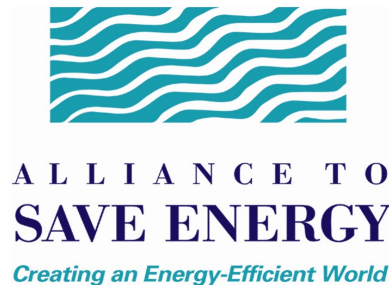


# Energy Efficiency in the United States: Our Greatest Energy Resource

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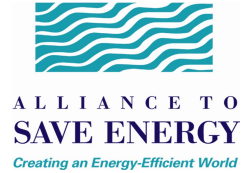
Kateri Callahan  
President

Alliance to Save Energy



# Presentation Overview

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- Advancing Energy Efficiency Worldwide – An Introduction to the Alliance to Save Energy
- Energy Efficiency = Greatest Energy Resource
- Future Role of Energy Efficiency: Meeting North America's Growing Energy Needs Quickly, Cleanly and Cost-effectively

# What is the Alliance to Save Energy?

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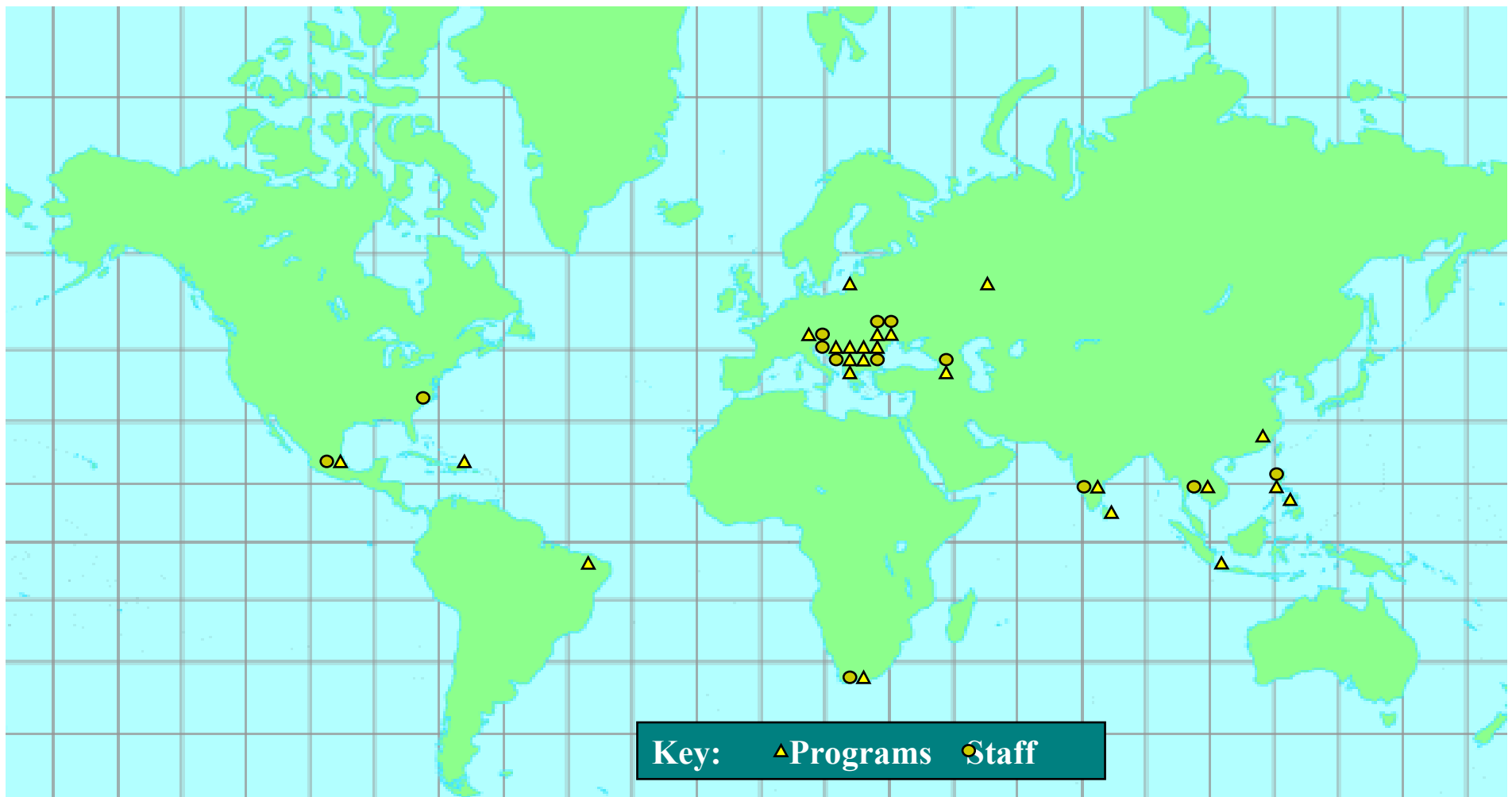


