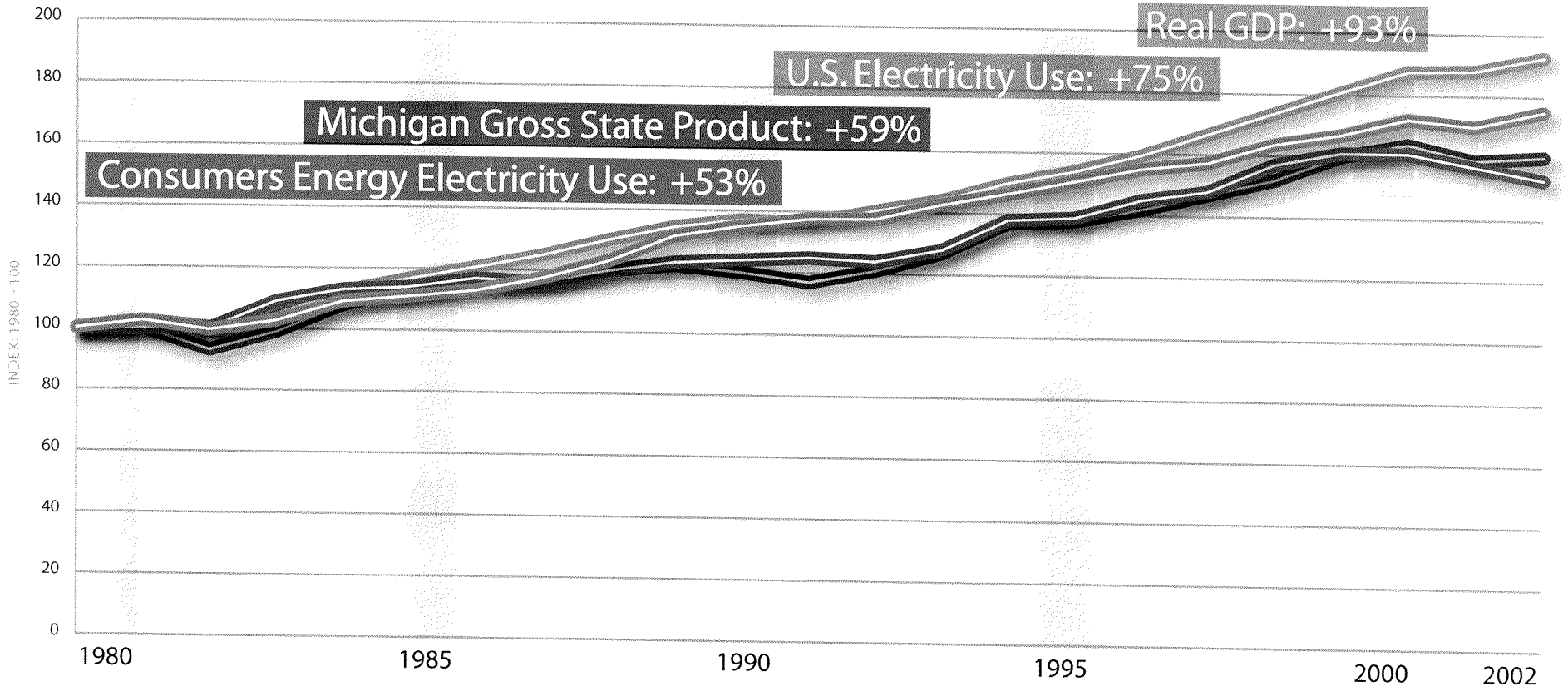
3E'S
ENVIRONMENT
ENERGY
ECONOMY

Michigan's

- Environment
- Energy
- Economy

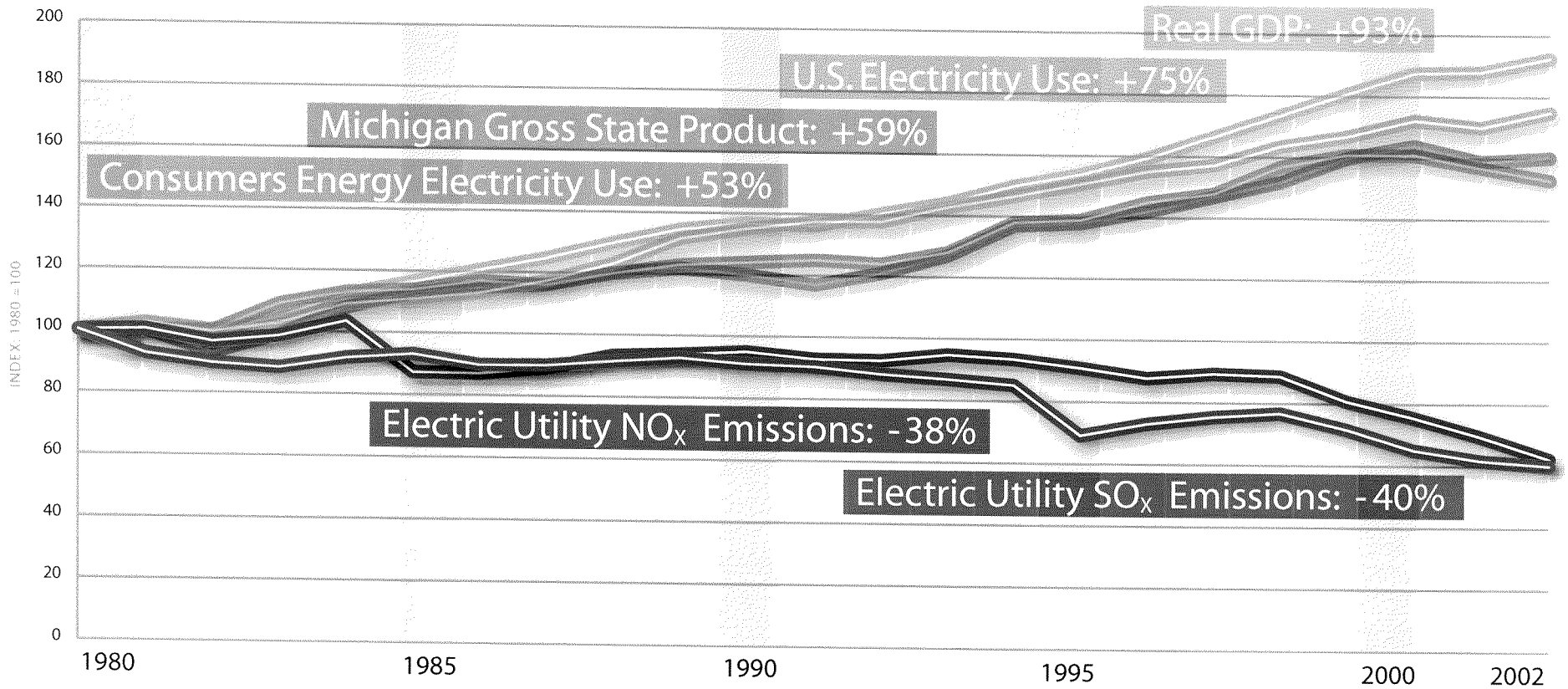
are linked

