

The Gasification Industry: 2007 Status & Forecast

Gasification Workshop

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Indianapolis, Indiana

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We wish to acknowledge...

- Continuing support of DOE/NETL in maintaining the database project
- Participation of members of Gasification Technologies Council
- Information Technology Department of the GTC

Information Collection

- Survey based on publicly available information.
- Conservative approach on “planned” projects – assume 4-5 year period from securing financing to operation.
- Cutoff for “firm forecast” is 2010.
- May be other surveys, forecasts, studies that are more aggressive with regard to existing capacity and future growth.

2007 World Gasification Survey

- Summary Findings
- Geographical Distribution
- Feedstock Distribution
- Product Distribution
- Comparison to 2004 Survey
- Where's the Growth?
- Outlook - Plausible 2015 Scenario

Survey Results

Operating Plant Statistics 2004 vs. 2007

2004

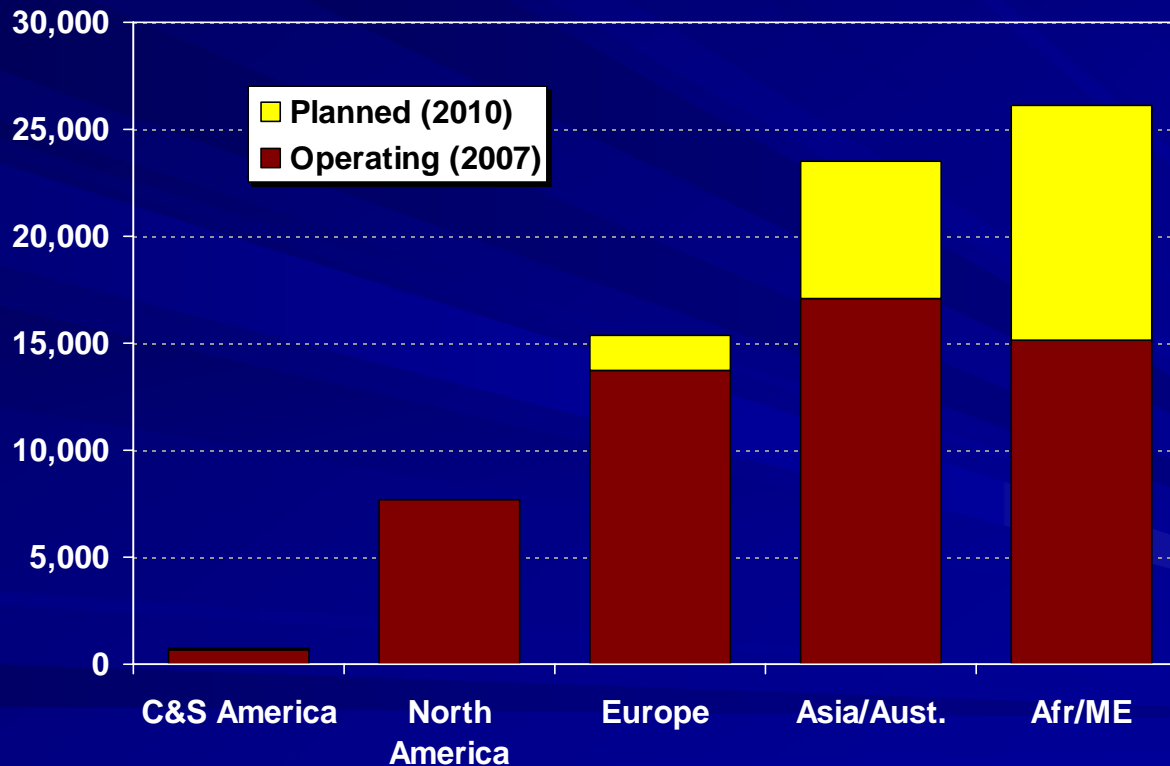
- **117** operating plants
- **385** gasifiers
- Capacity~**45,000** MWth
- Feeds
 - Coal **49%**, Pet. Resid. **36%**
- Products
 - Chemicals **37%**, F-T **36%**, Power **19%**

