

Energy Efficiency and Emissions

CT IRP Workshop

November 19, 2009



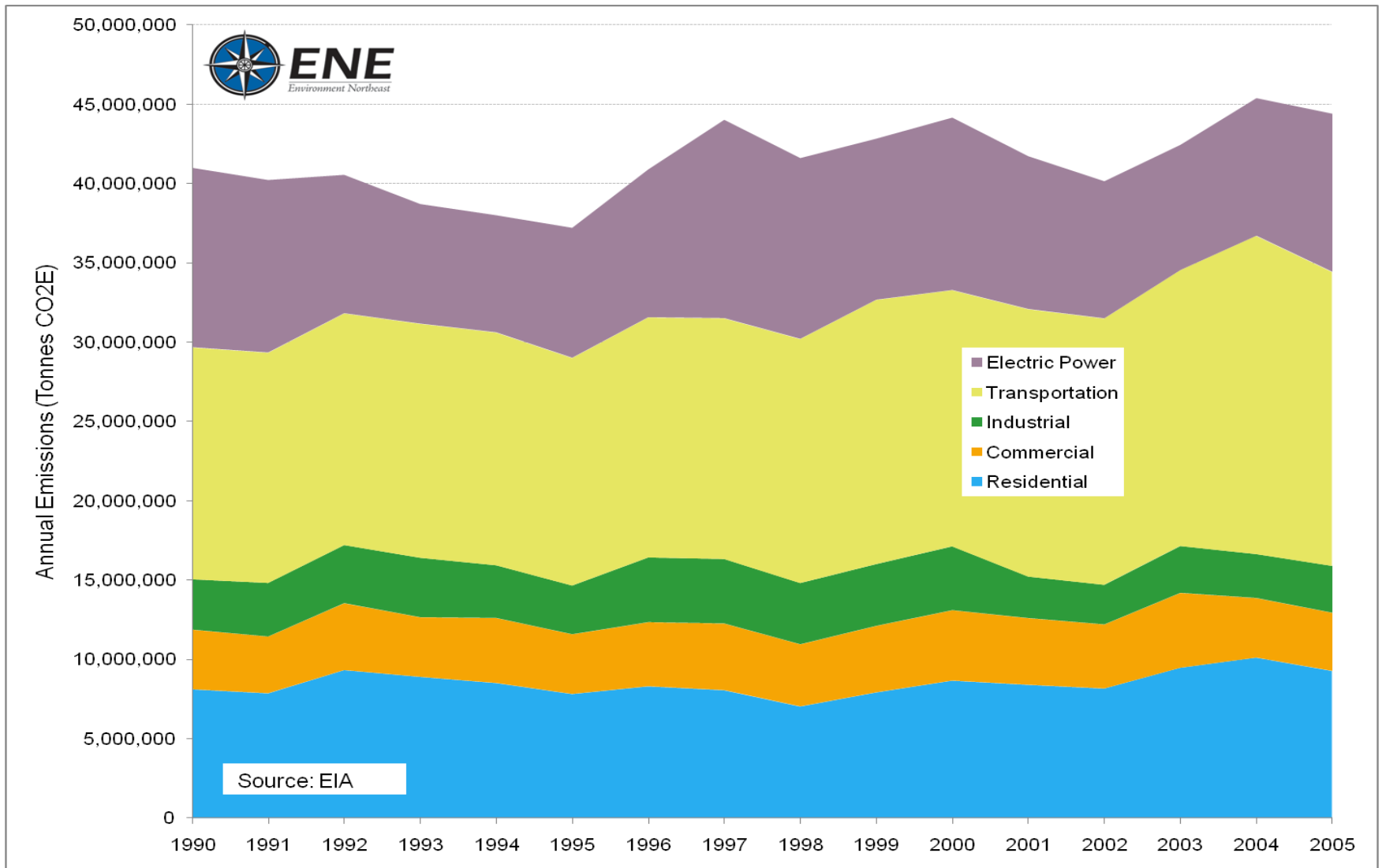
Electric Generation Emissions

- Greenhouse gasses
 - Primarily CO₂ resulting from fossil fuel combustion
 - Associated with KWh
 - Global, not local pollutant
- Air Quality
 - Pollutants that have local and regional effects
 - NOx / Ozone, Particulate matter
 - Associated with KW ₂

Air Quality

- Old, inefficient plants that only run on peak demand days are a significant problem
- Generally not economically viable with additional emissions requirements

CT GHG Emissions



Greenhouse Gas Regulations

- RGGI
 - Regional cap and trade program
 - Applies only to large (> 25 MW) generators
 - Currently under cap by about 10%
 - Economy
 - Natural Gas prices
- PA 08-98
 - Applies to all sectors, including transportation and buildings
 - 10% below 1990 by 2020

Energy Efficiency

- Reduces both GHG and local pollutants
- Reduces emissions from electric and buildings sectors
- Reduces overall energy system costs
- Additional economic benefits – substituting local spending for imported natural gas and oil.

Economic Benefits

	Electric	Natural Gas	Unregulated Fuels
Total Efficiency Program Costs (\$Billions)	4.4	.93	1.6
Increase in GSP (\$Billions)	25	6.6	12
Maximum annual GSP Increase (\$Billions)	1.37	0.41	0.65
Percent of GSP Increase Resulting from Efficiency Spending	11%	10%	8%
Percent of GSP Increase Resulting from Energy Savings	89%	90%	92%
Dollars of GSP Increase per \$1 of Program Spending	5.7	7.0	7.1
Increase in Employment (Job Years)	183,000	42,000	78,000
Maximum annual Employment Increase (Jobs)	9,700	2,700	4,600
Percent of Employment Increase from Efficiency Spending	15%	14%	11%
Percent of Employment Increase from Energy Savings	85%	86%	89%
Job-Years per \$Million of Program Spending	41	45	48

The Solution: Ramp-up Efficiency

- Capture all cost-effective efficiency
- Up to 4million tons of annual GHG reductions from electric EE
- Reduce peak by > 1000 MW
- Reduce economic viability of legacy generating stations