

# Marcellus Shale: How Geology Is Impacting the Economic Landscape



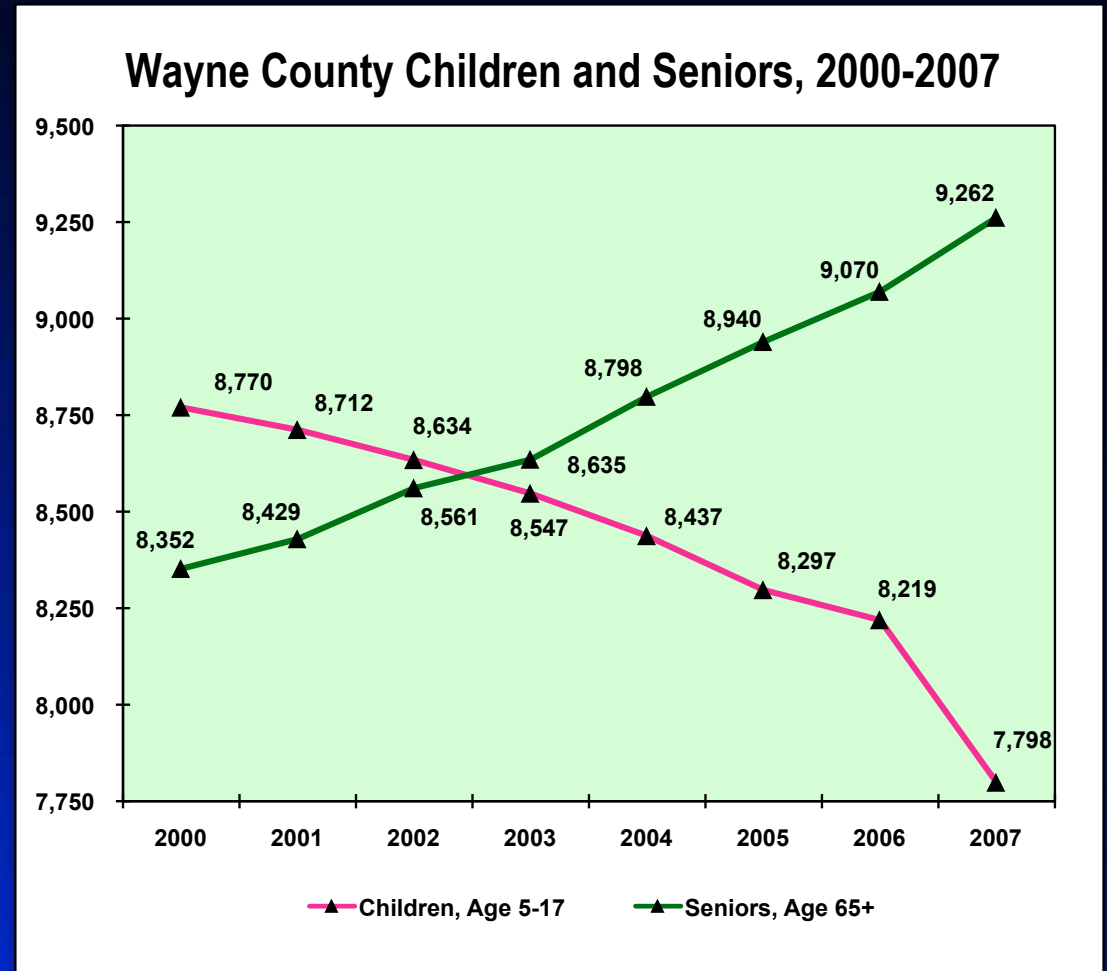
**Chester County Chamber of Commerce**  
**September 30, 2014**



[www.NaturalGasNOW.org](http://www.NaturalGasNOW.org)

# Future of Rural Northeast without Natural Gas:

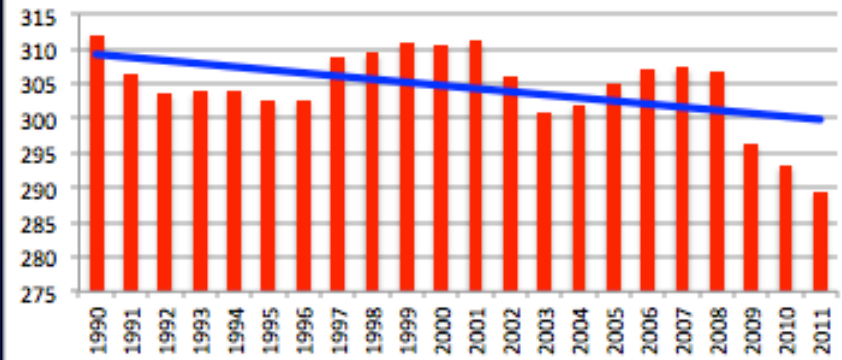
- Population losses
- Student enrollment declines
- Aging population
- Losing manufacturing jobs
- Government largest employer
- Tourism soft, poor paying
- Construction down to 1/3
- Agriculture still pre-1978