2007

- **138** Operating Plants
- **417** Gasifiers
- Capacity~**56,000** MWth
- Feeds
 - Coal **55%**, Pet. Resid. **32%**
- Products
 - Chemicals **44%**, F-T **30%**, Power **18%**

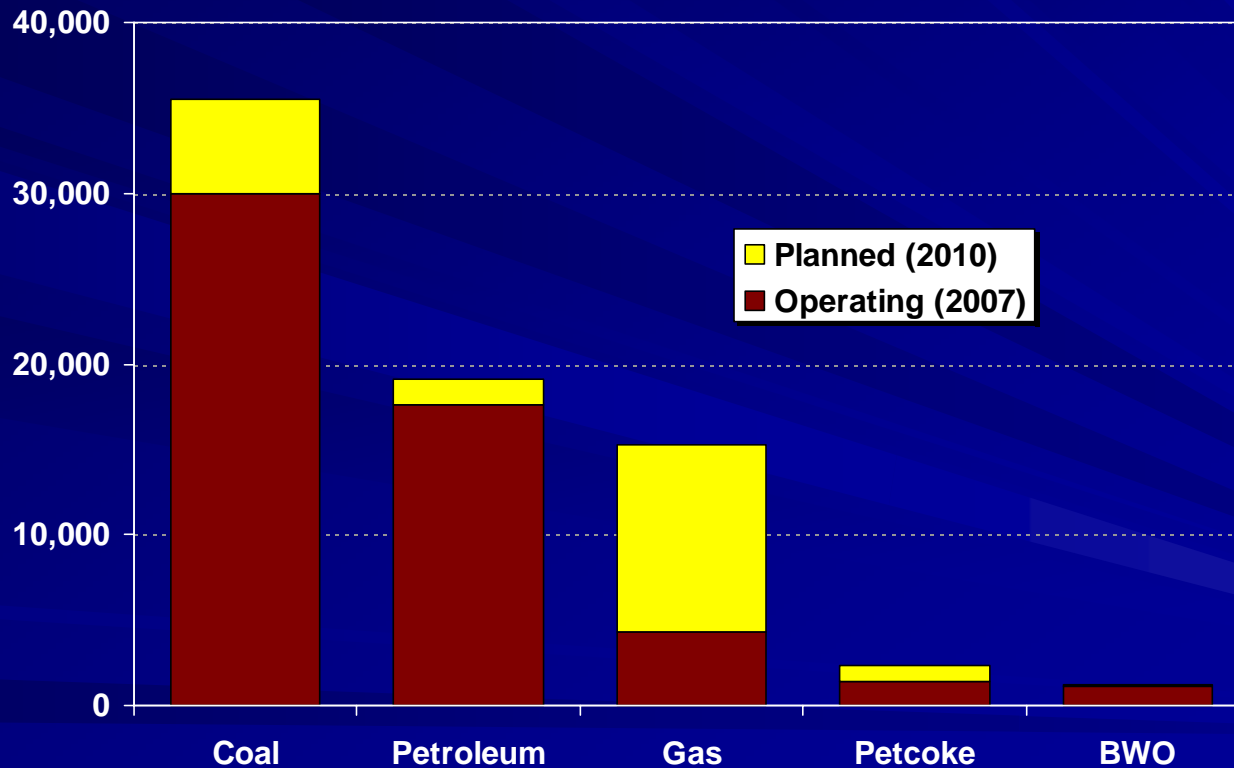
Geographical Distribution of World Gasification Capacity

(MW_{th} Equivalent)



