

US Downstream Industry Outlook and Opportunities

LSU Energy Summit 2004

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Gil Nebeker
Purvin & Gertz, Inc.

PURVIN
& GERTZ
INC.

International Energy Consultants



Agenda

- **About Purvin & Gertz, Inc.**
- Drivers of Downstream Profitability
- U.S. Downstream Market Outlook
- Downstream Opportunities

Purvin & Gertz - Background

- **Founded in 1947 – in business for 57 years**
- **Independent firm owned by consultants**
- **Global presence with offices in:**
 - Houston, Los Angeles, Calgary, London,**
 - Singapore, Buenos Aires and Moscow**
- **Consulting staff of Chemical Engineers/MBAs**
- **Focus on technical/commercial issues**

Industries Served

- **Crude and Condensate - Supply & Pricing**
- **Petroleum Products - Refining & Marketing**
- **NGL - Processing & Marketing**
- **Natural Gas and LNG - Markets & Infrastructure**
- **Technology Development – GTL , Heavy Oil Upgrading**

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Key drivers of downstream profitability . . .

PRODUCT SUPPLY/DEMAND

LONG-TERM DRIVERS

- Demand Growth
- Refinery Capacity Utilization

SHORT-TERM INDICATORS

- Product Inventories
- Market Price Structure

LIGHT/HEAVY DIFFERENTIAL

- Crude Oil Market Conditions
- Conversion Capacity Investment
- Conversion Capacity Utilization

Factors that determine refining margins involve trends, cycles and random events . . .

TRENDS

- Product Quality
- Crude Oil Quality
- Trade Patterns
- Technology

CYCLES

- World Economic growth
- Product demand growth rates
- Major Capacity Additions

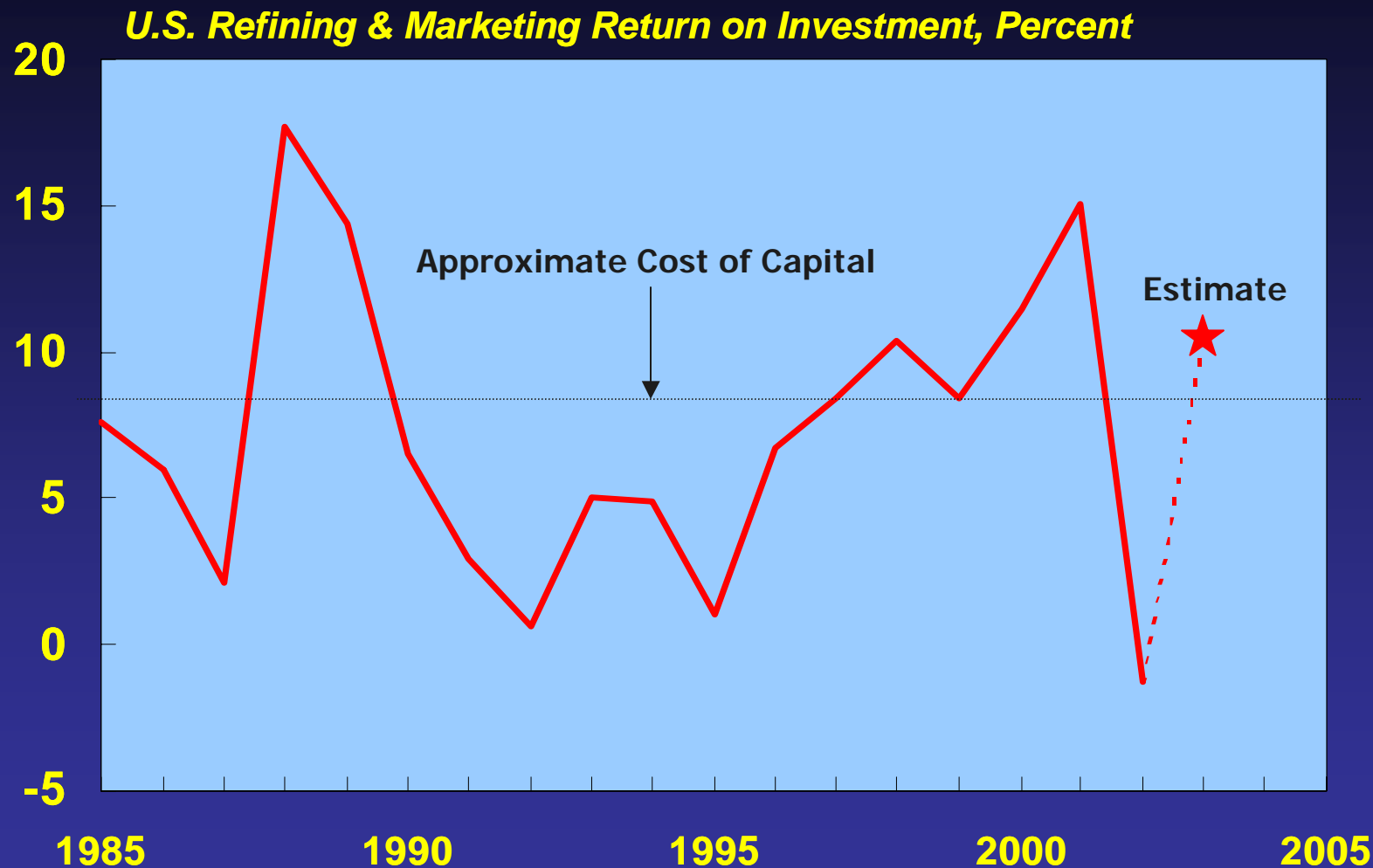
RANDOM EVENTS

- Weather
- Refinery Outages
- Supply Disruptions
- Political Events

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Overall U.S. downstream returns have been poor, but have improved in the late 1990s . . .