Our economy has grown, energy use is up …



Sources: EPA, EIA and Bureau of Economic Analysis

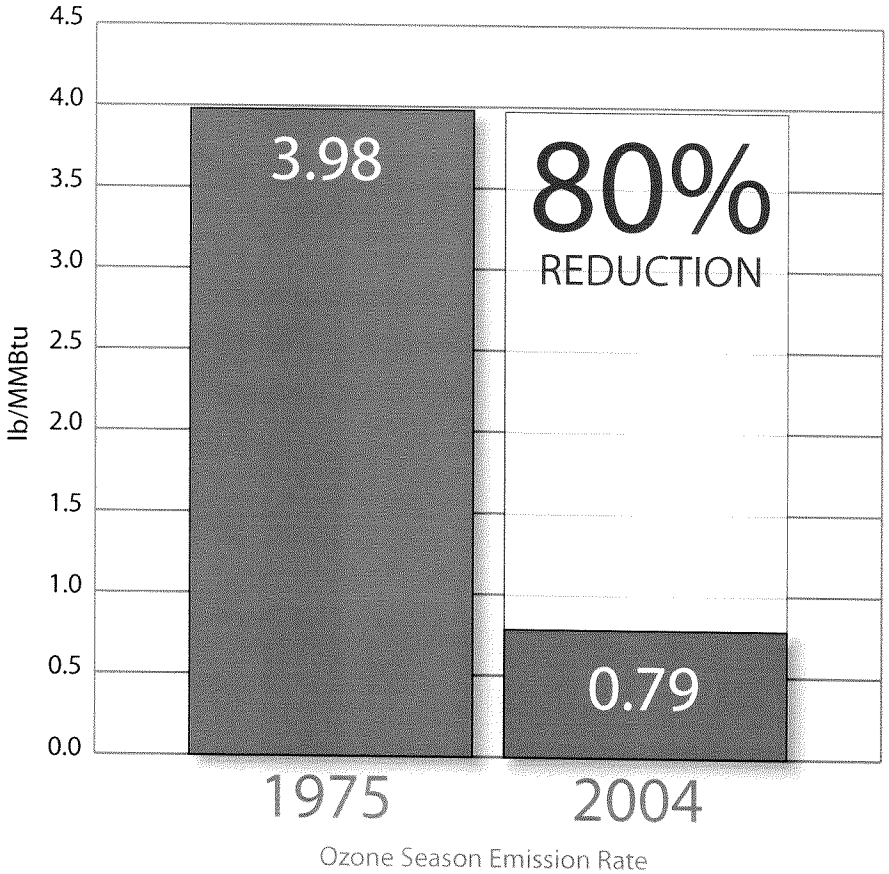
. . . and air emissions have been reduced



