

Preparing for Peak Oil – an Austin Perspective

June 7, 2007
Austin City Council Meeting

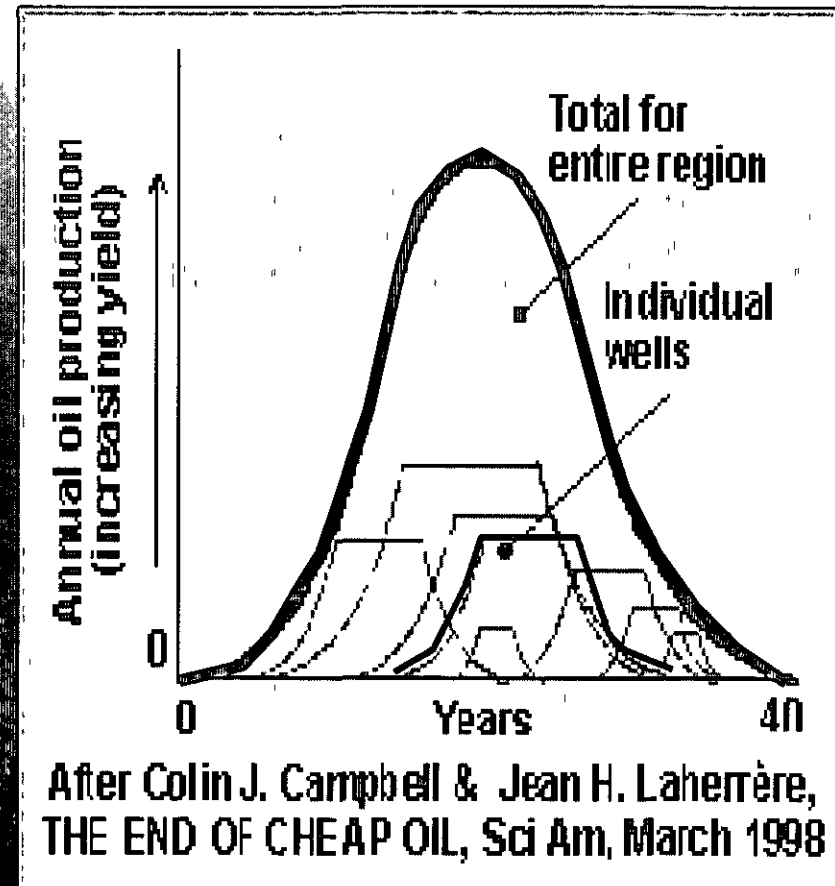
Presented by
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Deputy General Manager
Austin Energy

Maximum oil production (PEAK) occurs when roughly half the recoverable oil is still in the ground.

