

National Conference of State Legislatures

Fueling North America's Energy Future

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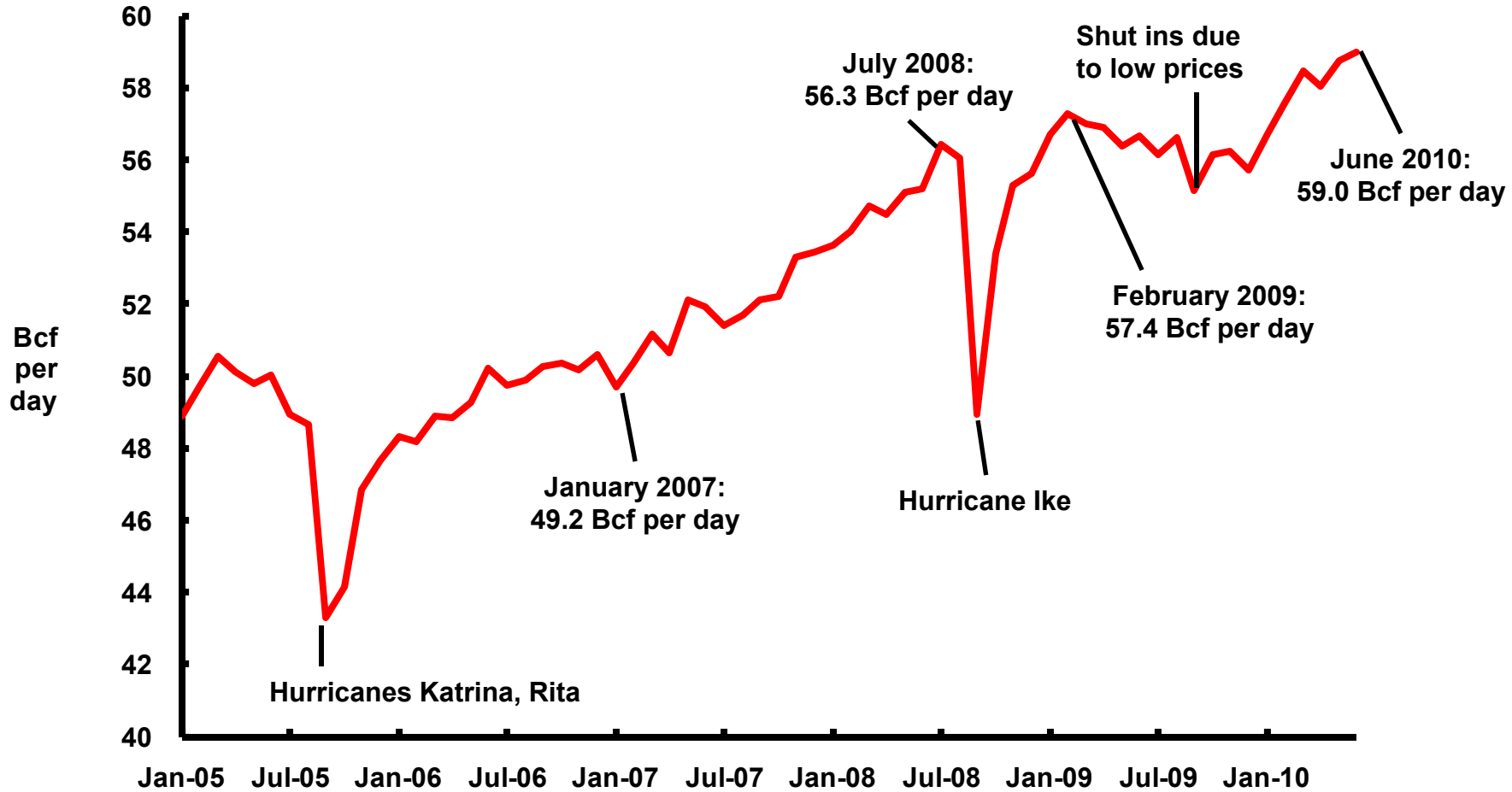
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Overview

