



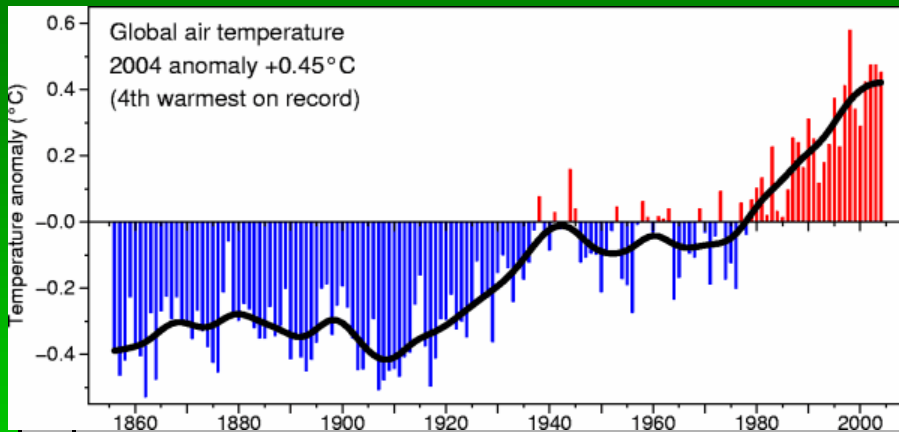
Center for Energy Efficiency and Renewable Technologies

Renewables, Global Warming and Energy Efficiency

V. John White, Executive Director
Center for Energy Efficiency and
Renewable Technologies

California Manufacturers & Technology Association
Energy Markets: Are Manufacturers Making Progress or Losing Ground?
July 28th, 2005
Harvey's, Lake Tahoe

Where is this going to lead?



- Eleven warmest years globally in descending order: 1998, 2002, 2003, 2004, 2001, 1997, 1995, 1990 & 1999 (joint), and 1991 & 2000 (joint).
- 1998 alone was 0.6°C/1°F warmer than the 1961-90 mean

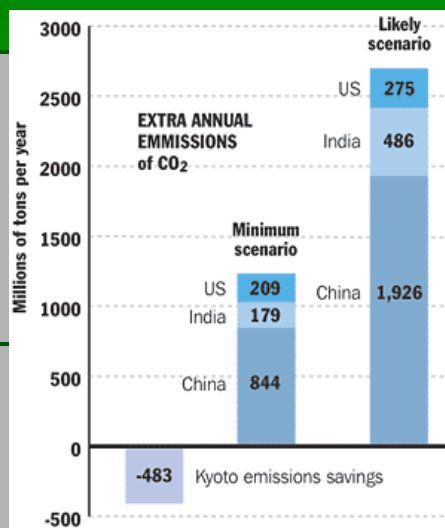
Courtesy: Climate Research Unit, University of East Anglia, UK (<http://www.cru.uea.ac.uk/>)

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Coal is Set to Kill Kyoto

- Emissions from new coal-fired plants to be built in China, India, and the United States will easily outdistance any savings achieved by meeting the targets set for 2012 under the Kyoto Protocol.

- Cf: Christian Science Monitor (12-23-04) citing: "UDI-PLATT'S, US-EIA, AND INDUSTRY ESTIMATES"



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And what are the prospects for California's Natural Gas Supplies?

