

Promoting Energy Supply: Impact on Missouri's Economy

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The energy outlook for the U.S. has changed substantially over the last few years as the outlook for natural gas supplies has undergone a complete about-face. There has been little growth in U.S. lower-48 supplies, and imports from Canada have leveled off and may have peaked. LNG is now expected to play a much larger role in meeting the growing demand for natural gas, but its development is subject to myriad regulatory hurdles that may derail many planned projects.

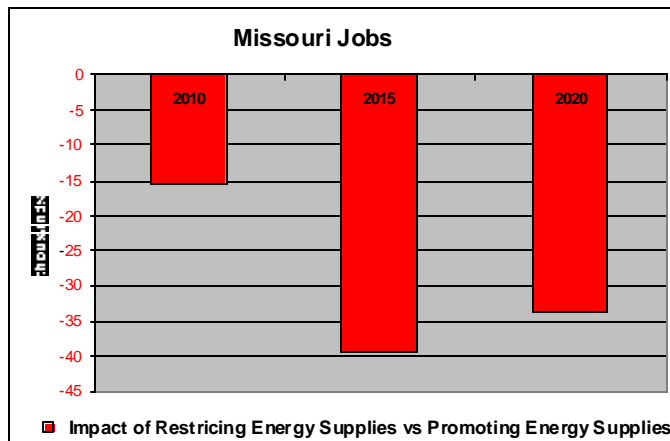
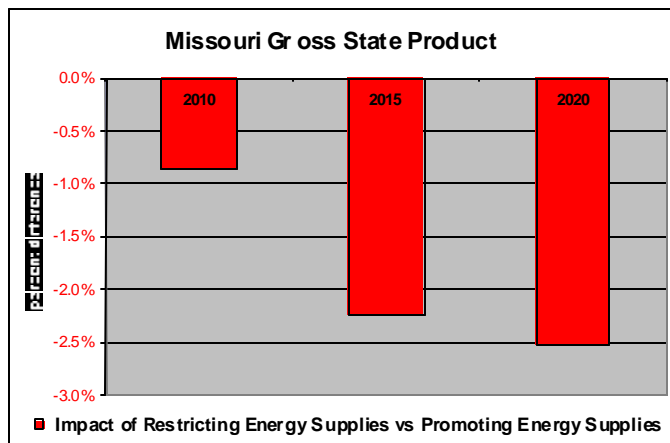
Against the backdrop of a tighter supply picture for natural gas, the fuel substitution option is severely constrained as a mechanism for meeting the steady tightening of emission limits. During the 1990s, it was forecast that the low cost of low-emission gas combined cycle plants combined with the low cost of natural gas would make gas the option of choice for meeting emission limits. As gas supplies have tightened (and gas prices have risen), power generators and large manufacturers are facing tightening emission limits with fewer, more expensive choices.

- Missouri's economy would expand by 31% from 2010 to 2020 (at a rate of 2.7% per year) under policies that increase access to domestic energy resources.

- In contrast, policies that restrict energy supplies would reduce Missouri's Gross State Product by 2.5% in 2020.

- Jobs are a critical issue for Missouri's prosperity. Policies promoting energy supplies would result in 259,000 new jobs in the next decade.

- In contrast, under restrictive energy policies, Missouri would have 34,000 fewer jobs by 2020, and hourly wages would be lower.



Looking forward, there are policy options to improve economic performance by **promoting energy supplies** by ensuring adequate supplies at globally competitive prices while making steady improvements in air quality. Likewise, there are policies that would **restrict energy supplies** and lead to lower economic performance without a notable gain in air quality.

Global Insight has been commissioned by the National Association of Manufacturers and the American Council for Capital Formation to measure the impacts on U.S. manufacturing and the overall economy of two scenarios that are defined by key energy and environmental policy options.