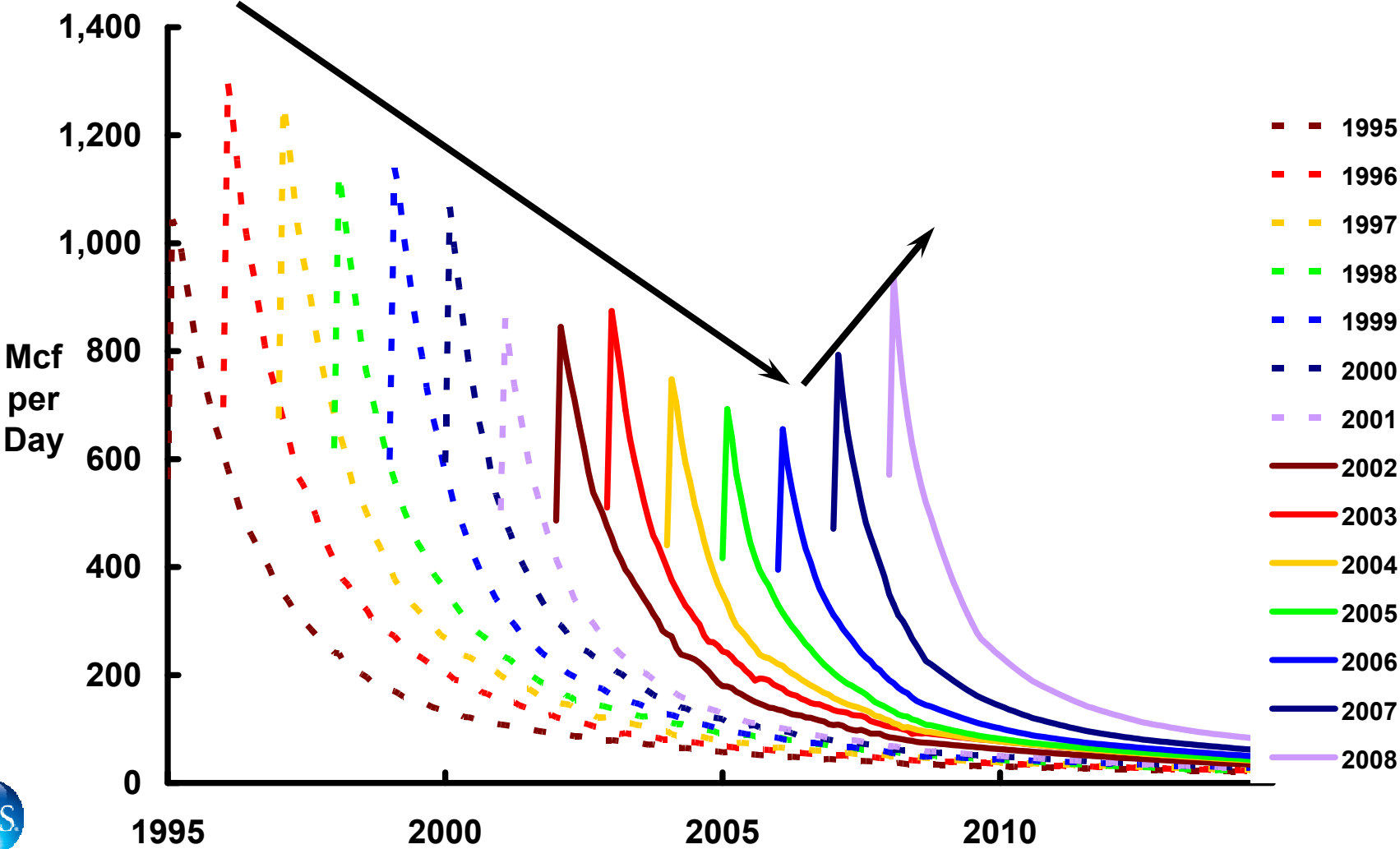
- **An “evolution” in natural gas drilling and completion technology has led to sharp increases in US gas production**
- **Three key technologies have unlocked gas trapped in shale formations**
 - Subsurface computer imaging
 - Horizontal drilling
 - Hydraulic “fracking”
- **These technologies are not new, so even producers were surprised**
- **Shale skeptics remain vocal, but the weight of evidence is accumulating**



