



Farm Energy IQ

Farms Today Securing Our Energy Future

Energy Buying Options in Deregulated Markets

Gary Musgrave, Penn State Extension





Farm Energy IQ

Energy Buying Options in Deregulated Markets

Introductions



Deregulation of Energy Markets

Topics for today's discussion:

- Deregulation of electricity supply
- Components of an electric bill
- Selecting an electricity supplier
- Deregulation of natural gas (NG) markets
- Components of a natural gas bill
- Selecting a natural gas supplier



Energy Buying Options in Deregulated Markets

Learning Objectives:

1. Understand how some of the electric market became deregulated
2. Understand which part of the electric market is deregulated and what it means to you
3. Understand how some of the natural gas (NG) markets became deregulated
4. Understand which part of the NG market is deregulated and what it means to you



Energy Buying Options in Deregulated Electric Markets

To help understand current electricity and natural gas markets, let's take a quick peek into the past

- Electric companies began with an electric generator in a building in town and ran wires to whomever wanted electricity
- They operated the generator, bought the fuel, and ran the wires, thereby providing “bundled” electric service to customers



Energy Buying Options in Deregulated Electric Markets

- This historical approach is sometimes referred to as “vertically integrated”
- The electric company generated the electricity, transmitted to the region where it would be used, delivered it to the end user, read the meter, and sent a bill
- The entire process was regulated by a state Utility Commission under state law



Energy Buying Options in Deregulated Electric Markets

- PA Electricity Generation Choice and Competition Act of 1996
- Also known as Electric Deregulation
- The electric distribution company (EDC) no longer owns generation
- The EDC purchases electricity from suppliers and passes that cost to the end user



Deregulated Electric Market

Legislative goals of deregulation

- Lower prices relative to regulated markets
- Create a competitive market with real choices of suppliers (generators)
- Encourage the availability of new products and services



Deregulated Electric Market

The greatest benefits of electric choice:

- Costs of power plant construction, refueling delays, environmental upgrade, and operating inefficiencies are off the backs of captive utility customers
- If a power plant doesn't operate efficiently, its owners cannot bid successfully into the wholesale electricity market, and the corporation doesn't get paid



Components of an Electric Bill

- *Transmission service* – Electric transmission usually occurs above 100,000 volts. It provides for the movement of electricity from the electric generation station (source) to the region where the electricity is used
- *Distribution service* – Reduces voltage to about 12,000 volts and delivers (distributes) the electricity to your neighborhood where the voltage is further reduced for use



Components of an Electric Bill

- *Generation service* refers to the production of electricity. Generation service is the ONLY part of your overall electric service that is no longer regulated.
- EDCs purchase generation service at auction which is expected to lower average prices
- With deregulation, you can buy generation service from a supplier of your choice (e.g., papowerswitch.com)



