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THE OIL SHOCK OF 2005 – WHAT IT MEANS FOR U.S. AGRICULTURE

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The Oil Shock of 2005 and U.S. Agriculture

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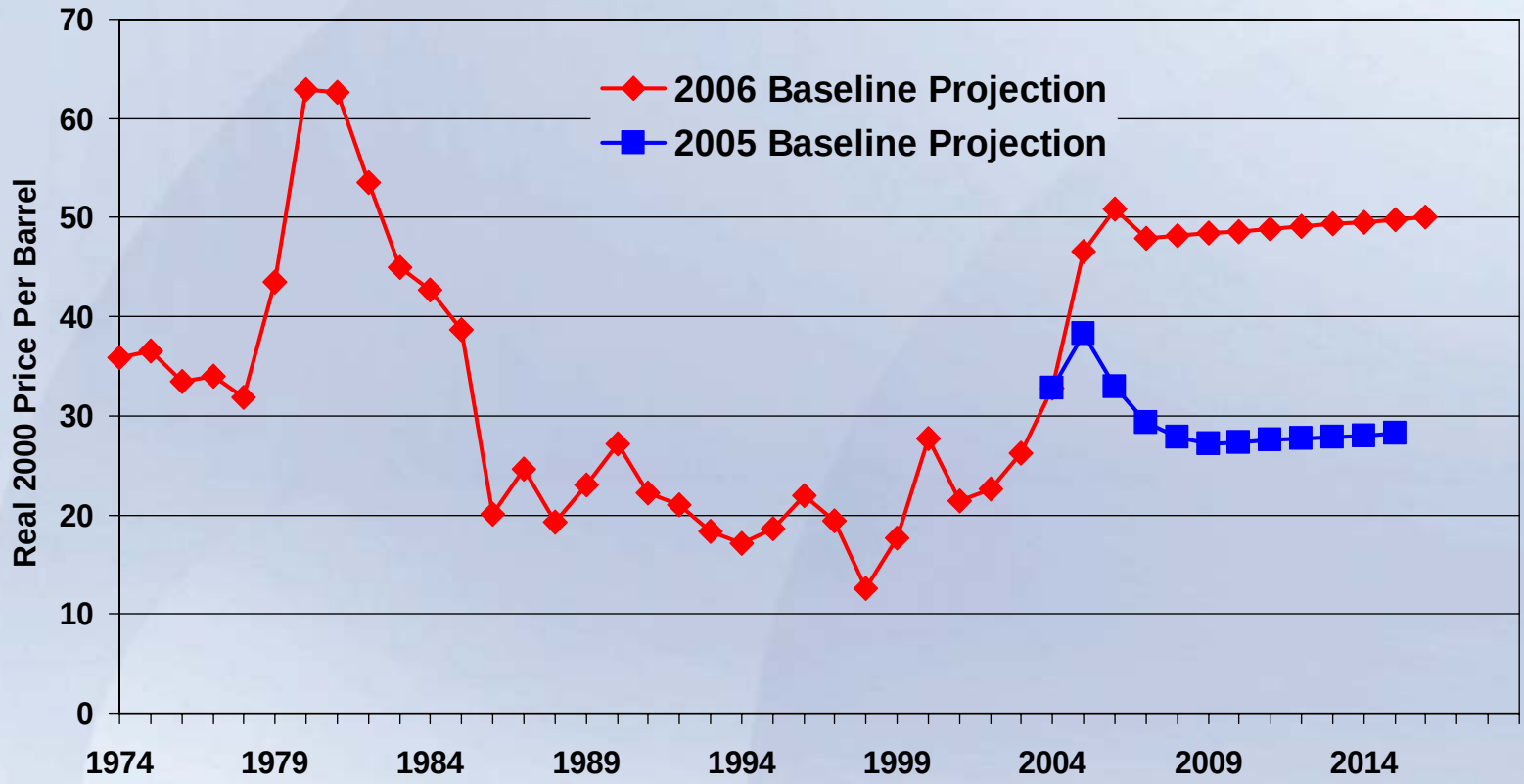
Introduction

- Oil prices rose in 2005 more than anyone expected
- Change in the current outlook for long-term increase in oil and energy prices
- What has caused this dramatic change?
- What does it mean for U.S. agriculture?

The USDA Baseline expectations of future oil price has jumped



Source: USDA Baseline

What has caused change in energy outlook?

