

JEDI II: JOBS AND ECONOMIC DEVELOPMENT IMPACTS FROM COAL, NATURAL GAS, AND WIND POWER

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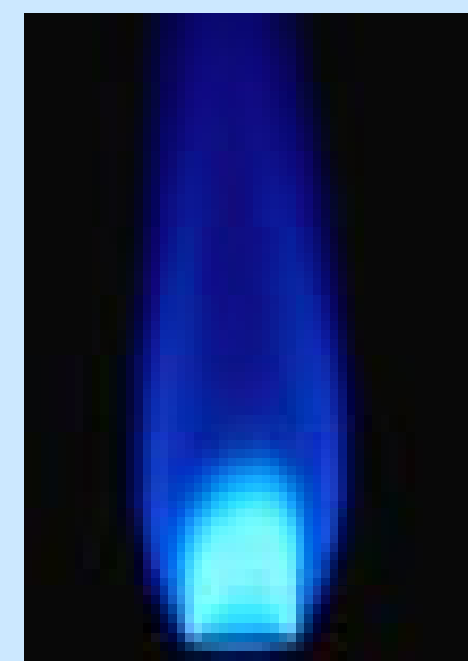
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How does JEDI II work?

The user enters data specific to the new coal, gas, or wind plant:

- Year of installation
- Size of the project
- Location
- Cost (\$/kW)
- Any other site-specific information



To download this user-friendly free tool, go to
www.windpoweringamerica.gov

Please see the paper accompanying this poster in the AWEA conference proceedings for more information and sample results.

The more information the user provides, the more localized the results will be. When specific data are not available, the model uses default values.

Features

- JEDI II is for all levels of users — no experience with economic modeling or spreadsheets is necessary.
- JEDI II comes with on-line instructions.
- Default data is available if users do not have area-specific information.
- The output from JEDI II provides detailed construction and O&M expenditure information, as well as the portion spent locally.
- The model identifies local spending on debt and equity payments, property taxes and land-lease payments.
- The user may add in county or regional data to make the model more useful for their needs.
- JEDI II calculates direct, indirect, and induced impacts.

Approach

- Using economic multipliers, JEDI II measures the potential employment (jobs and earnings) and economic development impacts (output) from new power plants by calculating the dollar flow from construction and annual operations.
- In its default form, JEDI II conducts state-specific analyses. County or regional analyses require additional multipliers.

Sample Input Screen

Annual Operating and Maintenance Costs

	Cost	Cost Per KW	Percent of Total Cost	Local Share
Fixed Costs				
Labor	\$2,273,446	\$8	4.7%	100%
Materials	\$1,964,877	\$7	4.1%	25%
Services	\$1,361,677	\$5	2.8%	85%
Fixed Subtotal	\$5,600,000	\$20	11.6%	
Variable Costs				
Ash/sludge disposal	\$1,882,315	\$0.90	3.9%	100%
Water	\$212,645	\$0.10	0.4%	100%
Catalysts & chemicals	\$1,563,580	\$0.75	3.2%	10%
Variable Subtotal	\$3,658,540	\$1.75	7.6%	
Fuel Cost				
Total	\$39,024,784	\$18.72	80.8%	0%
Total	\$48,273,324		100.0%	

Other Parameters

Financial Parameters

Debt Financing

Percentage financed: 80%

Years financed (term): 20

Interest rate: 10%

Equity Financing/Repayment

Percentage equity: 20%

Individual Investors (percent of equity): 0%

Corporate Investors (percent of equity): 100%

Return on equity: 16%

Repayment term (years): 10

Tax Parameters

Local Property/Other Tax Rate (percent of taxable value): 1.0%

Assessed Value (percent of construction cost): 90%

Taxable Value (percent of assessed value): 90%

Taxable Value: \$349,272,000

Local Taxes: \$3,492,720

Land Lease Parameters

Land Lease (total cost): \$0

Lease Payment Recipient (F = farmer/household, O = Other): O

Payroll Parameters

Base Wage per Hour: \$27.85

Annual Wage: \$57,838

Add your local mill levy here

Sample Output Screen

Coal Plant - Project Data Summary

Project Location	VIRGINIA
Year Construction Starts	2006
Project Size - Nameplate Capacity (MW)	280
Capacity Factor (Percentage)	85%
Heat Rate (Btu per kWh)	9550
Construction Period (Months)	48
Plant Construction Cost (\$/kW)	\$1,540
Cost of Fuel (\$/mmbtu)	\$1.96
Produced Locally (Percent)	40%
Fixed Operations and Maintenance Cost (\$/kW)	\$20.00
Variable Operations and Maintenance Cost (\$/MWh)	\$1.75
Money Value - Current or Constant (Dollar Year)	2005
Project Construction Cost	\$429,200,000
Local Spending	\$16,016,297
Total Annual Operational Expenses	\$324,368
Direct Operating and Maintenance Costs	\$973
Local Spending	\$1,221,733
Other Annual Costs	\$0
Local Spending	\$1,221,733
Debt and Equity Payments	\$0
Property Taxes	\$1,221,733

