Association	(410)	859
911	2007 Williams Power Company	(1,186)	859
1013	2008 Avista Corp. WWP Division	228,885	845
1014	2008 Barclays Bank Plc	54,188	845
1015	2008 Bear Energy LP	82,433	845
1016	2008 Benton County PUD	5,473	845
1017	2008 Black Hills Power	4,193	845
1018	2008 Book Outs - EITF 03-11	(1,458,513)	845
1019	2008 BP Energy Co.	8,471	845
1020	2008 BPA	287,771	845
1021	2008 Burbank, City of	1,205	845
1022	2008 Cargill Power Markets	156,466	845
1023	2008 Chelan County PUD #1	60,076	845
1024	2008 Citigroup Energy Inc	176,981	845
1025	2008 Clatskanie PUD	29,829	845
1026	2008 Conoco, Inc.	260,284	845
1027	2008 Constellation Power Source, Inc.	447,128	845
1028	2008 CP Energy Marketing (Epcor)	30,330	845
1029	2008 Credit Suisse Energy, LLC	28,450	845
1030	2008 DB Energy Trading LLC	43,073	845
1031	2008 Douglas County PUD #1	239,272	845
1032	2008 ENMAX Energy Marketing, Inc.	868	845
1033	2008 Eugene Water & Electric	123,300	845
1034	2008 Fortis Energy Marketing & Trading	145,965	845

1035	2008 Franklin County PUD #1	4,960	845
1036	2008 Grant County PUD #2	40,063	845
1037	2008 Grays Harbor PUD #1	10,385	845
1038	2008 Highland Energy LLC	14,297	845
1039	2008 Hinson Power Company	2,000	845
1040	2008 Iberdrola Renewables (PPM Energy)	448,401	845
1041	2008 Idaho Power Company	55,219	845
1042	2008 Integrys Energy Services, Inc	2,400	845
1043	2008 J. Aron & Company	36,400	845
1044	2008 JP Morgan Ventures Energy	96,579	845
1045	2008 Lehman Bros Commodity Services	14,444	845
1046	2008 Los Angeles Dept. Water & Power	480	845
1047	2008 Louis Dreyfus Energy	285	845
1048	2008 Modesto Irrigation District	430	845
1049	2008 Morgan Stanley CG	1,248,783	845
1050	2008 N. California Power Agency	439	845
1051	2008 NorthPoint Energy Solutions, Inc.	8,475	845
1052	2008 Northwestern Energy	27,923	845
1053	2008 Occidental Power Services	200	845
1054	2008 Okanogan PUD	3,660	845
1055	2008 Pacific Northwest Generatin Coop.	156,918	845
1056	2008 Pacific Summit Energy LLC	82,391	845
1057	2008 Pacificorp	290,962	845
1058	2008 PG&E Energy Trading	506	845
1059	2008 Portland General Electric	106,316	845
1060	2008 Powerex Corp.	352,187	845
1061	2008 Public Service of Colorado	9,806	845
1062	2008 Rainbow Energy Marketing	82,452	845
1063	2008 Redding, City of	1,284	845
1064	2008 Sacramento Municipal	2,095	845
1065	2008 San Diego Gas & Electric	1,032	845
1066	2008 Seattle City Light Marketing	113,723	845
1067	2008 Sempra Energy Trading	894,356	845
1068	2008 Shell Energy (Coral Pwr)	940,286	845
1069	2008 Sierra Pacific Power	7,828	845
1070	2008 Silicon Valley Pwr - Santa Clara	1,820	845
1071	2008 Snohomish County PUD #1	76,572	845
1072	2008 Southern Cal - Edison	6,100	845
1073	2008 SUEZ Energy Marketing (Tractebel)	24,295	845
1074	2008 Tacoma Power	100,697	845
1075	2008 Talen Energy (PPL Energy Plus)	103,775	845
1076	2008 Tenaska	114,114	845
1077	2008 The Energy Authority	54,630	845
1078	2008 TransAlta Energy Marketing	583,432	845
1079	2008 TransCanada Energy Marketing	11,288	845
1080	2008 TransCanada Power Corp.	5,120	845
1081	2008 Turlock Irrigation District	6,176	845



1082	2008 UBS AG	32,800	845
1083	2008 Western Area Power Association	796	845
1085	2008 Black Creek Hydro	4,649	845
1086	2008 BPA	97,704	845
1087	2008 Constellation Power Source, Inc.	70,000	845
1088	2008 Deviation	(28,008)	845
1089	2008 Pacific Gas & Elec - Exchange	413,116	845
1090	2008 Powerex - Exchange	25,607	845
1091	2008 Seattle City Light Marketing	18,800	845
1092	2008 TransAlta Energy Marketing	1,099,250	845
1094	2008 Black Creek Hydro	(4,708)	845
1095	2008 BPA	(99,125)	845
1096	2008 Constellation Power Source, Inc.	(70,000)	845
1097	2008 Pacific Gas & Elec - Exchange	(413,016)	845
1098	2008 Powerex - Exchange	(25,607)	845
1099	2008 Seattle City Light Marketing	(18,800)	845
1100	2008 TransAlta Energy Marketing	(1,099,250)	845
1154	2008 Arizona Public Service	(15)	845
1155	2008 Avista Corp. WWP Division	(41,915)	845
1156	2008 Barclays Bank Plc	(32,027)	845
1157	2008 Bear Energy LP	(43,931)	845
1158	2008 Benton County PUD	(1,335)	845
1159	2008 Black Hills Power	(2,123)	845
1160	2008 Book Outs - EITF 03-11	1,458,513	845
1161	2008 BP Energy Co.	(28,512)	845
1162	2008 BPA	(138,425)	845
1163	2008 British Columbia Transmission Corp	(23)	845
1164	2008 Burbank, City of	(1,085)	845
1165	2008 Cargill Power Markets	(177,806)	845
1166	2008 Chelan County PUD #1	(7,327)	845
1167	2008 Citigroup Energy Inc	(232,727)	845
1168	2008 Clatskanie PUD	(17,042)	845
1169	2008 Conoco, Inc.	(8,142)	845
1170	2008 Constellation Power Source, Inc.	(86,673)	845
1171	2008 CP Energy Marketing (Epcor)	(7,691)	845
1172	2008 Credit Suisse Energy, LLC	(1,600)	845
1173	2008 DB Energy Trading LLC	(53,578)	845
1174	2008 Douglas County PUD #1	(461)	845
1175	2008 ENMAX Energy Marketing, Inc.	(2,690)	845
1176	2008 Eugene Water & Electric	(38,663)	845
1177	2008 Fortis Energy Marketing & Trading	(131,275)	845
1178	2008 Franklin County PUD #1	(690)	845
1179	2008 Grant County PUD #2	(13,801)	845
1180	2008 Grays Harbor PUD #1	(937)	845
1181	2008 Highland Energy LLC	(14,406)	845
1182	2008 Hinson Power Company	(10,318)	845
1183	2008 Iberdrola Renewables (PPM Energy)	(97,329)	845

