JEDI II:

Jobs and Economic Development Impacts

model *new and improved*

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Impacts from wind power and other new power generation reach rural communities and strengthen the region's economy.

This increased dollar flow provides advantages to the rural population.

JEDI I & II

- Original JEDI input-output model calculates local economic benefits from new wind power:
  - Direct
  - Indirect
  - Induced

- JEDI II estimates local economic benefits from new coal and natural gas also.

JEDI II components

- Year of construction
- Cost of plant construction $/kW
  - (parts and labor)
- Cost of 20 years of operation (fixed and variable)
  - parts and labor
  - Fuel and fuel transport
- Costs of project financing
- Other costs (transmission, engineering, etc.)
- Property taxes (use state specifics)
- Landowner revenues

Sample JEDI II input screen

System Descriptive Data

Project Location	VIRGINIA
Year Construction Starts	2006
Project Size - Nameplate Capacity (MW)	276
Capacity Factor (Percentage)	85%
Heat Rate (Btu per kWh)	12,000
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

Utilize Model Default Values (below)? (Y or N) n Review/Edit Values below

Go To Summary Impacts

Project Cost Data - Default Values

Construction Costs	Cost	Cost Per KW	Percent of Total Cost	Local Share
Facility and Equipment				
Power Generation	$62,991,218	$228	14.8%	0%
General facilities	$48,135,349	$174	11.3%	75%
Plant Equipment	$134,994,512	$489	31.8%	0%
Facility and Equipment Subtotal	$246,121,079	$892	57.9%	
Labor				
Construction Labor	$137,129,968	$497	32.3%	50%
Project management	$7,383,632	$27	1.7%	0%
Labor Subtotal	$144,513,600	$524	34.0%	
Construction Subtotal	$390,634,679	$1,415	91.9%	
Other Costs				
Engineering	$26,991,067	$98	6.4%	0%
Construction insurance	$4,152,472	$15	1.0%	0%
Land	$56,530	$0	0.0%	100%
Catalysts & chemicals	$463,888	$2	0.1%	10%
Grid intertie	$1,392,656	$5	0.3%	100%
Spare Parts	$1,348,708	$5	0.3%	2%
Other Subtotal	$34,405,321	$125	8.1%	
Total	$425,040,000	$1,540	100.0%	