Demand outstripped supply

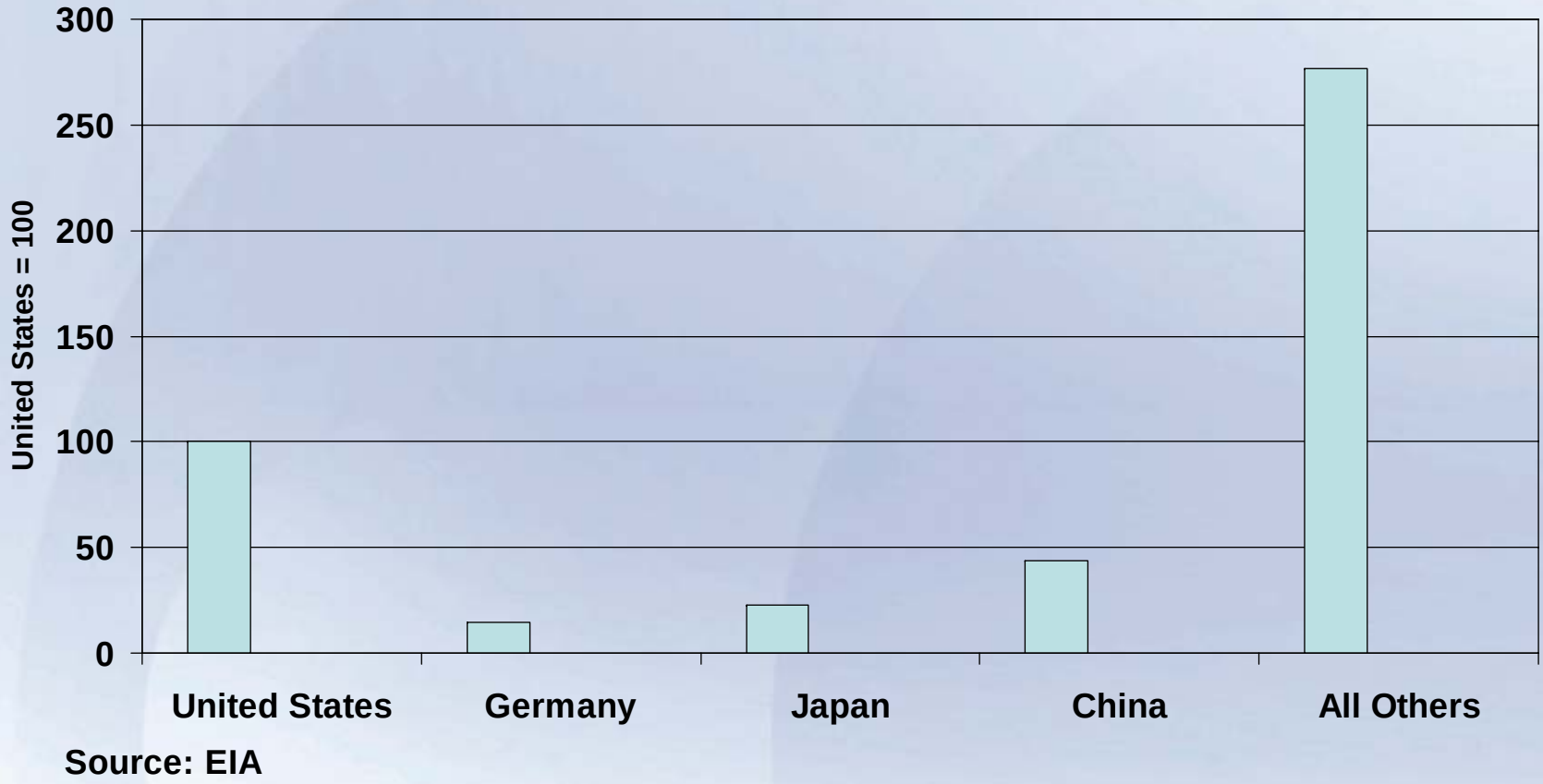
- High GDP growth in China, India and other Asian Newly Industrialized Economies competing with…..
- High GDP growth and energy demand in the United States
- Supply uncertainties from Iran and Iraq, Venezuela, and Nigeria
- Difficulties bringing new oil supplies online

What factors will stabilize the energy market?

Over time higher prices will induce

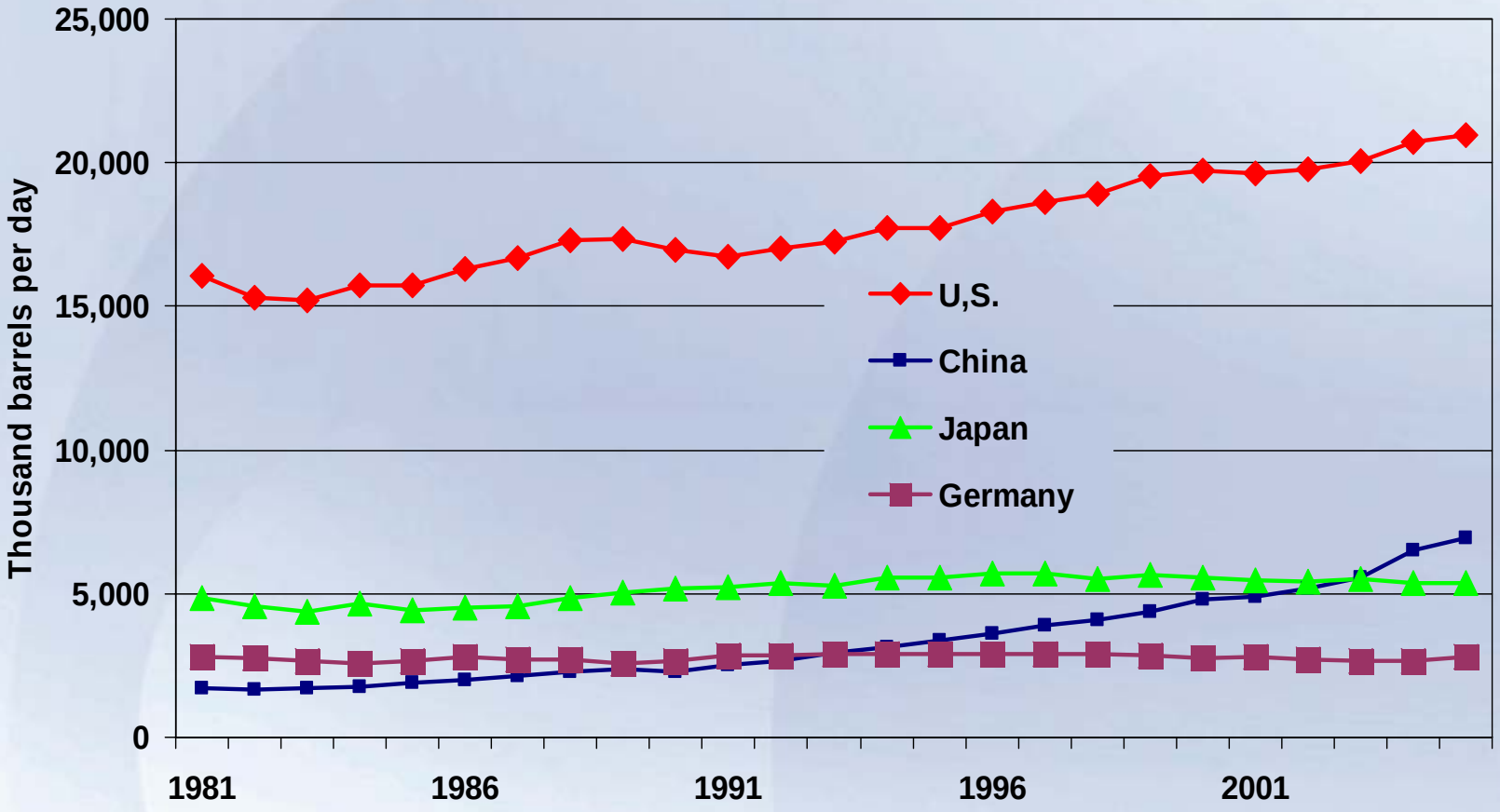
- efficiency gains
- conservation
- increase supplies from producers

