

Oil Crises and Climate Challenges
30 Years of Energy Use in IEA Countries

Oil Crises & Climate Challenges


30 Years OF ENERGY USE IN IEA COUNTRIES

INTERNATIONAL ENERGY AGENCY

Oil Crises & Climate Challenges

30 Years OF ENERGY USE IN IEA COUNTRIES

Fridtjof Unander, International Energy Agency
International Energy Workshop, Paris 24 June 2004



Oil Crises and Climate Challenges
30 Years of Energy Use in IEA Countries

Oil Crises & Climate Challenges

30 Years OF ENERGY USE IN IEA COUNTRIES

Background for Study

- Review of trends in energy use and CO₂ emissions since IEA was founded 30 years ago
- Aim is to provide a better understanding of factors that have shaped developments:
 - ◆ energy efficiency
 - ◆ economic activity and structure
 - ◆ demographics
 - ◆ lifestyle & behaviour
 - ◆ prices
 - ◆ fuel mix



Oil
Crises &
Climate
Challenges

30
Years

OF ENERGY USE
IN IEA COUNTRIES

Background for Study (cont.)

- Based on new IEA database with energy and activity data by sector and end-use
- Provides input to IEA modelling activities, e.g. the ETP project and the World Alternative Policy Scenario of WEO 2004

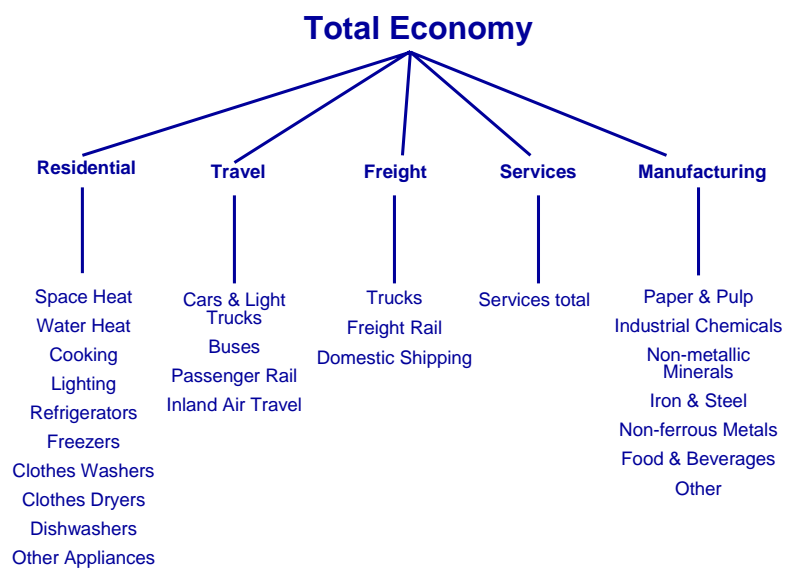


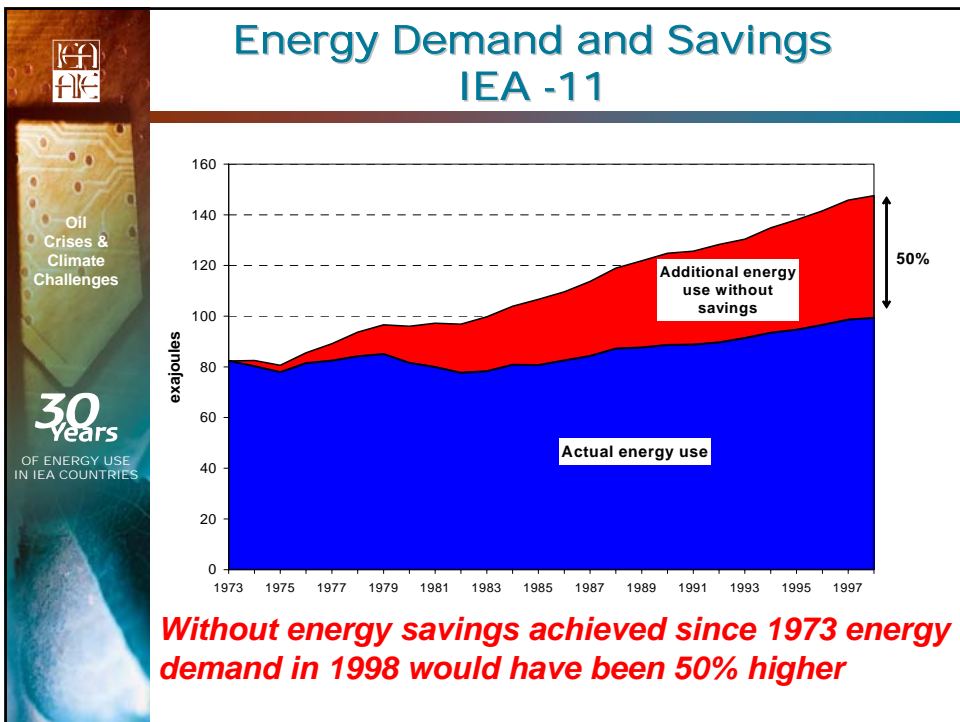
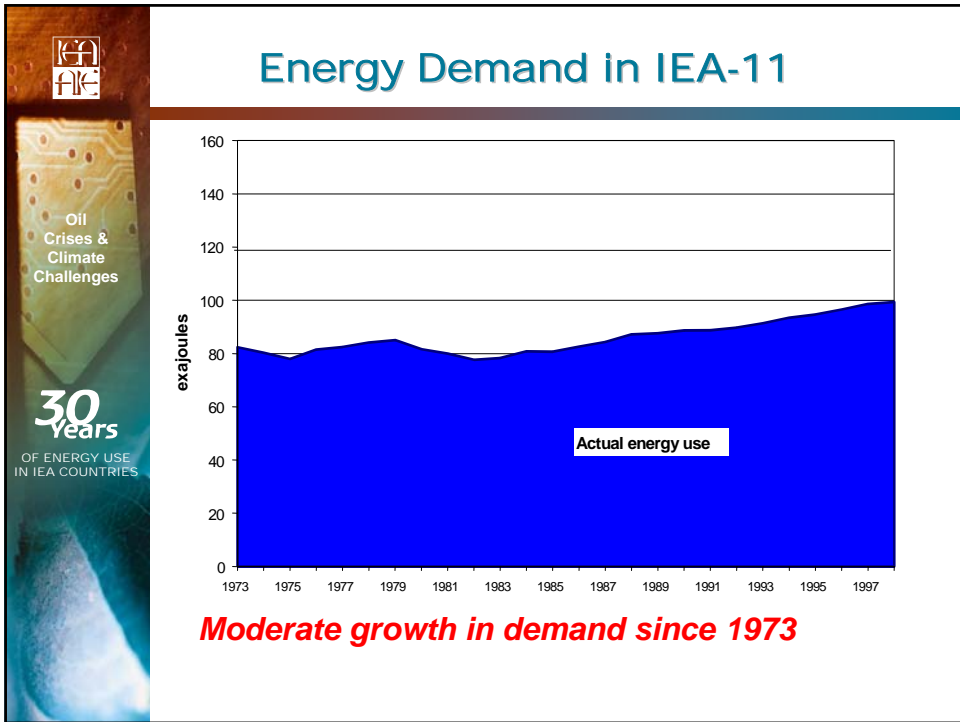
Oil
Crises &
Climate
Challenges