1184	2008 Idaho Power Company	(22,104)	845
1185	2008 Integrys Energy Services, Inc	(3,600)	845
1186	2008 J. Aron & Company	(20,700)	845
1187	2008 JP Morgan Ventures Energy	(98,388)	845
1188	2008 Lehman Bros Commodity Services	(5,520)	845
1189	2008 Louis Dreyfus Energy	(1,113)	845
1190	2008 Merrill Lynch Commodities	(5,200)	845
1191	2008 Modesto Irrigation District	(180)	845
1192	2008 Morgan Stanley CG	(491,984)	845
1193	2008 N. California Power Agency	(260)	845
1194	2008 NorthPoint Energy Solutions, Inc.	(5,792)	845
1195	2008 Northwestern Energy	(13,384)	845
1196	2008 Okanogan PUD	(455)	845
1197	2008 Pacific Northwest Generatin Coop.	(11,857)	845
1198	2008 Pacific Summit Energy LLC	(80,207)	845
1199	2008 Pacificorp	(122,205)	845
1200	2008 PG&E Energy Trading	(800)	845
1201	2008 Portland General Electric	(37,229)	845
1202	2008 Powerex Corp.	(317,422)	845
1203	2008 Public Service of Colorado	(15,435)	845
1204	2008 Rainbow Energy Marketing	(74,196)	845
1205	2008 Redding, City of	(1,257)	845
1206	2008 Sacramento Municipal	(2,305)	845
1207	2008 San Diego Gas & Electric	(30,998)	845
1208	2008 Seattle City Light Marketing	(51,896)	845
1209	2008 Sempra Energy Trading	(38,348)	845
1210	2008 Shell Energy (Coral Pwr)	(158,471)	845
1211	2008 Sierra Pacific Power	(17,217)	845
1212	2008 Silicon Valley Pwr - Santa Clara	(166)	845
1213	2008 Snohomish County PUD #1	(22,679)	845
1214	2008 Southern Cal - Edison	(4,250)	845
1215	2008 SUEZ Energy Marketing (Tractebel)	(15,700)	845
1216	2008 Synergy Power Marketing	(2,578)	845
1217	2008 Tacoma Power	(3,208)	845
1218	2008 Talen Energy (PPL Energy Plus)	(22,392)	845
1219	2008 The Energy Authority	(11,297)	845
1220	2008 TransAlta Energy Marketing	(200,683)	845
1221	2008 TransCanada Energy Marketing	(14,678)	845
1222	2008 Turlock Irrigation District	(2,835)	845
1223	2008 UBS AG	(1,600)	845
1224	2008 Western Area Power Association	(275)	845
1328	2009 Avista Corp. WWP Division	165,618	819
1329	2009 Barclays Bank Plc	16,746	819
1330	2009 Black Hills Power	3,800	819
1331	2009 Book Outs - EITF 03-11	(3,599,695)	819
1332	2009 BP Energy Co.	37,192	819
1333	2009 BPA	334,870	819

1334	2009 Burbank, City of	175	819
1335	2009 Cargill Power Markets	380,859	819
1336	2009 Chelan County PUD #1	29,209	819
1337	2009 Citigroup Energy Inc	338,327	819
1338	2009 Clatskanie PUD	50,919	819
1339	2009 Conoco, Inc.	73,722	819
1340	2009 Constellation Power Source, Inc.	562,741	819
1341	2009 CP Energy Marketing (Epcor)	28,908	819
1342	2009 Credit Suisse Energy, LLC	445,000	819
1343	2009 DB Energy Trading LLC	147,600	819
1344	2009 Douglas County PUD #1	187,749	819
1345	2009 Eagle Energy Partners	106,240	819
1346	2009 EDF Trading NA LLC	31,850	819
1347	2009 Endure Energy LLC	30,600	819
1348	2009 ENMAX Energy Marketing, Inc.	2,456	819
1349	2009 Eugene Water & Electric	89,317	819
1350	2009 Fortis Energy Marketing & Trading	133,941	819
1351	2009 Grant County PUD #2	53,441	819
1352	2009 Hinson Power Company	800	819
1353	2009 Iberdrola Renewables (PPM Energy)	882,331	819
1354	2009 Idaho Falls Power	37,654	819
1355	2009 Idaho Power Company	92,731	819
1356	2009 Integrys Energy Services, Inc	1,800	819
1357	2009 J. Aron & Company	14,000	819
1358	2009 JP Morgan Ventures Energy	143,436	819
1359	2009 Los Angeles Dept. Water & Power	50	819
1360	2009 Merrill Lynch Commodities	400	819
1361	2009 Modesto Irrigation District	90	819
1362	2009 Morgan Stanley CG	992,212	819
1363	2009 N. California Power Agency	323	819
1365	2009 Noble Americas Energy Solutions	3,400	819
1366	2009 NorthPoint Energy Solutions, Inc.	6,592	819
1367	2009 Northwestern Energy	7,969	819
1368	2009 Occidental Power Services	31,600	819
1369	2009 Okanogan PUD	3,810	819
1370	2009 Pacific Northwest Generatin Coop.	216,587	819
1371	2009 Pacific Summit Energy LLC	68,094	819
1372	2009 Pacificorp	185,612	819
1373	2009 Portland General Electric	208,659	819
1374	2009 Powerex Corp.	316,076	819
1375	2009 Public Service of Colorado	3,600	819
1376	2009 Rainbow Energy Marketing	222,154	819
1377	2009 Redding, City of	496	819
1378	2009 Sacramento Municipal	6,590	819
1379	2009 Seattle City Light Marketing	211,502	819
1380	2009 Sempra Energy Trading	2,267,825	819
1381	2009 Shell Energy (Coral Pwr)	485,252	819

1382	2009 Sierra Pacific Power	25	819
1383	2009 Snohomish County PUD #1	57,116	819
1384	2009 Southern Cal - Edison	7,805	819
1385	2009 Tacoma Power	75,813	819
1386	2009 Talen Energy (PPL Energy Plus)	407,444	819
1387	2009 Tenaska	2,895	819
1388	2009 The Energy Authority	122,625	819
1389	2009 TransAlta Energy Marketing	278,480	819
1390	2009 TransCanada Energy Marketing	7,326	819
1391	2009 TransCanada Energy Sales Ltd	9,898	819
1392	2009 Turlock Irrigation District	850	819
1393	2009 Western Area Power Association	360	819
1396	2009 Black Creek Hydro	6,088	819
1397	2009 BPA	76,504	819
1398	2009 Deviation	(23,318)	819
1399	2009 Morgan Stanley CG	20,000	819
1400	2009 Pacific Gas & Elec - Exchange	413,000	819
1401	2009 Powerex Corp.	38,000	819
1402	2009 TransAlta Energy Marketing	1,533,600	819
1404	2009 Black Creek Hydro	(4,172)	819
1405	2009 BPA	(81,545)	819
1406	2009 Deviation	(43,829)	819
1407	2009 Morgan Stanley CG	(17,200)	819
1408	2009 Pacific Gas & Elec - Exchange	(413,000)	819
1409	2009 Powerex Corp.	(68,795)	819
1410	2009 TransAlta Energy Marketing	(1,533,600)	819
1461	2009 Avista Corp. WWP Division	(39,571)	819
1462	2009 Barclays Bank Plc	(33,513)	819
1463	2009 Black Hills Power	(1,600)	819
1464	2009 Book Outs - EITF 03-11	3,599,695	819
1465	2009 BP Energy Co.	(152,945)	819
1466	2009 BPA	(254,156)	819
1467	2009 British Columbia Transmission Corp	(35)	819
1468	2009 Cargill Power Markets	(240,421)	819
1469	2009 Chelan County PUD #1	(3,890)	819
1470	2009 Citigroup Energy Inc	(635,716)	819
1471	2009 Clatskanie PUD	(15,633)	819
1472	2009 Conoco, Inc.	(111,736)	819
1473	2009 Constellation Power Source, Inc.	(61,701)	819
1474	2009 CP Energy Marketing (Epcor)	(605)	819
1475	2009 Credit Suisse Energy, LLC	(8,444)	819
1476	2009 DB Energy Trading LLC	(182,400)	819
1477	2009 Douglas County PUD #1	(450)	819
1478	2009 Eagle Energy Partners	(10,242)	819
1479	2009 ENMAX Energy Marketing, Inc.	(6,394)	819
1480	2009 Eugene Water & Electric	(19,889)	819
1481	2009 Fortis Energy Marketing & Trading	(110,920)	819

