

The challenge of energy policy in New England

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Mission of the New England Public Policy Center

To enhance access to high-quality analysis
on economic and public policy issues that
affect the region



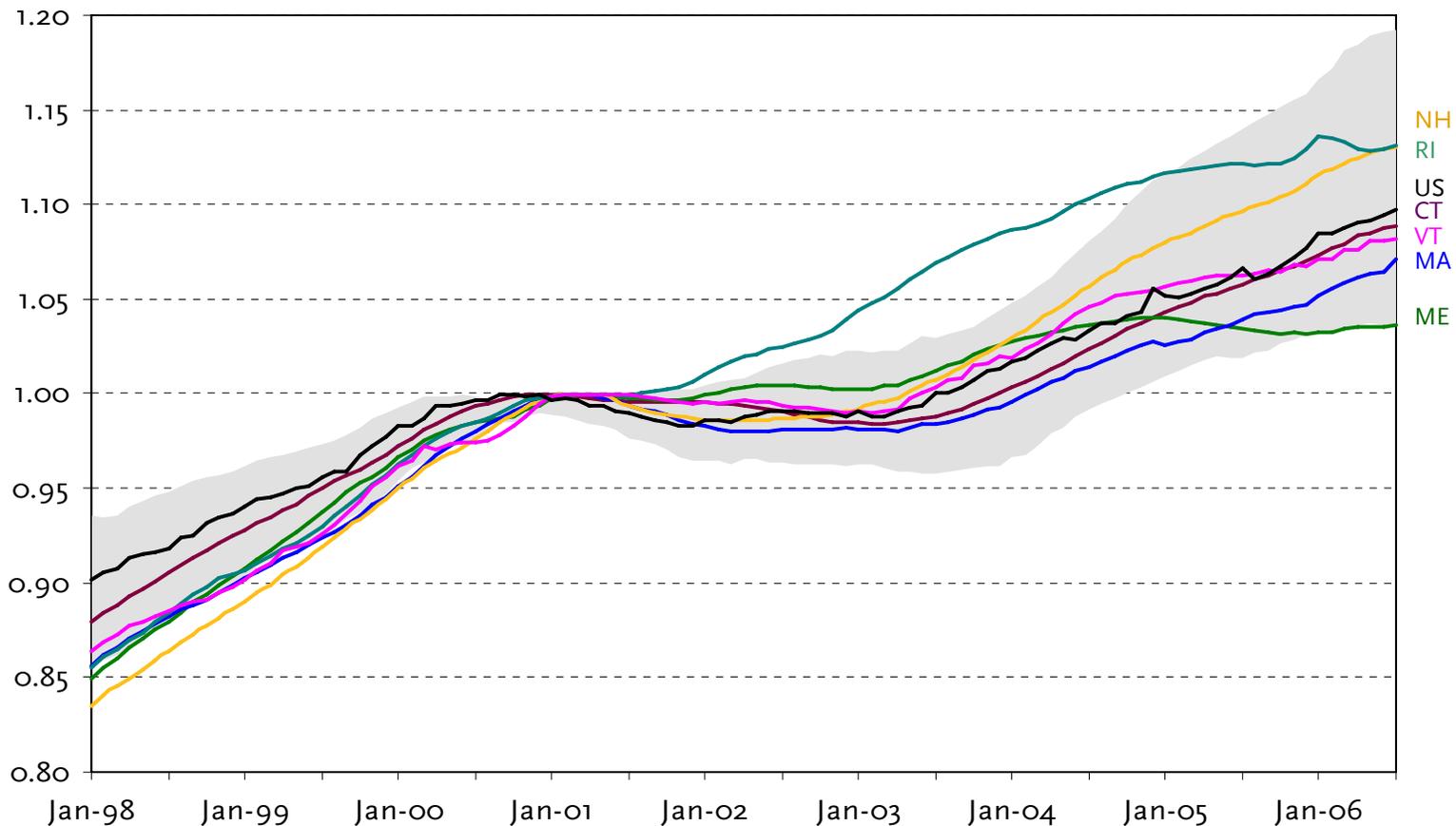
Energy in New England: key points

- Obtaining adequate, affordable energy has long been a challenge for the region
- Energy is a primary factor driving regional economic conditions
- Energy reliability is a major concern for the region's future

New England's energy history

- Colonial era: wood
- Industrial era: water and steam
- Modern era: electricity, natural gas, and petroleum

