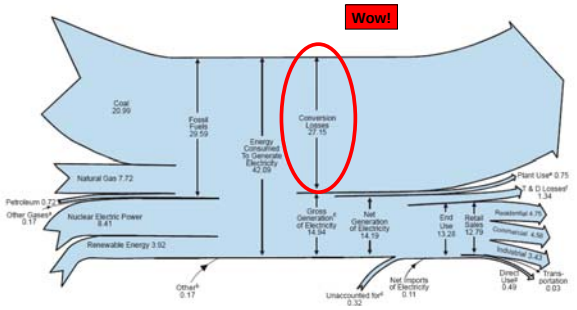
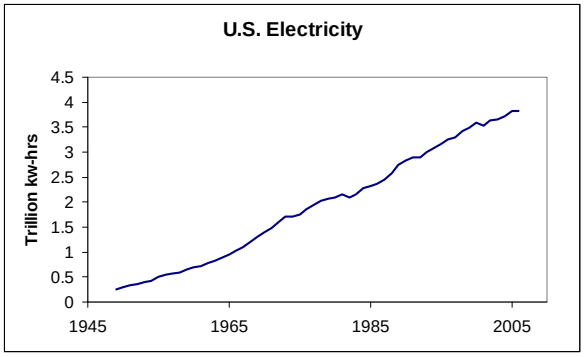
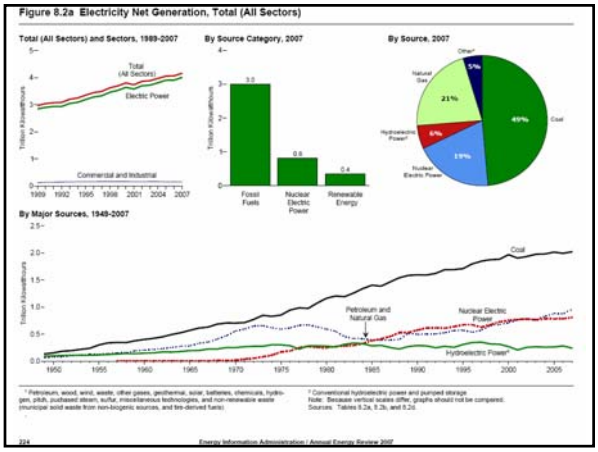
U.S. Electricity Flow Diagram

(2007 data in quadrillion Btu)

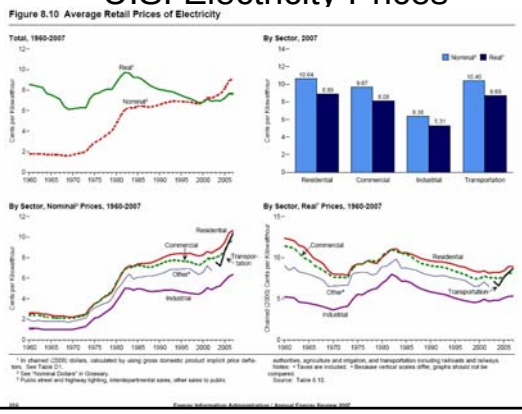
Wow!





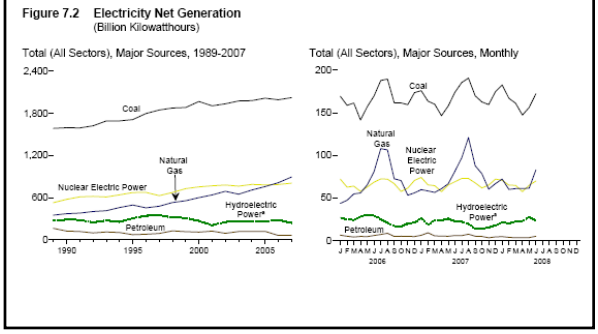


U.S. Electricity Prices



U.S. Monthly Data

Source: http://www.eia.doe.gov/emeu/mer/pdf/pages/sec7_4.pdf

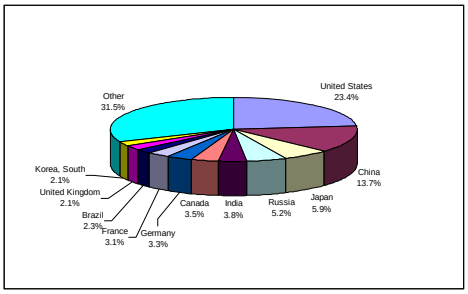


Home Energy Use in U.S.