Promoting Energy Supplies Increases US Economic Performance, US Manufacturing Output Expands, 18 Million Jobs are Created

Under the **Promoting Energy Supplies** scenario, US economic performance is enhanced by the availability of energy resources at globally competitive prices. Continued reliance on domestically produced fuels, a steady increase in economically attractive renewable resources and the building of several new nuclear units contributes to a strong economy. Over the period 2010-2020,

- Real GDP growth averages 3.1%.
- Business fixed investment grows at an annual rate of 6.3% per year.
- Industrial production increases at 3.5% per year.
- Real disposable income rises 3.2% per annum.
- Employment expands 1.25% per year; 18 million new jobs are created.
- Manufacturing output grows 3.0% per year.
- Manufacturers employ more than 13 million people.

Restricting Energy Supplies Would Cost the US Economy 1.3 Million Jobs, Manufacturing Output would be 6% Lower

Under the **Restricting Energy Supplies** scenario, tightening mercury emission limits, enactment of severe limits on carbon dioxide emissions, and barriers to development of natural gas supplies combine to dramatically increase the cost of energy and reduce economic growth compared to the Promoting Energy Supplies scenario.

- Homeowners would pay 26% more for natural gas in 2010, and 21% more for electricity. By 2020, natural gas would cost 31% more, and electricity prices would be 61% higher.
- Manufacturers would see similar price hikes, reducing global competitiveness.
- The economy's performance would be weaker.
- Real GDP would fall 2.3% below the Promoting Energy Supplies case by 2020.
- Industrial production would be 12% lower by 2020.
- Real disposable income would be 2.2% below the Promoting Energy Supplies case by 2020.

Missouri Gains Jobs and Better Wages with Policies that Promote Energy Supplies

Missouri's economic performance would benefit from policies that encourage development of domestic energy supplies, but could be damaged by stringent controls on mercury and greenhouse gas emissions. Missouri's economy would expand by 2.7% per year next decade, resulting in more and better paying jobs.

Stronger Economic Outlook for Missouri under the Promoting Energy Supply Scenario

Missouri	2010			2015			2020		
	PES	RES	%diff.	PES	RES	%diff.	PES	RES	%diff.
Gross State Product (million 2000\$)	223185	221243	-0.9%	254646	248924	-2.2%	292571	285173	-2.5%
Manufacturing Output (mil. 2000\$)	35011	34466	-1.6%	38647	36949	-4.4%	43383	40743	-6.1%
Manufacturing, Durables	20219	19930	-1.4%	22513	21541	-4.3%	25097	23591	-6.0%
Manufacturing, Nondurables	14792	14536	-1.7%	16134	15408	-4.5%	18286	17152	-6.2%
Non-Manufacturing Output (mil. 2000\$)	188173	186777	-0.7%	215999	211974	-1.9%	249189	244430	-1.9%
Government	23622	23679	0.2%	25995	26026	0.1%	28725	28897	0.6%
Agriculture, Forestry, & Fishing	1498	1485	-0.9%	1603	1564	-2.5%	1712	1663	-2.9%
Construction	10785	10565	-2.0%	13344	12395	-7.1%	16809	15241	-9.3%
Mining	315	305	-3.1%	359	342	-4.7%	409	351	-14.1%
Educational & Health Services	18072	18038	-0.2%	20837	20674	-0.8%	24125	24035	-0.4%
Financial Activities	33963	33757	-0.6%	37915	37563	-0.9%	42402	42136	-0.6%
Information	11934	11947	0.1%	14042	13958	-0.6%	16584	16397	-1.1%
Leisure & Hospitality	9404	9373	-0.3%	10994	10846	-1.3%	12926	12803	-0.9%
Professional & Business Services	28656	28276	-1.3%	33402	33080	-1.0%	38988	39310	0.8%
Trade & Transportation	41006	40619	-0.9%	47941	46580	-2.8%	56210	54551	-3.0%
Utilities	3995	3764	-5.8%	4325	3582	-17.2%	4679	3279	-29.9%
Other Services	4923	4968	0.9%	5242	5366	2.4%	5620	5767	2.6%
Employment (thousands)									
Total Nonfarm	2829	2813	-0.5%	2946	2906	-1.3%	3088	3054	-1.1%
Manufacturing									
Manufacturing, Durables	200	198	-1.2%	198	188	-5.1%	196	181	-7.8%
Manufacturing, Nondurables	113	112	-0.7%	107	105	-1.6%	107	106	-0.9%
Non-Manufacturing									
Government	444	446	0.3%	460	463	0.5%	478	484	1.2%
Construction, Natural Rsrcs, Mining	154	151	-2.0%	168	156	-6.7%	190	173	-8.8%
Educational & Health Svcs	378	378	-0.1%	388	386	-0.4%	402	403	0.2%
Financial Activities	174	173	-0.6%	180	179	-0.5%	185	185	0.0%
Information	64	64	0.2%	64	64	-0.2%	65	65	-0.5%
Leisure & Hospitality	287	286	-0.3%	311	308	-0.9%	338	337	-0.3%
Professional & Business Svcs	333	329	-1.3%	365	363	-0.6%	395	401	1.4%
Trade & Transportation	544	539	-0.9%	562	548	-2.4%	581	567	-2.4%
Utilities	12	12	-2.6%	12	11	-11.0%	13	10	-19.0%
Other Services	125	126	1.0%	130	133	2.8%	137	142	3.2%
Wages (2000\$)									
Avg. Hourly Earnings, Manufacturing	20.02	19.84	-0.9%	22.21	21.79	-1.9%	24.65	23.86	-3.2%
Income (Millions, 2000\$)									
Personal Income	191864	189684	-1.1%	218928	213887	-2.3%	246436	239871	-2.7%
Disp. Personal Income	169731	168008	-1.0%	191927	188219	-1.9%	216231	211386	-2.2%
Population (Thousands)	5948	5948		6117	6117		6305	6305	