Economic activity in New England is growing, but more slowly than the nation's

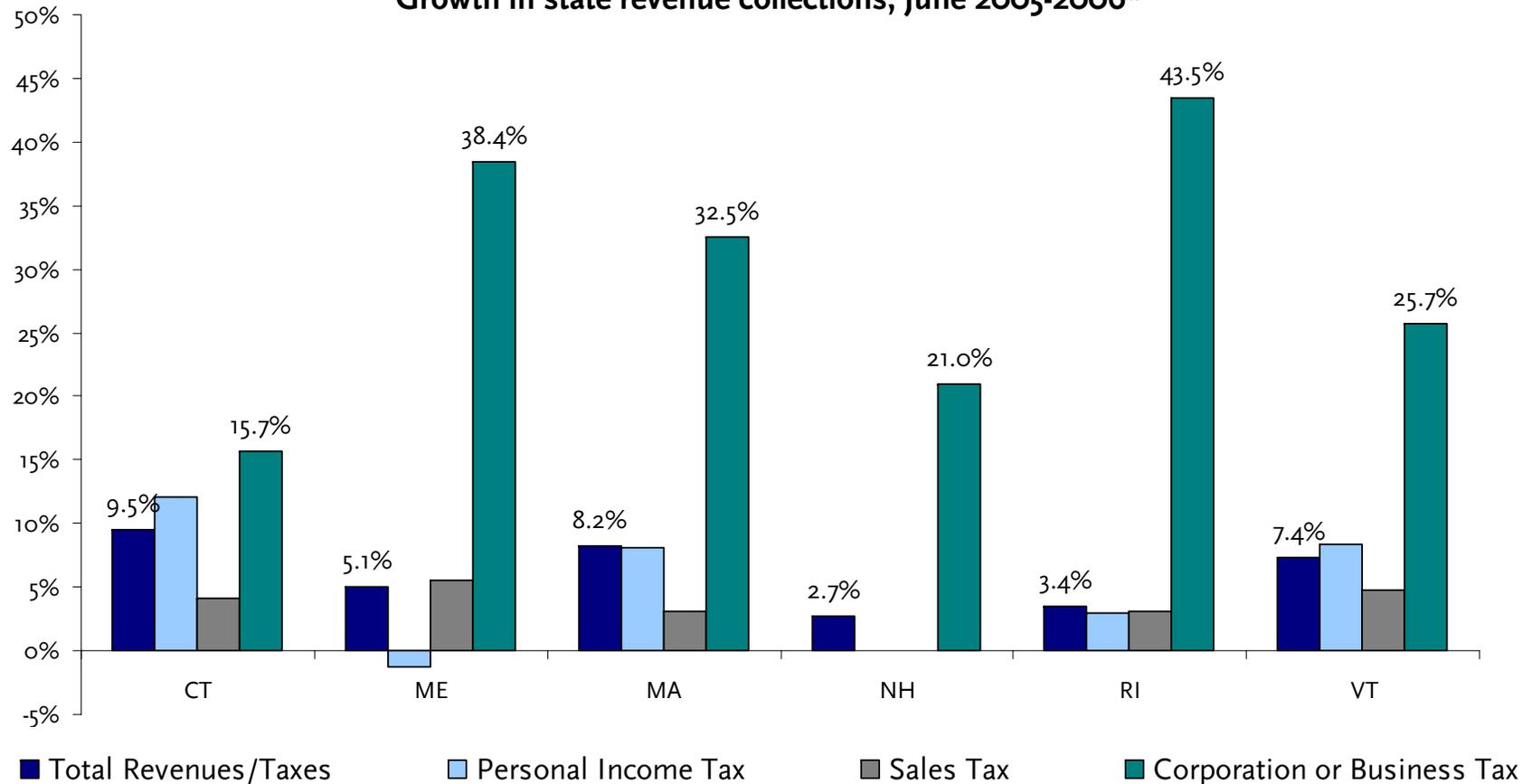


Source: Federal Reserve Bank of Philadelphia

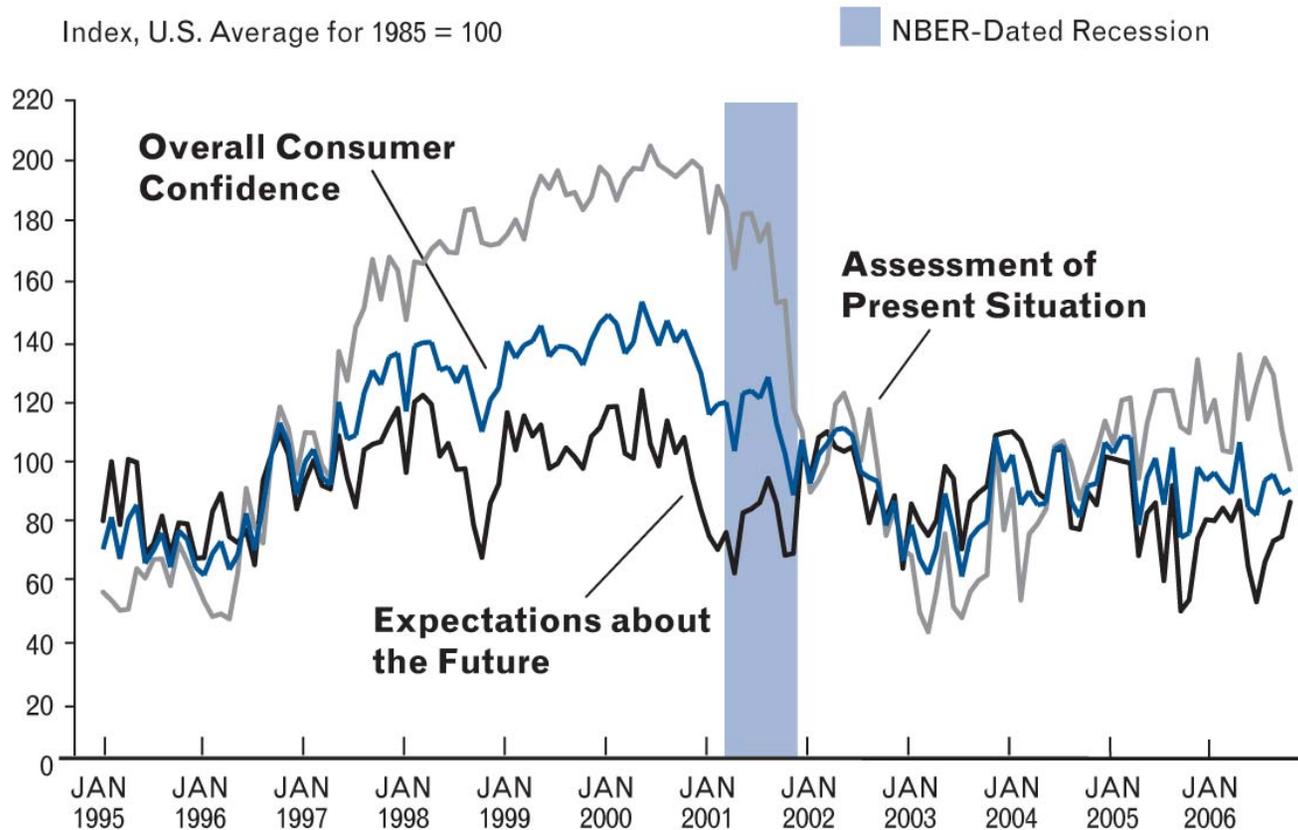
Shaded area represents 10th and 90th percentile boundaries for U.S. states in each month