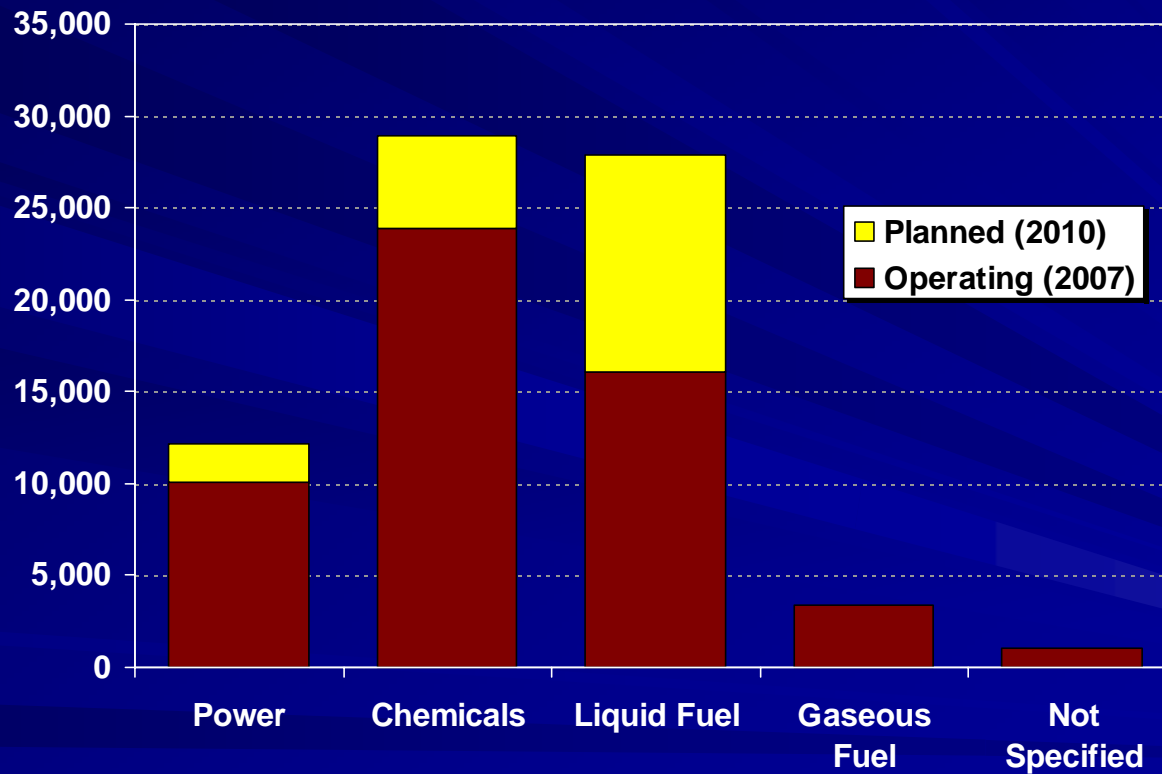
Feedstock Distribution of World Gasification Capacity

(MW_{th} Equivalent)