Local Economic Impacts - Summary Results

	Jobs	Earnings	Output
During construction period			
Direct Impacts	935	\$32.78	\$107.73
Construction Sector Only	934	\$32.75	\$107.60
Indirect Impacts	344	\$12.83	\$31.61
Induced Impacts	413	\$14.21	\$40.73
Total Impacts (Direct, Indirect, Induced)	1,692	\$59.82	\$180.07
During operating years (annual)			
Direct Impacts	136	\$7.45	\$22.31
Plant Workers Only	29	\$2.11	\$6.39
Indirect Impacts	57	\$2.37	\$6.39
Induced Impacts	83	\$2.86	\$8.21
Total Impacts (Direct, Indirect, Induced)	276	\$12.68	\$36.92

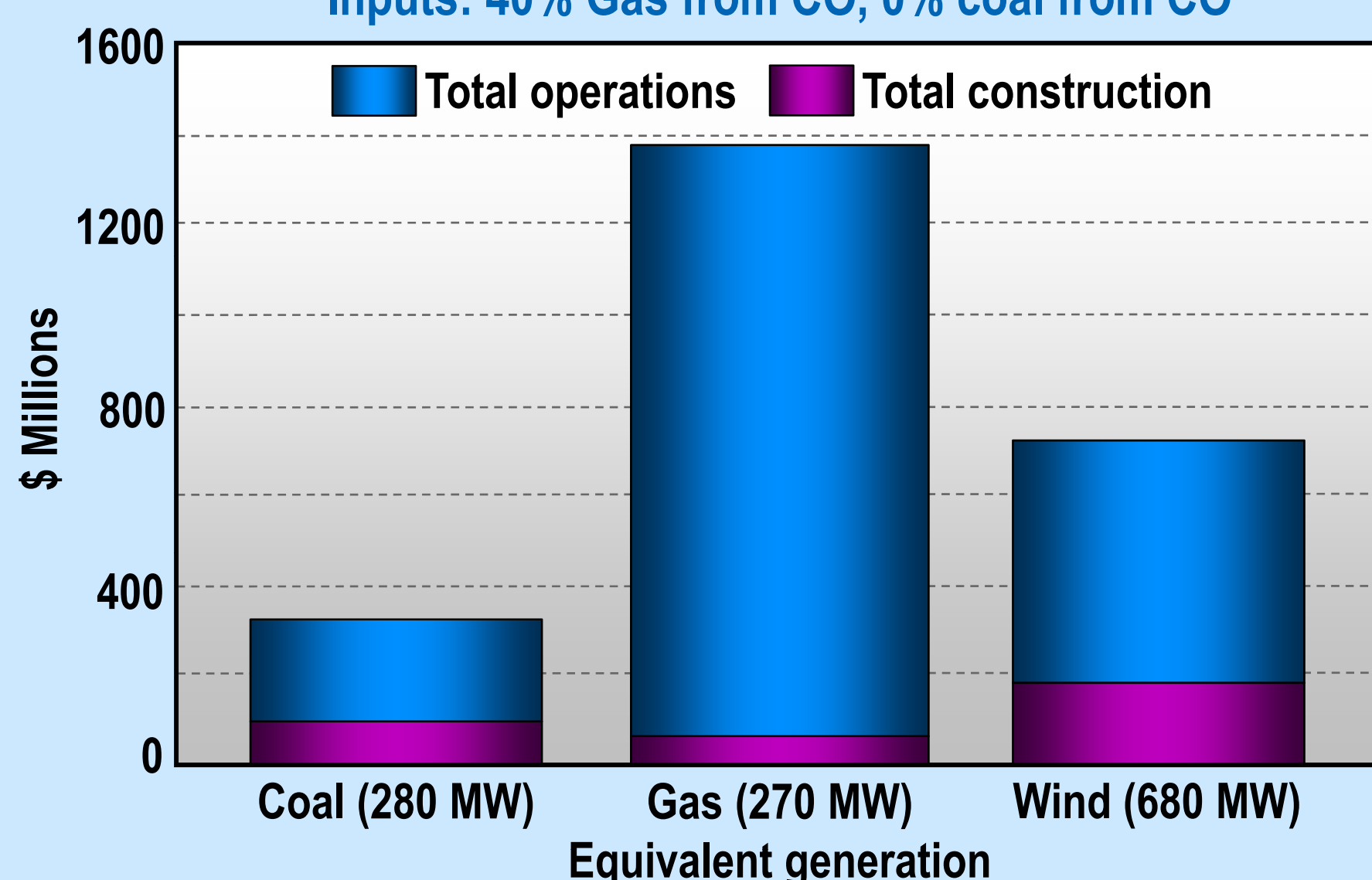
Print Project Data Summary and Summary Results