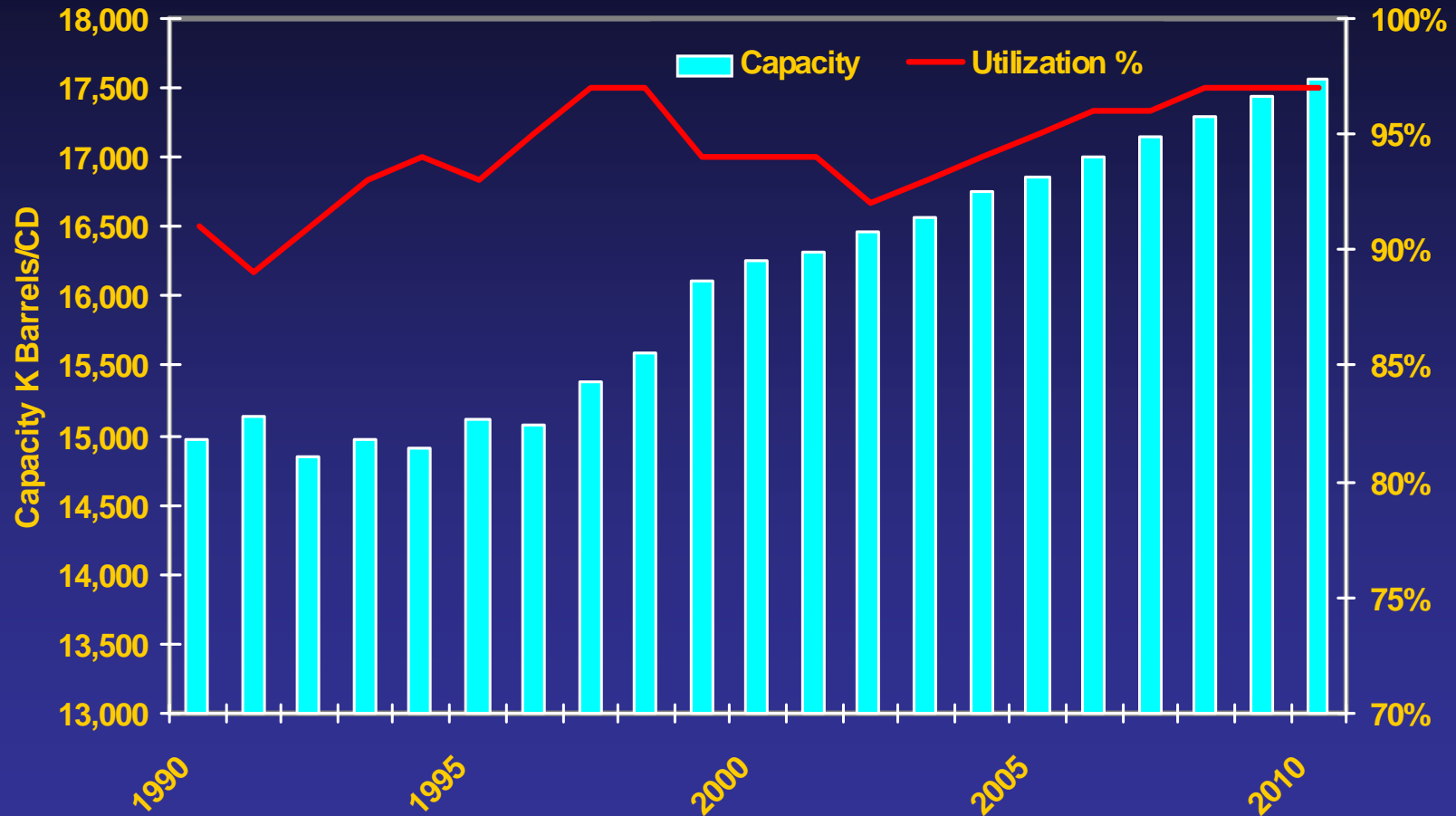
Source: U.S. Department of Energy Financial Reporting System Data

Short-term outlook for refining profitability is positive in all major regions . . .

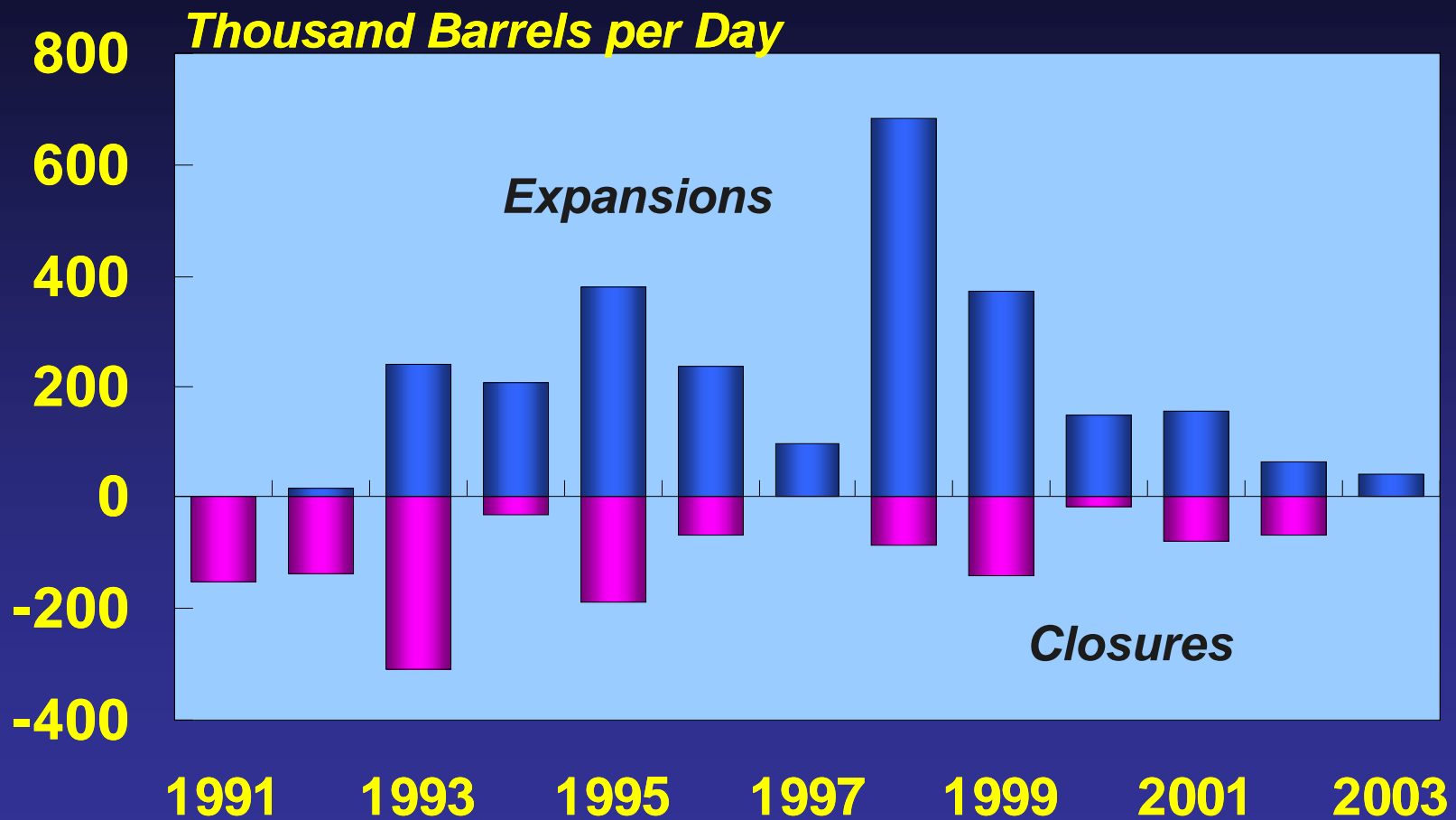
- **US: Tight capacity will keep markets strong, particularly for high-conversion refiners**
- **Europe: Strong US gasoline prices will help maintain margins as European gasoline demand shrinks**
- **Asia: Capacity overhang finally wearing off, need for conversion capacity will grow**

