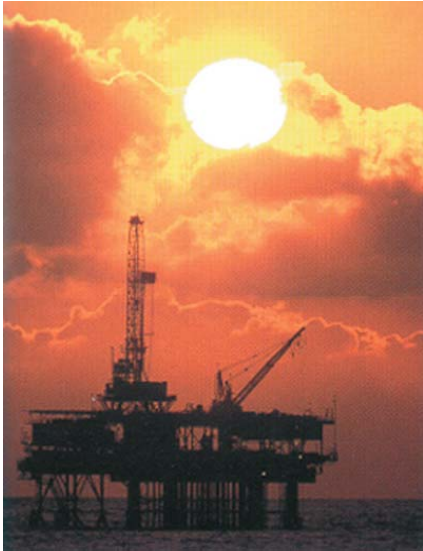


# Outlook For The Winter Propane Market

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*presented at*  
**DOE – NASEO**  
**2008-2009 Winter Fuels Conference**  
**October 7, 2008**

**Walter Hart**

**PURVIN  
& GERTZ  
INC.**

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# Agenda – From Feast to Famine

The U.S. ended the 2007-2008 winter season with average amounts of propane in inventory



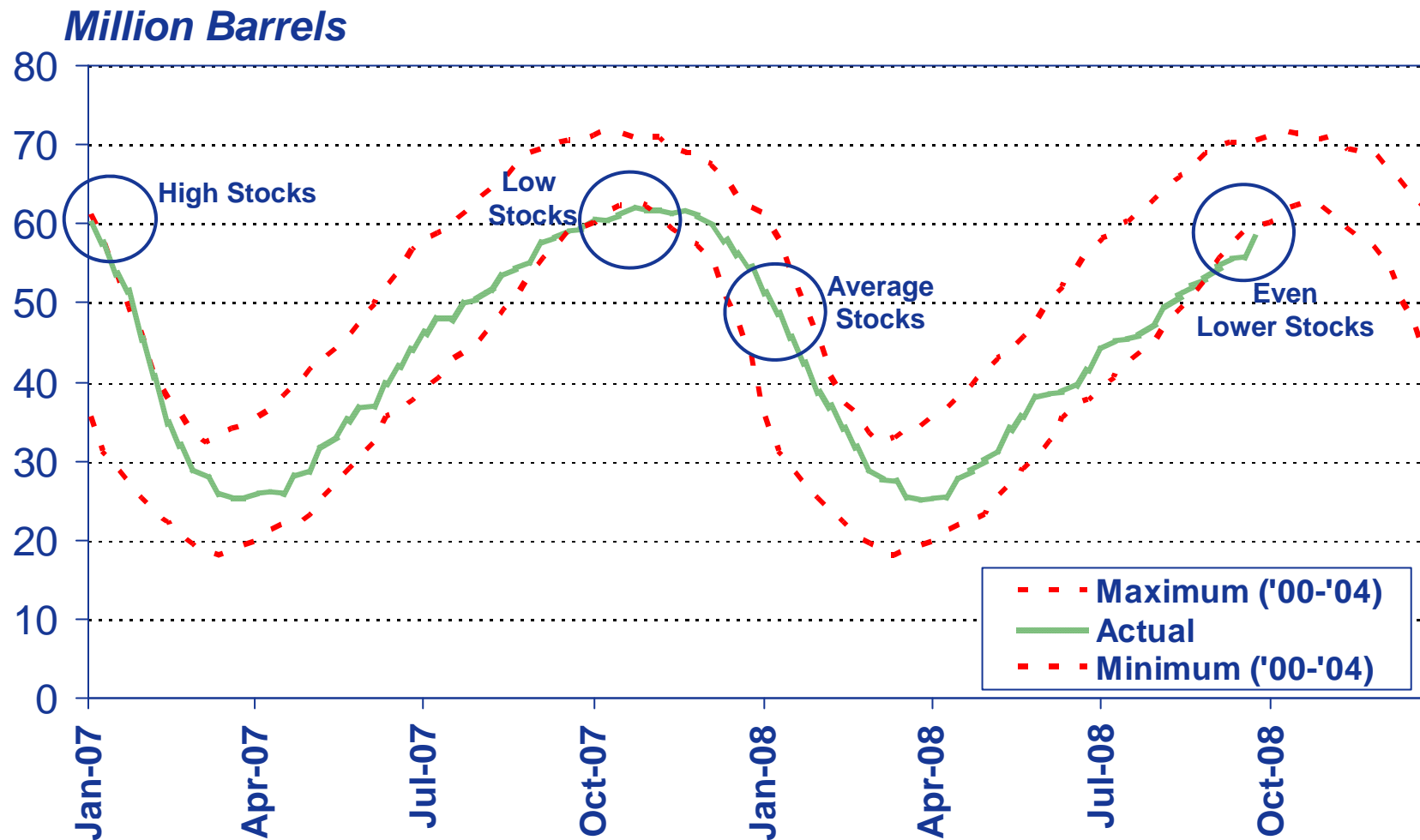
However, stocks then rose very slowly throughout the summer

And U.S. inventories fell to historical lows in September

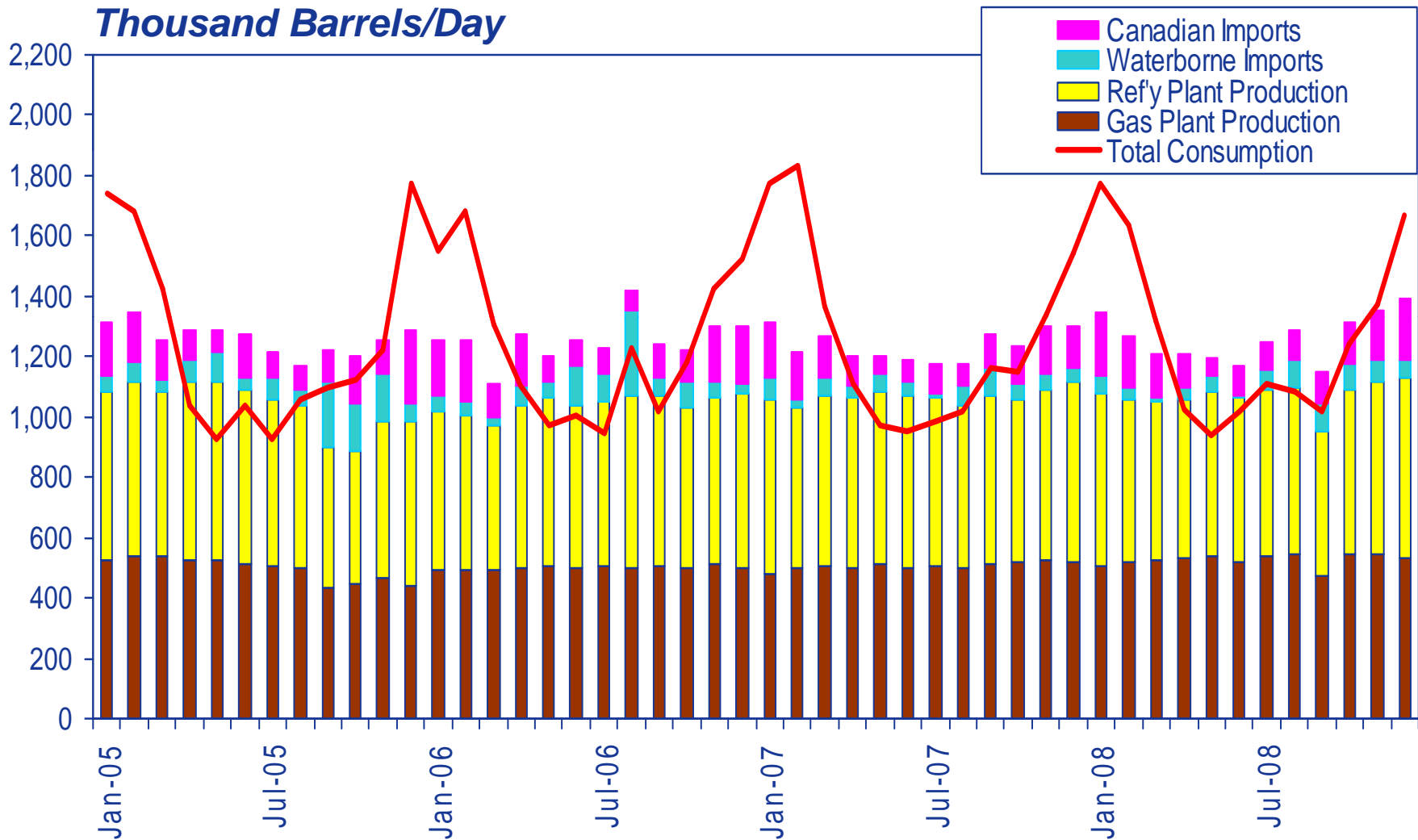
**WHY? – And more importantly, what about the upcoming winter?**



# Propane stocks have fallen below the typical seasonal range (again)



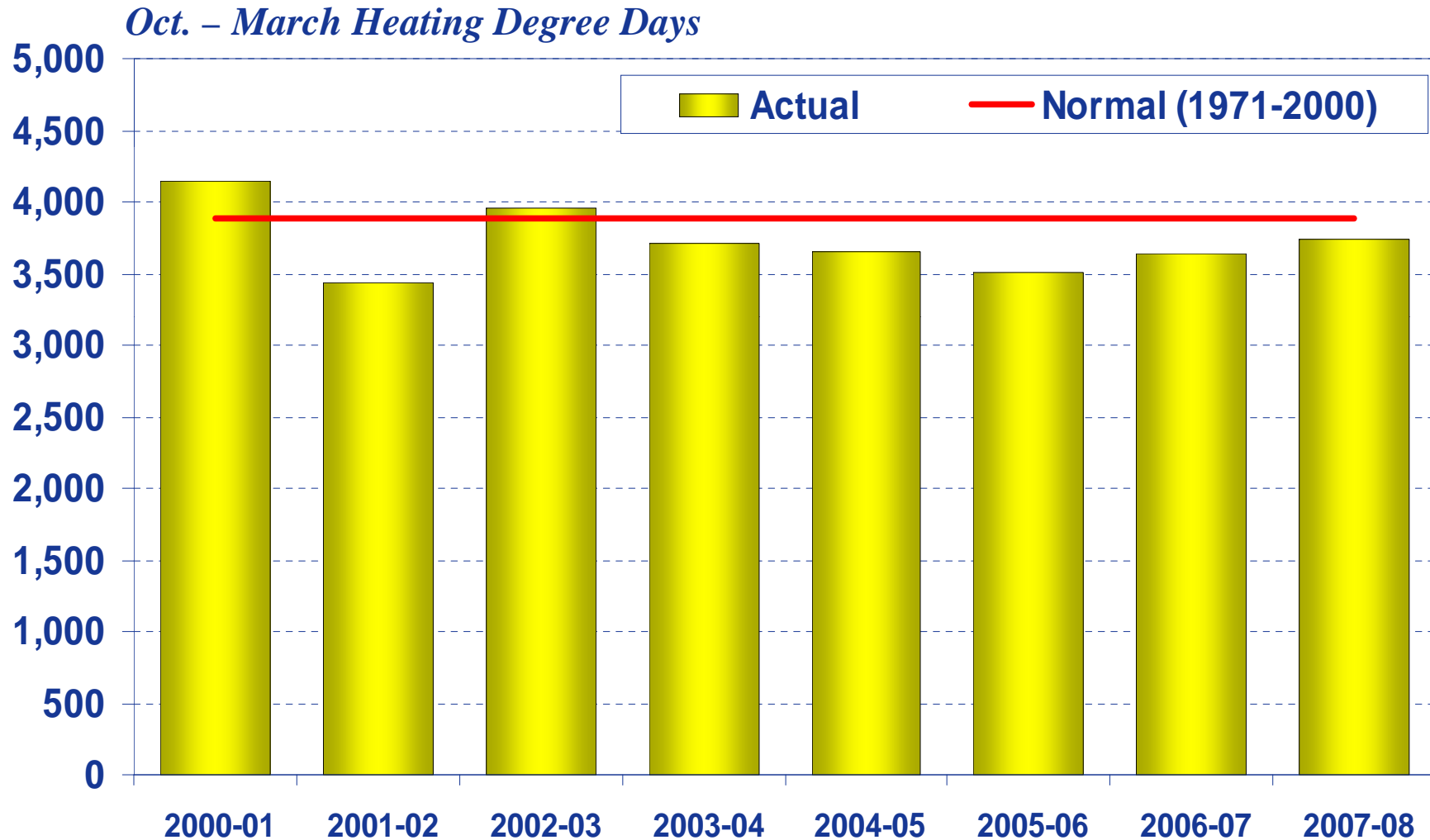
# Stocks are important – propane supplies are constant but demand is seasonal