Corporate profitability in New England has recently been strong

Growth in state revenue collections, June 2005-2006*



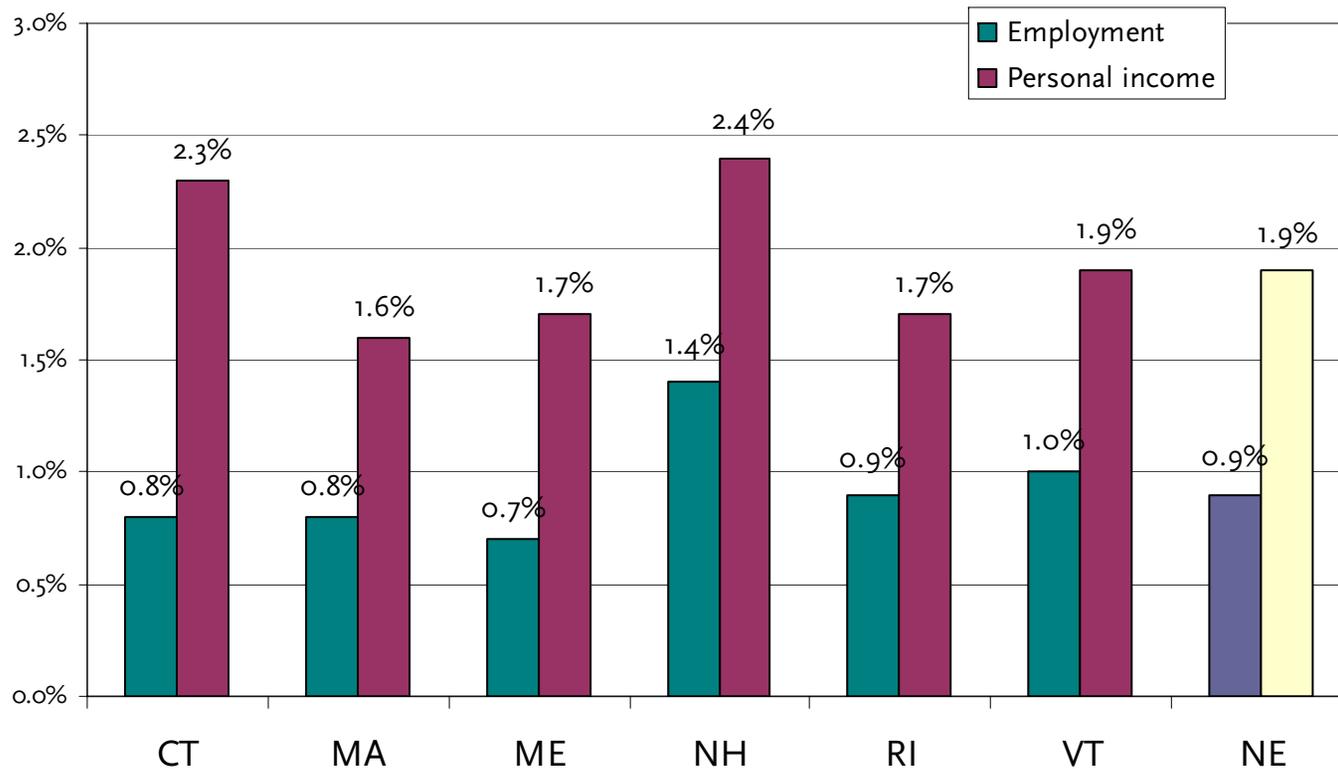
The region's consumer confidence is improving



Source: New England consumer confidence data,
New England Economic Indicators

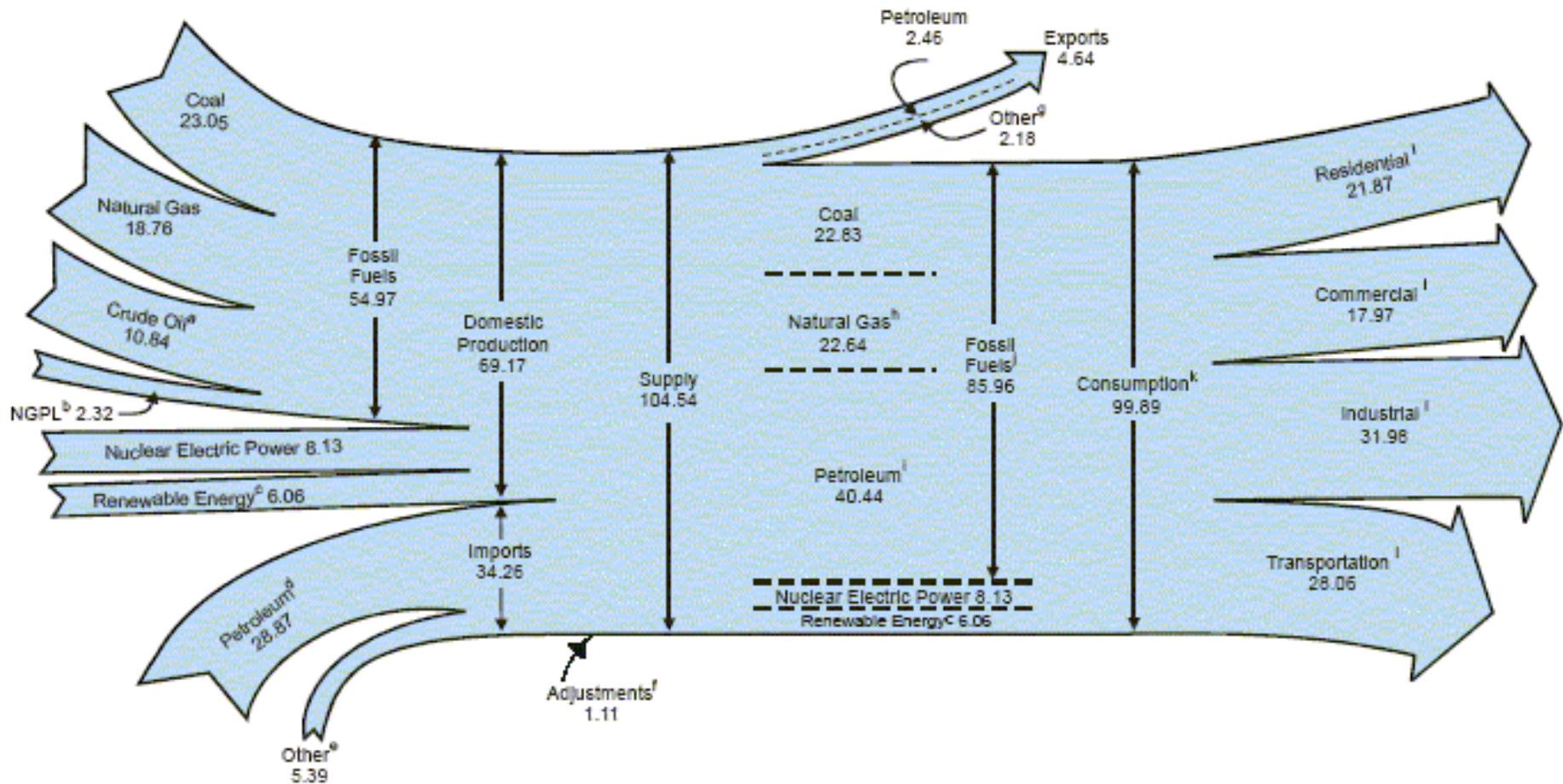
Employment will grow slowly; personal income will increase faster