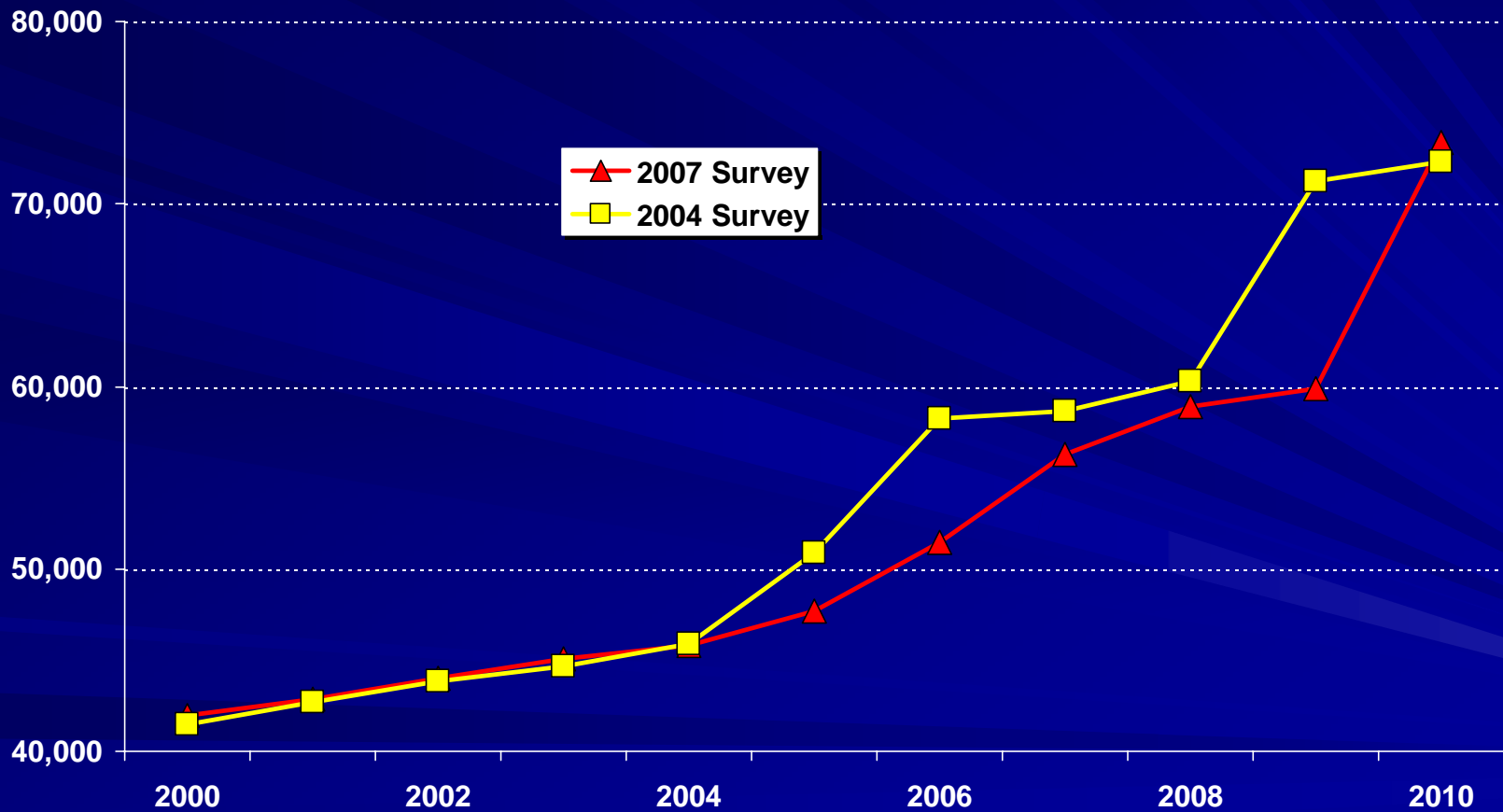
Product Distribution of World Gasification Capacity

(MW_{th} Equivalent)