Print Detailed Project Data

Return to Project Description and Cost Data

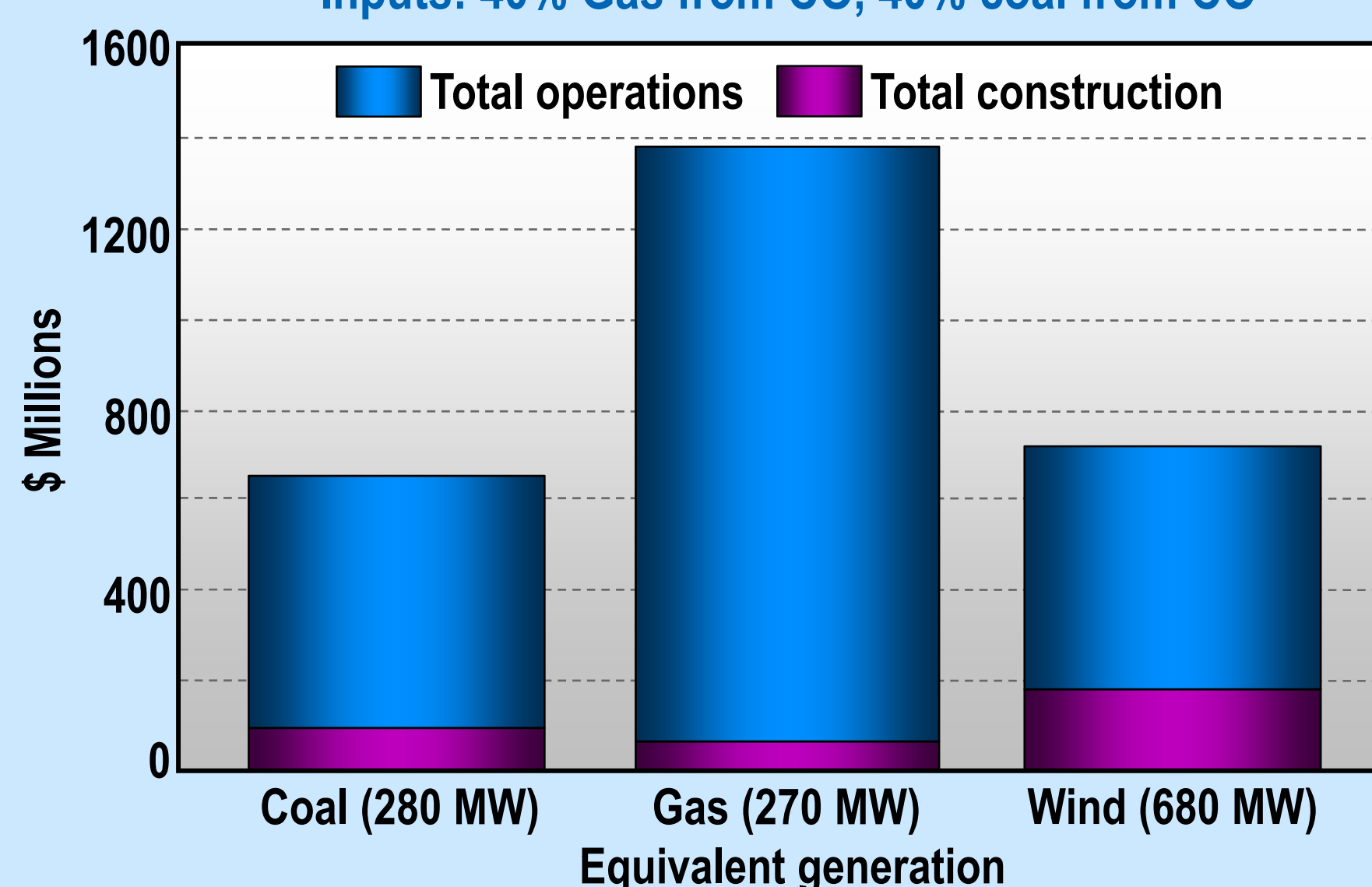
Statewide Economic Impacts from New Electricity Generation in Colorado