Projected annual growth rates, 2005 to 2010



Source: New England Economic Partnership Spring 2006 Forecast

The nation's energy system



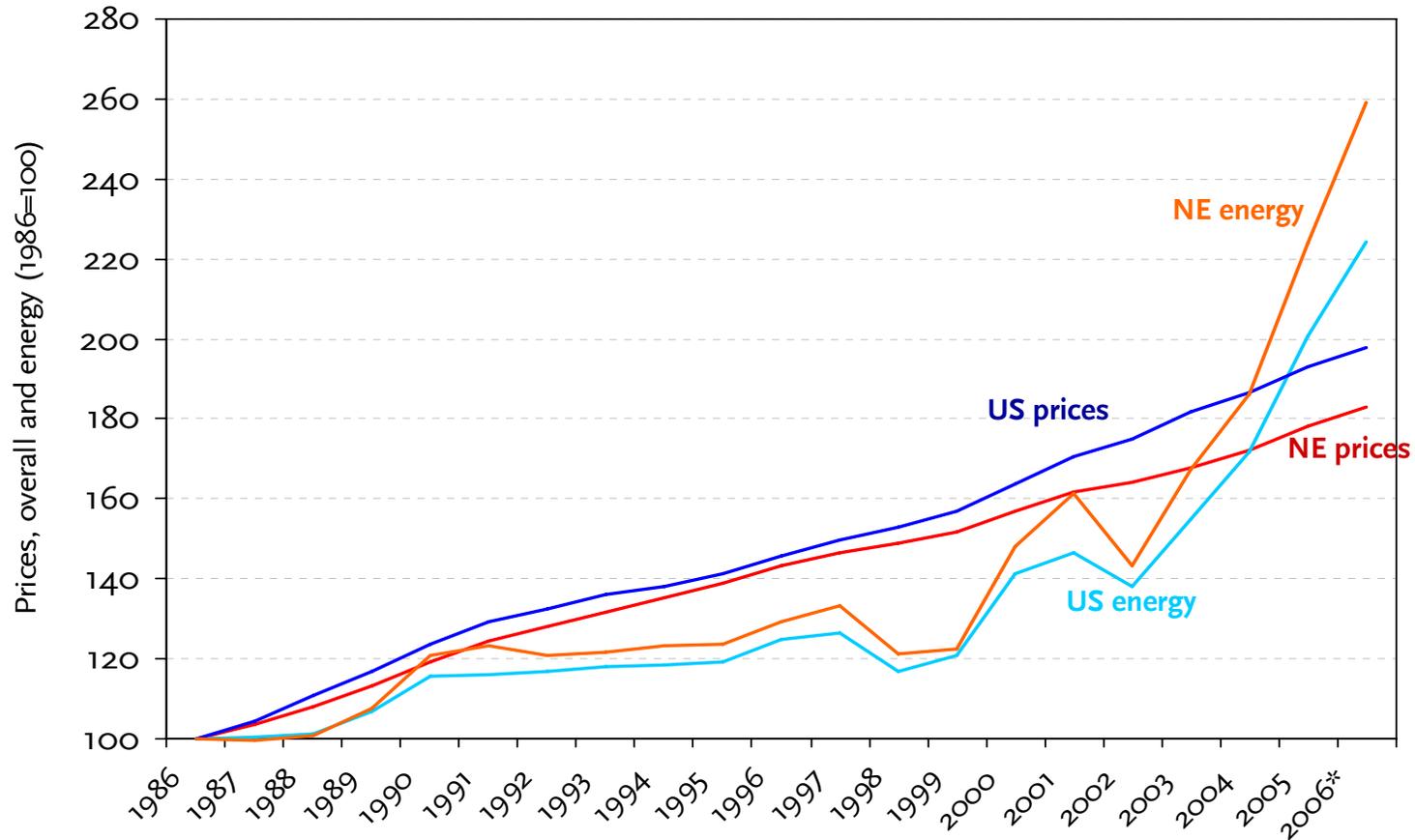
Source: Energy Information Administration, *Annual Energy Review 2005*

Commercial and industrial consumers constitute half of the nation's energy use

	% of primary energy consumption	% of total energy consumption
Residential	7.0%	21.8%
Commercial	4.1%	17.9%
Industrial	21.0%	32.1%
Transportation	28.1%	28.2%
Electricity	39.8%	-

