

Taxation of Wind, Coal, and Natural Gas



WYOMING LEGISLATIVE SERVICE OFFICE

Joint Revenue Committee

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16IP001

Topics

- 1. History of wind energy taxation and the MWH tax**
- 2. Estimated coal taxation per ton and per MWH**
- 3. Estimated natural gas taxation per MCF and per MWH**



History of Wind Energy Taxation

Legislative Task Force on Wind Energy (2009-2010)

- Created by 2009 HB 1 Section 348
 - County and State Regulatory Control and Industrial Siting
 - PSC duties
 - Transmission line regulation
 - Environmental concerns
 - De-commissioning of wind towers
 - State trust land impacts
 - Property interests in wind
 - Federal regulations and restrictions
 - Taxation and revenue
 - Taxation of wind power generation
 - Funding of regulatory activities
 - Impact assistance mitigation
 - Sales and use tax – exemptions: impact on impact assistance



2010 HEA 18 - Electricity Generated from Wind Taxation

Summary/Major Elements:

- Imposes an excise tax upon the privilege of producing electricity from wind resources.
- Tax of \$1 per megawatt hour or portion thereof is imposed.
- Tax becomes effective 3 years after the turbine first produces electricity.
- Tax is distributed 60% to the counties where the generating facility is located; and 40% to the general fund.
- Tax was effective January 1, 2012
- Was not brought by the Task Force on Wind Energy



Wind Farms in WY 2015

2015 Company Project Name	County	Number of Towers	Megawatt Capacity	2015 Assessed Value
High Plains (Pacifcorp)	Albany	66	99.00	\$ 12,206,164
McFadden Ridge (Pacifcorp)	Albany	9.5	14.25	\$ 3,131,533
Eugene Water & Electric Board	Carbon	123	74.00	\$ 800,791
Foote Creek (Pacifcorp)	Carbon	33	43.00	\$ 979,149
Foote Creek II, LLC	Carbon	3	1.80	\$ 73,773
Foote Creek III, LLC	Carbon	33	24.75	\$ 609,604
Foote Creek IV, LLC	Carbon	28	16.80	\$ 1,179,440
Medicine Bow Wind LLC/ fka Platte River Power Authority	Carbon	11	8.39	\$ 316,734
Rock River I	Carbon	50	50.00	\$ 2,550,769
Seven Mile Hill (Pacifcorp)	Carbon	66	99.00	\$ 13,117,364
Dunlap (Pacifcorp)	Carbon	74	111.00	\$ 14,011,611
Three Buttes Wind Farm	Converse	66	99.00	\$ 17,743,465
Top of The World Wind Energy, LLC	Converse	110	200.00	\$ 26,029,296
Glenrock (Pacifcorp)	Converse	66	99.00	\$ 15,528,506
Rolling Hills (Pacifcorp)	Converse	66	99.00	\$ 11,087,993
Happy Jack Wind-Duke Energy	Laramie	14	29.40	\$ 4,671,714
Silver Sage Wind Farm-Duke Energy	Laramie	20	42.00	\$ 5,703,161
Casper Wind Farm-Chevron Global Power	Natrona	11	16.50	\$ 4,285,533
Mountain Wind Power I, LLC	Uinta	29	60.90	\$ 8,250,514
Mountain Wind Power II, LLC	Uinta	38	79.80	\$ 14,532,171
TranAlta Wy Wind LLC f.k.a. FPL Energy	Uinta	80	144.00	\$ 9,645,890
Totals		996.5	1,411.59	\$ 166,455,175



Wind Energy MWH Tax History

County	2012	2013	2014	2015	Total
Albany County	\$237,427	\$220,276	\$265,223	\$207,582	\$930,508
Carbon County	\$279,319	\$480,198	\$580,921	\$455,276	\$1,795,715
Converse County	\$609,496	\$1,020,350	\$1,129,356	\$952,655	\$3,711,856
Laramie County	\$104,358	\$143,972	\$175,276	\$140,414	\$564,021
Natrona County	\$48,648	\$64,890	\$77,713	\$58,001	\$249,252
Uinta County	\$296,668	\$322,960	\$429,730	\$438,891	\$1,488,250
County Total	\$1,575,916	\$2,252,646	\$2,658,221	\$2,252,819	\$8,739,602
State Total	\$1,050,611	\$1,501,764	\$1,772,147	\$1,501,880	\$5,826,401
Grand Total	\$2,626,527	\$3,754,409	\$4,430,368	\$3,754,699	\$14,566,003