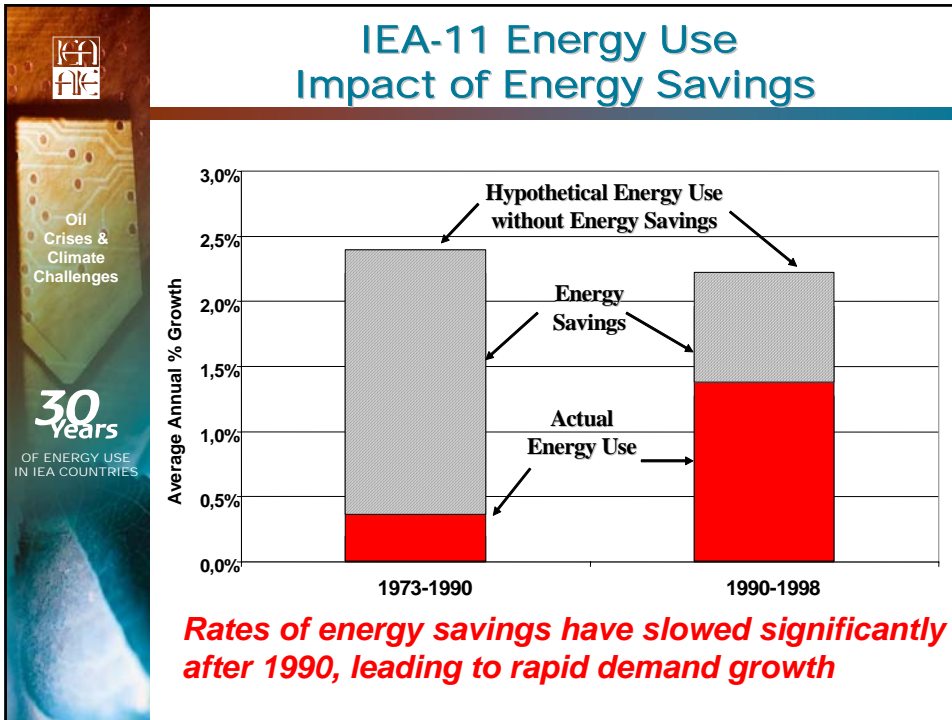
30
Years

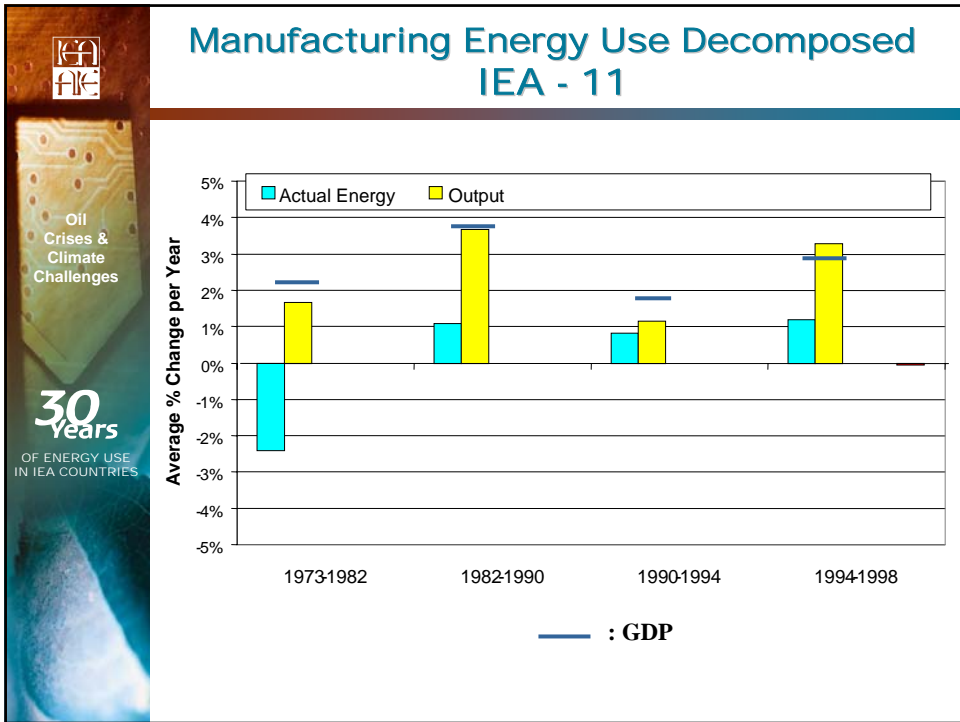
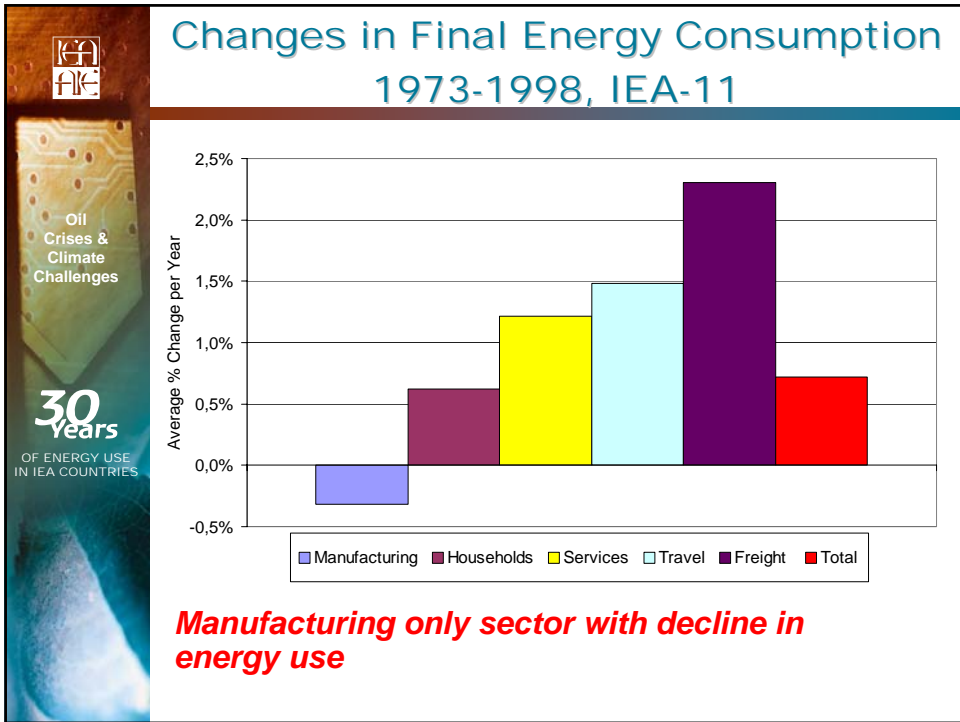
OF ENERGY USE
IN IEA COUNTRIES