**Is there enough
refinery capacity?**

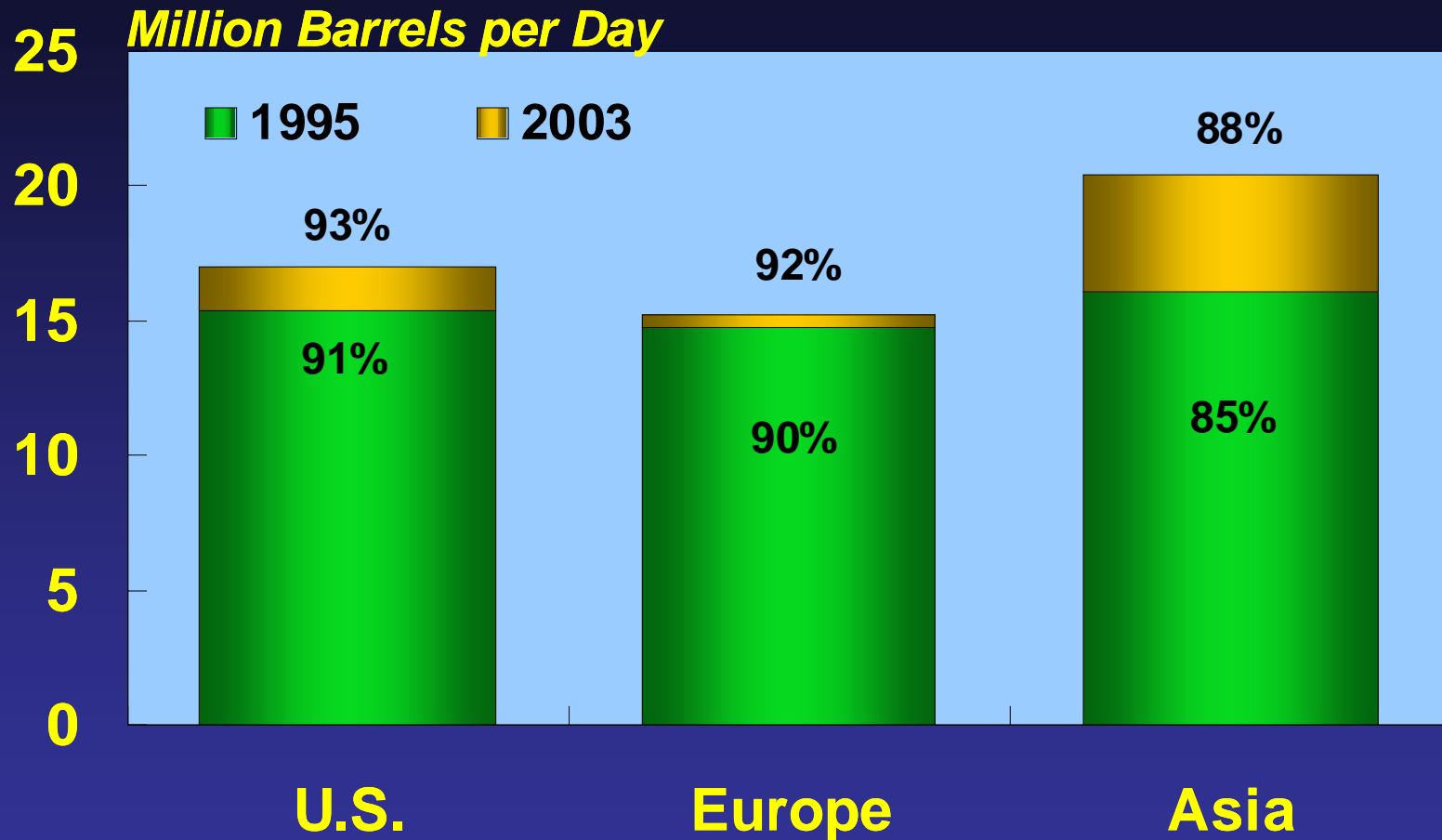
US refinery capacity utilization is high



U.S. refinery capacity additions have slowed, but response to tight capacity is expected . . .

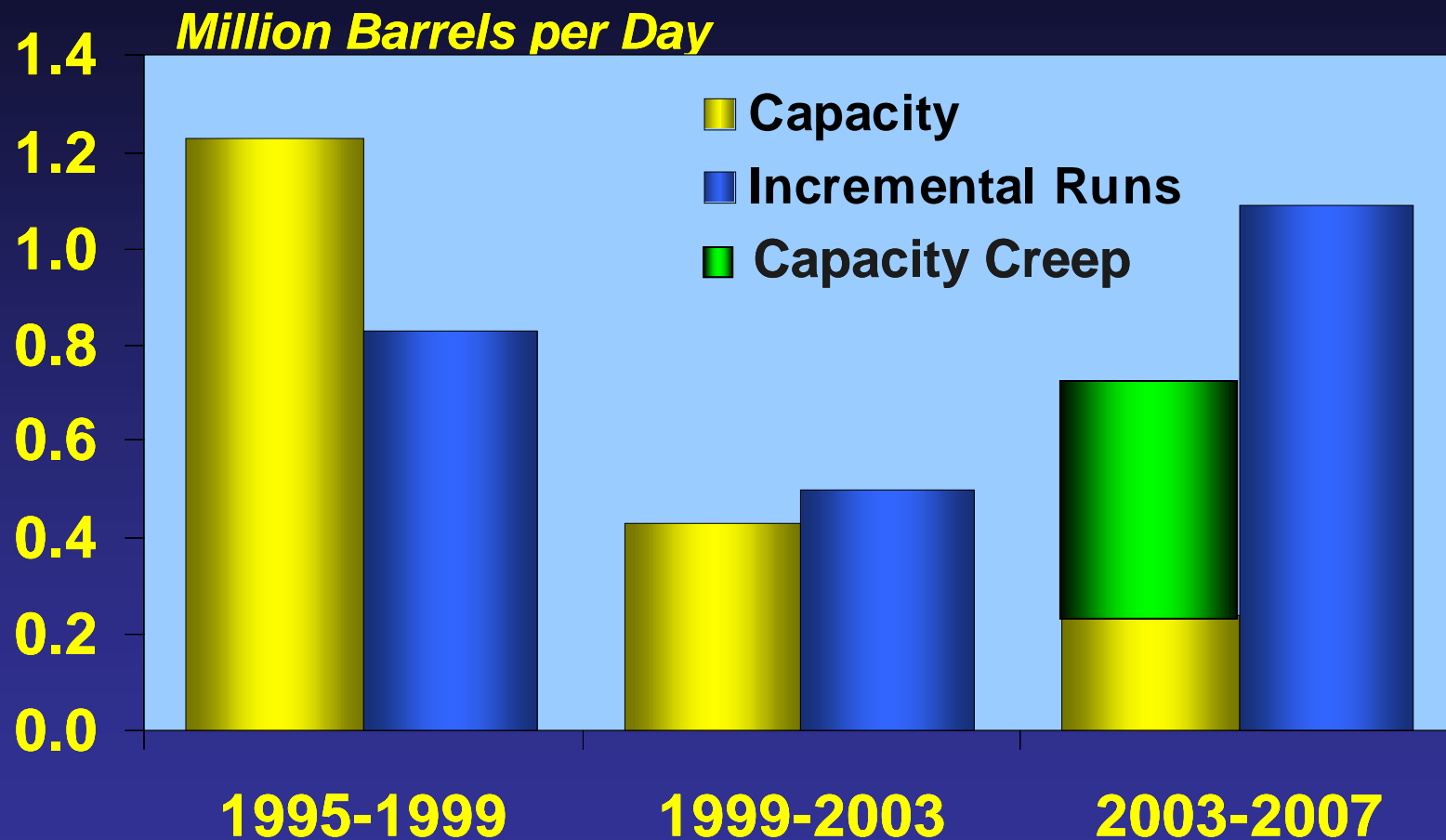


Refinery capacity effectively full including the impact of feedstocks in Europe . . .