Unconventional Gas Has Led to Very Rapid Production Increases in the Lower 48



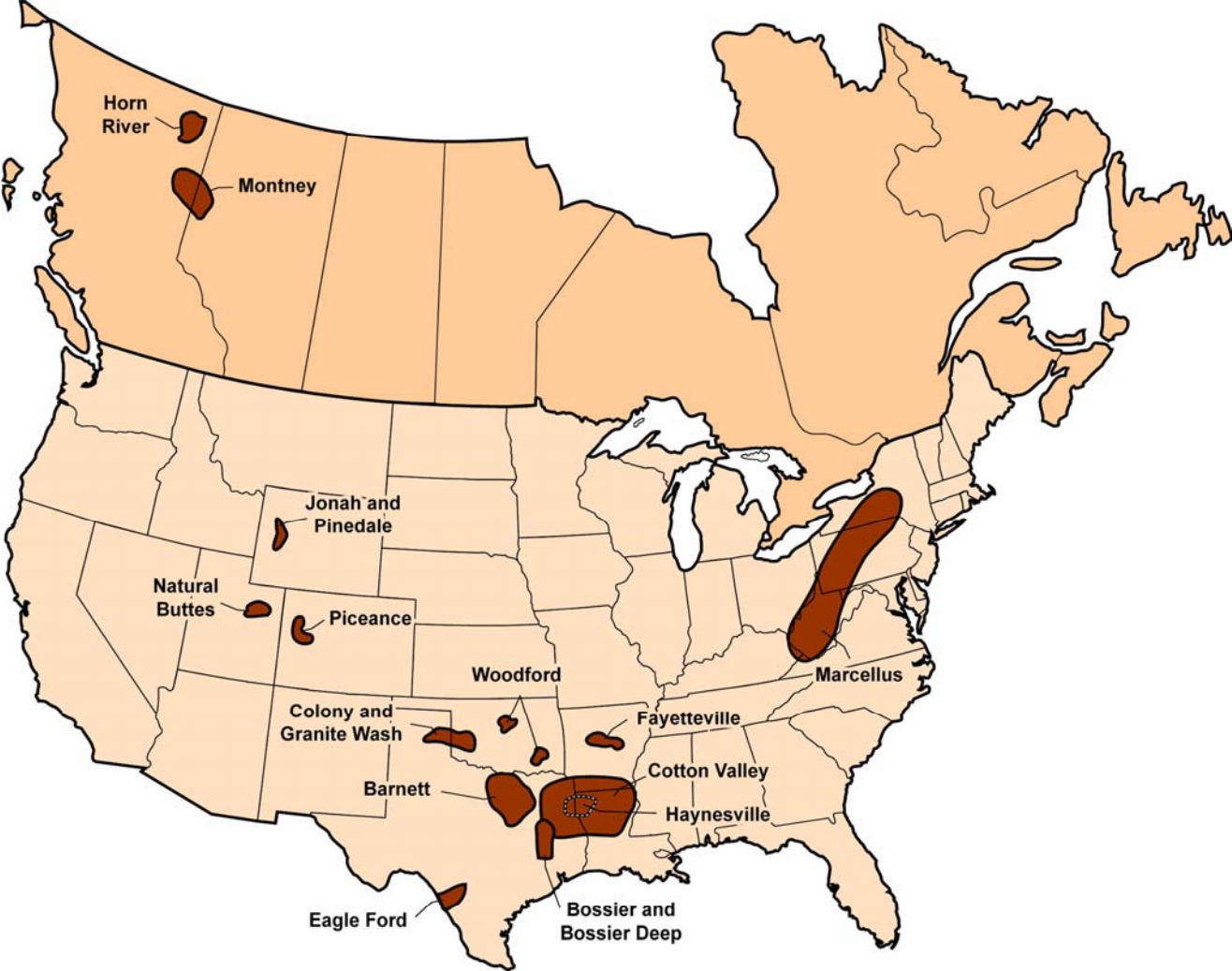
Increase in Initial Production Rates



Source: IHS CERA.