1482	2009 Grant County PUD #2	(22,571)	819
1483	2009 Hinson Power Company	(3,950)	819
1484	2009 Iberdrola Renewables (PPM Energy)	(485,458)	819
1485	2009 Idaho Power Company	(31,952)	819
1486	2009 Integrys Energy Services, Inc	(4,800)	819
1487	2009 J. Aron & Company	(43,800)	819
1488	2009 JP Morgan Ventures Energy	(162,587)	819
1489	2009 Los Angeles Dept. Water & Power	(400)	819
1490	2009 Modesto Irrigation District	(2,329)	819
1491	2009 Morgan Stanley CG	(660,584)	819
1492	2009 N. California Power Agency	(558)	819
1493	2009 Natur Ener USA	(9)	819
1494	2009 NorthPoint Energy Solutions, Inc.	(40,364)	819
1495	2009 Northwestern Energy	(22,137)	819
1496	2009 Occidental Power Services	(33,200)	819
1497	2009 Okanogan PUD	(180)	819
1498	2009 Pacific Northwest Generatin Coop.	(15,026)	819
1499	2009 Pacific Summit Energy LLC	(141,740)	819
1500	2009 Pacificorp	(175,631)	819
1501	2009 PG&E Energy Trading	(1,400)	819
1502	2009 Portland General Electric	(88,446)	819
1503	2009 Powerex Corp.	(547,840)	819
1504	2009 Public Service of Colorado	(6,800)	819
1505	2009 Rainbow Energy Marketing	(57,994)	819
1506	2009 Redding, City of	(441)	819
1507	2009 Sacramento Municipal	(11,919)	819
1508	2009 San Diego Gas & Electric	(1,032)	819
1509	2009 Seattle City Light Marketing	(33,841)	819
1510	2009 Sempra Energy Trading	(272,319)	819
1511	2009 Shell Energy (Coral Pwr)	(446,690)	819
1512	2009 Sierra Pacific Power	(3,532)	819
1513	2009 Silicon Valley Pwr - Santa Clara	(35)	819
1514	2009 Snohomish County PUD #1	(10,967)	819
1515	2009 Southern Cal - Edison	(502,250)	819
1516	2009 Tacoma Power	(2,294)	819
1517	2009 Talen Energy (PPL Energy Plus)	(71,305)	819
1518	2009 The Energy Authority	(14,698)	819
1519	2009 TransAlta Energy Marketing	(297,158)	819
1520	2009 TransCanada Energy Marketing	(4,687)	819
1521	2009 TransCanada Energy Sales Ltd	(10,850)	819
1522	2009 Turlock Irrigation District	(3,013)	819
1523	2009 Western Area Power Association	(80)	819
1638	2010 Avista Corp. WWP Division	165,695	843
1640	2010 Barclays Bank Plc	138,700	843
1641	2010 Black Hills Power	1,224	843
1642	2010 BNP Paribas Energy Trading	15,600	843
1643	2010 Book Outs - EITF 03-11	(3,094,185)	843

1644	2010 BP Energy Co.	78,616	843
1645	2010 BPA	206,160	843
1648	2010 Burbank, City of	59,686	843
1649	2010 Cargill Power Markets	183,821	843
1650	2010 Chelan County PUD #1	15,633	843
1652	2010 Citigroup Energy Inc	775,756	843
1653	2010 Clatskanie PUD	25,594	843
1654	2010 Conoco, Inc.	82,208	843
1656	2010 Constellation Power Source, Inc.	95,234	843
1657	2010 CP Energy Marketing (Epcor)	10,876	843
1658	2010 DB Energy Trading LLC	117,600	843
1660	2010 Douglas County PUD #1	184,451	843
1661	2010 Eagle Energy Partners	31	843
1662	2010 EDF Trading NA LLC	320,131	843
1663	2010 Endure Energy LLC	17,600	843
1664	2010 ENMAX Energy Marketing, Inc.	430	843
1665	2010 Eugene Water & Electric	63,929	843
1666	2010 Fortis Energy Marketing & Trading	4,000	843
1667	2010 Grant County PUD #2	20,495	843
1668	2010 Iberdrola Renewables (PPM Energy)	682,132	843
1669	2010 Idaho Power Company	17,382	843
1670	2010 J. Aron & Company	32,200	843
1672	2010 JP Morgan Ventures Energy	136,924	843
1674	2010 Merrill Lynch Commodities	55,600	843
1675	2010 Modesto Irrigation District	45	843
1676	2010 Morgan Stanley CG	1,135,590	843
1678	2010 NextEra Energy Power Marketing	20,186	843
1679	2010 Noble Americas Energy Solutions	24,200	843
1680	2010 NorthPoint Energy Solutions, Inc.	4,037	843
1681	2010 Northwestern Energy	2,854	843
1682	2010 Occidental Power Services	30,400	843
1683	2010 Okanogan PUD	2,374	843
1684	2010 Pacific Northwest Generatin Coop.	87,811	843
1685	2010 Pacific Summit Energy LLC	46,767	843
1686	2010 Pacificorp	80,243	843
1687	2010 Portland General Electric	292,936	843
1688	2010 Powerex Corp.	300,036	843
1689	2010 Public Service of Colorado	6,500	843
1690	2010 Rainbow Energy Marketing	98,150	843
1691	2010 Redding, City of	173	843
1693	2010 Sacramento Municipal	5,475	843
1694	2010 San Diego Gas & Electric	684	843
1695	2010 Seattle City Light Marketing	249,821	843
1696	2010 Sempra Energy Trading	995,085	843
1697	2010 Shell Energy (Coral Pwr)	355,579	843
1699	2010 Sierra Pacific Power	1,600	843
1700	2010 Snohomish County PUD #1	45,702	843

1701	2010 Southern Cal - Edison	13,647	843
1702	2010 Tacoma Power	47,836	843
1703	2010 Talen Energy (PPL Energy Plus)	147,357	843
1704	2010 Tenaska	1,038	843
1705	2010 The Energy Authority	78,028	843
1706	2010 TransAlta Energy Marketing	1,107,783	843
1707	2010 TransCanada Energy Sales Ltd	8,791	843
1708	2010 Turlock Irrigation District	52,383	843
1709	2010 Western Area Power Association	20	843
1711	2010 Black Creek Hydro	11,424	843
1712	2010 BPA	65,580	843
1713	2010 Pacific Gas & Elec - Exchange	412,908	843
1714	2010 TransAlta Energy Marketing	1,533,400	843
1716	2010 Black Creek Hydro	(10,438)	843
1717	2010 BPA	(57,475)	843
1718	2010 Deviation	20,831	843
1719	2010 Pacific Gas & Elec - Exchange	(413,000)	843
1720	2010 TransAlta Energy Marketing	(1,536,249)	843
1775	2010 Avista Corp. WWP Division	(27,014)	843
1776	2010 Barclays Bank Plc	(40,109)	843
1777	2010 Black Hills Power	(2,465)	843
1778	2010 BNP Paribas Energy Trading	(29,925)	843
1779	2010 Book Outs - EITF 03-11	3,847,988	843
1780	2010 BP Energy Co.	(259,544)	843
1781	2010 BPA	(159,865)	843
1782	2010 British Columbia Transmission Corp	(49)	843
1783	2010 Burbank, City of	(530)	843
1785	2010 Cargill Power Markets	(261,663)	843
1786	2010 Chelan County PUD #1	(5,161)	843
1787	2010 Citigroup Energy Inc	(767,741)	843
1788	2010 Clatskanie PUD	(10,025)	843
1789	2010 Conoco, Inc.	(111,624)	843
1790	2010 Constellation Power Source, Inc.	(42,662)	843
1791	2010 CP Energy Marketing (Epcor)	(54,095)	843
1792	2010 DB Energy Trading LLC	(150,800)	843
1793	2010 Douglas County PUD #1	(1,065)	843
1794	2010 Eagle Energy Partners	(831)	843
1795	2010 EDF Trading NA LLC	(58,348)	843
1796	2010 Endure Energy LLC	(1,200)	843
1797	2010 ENMAX Energy Marketing, Inc.	(1,808)	843
1798	2010 Eugene Water & Electric	(14,553)	843
1799	2010 Fortis Energy Marketing & Trading	(12,000)	843
1800	2010 Grant County PUD #2	(45,909)	843
1801	2010 Iberdrola Renewables (PPM Energy)	(442,218)	843
1802	2010 Idaho Power Company	(60,759)	843
1803	2010 J. Aron & Company	(800)	843
1804	2010 JP Morgan Ventures Energy	(92,601)	843