Source: Energy Information Administration

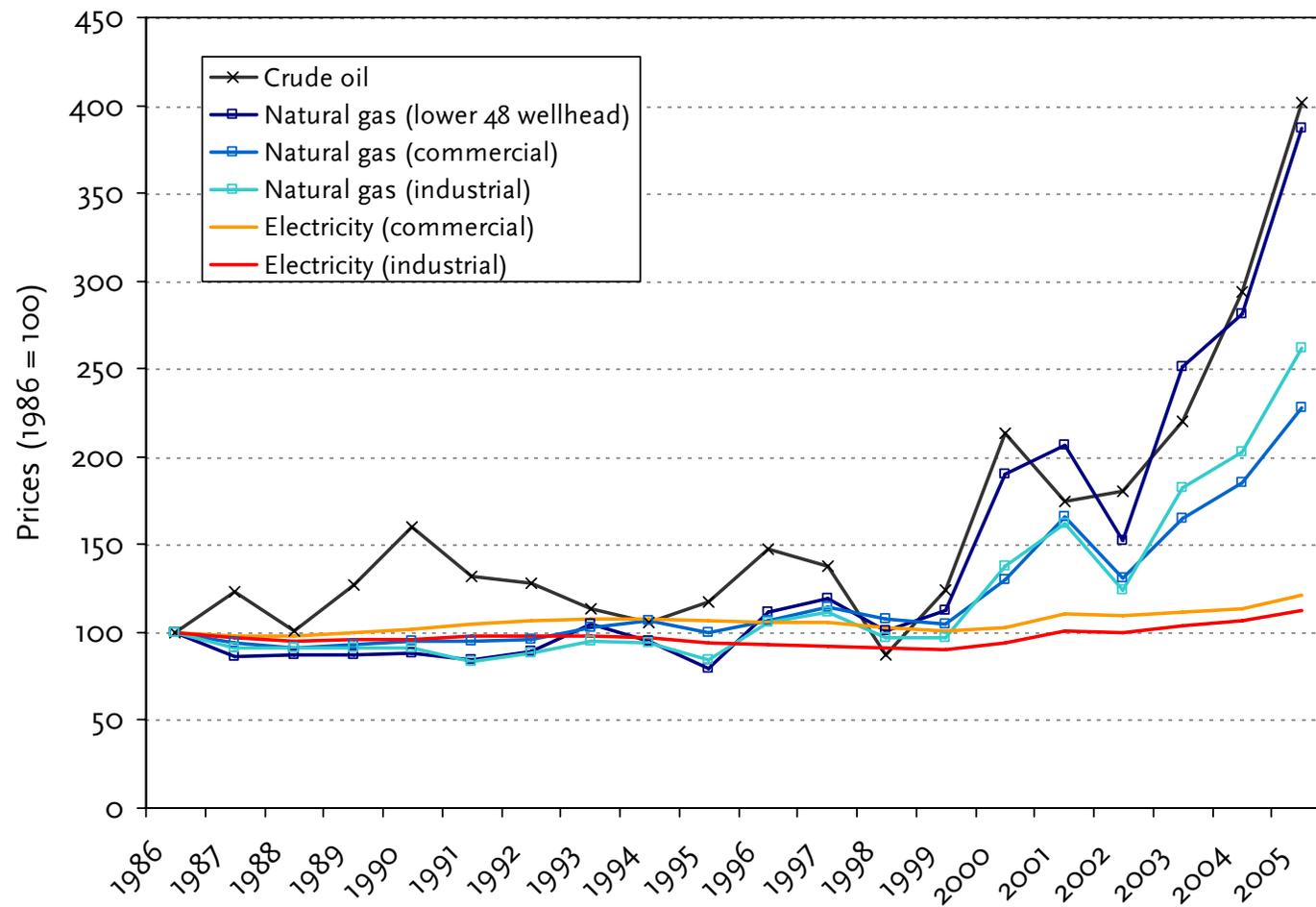
Energy prices are currently high and volatile, especially in New England...



Source: Bureau of Labor Statistics, Consumer Price Index

* Data for 2006 are for January to June only.

...and especially for natural gas and crude oil



Source: Energy Information Administration

But consumption and expenditures are relatively low

	U.S.	MA	MA rank
Prices (dollars per million Btu)	\$10.07	\$12.61	7 th
Consumption per capita (million Btu)	340.8	243.1	47 th
Expenditures per capita (dollars)	\$2,298	\$2,227	33 rd

Source: Energy Information Administration, *State Energy Data 2002: Consumption*

MA has relatively little energy-intensive manufacturing

Four most energy-intensive industries	Trillion Btus consumed	MA's share of U.S. employment
Petroleum & coal	6,799	0.9%
Chemicals	6,465	2.3%
Paper	2,363	3.2%
Primary metals	2,120	1.0%
All commercial & industrial	50,036	3.6%

Sources: Energy Information Administration;
U.S. Economic Census 2002

Fewer Bay Staters work in the more energy-intensive parts of each industry

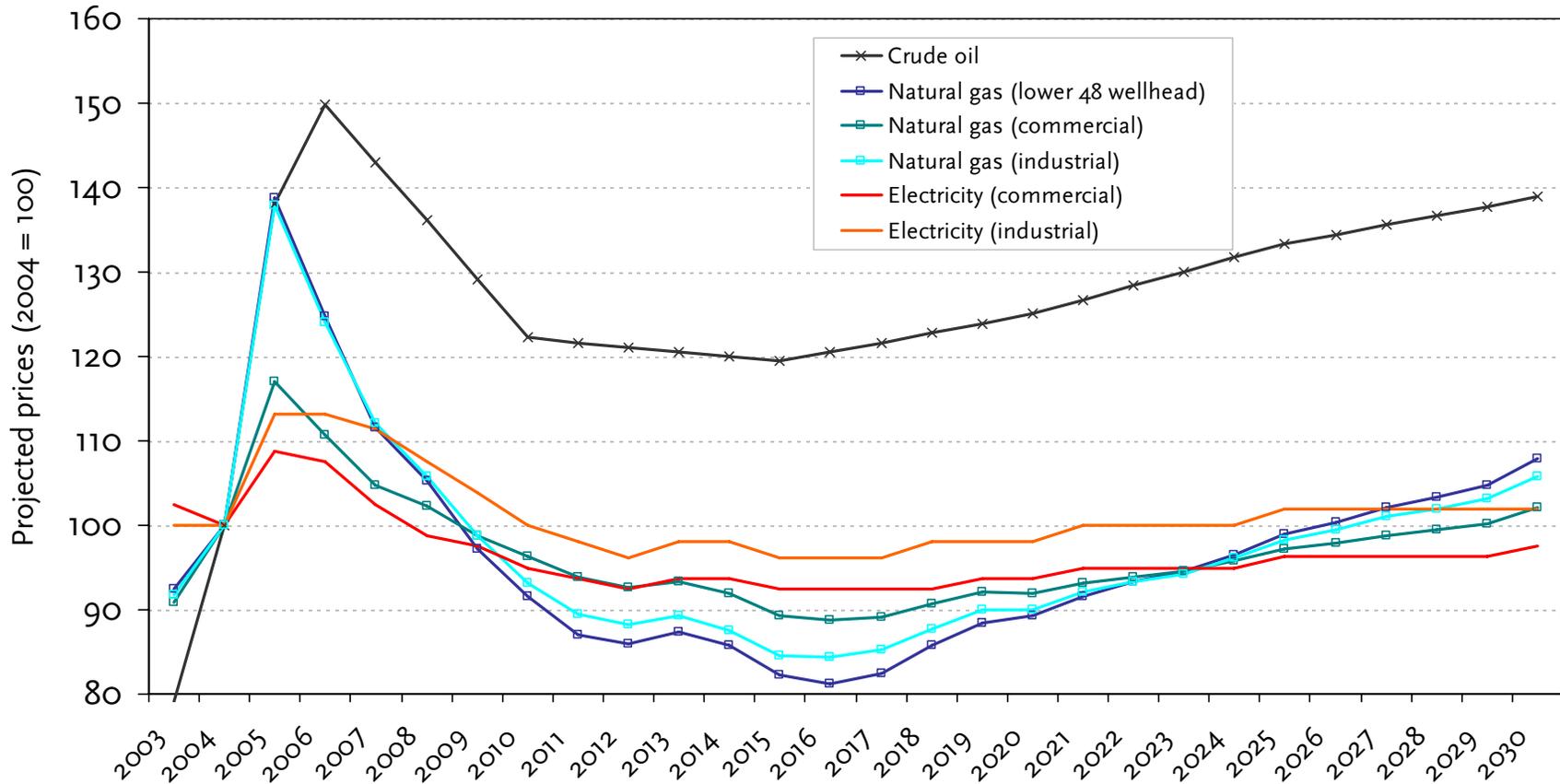
	Trillion Btus consumed	MA's share of U.S. employment
Primary metals	2,120	1.0%
Iron & steel mills	1,308	0.0%
Steel product manufacturing from purchased steel	45	0.9%
Alumina and aluminum	473	0.0%
Nonferrous metals (e.g., copper)	101	3.4%
Foundries	165	0.9%