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Current North American Unconventional Gas Hotspots



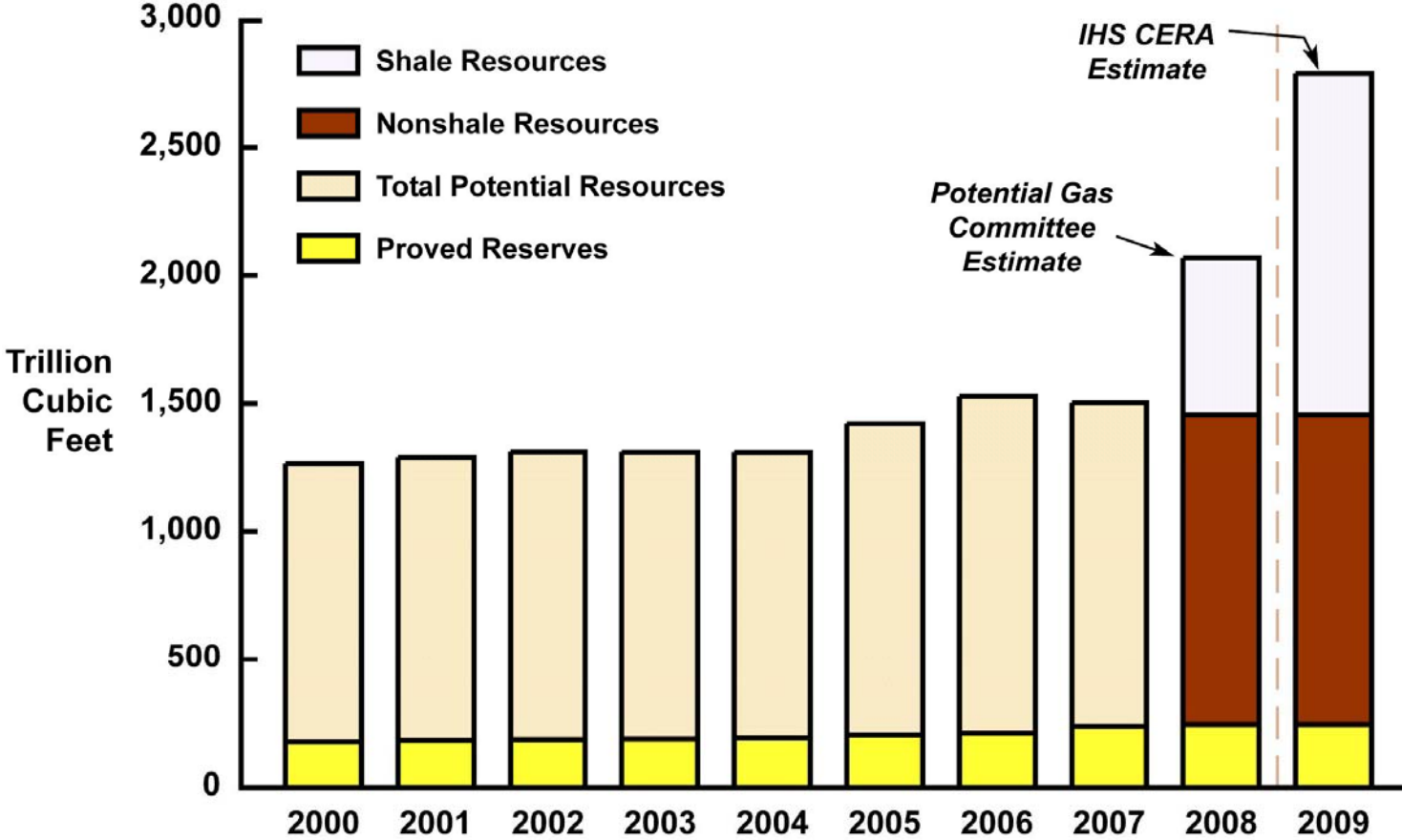
Source: IHS CERA.
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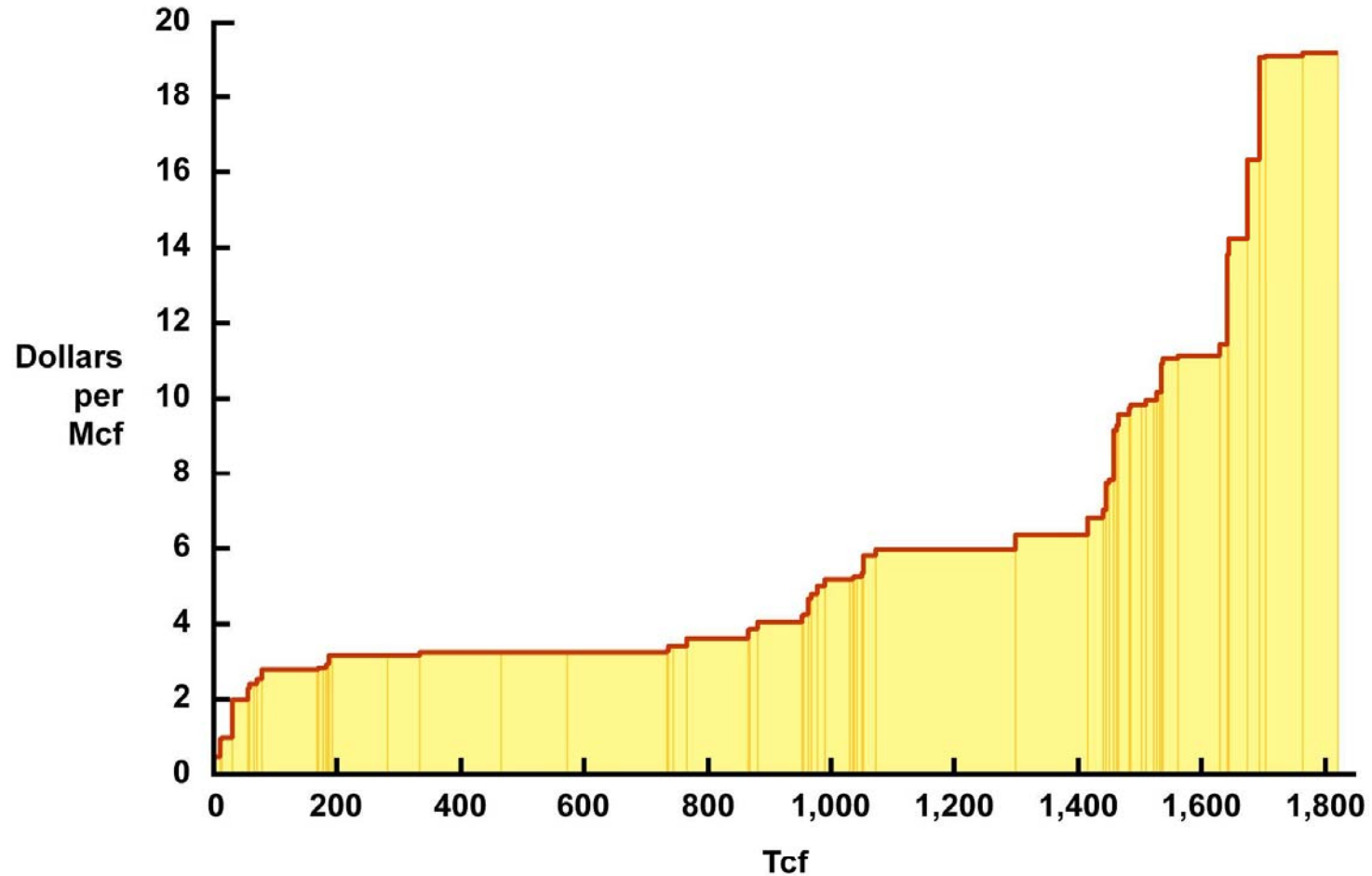
US Natural Gas Reserves and Resources



Source: EIA, PGC, and IHS CERA.
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Breakeven Henry Hub Price for Natural Gas Resources in Analyzed Plays



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Source: IHS CERA.