1805	2010 Merrill Lynch Commodities	(75,385)	843
1806	2010 Modesto Irrigation District	(10)	843
1807	2010 Morgan Stanley CG	(454,431)	843
1808	2010 N. California Power Agency	(356)	843
1809	2010 Natur Ener USA	(2)	843
1810	2010 NextEra Energy Power Marketing	(294)	843
1811	2010 NorthPoint Energy Solutions, Inc.	(10,173)	843
1812	2010 Northwestern Energy	(48,784)	843
1813	2010 Okanogan PUD	(175)	843
1814	2010 Pacific Northwest Generatin Coop.	(4,755)	843
1815	2010 Pacific Summit Energy LLC	(111,596)	843
1816	2010 Pacificorp	(167,918)	843
1817	2010 Portland General Electric	(68,889)	843
1818	2010 Powerex Corp.	(330,673)	843
1819	2010 Public Service of Colorado	(4,400)	843
1820	2010 Rainbow Energy Marketing	(46,883)	843
1821	2010 Redding, City of	(463)	843
1822	2010 Sacramento Municipal	(4,178)	843
1823	2010 San Diego Gas & Electric	(10,399)	843
1824	2010 Seattle City Light Marketing	(24,056)	843
1825	2010 Sempra Energy Trading	(112,120)	843
1826	2010 Shell Energy (Coral Pwr)	(449,454)	843
1827	2010 Sierra Pacific Power	(2,937)	843
1828	2010 Snohomish County PUD #1	(6,352)	843
1829	2010 Southern Cal - Edison	(1,236,986)	843
1830	2010 Tacoma Power	(2,132)	843
1831	2010 Talen Energy (PPL Energy Plus)	(176,278)	843
1832	2010 The Energy Authority	(8,119)	843
1833	2010 TransAlta Energy Marketing	(318,081)	843
1834	2010 TransCanada Energy Sales Ltd	(9,650)	843
1835	2010 Turlock Irrigation District	(5,147)	843
1953	2011 Avista Corp. WWP Division	117,376	845
1955	2011 Barclays Bank Plc	27,750	845
1956	2011 Black Hills Power	3,515	845
1957	2011 BNP Paribas Energy Trading	119,000	845
1958	2011 Book Outs - EITF 03-11	(3,113,284)	845
1959	2011 BP Energy Co.	345,552	845
1960	2011 BPA	382,105	845
1961	2011 British Columbia Transmission Corp	9	845
1963	2011 Burbank, City of	2,000	845
1964	2011 Cargill Power Markets	318,865	845
1965	2011 Chelan County PUD #1	8,620	845
1967	2011 Citigroup Energy Inc	1,028,188	845
1968	2011 Clark Public Utilities	8,570	845
1969	2011 Clatskanie PUD	15,878	845
1971	2011 Constellation Power Source, Inc.	298,689	845
1972	2011 CP Energy Marketing (Epcor)	5,848	845



1973	2011 DB Energy Trading LLC	197,398	845
1975	2011 Douglas County PUD #1	277,494	845
1977	2011 EDF Trading NA LLC	585,729	845
1978	2011 Eugene Water & Electric	63,900	845
1979	2011 Exelon Generation Co LLC	10,000	845
1980	2011 Grant County PUD #2	57,335	845
1981	2011 Hinson Power Company	20,800	845
1982	2011 Iberdrola Renewables (PPM Energy)	587,403	845
1983	2011 Idaho Power Company	73,320	845
1984	2011 J. Aron & Company	400	845
1987	2011 JP Morgan Ventures Energy	1,148,676	845
1990	2011 Merrill Lynch Commodities	350,800	845
1991	2011 Morgan Stanley CG	1,335,550	845
1993	2011 NextEra Energy Power Marketing	30,168	845
1994	2011 Noble Americas Energy Solutions	10,800	845
1995	2011 Noble Americas Gas & Power	3,200	845
1997	2011 NorthPoint Energy Solutions, Inc.	430	845
1998	2011 Northwestern Energy	6,224	845
1999	2011 Okanogan PUD	4,945	845
2000	2011 Pacific Northwest Generatin Coop.	337,472	845
2001	2011 Pacific Summit Energy LLC	1,952	845
2002	2011 Pacificorp	78,506	845
2003	2011 PG&E Energy Trading	104,400	845
2004	2011 Portland General Electric	41,895	845
2005	2011 Powerex Corp.	168,076	845
2006	2011 Public Service of Colorado	800	845
2007	2011 Rainbow Energy Marketing	48,216	845
2009	2011 Sacramento Municipal	5,763	845
2010	2011 San Diego Gas & Electric	556	845
2011	2011 Seattle City Light Marketing	251,794	845
2012	2011 Sempra Energy Trading	77,538	845
2013	2011 Shell Energy (Coral Pwr)	484,678	845
2015	2011 Sierra Pacific Power	125	845
2016	2011 Snohomish County PUD #1	43,003	845
2017	2011 Southern Cal - Edison	14,057	845
2018	2011 Tacoma Power	108,837	845
2019	2011 Talen Energy (PPL Energy Plus)	122,522	845
2020	2011 Tenaska	202	845
2021	2011 Tenaska Power Services Co.	400	845
2022	2011 The Energy Authority	55,496	845
2023	2011 TransAlta Energy Marketing	2,238,117	845
2024	2011 Turlock Irrigation District	37,399	845
2025	2011 Western Area Power Association	1,669	845
2027	2011 Black Creek Hydro	3,049	845
2028	2011 BPA	45,405	845
2029	2011 Pacific Gas & Elec - Exchange	413,092	845
2031	2011 Black Creek Hydro	(6,556)	845

2032	2011 BPA	(46,691)	845
2033	2011 Deviation	34,040	845
2034	2011 Pacific Gas & Elec - Exchange	(413,000)	845
2091	2011 Avista Corp. WWP Division	(30,733)	845
2092	2011 Barclays Bank Plc	(29,465)	845
2093	2011 Black Hills Power	(2,654)	845
2094	2011 BNP Paribas Energy Trading	(20,616)	845
2095	2011 Book Outs - EITF 03-11	3,622,674	845
2096	2011 BP Energy Co.	(148,410)	845
2097	2011 BPA	(84,760)	845
2098	2011 British Columbia Transmission Corp	(1)	845
2099	2011 Burbank, City of	(800)	845
2100	2011 Cargill Power Markets	(141,861)	845
2101	2011 Chelan County PUD #1	(1,600)	845
2102	2011 Citigroup Energy Inc	(167,241)	845
2103	2011 Clark Public Utilities	(6,320)	845
2104	2011 Clatskanie PUD	(8,952)	845
2105	2011 Conoco, Inc.	(40)	845
2106	2011 Constellation Power Source, Inc.	(50,578)	845
2107	2011 CP Energy Marketing (Epcor)	(9,659)	845
2108	2011 DB Energy Trading LLC	(73,077)	845
2109	2011 Douglas County PUD #1	(1,531)	845
2110	2011 EDF Trading NA LLC	(95,429)	845
2111	2011 ENMAX Energy Marketing, Inc.	567	845
2112	2011 Eugene Water & Electric	(33,425)	845
2113	2011 Exelon Generation Co LLC	(15,200)	845
2114	2011 Grant County PUD #2	(27,856)	845
2115	2011 Iberdrola Renewables (PPM Energy)	(428,020)	845
2116	2011 Idaho Power Company	(24,625)	845
2117	2011 J. Aron & Company	(21,600)	845
2118	2011 JP Morgan Ventures Energy	(47,261)	845
2119	2011 Los Angeles Dept. Water & Power	(1,150)	845
2120	2011 Merrill Lynch Commodities	(18,800)	845
2121	2011 Morgan Stanley CG	(586,129)	845
2122	2011 N. California Power Agency	(482)	845
2123	2011 Natur Ener USA	(30)	845
2124	2011 NextEra Energy Power Marketing	(9,250)	845
2125	2011 Noble Americas Energy Solutions	(800)	845
2126	2011 Noble Americas Gas & Power	(3,388)	845
2127	2011 NorthPoint Energy Solutions, Inc.	(7,683)	845
2128	2011 Northwestern Energy	(56,370)	845
2129	2011 Okanogan PUD	(855)	845
2130	2011 Pacific Northwest Generatin Coop.	(1,655)	845
2131	2011 Pacific Summit Energy LLC	(57,339)	845
2132	2011 Pacificorp	(246,935)	845
2133	2011 PG&E Energy Trading	(790,398)	845
2134	2011 Portland General Electric	(251,716)	845