Sources: Energy Information Administration;
U.S. Economic Census 2002

Energy efficiency reduces consumption

- MA is fourth in the nation in utility spending on energy efficiency
- State policies also support efficiency
- Mass DOER's programs conserved 241 million kWh in 2002, enough to power 40,000 households

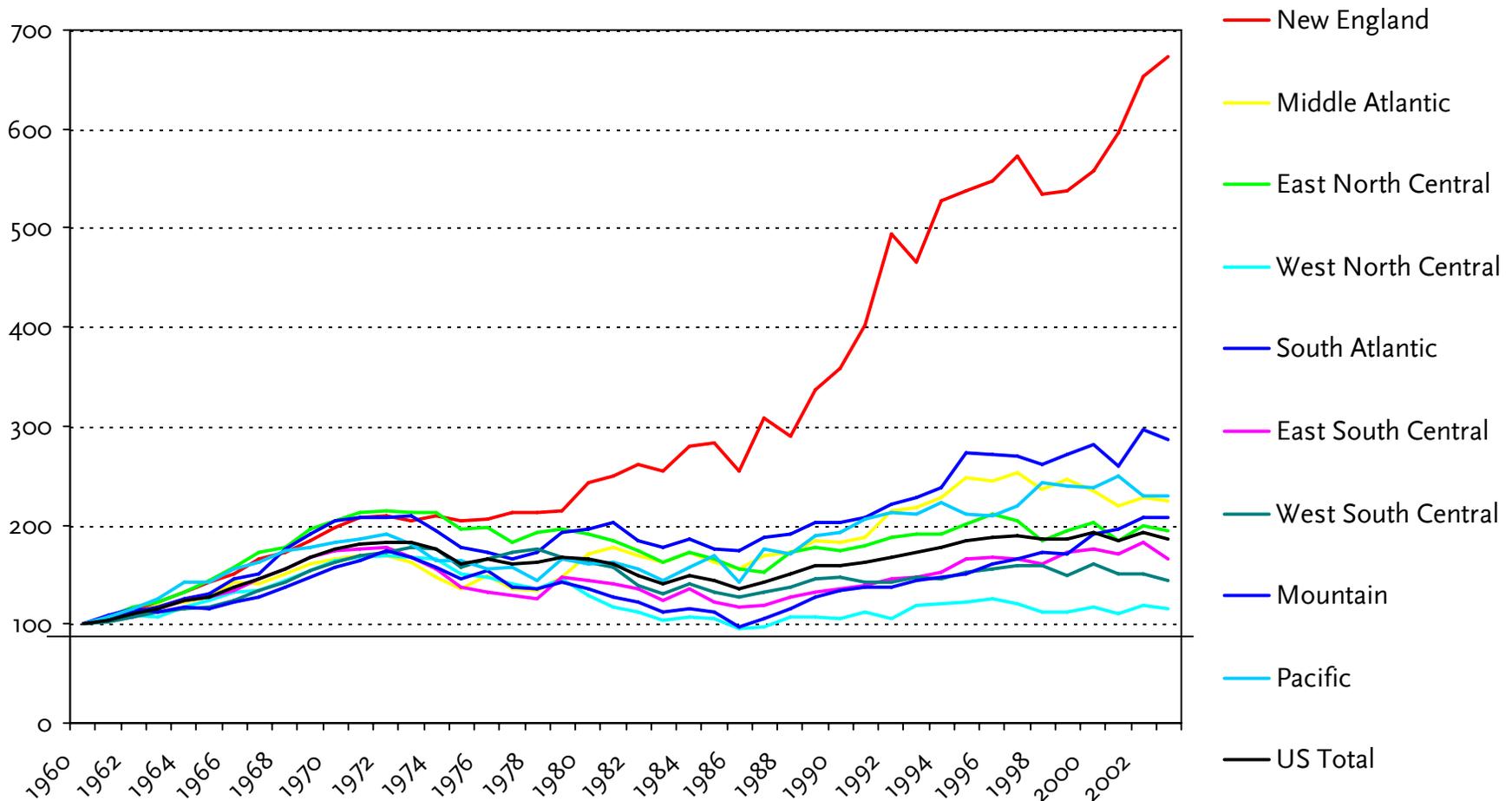