- Unique, non-profit and non-partisan organization
- Advances energy efficiency worldwide to achieve a healthier economy, a cleaner environment and greater energy security
- Created in 1973 in response to the oil embargo and resulting energy crisis
- Chaired by Senator Byron Dorgan (D-ND) with strong congressional, corporate and public interest leadership
- Includes more than 80 corporate members from “big box” retailers like Sears to energy companies like BP to manufacturers like Whirlpool
- Organized to lead initiatives in research, policy advocacy, education, technology deployment, and communications

# Where in the World is the Alliance?



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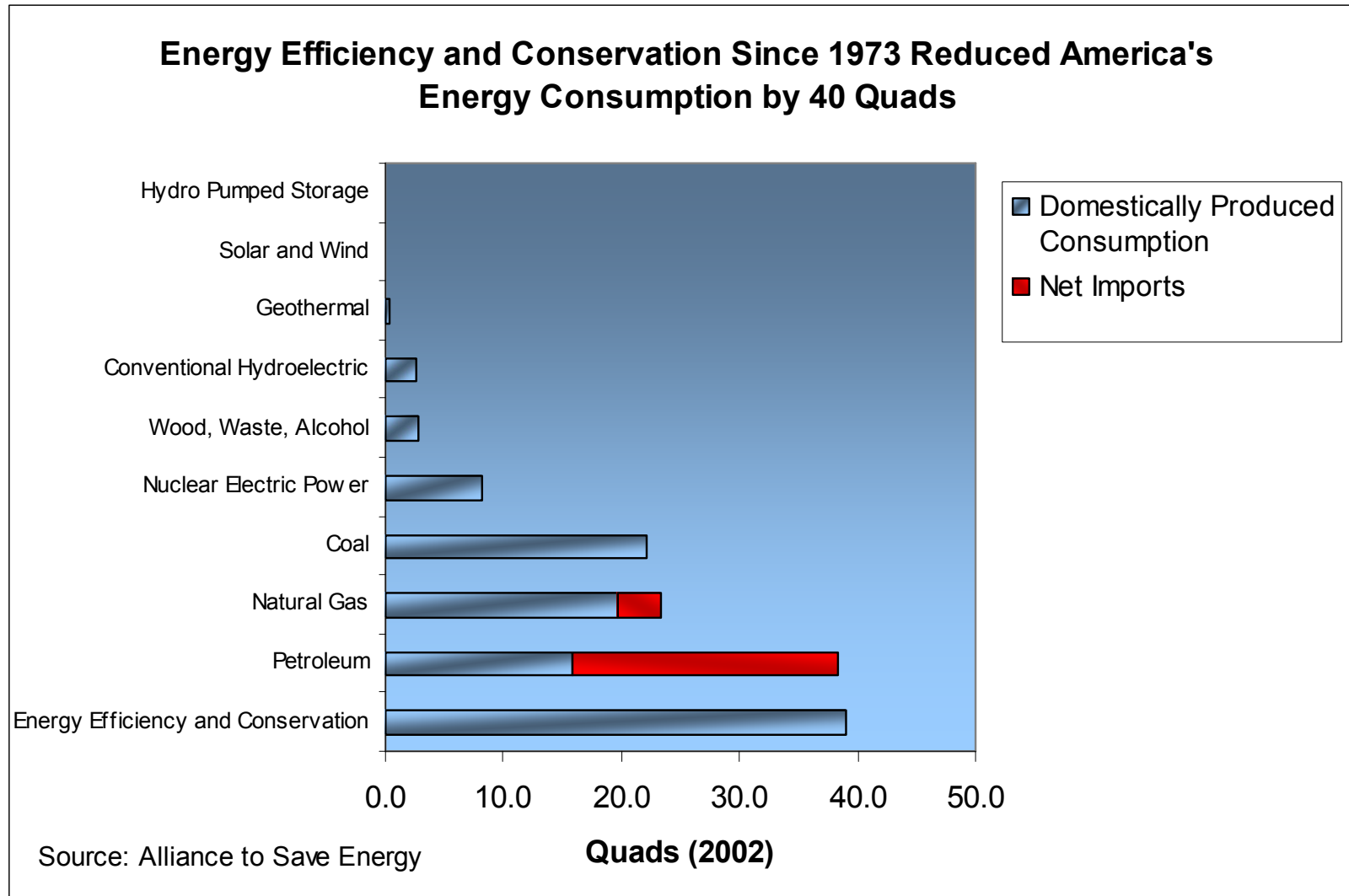
# Why Energy Efficiency?