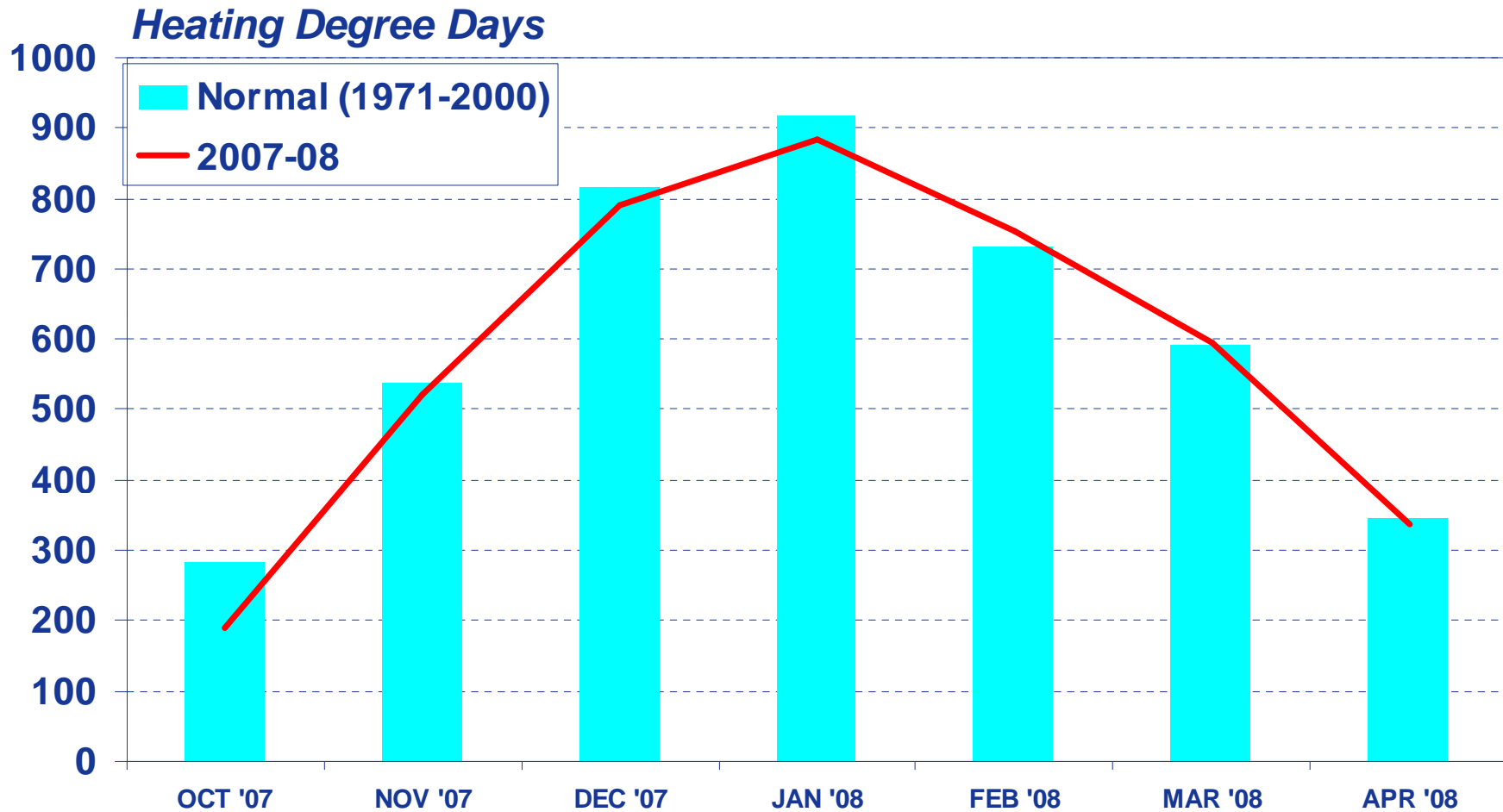
# What caused inventories to change so much?

- **Stocks remained about average due to a warm 2007/08 winter**
- **Inventories became low because of:**
  - **Low waterborne imports**
  - **Low refinery production rates**
  - **High consumption by petrochemicals**
- **But were partially maintained by:**
  - **High gas plant production rates**

# The last five winters were warm



# Last winter, only February was colder than normal

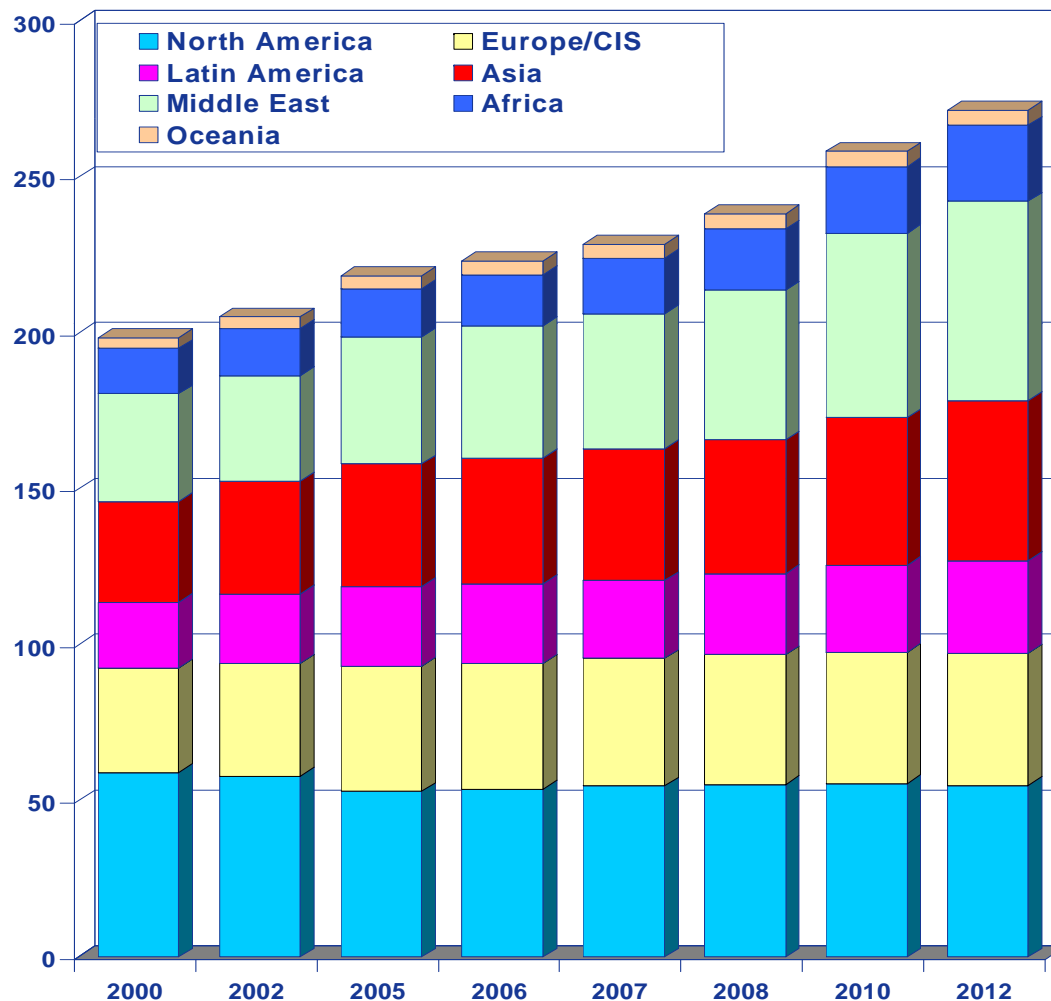


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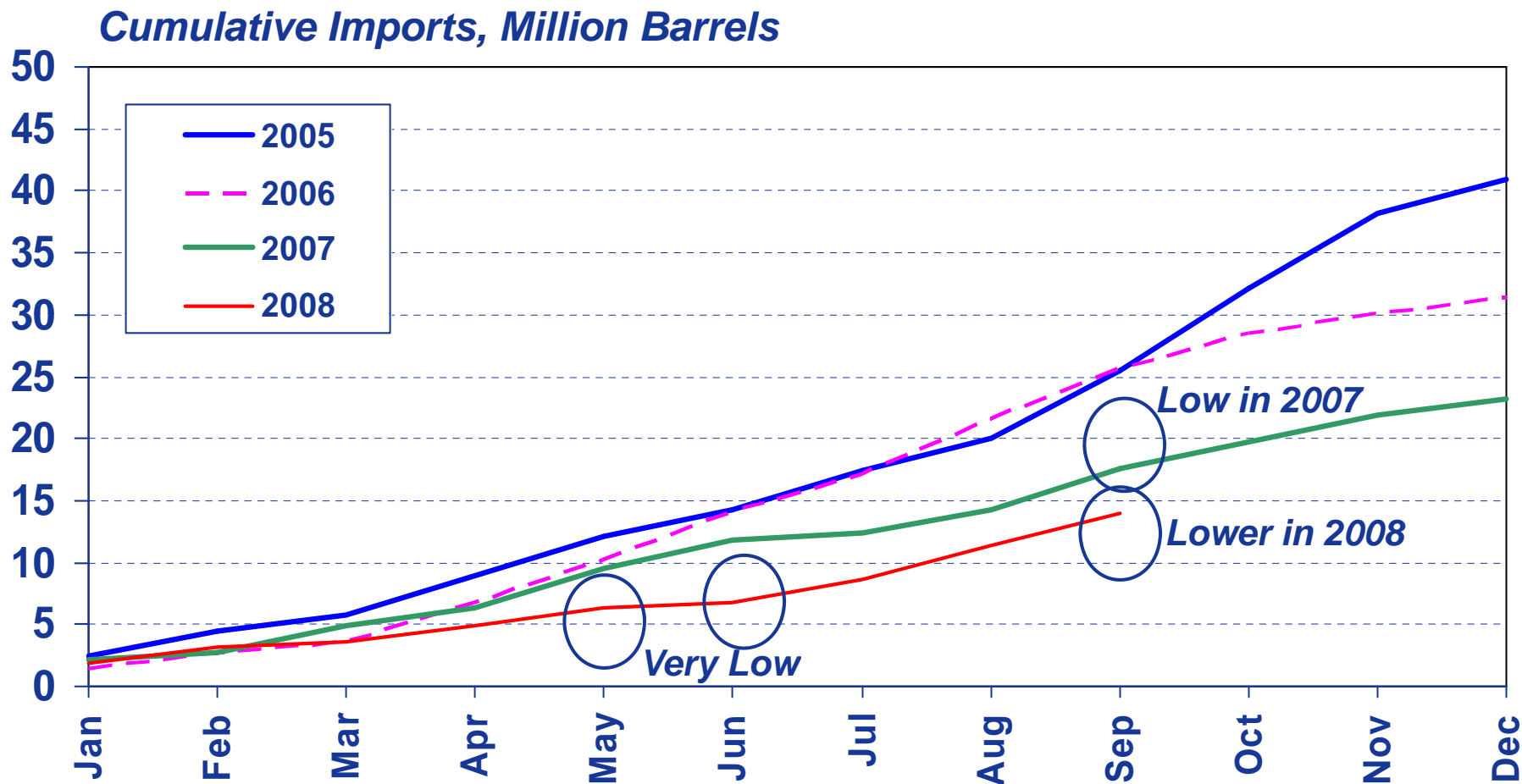
# Global LPG supply is expected to rise by around 43 million tonnes between 2007 and 2012