Sources: EPA, EIA and Bureau of Economic Analysis

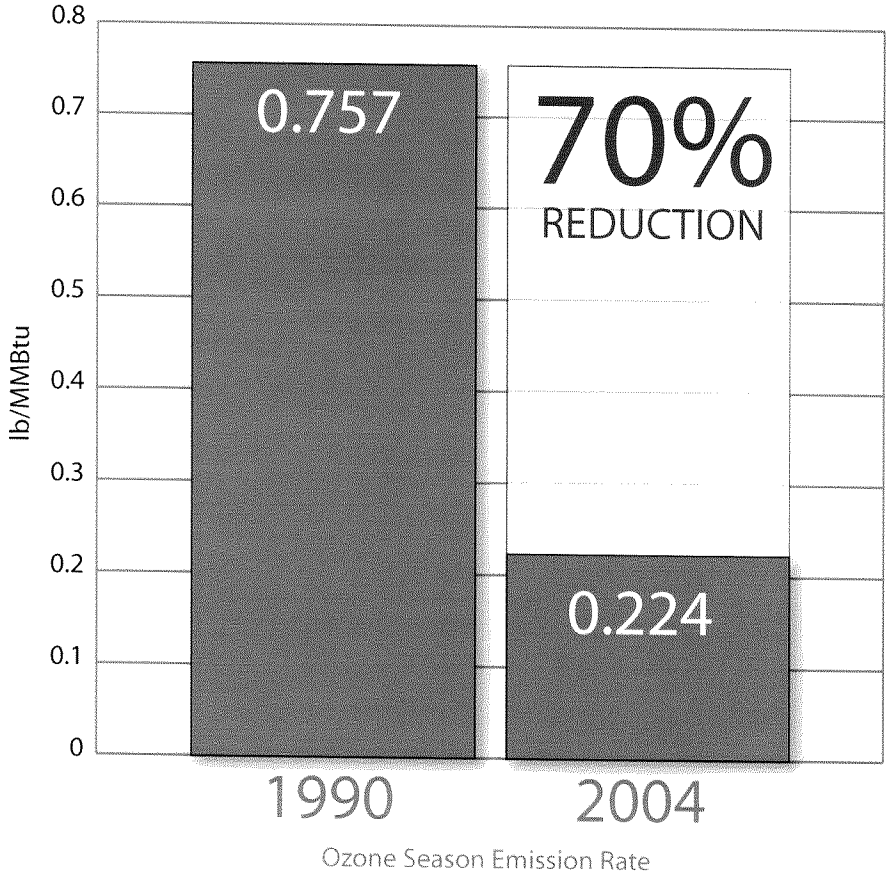
Consumers Energy is doing its part

- **Large reductions in SO_2 (sulfur dioxide)**



Consumers Energy is doing its part

- **Large reductions in NO_X (nitrogen oxide)**



Greenhouse gas – Carbon Dioxide (CO_2)

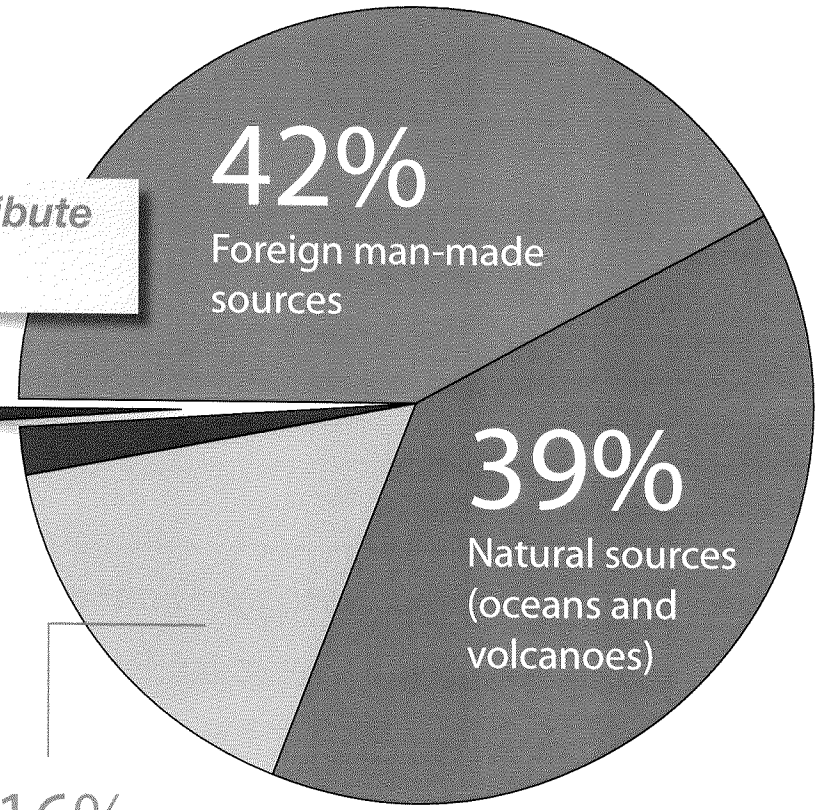
- U.S. produces approximately 25% of total CO_2 emissions*
- No current federal regulations for CO_2
- No commercially available technology to reduce CO_2 emissions
- Consumers Energy participates in Power Partners
  - U.S. Department of Energy and industry program aimed at reducing CO_2 emissions

*Source: U.S. Energy Information Administration / Department of Energy

Mercury emissions are the next challenge

- *Only 1% of total world emissions comes from U.S. power plants —*

Michigan utilities contribute 3/100THS of 1%



*Source: U.S. EPA Emissions Inventory, 1999; MDEQ Emissions Inventory, 1999

EPA issues mercury control rule

- Rule issued March 15, 2005
- Federal mercury rule will help ensure level playing field with other states and protect Michigan's competitiveness
- Consumers Energy has begun mercury control testing and will comply with EPA rule
- U.S. is first country to regulate coal-fired electric utilities' mercury emissions