2015: average of \$3,768
per wind tower



Taxation of Coal

Convert to taxes imposed per MWH for comparison to \$1 per MWH for wind energy

- Calculate estimated taxes paid per ton of coal
- Calculate estimated tons of coal needed per MWH
- Calculate estimated taxes paid on coal per MWH

Important Considerations

- Price of Coal – taxes paid are a function of price
- BTU's of Coal
- Which taxes to consider:
 - Federal Mineral Royalties
 - Coal Lease Bonuses
 - Severance Tax
 - Ad Valorem Tax



Estimated Taxes Paid Per Ton of Coal

Example 1

Price Per Ton	\$15.00
BTU of Example Coal	8,000
Federal Mineral Royalty Rate	12.5%
Federal Mineral Royalty Per Ton	\$1.88
Production Tax Rate Per Ton*	\$2.19
Taxable Value Per Ton**	\$11.16
Severance Taxes at 7% per ton	\$0.78
Ad Valorem Tax at 6% per ton	\$0.67
Coal Lease Bonus per ton (average of last 20 leases)	\$0.64
Total Ad Valorem and Severance Tax per ton	\$1.45
Total FMR, Ad Valorem, Severance, and CLB taxes per ton	\$3.97

Example 2

Price Per Ton	\$30.00
BTU of Example Coal	10,000
Federal Mineral Royalty Rate	12.5%
Federal Mineral Royalty Per Ton	\$3.75
Production Tax Rate Per Ton*	\$3.56
Taxable Value Per Ton**	\$22.62
Severance Taxes at 7% per ton	\$1.58
Ad Valorem Tax at 6% per ton	\$1.36
Coal Lease Bonus per ton (average of last 20 leases)	\$0.64
Total Ad Valorem and Severance Tax per ton	\$2.94
Total FMR, Ad Valorem, Severance, and CLB taxes per ton	\$7.33



Estimated Taxes Paid Per Ton of Coal

Notes:

- * **Production Tax Rate Per Ton – includes costs for Severance Taxes, Ad Valorem Taxes, AML Taxes and Black Lung Taxes.**
- ****Taxable Value Per Ton - Includes reduction of price per ton by the production tax rate per ton multiplied by the Direct Cost Ratio and then adds back in the production tax rate per ton.**



Pounds of Coal Per MWH

Example 1

Price Per Ton	\$15.00
BTU of Example Coal	8,000
Pounds per MWH at 10,080 BTU's*	1,040
Tons Per MWH = 1,040/2,000	0.52
Example 1 Coal needed to get to 10,080 BTU's	10,080/8,000 = <u>1.260</u>

Example 2

Price Per Ton	\$30.00
BTU of Example Coal	10,000
Pounds per MWH at 10,080 BTU's*	1,040
Tons Per MWH = 1,040/2,000	0.52
Example 2 Coal needed to get to 10,080 BTU's	10,080/10,000 = <u>1.008</u>

* Based on U.S. Energy Information Administration data.



Est. Coal Taxes Paid per MWH

Example 1

Price Per Ton	\$15.00
BTU of Example Coal	8,000
Federal Mineral Royalties per MWH (WY)	\$0.61
Severance Taxes per MWH	\$0.51
Ad Valorem Taxes per MWH	\$0.44
Coal Lease Bonus (Average over last 20 leases) per MWH (WY)	\$0.21
Total Ad Valorem, and Severance Tax Paid per MWH	\$0.95
Total FMR, Ad Valorem, Severance, and CLB taxes per MWH	\$1.77