*LPG Supply, Million Tonnes*



- **LPG production is rising in most regions of the world, but North America is an exception to this trend.**
- **The Middle East will surpass North America within a few years to become the largest LPG producing region in the world.**
- **Supply growth is expected to exceed demand growth in some regions, resulting in exports of the surplus LPG.**

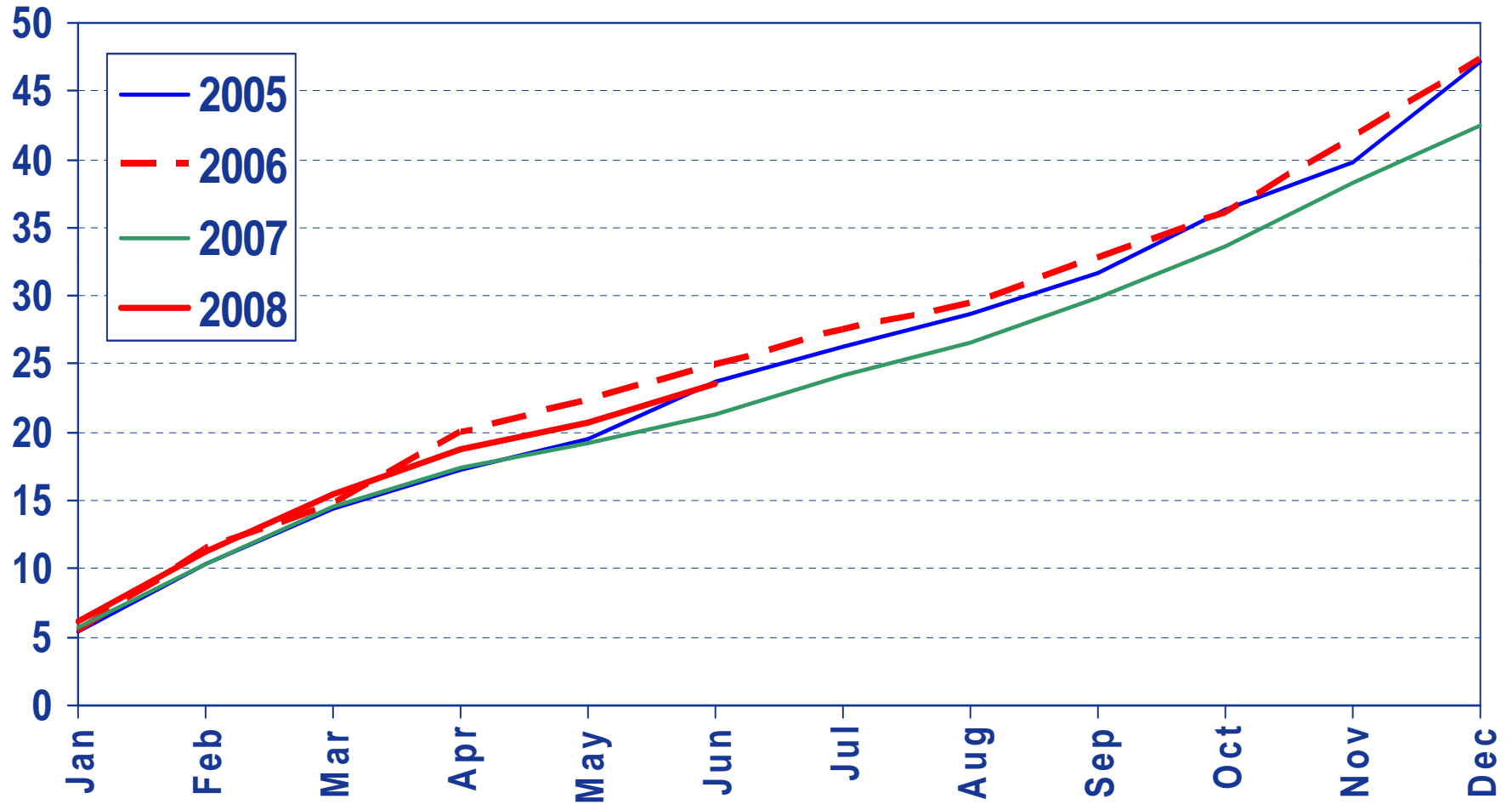
# Year-to-date waterborne imports are below average, again