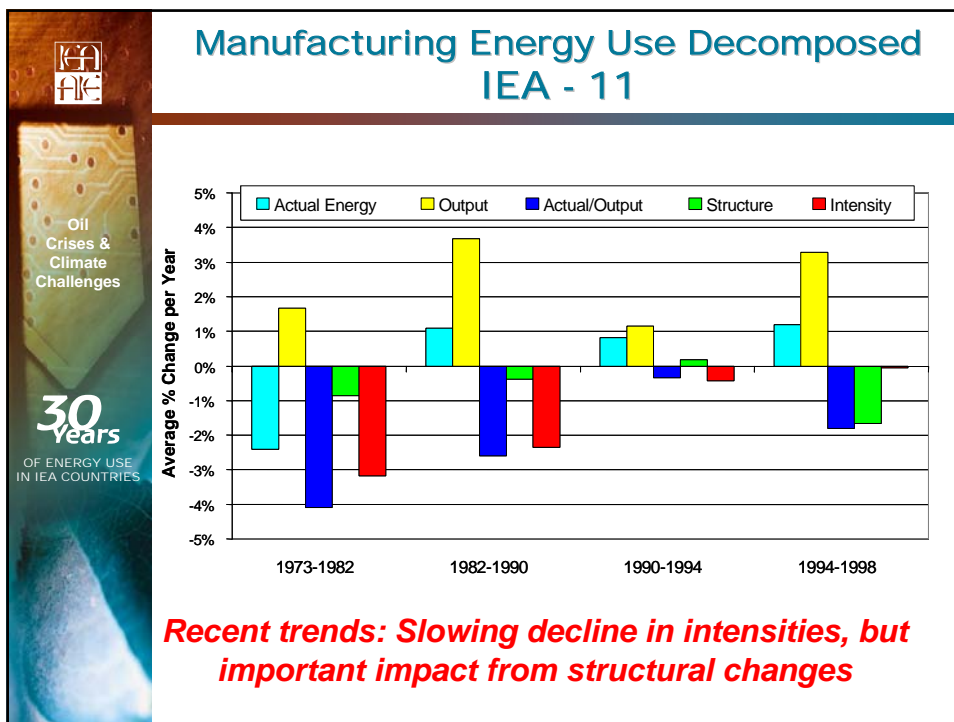
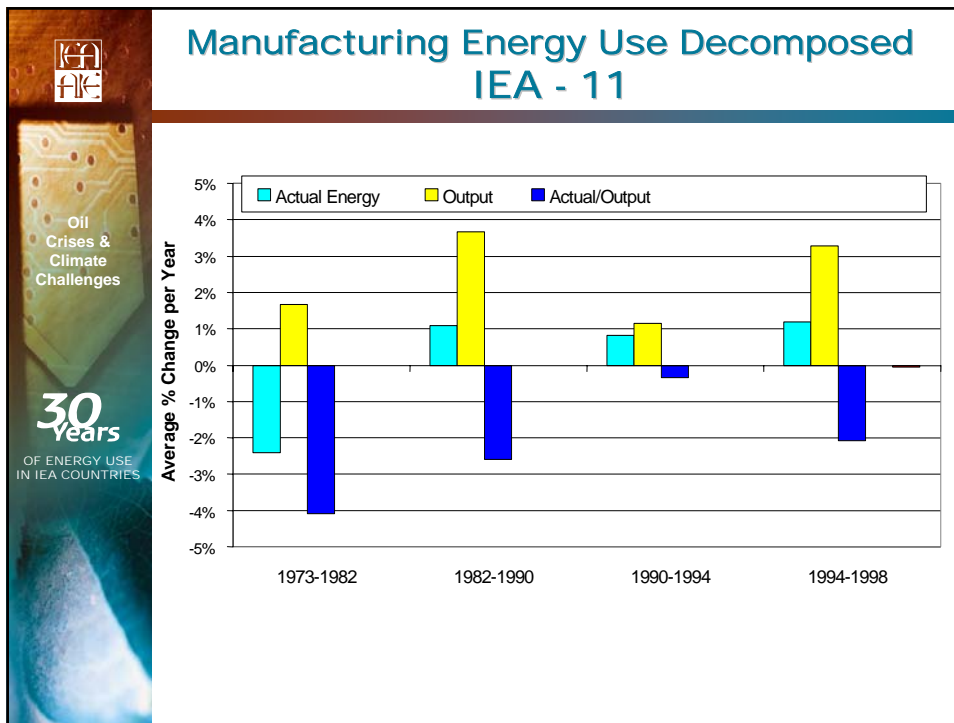
Sector & End-use Coverage