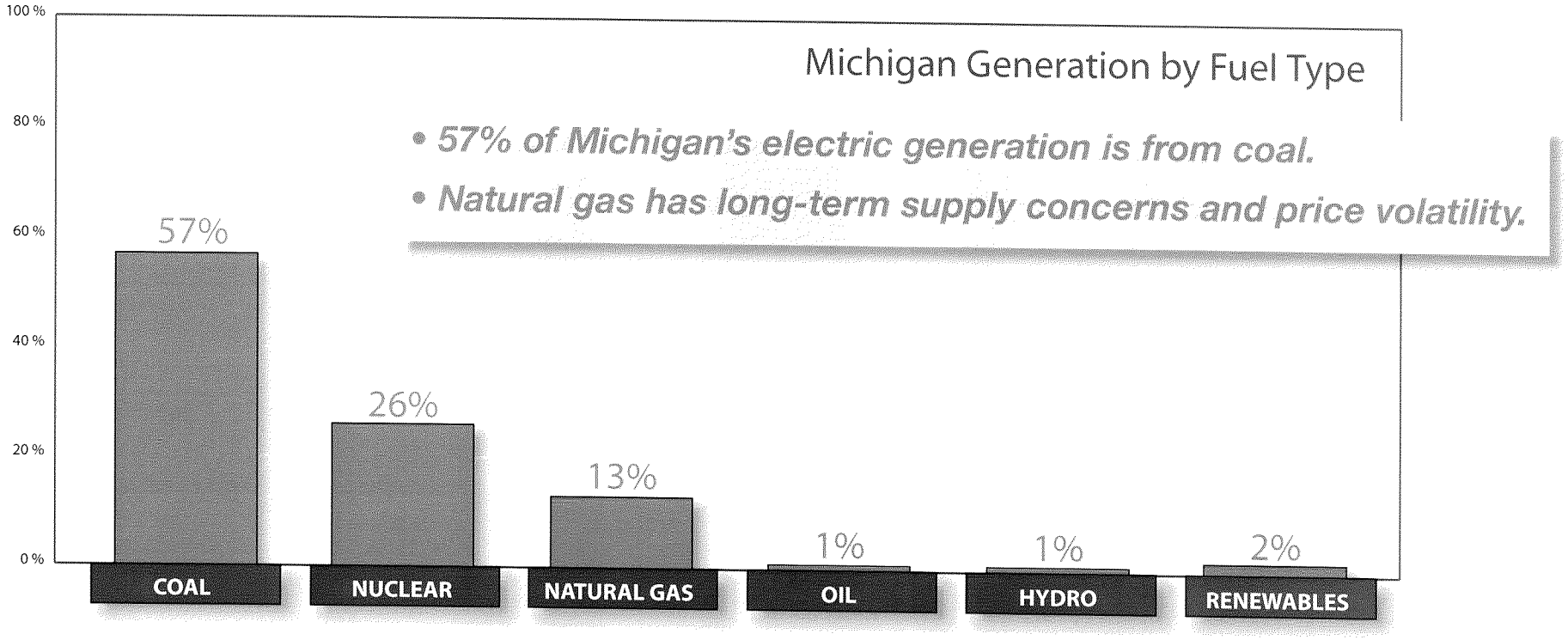
Michigan's air is at its cleanest in modern times, even with …

- **More homes and businesses being built**
- **More cars being driven**
- **Average Consumers Energy customer using 8% more electricity than 10 years ago**

