Headlines

- Complex multi-component system – many possible outcomes
- Large volumes of data - robust methodology
- Current paradigms will change in future

- Total liquids capacity has not peaked
- Liquids capacity will continue to grow through 2017
- No imminent peak/ no precipitous fall thereafter
- CERA’s is not the most optimistic view

- Complexion of risks evolving – geopolitical, execution.
- Eventually liquids supply will struggle to meet demand
- The ‘undulating plateau’ will emerge – but not before 2030
Upstream Challenge: 31+ Mbd of New Crude + Condensate Capacity Needed by 2017 to Meet Demand

Source: Cambridge Energy Research Associates.

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“Filling the Hopper”—The Future of Supply

• Continued evidence of strong growth of productive capacity
  — Growing supply-demand balance
  — No shortage of new projects—‘bulge’ ahead of the curve
  — Growth of conventional crude volumes slowing?
  — Growing contribution from higher-cost liquids – heavy oil, GTL/CTL, and biofuels
  — Strong growth of gas capacity—drives growth of gas-related liquids
  — Deepwater will be a major contributor to growth

• Demand will be met through 2017
Nontraditionals Shoulder an Increasing Burden

Source: Cambridge Energy Research Associates.
Shifts in World Liquids Capacity to 2017
(million barrels per day)

Source: Cambridge Energy Research Associates.
Updated October 2007.
‘Imminent’ Peak vs ‘Undulating Plateau’

- Reserves are plentiful - but poorly quantified/understood
- Field decline rates are not increasing with time
- Less than 50% of production comes from fields in decline
- Giant fields – growing contribution in absolute terms
- Field Reserves Growth continues to deliver
- Exploration will continue to deliver
- Access problems long term

- Geology and scale are complex issues - but the real problems are aboveground
Undulating Plateau vs Peak Oil—Schematic

Source: Cambridge Energy Research Associates.

CERA Reference Case

Historical Production

Cumulative Production

1 Trillion—2005

Unconventional Oil

Conventional Oil

Asian Phoenix Capacity

Total

Undulating Plateau

Million Barrels per Day


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CERA’s - Future Liquids Supply

• Will supply continue to meet demand?
• What is the most likely outcome – imminent peak vs undulating plateau?
• What are the drivers?
• What are the major risks?
• What are the signposts?
If you have any questions about this presentation or CERA in general, please feel free to contact

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