

# Climate Change and The Mythology of Economic Harm

True or False?

Aachen Forum  
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November 25, 2005

# Reducing GHG Emissions: The Experience So Far



# GREENHOUSE GAS REDUCERS: LEADERSHIP EXAMPLES



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- **DUPONT** reduced GHG 72% from 1990 levels and saved \$2 billion.
- **BRITISH TELECOM** reduced emissions 62% and saved £1.1 billion between 2002 and 2005.
- **ALCAN UK** reduced emissions 65% below 1990 levels.
- **BAYER** reduced emissions 63% 1990-2004 while production increased 22%.
- **NORSKE CANADA** reduced emissions 61% saving \$25 million.
- **IBM** reduced emissions 38% on 1990 levels and saved US\$791 million.



# GREENHOUSE GAS REDUCERS: LEADERSHIP EXAMPLES

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- **3M** - 37% reduction in worldwide emissions between 1990 and 2005 and has saved US\$190 million in energy costs since 1973.
- **ALCOA** - 26% reduction in GHG emissions (1990-2003) with \$100 million in expected savings by 2006.
- **STMicroelectronics** - reduced CO2 emissions 50% (wants to be CO2 neutral by 2010); \$900 million saving (1994-2010).
- **UTC** – 37% below 1997 levels; savings not disclosed.
- **BP** – 10% below 1990; saved \$650 million npv since 1990.



# GREENHOUSE GAS REDUCERS: LEADERSHIP EXAMPLES

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*New Level of Ambition Emerging:*

- HSBC
- STM
- TEMBEC
- SWISS RE

are all looking to be carbon neutral



# LEADING REDUCERS

## CITIES

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- **WOKING UK** reduced CO<sub>2</sub> emissions 77% on 1990 levels and saved £4.9 million.
- **PORTLAND** reduced city emissions 40%, and delivered \$300million in savings to homeowners and small businesses as well as a significant municipal savings.
- **TORONTO** reduced emissions 42% in municipal facilities between 1990 and 1998 – \$30 million gained in city savings and landfill methane sales; \$100 in savings from building retrofit program.
- **BERLIN** reduced emissions 14% between 1990 and 2000 with €2million in annual budget relief.
- **SAN DIEGO** cumulative energy cost savings of \$15 million.
- **MELBOURNE** reduced municipal emissions 15% on 1996 levels.



# LEADING REDUCERS

## NATIONAL GOVERNMENTS

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- **GERMANY** -19% emission reduction below 1990 levels - creation of 450,000 renewable energy jobs.
- **UK** -15% cut in GHG emissions 1990-2002, with a 36% increase in GDP and £650 million a year saving between 1989 & 2001; A 20% reduction committed by 2010; 60% by 2050.





# Conclusion...



**...These experiences demonstrate that reducing emissions is possible, can be profitable, competitive and supportive of growth...**

# Lessons

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- Energy efficiency saves money
- \$20 bills
- Management
- Technology not a major factor yet
- Linking capital to reductions key
- Trading works (BP, UK)
- Reductions come faster than expected
- Moving faster = more economic benefit