2135	2011 Powerex Corp.	(294,366)	845
2136	2011 Public Service of Colorado	(1,600)	845
2137	2011 Rainbow Energy Marketing	(69,776)	845
2138	2011 Redding, City of	(69)	845
2139	2011 Sacramento Municipal	(28,531)	845
2140	2011 San Diego Gas & Electric	(22,412)	845
2141	2011 Seattle City Light Marketing	(23,444)	845
2142	2011 Shell Energy (Coral Pwr)	(457,267)	845
2143	2011 Sierra Pacific Power	(14,123)	845
2144	2011 Snohomish County PUD #1	(9,938)	845
2145	2011 Southern Cal - Edison	(526,126)	845
2146	2011 Tacoma Power	(19,779)	845
2147	2011 Talen Energy (PPL Energy Plus)	(185,885)	845
2148	2011 Tenaska Power Services Co.	(3,600)	845
2149	2011 The Energy Authority	(19,100)	845
2150	2011 TransAlta Energy Marketing	(212,919)	845
2151	2011 TransCanada Energy Sales Ltd	(14,806)	845
2152	2011 Turlock Irrigation District	(24,869)	845
2153	2011 Western Area Power Association	(1,265)	845
2219	2012 Deferral Offsets	(52)	666
2229	2012 Deferral Offsets	(102)	666
2295	2012 Avista Corp. WWP Division	126,962	666
2297	2012 Barclays Bank Plc	22,000	666
2298	2012 Black Hills Power	1,600	666
2299	2012 Book Outs - EITF 03-11	(2,428,057)	666
2300	2012 BP Energy Co.	1,236,010	666
2301	2012 BPA	384,113	666
2303	2012 Brookfield Energy Marketing	1,200	666
2305	2012 Calpine Energy Services	467,588	666
2306	2012 Cargill Power Markets	252,059	666
2307	2012 Chelan County PUD #1	124,383	666
2309	2012 Citigroup Energy Inc	1,014,046	666
2310	2012 Clark Public Utilities	26,743	666
2311	2012 Clatskanie PUD	11,019	666
2313	2012 Constellation Power Source, Inc.	65,386	666
2314	2012 CP Energy Marketing (Epcor)	1,133	666
2315	2012 DB Energy Trading LLC	502,043	666
2317	2012 Douglas County PUD #1	336,342	666
2319	2012 EDF Trading NA LLC	222,630	666
2320	2012 ENMAX Energy Marketing, Inc.	75	666
2321	2012 Eugene Water & Electric	42,962	666
2322	2012 Grant County PUD #2	36,506	666
2323	2012 Iberdrola Renewables (PPM Energy)	561,582	666
2324	2012 Idaho Falls Power	25	666
2325	2012 Idaho Power Company	10,082	666
2326	2012 J. Aron & Company	2,400	666
2329	2012 JP Morgan Ventures Energy	1,278,611	666

2331	2012 Merrill Lynch Commodities	269,356	666
2332	2012 Morgan Stanley CG	1,078,306	666
2334	2012 Natur Ener USA	448	666
2335	2012 NextEra Energy Power Marketing	113,935	666
2336	2012 Noble Americas Energy Solutions	800	666
2337	2012 Noble Americas Gas & Power	800	666
2339	2012 NorthPoint Energy Solutions, Inc.	4	666
2340	2012 Northwestern Energy	3,418	666
2341	2012 Okanogan PUD	1,487	666
2342	2012 Pacific Summit Energy LLC	1,179	666
2343	2012 Pacificorp	76,562	666
2344	2012 PG&E Energy Trading	70,000	666
2345	2012 Portland General Electric	24,419	666
2346	2012 Powerex Corp.	231,003	666
2347	2012 Rainbow Energy Marketing	23,628	666
2349	2012 Sacramento Municipal	3,654	666
2350	2012 San Diego Gas & Electric	451	666
2351	2012 Seattle City Light Marketing	246,052	666
2352	2012 Shell Energy (Coral Pwr)	182,238	666
2354	2012 Snohomish County PUD #1	176,041	666
2355	2012 Southern Cal - Edison	62,658	666
2357	2012 Tacoma Power	200,033	666
2358	2012 Talen Energy (PPL Energy Plus)	109,330	666
2360	2012 Tenaska Power Services Co.	32,812	666
2361	2012 The Energy Authority	457,673	666
2362	2012 TransAlta Energy Marketing	1,404,952	666
2363	2012 TransCanada Energy Marketing	200	666
2364	2012 TransCanada Energy Sales Ltd	(200)	666
2365	2012 Tri-State Generation and Transmissi	124	666
2366	2012 Turlock Irrigation District	3,343	666
2368	2012 BPA	35,599	666
2369	2012 Pacific Gas & Elec - Exchange	413,000	666
2372	2012 BPA	(35,375)	666
2373	2012 Deviation	42,717	666
2374	2012 Pacific Gas & Elec - Exchange	(412,995)	666
2431	2012 Avista Corp. WWP Division	(37,126)	666
2432	2012 Barclays Bank Plc	(2,400)	666
2433	2012 Black Hills Power	(18,302)	666
2434	2012 Book Outs - EITF 03-11	2,877,267	666
2435	2012 BP Energy Co.	(97,731)	666
2436	2012 BPA	(147,151)	666
2437	2012 British Columbia Transmission Corp	(57)	666
2438	2012 Brookfield Energy Marketing	(2,000)	666
2439	2012 Calpine Energy Services	(142,467)	666
2440	2012 Cargill Power Markets	(311,820)	666
2441	2012 Chelan County PUD #1	(6,435)	666
2442	2012 Citigroup Energy Inc	(93,176)	666

2443	2012 Clark Public Utilities	(13,840)	666
2444	2012 Clatskanie PUD	(5,387)	666
2445	2012 Constellation Power Source, Inc.	(22,185)	666
2446	2012 CP Energy Marketing (Epcor)	(1,299)	666
2447	2012 DB Energy Trading LLC	(242,964)	666
2448	2012 Douglas County PUD #1	(1,410)	666
2449	2012 EDF Trading NA LLC	(34,355)	666
2450	2012 ENMAX Energy Marketing, Inc.	(225)	666
2451	2012 Eugene Water & Electric	(17,869)	666
2452	2012 Exelon Generation Co LLC	(2,800)	666
2453	2012 Fortis BC	(56,236)	666
2454	2012 Grant County PUD #2	(11,925)	666
2455	2012 Iberdrola Renewables (PPM Energy)	(541,878)	666
2456	2012 Idaho Power Company	(25,835)	666
2457	2012 J. Aron & Company	(2,800)	666
2458	2012 JP Morgan Ventures Energy	(52,134)	666
2459	2012 Morgan Stanley CG	(310,918)	666
2460	2012 Natur Ener USA	(6)	666
2461	2012 NextEra Energy Power Marketing	(2,739)	666
2462	2012 Noble Americas Energy Solutions	(2,800)	666
2463	2012 Noble Americas Gas & Power	(7,600)	666
2464	2012 NorthPoint Energy Solutions, Inc.	(8,404)	666
2465	2012 Northwestern Energy	(84,493)	666
2466	2012 Okanogan PUD	(470)	666
2467	2012 Pacific Summit Energy LLC	(430)	666
2468	2012 Pacificorp	(116,892)	666
2469	2012 PG&E Energy Trading	(216,530)	666
2470	2012 Portland General Electric	(72,993)	666
2471	2012 Powerex Corp.	(406,530)	666
2472	2012 Rainbow Energy Marketing	(58,846)	666
2473	2012 Sacramento Municipal	(10,011)	666
2474	2012 San Diego Gas & Electric	(29,918)	666
2475	2012 Seattle City Light Marketing	(46,589)	666
2476	2012 Shell Energy (Coral Pwr)	(299,293)	666
2477	2012 Sierra Pacific Power	(1,542)	666
2478	2012 Snohomish County PUD #1	(9,531)	666
2479	2012 Southern Cal - Edison	(20,000)	666
2480	2012 Tacoma Power	(19,628)	666
2481	2012 Talen Energy (PPL Energy Plus)	(67,867)	666
2482	2012 Tenaska Power Services Co.	(36,412)	666
2483	2012 The Energy Authority	(34,934)	666
2484	2012 TransAlta Energy Marketing	(443,951)	666
2486	2012 TransCanada Energy Sales Ltd	(49,555)	666
2487	2012 Tri-State Generation and Transmissi	(12,499)	666
2488	2012 Turlock Irrigation District	(3,606)	666
2489	2012 Western Area Power Association	(407)	666
2606	2013 Avista Corp. WWP Division	231,202	1,132