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- Reduce Greenhouse Gas Emissions and Other Pollutants at Lowest Cost
- Lower Energy Costs to Consumers
- Improve Industrial Productivity and Profitability
- Create New Jobs and Businesses
- Reduce Municipal Budgets for Services
- Enhance National Security and Energy Independence

# America's Greatest Energy Resource

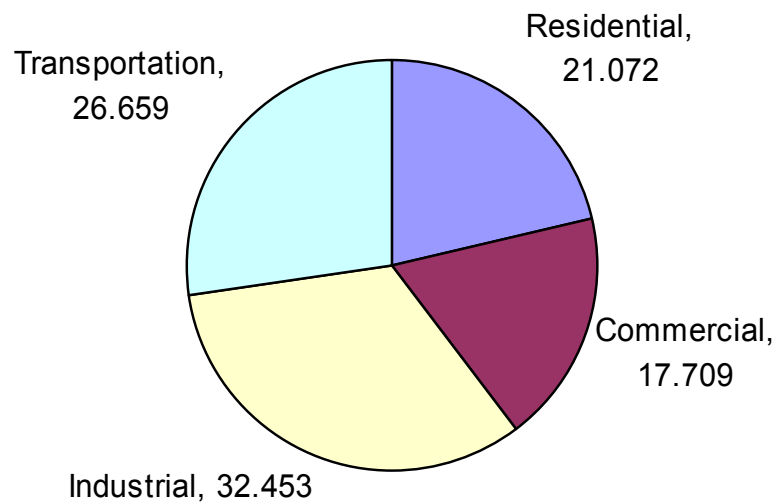


# U.S. Energy Use

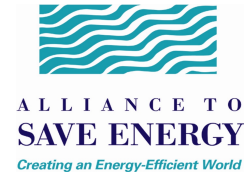


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**2002 Energy Use by Sector  
(Quads)**