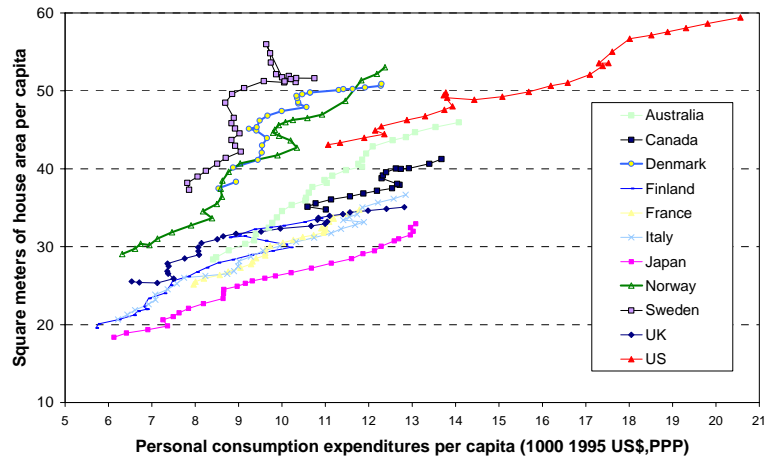


Oil Crises & Climate Challenges

30 Years

OF ENERGY USE IN IEA COUNTRIES

Home Area and Income 1970-1998



Living space gets bigger as we get richer

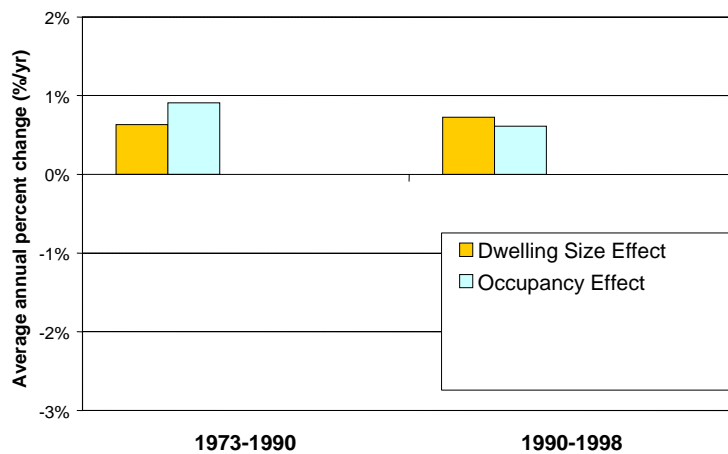


Oil Crises & Climate Challenges

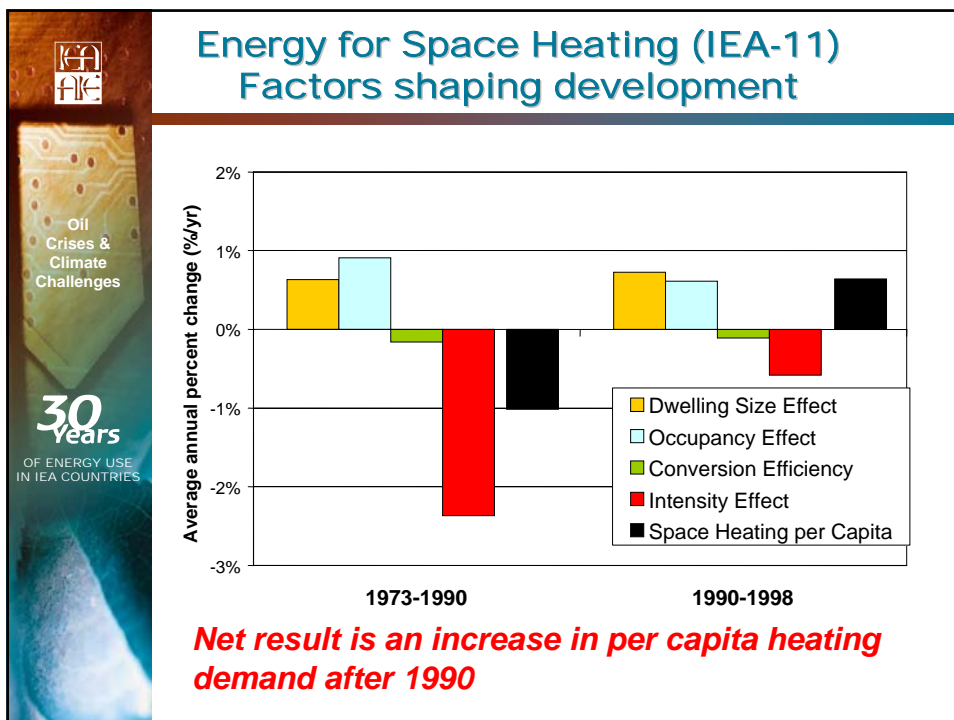
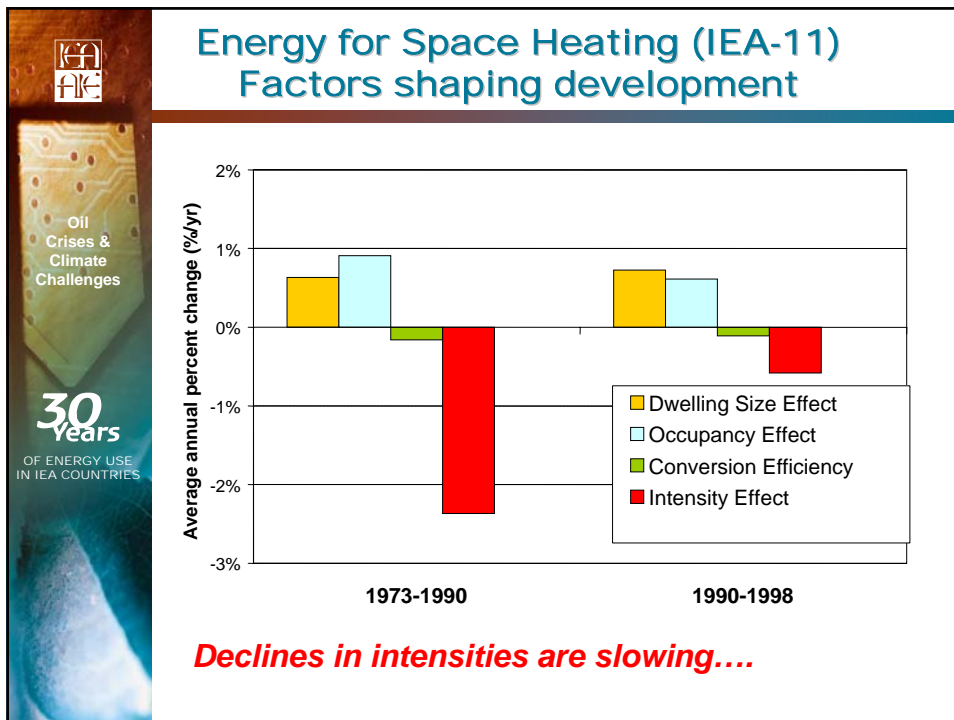
30 Years