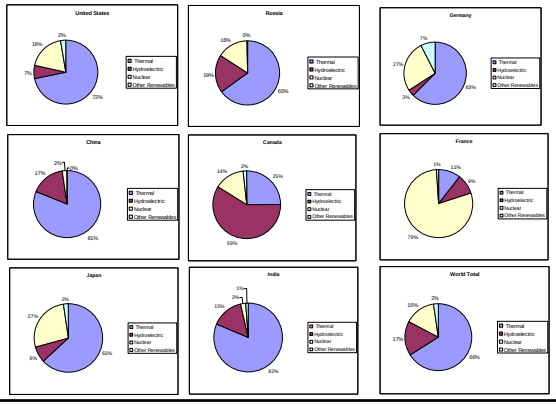
http://www.eia.doe.gov/kids/energyfacts/uses/residence.html

World Electricity Consumption

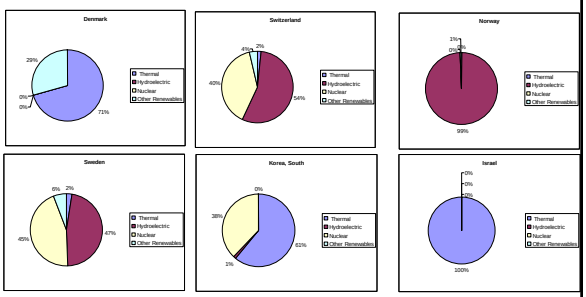
(17.35 trillion kW-hrs, 2005 data)

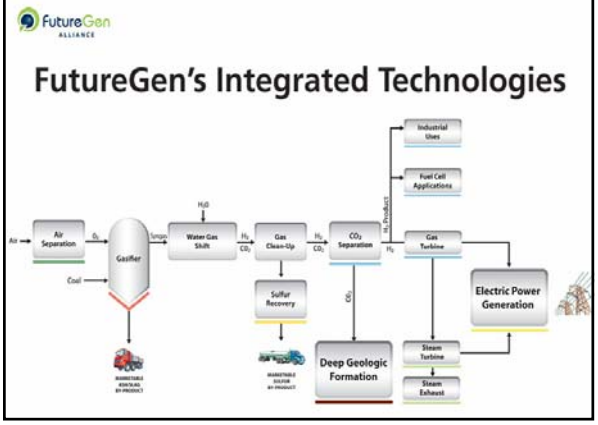


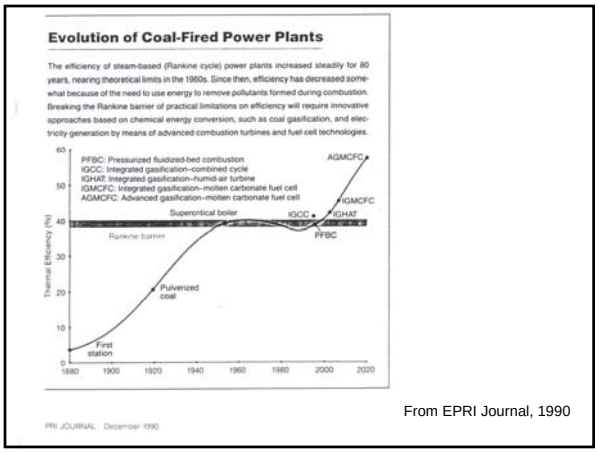
International Electricity Generation by Type (2005 data)