Electric Supplier Choice

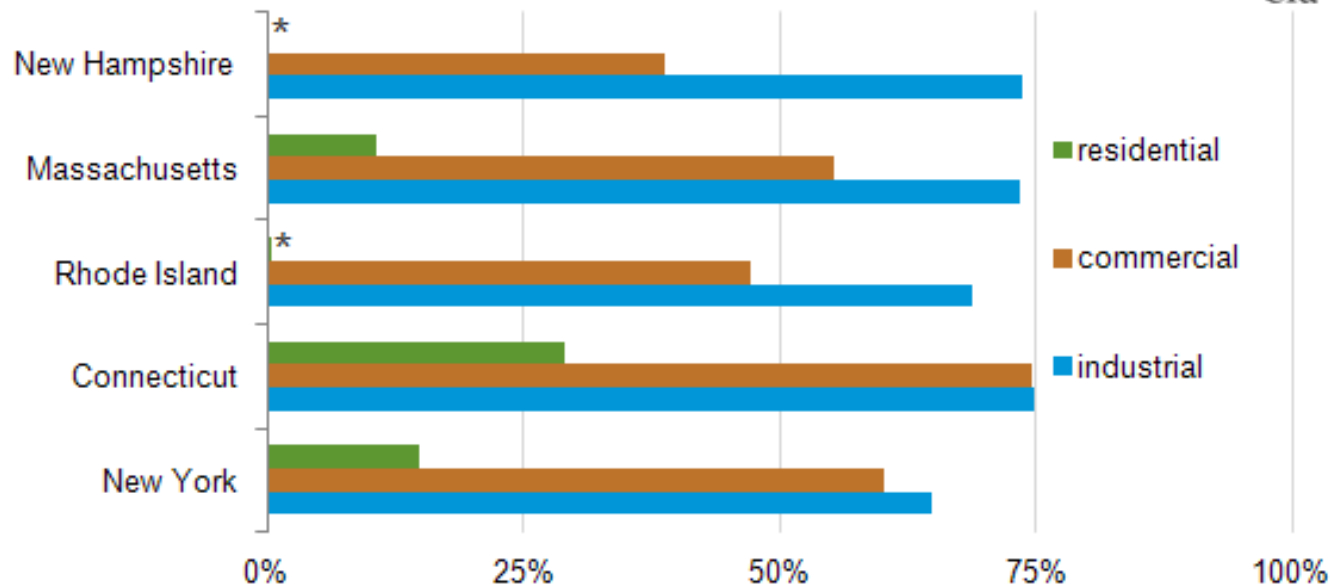
Northeastern

Mid-Atlantic

Midwestern

Western

Percentage of retail sales by competitive retail suppliers by customer class, 2010



Source: U.S. Energy Information Administration.

Note: *Denotes less than 1% of sales in a customer class.

[Download CSV Data](#)

Northeastern States: In five states in the Northeast, 65% to 75% of industrial customers buy directly from competitive suppliers. Except in Connecticut, the participation rate for the commercial sector is significantly lower than the industrial sector. Connecticut has the highest residential sector participation rate outside of Texas at 29%. Connecticut's [Energy Information Center](#) provides easy-to-use price comparisons for utility and competitive supplier service.

Maine is not included even though it is a retail choice state because reporting issues prevent calculation of these percentages. Vermont does not have retail choice.