# Delivering Security Through Efficiency



## TRANSPORTATION SECTOR EXAMPLES

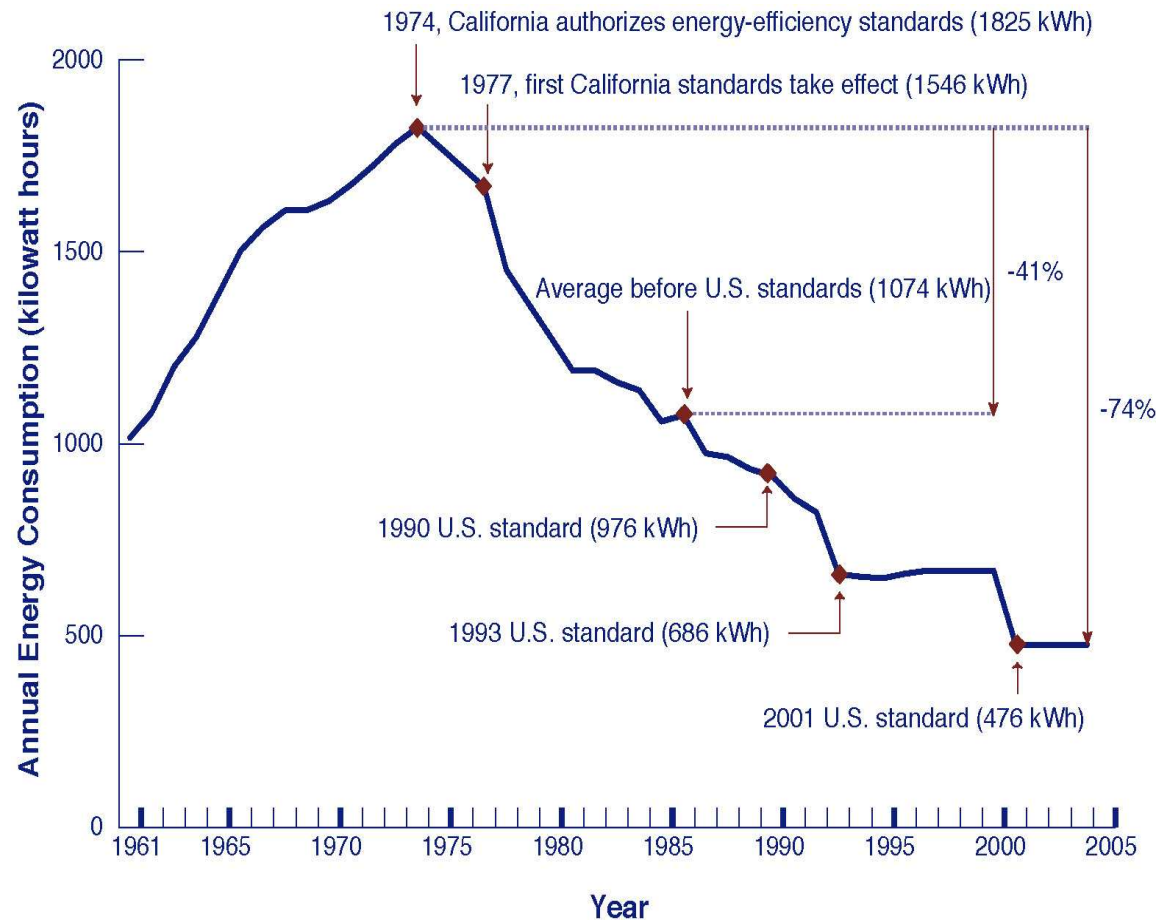
- Today's cars go 43% further on a gallon of gasoline than cars on the road in 1973
- Savings equal to 3.8 million additional barrels of oil per day or more than half of China's total petroleum demand in 2002
- Avoidance of 460 million metric tons of carbon dioxide – about 8 percent of total US emissions



# Delivering Security Through Efficiency – Appliance Examples



- Refrigerators sold today use three-fourths less energy than in 1973
- Demand reduction equal to power from 18 nuclear power plants



Source: Collaborative Labeling and Appliance Standards Program

# Delivering Economic and Environmental Security through Efficiency

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Total Energy Savings Estimated Between 1973 and Now (40 Quads) =

- Avoidance of 2 billion tons of carbon dioxide every year, representing 9% of total world-wide emissions
- \$400 billion Savings in Consumer Energy Bills

# Federal Policies and Programs to Promote Efficiency



## ■ Federal Energy Efficiency Programs

- Energy Star                      Industrial Best Practices
- Weatherization      State Energy Programs

*Annual investment of \$1.6 billion in 17 programs returns \$30 billion in energy savings*