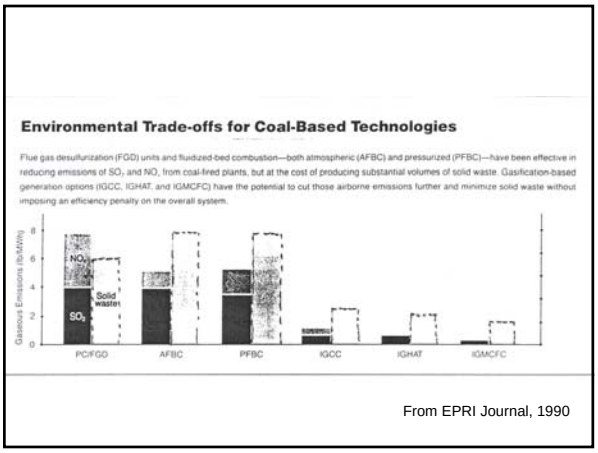
International Electricity Generation by Type (2005 data)



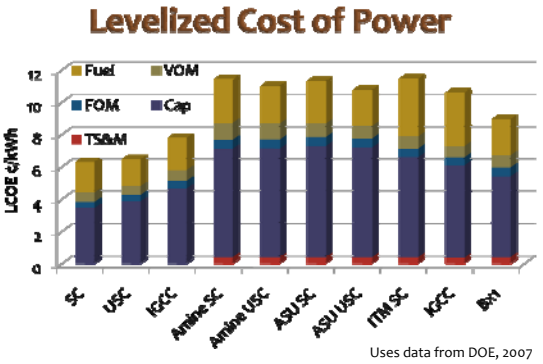




From EPRI Journal, 1990

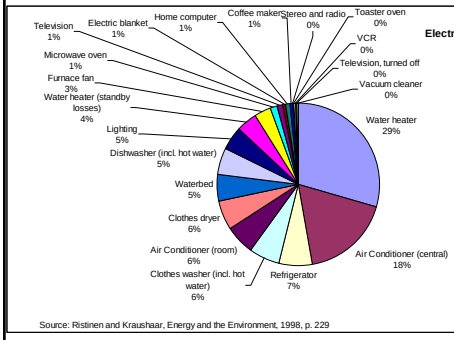


From EPRI Journal, 1990



Uses data from DOE, 2007

Cases are supercritical (current, modern technology), ultrasupercritical (10 year out developing technology), integrated gasification combined cycle, and these technologies with amine-based absorption, cryogenic air-separation unit (ASU), ion transport membrane (ITM), and two new processes.
Categories are fuel, variable operating & maintenance, fixed operating & maintenance, capital, and transportation, storage & monitoring.



Source: Ristinen and Kraushaar, Energy and the Environment, 1998, p. 229

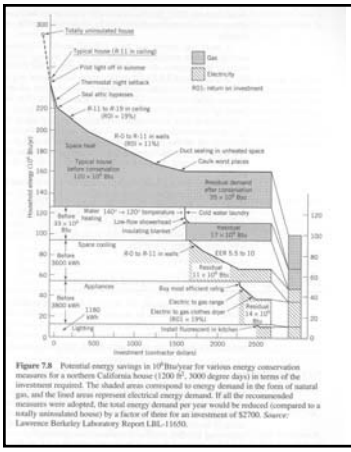


Figure 7.8 Potential energy savings in 10^9 Btu/year for various energy conservation measures for a northern California house (1200 ft², 3000 degree days) in terms of the investment required. The shaded areas correspond to energy demand in the form of natural gas, and the lined areas represent electrical energy demand. If all the recommended measures were adopted, the total energy demand per year would be reduced (compared to a totally uninsulated house) by a factor of three for an investment of $2700. *Source:* Lawrence Berkeley Laboratory Report LBL-11650.

Energy Conservation

From Ristinen and Kraushaar, 1998