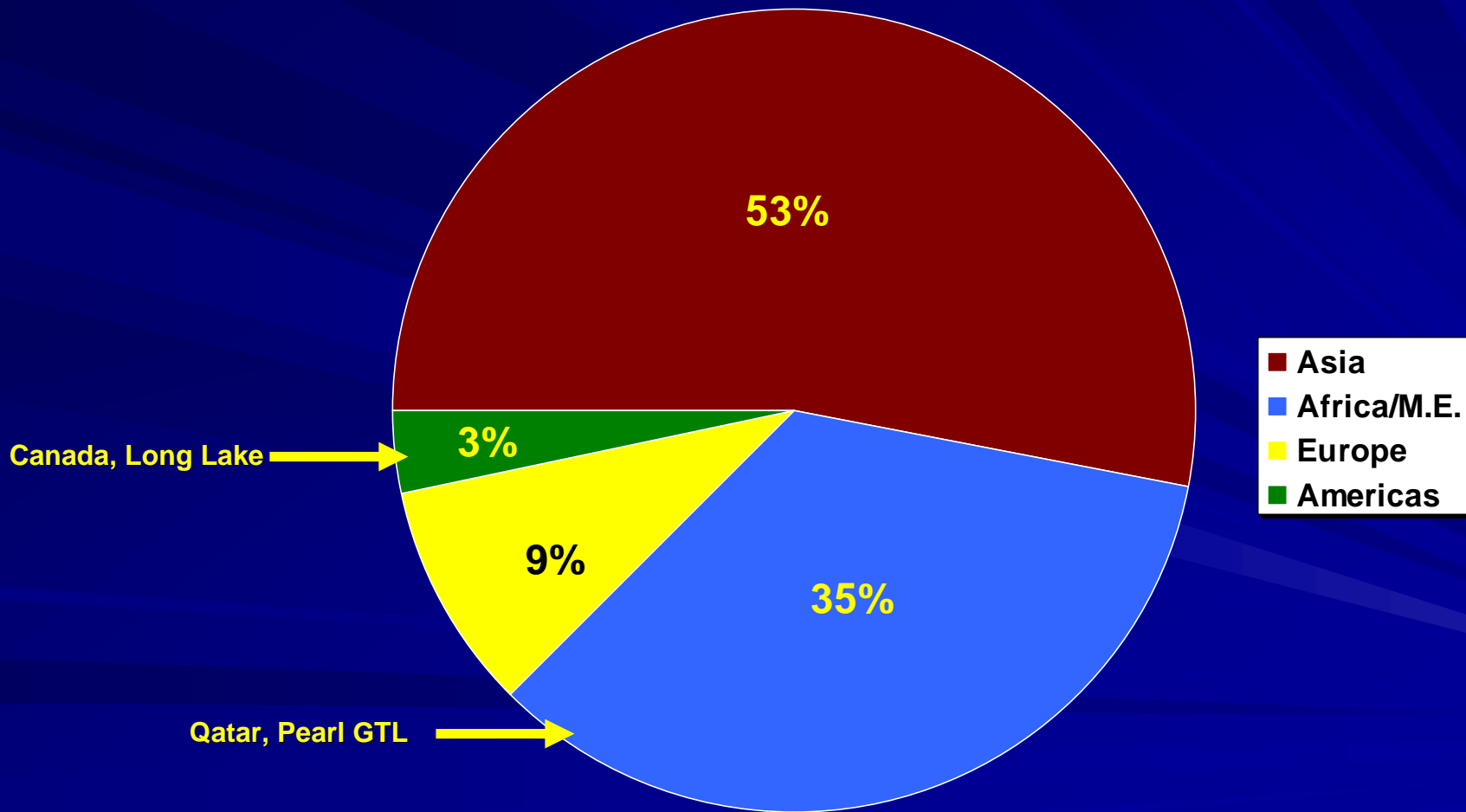
World Gasification Capacity Growth

(MWth Equivalent)