Note: Proved, possible, and potential resources.

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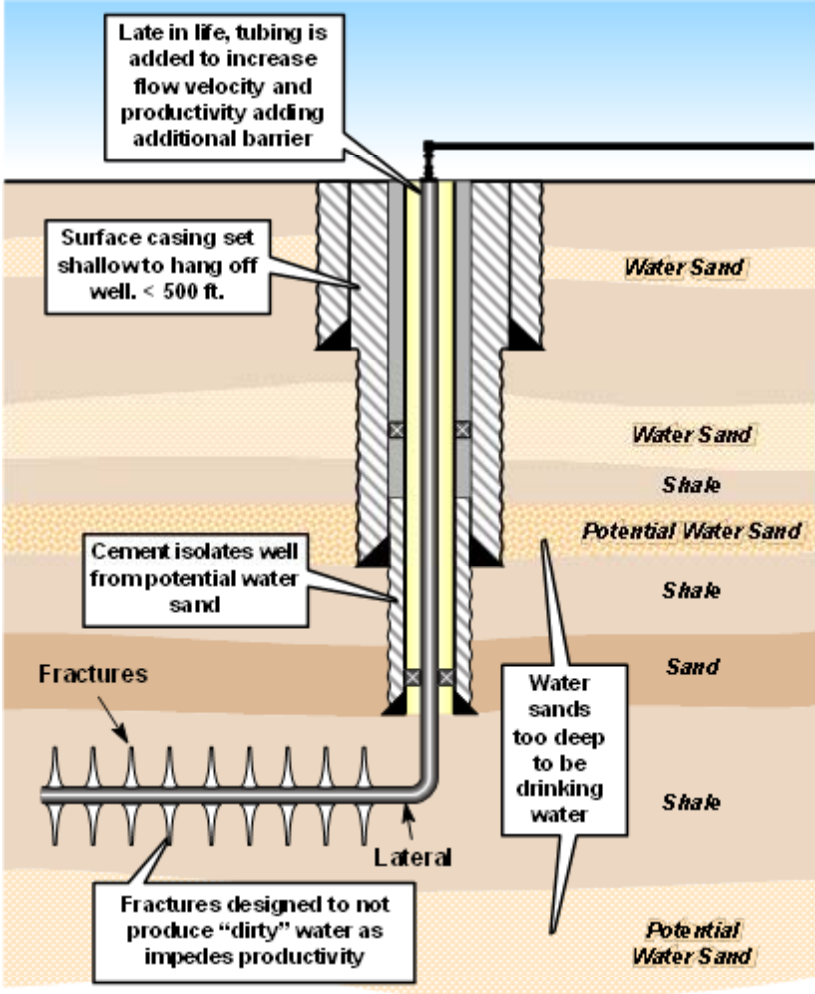
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Environmental Issues

- **Fear of contamination of water supplies**
- **Amount of water used during fracking**
- **Surface spills**
- **Noise and traffic during drilling**
- **Regulatory treatment is unlikely to derail development**