Sample JEDI II output screen

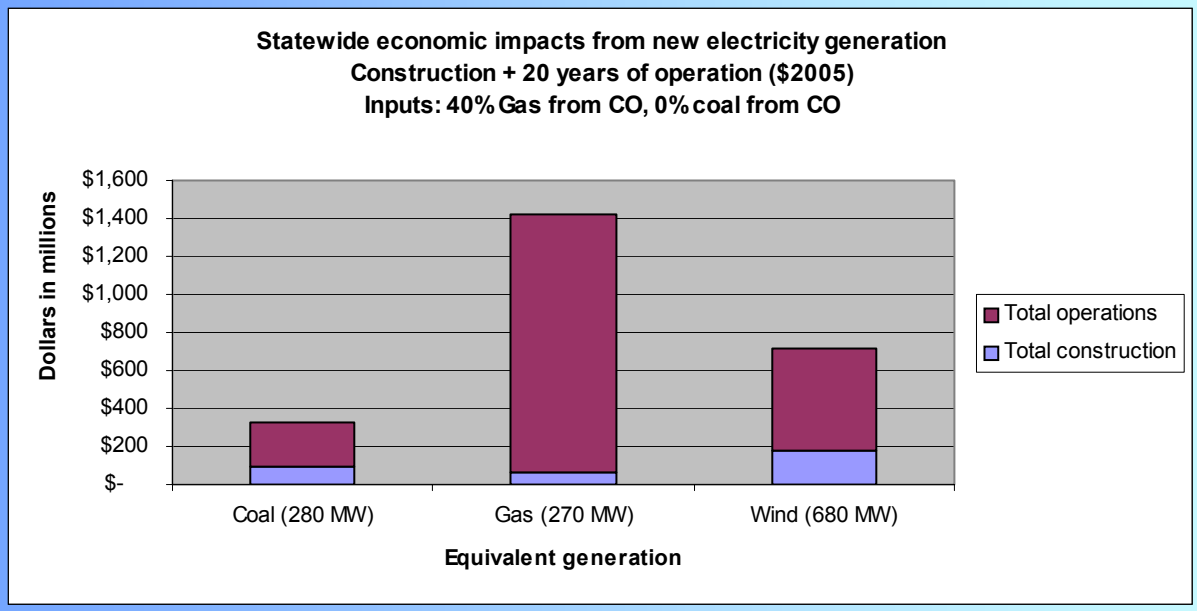
Gas Plant - Project Data Summary

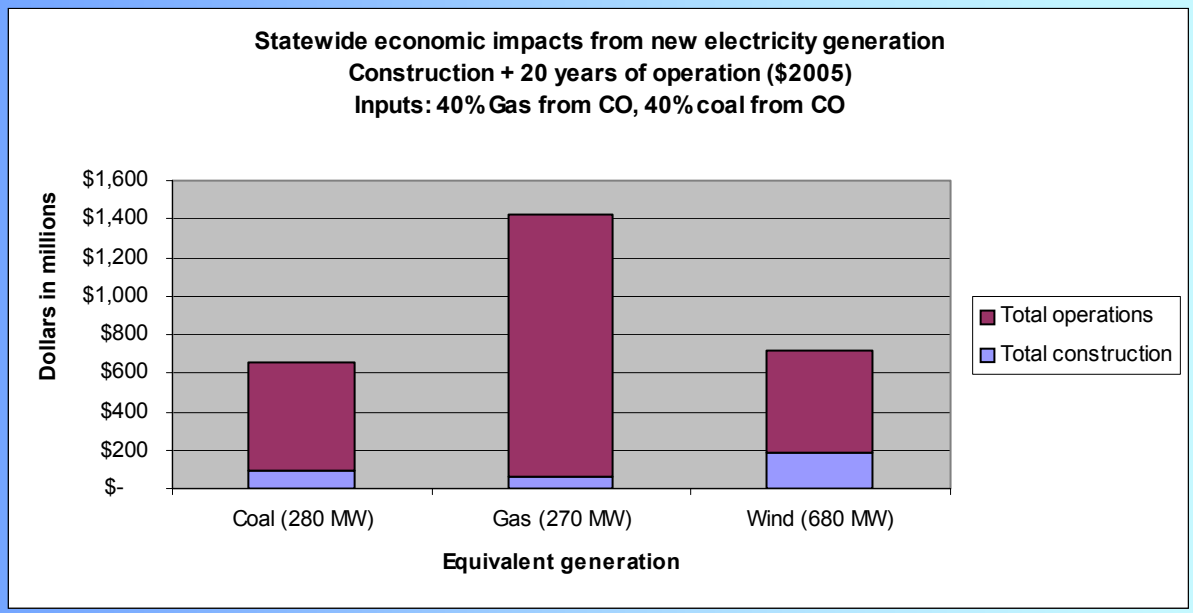
Project Location	COLORADO
Year Construction Starts	2006
Project Size - Nameplate Capacity (MW)	270
Capacity Factor (Percentage)	87%
Heat Rate (Btu per kWh)	6900
Construction Period (Months)	24
Plant Construction Cost ($/KW)	$590
Cost of Fuel ($/mmbtu)	$7.00
Produced Locally (Percent)	40%
Fixed Operations and Maintenance Cost ($/kW)	$10.00
Variable Operations and Maintenance Cost ($/MWh)	$2.30
Money Value - Current or Constant (Dollar Year)	2005
Project Construction Cost	$159,300,000
Local Spending	$39,674,490
Total Annual Operational Expenses	$125,118,829
Direct Operating and Maintenance Costs	$106,820,834
Local Spending	$41,703,282
Other Annual Costs	$18,297,995
Local Spending	$392,675
Debt and Equity Payments	$0
Property Taxes	$392,675