# Economic Development

Climate policy can also be a path to economic development



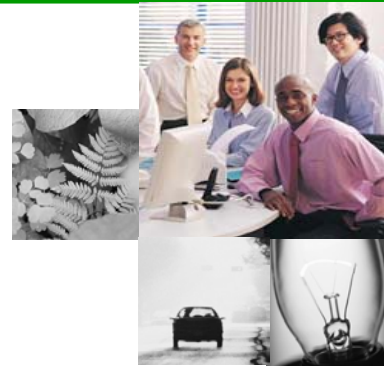
# LEADING REDUCERS

## STATES & REGIONS

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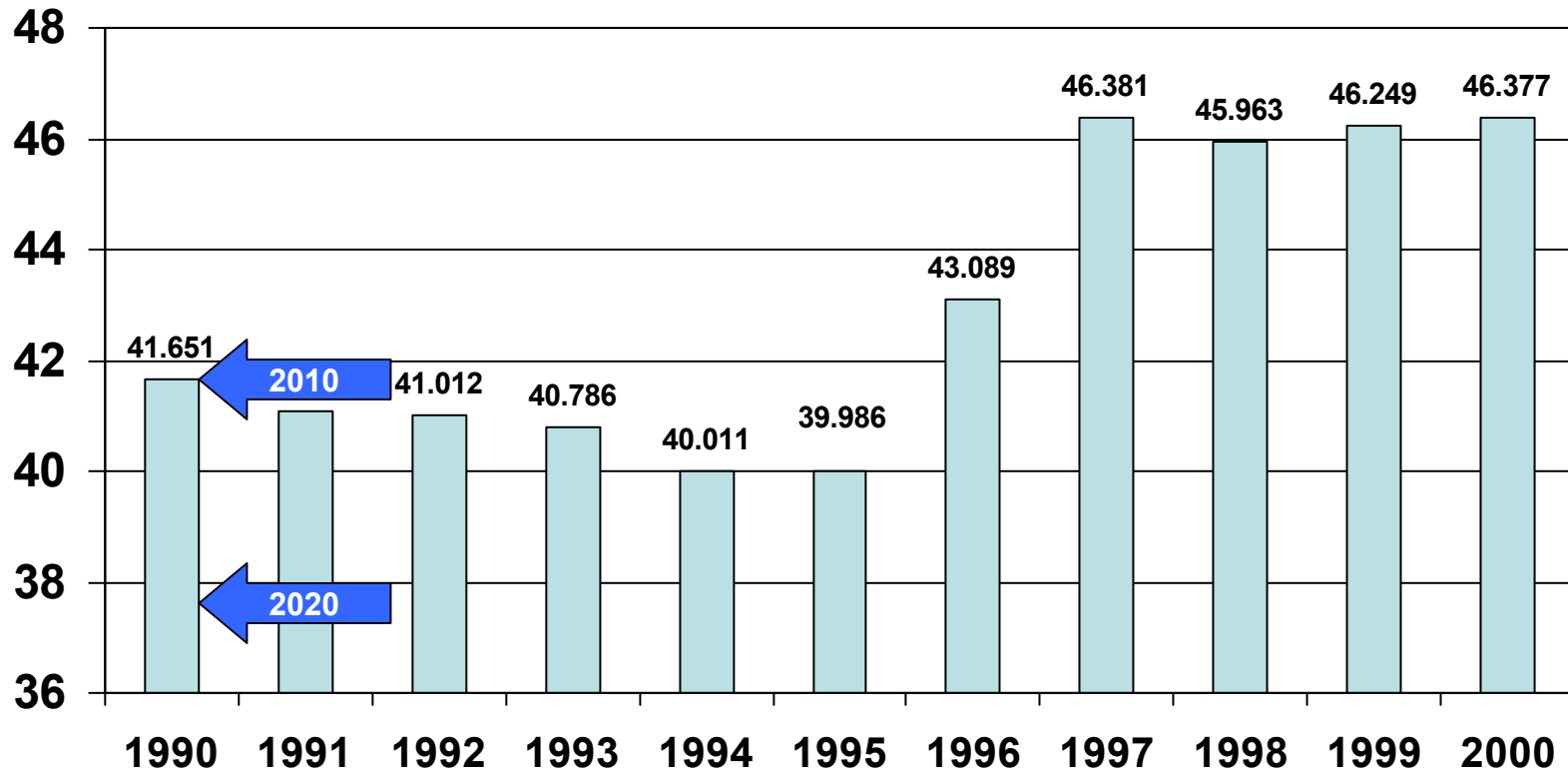
- **CONNECTICUT** 75-85% reduction target; 20% renewables by 2020; 50% by 2020; 100% by 2050; detailed GHG plan in 2005.
- **CALIFORNIA** has announced 80 percent reductions target for 2050; developed law to regulate GHG emissions from private cars; saving \$77 billion by 2011 on energy costs.
- **MANITOBA** set 23% reduction target below 1990 levels by 2010; plans to be carbon neutral within 15 years.