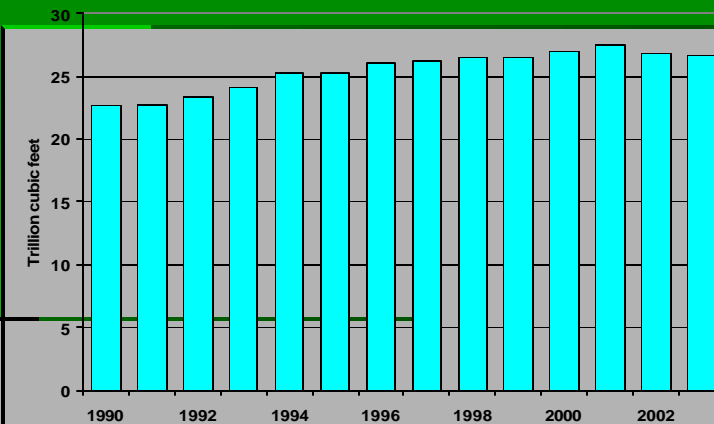


CF: CALIFORNIA ENERGY COMMISSION, STAFF REPORT:
NATURAL GAS ASSESSMENT UPDATE,
February 2005. CEC-600-2005-003

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North American NG Production Has Peaked.

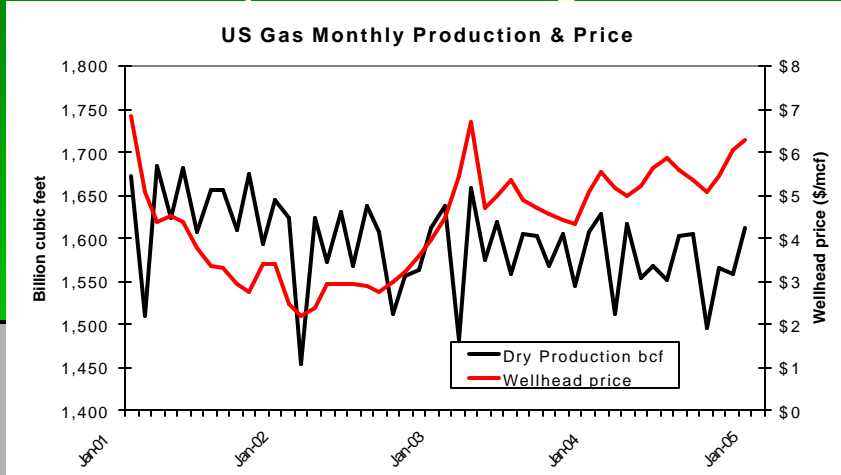
North American Gas Production



North American Natural Gas Vision,
North American energy Working Group.

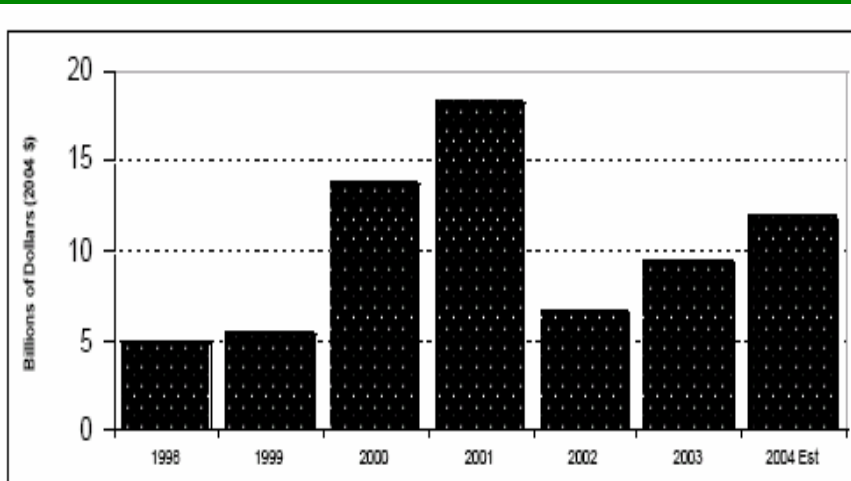
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CEERT's and other analyses indicate, that US production is in decline while prices are rising.