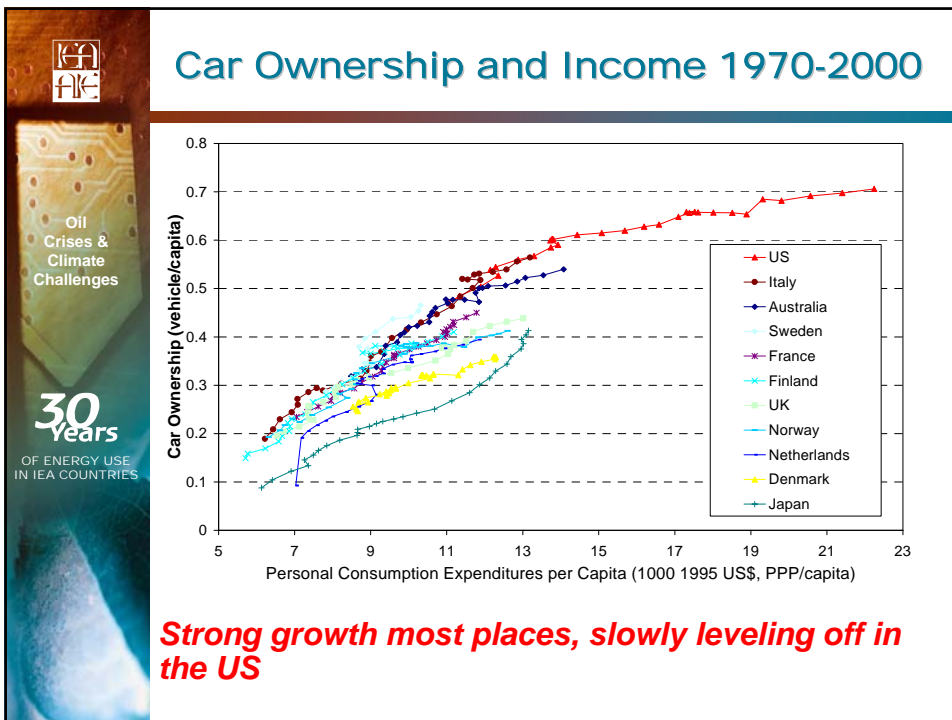
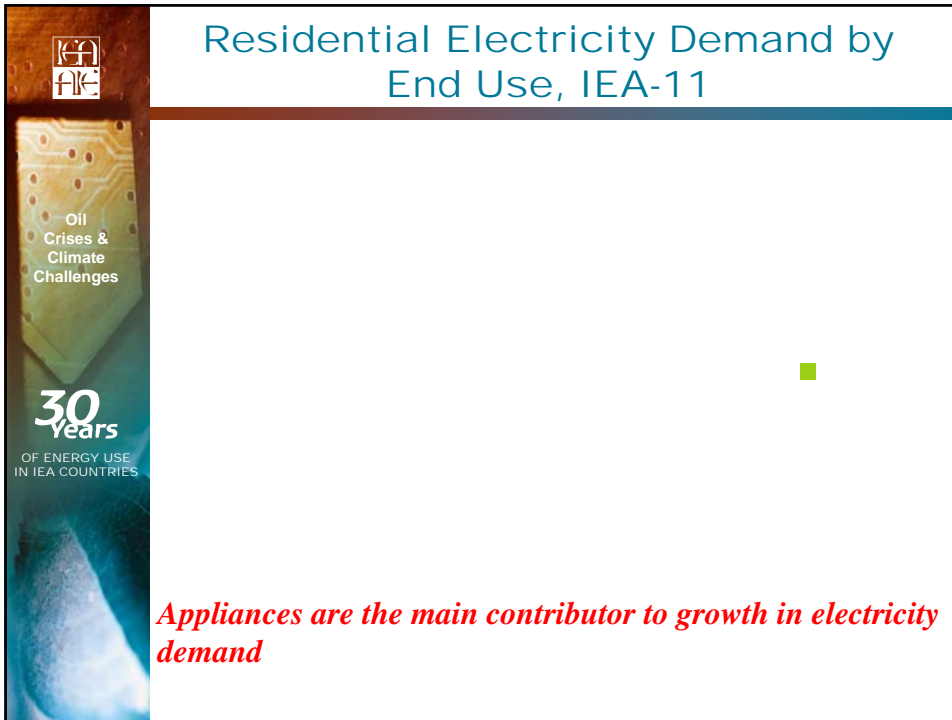
OF ENERGY USE IN IEA COUNTRIES

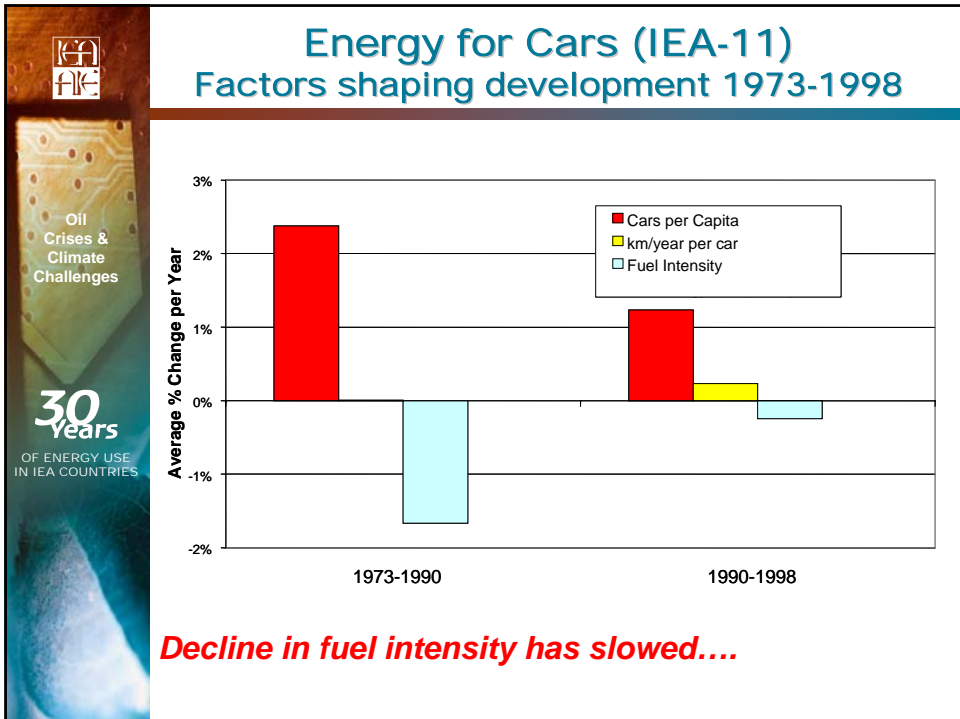
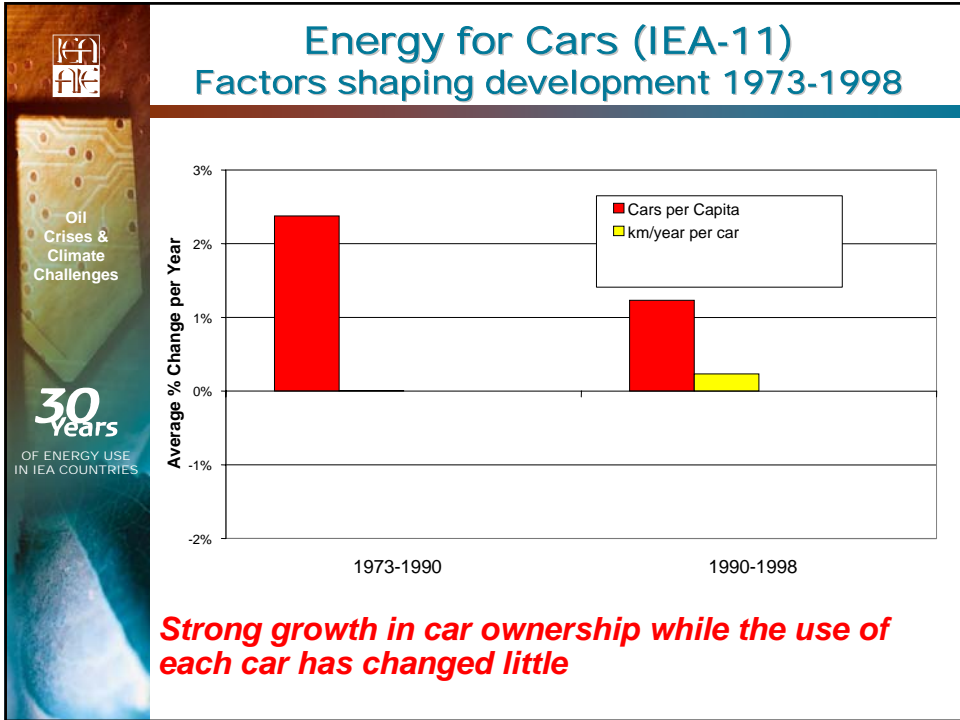
Energy for Space Heating (IEA-11) Factors shaping development