2608	2013 Black Hills Power	4,600	1,132
2609	2013 Book Outs - EITF 03-11	(3,157,200)	1,132
2610	2013 BP Energy Co.	1,103,049	1,132
2611	2013 BPA	417,735	1,132
2613	2013 Brookfield Energy Marketing	800	1,132
2614	2013 Burbank, City of	200	1,132
2615	2013 California ISO	34,629	1,132
2616	2013 Calpine Energy Services	82,375	1,132
2617	2013 Cargill Power Markets	475,057	1,132
2618	2013 Chelan County PUD #1	15,616	1,132
2620	2013 Citigroup Energy Inc	209,900	1,132
2621	2013 Clark Public Utilities	16,000	1,132
2622	2013 Clatskanie PUD	2,268	1,132
2623	2013 Constellation Power Source, Inc.	12,317	1,132
2624	2013 CP Energy Marketing (Epcor)	5,815	1,132
2625	2013 DB Energy Trading LLC	433,233	1,132
2627	2013 Douglas County PUD #1	305,577	1,132
2629	2013 EDF Trading NA LLC	163,552	1,132
2630	2013 Eugene Water & Electric	14,487	1,132
2632	2013 Exelon Generation Co LLC	60,279	1,132
2635	2013 Grant County PUD #2	27,401	1,132
2636	2013 Iberdrola Renewables (PPM Energy)	862,192	1,132
2637	2013 Idaho Power Company	8,565	1,132
2638	2013 J. Aron & Company	16,200	1,132
2641	2013 JP Morgan Ventures Energy	1,017,850	1,132
2644	2013 Morgan Stanley CG	2,038,800	1,132
2646	2013 Natur Ener USA	2	1,132
2647	2013 NextEra Energy Power Marketing	38,830	1,132
2648	2013 Noble Americas Energy Solutions	8,800	1,132
2649	2013 Noble Americas Gas & Power	400	1,132
2650	2013 Northwestern Energy	26,622	1,132
2651	2013 Okanogan PUD	26,282	1,132
2652	2013 Pacificorp	82,864	1,132
2653	2013 Portland General Electric	43,399	1,132
2654	2013 Powerex Corp.	176,702	1,132
2655	2013 Rainbow Energy Marketing	20,918	1,132
2656	2013 Sacramento Municipal	1,700	1,132
2657	2013 San Diego Gas & Electric	76	1,132
2658	2013 Seattle City Light Marketing	144,546	1,132
2660	2013 Shell Energy (Coral Pwr)	611,302	1,132
2662	2013 Snohomish County PUD #1	49,476	1,132
2665	2013 Southern Cal - Edison	49,519	1,132
2666	2013 Tacoma Power	104,948	1,132
2667	2013 Talen Energy (PPL Energy Plus)	172,219	1,132
2668	2013 Tenaska Power Services Co.	5,800	1,132
2669	2013 The Energy Authority	97,683	1,132
2670	2013 TransAlta Energy Marketing	1,129,071	1,132

2671	2013 TransCanada Energy Sales Ltd	681	1,132
2673	2013 Turlock Irrigation District	60,816	1,132
2674	2013 Vitol Inc.	262,136	1,132
2676	2013 Pacific Gas & Elec - Exchange	413,000	1,132
2678	2013 Deviation	47,849	1,132
2679	2013 Pacific Gas & Elec - Exchange	(413,000)	1,132
2727	2013 Avista Corp. WWP Division	(45,139)	1,132
2728	2013 Barclays Bank Plc	(35)	1,132
2729	2013 Black Hills Power	(1,762)	1,132
2731	2013 Book Outs - EITF 03-11	3,361,355	1,132
2732	2013 BP Energy Co.	(297,433)	1,132
2733	2013 BPA	(165,628)	1,132
2734	2013 British Columbia Transmission Corp	(65)	1,132
2735	2013 Brookfield Energy Marketing	(800)	1,132
2736	2013 Burbank, City of	(2,200)	1,132
2737	2013 California ISO	(8,579)	1,132
2738	2013 Calpine Energy Services	(390,795)	1,132
2739	2013 Cargill Power Markets	(158,112)	1,132
2740	2013 Chelan County PUD #1	(25,371)	1,132
2741	2013 Citigroup Energy Inc	(60,746)	1,132
2742	2013 Clark Public Utilities	(18,922)	1,132
2743	2013 Clatskanie PUD	(5,659)	1,132
2744	2013 Constellation Power Source, Inc.	(1)	1,132
2745	2013 CP Energy Marketing (Epcor)	(1,115)	1,132
2746	2013 DB Energy Trading LLC	8	1,132
2747	2013 Douglas County PUD #1	(3,025)	1,132
2748	2013 EDF Trading NA LLC	(40,695)	1,132
2749	2013 Eugene Water & Electric	(35,479)	1,132
2750	2013 Exelon Generation Co LLC	(34,998)	1,132
2751	2013 Fortis BC	(144,215)	1,132
2753	2013 Grant County PUD #2	(26,969)	1,132
2754	2013 Iberdrola Renewables (PPM Energy)	(646,518)	1,132
2755	2013 Idaho Power Company	(27,009)	1,132
2756	2013 J. Aron & Company	(52,425)	1,132
2757	2013 JP Morgan Ventures Energy	(54,818)	1,132
2758	2013 Morgan Stanley CG	(389,258)	1,132
2759	2013 Natur Ener USA	(9)	1,132
2760	2013 NextEra Energy Power Marketing	(1,181)	1,132
2761	2013 Noble Americas Energy Solutions	(5,999)	1,132
2762	2013 Noble Americas Gas & Power	(6,600)	1,132
2763	2013 NorthPoint Energy Solutions, Inc.	(23,745)	1,132
2764	2013 Northwestern Energy	(83,310)	1,132
2765	2013 Okanogan PUD	(2,675)	1,132
2766	2013 Pacificorp	(277,031)	1,132
2767	2013 Portland General Electric	(192,170)	1,132
2768	2013 Powerex Corp.	(403,044)	1,132
2769	2013 Rainbow Energy Marketing	(35,434)	1,132