## ■ Efficiency Standards

- Appliances                      Vehicles

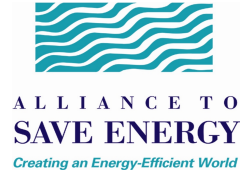
## ■ Purchase Incentives

- Federal Tax Deduction for Hybrids & AFVs

## ■ Federal Energy Management

- Efficiency requirements and goals established for federal agencies

# State Programs and Policies to Promote Energy Efficiency



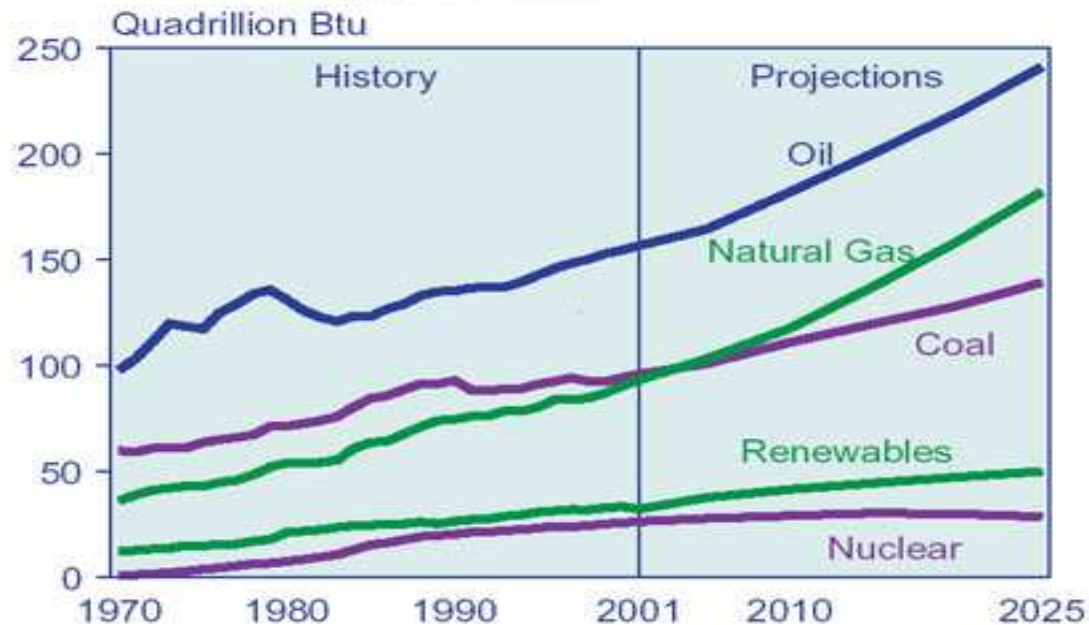
- **Building codes and standards**
  - 39 States have adopted energy efficient building codes
- **Purchase incentives**
  - Sales tax exemption for high efficiency appliances
  - tax credits & deductions for hybrid vehicles
  - Use of HOV lanes by hybrids and AFVs
- **State research, deployment & voluntary programs**
  - 23 states have programs funded through utility surcharge
- **Appliance standards**
  - States adopting standards more stringent than federal, or where federal standards have not been established

# But Energy Consumption Continues to Grow....



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**Figure 7. World Energy Consumption by Energy Source, 1970-2025**



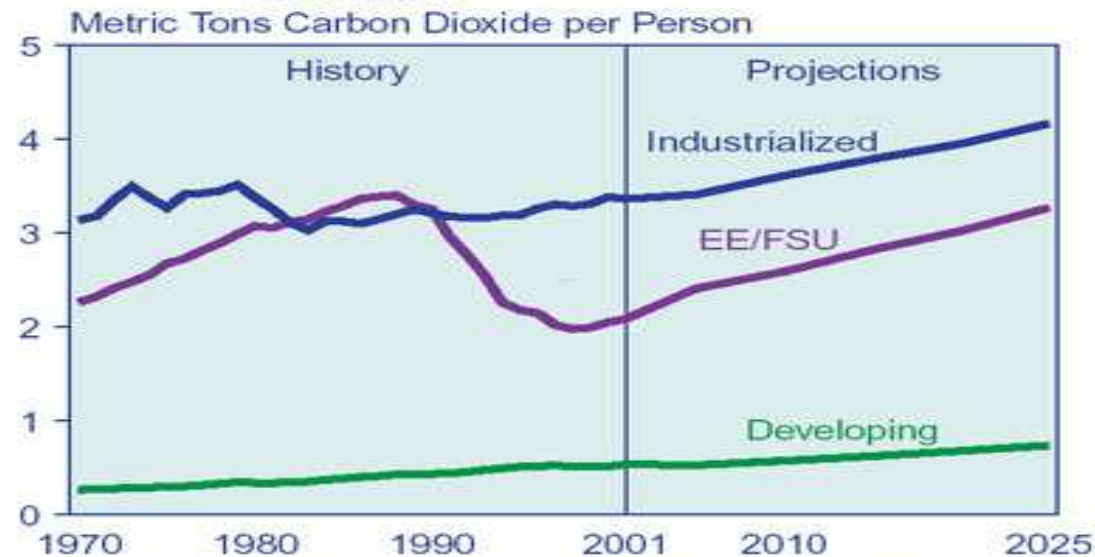
Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2001*, DOE/EIA-0219(2001) (Washington, DC, February 2003), web site [www.eia.doe.gov/iea/](http://www.eia.doe.gov/iea/). **Projections:** EIA, System for the Analysis of Global Energy Markets (2003).