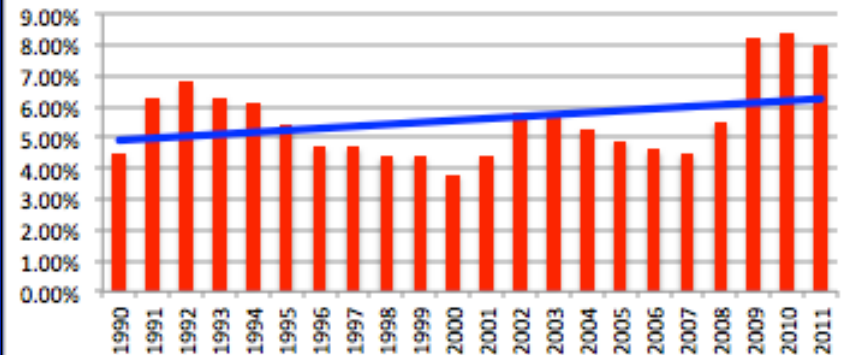
# Future of Rural Northeast Without Natural Gas:



**Southern Tier Annual Average  
Employment, 1990-2011**



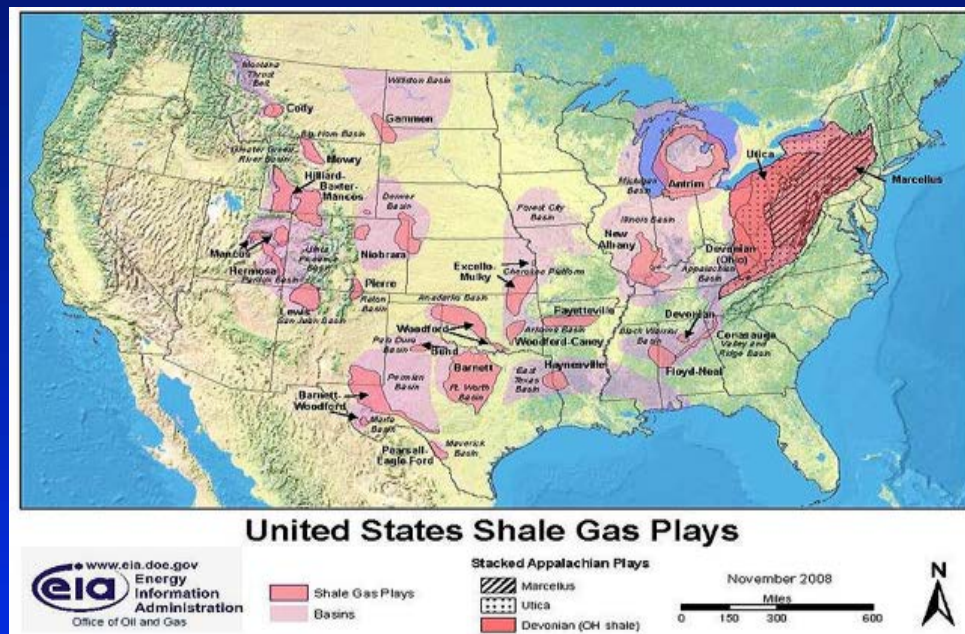
**Southern Tier November  
Unemployment Rate, 1990-2011**



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# Fortunately, Shale Gas Is Here & Here to Stay:

- Natural gas extraction has increased dramatically. In 2013, U.S. produced nearly 30.2 trillion cubic feet, up from 23.5 Tcf in 2006.
- The Marcellus Shale, world's 2nd largest natural gas field containing as much as 516 trillion cubic feet.
- Possible from the combination of horizontal drilling (1990's) and hydraulic fracturing (1947).