Local Economic Impacts - Summary Results

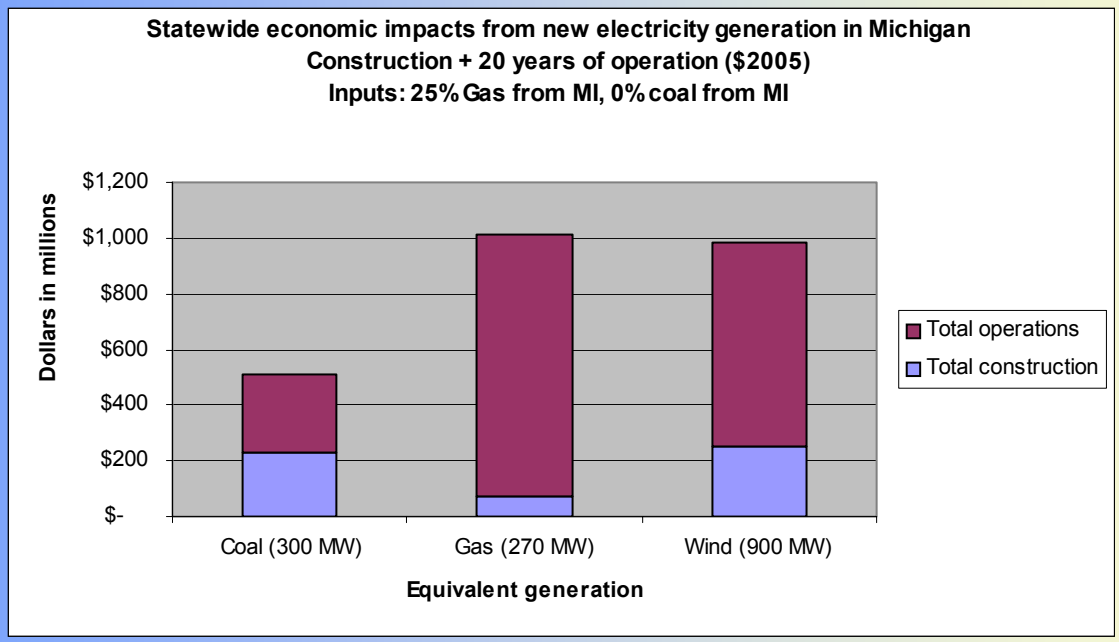
	Jobs	Earnings	Output
During construction period			
Direct Impacts	322	$11.87	$39.67
Construction Sector Only	320	$11.80	$39.28
Indirect Impacts	131	$4.76	$12.83
Induced Impacts	140	$4.51	$14.18
Total Impacts (Direct, Indirect, Induced)	**593**	**$21.14**	**$66.68**
During operating years (annual)			
Direct Impacts	134	$8.60	$42.49
Plant Workers Only	10	$1.21	$1.21
Indirect Impacts	114	$4.37	$13.90
Induced Impacts	114	$3.67	$11.53
Total Impacts (Direct, Indirect, Induced)	**362**	**$16.63**	**$67.93**