# Industrial economies continue to consume more than their share



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**Figure 19. Energy-Related Carbon Dioxide Emissions per Capita by Region, 1970-2025**



Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2001*, DOE/EIA-0219(2001) (Washington, DC, February 2003), web site [www.eia.doe.gov/iea/](http://www.eia.doe.gov/iea/). **Projections:** EIA, *System for the Analysis of Global Energy Markets* (2003).

# But Rest of World Has Great Expectations

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## Developing & Transitioning Economies Demand More Energy Services

### ■ Cars

- Motorization rates expected to double in Mexico over next two decades
- Vehicle Sales in China climbed by almost 80% in 2003

### ■ Appliances

- Over 300 million “White Goods” sold annually, roughly half representing new demand

# Using Efficiency to Meet Future Demand



## **Alliance Calls on Federal Government to:**

- Enact additional efficiency standards and tax incentives
- Double federal energy efficiency funding
- Lead by example –efficient federal facilities and fleet
- Create a federal public benefits fund
- Address vehicle fuel efficiency



# Using Efficiency to Meet Future Demand

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Alliance Works World-wide to Promote Efficiency:

- In North America – Collaborative Efforts in Mexico
  - Water Sector
  - Mobilizing the Private Sector
  - Harmonizing Standards, Labels and Energy Policies

# Mexico Urban Water Sector

## Basic Data

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- Energy consumption- 2112 GWh
- Annual payments- \$500 Million/year (USD)
- Current Inefficiency-
  - 50% loss (unaccounted-for-water)
  - 250 liters/day for 10 million people
- Potential Savings-
  - \$200 Million/year (USD)
  - Enough water to meet demand until 2050
- Financing-
  - Average “recovery” on investment is 1-1/2years

# Alliance Watergy Program

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- **Improve municipal and utility management of water and energy resources through:**
  - Developing Capacity within local institutions
  - Forming Partnerships (Provide training to improve management structures and knowledge-base)
  - Documenting Results (Identify & implement projects)
  - National Outreach (Create networks to help move national level policies)
- **Active in Mexico, Brazil, South Africa, India, Sri Lanka, Philippines, Bosnia, Montenegro, Ukraine**

# Watergy Mexico Progress to Date

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## Results from Veracruz Project

- Reduced its electricity consumption by approximately 22% in over half the system
- Reinvested the savings in additional projects that are projected to have a similar result in the other half of the system by year's end
- Customer complaints about poor water pressure, once the norm, have ceased
- Greater customer satisfaction has in turn allowed the utility to raise water rates

# Watergy Mexico Progress to Date



- Co-Hosted Municipal Water Efficiency Training event with Pemex in State of Tabasco
- Convened the First Mexican National Seminar on Water and Energy Efficiency December, 2003
  - 140 Participants
  - 17 States Represented
  - 40 Water Utilities

Partners included:



# Energy Efficiency Industries Partnership (EEIP) Mexico

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- Alliance program initiated in 1995
- 27 seminars in 13 cities
  - More than 200 presentations by 82 presenters.
  - More than 2,000 audience members.
- Strong in-country network of partners
  - Governmental/NGOs (logistics)
  - EE Technology and Service Providers
- Phasing-out by end of FY04

# EEIP Mexico Independent Evaluation Results



## Sampled audience members annually saved

- ~ 270 million kWh
- ~182 billion Btus of natural gas
- ~US \$25 million

## ■ Sampled vendors

- Earned US \$3.8 million through post-seminar transactions with audience members.

