INGAA Foundation

Changing Geography of North American Natural Gas

April 17, 2008 • San Antonio

Robert Ineson • CERA Senior Director

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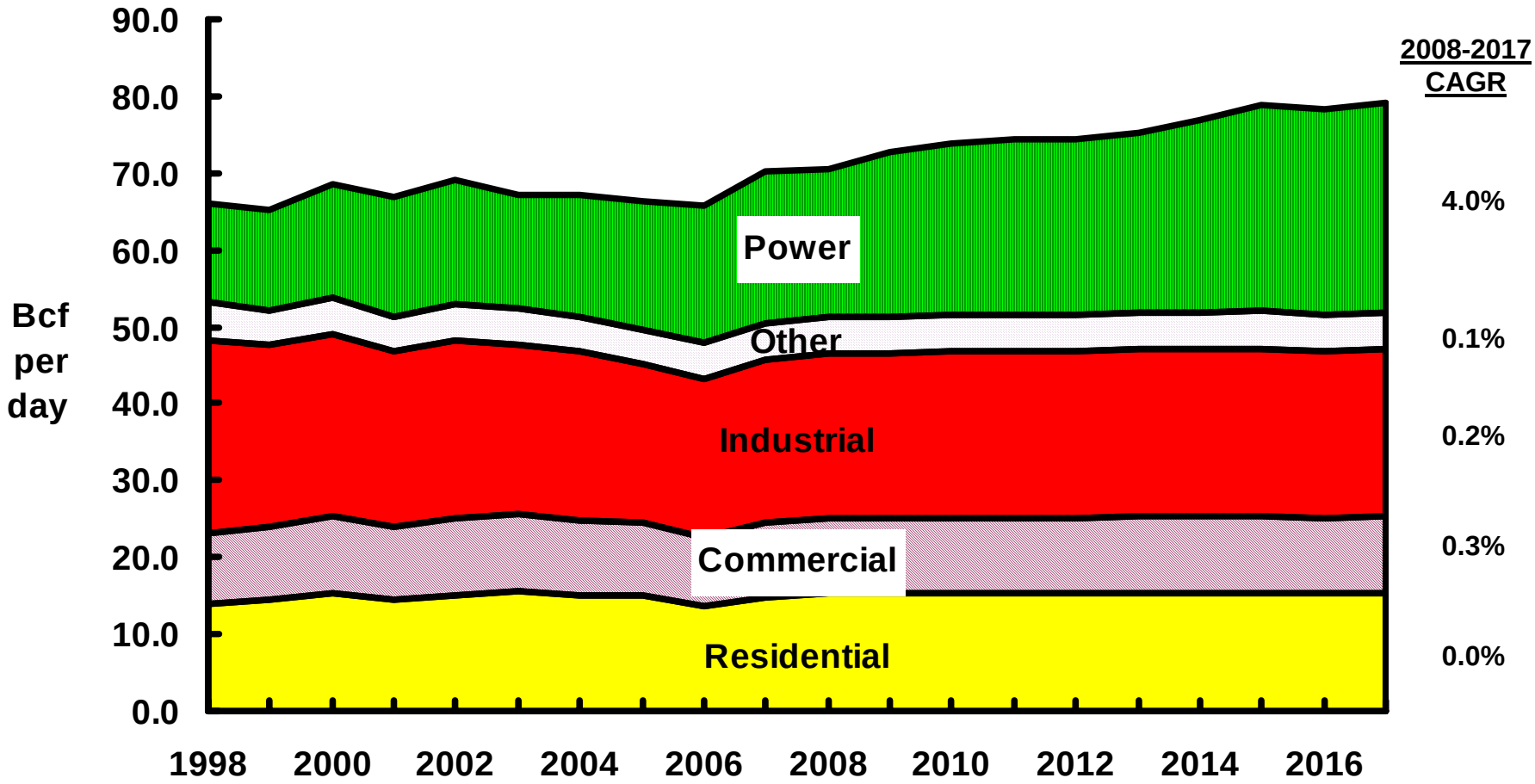
North American Natural Gas Demand



Source: Cambridge Energy Research Associates
Lower 48 plus Canada.