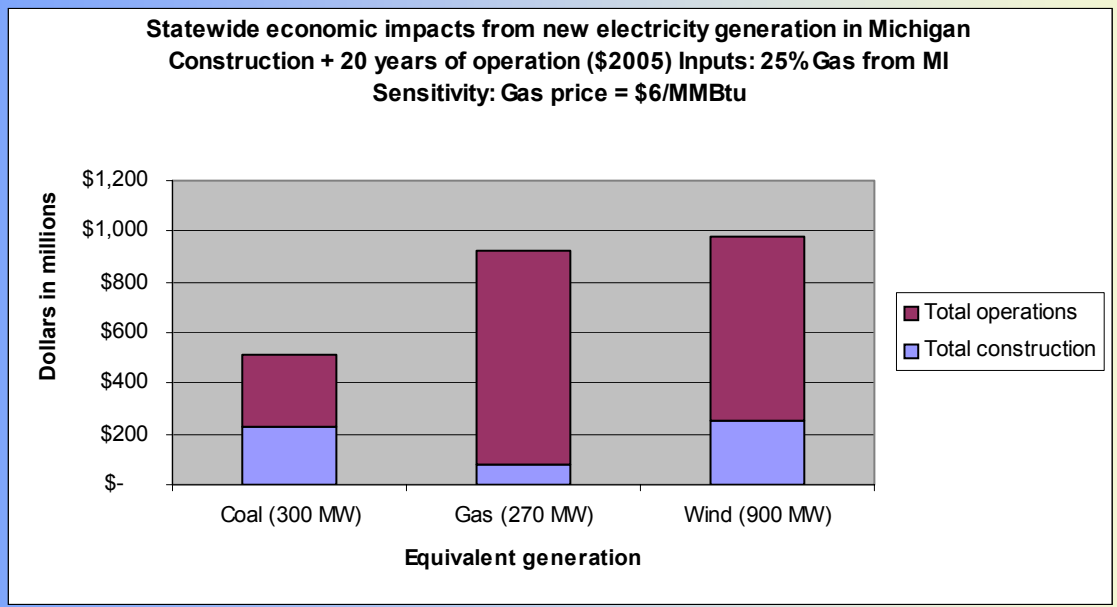
Sample Results: Colorado



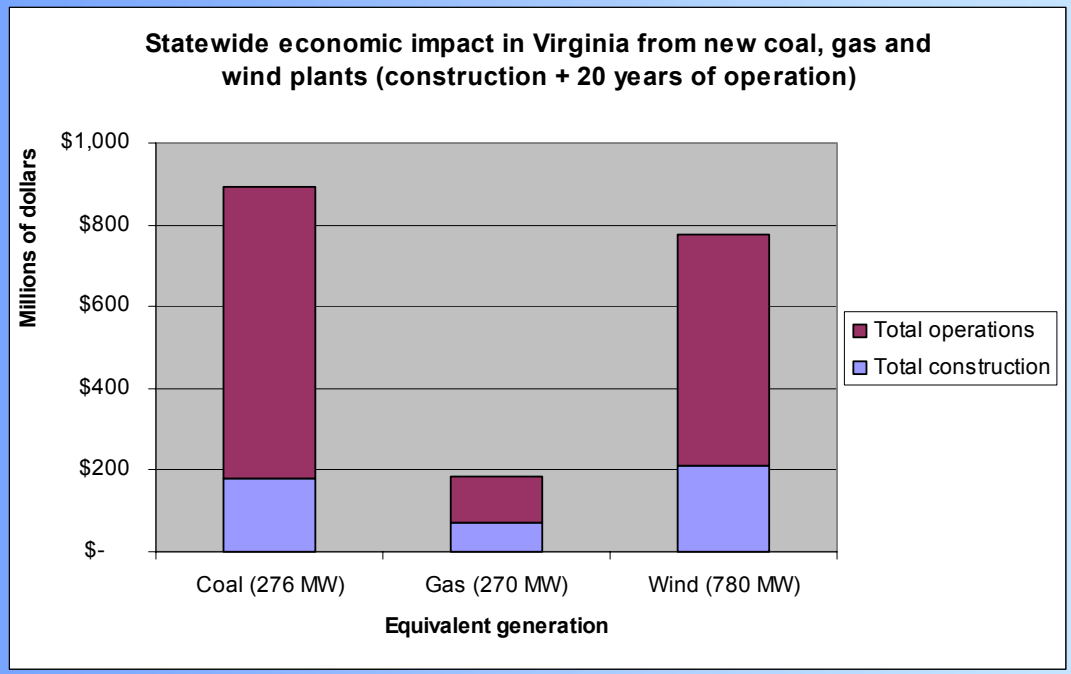


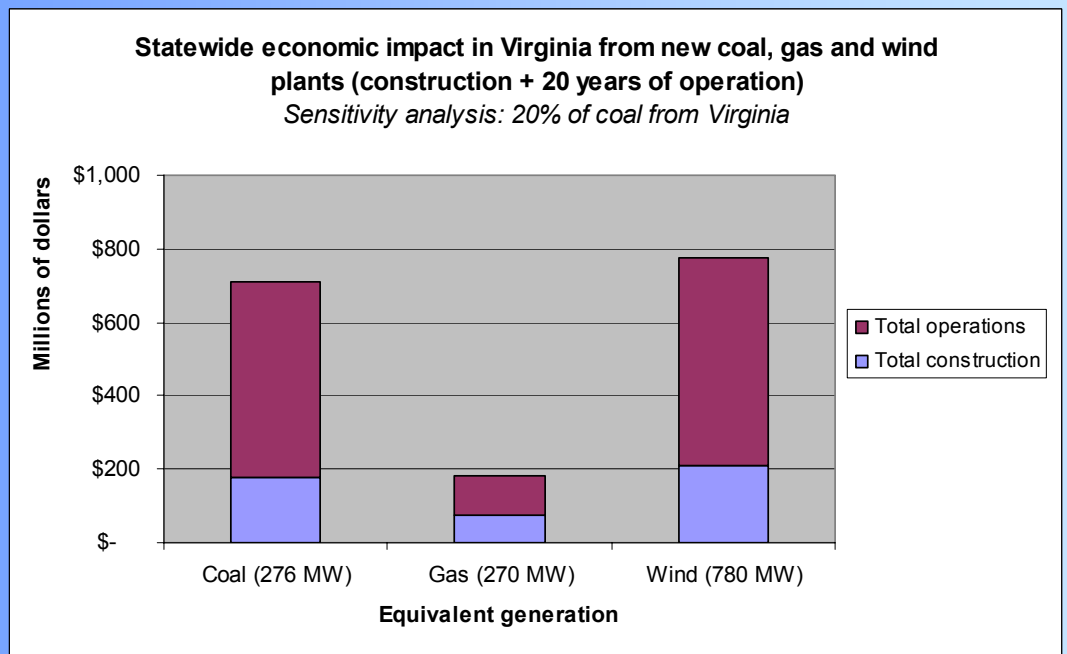
Sample Results: Michigan





Sample Results: Virginia





Key drivers

- Percent of fuel obtained within the state
- Makeup of local labor force and relationship to the needs of the power technology
- Infrastructure - availability of local equipment and services (within the state or region being analyzed)
- State and local tax characteristics or payments in lieu of taxes
- Fuel prices
- Localization of the model (providing specific data that overrides model default values
- Share of the power plant that is owned locally

Who Uses JEDI?

- Project Developers
- Utilities
- Renewable Energy Advocates
- Resource Planners
- Local Planning Departments