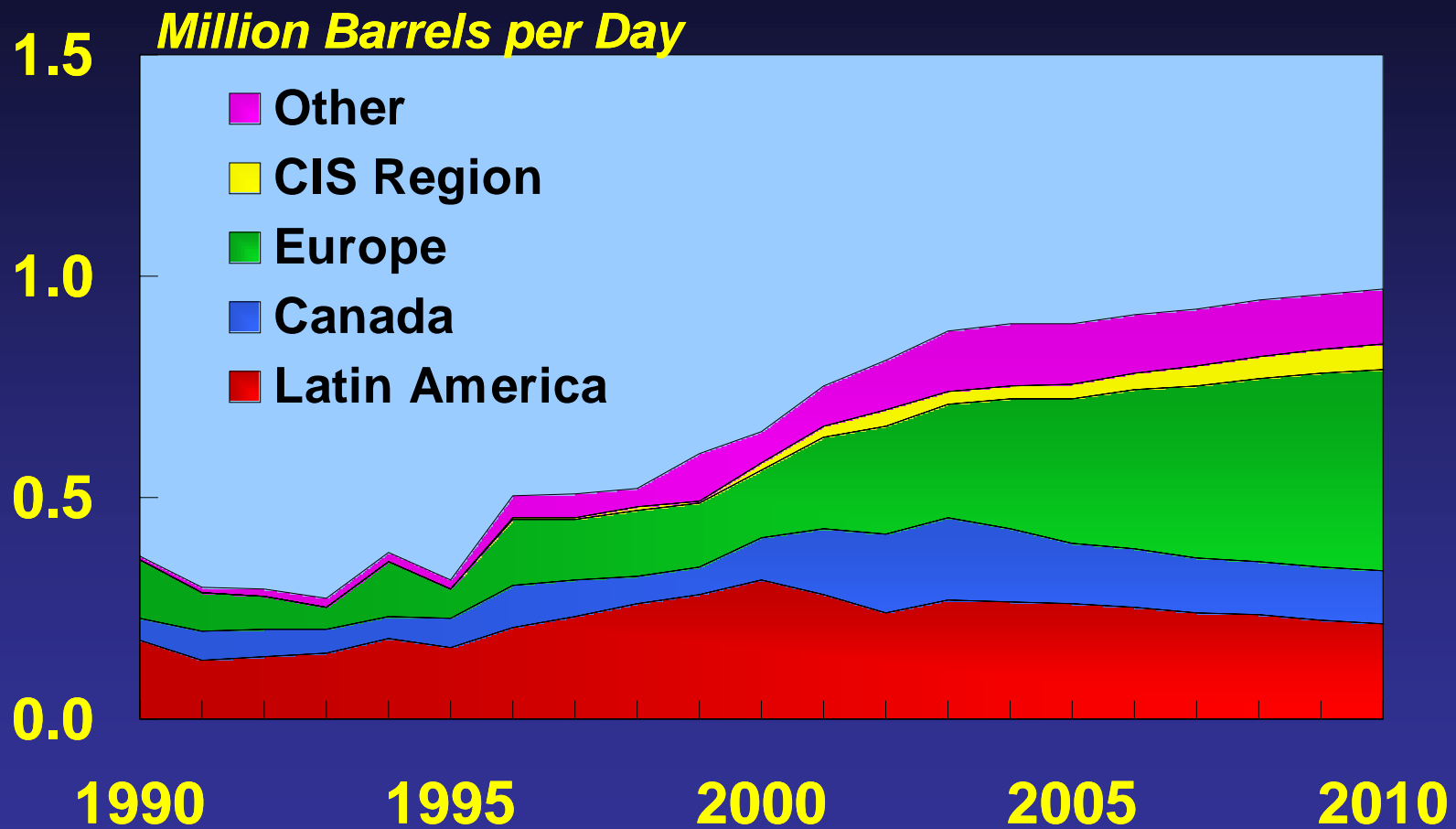


Note: European capacity utilization includes secondary feedstocks.

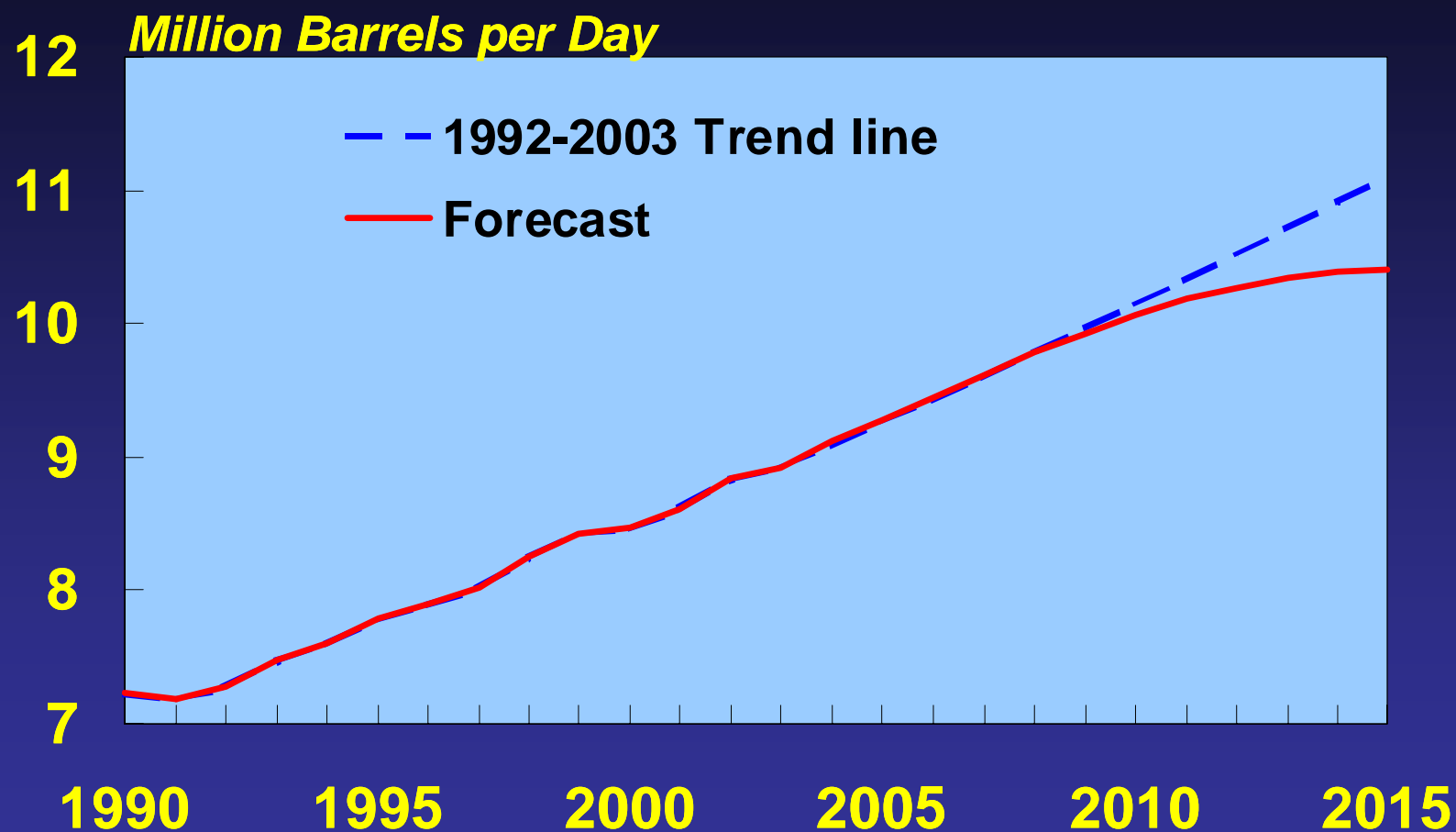
U.S. refinery capacity additions are lagging runs, but further creep will meet the shortfall