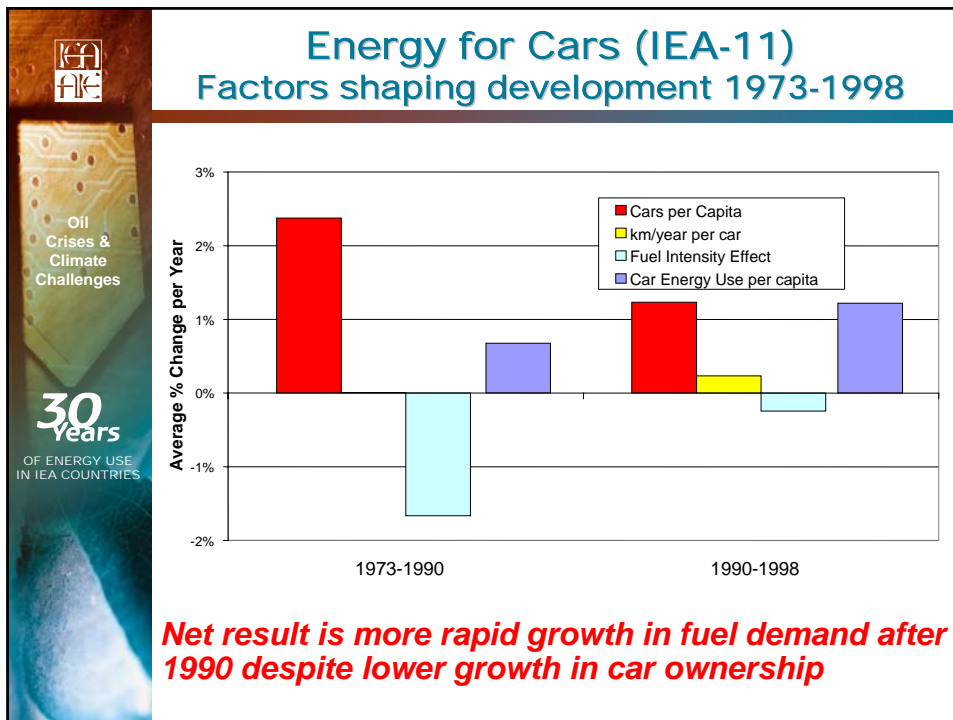


Bigger homes and fewer people per home steady drivers of space heating demand

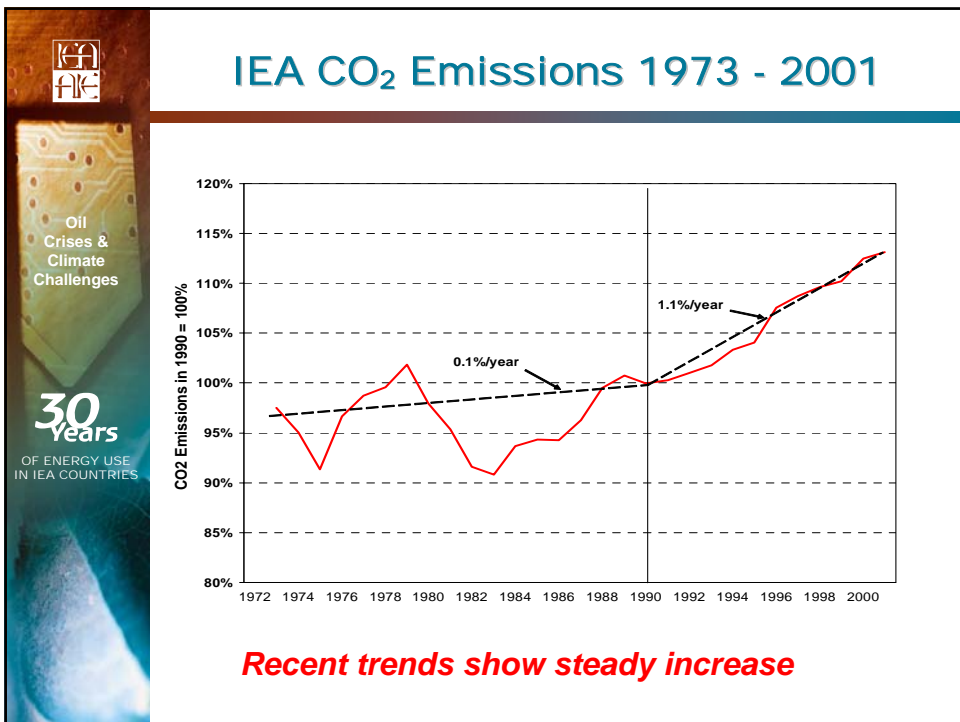
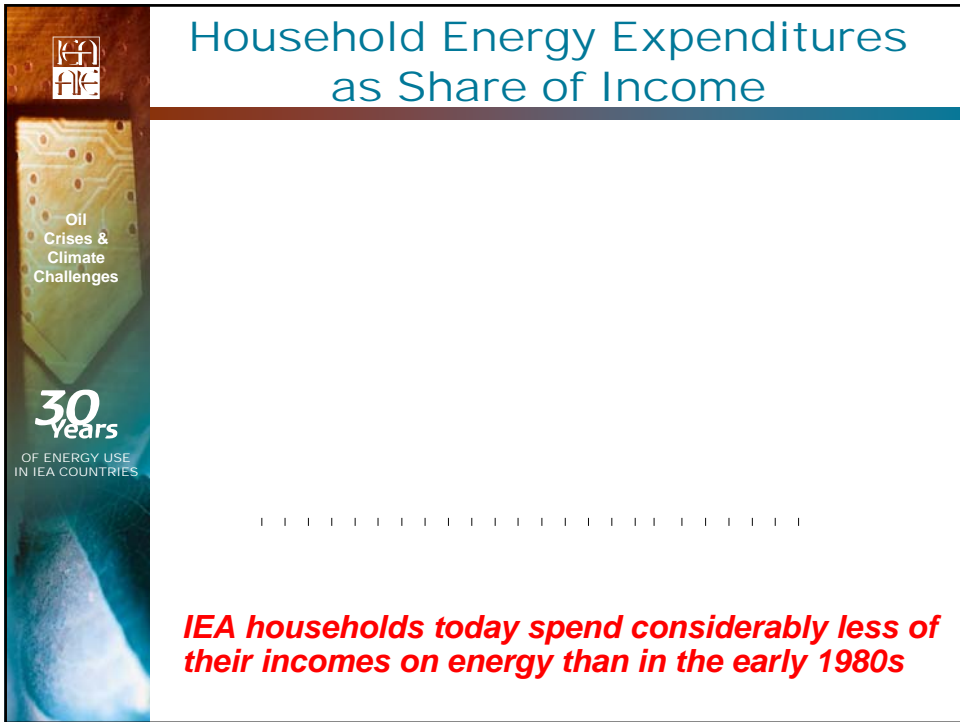