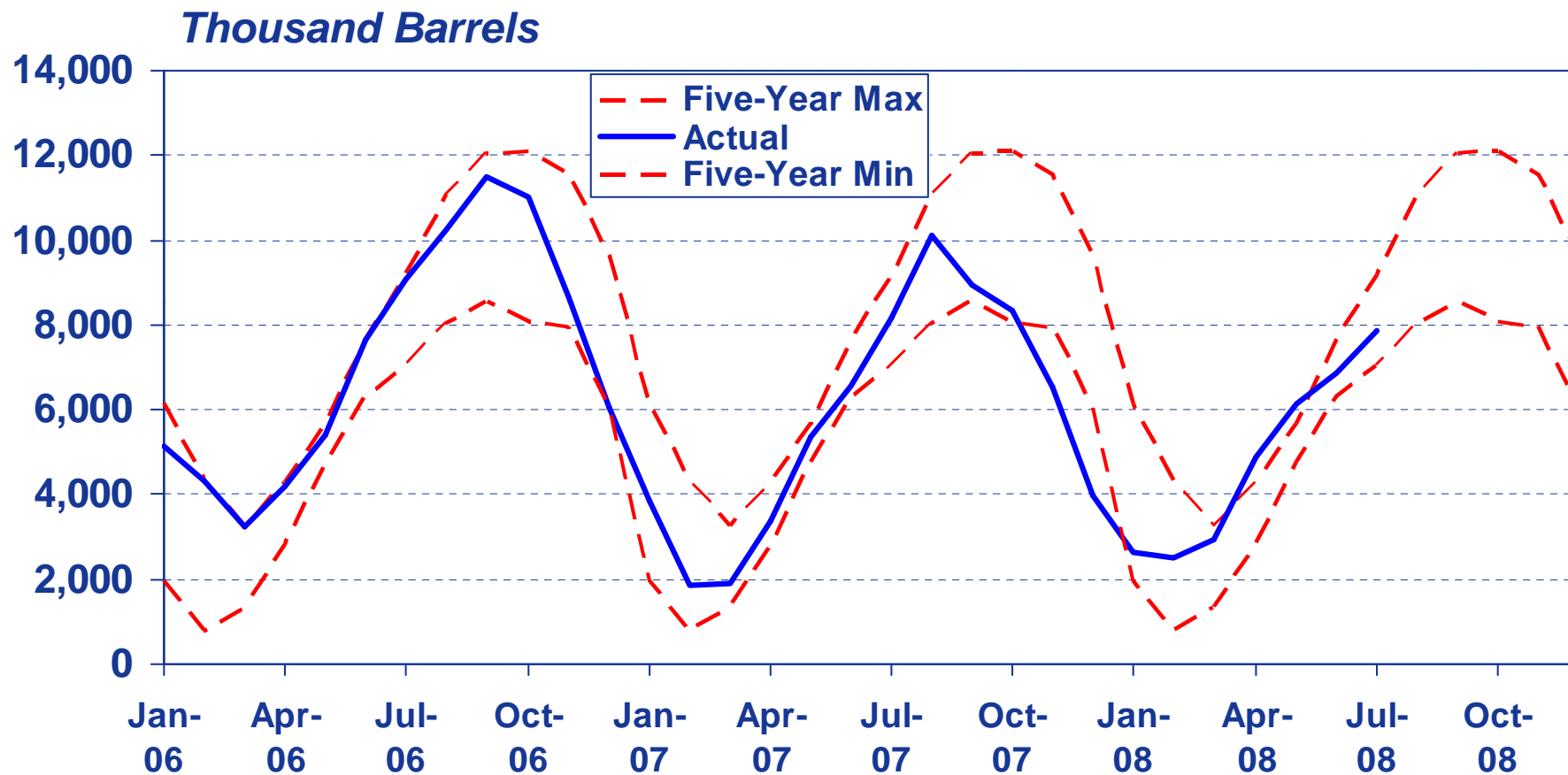
Source: Waterborne Energy

# Year-to-date imports from Canada are right on track

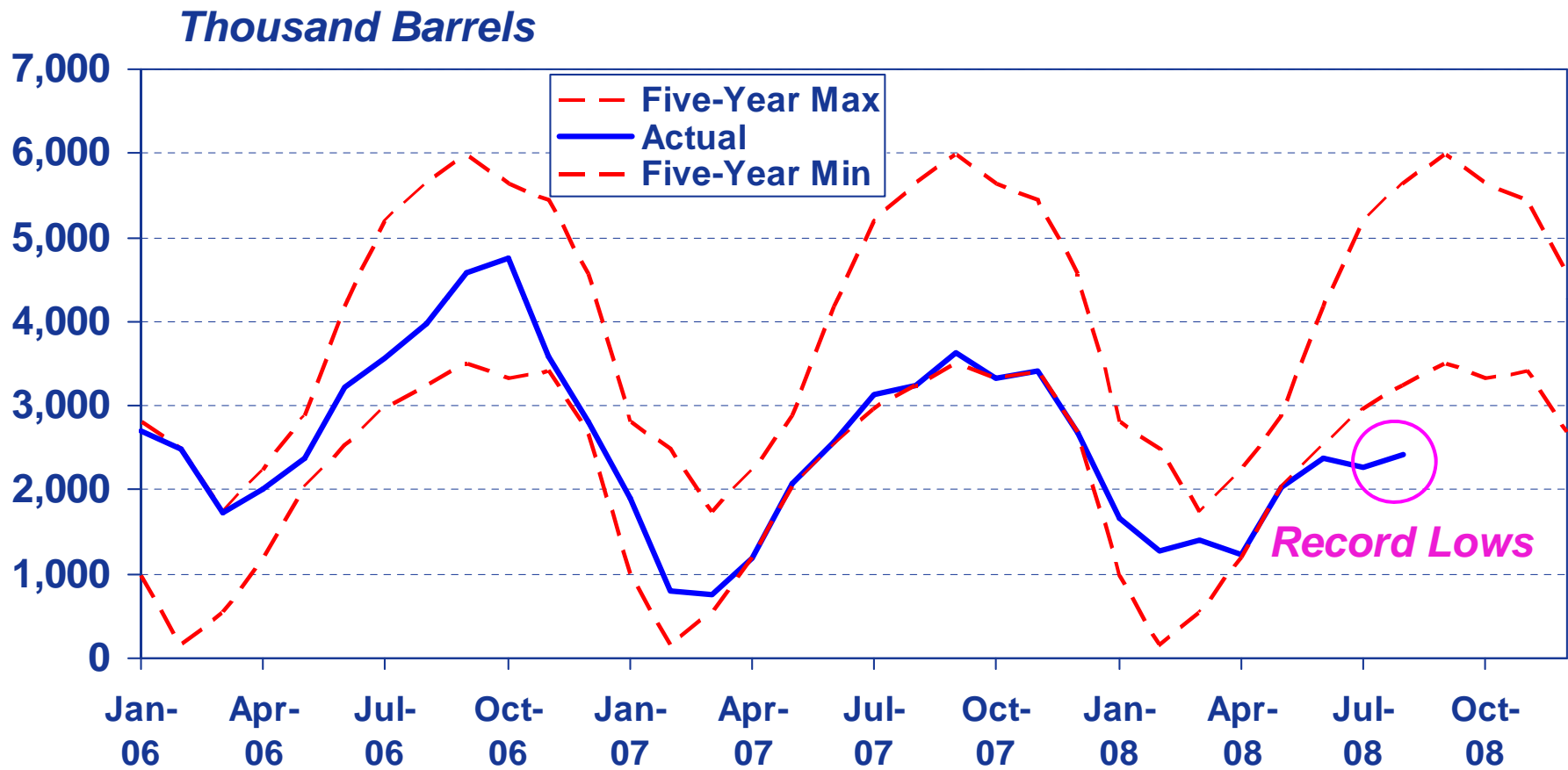
*Cumulative Imports, Million Barrels*



# Propane stocks in Canada are about average, but...



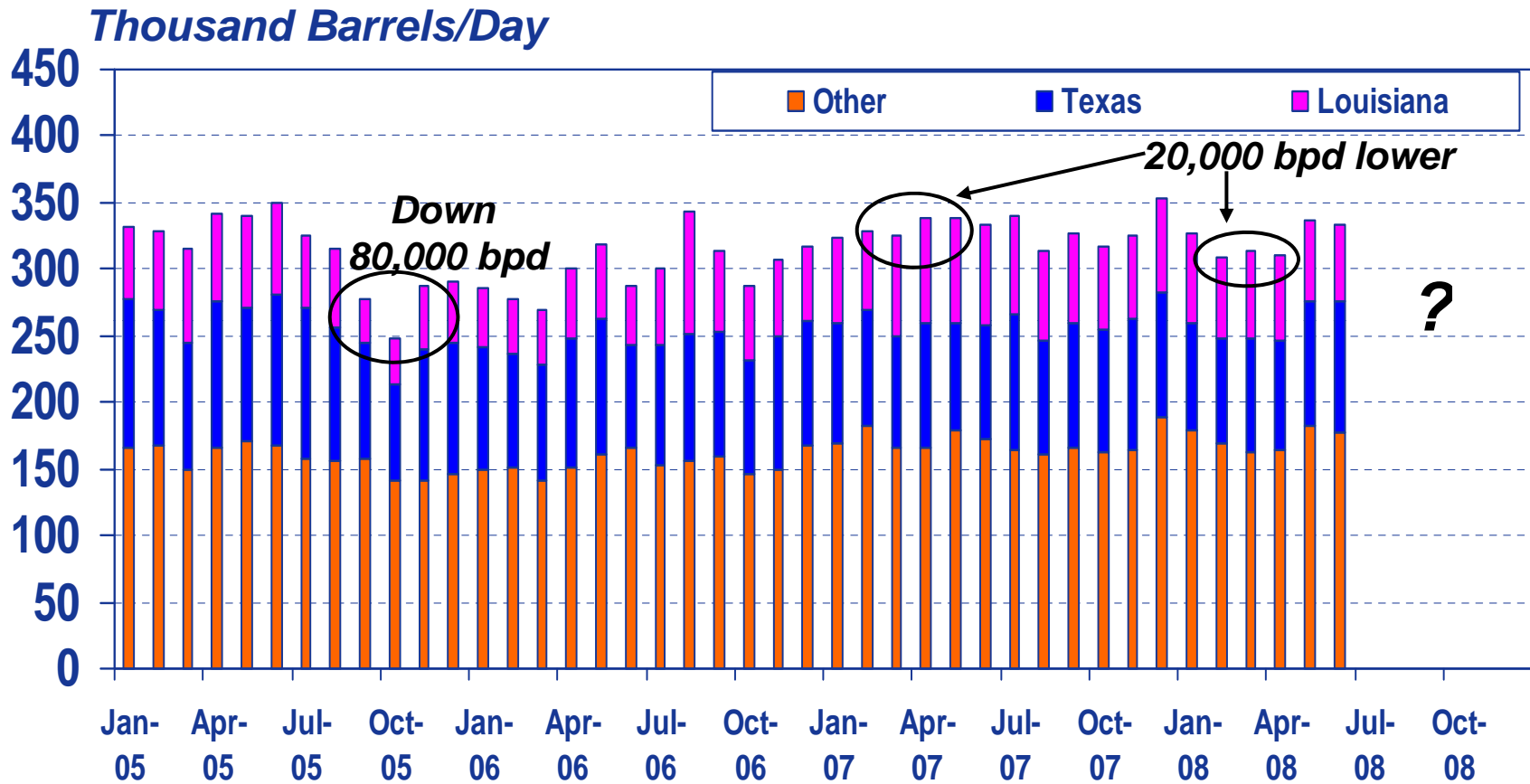
# ...stocks are low in Eastern Canada



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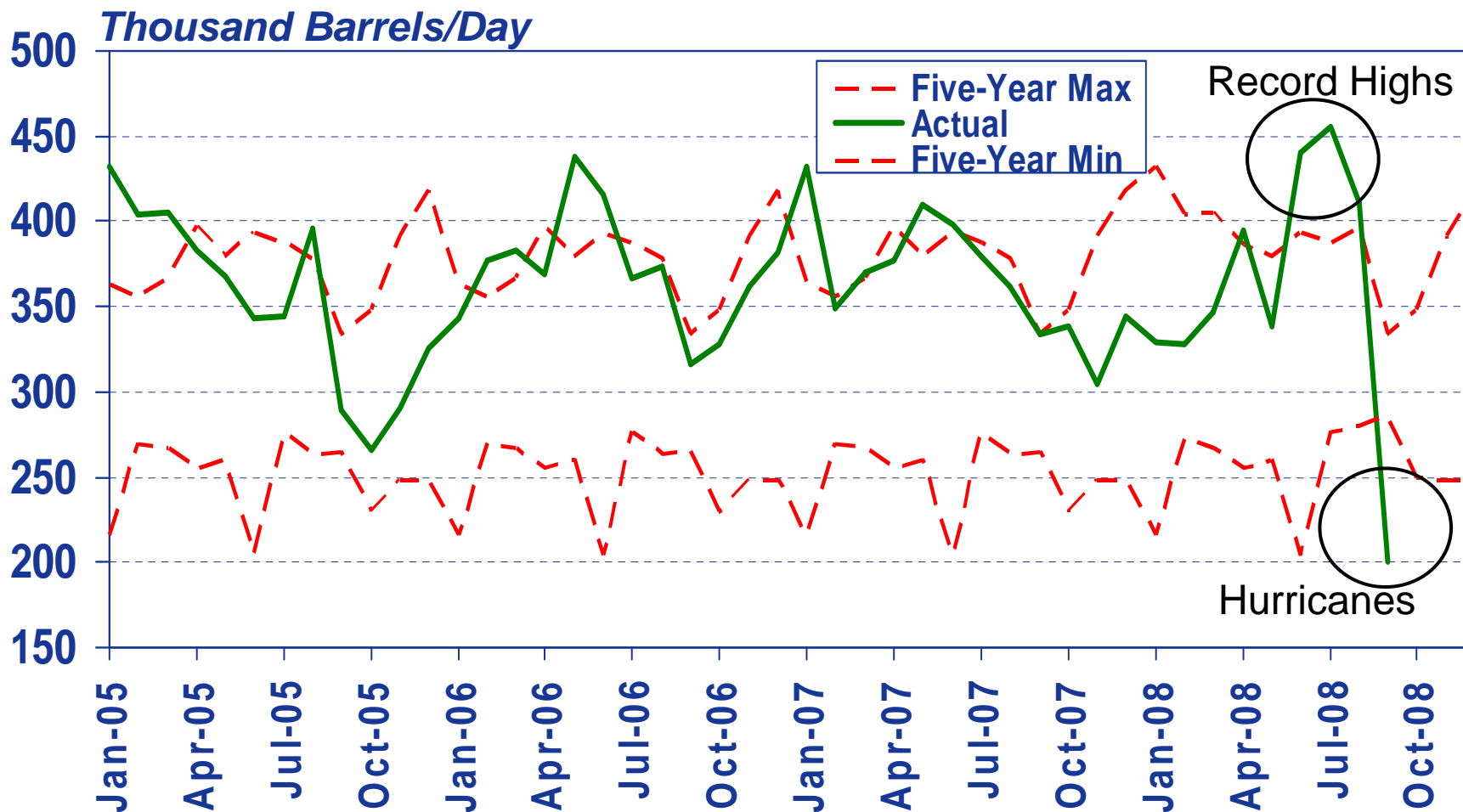
# In 2005, propane production by U.S. refineries fell by 80,000 bpd after the storms



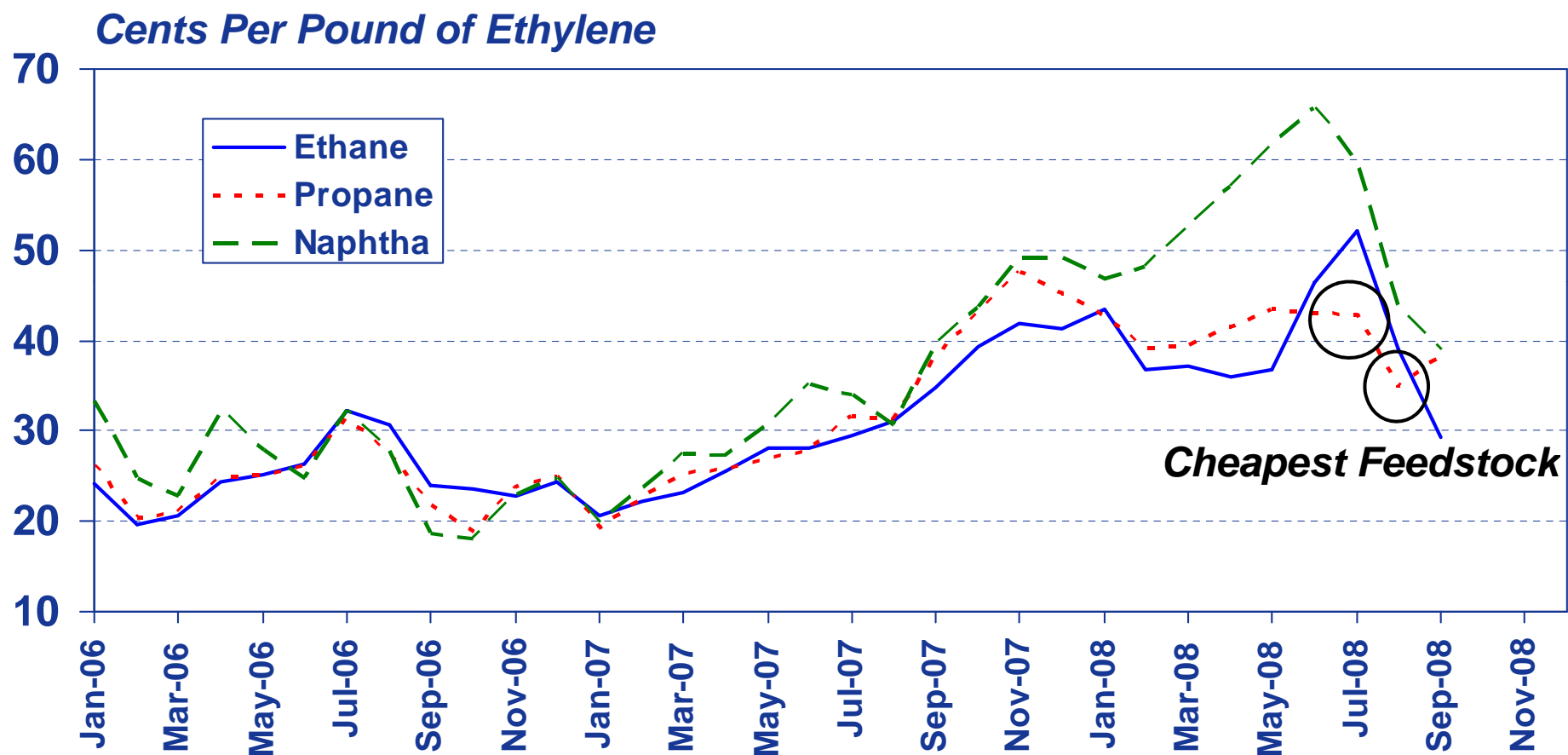
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# Ethylene plant consumption set record highs this summer, prior to the storms