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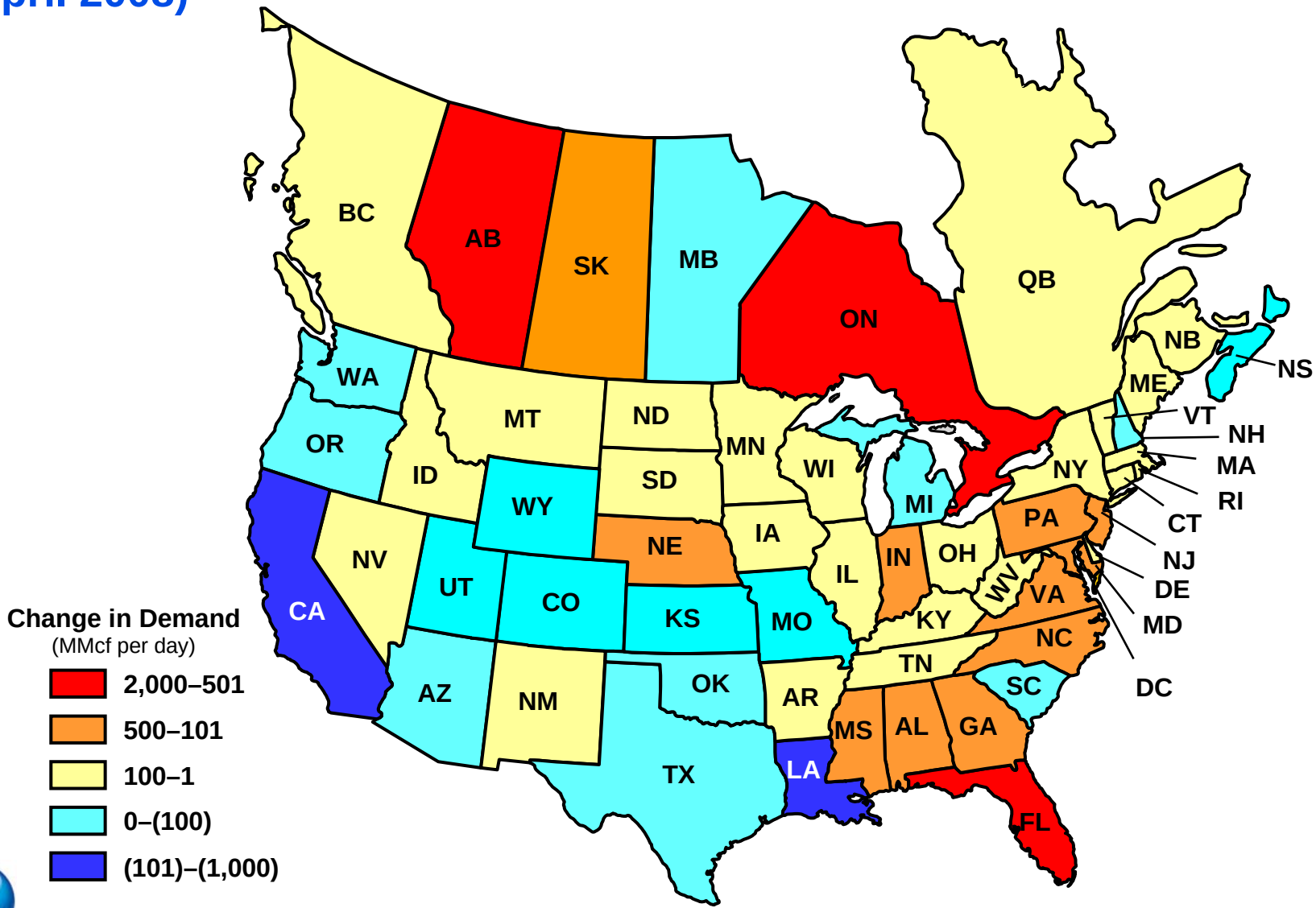
Shifting Demand, 2008–17
(April 2008)



Source: Cambridge Energy Research Associates.