Energy use index of major users

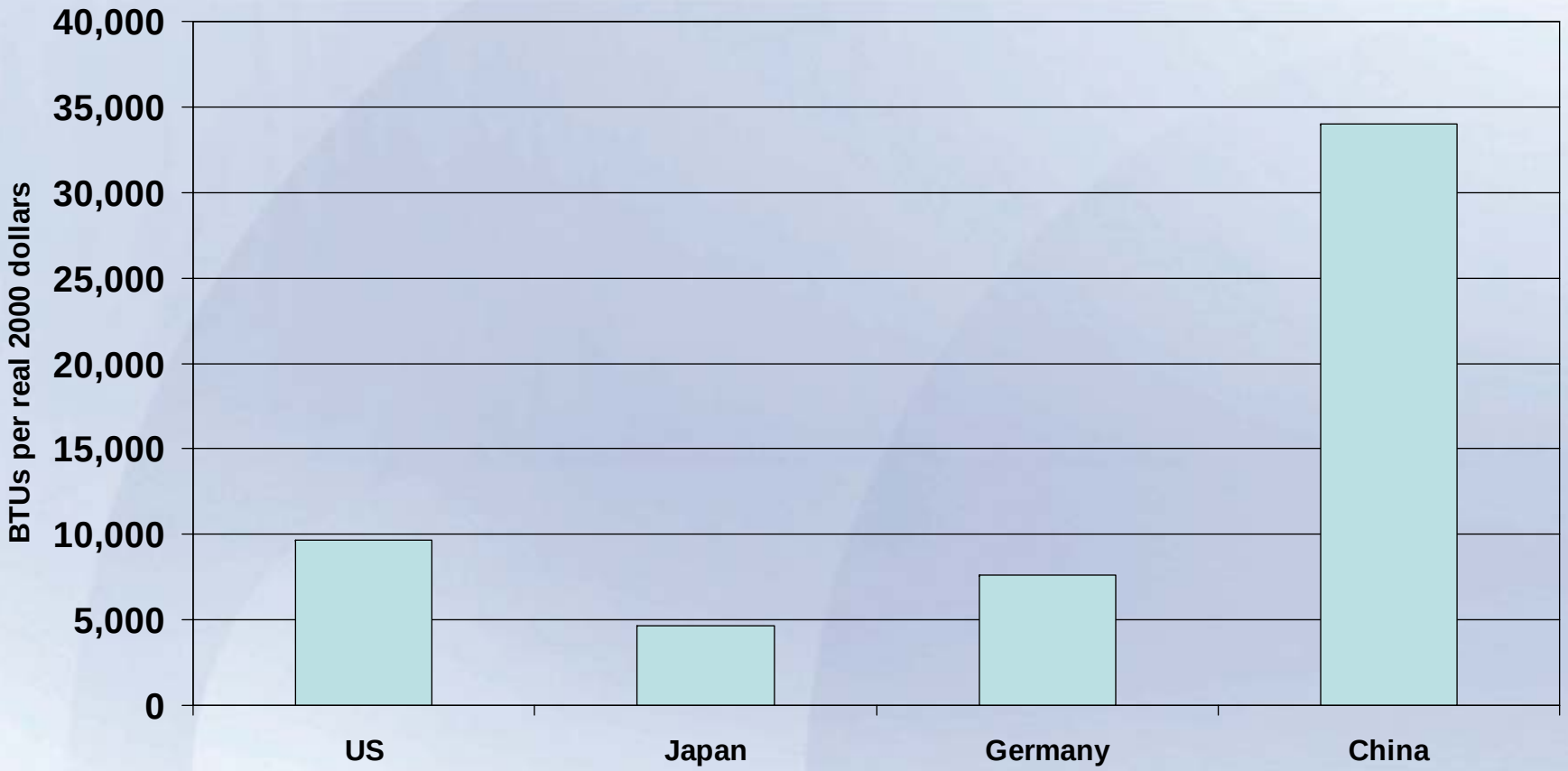


Source: EIA

China becomes number two oil consumer in 2003

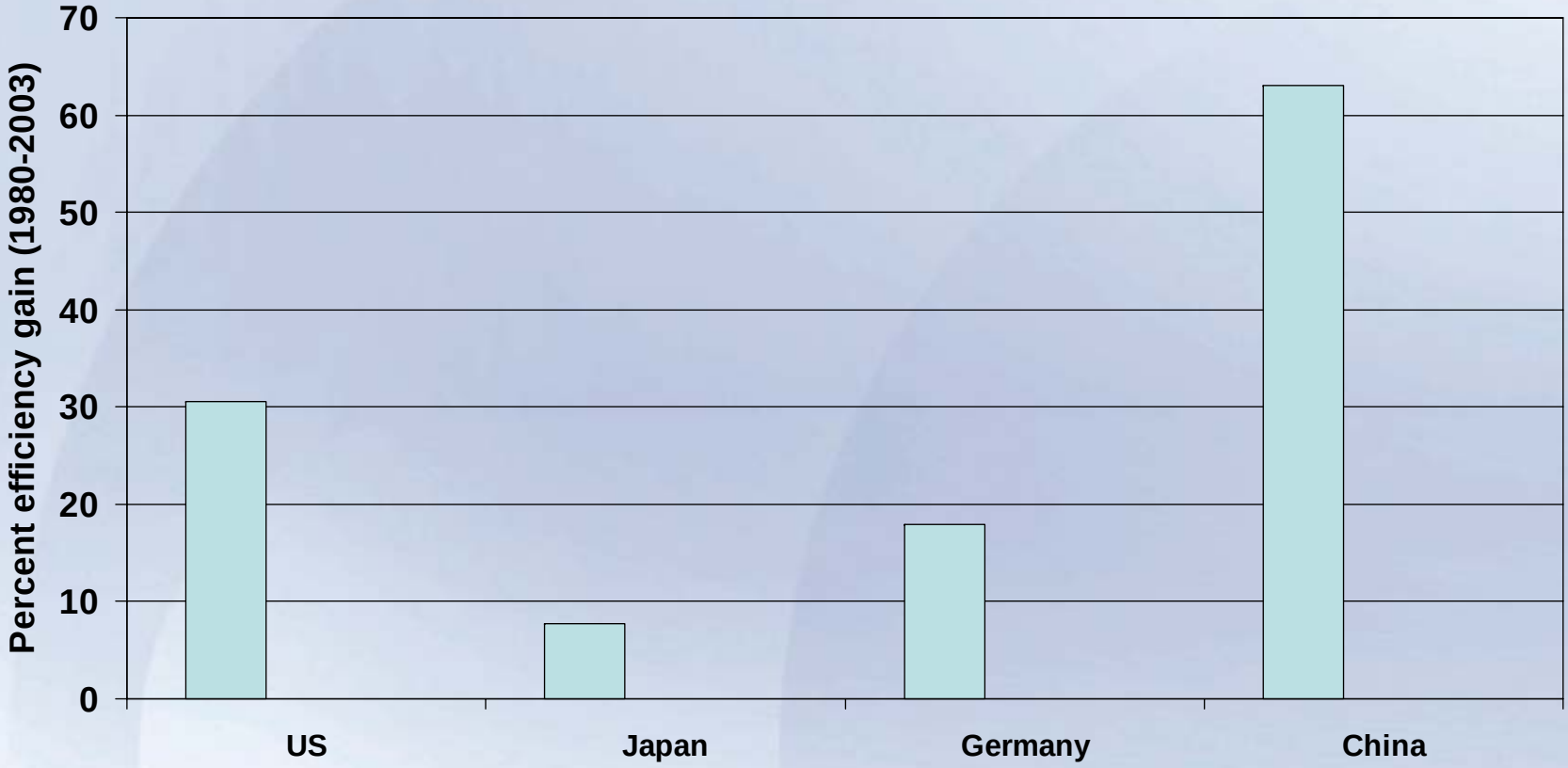


China has high energy use per dollar output, average 2001-2003