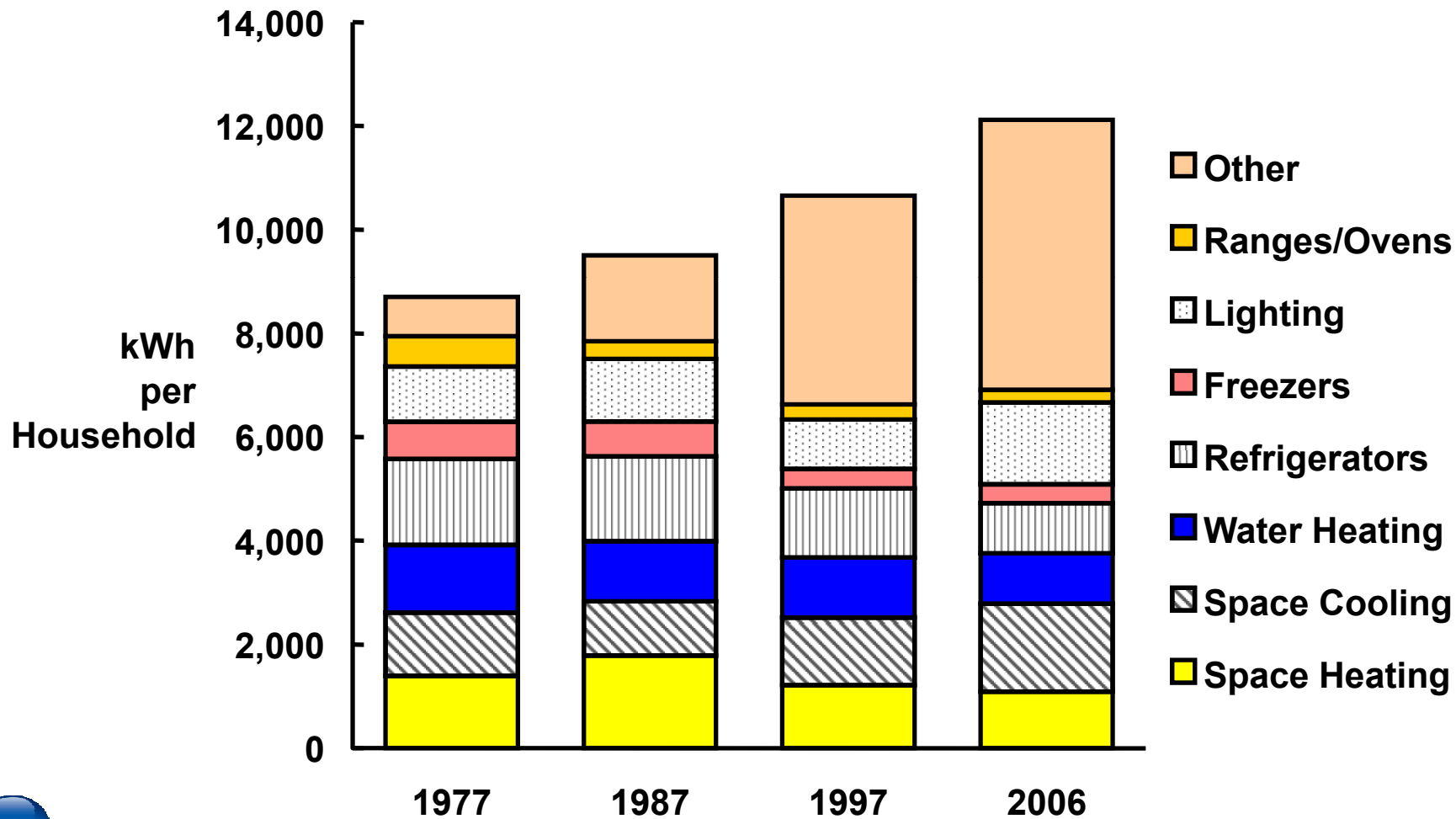
Schematic of a Shale Well



Source: IHS Cambridge Energy Research Associates. 90802-10



US Residential Electricity Consumption per Household, by End Use, 1977–2006



Source: IHS Cambridge Energy Research Associates.