Example 2

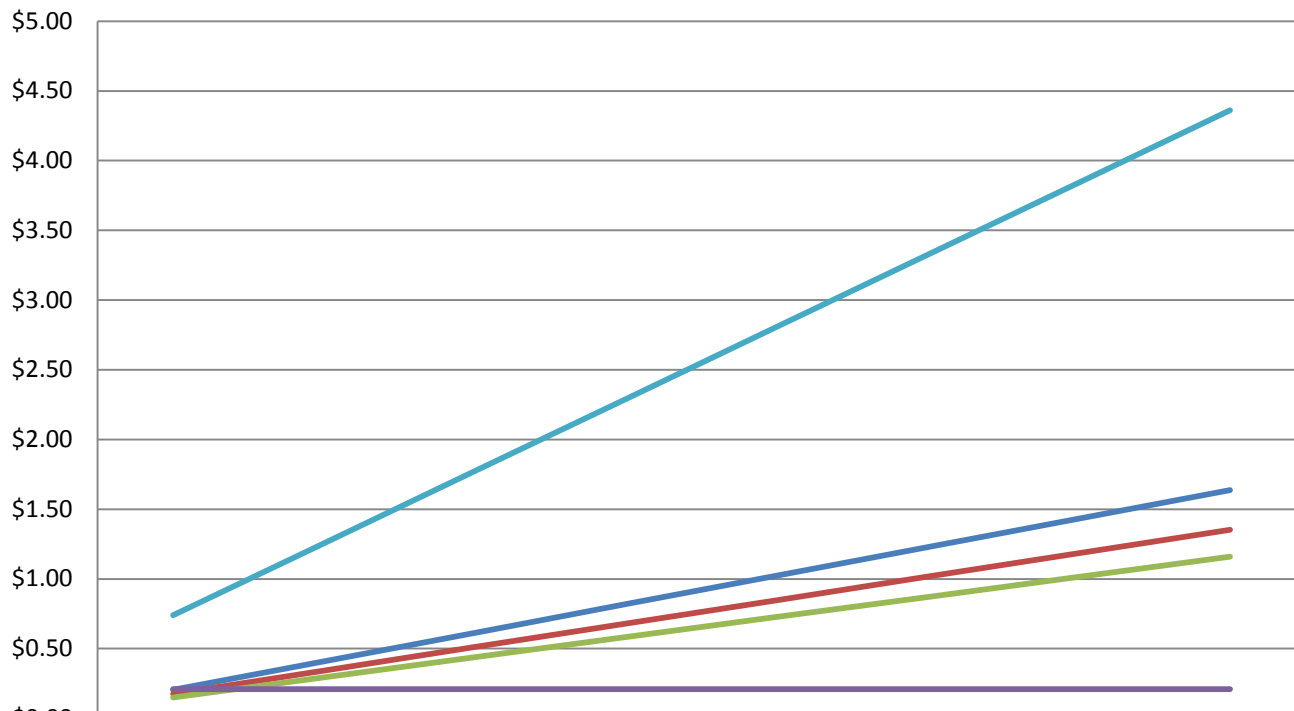
Price Per Ton	\$30.00
BTU of Example Coal	10,000
Federal Mineral Royalties per MWH (WY)	\$0.98
Severance Taxes per MWH	\$0.83
Ad Valorem Taxes per MWH	\$0.71
Coal Lease Bonus (Average over last 20 leases) per MWH (WY)	\$0.17
Total Ad Valorem and Severance Tax Paid per MWH	\$1.54
Total FMR, Ad Valorem, Severance, and CLB taxes per MWH	\$2.69