Price projections vary across fuels



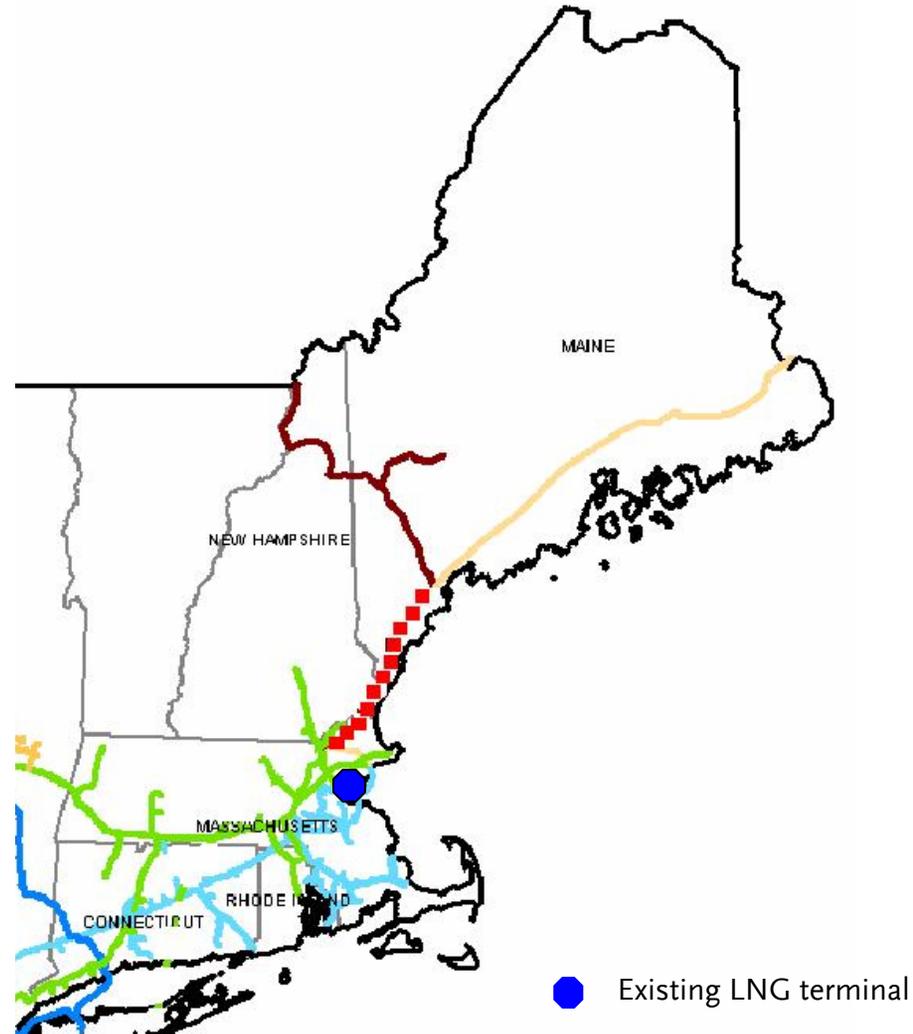
Source: Energy Information Administration

New England's natural gas consumption is growing quickly relative to other regions

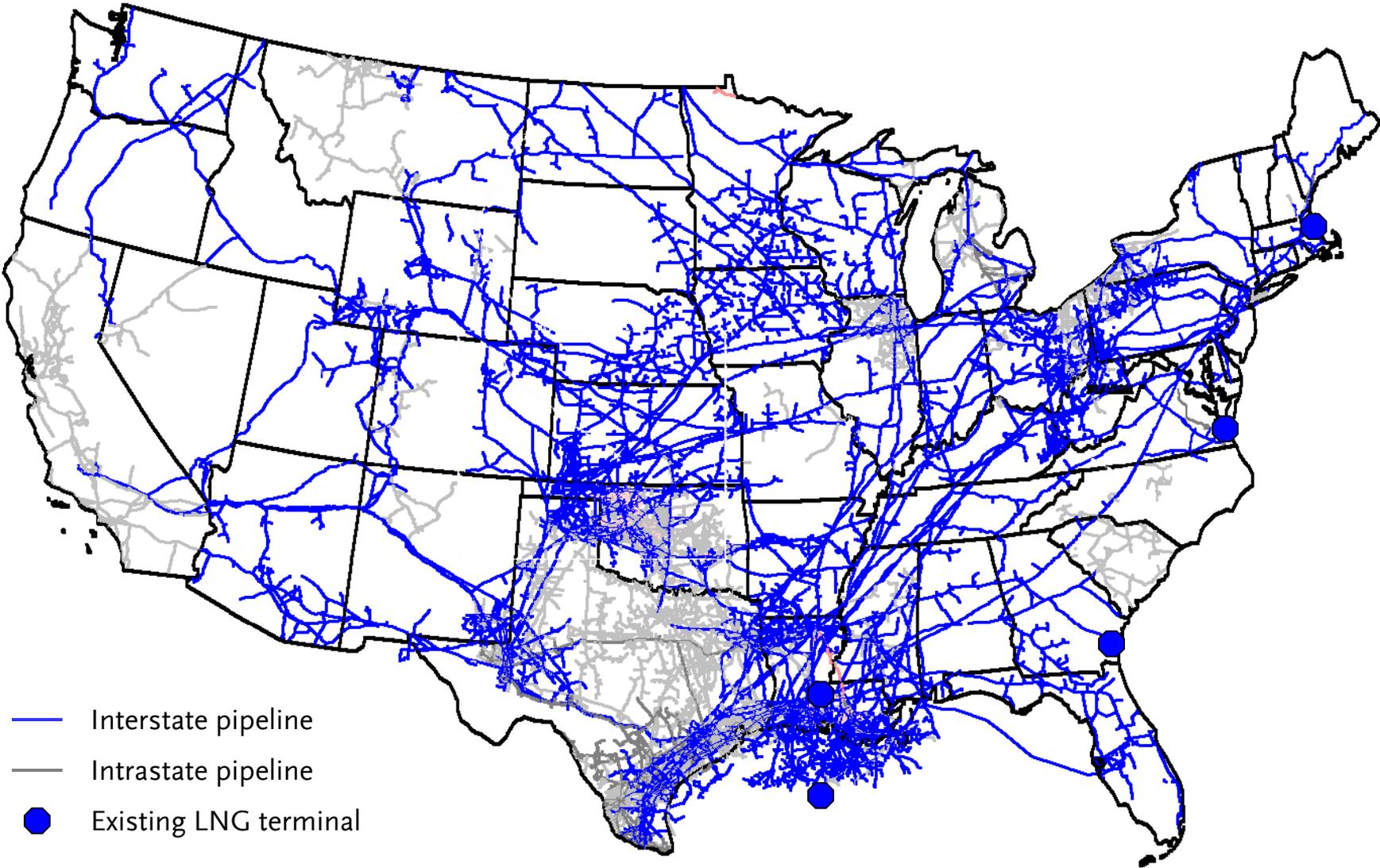
Index, 1960 = 100



The region has natural gas infrastructure...