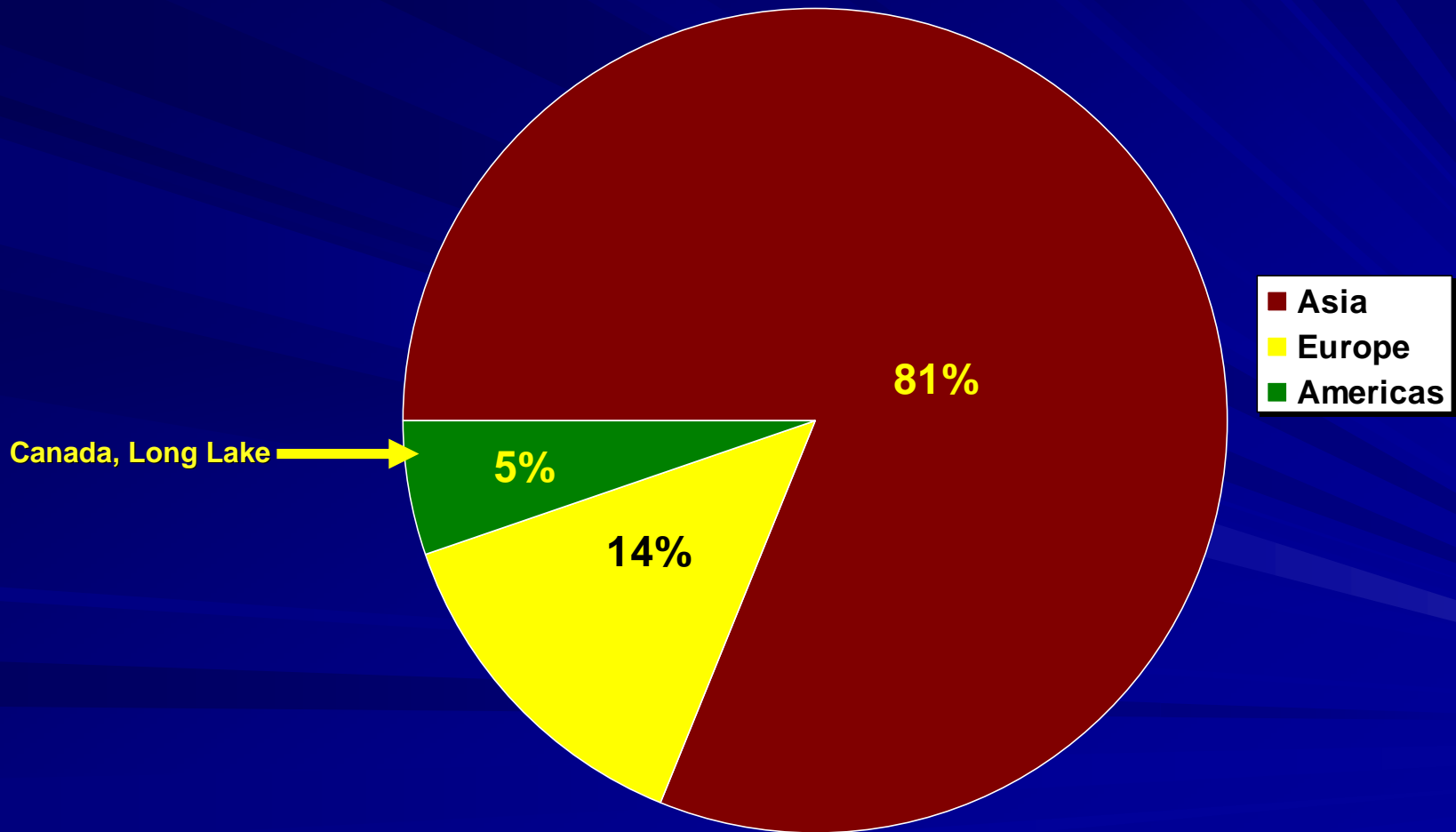
Where's the Growth?

Shares of Growth in World Gasification Capacity 2004-2010



Shares of Growth in World Gasification Capacity

2004-2010
(without Pearl GTL)



U.S. Gasification Outlook

- No new gasification-based plant has started up since 2002.
- Challenges posed by:
 - High/rising construction costs, project finance, lower cost competition in power market, uncertainty about future public policy incentives/regulations.
 - Anti fossil fuel attitudes, even when employing “clean” technologies.
- However, high degree of interest in new plants due to
 - Oil/gas prices and price expectations,
 - More stringent criteria pollutant controls,
 - Growing consensus that CO₂ controls on the horizon.

Crystal Ball Gazing

“Prime Movers” in Gasification Growth

■ China

- Chemicals, fertilizers
- Coal-to-liquids (direct/indirect)

■ Canada

- Oil sands (steam, power, H₂)