Est. Coal Taxes Paid per MWH

8,000 BTU Taxes Paid Per MWH

Example 1



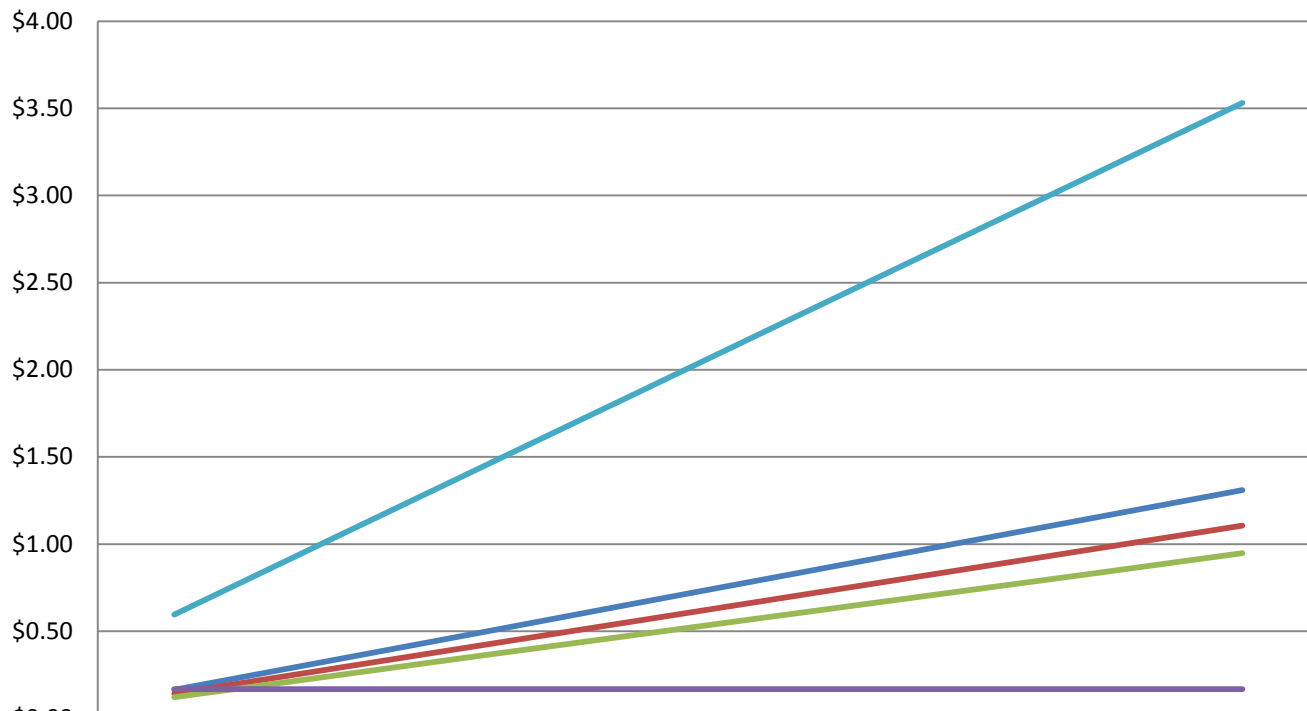
	\$5.00	\$10.00	\$15.00	\$20.00	\$25.00	\$30.00	\$35.00	\$40.00
Federal Mineral Royalties per MWH	\$0.20	\$0.41	\$0.61	\$0.82	\$1.02	\$1.23	\$1.43	\$1.64
Severance Taxes per MWH	\$0.18	\$0.34	\$0.51	\$0.68	\$0.85	\$1.02	\$1.18	\$1.35
Ad Valorem Taxes per MWH	\$0.15	\$0.29	\$0.44	\$0.58	\$0.73	\$0.87	\$1.02	\$1.16
CLB (last 20 lease average) per MWH	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21
Total FMR, Ad Valorem, Severance, and CLB taxes per MWH	\$0.74	\$1.26	\$1.77	\$2.29	\$2.81	\$3.33	\$3.84	\$4.36



Est. Coal Taxes Paid per MWH

10,000 BTU Taxes Paid Per MWH

Example 2



	\$5.00	\$10.00	\$15.00	\$20.00	\$25.00	\$30.00	\$35.00	\$40.00
Federal Mineral Royalties per MWH	\$0.16	\$0.33	\$0.49	\$0.66	\$0.82	\$0.98	\$1.15	\$1.31
Severance Taxes per MWH	\$0.14	\$0.28	\$0.42	\$0.55	\$0.69	\$0.83	\$0.97	\$1.11
Ad Valorem Taxes per MWH	\$0.12	\$0.24	\$0.36	\$0.48	\$0.59	\$0.71	\$0.83	\$0.95
CLB (last 20 lease average) per MWH	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17
Total FMR, Ad Valorem, Severance and CLB taxes per MWH	\$0.60	\$1.02	\$1.43	\$1.85	\$2.27	\$2.69	\$3.11	\$3.53