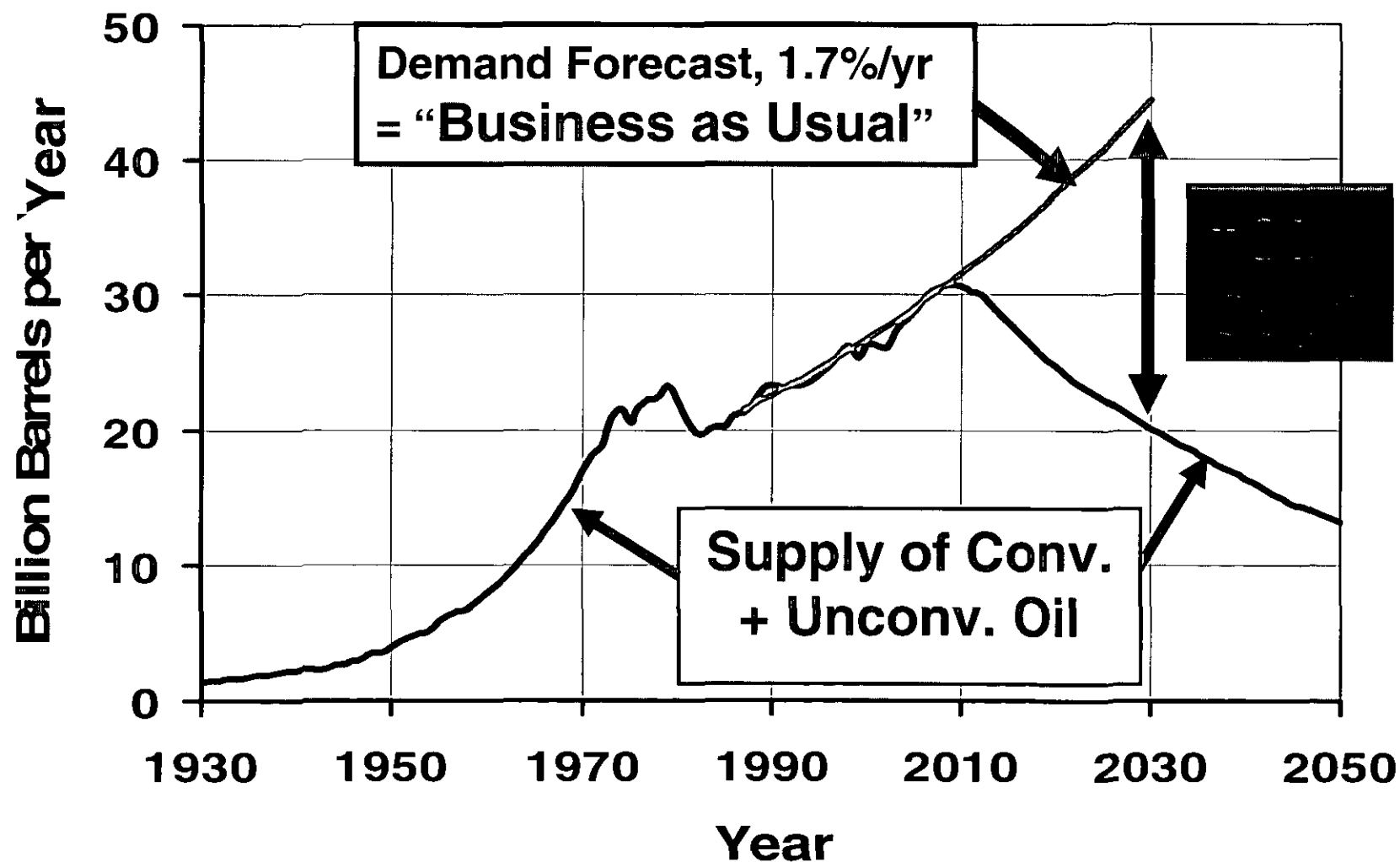
Oil production rates depend on geology, hydrology, economics, quantity/quality of oil, etc.

However, annual production of an oil field can be modeled as a bell-shaped curve, based on:

- **Discovery history**
- **Well start times**
- **Well production rates**
- **Well production durations**