# Connecticut

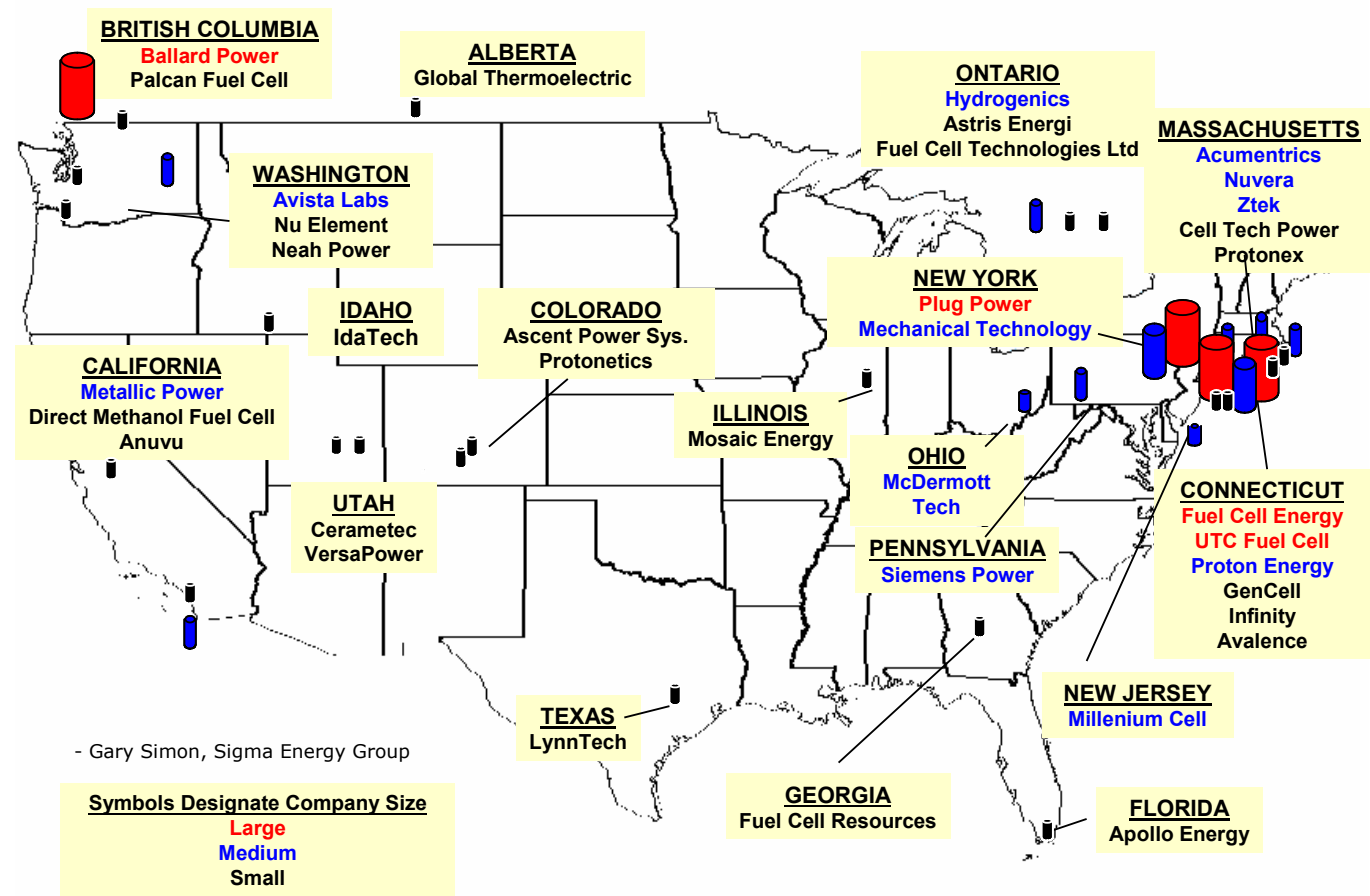
## *Greenhouse Gas Emissions and Targets*