Source: EIA

But China shows highest efficiency gains

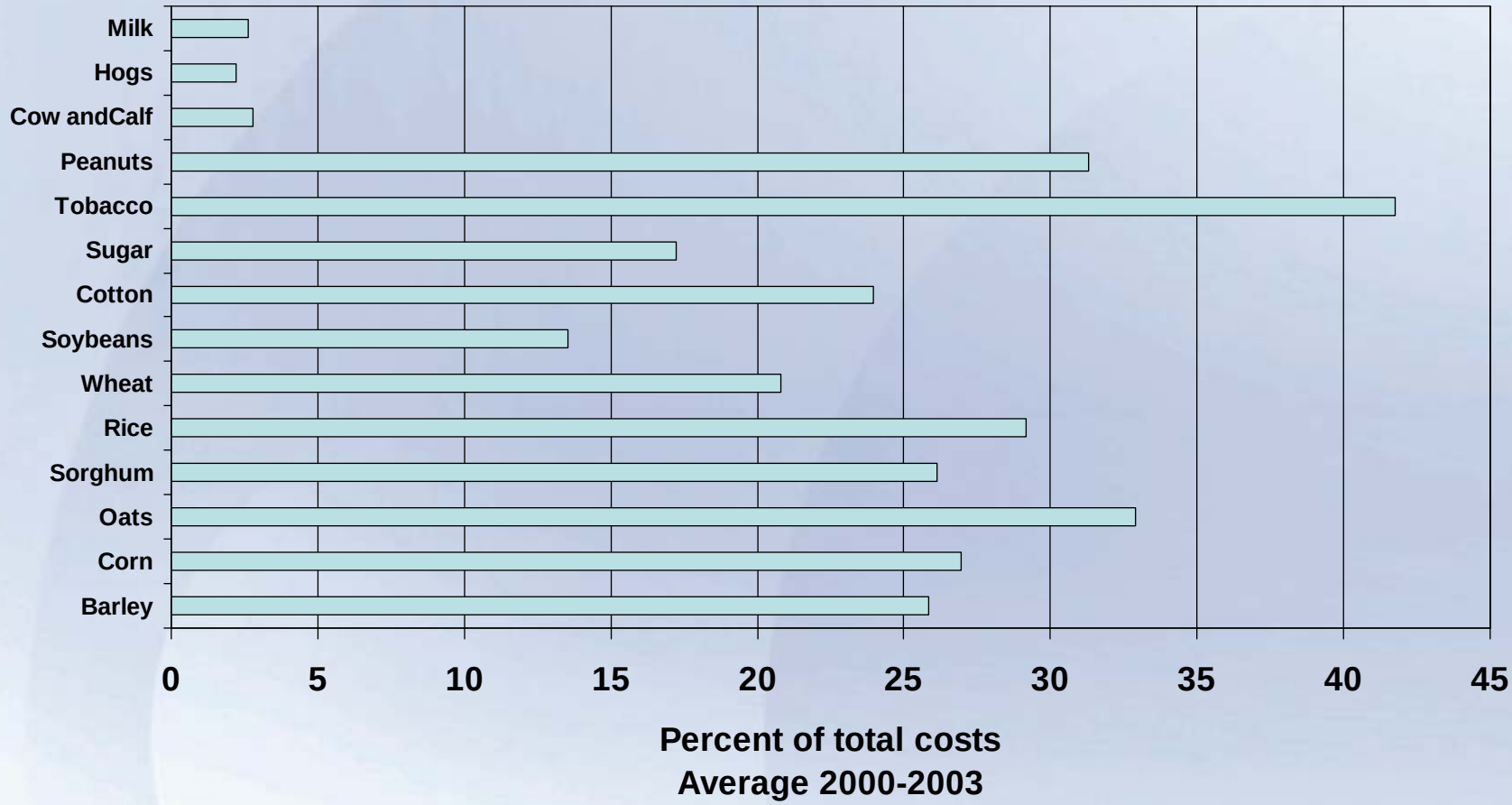


Source: EIA

Where does U.S. agriculture fit in?

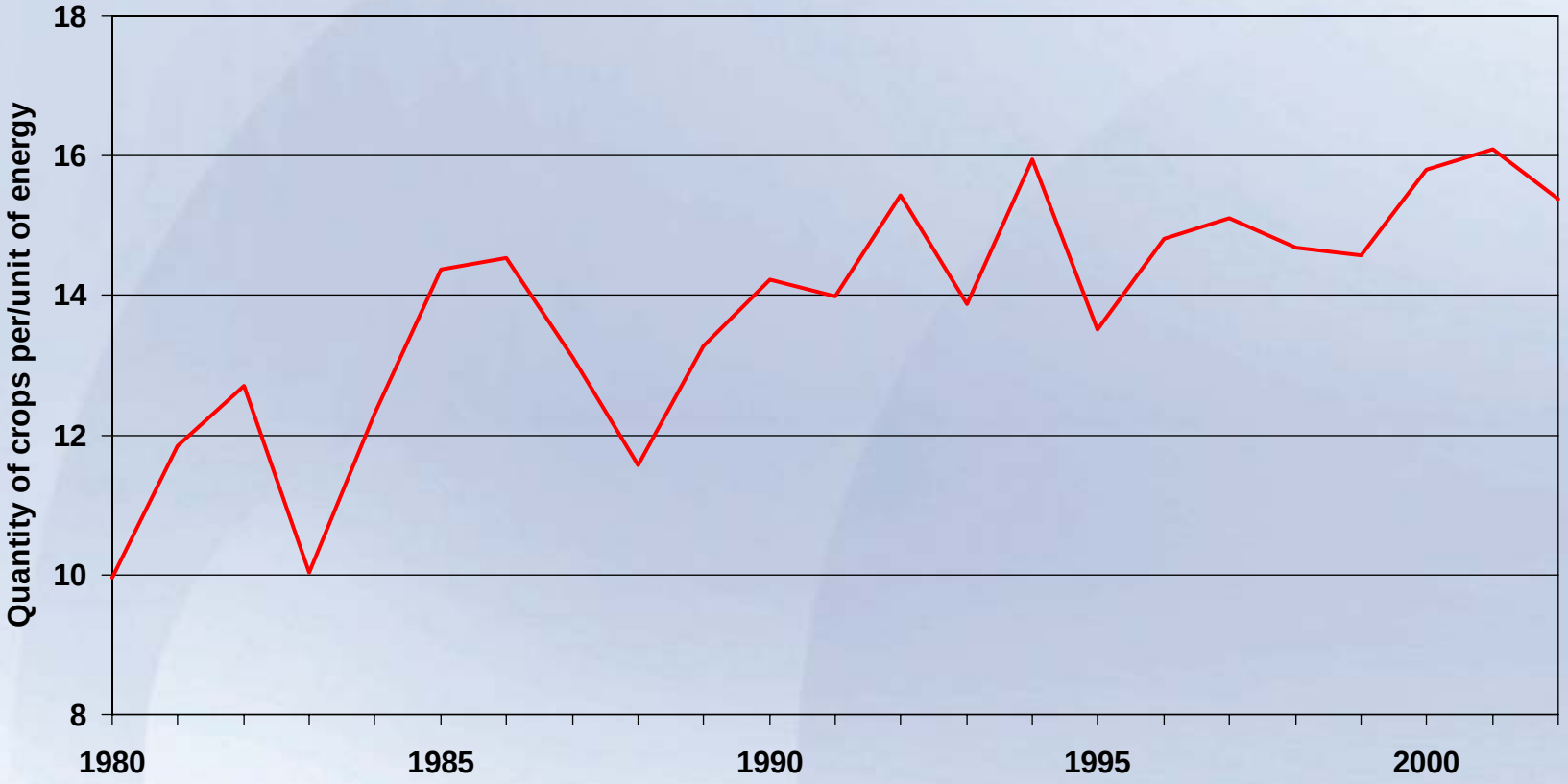
- Agriculture is an energy intensive sector
- Cheap energy has facilitated energy intensity
- Efficiency gains more important for sector
- Reducing energy use will result from:
  - further efficiency gains
  - compositional change away from high energy use in agricultural subsectors