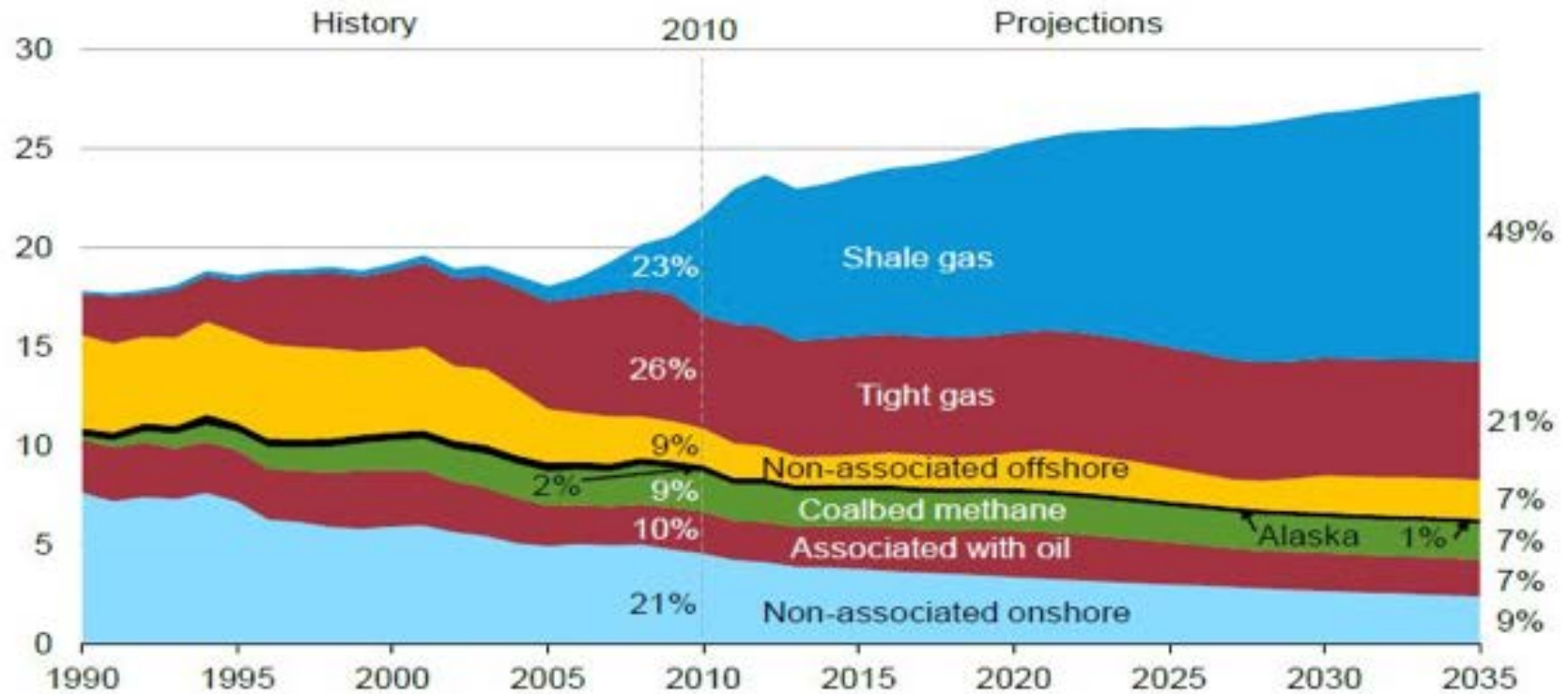


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# Natural Gas Here to Stay:

## Shale gas offsets declines in other U.S. natural gas production sources

U.S. dry gas production  
trillion cubic feet per year



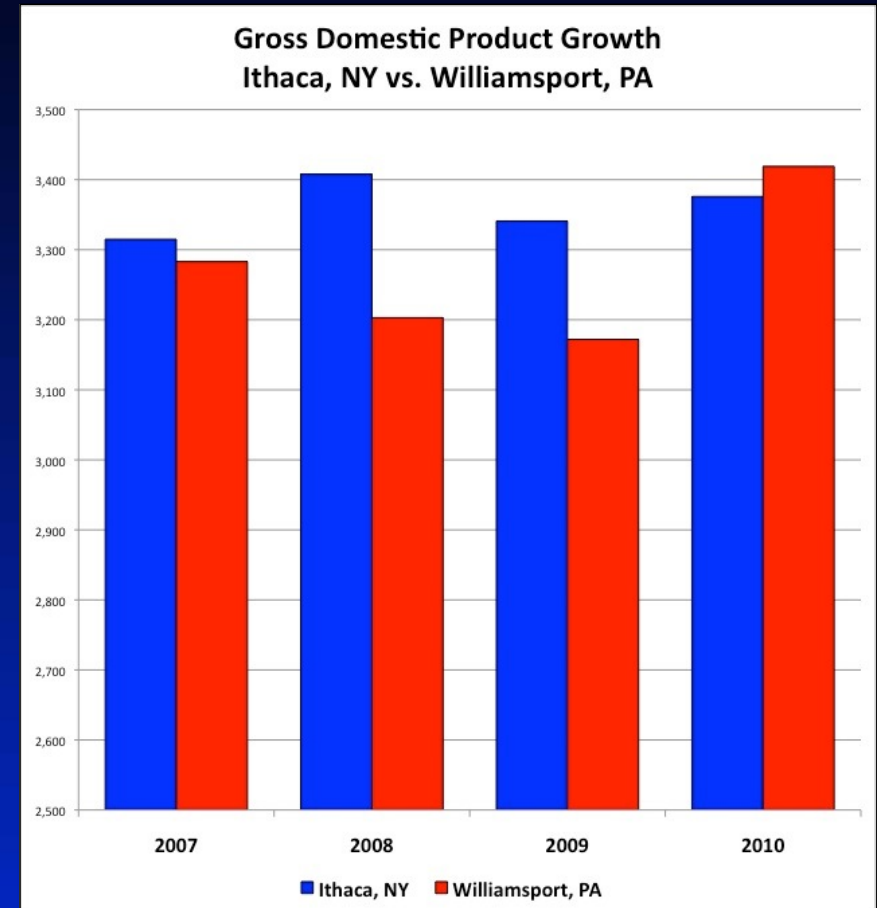
Source: EIA, Annual Energy Outlook 2012 Early Release