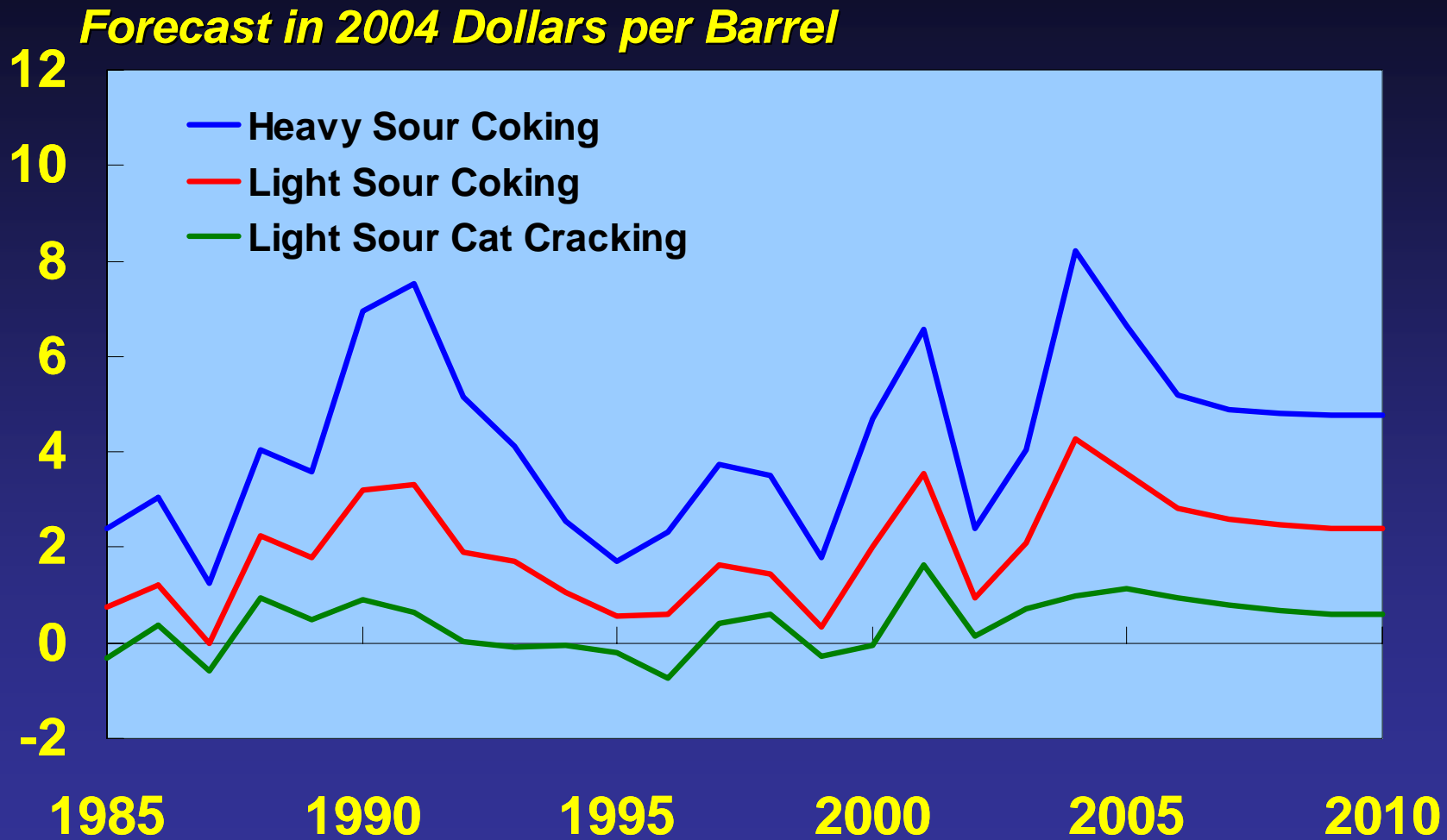
U.S. gasoline imports are increasing, but there may be a limit to future increases . . .



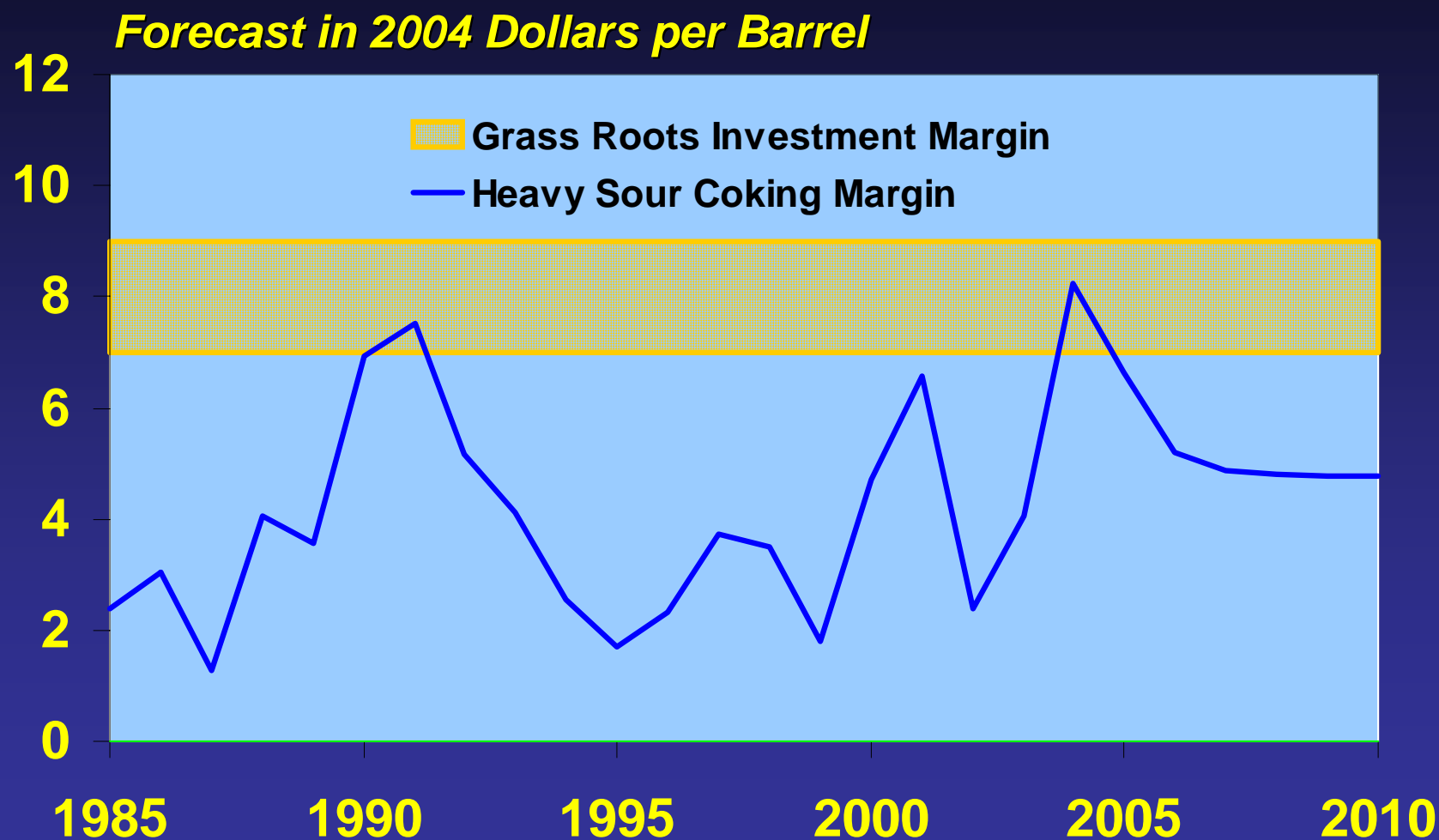
Efficiency gains and alternative fuels will slow U.S. gasoline growth later this decade . . .