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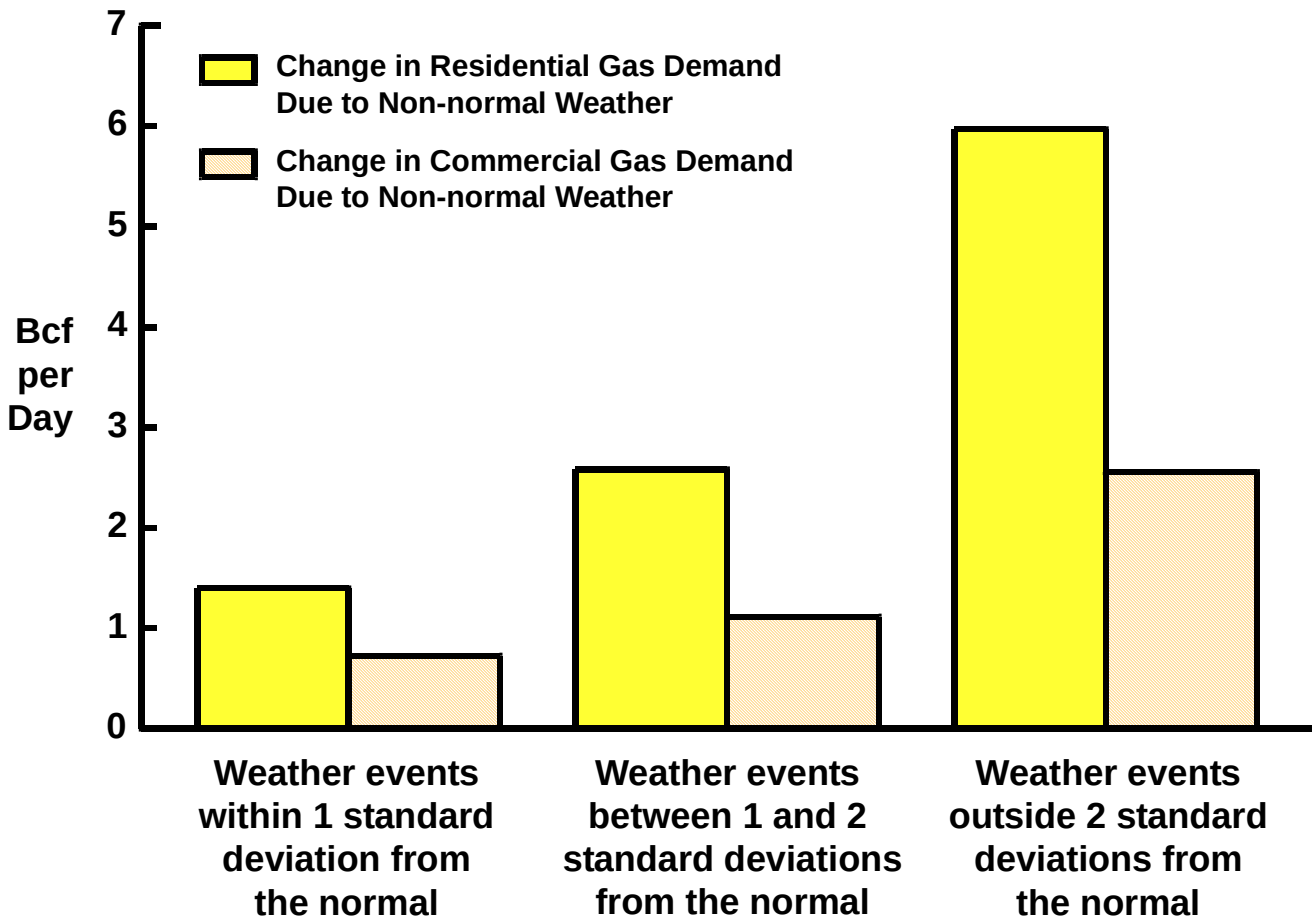
Average Change in Winter Gas Demand Due to Weather Deviation from Normal from 1990 to 2006