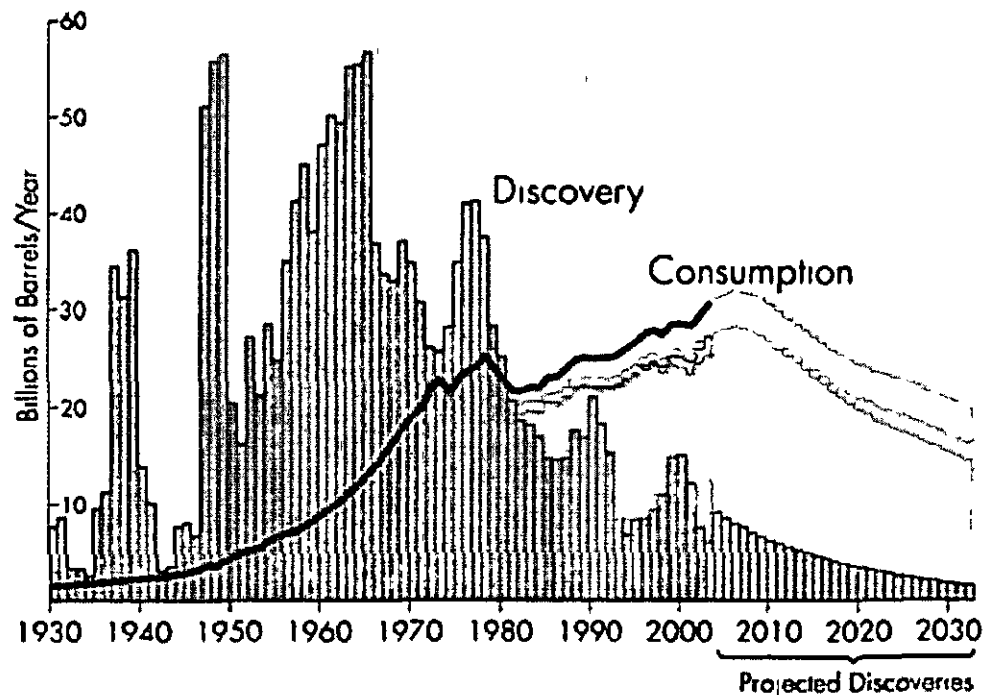


We're not in danger of "running out" of oil anytime soon.



80% of all the worlds oil comes from a few remaining large fields discovered more than 35 years ago

Peak Oil - The Growing Gap



- Kuwait's Bergan field Peaked 2006
- Mexico's Cantarell field Peaked 2006
- North Sea Peaked 2005
- North Slope (Alaska) Peaked 1998
- Russia Peaked 2004
- Saudi Arabia ???

**NO OTHER SUPER GIANT FIELDS
IN THE WORLD**

**LAST GIANT/SUPER-GIANT
DISCOVERY - 1969**

When will worldwide oil production peak?

<u>Forecast</u>	<u>Source</u>
December 2005	Deffeyes (U.S.)
2006-2007	Bakhtari (Iran)
2006-2007	Simmons (U.S.)
2009 - 2010	Skrebowski (U.K.)
2010	Campbell (Ireland)
Before 2010	Goodstein (U.S.)
After 2010	World Energy Council
2012	Weng (China)
2016	Doug-Westwood (U.K.)
After 2020	CERA (U.S.)
2030 or later	EIA (U.S.) / Exxon Mobil