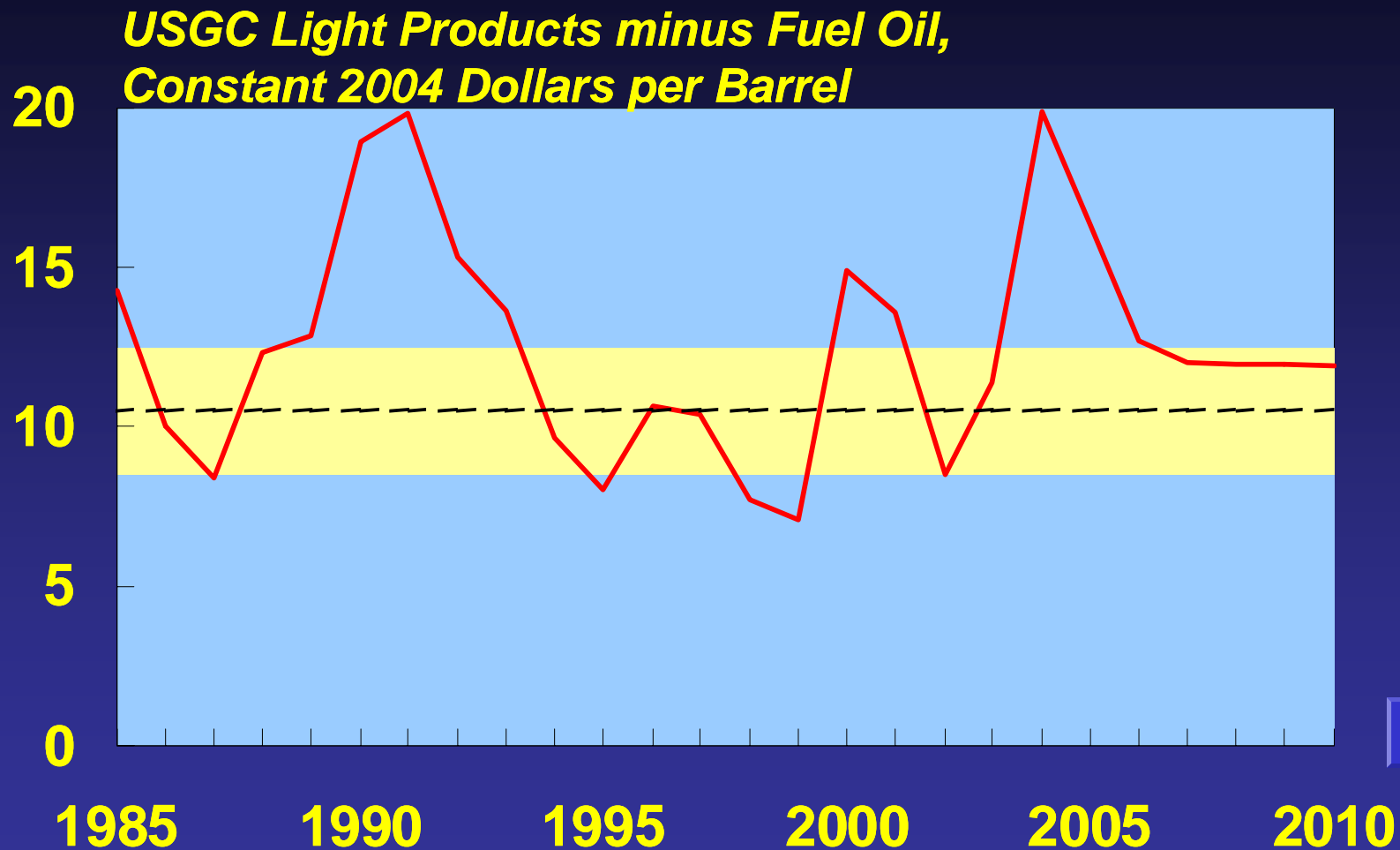
US Gulf Coast refinery profitability should remain strong as product markets remain tight . . .



However profitability will likely remain below levels necessary to support new grass roots capacity