■ United States

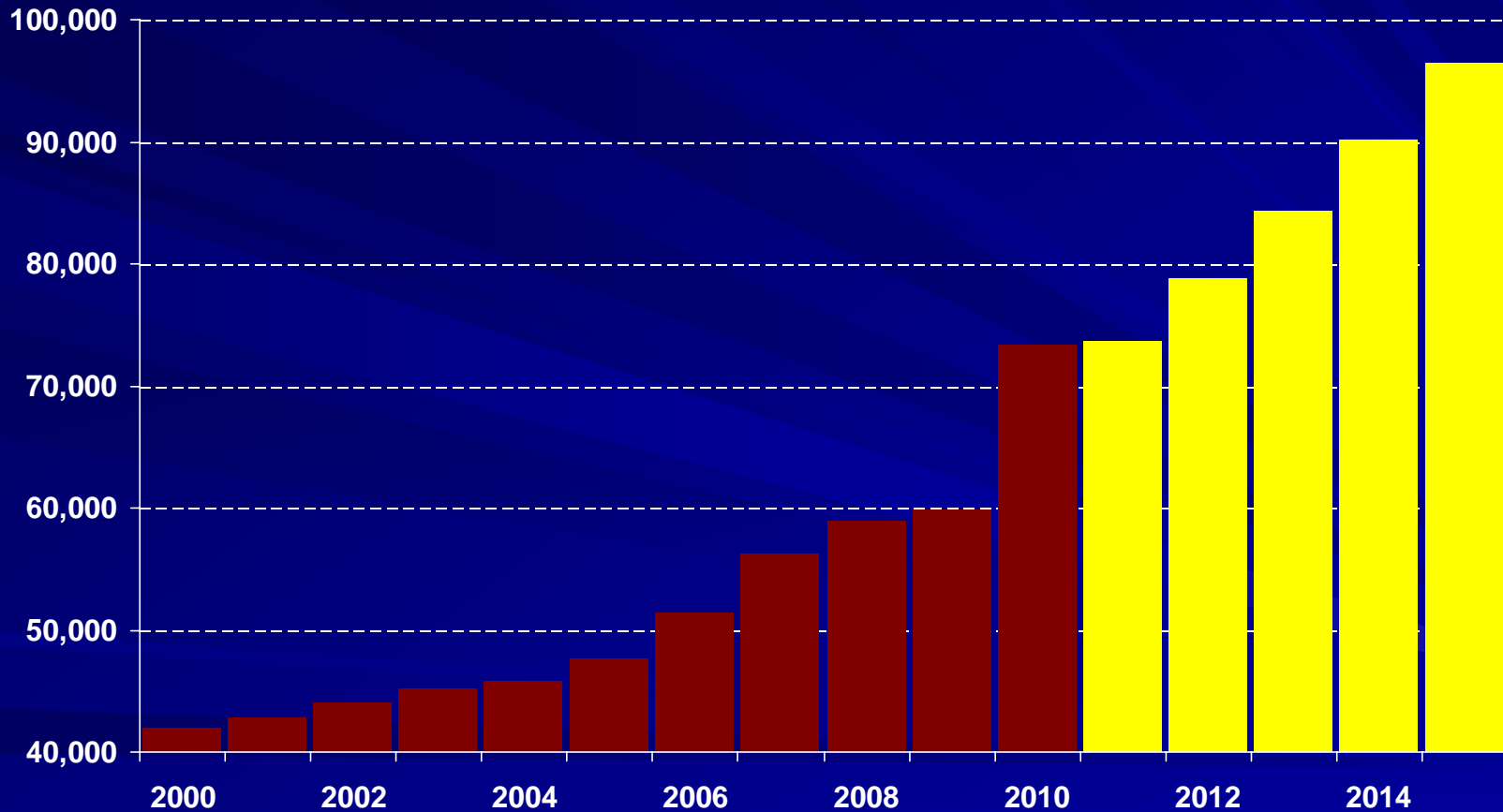
- Polygeneration, H₂, power, fuels
- Unscientific survey: 5-10 new plants by 2015?

■ Europe

- Refining, power, CO₂

World Gasification Growth: Plausible Scenario

(MWth Equivalent)



A wide-angle photograph of the Golden Gate Bridge in San Francisco, California. The bridge's iconic orange-red towers and suspension cables are prominent against a clear blue sky. The bridge spans across the water, with the city skyline visible in the distance. The water is a deep blue-green color.

Save the Date

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Questions? Comments?