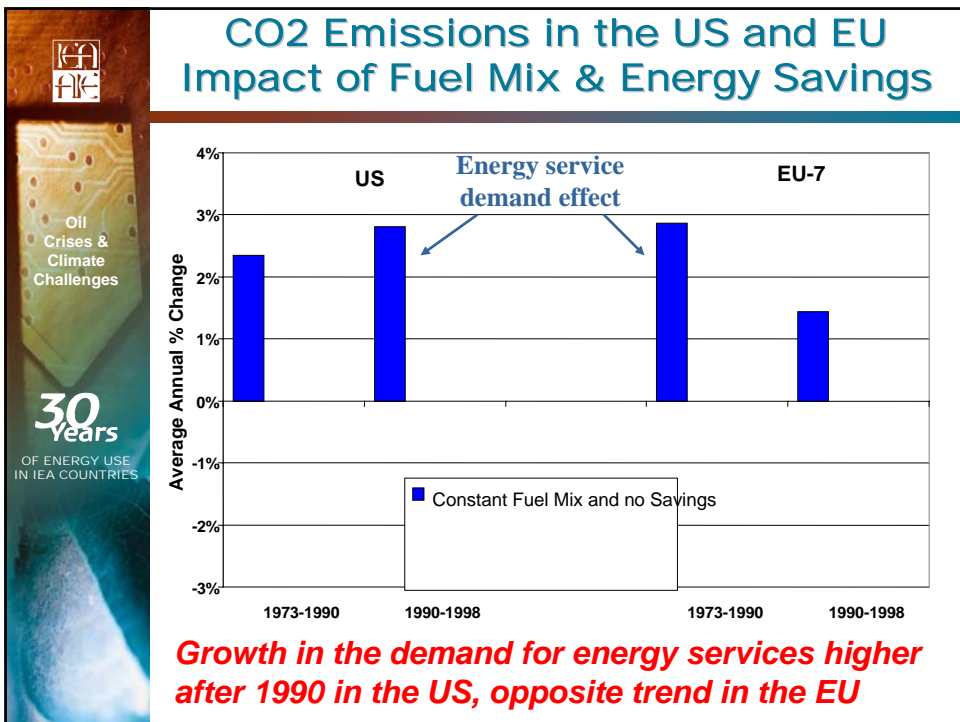
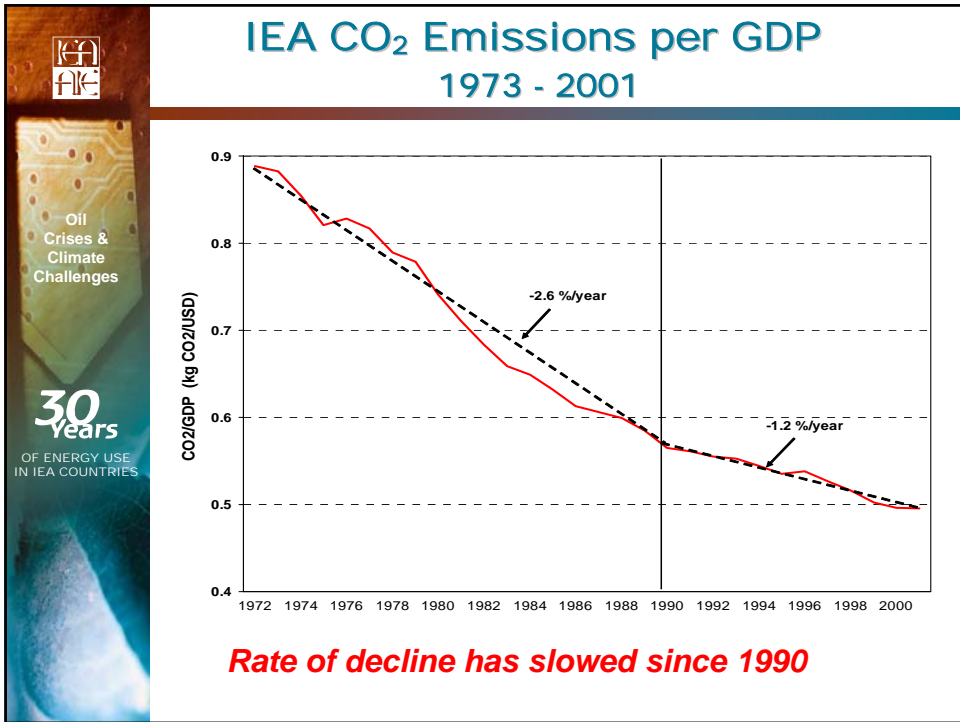