...but not as much as some other regions

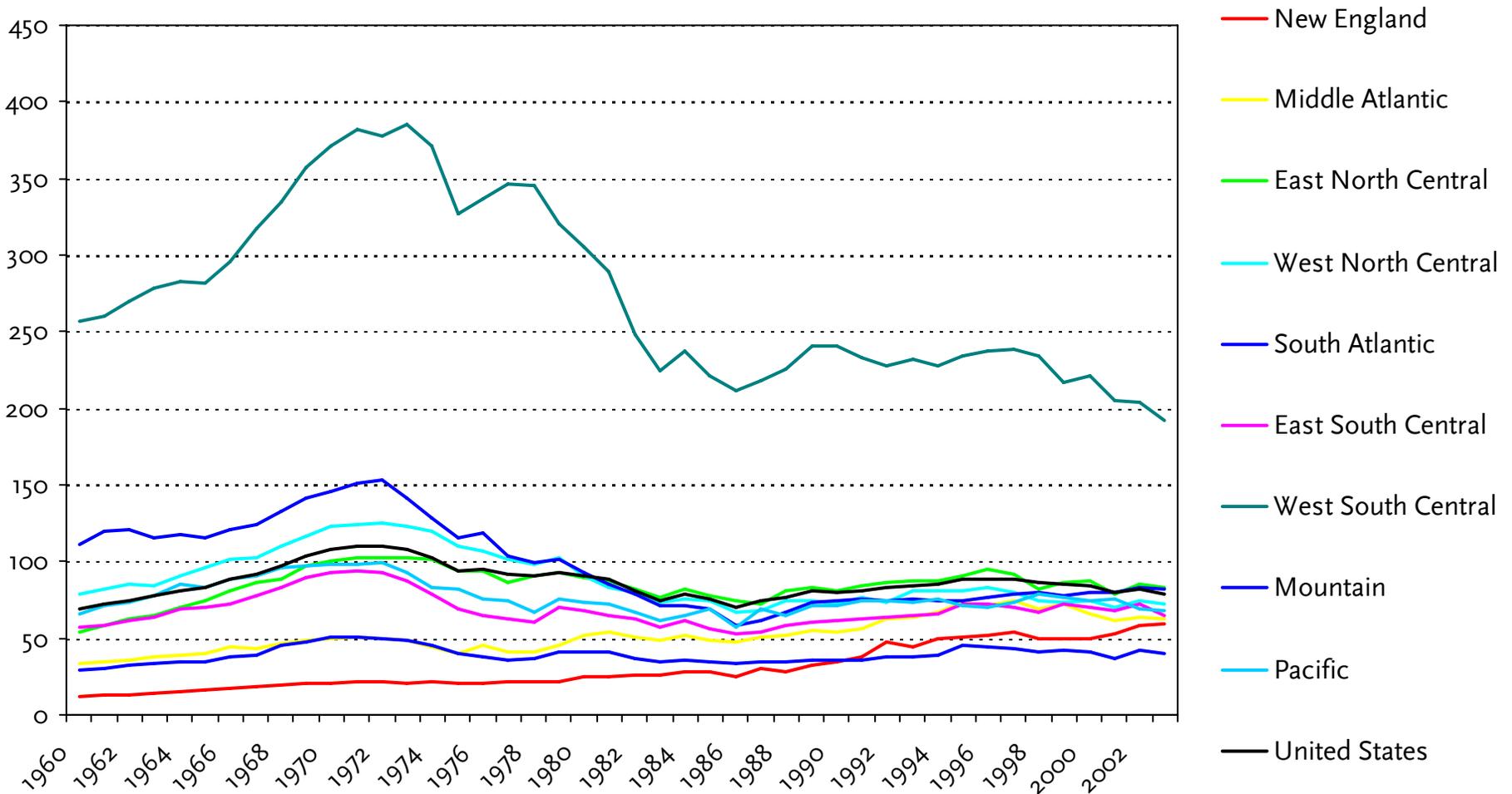


Why natural gas? Markets and policy

- Relatively abundant supply
- Supply perceived as more geopolitically stable
- Declining prices in early 1990s
- Changes in policy
- In electrical generation: cheaper, cleaner, and easier to build

Per capita, New England's gas consumption is typical

Million Btu per person



Is New England over-reliant on natural gas?

- 2004 cold snap caused major problems
- Adequate, but not ample, supply for the next 5 years
- More customers are competing for the same supply
- Potential effects on reliability

What is reliability?

- Short term: the system works well on a day-to-day basis and protects against disruptions
- Long term: the right infrastructure in the right place at the right time
- Private markets don't usually produce enough reliability

Policy for reliability: Maintain fuel diversity

- Ensures that the region is not too reliant on any one source of fuel
- Options
 - Increase supply of natural gas
 - Restrict how natural gas is used
 - Encourage renewables
 - Promote new technology development

Policy for reliability: Reduce demand

- Reduces need to expand capacity
- Options
 - Calculate rates in real time
 - Promote energy efficiency

Incentives for investment

- Building energy infrastructure is expensive and risky
- Since deregulation, particularly difficult in electrical generation
- New England needs 500 megawatts of new electricity resources every year; only 1,500 megawatts are currently planned

Policy for reliability: Improve investment incentives

- Ensure that generators face appropriate incentives to invest in new infrastructure
 - Reward generators for providing additional capacity beyond day-to-day needs
 - A new auction for future capacity attempts to accomplish this

Policy for reliability: Facilitate infrastructure siting

- Take into account both local and regional needs when siting new infrastructure
 - Clarify who has regulatory authority over siting decisions
 - Ensure that the process protects the public interest and is fair to all parties without undermining reliability

Fueling the future

- Governments and market have long worked together to ensure reliability
- New England governments and planners can and should take an active role in ensuring system reliability
- Without this, the region puts its economic prosperity at risk