- State and Local Economic Development Commissions
- Researchers (government, university, etc.)

JEDI II
Free and user-friendly

www.windpoweringamerica.gov

(See: Economic development - software)

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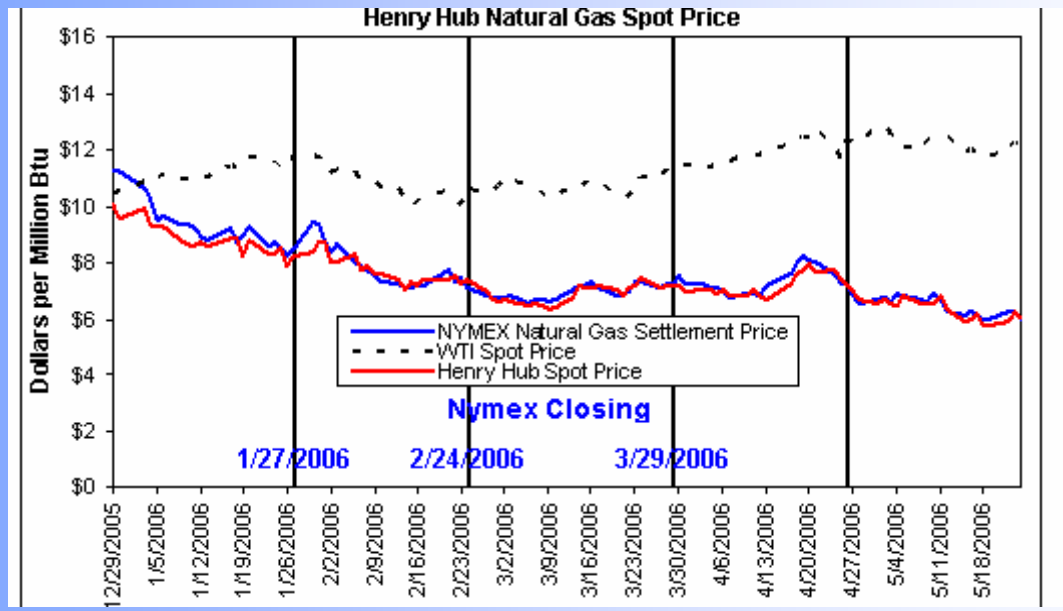
Today's natural gas prices



Source: EIA/DOE
http://tonto.eia.doe.gov/oog/info/ngw/ngupdate.asp

Details

State specific multipliers and personal expenditure patterns are used to derive the results. The state multipliers for

- **employment**
- **wage and salary income**
- **output (economic activity)**
- **personal expenditure patterns**

are derived using the IMPLAN Professional model.*

*IMPLAN (Impact Analysis for PLANning) Professional is a social accounting and impact analysis tool. Minnesota IMPLAN Group (MIG, Inc), Stillwater, Minnesota.