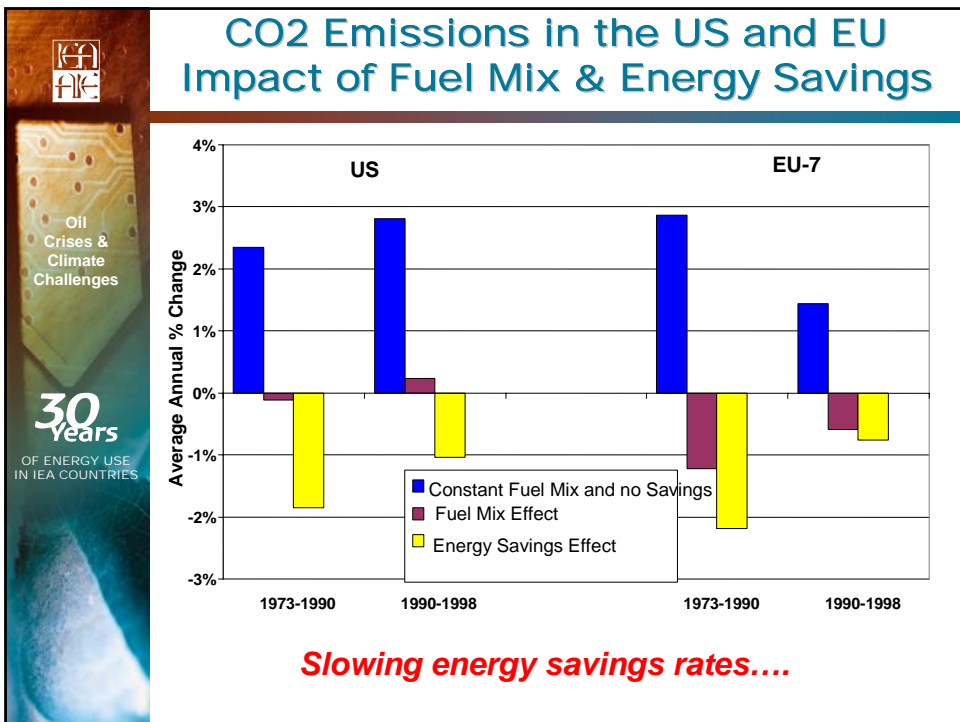
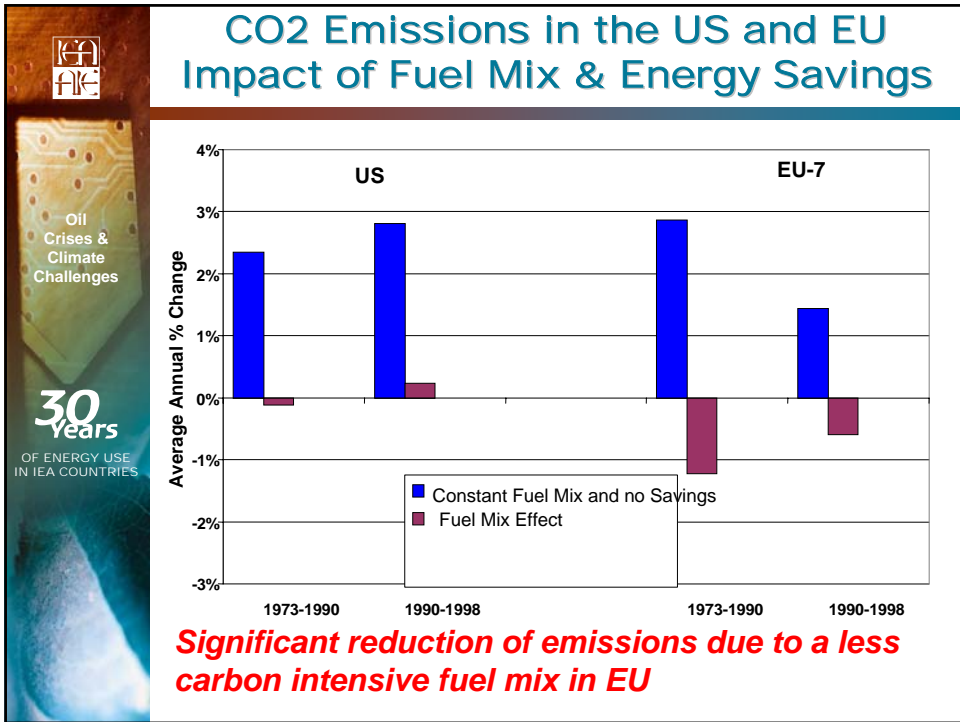


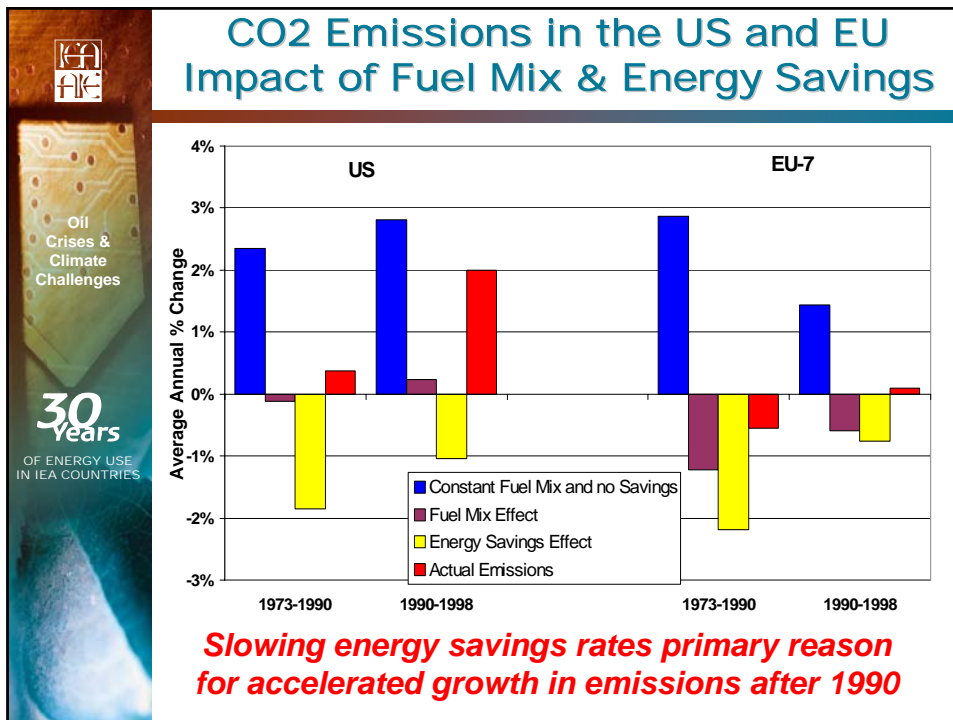


- ### Energy Costs and Savings
- **Falling prices and successful energy savings have helped reducing energy budgets for industry and private consumers since the early 1980s:**
 - ◆ Energy's share of production cost in industry fell as much as 50%
 - ◆ Energy cost as share of income for private homes fell 20-50%
 - ◆ Fuel cost per km for cars fell by 20 to 60%
 - **Can explain less incentive to sustain energy savings after 1990**







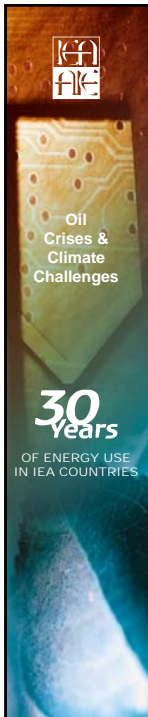


From Oil Crisis to Climate Challenge Summarising Trends since 1973

- Significant energy savings achieved through the late 1980s
- Since 1990 energy savings rates have slowed in all sectors
- Only a few countries still show a strong decoupling of CO₂ emissions from GDP growth after 1990

⇒ Oil price shocks in the 1970s did more to reduce emissions and to increase efficiency than achieved by policies implemented in the 1990s

⇒ As a consequence, CO₂ emissions are now growing rapidly along with oil and electricity demand



*The Next Three Decades:
WEO 2004*

- **Lessons learned about OECD developments will guide analysis of all world regions:**
- ***World Alternative Policy Scenario* will address how policies and measures can help accelerating energy savings and reduce CO2 emissions**

WEO 2004 release 26 October