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This is Costing Californian's More



Cf: CALIFORNIA ENERGY COMMISSION, STAFF REPORT: NATURAL GAS ASSESSMENT UPDATE, February 2005. CEC-600-2005-003

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California is doing its share

- Plans to access ~ 4,000 MW of additional wind power in the Tehachapi region and
- ~ 2,000 MW of additional geothermal power in the Salton Sea region.
- State electricity policy gives highest priority to efficiency and renewable energy

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Tehachapi + Salton Sea

- Avoid the need for ~ 300 billion cubic feet of gas every year and
- Avoids emission of ~ 20 million tons of CO₂ annually.
- Reduce US gas consumption by 1.4%
- Reduce future trade deficits by about \$1 billion annually

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Conclusion - Taking Energy Seriously

- Electricity from renewable energy resources is -
- Now cost effective or nearly so;
- Clearly the best environmental choice;
- Lowers the trade deficit;
- A step toward energy independence.

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Plus ça change,
plus c'est la meme chose.



<http://www.chron.com/stories/CJ/energy/methanewest01072005>

April 27, 2005, 9:53PM

Nations seek unity on pricing of LNG

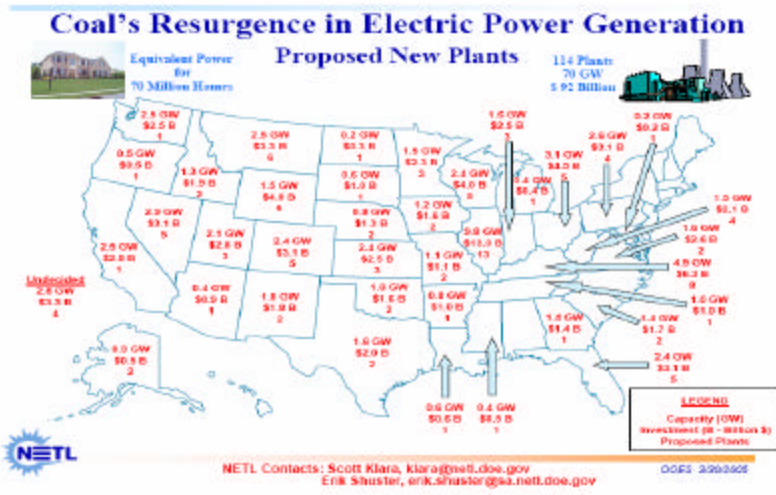
But exporters say they don't plan to be like OPEC
By MATTHEW ROBINSON and RICHARD VALDMANIS

Reuters News Service

PORT OF SPAIN, TRINIDAD - A group of the world's biggest natural gas producing countries have agreed to work together to seek what they called a "fair price" for liquefied natural gas exports, Trinidad's energy minister said Wednesday, in a move that appeared to retrace the early footsteps of the OPEC oil cartel.

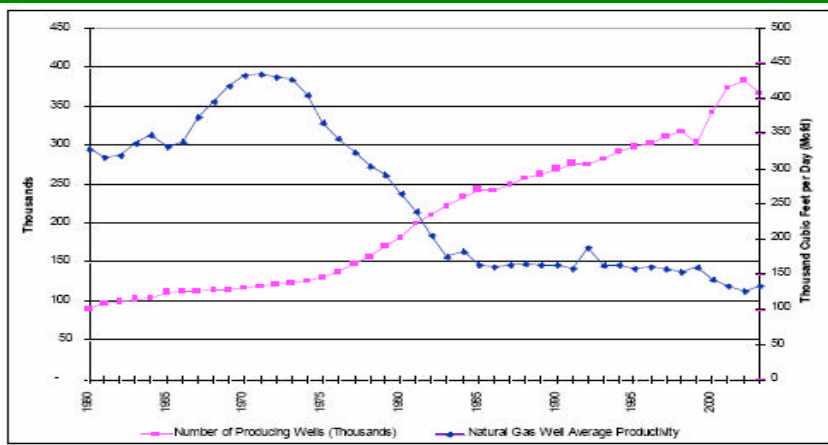
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Do We Really Want to Go This Way???



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More wells are being drilled , but the production per well is declining.



CI: CALIFORNIA ENERGY COMMISSION, STAFF REPORT:
NATURAL GAS ASSESSMENT UPDATE: February 2005. CEC-600-2005-003

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