2770	2013 Sacramento Municipal	(7,107)	1,132
2771	2013 San Diego Gas & Electric	(975)	1,132
2772	2013 Seattle City Light Marketing	(23,533)	1,132
2773	2013 Shell Energy (Coral Pwr)	(279,421)	1,132
2774	2013 Sierra Pacific Power	(2,095)	1,132
2775	2013 Snohomish County PUD #1	(30,000)	1,132
2776	2013 Southern Cal - Edison	(175)	1,132
2777	2013 Tacoma Power	(36,049)	1,132
2778	2013 Talen Energy (PPL Energy Plus)	(64,235)	1,132
2779	2013 Tenaska Power Services Co.	(870)	1,132
2780	2013 The Energy Authority	(43,118)	1,132
2781	2013 TransAlta Energy Marketing	(391,631)	1,132
2782	2013 TransCanada Energy Marketing	(3,692)	1,132
2783	2013 TransCanada Energy Sales Ltd	(27,429)	1,132
2784	2013 Turlock Irrigation District	(3,960)	1,132
2785	2013 Vitol Inc.	(466,011)	1,132
2879	2014 Avista Corp. WWP Division	321,265	696
2881	2014 Black Hills Power	875	696
2882	2014 Book Outs - EITF 03-11	(2,005,870)	696
2883	2014 BP Energy Co.	1,096,755	696
2884	2014 BPA	169,672	696
2886	2014 Burbank, City of	200	696
2887	2014 California ISO	65,176	696
2888	2014 Calpine Energy Services	47,482	696
2889	2014 Cargill Power Markets	609,585	696
2890	2014 Chelan County PUD #1	4,821	696
2892	2014 Citigroup Energy Inc	145,653	696
2893	2014 City of Idaho Falls	10	696
2894	2014 Clark Public Utilities	5,396	696
2895	2014 Clatskanie PUD	2,270	696
2896	2014 Constellation Power Source, Inc.	20	696
2897	2014 CP Energy Marketing (Epcor)	825	696
2899	2014 Douglas County PUD #1	277,023	696
2901	2014 EDF Trading NA LLC	611,857	696
2902	2014 ENMAX Energy Marketing, Inc.	100	696
2903	2014 Eugene Water & Electric	12,875	696
2904	2014 Exelon Generation Co LLC	187,630	696
2905	2014 Grant County PUD #2	12,652	696
2906	2014 Iberdrola Renewables (PPM Energy)	716,696	696
2907	2014 Idaho Power Company	12,466	696
2908	2014 J. Aron & Company	20,400	696
2910	2014 JP Morgan Ventures Energy	156,705	696
2913	2014 Morgan Stanley CG	1,790,503	696
2914	2014 Natur Ener USA	1	696
2915	2014 NextEra Energy Power Marketing	56,233	696
2916	2014 Noble Americas Energy Solutions	4,000	696
2917	2014 Noble Americas Gas & Power	4,000	696



2918	2014 NorthPoint Energy Solutions, Inc.	871	696
2919	2014 Northwestern Energy	1,948	696
2920	2014 Okanogan PUD	7,707	696
2921	2014 Pacificorp	71,357	696
2922	2014 Portland General Electric	183,483	696
2923	2014 Powerex Corp.	100,896	696
2924	2014 Rainbow Energy Marketing	5,071	696
2925	2014 Sacramento Municipal	2,075	696
2926	2014 Seattle City Light Marketing	69,998	696
2928	2014 Shell Energy (Coral Pwr)	365,203	696
2930	2014 Snohomish County PUD #1	20,464	696
2931	2014 Southern Cal - Edison	47,417	696
2932	2014 Tacoma Power	151,109	696
2933	2014 Talen Energy (PPL Energy Plus)	235,629	696
2934	2014 Tenaska Power Services Co.	4,534	696
2935	2014 The Energy Authority	51,948	696
2936	2014 TransAlta Energy Marketing	1,300,789	696
2937	2014 TransCanada Energy Sales Ltd	2,410	696
2938	2014 Turlock Irrigation District	81,172	696
2939	2014 Vitol Inc.	452,905	696
2941	2014 Avista Nichols Pump	22,326	696
2942	2014 Pacific Gas & Elec - Exchange	413,000	696
2944	2014 Deviation	76,074	696
2945	2014 Exelon Generation Co LLC	(25)	696
2946	2014 Pacific Gas & Elec - Exchange	(413,000)	696
2995	2014 Avista Corp. WWP Division	(60,183)	696
2996	2014 Black Hills Power	(390)	696
2997	2014 Book Outs - EITF 03-11	2,016,042	696
2998	2014 BP Energy Co.	(51,111)	696
2999	2014 BPA	(159,211)	696
3000	2014 British Columbia Transmission Corp	(49)	696
3001	2014 Brookfield Energy Marketing	(800)	696
3002	2014 Burbank, City of	(2,400)	696
3004	2014 Calpine Energy Services	(117,424)	696
3005	2014 Cargill Power Markets	(190,421)	696
3006	2014 Chelan County PUD #1	(16,609)	696
3007	2014 Citigroup Energy Inc	(26,800)	696
3008	2014 Clark Public Utilities	(9,222)	696
3009	2014 Clatskanie PUD	(4,124)	696
3010	2014 Conoco, Inc.	(1,200)	696
3011	2014 Constellation Power Source, Inc.	(119)	696
3012	2014 CP Energy Marketing (Epcor)	(947)	696
3013	2014 Douglas County PUD #1	(1,819)	696
3014	2014 EDF Trading NA LLC	(136,984)	696
3016	2014 Eugene Water & Electric	(38,757)	696
3017	2014 Exelon Generation Co LLC	(16,580)	696
3018	2014 Fortis BC	(27,508)	696

3019	2014 Grant County PUD #2	(27,899)	696
3020	2014 Iberdrola Renewables (PPM Energy)	(536,036)	696
3021	2014 Idaho Power Company	(15,235)	696
3022	2014 J. Aron & Company	(2,600)	696
3023	2014 JP Morgan Ventures Energy	(5,071)	696
3024	2014 Morgan Stanley CG	(332,554)	696
3025	2014 Natur Ener USA	(24)	696
3026	2014 Nevada Power Company	(159)	696
3027	2014 NextEra Energy Power Marketing	(159)	696
3028	2014 Noble Americas Gas & Power	(400)	696
3029	2014 NorthPoint Energy Solutions, Inc.	(3,481)	696
3030	2014 Northwestern Energy	(68,236)	696
3031	2014 Okanogan PUD	(1,855)	696
3033	2014 Pacificorp	(109,675)	696
3034	2014 Portland General Electric	(123,272)	696
3035	2014 Powerex Corp.	(401,453)	696
3036	2014 Rainbow Energy Marketing	(21,430)	696
3037	2014 Sacramento Municipal	(4,593)	696
3038	2014 Seattle City Light Marketing	(20,865)	696
3039	2014 Shell Energy (Coral Pwr)	(210,325)	696
3041	2014 Snohomish County PUD #1	(12,377)	696
3042	2014 Tacoma Power	(14,402)	696
3043	2014 Talen Energy (PPL Energy Plus)	(52,930)	696
3044	2014 Tenaska Power Services Co.	(512)	696
3045	2014 The Energy Authority	(36,276)	696
3046	2014 TransAlta Energy Marketing	(302,261)	696
3047	2014 TransCanada Energy Sales Ltd	(20,682)	696
3048	2014 Turlock Irrigation District	(311)	696
3049	2014 Vitol Inc.	(221,200)	696
3121	2015 Avista Corp. WWP Division	127,355	696
3122	2015 Barclays Bank Plc	(30)	696
3123	2015 Black Hills Power	1,200	696
3124	2015 Book Outs - EITF 03-11	(5,721,875)	696
3125	2015 BP Energy Co.	340,839	696
3126	2015 BPA	141,462	696
3127	2015 British Columbia Transmission Corp	67	696
3128	2015 CAISO EESC Load Undistributed Costs	-	696
3129	2015 California ISO	12,114	696
3130	2015 Calpine Energy Services	350,294	696
3131	2015 Cargill (Financial)	-	696
3132	2015 Cargill Power Markets	779,739	696
3133	2015 Chelan County PUD #1	857	696
3134	2015 Citigroup Energy (Financial)	-	696
3135	2015 Citigroup Energy Inc	507,518	696
3136	2015 Clark Public Utilities	5,045	696
3137	2015 Clatskanie PUD	2,021	696
3138	2015 Conoco, Inc.	2,000	696