Source: Cambridge Energy Research Associates.
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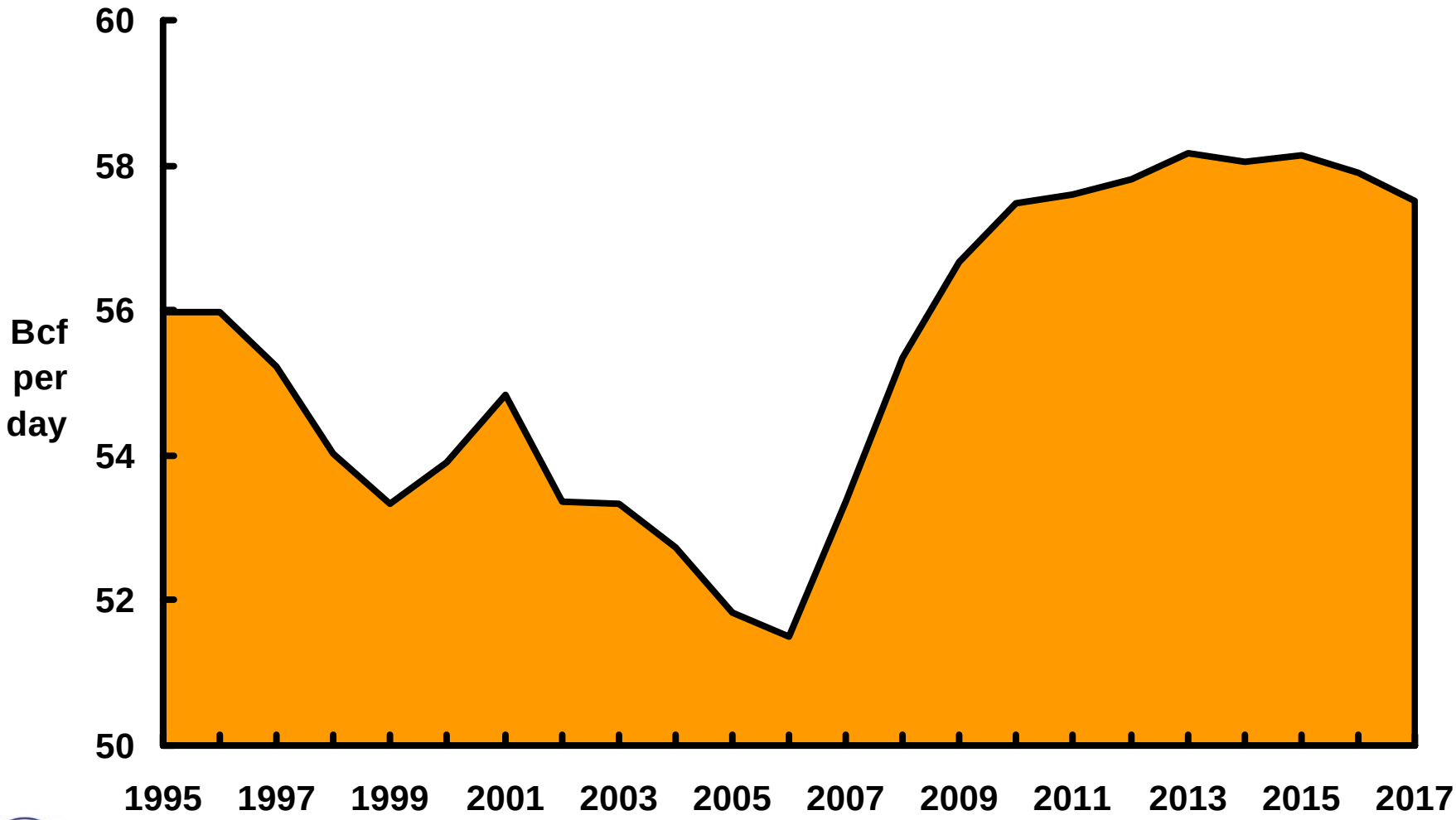