Energy use is concentrated in crop production



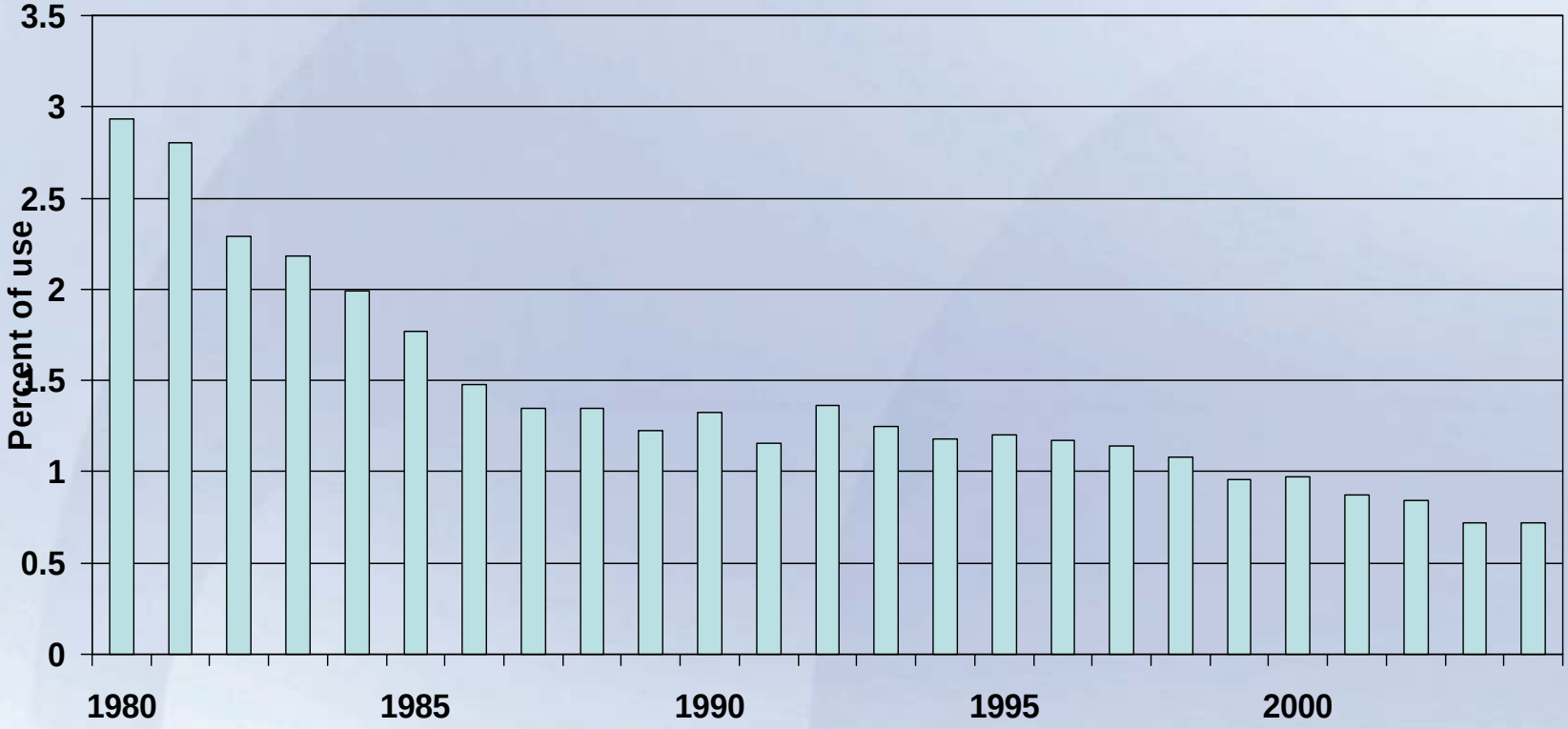
Source: Economic Research Service, USDA

U.S. agriculture has increased energy efficiency over 50 percent



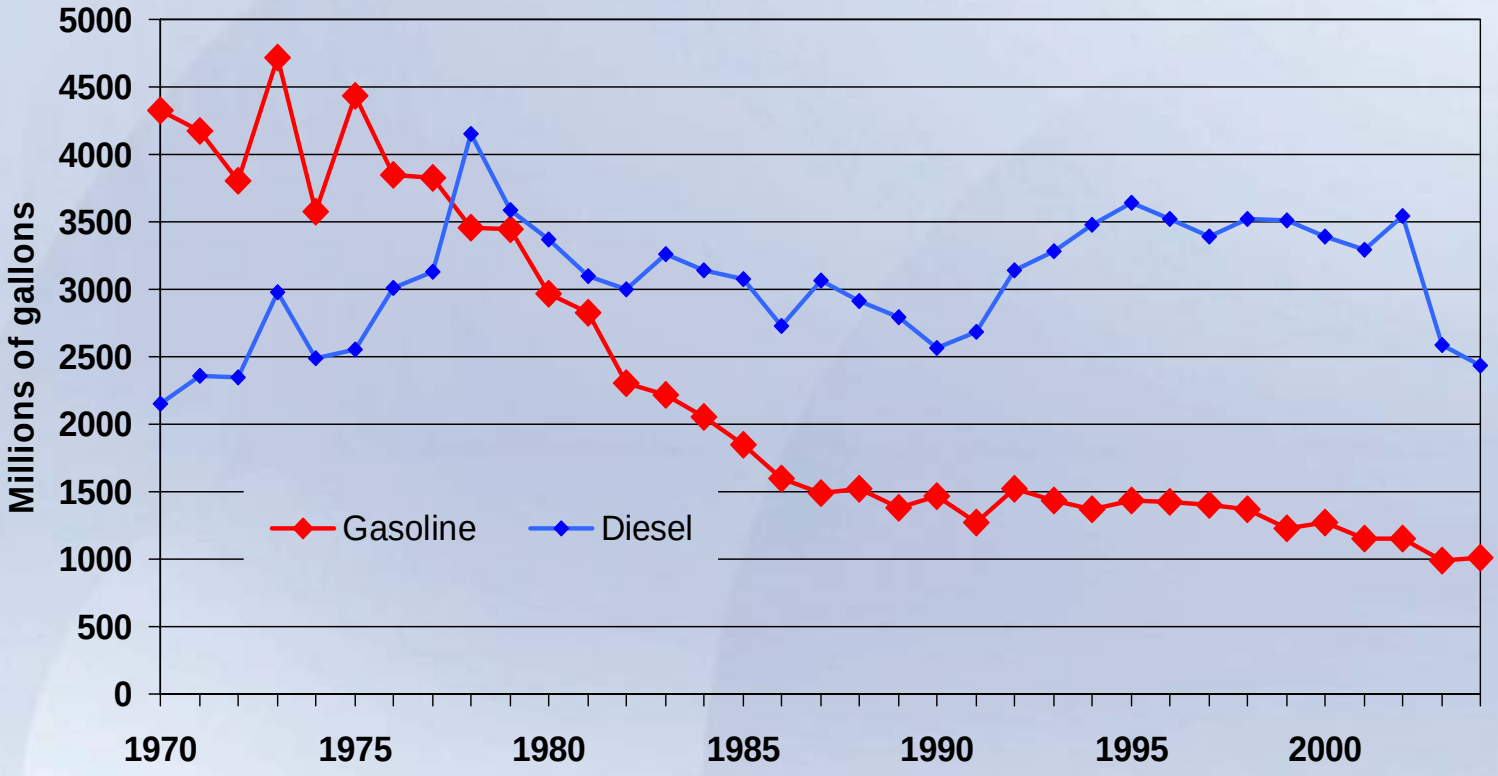
Source: Economic Research Service, USDA

Farm percentage of US gasoline use drops sharply from 1980 to 2004