Natural Gas

Example:

- **\$2.85 per MCF – Current CREG estimate**
- **65% of natural gas on royalty lands**
- **70% assessment ratio**
- **10.11 MCF to generate 1 MWH**
 - **Based upon U.S. Energy Information Administration data.**

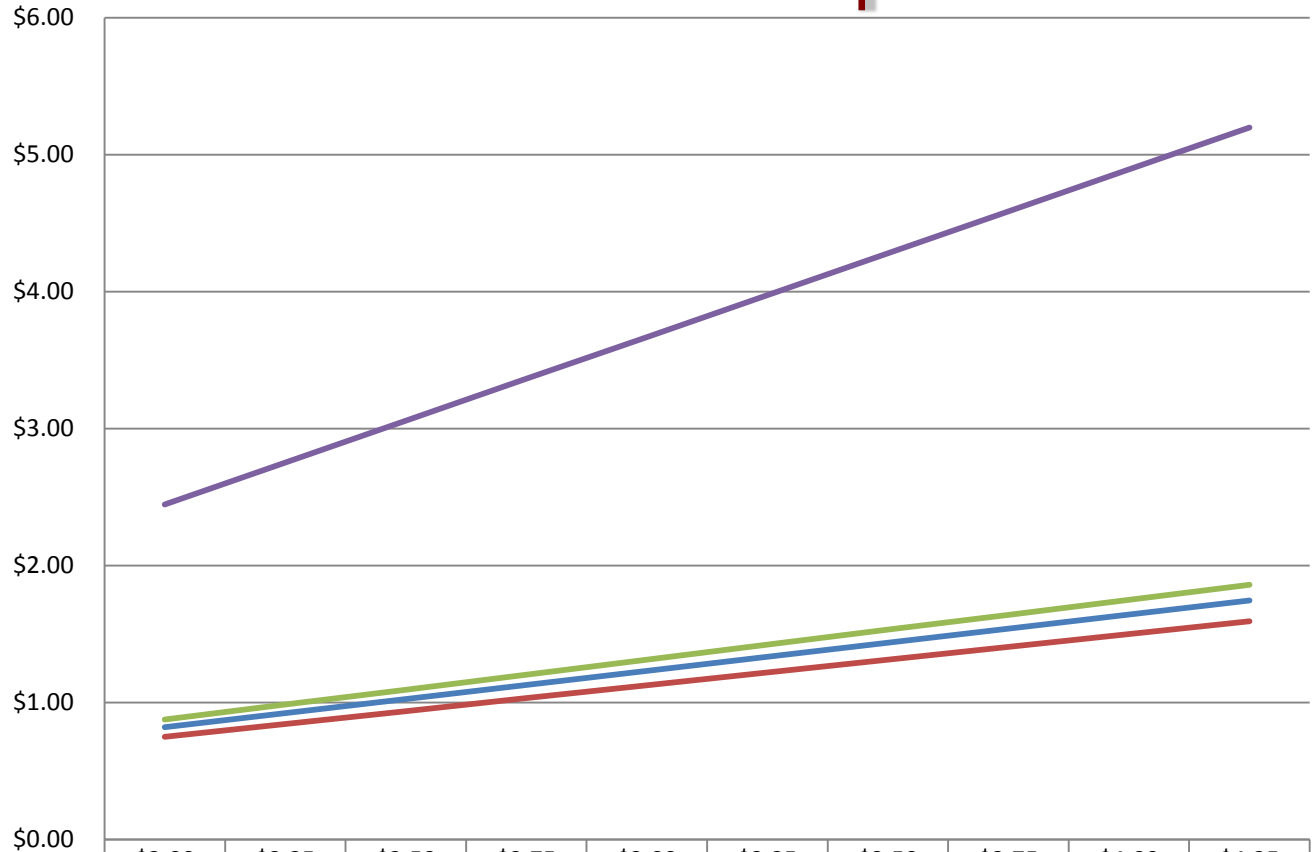


Est. Natural Gas Taxes Paid per MWH

65% WY gas on royalty lands	
70% assessment ratio	
Price per MCF	\$2.85
Federal Mineral Royalty Rate	12.5%
Estimated Federal Mineral Royalties (total)	\$0.23
Taxable value	\$1.76
Severance Tax per MCF	\$0.11
Ad Valorem Tax per MCF	\$0.12
Total FMR, Ad Valorem, Severance Tax per MCF	\$0.46
MCF per MWH	10.11
FMR's Per MWH (WY)	\$1.17
Severance Tax per MWH	\$1.07