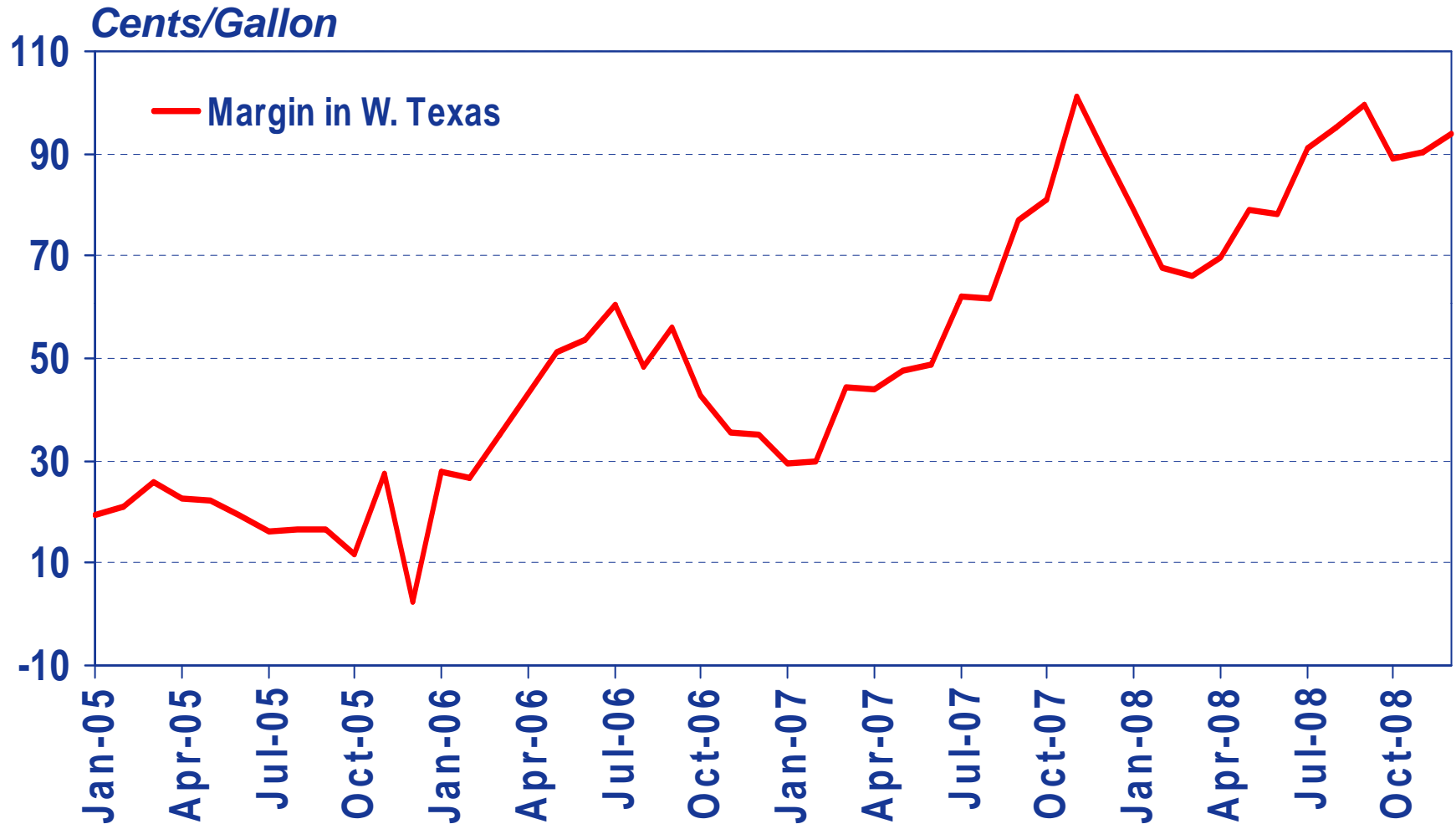
# Propane has been a relatively cheap cracker feedstock



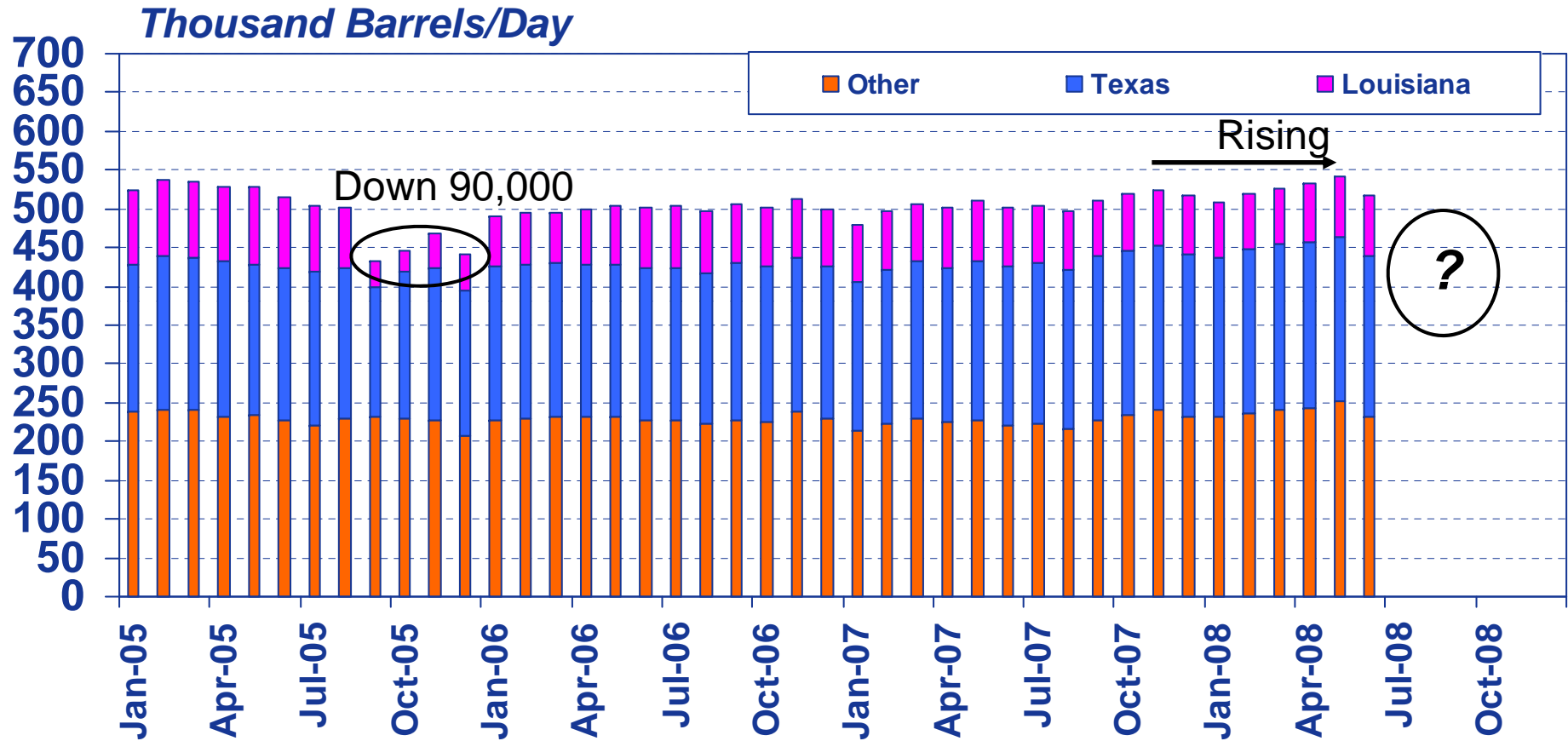
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# Gas processors are probably maximizing propane recovery



# In 2005, the U.S. lost 90,000 bpd of gas plant propane production



# What about the upcoming winter?

The U.S. started 2007 with almost record high propane inventories

And ended the winter with average amounts of propane in inventory

Propane stocks then declined throughout the summer

And U.S. inventories fell to historical lows by September

**WHY? – And more importantly, what about the upcoming winter?**



# Hurricanes Gustav and Ike disrupted both the production and consumption of propane

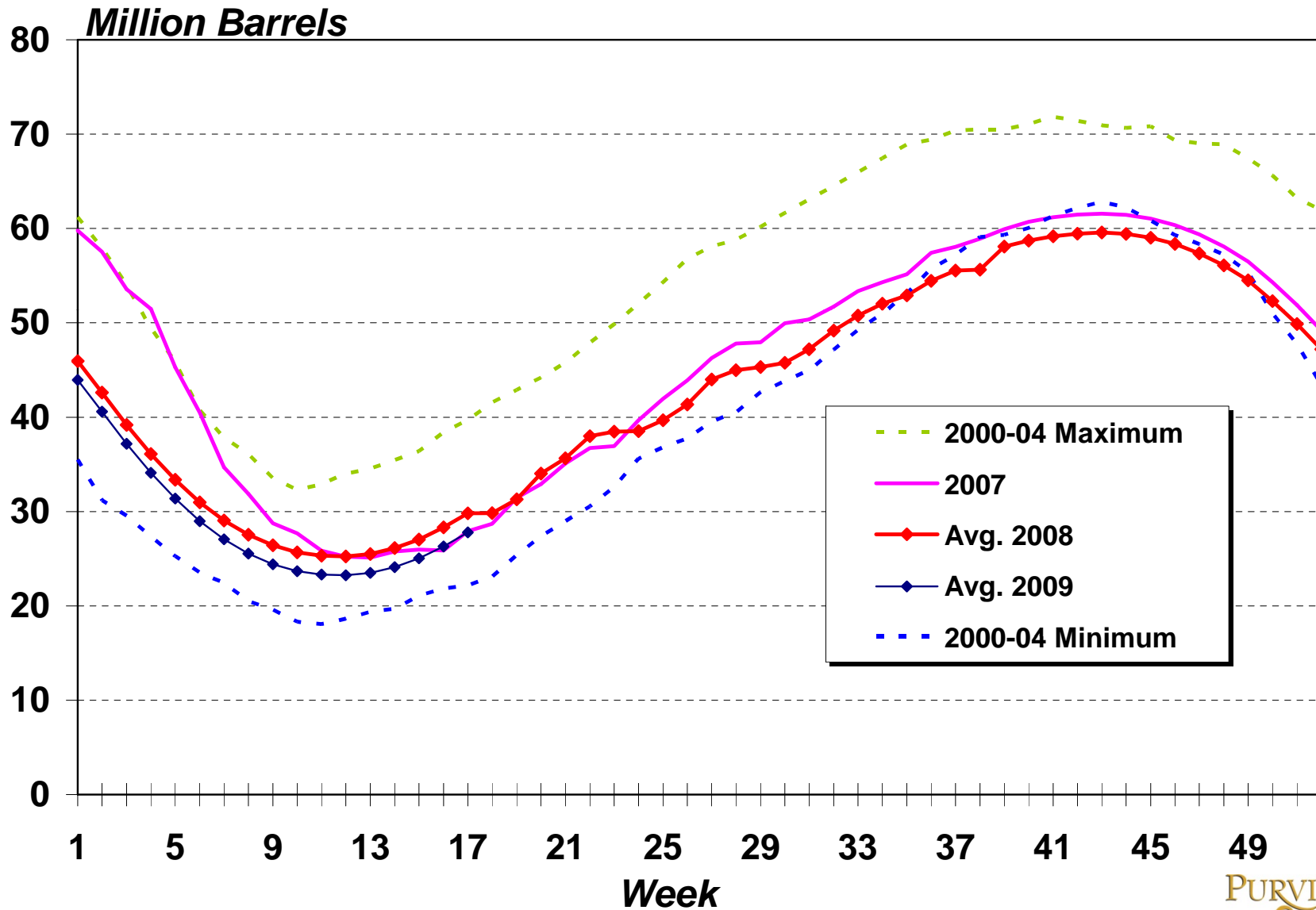
## As of October 1:

- 3.38 Tcf/d of natural gas production remained shut-in
- Out of 38 gas plants impacted by the hurricanes:
  - 6 remain shut down
  - 5 were not running due to lack of gas and/or power
  - 27 were running at normal or reduced rates
- Out of 33 refineries impacted by the hurricanes:
  - 1 remains shut down
  - 3 were restarting
  - 29 were running at normal or reduced rates
- Out of 34 ethylene plants impacted by the hurricanes:
  - 11 remain shut down
  - 4 were restarting
  - 19 were running at normal or reduced rates

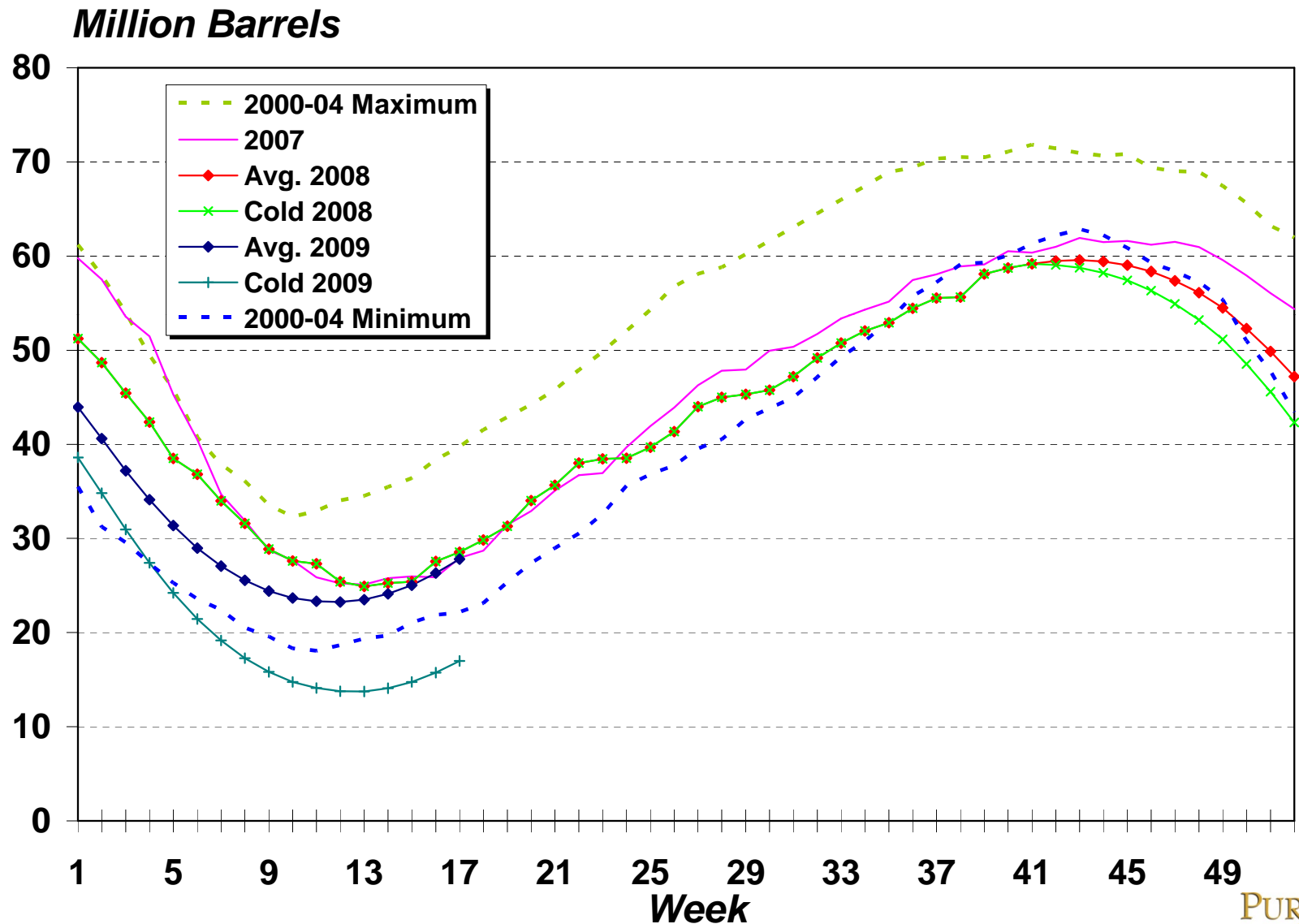
# Propane supplies this winter will depend on:

- Will ethylene plants reduce propane cracking?
- Will the U.S. attract more imports?
- How quickly will the industry recover from Hurricanes Gustav and Ike?
- Will the winter be warm, cold, or average?
- Higher prices for propane will solve the first two issues – the other two are up to Mother Nature

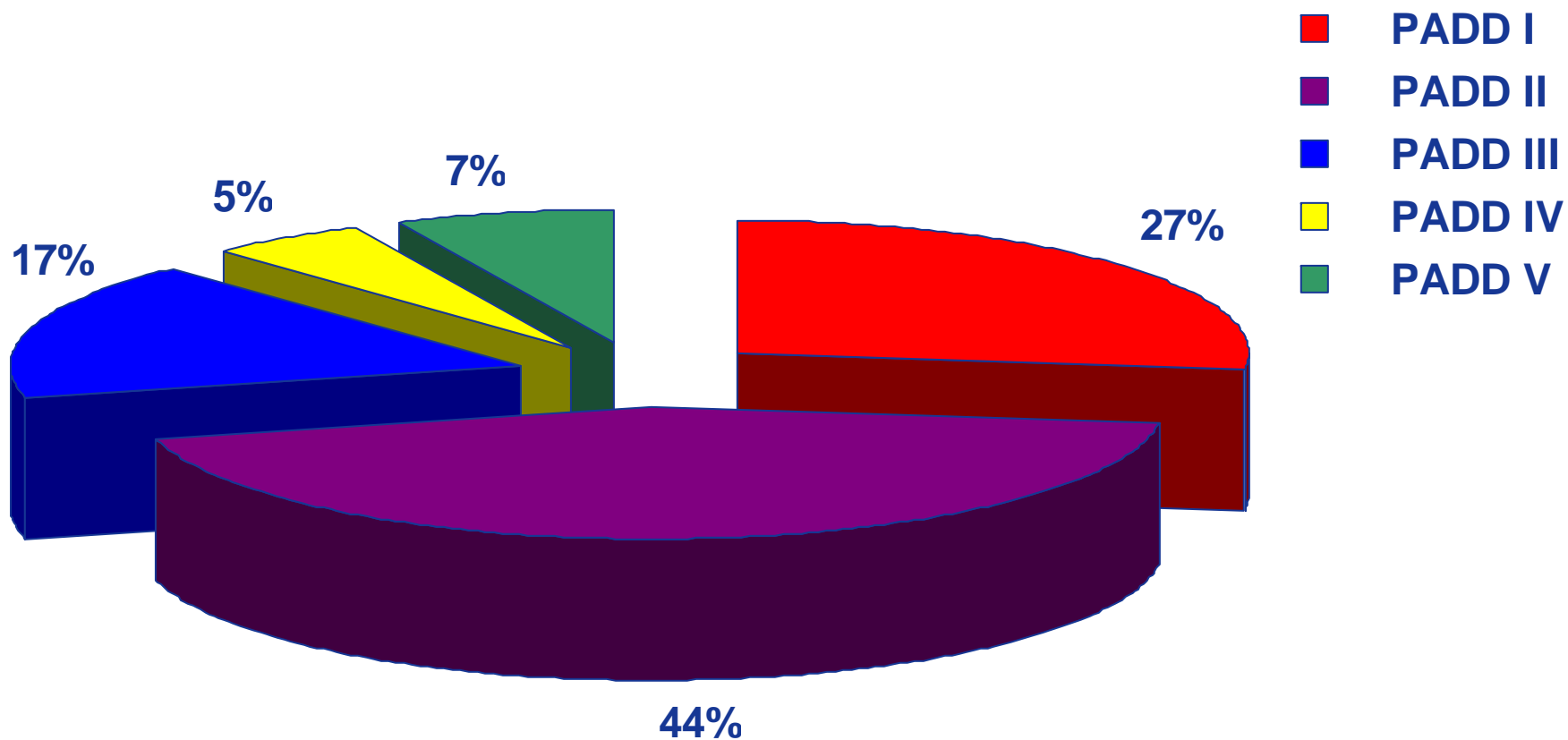
# Propane stocks in the total U.S. should be adequate IF the winter is about average