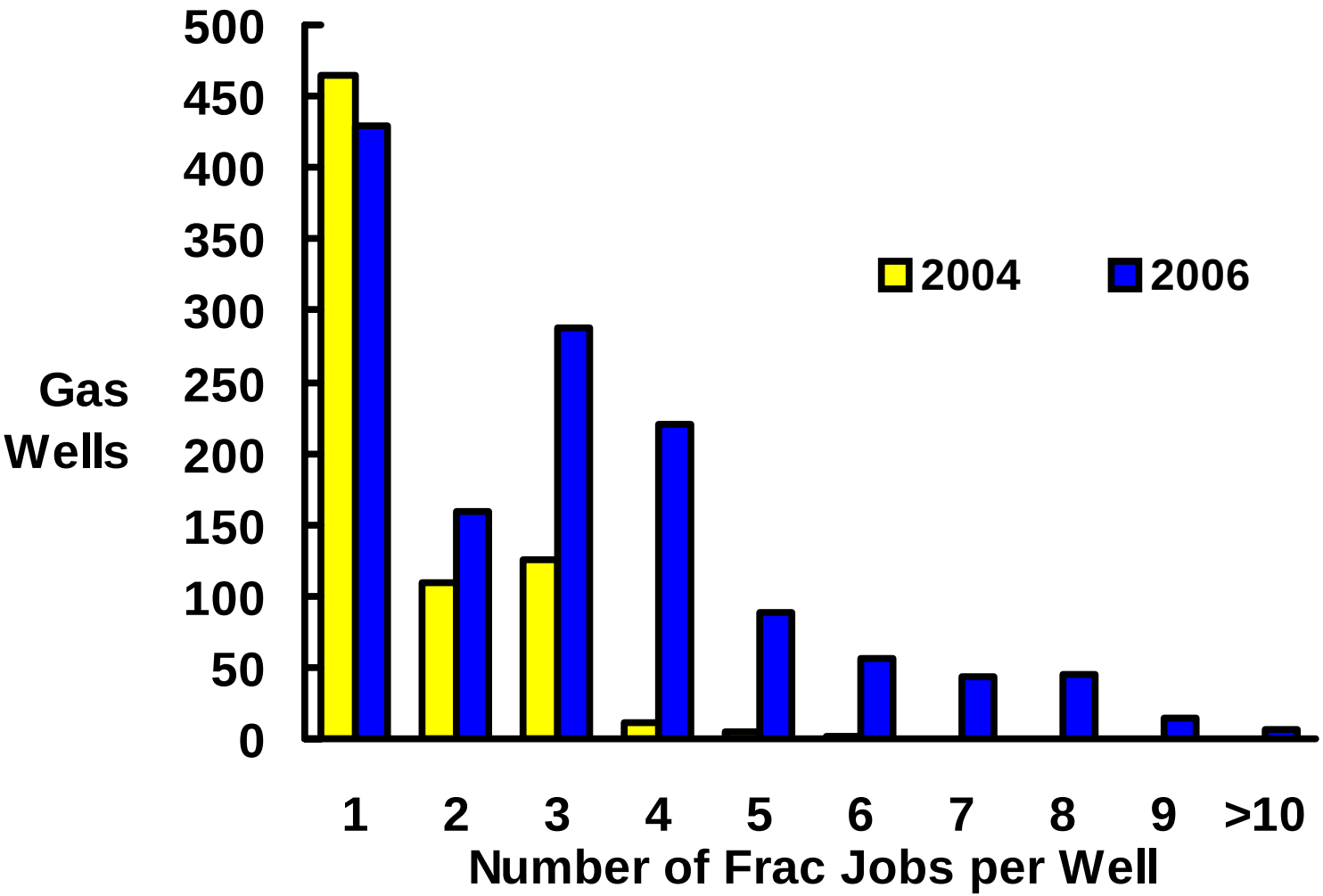
US Lower-48 Average Annual Wet Gas Productive Capacity