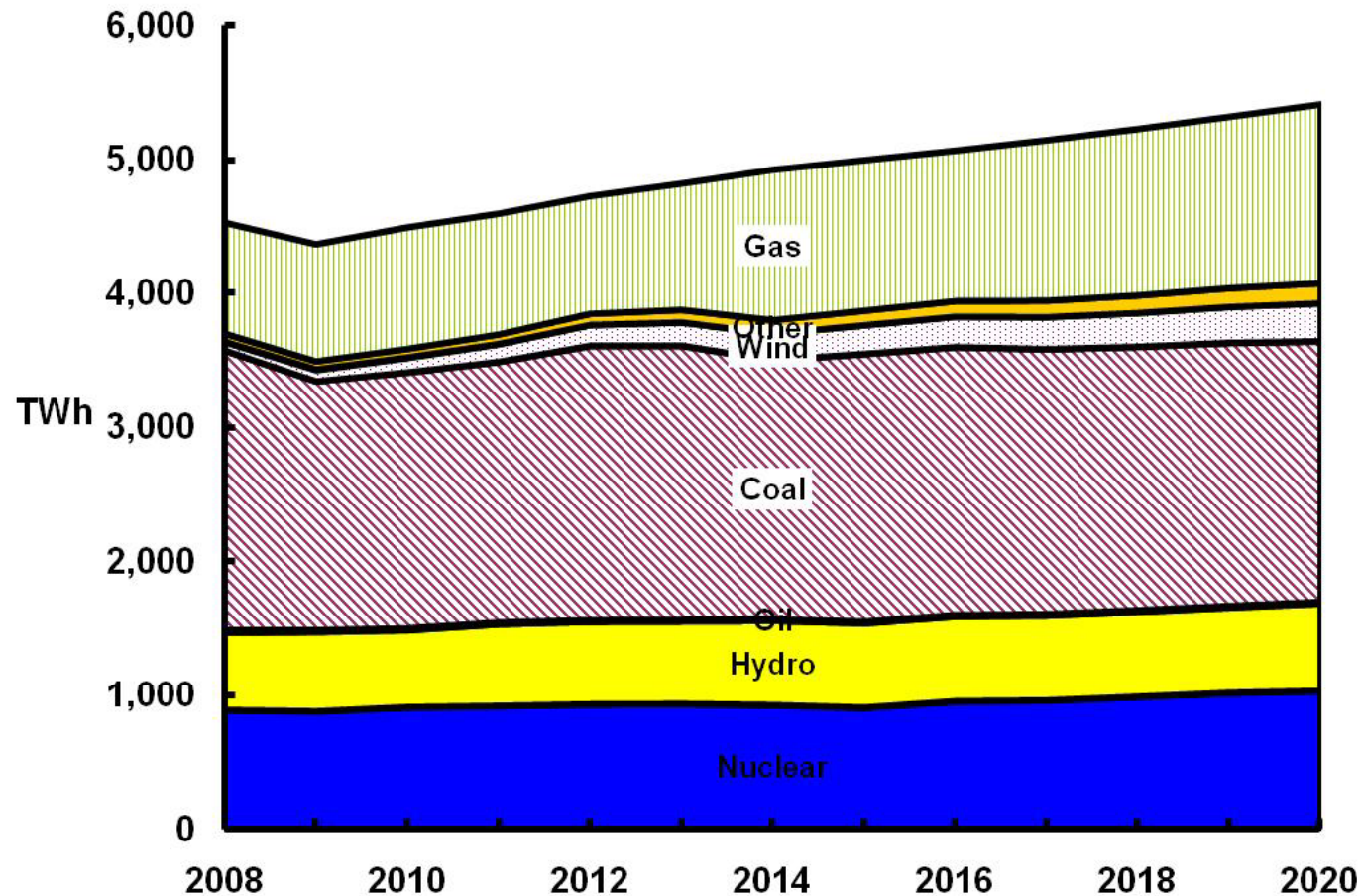
Data sources: for 1977 data, US Department of Energy (DOE), *Building Energy Use Survey*, Second Edition; for 1987 data, Electric Power Research Institute, *Energy Efficiency Study*; for 1997 data, DOE 2000 Annual Energy Outlook; and for 2006 data, Tiax, *Residential Miscellaneous Electric Loads*.

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North American Power Generation by Fuel Type



If you have any questions about this presentation or IHS CERA in general, please feel free to contact:

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