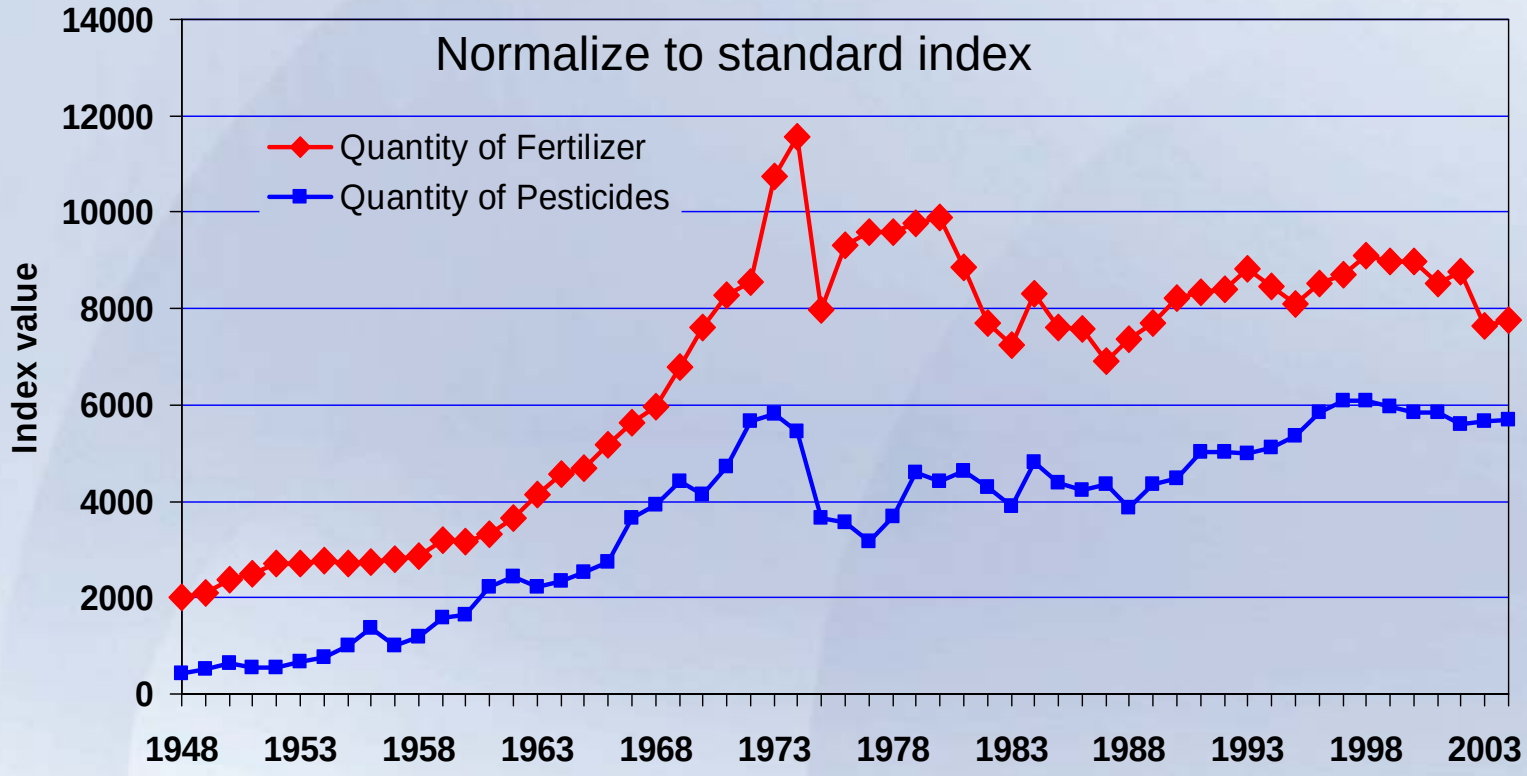
Source: Economic Research Service, USDA

Farmers replace gasoline with diesel



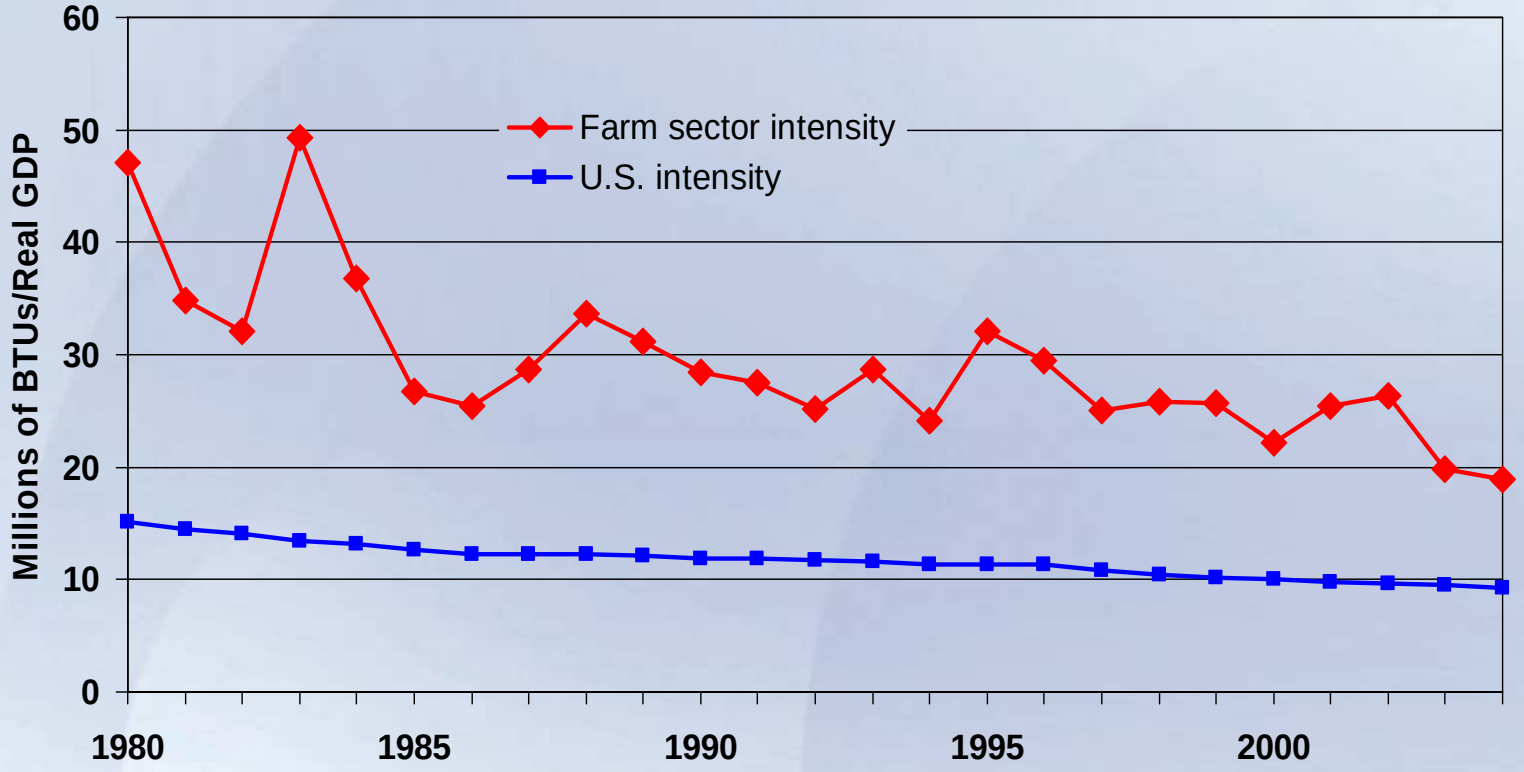
Source: Economic Research Service, USDA

Fertilizer use peaks in 1974 while pesticide use peaks in 1997



Source: Economic Research Service, USDA

Farm energy intensity declined faster than overall U.S energy intensity 1980 to 2004



Source: Economic Research Service, USDA and EIA

Emerging patterns of agricultural energy use and efficiency

- Energy will be a major share of farm costs, even as efficiency improves
- High energy costs will be a drag on farm income
- High energy prices will stimulate energy efficiency gains
- High energy costs will encourage production of lower energy crops