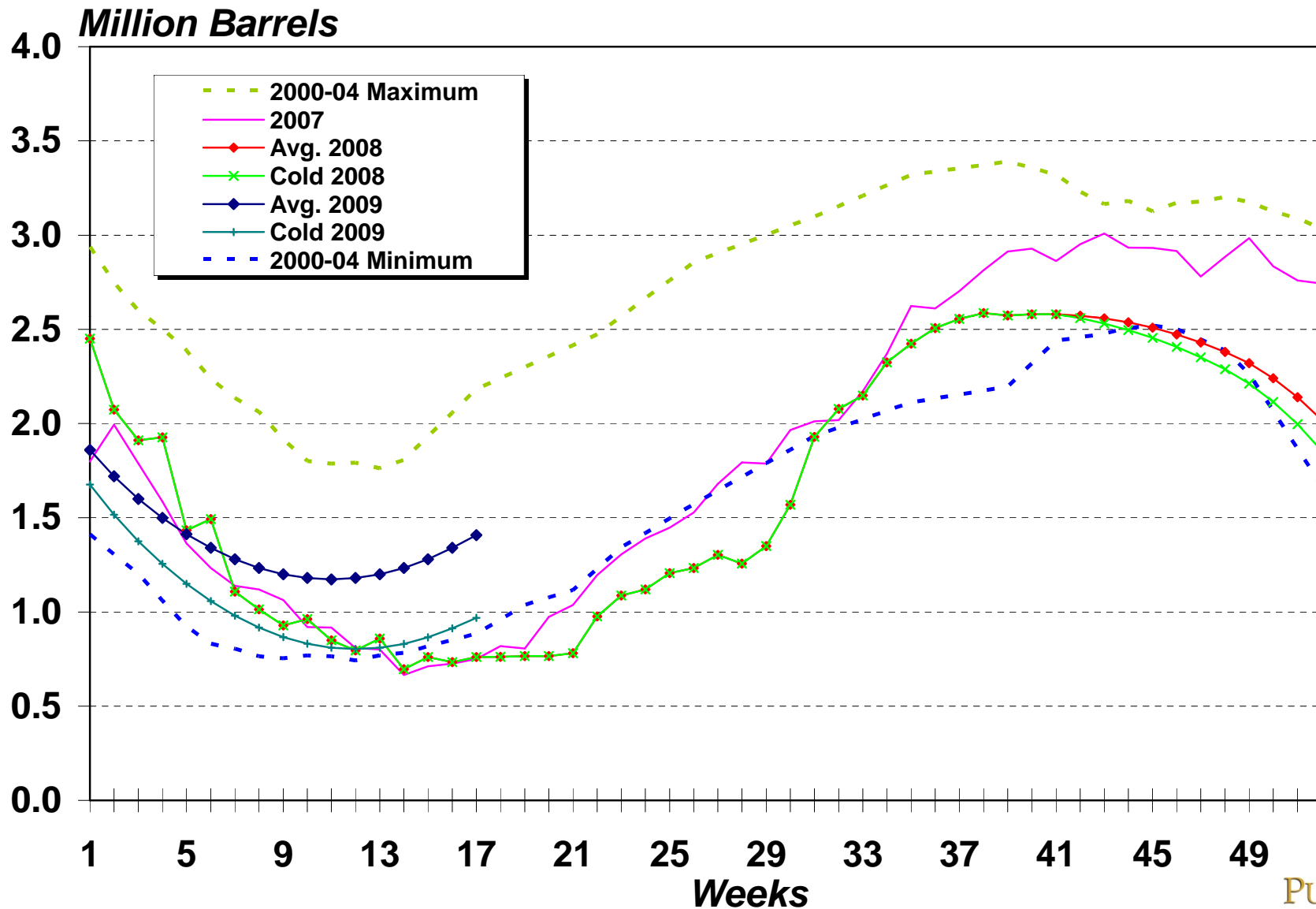
# But propane stocks could remain low if the U.S. has a cold winter



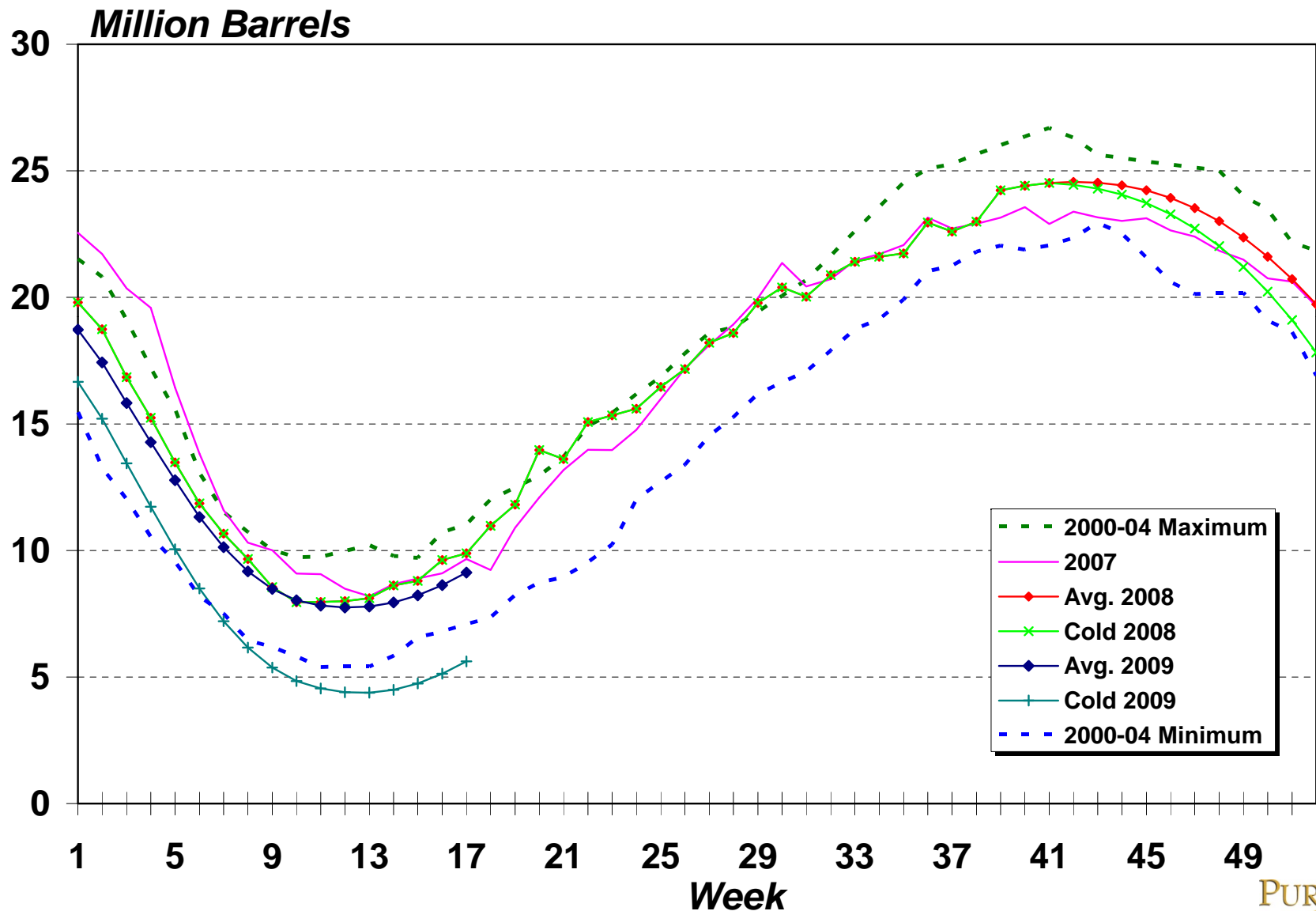
# Residential/Commercial propane demand is highest in the Midwest



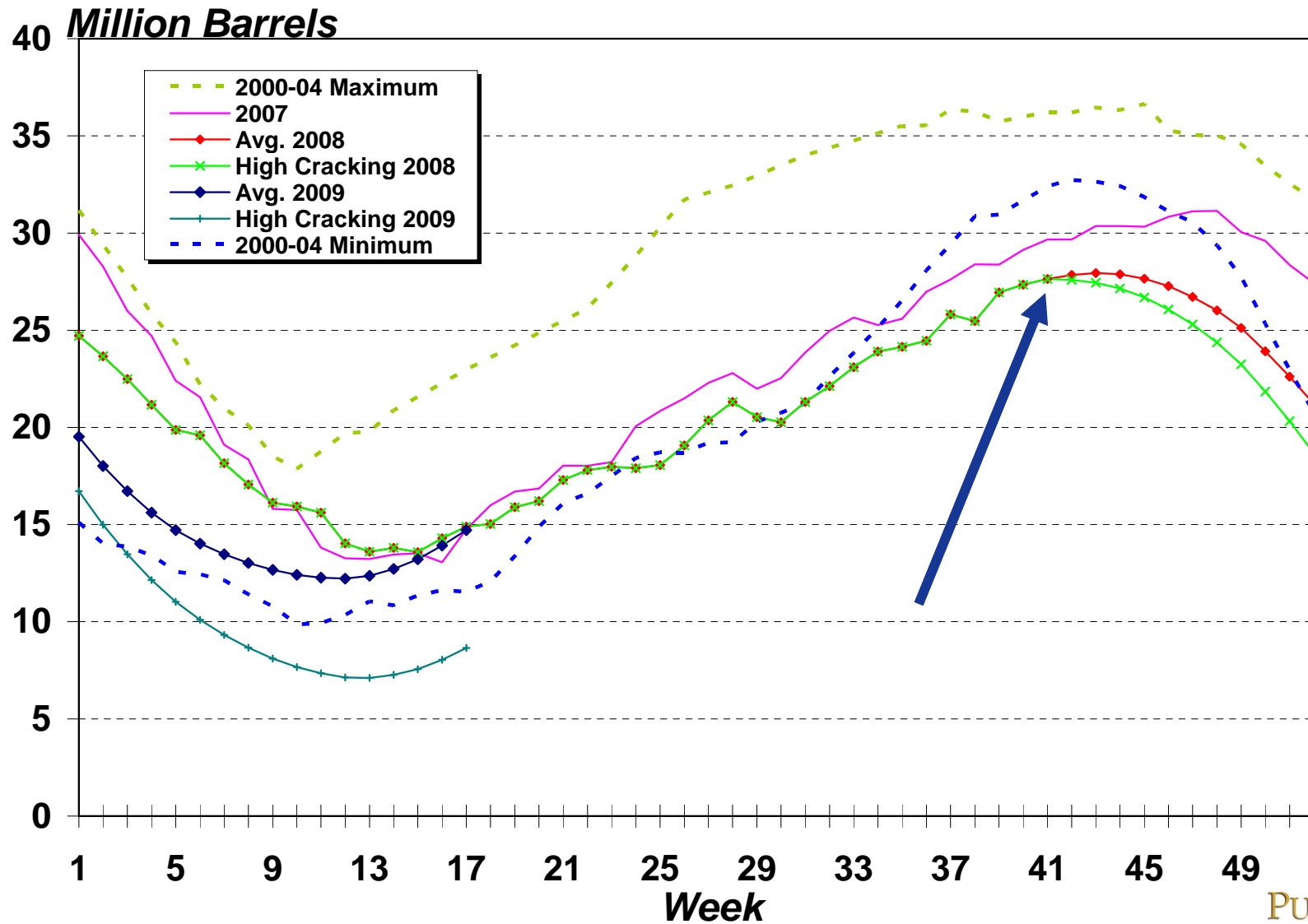
# Low propane stocks in the Western U.S. have been rebuilt