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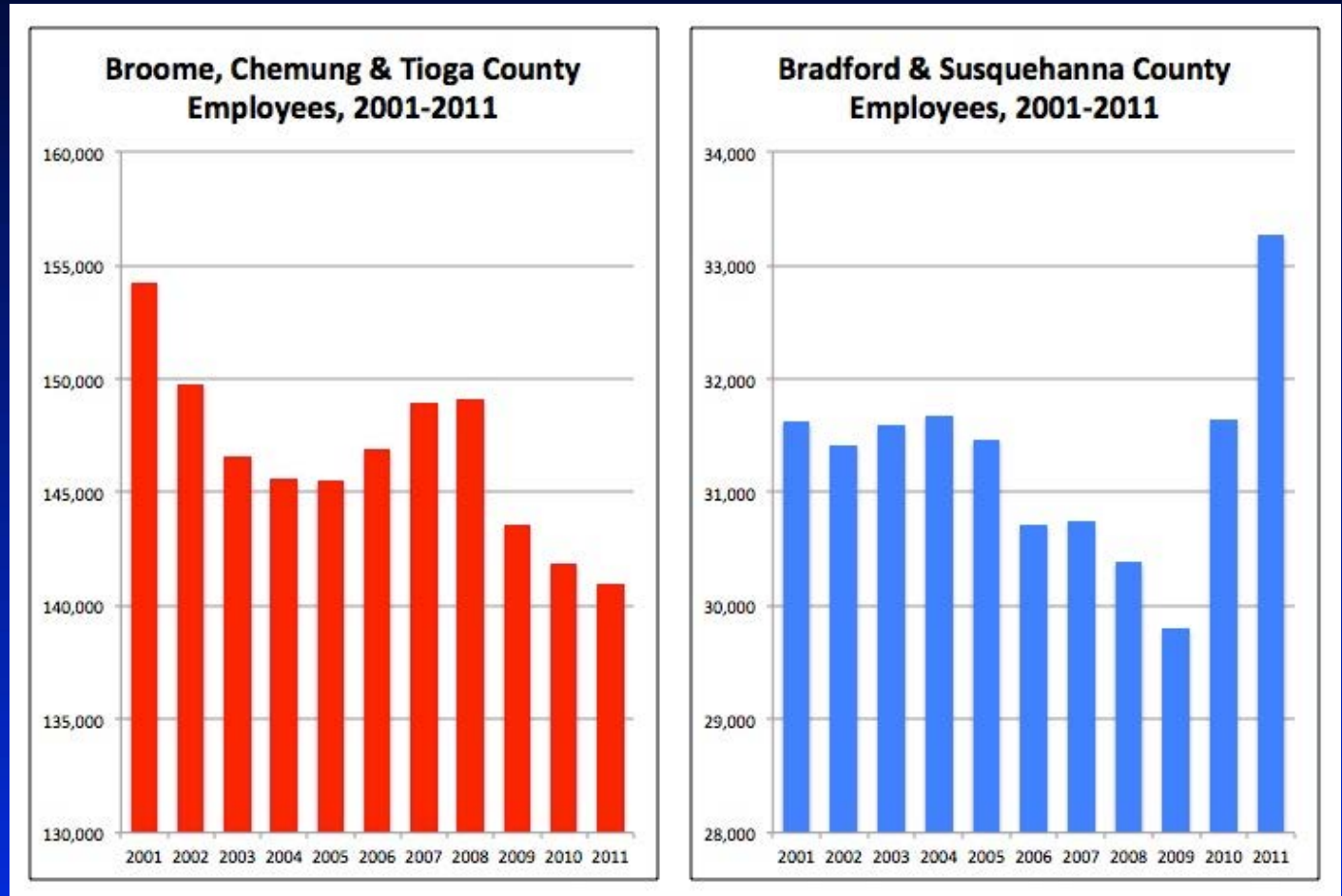
# Future of Rural Northeast *WITH* Natural Gas:

- Bradford has lowest unemployment
- Kids making \$150K/year welding
- Ithaca vs. Williamsport (7.8% vs. 1.0%)
- Marcellus Energy Park
- Land values of \$7K/acre vs. <\$2K in NY
- 1/3 of businesses saw sales increases
- Marcellus spending in PA now \$10B +
- 67,000 jobs PA / 3,600 Bradford/Susq.
- Much higher sales tax revenues
- Lower consumer costs



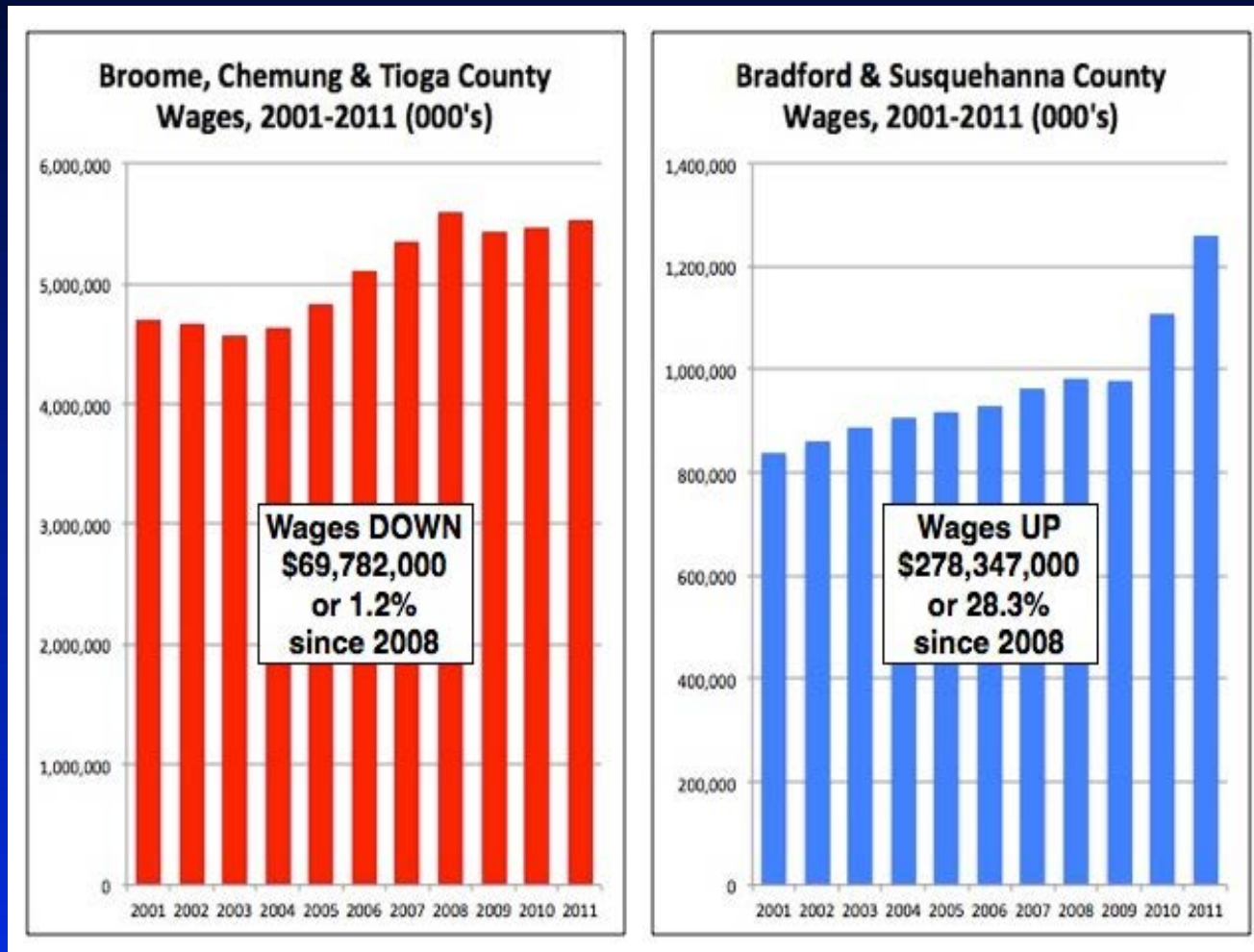
# Future of Rural Northeast *WITH* Natural Gas:

**New York counties lost 13,327 jobs for a 8.6% decline, while the two Pennsylvania counties gained 1,645 jobs for an increase of 5.2%.**



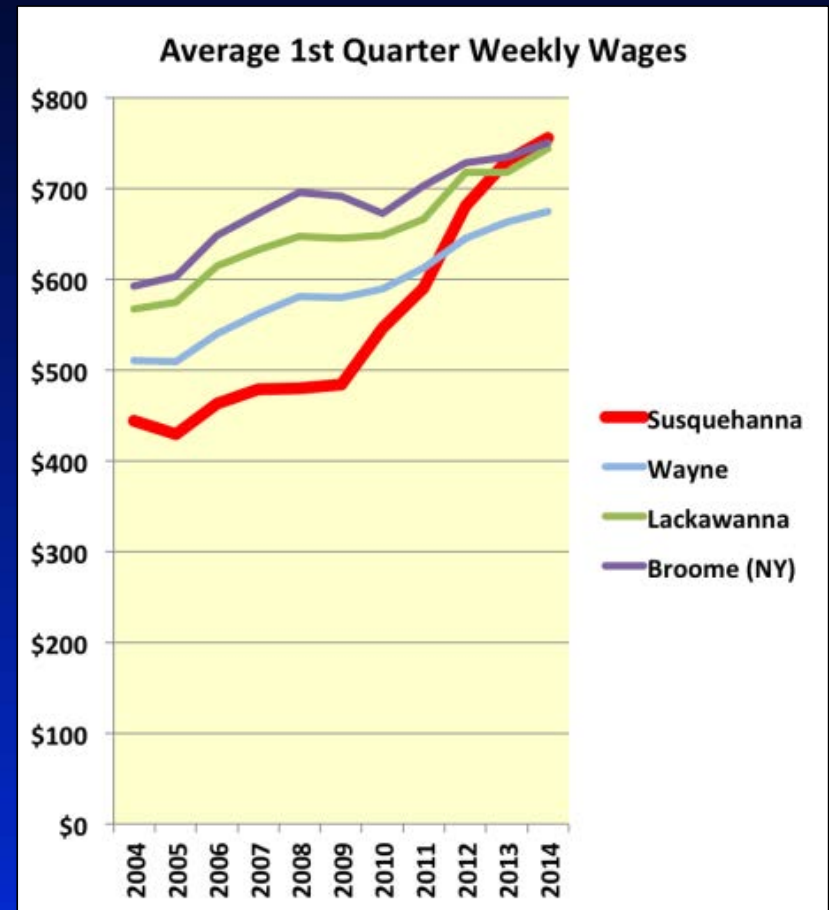
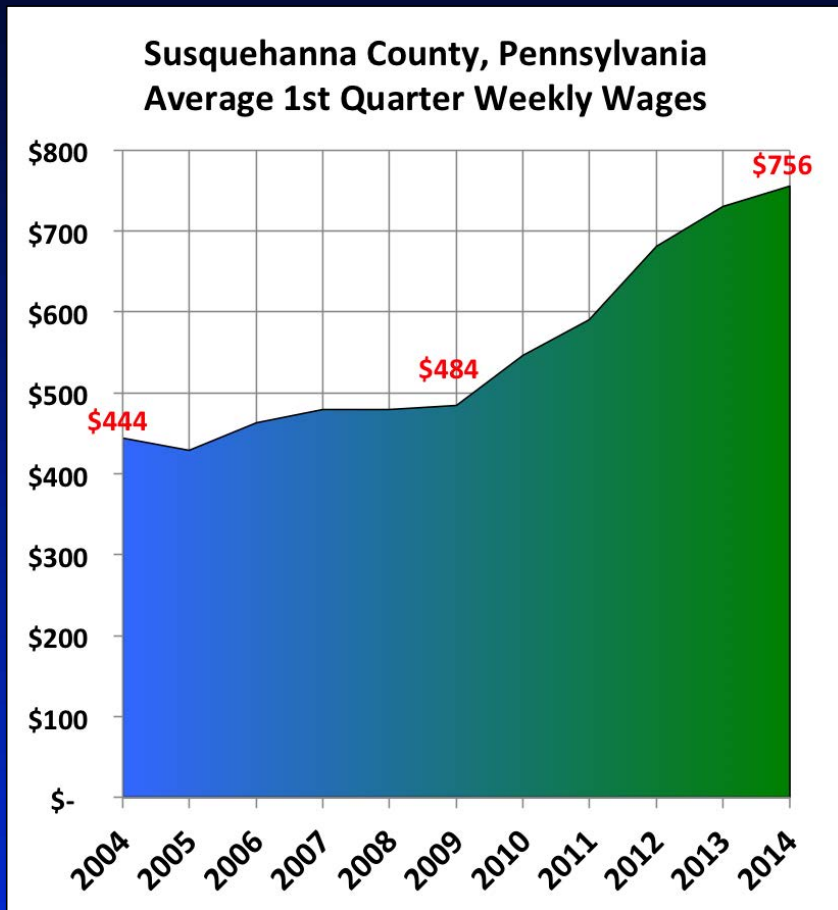
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# Future of Rural Northeast *WITH* Natural Gas:





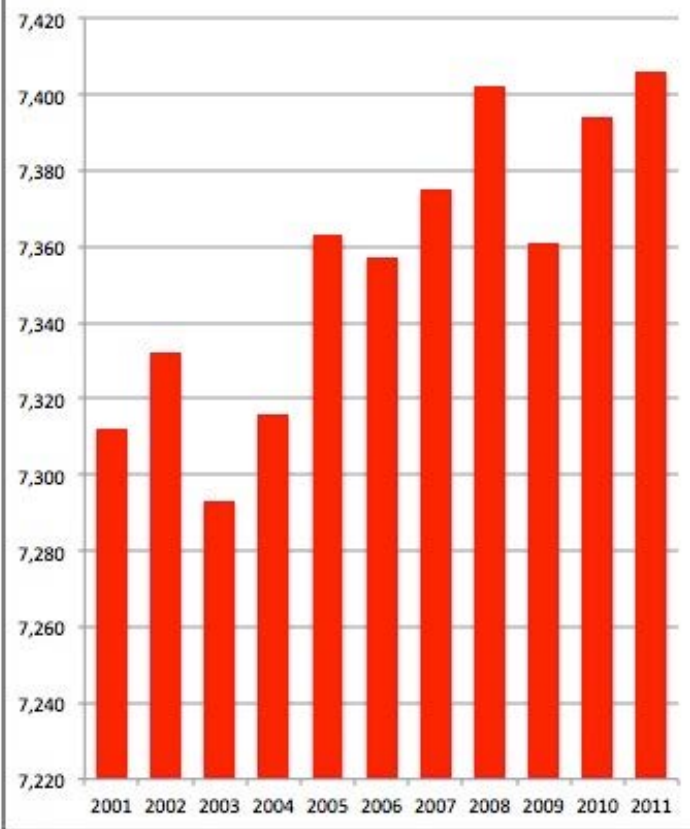
# Future of Rural Northeast *WITH* Natural Gas:



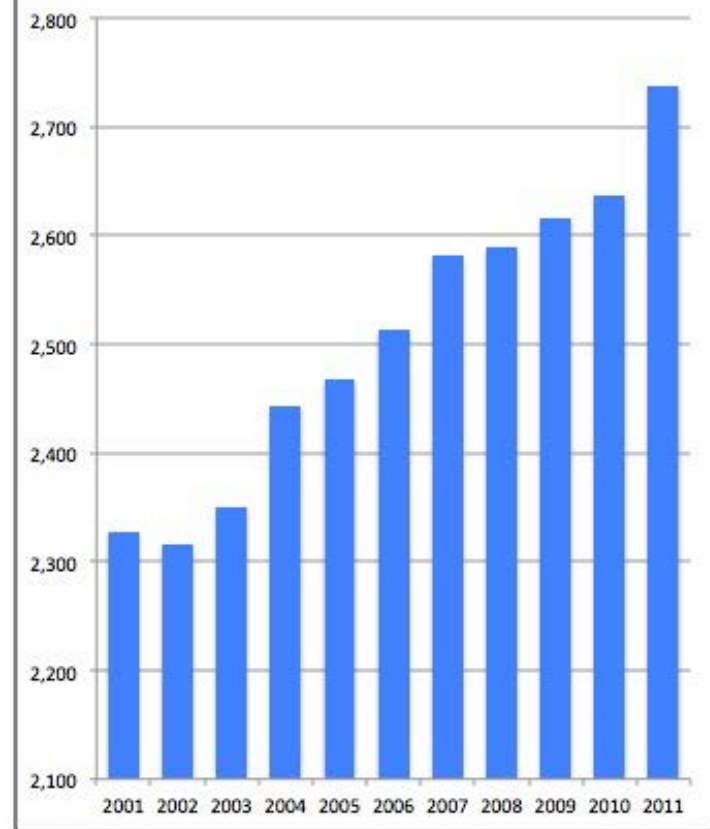
# Future of Rural Northeast *WITH* Natural Gas:

**PA counties added 410 business establishments since 2001 and 149 since 2008, while NY counties only gained 94 since 2001 and 4 since 2008.**

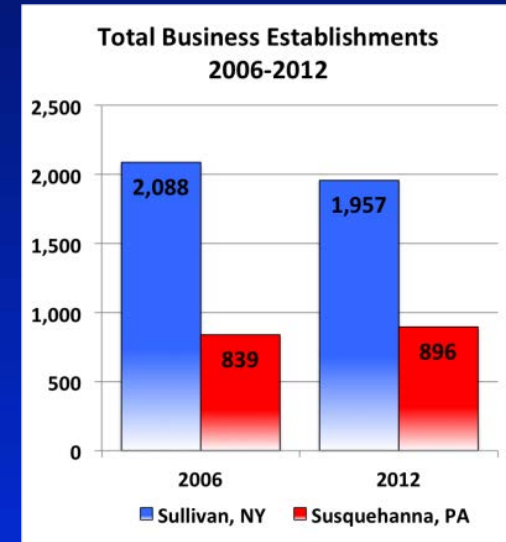
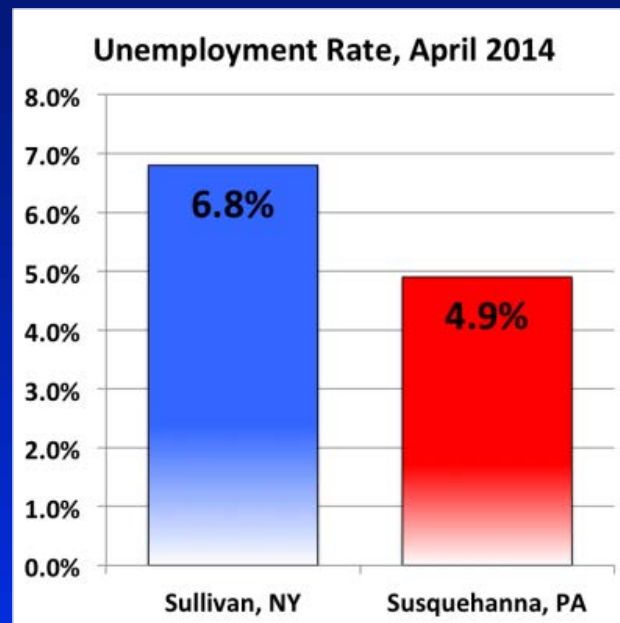
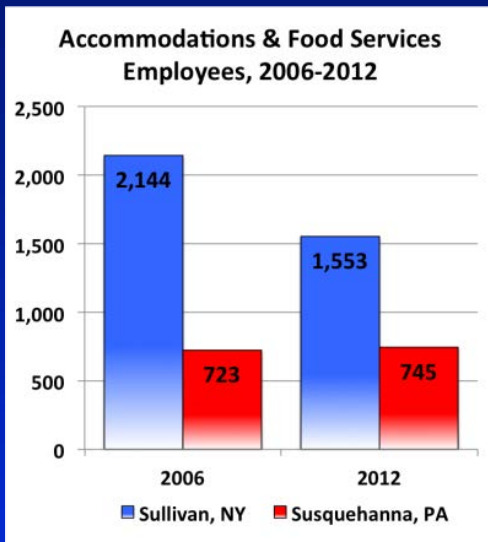
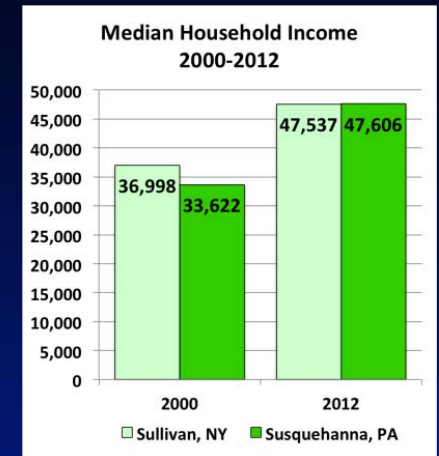
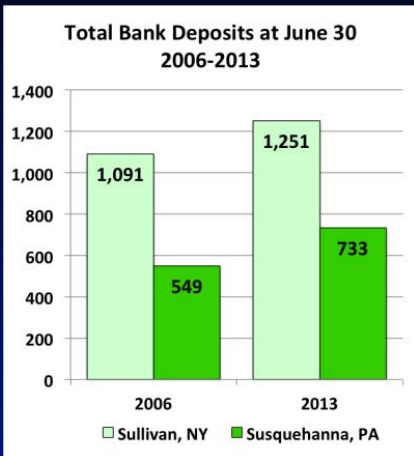
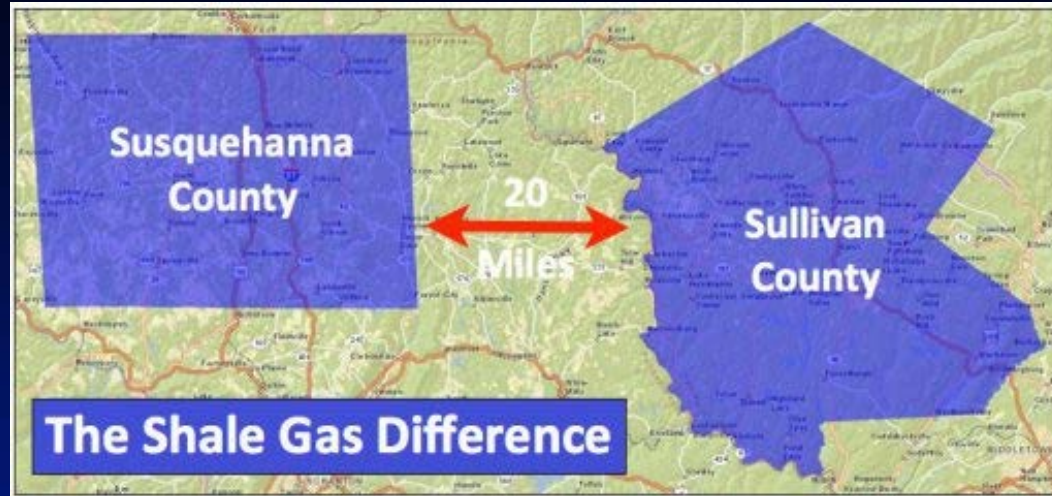
**Broome, Chemung & Tioga County Establishments, 2001-2011**