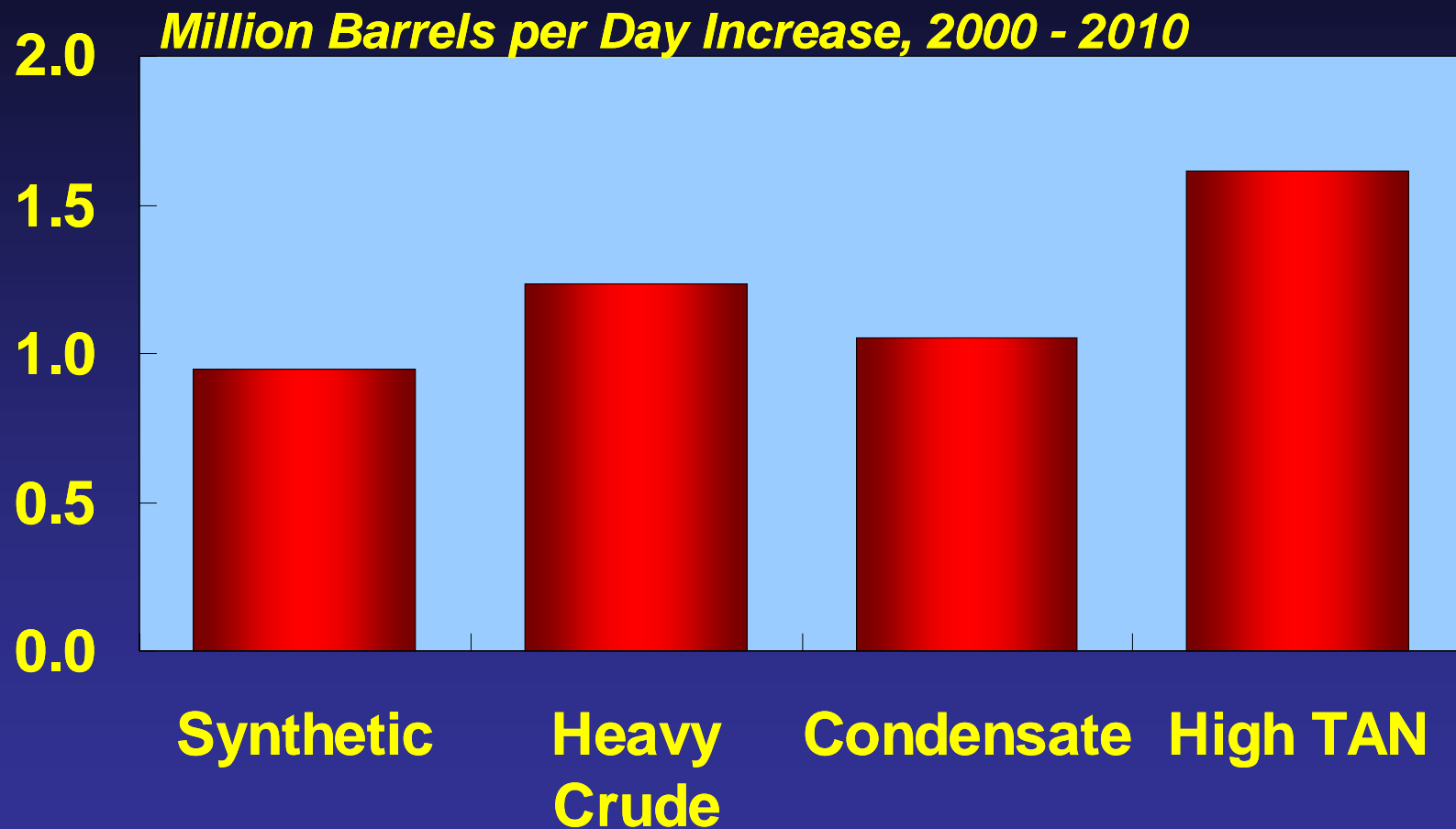
Light/heavy differentials will provide incentive for incremental conversion investments . . .



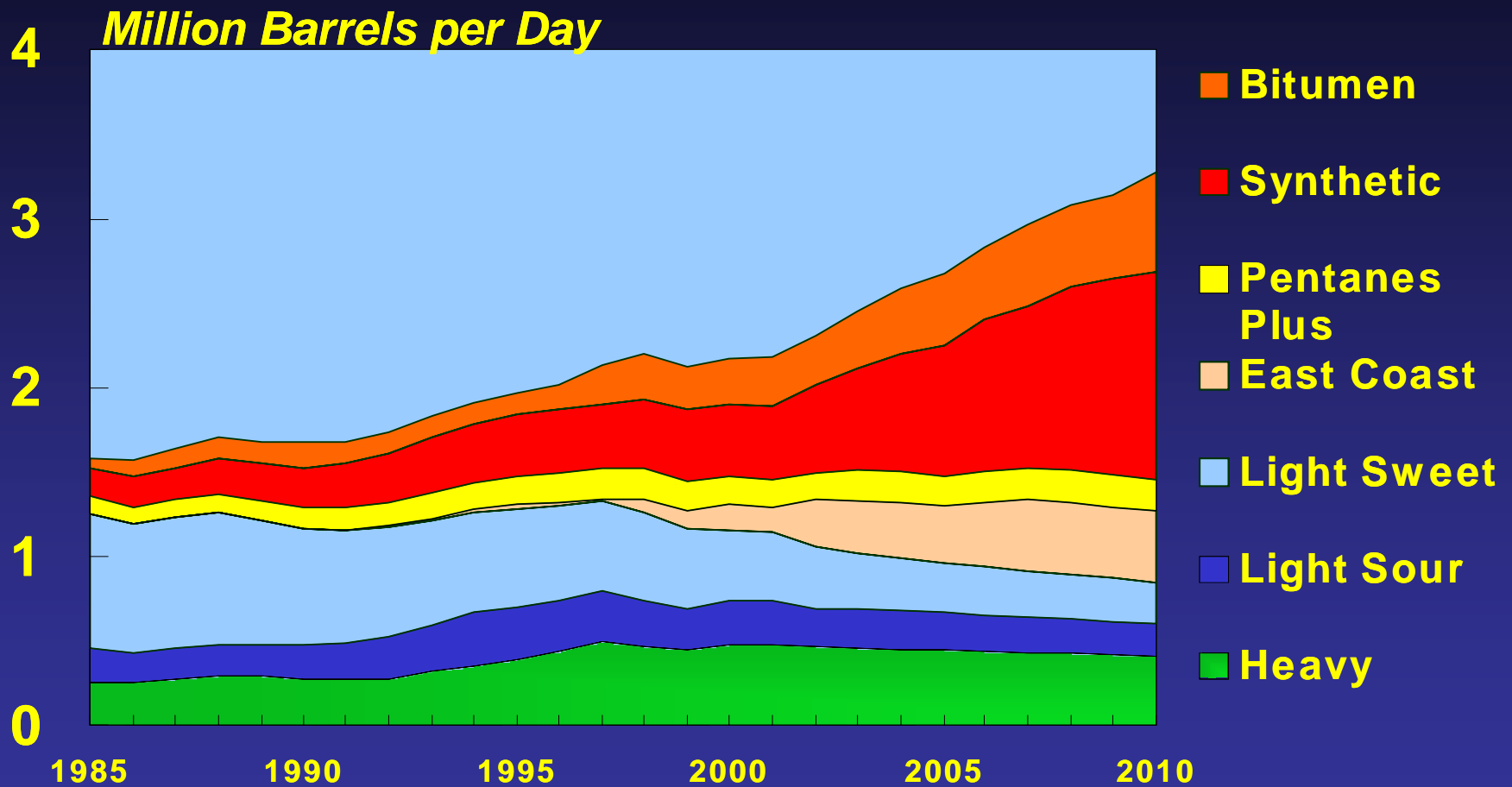
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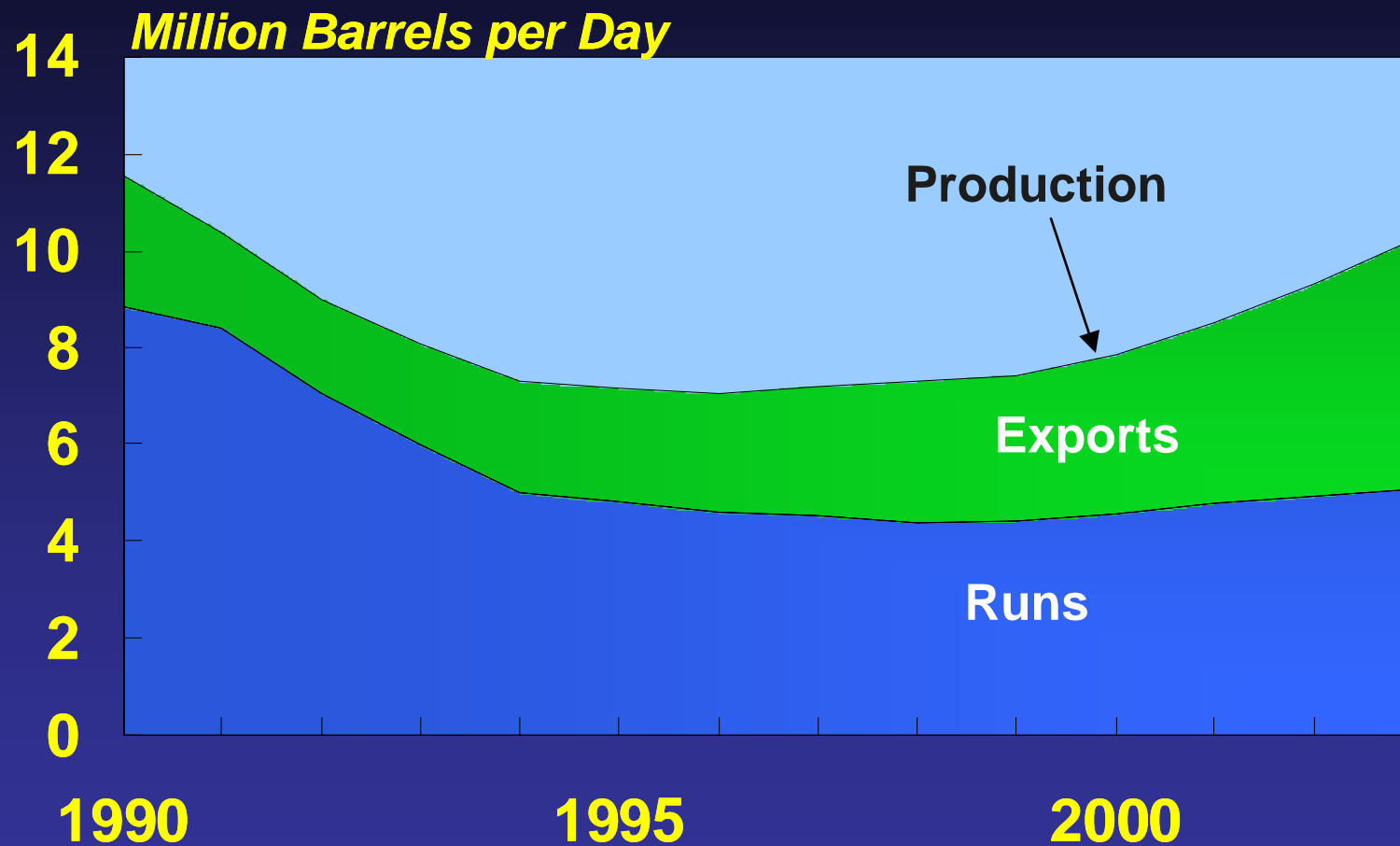
New and different crude oils will create investment opportunities for refiners . . .