Electric Supplier Choice

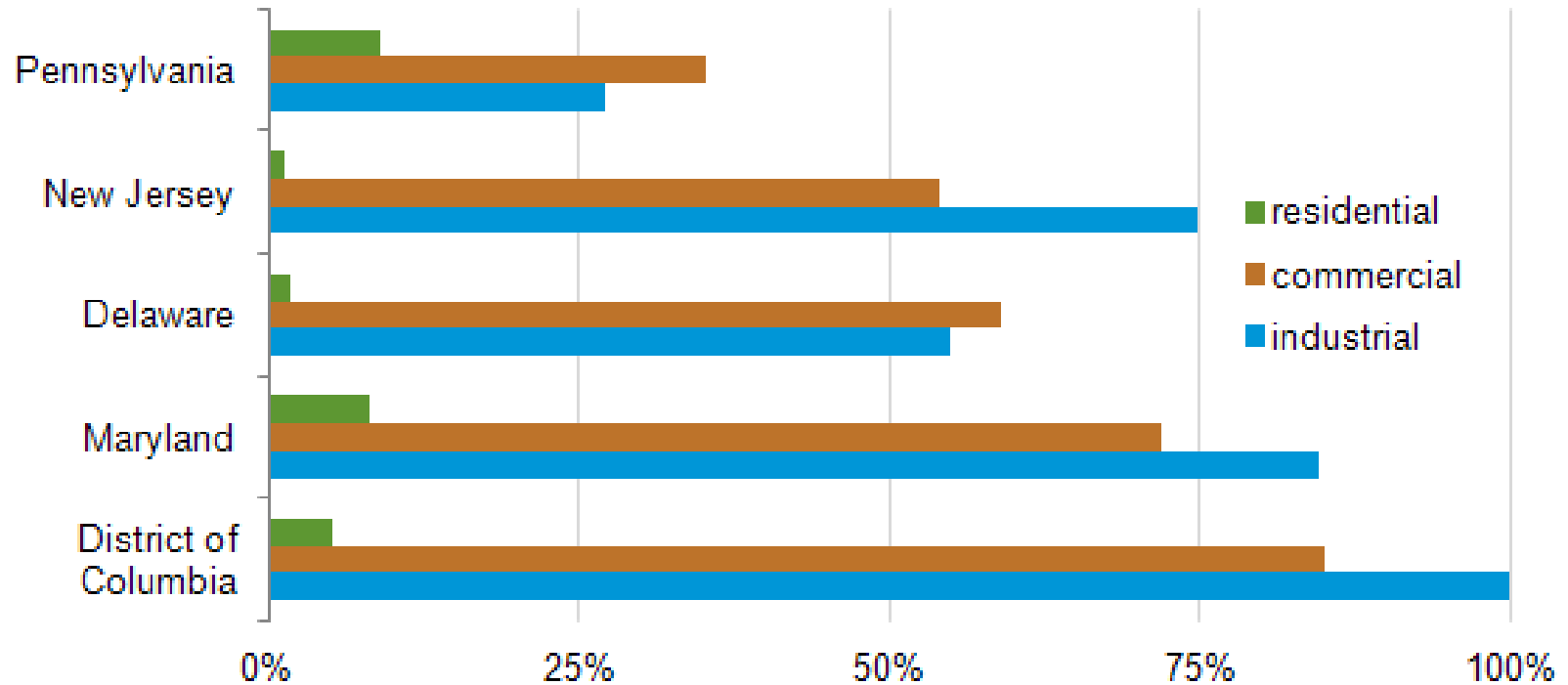
Northeastern

Mid-Atlantic

Midwestern

Western

Percentage of retail sales by competitive retail suppliers by customer class, 2010



Source: U.S. Energy Information Administration.

[Download CSV Data](#)

Mid-Atlantic States: The District of Columbia's only industrial customer participates in a retail choice program. Maryland has the third-highest share (84%) of electric provided by competitive retail suppliers among Mid-Atlantic states. The industrial and commercial sector competitive supply participation rates in Delaware and New Jersey are above 50%.

Electric Supplier Choice

- For Pennsylvania service locations, a list of approved suppliers may be found at:
<http://www.papowerswitch.com/shop-for-electricity/>
- My query for small business alternate suppliers for Zip Code 15601 returned 12 results. The beginning of the list looks like this:



Electric Supplier Choice



[Find an Electric Supplier »](#)

[How to Shop for Electricity »](#)

[Understanding Fixed & Variable Rates »](#)

[Questions to Ask Suppliers »](#)

[The Switching Process »](#)

[Clean Energy Suppliers »](#)

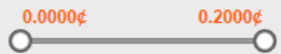
Narrow Your Choices

Showing **12** Results

Price:

Fixed Variable Term

Unit Price:



Term Length

Choose Term Length ▼

Term End Date

Introductory Price

Terms & Conditions:

Cancellation Fee

Shop for Your Home

Shop for Your Small Business

Shop for Your Large Business

Monthly Usage:

Sort By:

[Search Again »](#)

[Print Results](#)

Current Price

Future Price

West Penn Power

\$0.0575
Per kWh

\$69.00 [?]
Estimated Per Month

Rate Schedule: GS-20 General Service Schedule 20

American Power & Gas of Pennsylvania LLC

888-823-9778

\$0.1099
per kWh

\$131.88 [?]
Estimated Per Month

Price Structure: Variable

Cancellation Fee: No

Discount Available: No

Term Length: No

Introductory Price: Yes

Monthly Fee: No

Renewable Energy: 100% Regional

Term End Date: No

American Power & Gas of Pennsylvania LLC

888-823-9778

\$0.0799
per kWh

\$95.88 [?]
Estimated Per Month

Price Structure: Variable

Cancellation Fee: No

Electric Supplier Choice

- The list of approved suppliers provides addresses and contact information
- Suppliers have been approved by the Public Utility Commission
- One supplier had a lower price than the EDC's default service (\$65.51 vs. \$69.00)
- The comparison assumes 1,200 kWh per month but you can change it to match your usage