**Bradford & Susquehanna County Establishments, 2001-2011**

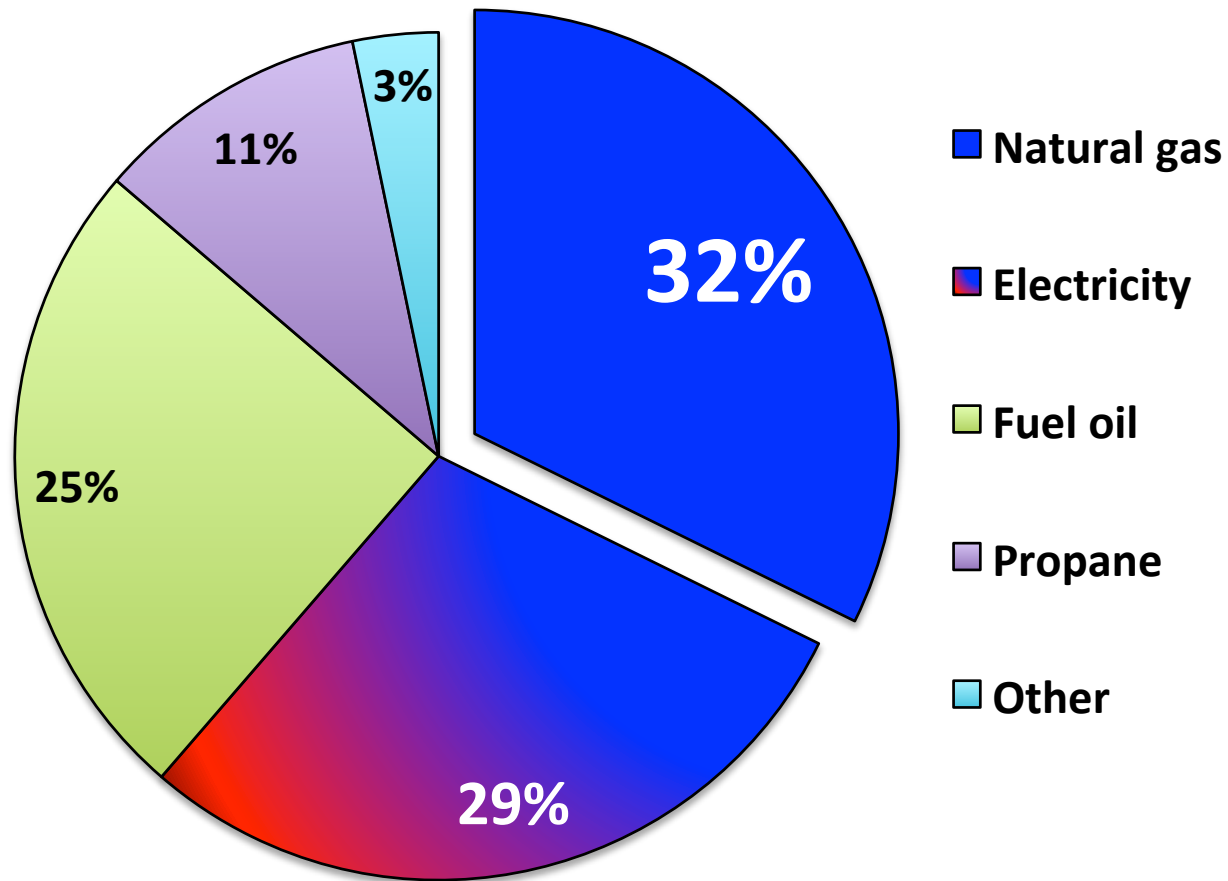


# Future of Rural Northeast *WITH* Natural Gas:



# Why Should Chester County Care?

Chester County Home Heating Fuels - 2013



[www.NaturalGasNOW.org](http://www.NaturalGasNOW.org)

# Why Should Chester County Care?

- Pipeline Construction Jobs
- Manufacturing Revival
- Consumer Savings



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# Why All This Is Important



*New home going up to replace old as viewed from  
Marcellus Shale well pad on homeowner's property,  
Dimock, Pennsylvania.*



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