Canadian production is growing due to increases in bitumen and synthetic . . .



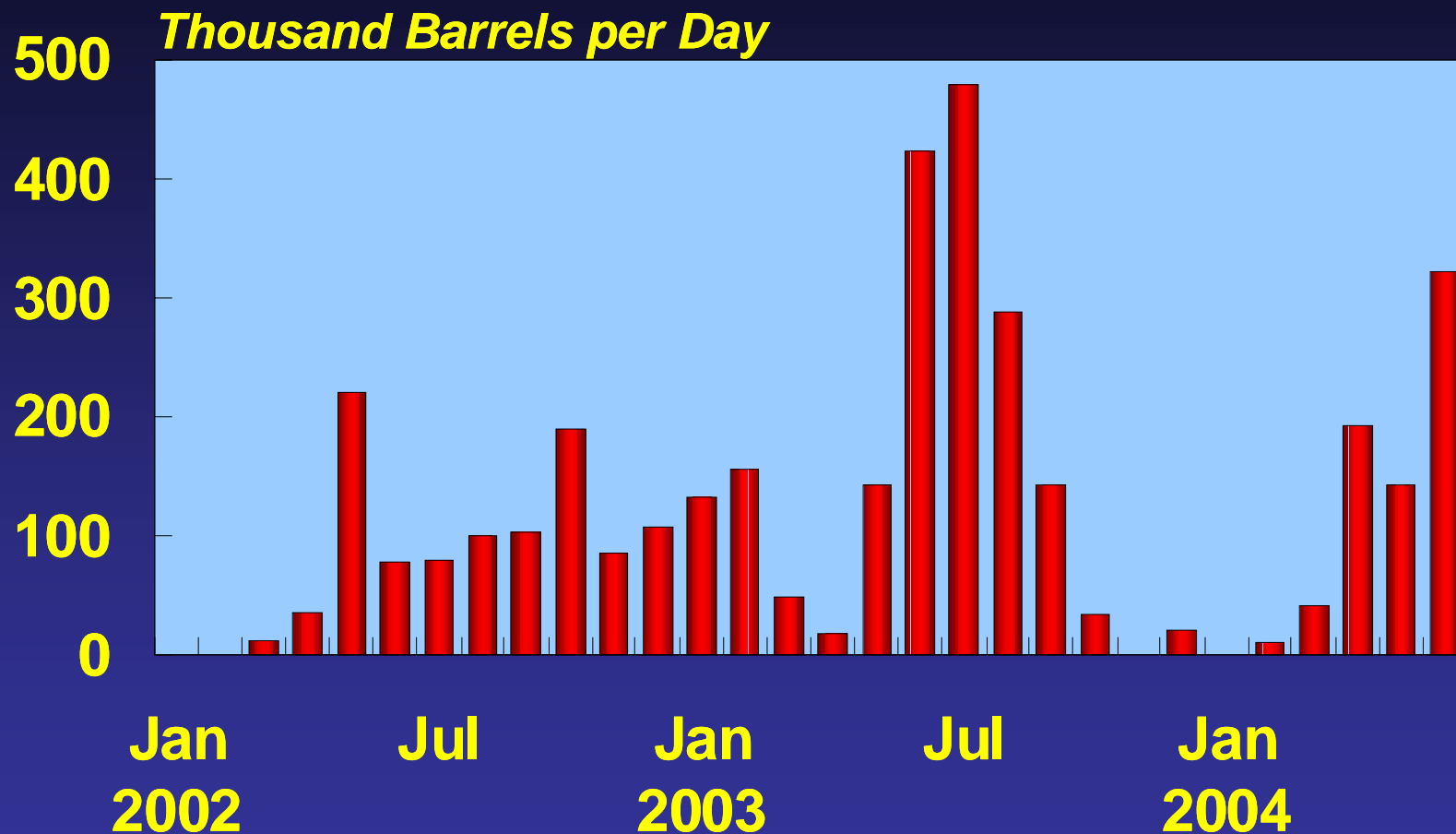
Russian/Caspian crude exports increasing dramatically and penetrating new markets ...



Successful downstream strategies will take advantage of current market opportunities ...

- Favorable changes in crude oil supply patterns for U.S. refiners
- Tight capacity creates potential to integrate crude opportunities with capacity additions
- Product specification changes have forced investment, but contributed to strong product prices
- Industry is entering an 'Investment Phase' providing benefits to financially strong companies

Russian imports to the U.S. are increasing as export supplies exceed European runs . . .



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