Electric Supplier Choice

A cautionary note about changing suppliers:

- When choosing a supplier, one of the most important decisions is whether to go with a fixed- or variable-rate contract
- You will want to find out if the supplier offers fixed or variable rate contracts, and understand the advantages and disadvantages of each



Electric Supplier Choice

NOTE: Unusually hot or cold weather may increase the use of your heating or cooling equipment which, in turn, will translate into higher energy bills no matter whether you are on a fixed or variable rate



Electric Supplier Choice—Fixed Price

- All-inclusive, per kWh price that remains the same for at least three billing cycles or the term of the contract, whichever is longer
- Gives you certainty that electricity price will not change during the term of the contract
- If market prices fall you may have to wait until your contract expires to get a lower price
- Unless you act prior to the contract expiration date, your rate may change to a monthly variable rate
- Read your contract's terms and conditions to find out what happens after your term expires



Electric Supplier Choice—Variable Price

- All-inclusive per kWh price that can change, by the hour, day, month, etc., according to the terms and conditions in the supplier's disclosure statement
- If you select a variable rate contract, the rate may change with market conditions. So if market prices increase, your rate may increase. If market prices drop, your rate may decrease
- Variable electric rates are often based on the wholesale electric market. Rates increase as the wholesale electric load increases and decrease as the wholesale load decreases.



Electric – For Your Home



Home Switching Power **Shop For Electricity** Fixed & Variable Help Paying Your Bill Ways to Save Energy FAQs

[Find an Electric Supplier »](#)

[How to Shop for Electricity »](#)

[Understanding Fixed & Variable Rates »](#)

[Questions to Ask Suppliers »](#)

[The Switching Process »](#)

[Clean Energy Suppliers »](#)

THINGS TO CONSIDER

When Choosing a Fixed or Variable Rate

[Learn More ▶](#)

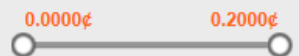
Narrow Your Choices

Showing **46** Results

Price:

Fixed Variable Term

Unit Price:



Term Length

Shop for Your Home

Shop for Your Small Business

Shop for Your Large Business

Monthly Usage:

Sort By:

[Search Again »](#)

[Print Results](#) 

Current Price

Future Price

West Penn Power

1-800-686-0021

\$0.0747
Per kWh

\$52.29 
Estimated Per Month

Rate Schedule: RS - Regular Residential Service

AEP Energy

1-877-726-0218

\$0.0839
per kWh

\$58.73 
Estimated Per Month

Price Structure: Fixed

Cancellation Fee: No

Discount Available: No

Term Length: 12 months

Introductory Price: No

Monthly Fee: No

[View Offers »](#)

Renewable Energy: 100%

Term End Date: No

[Additional Information »](#)

AEP Energy

1-877-726-0218

\$0.0809
per kWh

\$56.63 
Estimated Per Month

Electric - For Your Business

Narrow Your Choices

Showing **18** Results

Price:

Fixed Variable Term

Unit Price:

0.0000¢ 0.2000¢

Term Length

Choose Term Length ▾

Term End Date

Introductory Price

Terms & Conditions:

No Cancellation Fee

Special Programs:

Net Metering

Renewable Energy

Print Results 🖨️

Export offer to CSV (Excel) 📄

American Power & Gas of Pennsylvania LLC 888-823-9778	\$0.0940 per kWh	\$112.80 ⓘ Estimated Per Month
Price Structure: Variable	Cancellation Fee: No	
Discount Available: No	Term Length: No	
Introductory Price: Yes	Monthly Fee: No	
Renewable Energy: 100% Regional	Term End Date: No	
American Power & Gas of Pennsylvania LLC 888-823-9778	\$0.0640 per kWh	\$76.80 ⓘ Estimated Per Month
Price Structure: Variable	Cancellation Fee: No	
Discount Available: No	Term Length: No	
Introductory Price: Yes	Monthly Fee: No	
Renewable Energy: No	Term End Date: No	Additional Information »
Bounce Energy 1-877-414-3719	\$0.0740 per kWh	\$88.80 ⓘ Estimated Per Month
Price Structure: Fixed	Cancellation Fee: Yes	
Discount Available: No	Term Length: 12 months	
Introductory Price: No	Monthly Fee: No	
Renewable Energy: No	Term End Date: No	Additional Information »
Champion Energy Services LLC 1-877-404-0842	\$0.07569 per kWh	\$90.83 ⓘ Estimated Per Month
Price Structure: Fixed	Cancellation Fee: Yes	

Orange banner
Variable Price

Green banner
Fixed Price

Electric Supplier Choice

As a cautionary note, here is a newspaper excerpt regarding the PA Attorney General's probe into a winter spike in electric bills:

“Many of the complaints center around consumers who recently switched to variable-rate plans that fluctuate from month to month based on wholesale electricity prices...Electricity prices spiked as the regional power grid saw record winter demand from people turning up the heat and staying indoors during extreme cold that hit the area during the past seven weeks. Variable-rate plans jumped as high as 38 cents per kilowatt hour compared with 8 cents for people who stuck with their default utility company, according to the Office of Consumer Advocate.”

Energy Buying Options in Deregulated Natural Gas Markets

To help understand current natural gas markets, let's take a quick peek into the past:

- Gas companies started out drilling for gas then looking for customers who wanted gas service
- They ran the pipes to whomever wanted natural gas service, metered the gas, and sent a bill
- Companies produced the gas and delivered it, thereby providing “bundled” gas service to the end use customer
- Bundled service includes supply, transmission, and distribution



Energy Buying Options in Deregulated Natural Gas Markets

- This approach is sometimes referred to as “vertically integrated,” just like the electricity market
- The gas company produced the gas, (and in later years) transmitted it to the region where it would be used. Then they delivered it to the end user, read the meter, and sent a bill.
- The entire process was regulated by a state Utility Commission under state law
- Then...



Natural Gas Supplier Choice

- On June 22, 1999, the Natural Gas Choice and Competition Act was signed into law in PA. Now, all Pennsylvanians, even residential and small commercial customers, can choose who supplies their natural gas. See slide 29 below for deregulation by state.
- Choice can be based on price, services, and incentives. Competitive offers from natural gas suppliers do not exist in all areas of Pennsylvania.
- Again, the goal of deregulation was to treat the supply of gas as a commodity, thus encouraging price competition
- This should begin to sound familiar



Natural Gas Supplier Choice

- Not all states or all regions within each state have deregulated NG supply. See slide 29 for a summary of deregulation locations.
- For Pennsylvania service locations, a list of approved suppliers may be found at http://www.puc.pa.gov/consumer_info/natural_gas/natural_gas_shopping/natural_gas_suppliers_list.aspx
- My query for alternate suppliers for zip code 15601 returned 3 results. The list looks like:



Natural Gas Supplier Choice

Peoples Natural Gas

1-800-764-0111

<http://www.peoples-gas.com/>

Price to Compare: \$4.82 per Mcf

Valid till: 6/30/2014

Monthly Usage: Mcf

<u>Supplier</u> ▼	<u>Price Plan</u>	<u>Contract Length</u>	<u>Cancellation Fee</u>	<u>Price per Mcf</u>	<u>Monthly Estimate</u>
Agway Energy Services 1-888-98AGWAY www.agwayenergy.com More info	Variable price	1 year	No	\$3.99	\$39.90
Ambit Energy 1-877-282-6248 www.ambitenergy.com	Variable price	Guaranteed Savings Plan	No	\$5.01	\$50.135
Dominion Energy Solutions 1-800-779-0538 www.DominionEnergy.com More info	Fixed price		No	\$4.89	\$48.90

Natural Gas Supplier Choice

Status of Natural Gas Residential Choice Programs by State (December 2009)