Ad Valorem Tax per MWH	\$1.25
Severance and Ad Valorem Tax per MWH	\$2.32
Total FMR, Severance, and Ad Valorem tax per MWH	\$3.49



Est. Natural Gas Taxes Paid per MWH



	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25
FMR's Per MWH	\$0.82	\$0.92	\$1.03	\$1.13	\$1.23	\$1.33	\$1.44	\$1.54	\$1.64	\$1.74
Severance Taxes per MWH	\$0.75	\$0.84	\$0.94	\$1.03	\$1.13	\$1.22	\$1.31	\$1.41	\$1.50	\$1.59
Ad Valorem per MWH	\$0.88	\$0.98	\$1.09	\$1.20	\$1.31	\$1.42	\$1.53	\$1.64	\$1.75	\$1.86
Total FMR, Severance, and Ad Valorem per MWH	\$2.45	\$2.75	\$3.06	\$3.36	\$3.67	\$3.97	\$4.28	\$4.59	\$4.89	\$5.20



Estimated State Level Tax Revenues per MWH

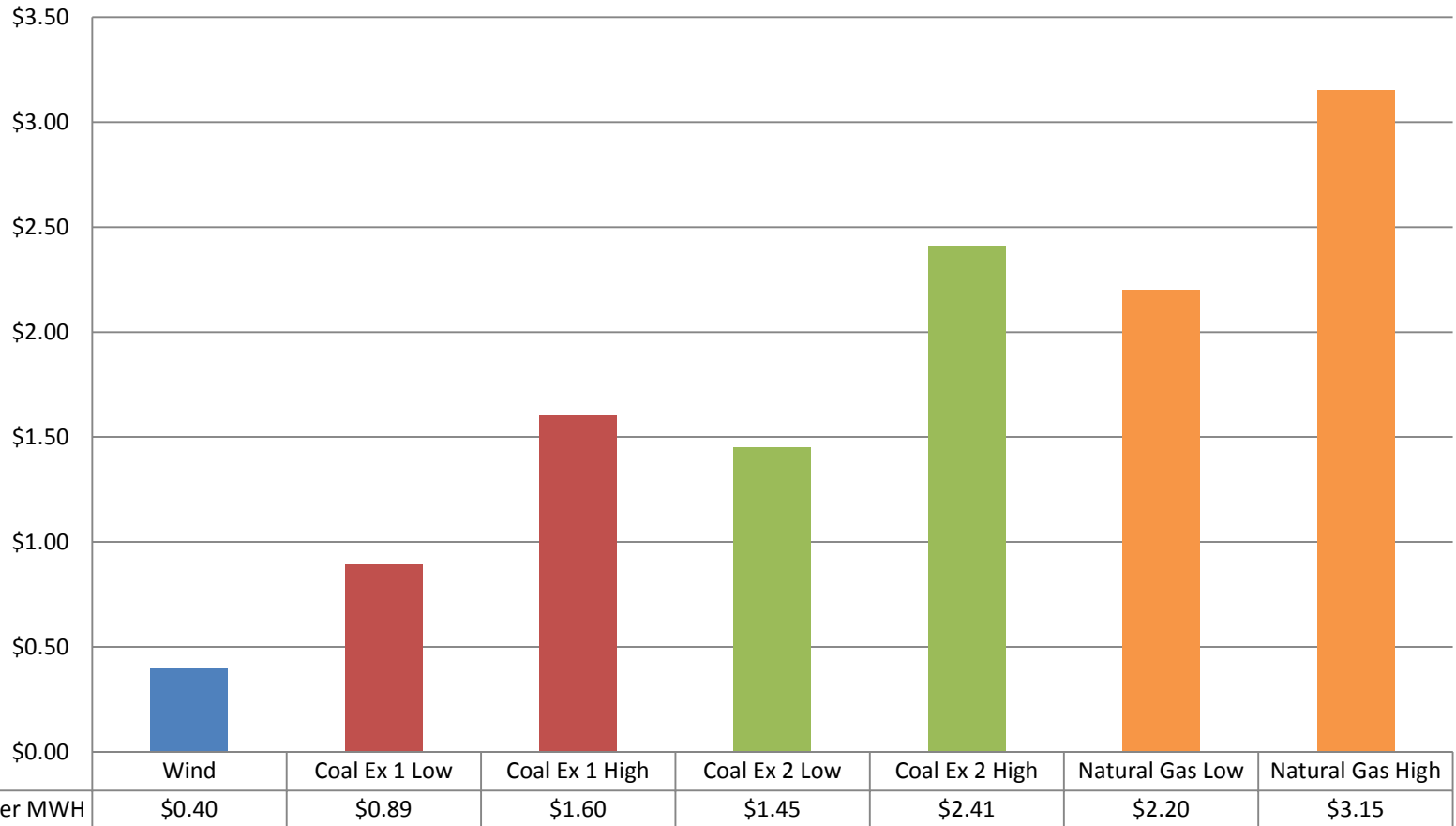
Notes:

- For wind the state level revenues is the 40% share to the General Fund.
- Coal and Natural Gas used the percentage of estimated revenues from CREG that are generally not “local” in nature for both severance taxes and federal mineral royalties.
 - **Severance Taxes:** Includes General Fund, Budget Reserve Account, and PWSTR. This results in 89% of the total.
 - **Federal Mineral Royalties (without Coal Lease Bonuses):** Includes School Foundation, School Capital Construction, LRI/BRA, and General Fund Administrative. This results in 81% of the total.



Est. State Level Tax Revenues per MWH

State Level Revenues per MWH



Coal Example 1: \$15 per ton with 8,000 BTU coal
 Coal Example 2: \$30 per ton with 10,000 BTU coal

Low examples: include Severance and Ad Valorem Tax.

High examples: include Severance, Ad Valorem, FMR's and CLB's (coal).



Summary

Wind: Pays \$1 per MWH of electricity produced.

Coal: Taxes paid per MWH depend most importantly on the price and BTU's of the coal.

- **Example 1: If you consider all taxes paid the amount is estimated to be \$1.77 per MWH (WY based taxes are \$0.95 per MWH) This is for cheaper and lower BTU coal.**
- **Example 2: If you consider all taxes paid the amount is estimated to be \$2.69 per MWH (WY based taxes are \$1.54 per MWH). This is for more expensive and higher BTU coal.**

Natural Gas: Taxes paid per MWH depend mainly on price.

- **CREG estimated price of \$2.85 per MCF results in an estimated taxes paid of \$3.49 per MWH for all taxes (WY based taxes are \$2.32 per MWH).**



Summary

- **“State” level revenues per MWH:**
 - **Wind: 40% of the total or \$0.40 per MWH**
 - **Coal: Estimates vary depending on BTU and Price:**
 - **Example 1: lower BTU and lower priced coal may range between \$0.89 and \$1.60 per MWH depending on which taxes are included.**
 - **Example 2: higher BTU and higher priced coal may range between \$1.45 and \$2.41 per MWH depending on which taxes are included.**
 - **Natural Gas: Estimates vary depending on price.**
 - **For the CREG projection of \$2.85 per MCF, taxes may range between \$2.20 and \$3.15 per MWH depending on which taxes are included.**

Questions?