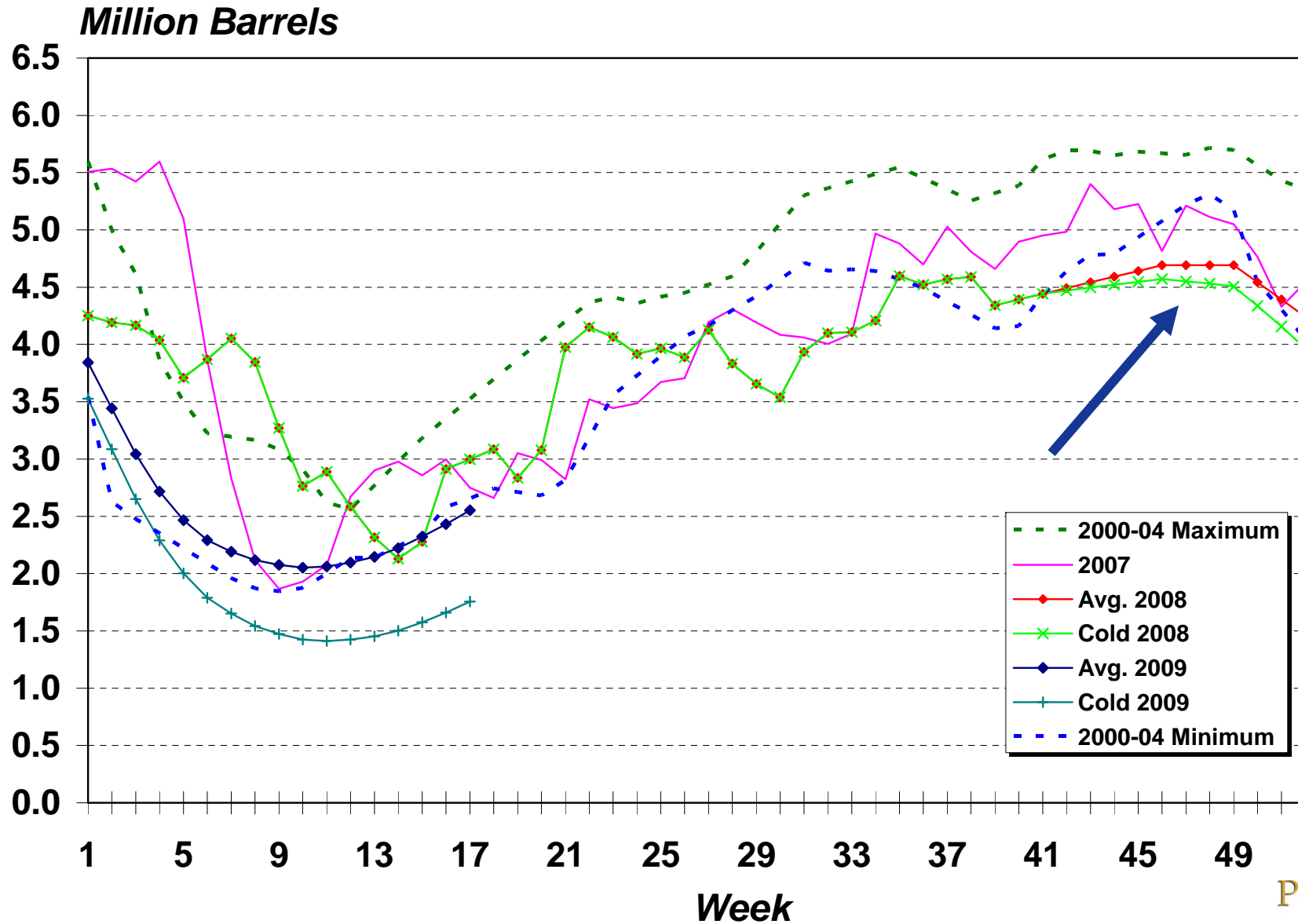
# Mid-Continent stocks will likely also be adequate



# U.S. Gulf Coast stocks are significantly below average



# East Coast propane stocks may need to be replenished

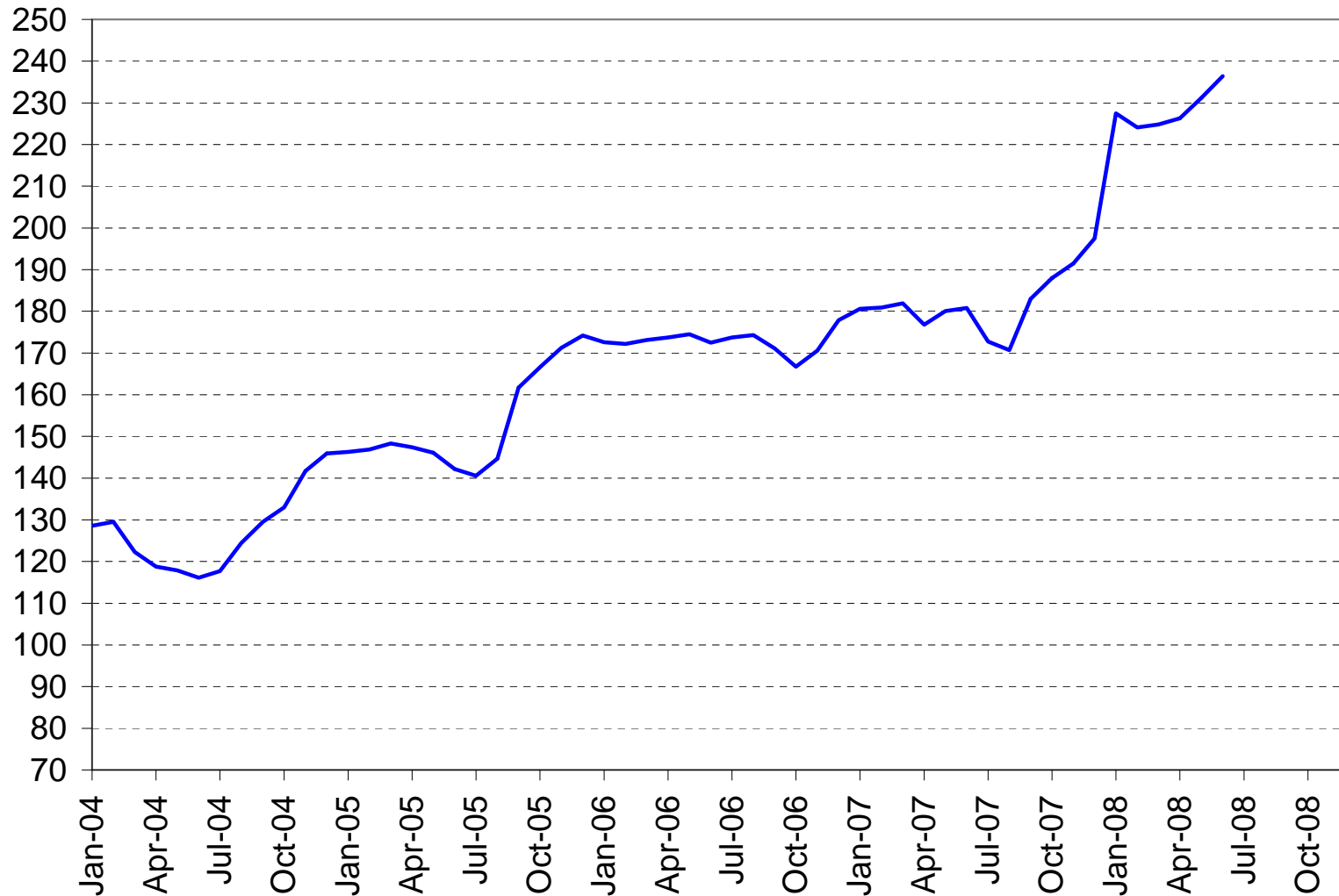


# Propane supplies this winter will depend on:

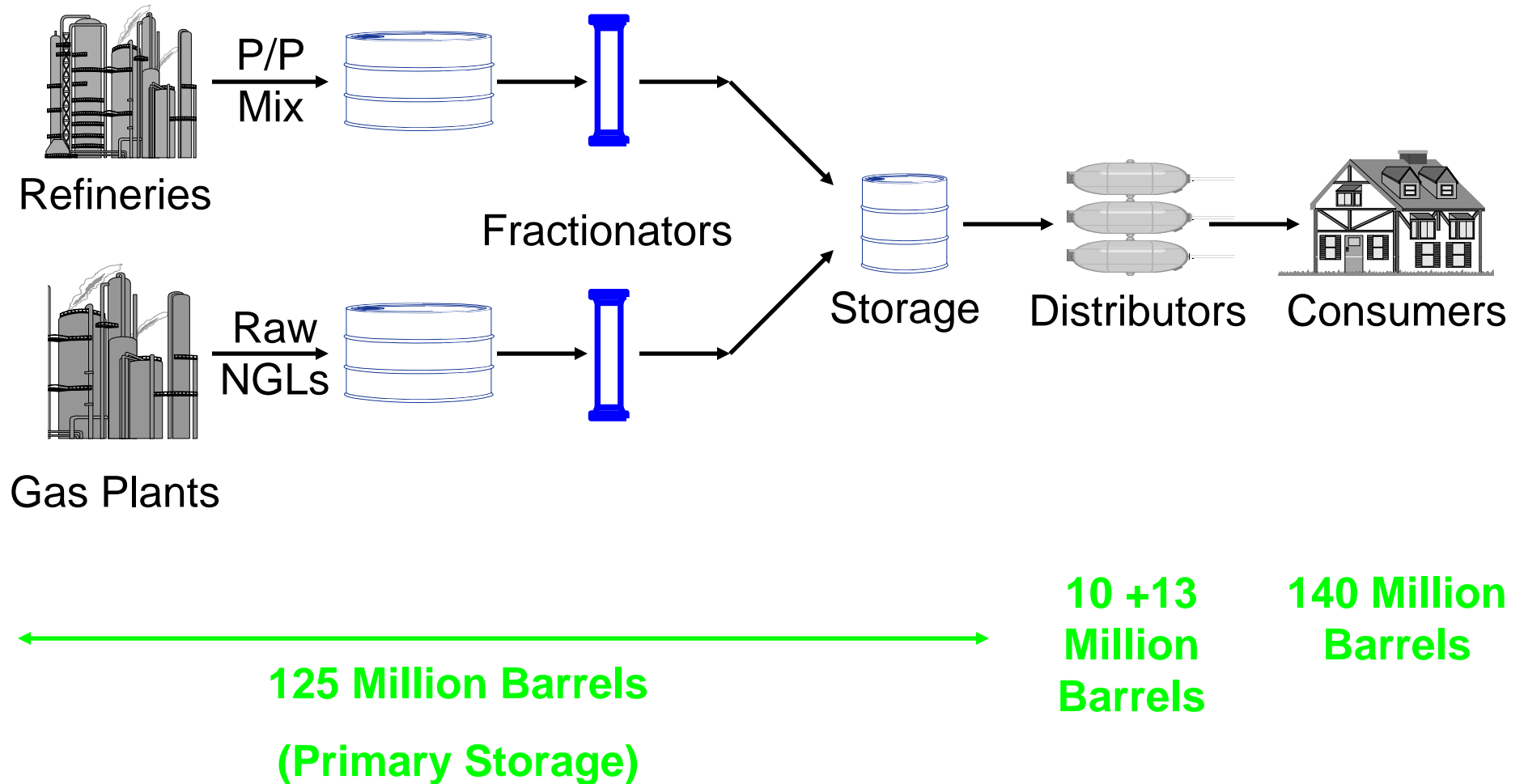
- Will ethylene plants reduce propane cracking?
- Will the U.S. attract more imports?
- How quickly will the industry recover from Hurricanes Gustav and Ike?
- Will the winter be warm, cold, or average?
  
- Perhaps **Human Nature** will have a big impact on the fourth issue

# Consumers may have deferred purchases due to high prices

*Average Price to End Users, Cents / Gallon*



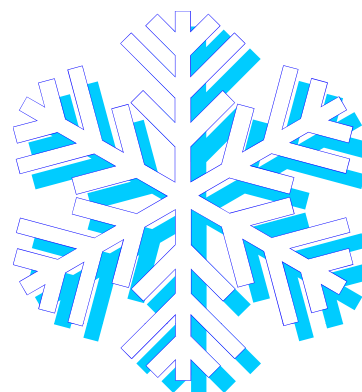
# And secondary & tertiary storage is LARGE



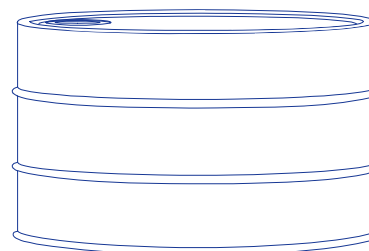
# WATCH THE MARKET

- **Weather**

- How cold ?
- Where ?
- How Quickly ?



- **Weekly Inventories in EIA's "TWIP" Reports**



- **DOE's Energy Emergency Situation Report**

**Thank you for your attention**

**Questions ?**

**Walt Hart**

**[wmhart@purvingertz.com](mailto:wmhart@purvingertz.com)**

**713-236-0318**

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