Residential Natural Gas Restructuring Status	States
Statewide unbundling - 100 percent eligibility: Active	DC, NJ, NY, PA
Statewide unbundling - 100 percent eligibility: Inactive/Limited programs	CA, MA, NM, WV
Statewide unbundling - implementation phase: > 50 percent eligibility	GA, IL, MD, MI, OH, VA
Pilot programs/partial unbundling	CO, FL, IN, KY, MT, NE, SD, WY
No unbundling	AK, AL, AR, AZ, CT, HI, IA, ID, KS, LA, ME, MN, MO, MS, NC, ND, NH, NV, OK, OR, RI, SC, TN, TX, UT, VT, WA
Pilot program discontinued	DE, WI

Natural Gas Supplier Choice

- The list of approved suppliers provides addresses and contact information
- These suppliers have been approved by the Public Utility Commission
- One supplier on the list had a price lower than the GDC charges for default service, \$39.90 vs. \$48.20
- The comparison assumes 10 MCF (10,000 cu. ft.) per month. You can change the online calculator to reflect your usage.



Natural Gas Supplier Choice

A cautionary note about changing gas suppliers

- When choosing a supplier, one of the most important decisions is whether to go with a fixed- or variable-rate product
- Find out if the supplier offers fixed or variable rates, and understand the advantages and disadvantages of each

NOTE: Unusually warm or cold weather may increase heating and cooling usage which, in turn, will translate into higher energy bills regardless of the rate you have chosen



Natural Gas Supplier Choice—Fixed Price

- An all-inclusive per CCF/MCF/therm price that remains the same for at least three billing cycles or the term of the contract, whichever is longer
- A fixed price gives certainty that your price will not change during the term of the agreement
- If market prices fall, however, you may have to wait until your contract expires to get a lower price
- Unless you act prior to the expiration date in your contract, your rate may change to a monthly variable rate
- Read your contract's disclosure statement for the terms and conditions to find out what happens when your term expires



Natural Gas Supplier Choice—Variable Rate

- An all-inclusive per CCF/MCF/therm price that can change, by the hour, day, month, etc., according to the terms and conditions in the supplier's disclosure statement
- If you select a variable rate, the rate may change with market conditions. So if market prices increase, your rate may increase. If market prices drop, your rate may decrease



Strategies to Reduce Your Bill

- Gather your electric and gas bills from the last year or so in order to determine about how much of each you use annually
- Visit supplier web sites to see if better deals exist for your usage level and location
- Contact suppliers which advertise what appears to be a better deal
- That supplier will contact the distribution company on your behalf to get an official summary of your annual consumption



Strategies to Reduce Your Bill

- The supplier may make an offer to supply your electricity or gas
- If you are interested, you will likely have to sign a contract for six months to two years
- Make sure you understand all the terms of the suppliers' offer, including the term and whether it includes fixed or variable pricing
- Take time to do the research for your farm so you will know if using a different supplier is worth your while



Conclusion

- Now you are aware that both electricity and natural gas suppliers are deregulated
- After doing the analysis of your own energy usage, you will know how much of each energy source you use
- You can now compare offers from multiple suppliers of each energy source to determine potential savings



References

- PA Electricity Generation Choice and Competition Act of 1996:

http://www.puc.pa.gov/electric/pdf/PPT-PBJ_Presentation102810-Cawley.pdf

- Act 129 information:

http://www.puc.pa.gov/electric/pdf/PPT-Act129_Update012110-Cawley.pdf



References

Article addressing electric suppliers and variable rate scenarios (Tribune Review February 26, 2014)

<http://triblive.com/business/headlines/5667185-74/state-attorney-general#axzz2yTffBIj>

PA Natural gas suppliers list

http://www.puc.pa.gov/consumer_info/natural_gas/natural_gas_shopping/natural_gas_suppliers_list.aspx

PA Gas Switch cost comparisons

http://www.puc.pa.gov/consumer_info/natural_gas/natural_gas_shopping/gas_shopping_tool.aspx



Energy Buying Options in Deregulated Markets

Questions?