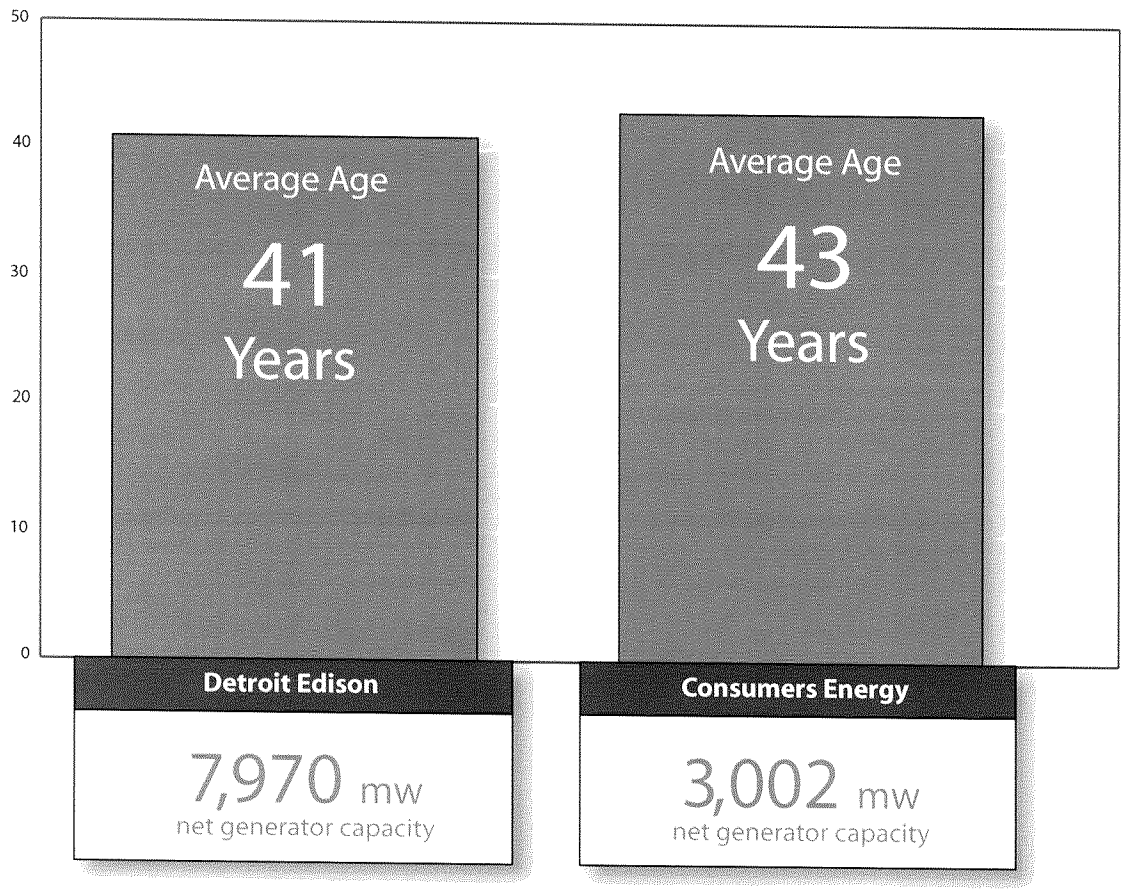
Focusing on Michigan's future energy needs is critical.