Source: Global Insight, Inc.

Note: The Promoting Energy Supply Case is denoted by PES, Restricting Energy Supply Case is RES.

Scenario Descriptions

	Promoting Energy Supply Scenario	Restricting Energy Supply Scenario
Climate Change Policy Assumptions	No federal requirements for mandatory reduction in greenhouse gases (GHG)	McCain-Lieberman (S. 139) enacted for GHG emission reductions in 2010 and 2016
Mercury Policy Assumptions	15-ton cap by 2018, with a cap and trade program, no MACT	Emissions reduced by 90% by 2010-2012 through MACT standards, without regard to coal type, no cap and trade and assuming limited technology advancement by 2012
SO₂, NO_x Assumptions	CAIR and all ongoing regulatory programs, including required future phases	CAIR and all ongoing regulatory programs, including required future phases
Natural Gas Supply Assumptions		
Offshore drilling	Restrictions/moratoria removed	No leasing of new areas
Federal Onshore	Federal changes to increase access (excluding Wilderness and Parks) reduce permitting costs and delays by 50% in first five years (as in 9/03 NPC study)	Highly restrictive federal impediments [to access]
Alaskan gas pipeline	Pipeline completed by 2018	No pipeline
Canadian gas	Imports ramp down to 1.0 tcf by 2015	Imports ramp down to zero by 2015
LNG	As many as 5-7 regasification terminals are built before 2015	No new LNG regasification terminals are built other than the facilities that are contracted and under construction.
Nuclear Power Assumption	4 new gigawatts on-line by 2015 (in addition to the rise in nuclear generation due to returning units, uprates of existing units, and increased utilization)	0 new gigawatts on-line by 2015 (but, does include the rise in nuclear generation due to returning units, uprates of existing units, and increased utilization)
Renewable Portfolio Standards Assumption	No new federal or state standards and a permanent extension of the Renewable Energy Production Tax Credits	No new federal or state standards and a permanent extension of the Renewable Energy Production Tax Credits