*“Seminar was as a milestone because it offered a comprehensive approach to corporate energy efficiency”*

– Senior technology manager -Grupo Industrial Saltillo

# Harmonized Energy Efficiency Standards and Labels



- **CLASP (Collaborative Labeling and Appliance Standards Program)** - Collaboration in which Alliance to Save Energy is partner
  - Support the work of the North American Energy Working Group (NAEWG)
  - Support the evaluation of Mexico's existing energy efficiency standards and labeling programs
  - Disseminate information on Mexico's programs to neighboring countries

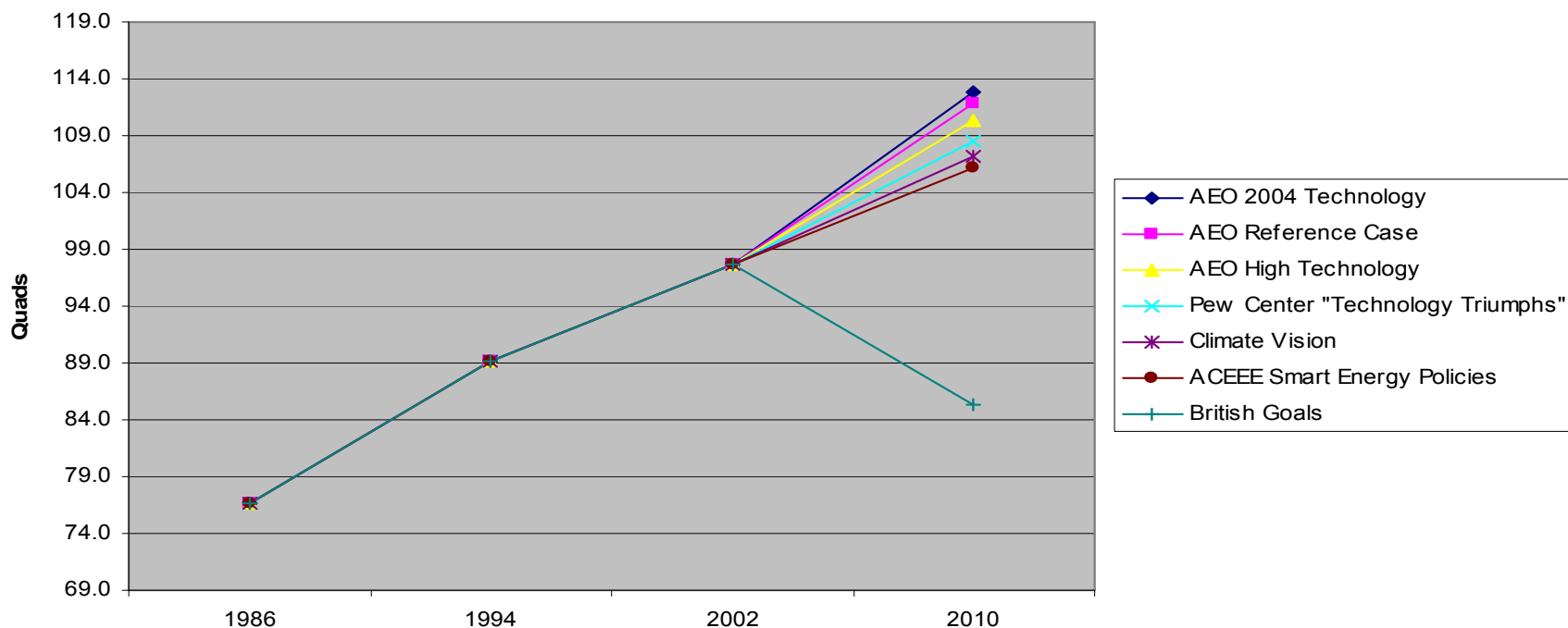


# The Need is Clear – the Role for Energy Efficiency is Great



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## 2010 Energy Use Under Various Scenarios



Source: Alliance to Save Energy

# For More Information

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**President**

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