3139	2015 Constellation Power Source, Inc.	7	696
3140	2015 Douglas County PUD #1	271,759	696
3141	2015 EDF Trading (Financial)	-	696
3142	2015 EDF Trading NA LLC	2,085,606	696
3143	2015 ENMAX Energy Marketing, Inc.	990	696
3144	2015 Eugene Water & Electric	10,905	696
3145	2015 Exelon Generation (Financial)	-	696
3146	2015 Exelon Generation Co LLC	183,085	696
3147	2015 Grant County PUD #2	14,148	696
3148	2015 Iberdrola Renewables (PPM Energy)	677,785	696
3149	2015 Idaho Power Company	14,768	696
3150	2015 J. Aron & Company	10,400	696
3151	2015 JP Morgan Ventures Energy	67,092	696
3153	2015 Morgan Stanley CG	1,304,649	696
3154	2015 Morgan Stanley CG (Financial)	-	696
3155	2015 NextEra Energy Power Marketing	113,998	696
3156	2015 Noble Americas Energy Solutions	800	696
3157	2015 NorthPoint Energy Solutions, Inc.	300	696
3158	2015 Northwestern Energy	10,619	696
3159	2015 Okanogan PUD	15,430	696
3160	2015 Pacificorp	26,590	696
3161	2015 Portland General Electric	109,691	696
3162	2015 Powerex Corp.	144,388	696
3163	2015 Public Service of Colorado	800	696
3164	2015 Rainbow Energy Marketing	12,393	696
3165	2015 Sacramento Municipal	5,966	696
3166	2015 Seattle City Light Marketing	96,380	696
3167	2015 Shell Energy (Coral Pwr)	309,247	696
3168	2015 Shell Energy NA (Financial)	-	696
3169	2015 Snohomish County PUD #1	18,557	696
3170	2015 Southern Cal - Edison	42,837	696
3171	2015 Tacoma Power	38,385	696
3172	2015 Talen Energy (PPL Energy Plus)	242,781	696
3173	2015 Tenaska Power Services Co.	297	696
3174	2015 The Energy Authority	57,242	696
3175	2015 TransAlta Energy Marketing	1,275,174	696
3176	2015 TransCanada Energy Sales Ltd	15,993	696
3177	2015 Turlock Irrigation District	24,277	696
3178	2015 Vitol Inc.	1,563,318	696
3179	2015 Western Area Power Association	3	696
3180	2015 Avista Nichols Pump	22,743	696
3181	2015 Constellation Power Source, Inc.	-	696
3182	2015 Pacific Gas & Elec - Exchange	413,000	696
3183	2015 Interchange-out deviation	52,887	696
3184	2015 Pacific Gas & Elec - Exchange	(413,000)	696
3185	2015 Avista Corp. WWP Division	(59,334)	696
3186	2015 Black Hills Power	(30)	696

3187	2015 Book Outs - EITF 03-11	5,724,128	696
3188	2015 BP Energy Co.	(303,763)	696
3189	2015 BPA	(284,002)	696
3190	2015 British Columbia Transmission Corp	(28)	696
3191	2015 Calpine Energy Services	(117,995)	696
3192	2015 Cargill Power Markets	(176,345)	696
3193	2015 Chelan County PUD #1	(4,207)	696
3194	2015 Citigroup Energy Inc	(327,954)	696
3195	2015 Clark Public Utilities	(6,032)	696
3196	2015 Clatskanie PUD	(3,692)	696
3197	2015 Conoco, Inc.	(5,200)	696
3198	2015 Constellation Power Source, Inc.	(89)	696
3199	2015 CP Energy Marketing (Epcor)	(902)	696
3200	2015 Douglas County PUD #1	(2,350)	696
3201	2015 EDF Trading NA LLC	(1,158,465)	696
3202	2015 ENMAX Energy Marketing, Inc.	(346)	696
3203	2015 Eugene Water & Electric	(22,601)	696
3204	2015 Exelon Generation Co LLC	(154,413)	696
3205	2015 Fortis BC	(13,980)	696
3206	2015 Grant County PUD #2	(34,904)	696
3207	2015 Iberdrola Renewables (PPM Energy)	(465,716)	696
3208	2015 Idaho Power Company	(28,166)	696
3209	2015 J. Aron & Company	(10,000)	696
3210	2015 JP Morgan Ventures Energy	(64,335)	696
3211	2015 Morgan Stanley CG	(799,848)	696
3212	2015 Natur Ener USA	(61)	696
3213	2015 Nevada Power Company	(1,267)	696
3214	2015 NextEra Energy Power Marketing	(1,748)	696
3215	2015 NorthPoint Energy Solutions, Inc.	(50)	696
3216	2015 Northwestern Energy	(27,585)	696
3217	2015 Okanogan PUD	(1,425)	696
3218	2015 Pacificorp	(270,353)	696
3219	2015 Portland General Electric	(154,103)	696
3220	2015 Powerex Corp.	(165,730)	696
3221	2015 Public Service of Colorado	(600)	696
3222	2015 Rainbow Energy Marketing	(5,067)	696
3223	2015 Sacramento Municipal	(15,711)	696
3224	2015 Seattle City Light Marketing	(34,982)	696
3225	2015 Shell Energy (Coral Pwr)	(349,844)	696
3226	2015 Snohomish County PUD #1	(7,576)	696
3227	2015 Southern Cal - Edison	(200)	696
3228	2015 Tacoma Power	(15,061)	696
3229	2015 Talen Energy (PPL Energy Plus)	(70,877)	696
3230	2015 Tenaska Power Services Co.	(828)	696
3231	2015 The Energy Authority	(41,339)	696
3232	2015 TransAlta Energy Marketing	(637,562)	696
3233	2015 TransCanada Energy Sales Ltd	(7,621)	696

3234	2015 Turlock Irrigation District	(208)	696
3235	2015 Vitol Inc.	(1,812,075)	696
3236	2015 Western Area Power Association	(2)	696

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	A	B	C	D	E	F	G	H	I	J	K	L	
1	<b>Summary Energy and Emissions Intensity Report</b>												
2													
3		Utility :	EXCELLENT UTILITY										
4	Reporting for year :	2015	<b>MWh per Capita</b>										
5	Population Served :	2,080,260	<b>8.68</b>										
6													
7	<i>Energy Intensity Metrics</i>												
8						Customer	<b>MWh per</b>						
9				MWh at Meter	MWh Proportion	Count	<b>Customer</b>						
10	Residential Customers			8,321,011	46.1%	693,420	<b>12.0</b>						
11	Commercial Customers			7,152,138	39.6%	59,601	<b>120.0</b>						
12	Industrial Customers			2,575,602	14.3%								
13	Total Load Served			18,048,751									
14													
15	<i>Emissions Intensity Metrics</i>												
16					Percent of	<b>Short</b>							
17				Busbar MWh	Total Load	<b>Tons CO<sub>2</sub></b>							
18	Known Resources Serving WA			17,864,735	100.0%	3,007,133							
19	Unknown Resources Serving WA			-	<b>0.0%</b>	-	<b>% of 1990 CO<sub>2</sub></b>						
20				2015	Tons CO <sub>2</sub>	<b>3,007,133</b>	<b>102.8%</b>						
21													
22						1990 Short Tons CO <sub>2</sub>	2,925,551	<i>Example number, use correct number from cells below.</i>					
23													
24						<i>See UTC Docket UE-131723, General Order R-581, Page 7, Paragraph 19.</i>							
25							1990						
26							Short Tons CO <sub>2</sub>						
27						Avista	1,131,957						
28						Pacific Power	2,399,078						
29						Puget Sound Energy	6,946,064						

	A	B	C	D
1	<b>Known Resources Serving WA Customers</b>	<b>2015</b>		
2		<b>WA MWh</b>	<b>2015</b>	<b>Short</b>
3	<b>Resource</b>	<b>2015</b>	<b>lbs CO<sub>2</sub>/MWh</b>	<b>Tons CO<sub>2</sub></b>
4	RST Contract for 20,000 MWh/year Peaker	41,589	1,729	35,954
5	Chelan PUD Contract	235,800	-	-
6	Colstrip generation plant units 1&2	3,538,910	1,256	2,222,435
7	Columbia River Dam 34	12,188,870	-	-
8	Cascadia Combined Cycle Unit 4	1,254,456	954	598,376
9	Photovoltaic Plant 'A'	519,698	-	-
10	Smokey Point Oil Burner - Old Number 7	85,412	3,521	150,368
11				-
12				-
13				-
14				-
15				-
16				-
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33				-
34				-
35				-
36				-
37				-
38				-
39				-
40				-
41		17,864,735		3,007,133

Year	Q1	Q2	Q3	Q4	Total
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