Construction + 20 years of operation (\$2005)
Inputs: 40% Gas from CO, 0% coal from CO



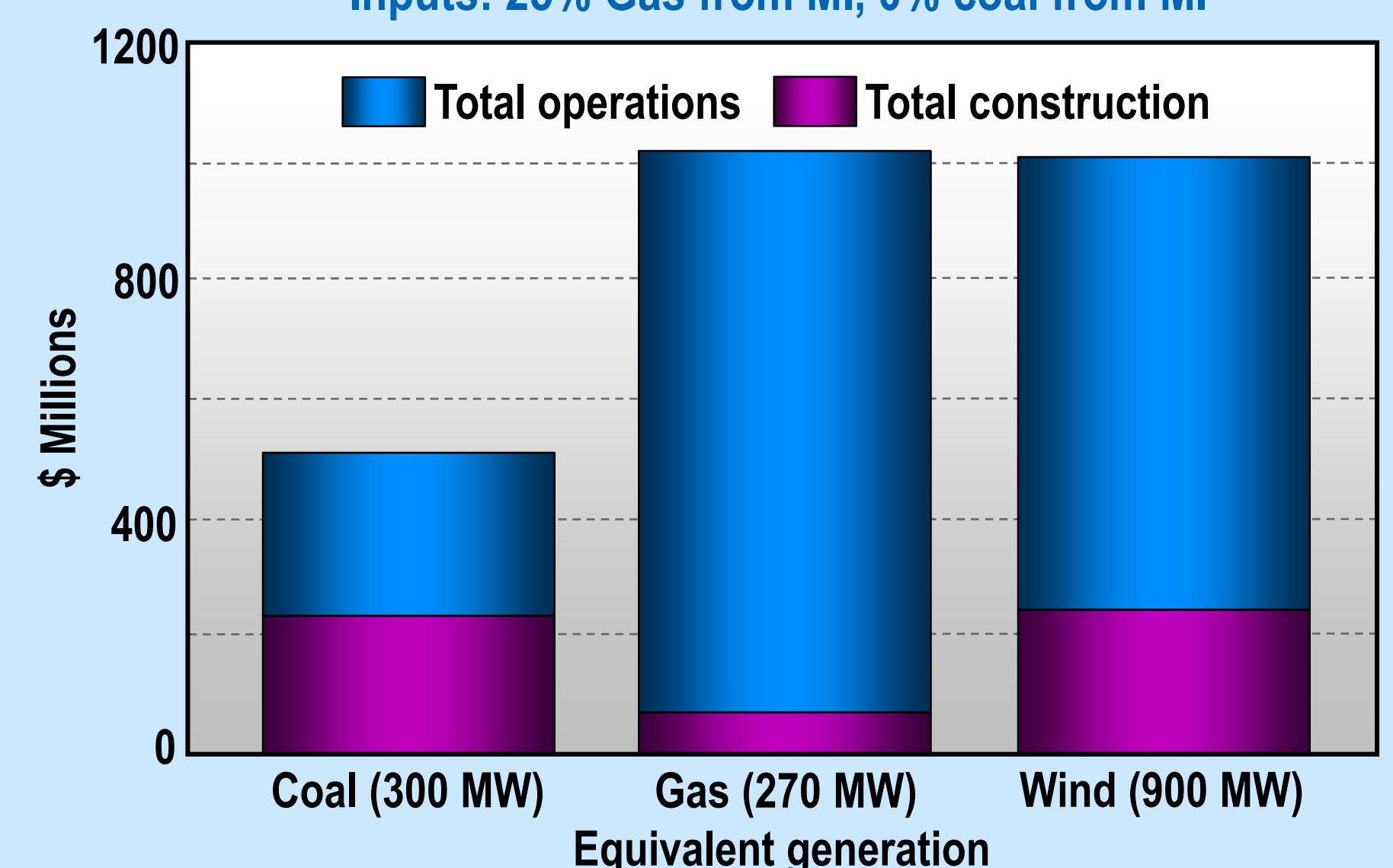
Statewide Economic Impacts from New Electricity Generation in Colorado

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Inputs: 40% Gas from CO, 40% coal from CO



Statewide Economic Impacts from New Electricity Generation in Michigan

Construction + 20 years of operation (\$2005)
Inputs: 25% Gas from MI, 0% coal from MI



The JEDI model does not factor in costs to consumers. Fluctuations in different technologies (e.g., natural gas prices) may make construction of a new power plant price prohibitive.