Source: DEQ 2003 Environmental Report

Today: Coal is key to reliable and affordable electric supply

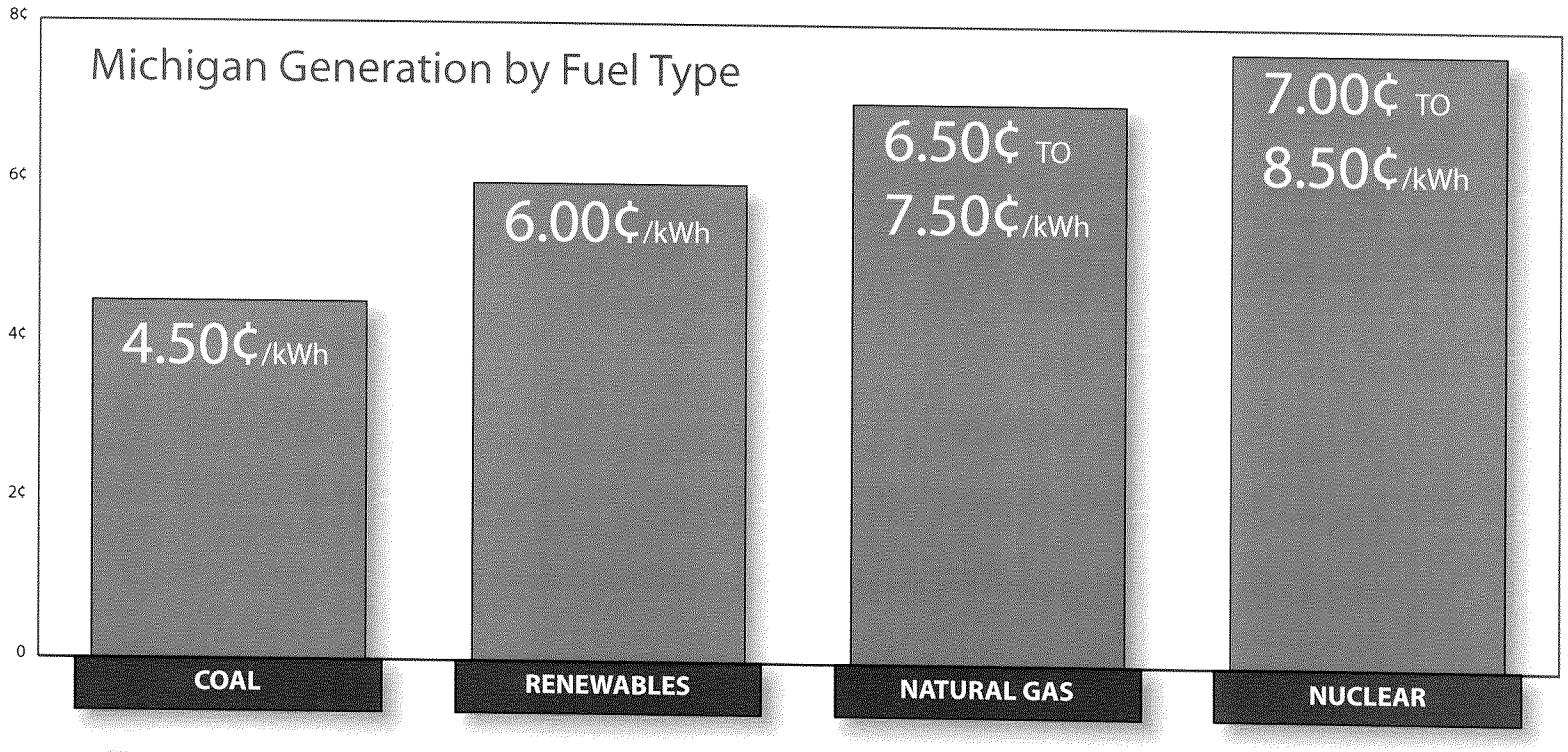


Michigan's base-load generators are aging



Source: EPA Information Collection Request database

Tomorrow: Total cost of new generation – *construction and fuel*



Source: U.S. Energy Information Agency

- *Coal is critical to Michigan's future.*
- *Renewables can play an important role.*
- *It will take six years to build a new base-load plant.*
- *It's time to start planning for Michigan's energy future.*

Hurdles to building new coal generation

- Requires a large upfront financial investment
- Recovery of investment begins after plant construction is completed
- Electric Customer Choice law allows customers to switch back and forth
  - creates difficulty planning for long-term investment
- Siting and permitting approvals create additional uncertainty

Moving forward …

- Michigan needs energy policy ensuring environmentally sensitive, reliable and affordable electricity
- Significant SO_2 and NO_X reductions already achieved with more to come
- Beginning to address mercury emissions
- Continuing Consumers Energy's tradition of environment stewardship

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