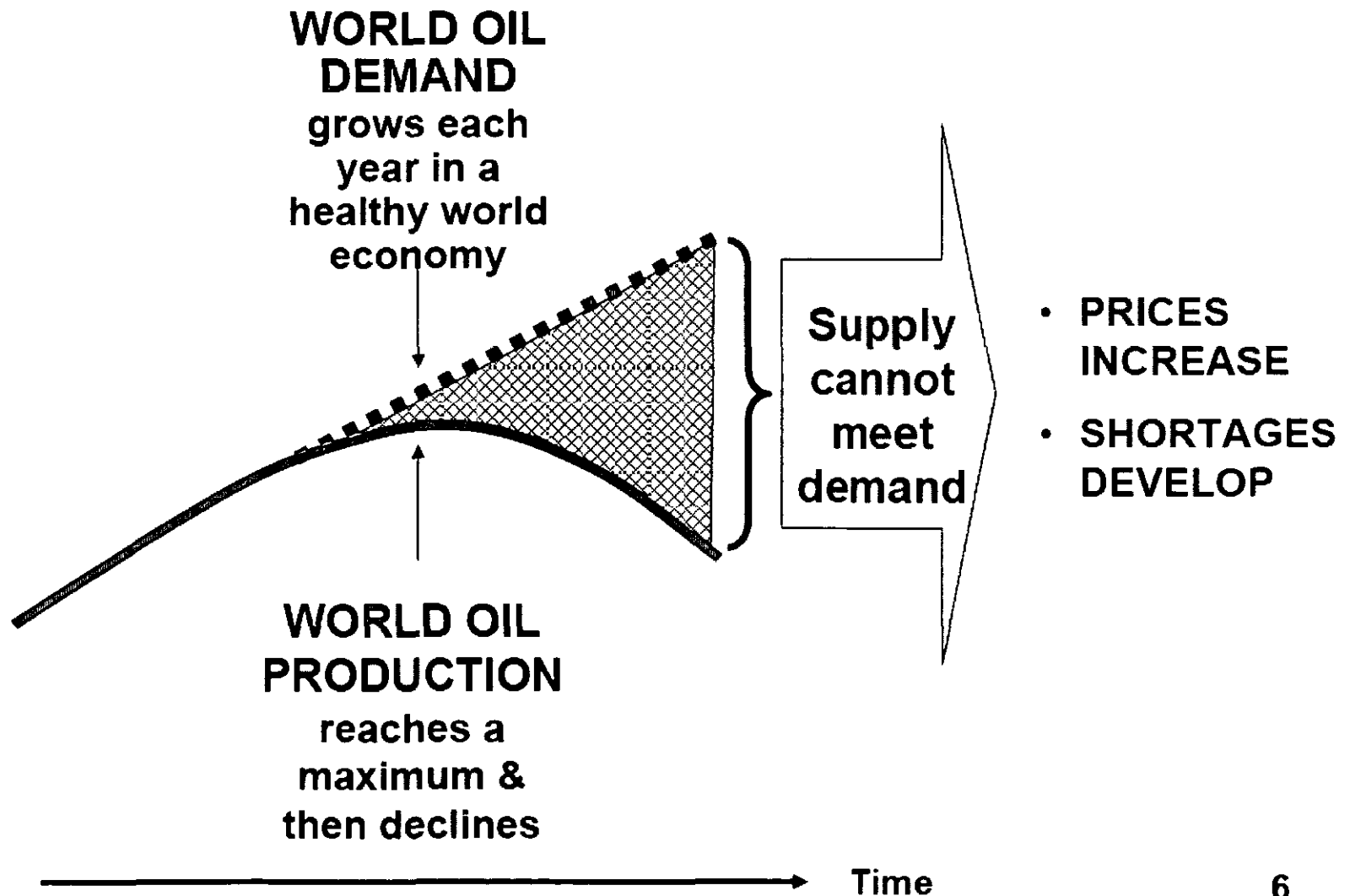
Already

5 years

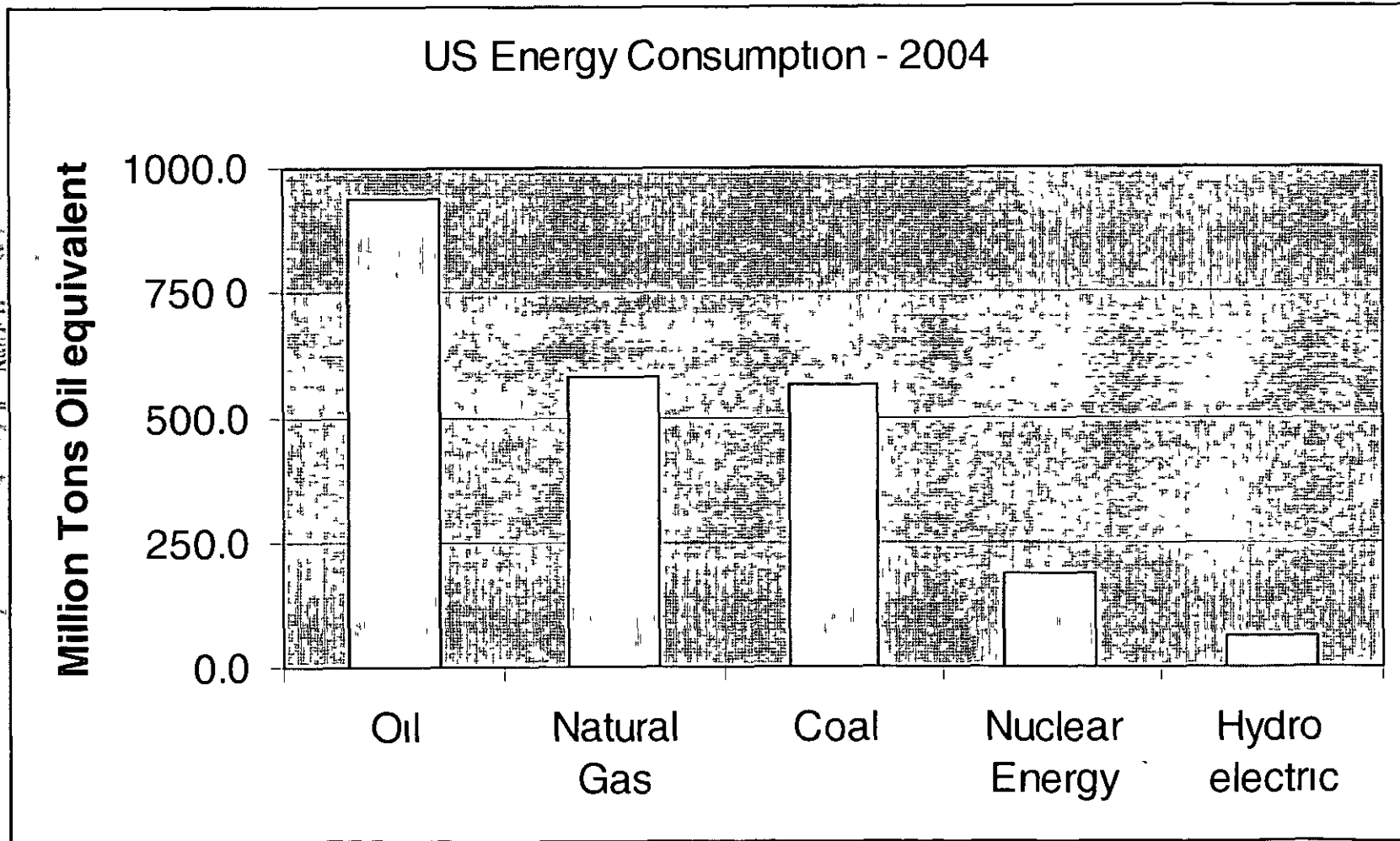
5-15 years

> 20 years

What Might Happen at Peaking?



Oil is the main form of energy used in the US



Austin's share

- Austin's share of US oil consumption $\sim 52,226$ barrels/day

- In the 3 minutes of this talk, that amounts to over 100 barrels of oil

- Annual cost to Austin

- At \$20/bbl = \$380M

- At \$75/bbl = \$1.4B

- At \$200/bbl = \$3.8B ($\sim \$5,000$ for every person in Austin)

\$200 (Oil) Questions

- Effect on city policies and budgets?
- How can we protect and expand our local resources?
 - Food Production
 - Water supply
 - Local industry
- How to maintain quality of life for all Austinites?
 - Access to quality of life for all
 - Vitality of the city
 - Maintaining pride in community
 - Define progress in terms of sustainability

Be it Resolved

1. The Austin City Council supports the undertaking of a City-wide assessment study
 - a. Inventory city activities' resource requirements
 - b. Develop a comprehensive energy depletion risk assessment/action plan
2. Establish an Energy Depletion Risks Task Force to:
 - a. Assess exposure to diminishing supplies of oil and natural gas,
 - b. Develop recommendations to address vulnerabilities

Be it further resolved,

3. The Task Force shall be composed of:

- a. representatives of City departments affected by oil and gas depletion
- b. Community and business leaders
- c. The City Manager shall report the makeup of the Task Force to City Council within eight weeks

Be it further resolved

4. The Task Force's charge shall be to:
 - a. Acquire and study current and credible data on the issues of oil and natural gas production and depletion
 - b. Seek community and business input on the proposed planning and response measures
 - c. Coordinate with appropriate county, state and federal agencies
 - d. Develop recommendations for the City Council to include in the City's long term strategic planning
 - e. Propose methods for educating the public
 - f. Issue its final report within nine months of the date of this resolution

Be it further resolved

5. The City Manager shall, after issuance of the Task Force's report:

- a. make recommendations to the City council regarding the necessary funding and direction to City departments for the development of a contingency plan

6. The Task Force's charge shall expire after issuance of its final report to City Council.

Summary

- Worldwide conventional oil production will likely peak by 2010
- The gap between oil supply and B.A.U. demand will grow rapidly after peak
- Need to develop contingency plans now