# Future Economy

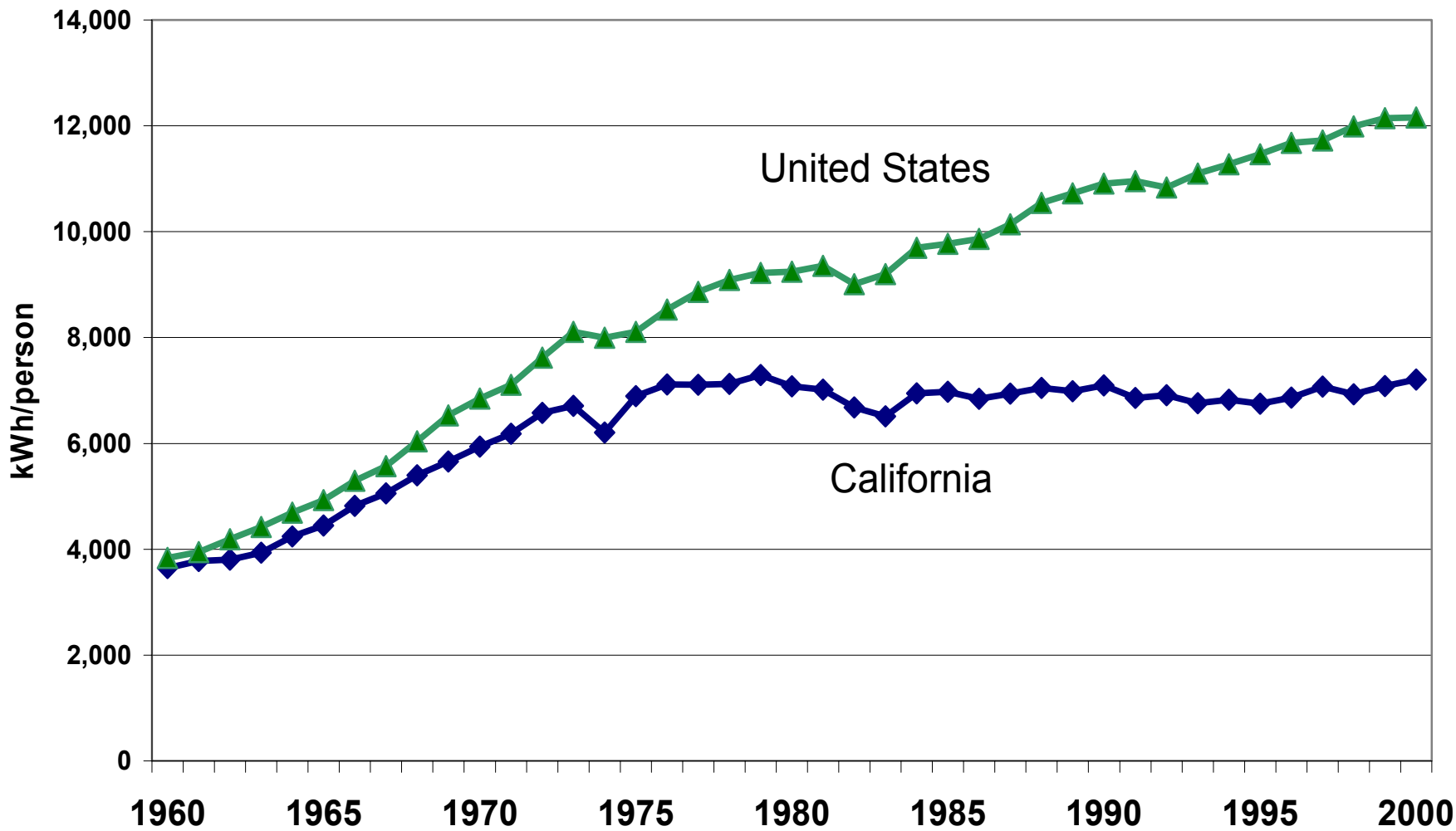
## Fuel Cell Technology in North America



- Gary Simon, Sigma Energy Group



# Per Capita Electricity Consumption



Draft 5.17.05 mlw

# California: economic benefits

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- efficiency standards will save CA individuals and businesses \$77 billion by 2011
- positioning itself for leadership in the clean energy economy: solar, wind, biofuels; hydrogen



# Manitoba: building its future economy around clean energy

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- Largest Canada **Wind** farm being built; major export market opportunity
- Farmers now making \$4,275 a **wind** turbine
- 30% of Canada's **Ground source heat pump** installations; tripled last four years; trains 60% of Canada's installers
- **Green building** program; revitalizing Winnipeg
- **Hybrid Bus** manufacturing for export
- First **Ethanol and Bio-diesel** plants in Canada; new market for 14MM bushels of wheat, and for oil seed crops

# GHG POLICY = CLEAN ENERGY = ECONOMIC DEVELOPMENT LEADERSHIP EXAMPLES

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- GERMANY – 450,000 jobs in clean energy
  - DENMARK – 21,000 wind jobs in 2002
  - SPAIN – 5,000 wind jobs in Galicia
  - EUROPE – 1.8 million wind jobs by 2020
  - EUROPE – 90 percent of turbine companies
  - JAPAN – 55% of world's solar cell production
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**Global Cooling =  
Economic Warming**

# **Taking a Practical Approach: Answers We Need**

- **What can reducers teach us: on EE, RE, management, transport, offsets, finance, regulation?**
- **What is the role of financial institutions?**
- **What can a coalition of willing do together on car and appliance standards, renewable energy, trading, de-carbonizing the supply chain?**
- **What have utilities done that works?**
- **How do we document experience to strengthen economic case for both EE and RE?**
- **What do the lessons tell us about constructing future policy instruments?**