Source: Cambridge Energy Research Associates.
Updated April 2008

Number of Fracture Stimulations (Fracs) on Barnett Wells



Source: Cambridge Energy Research Associates, IHS Energy
NAG_RT_Fall2007_CostSection_FinalCharts.xls

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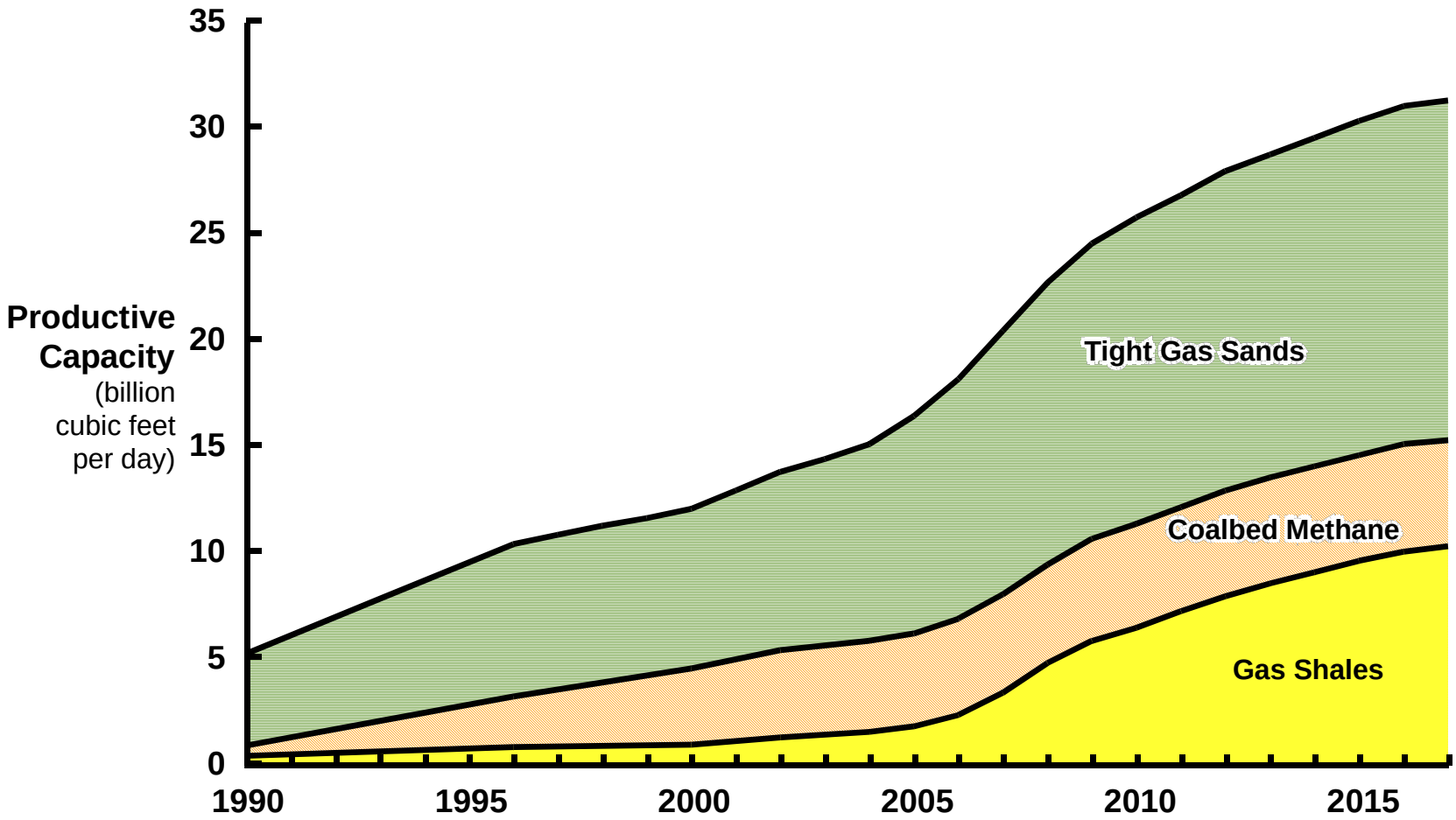
US Unconventional Gas Outlook



Source: Cambridge Energy Research Associates.
Updated May 2008
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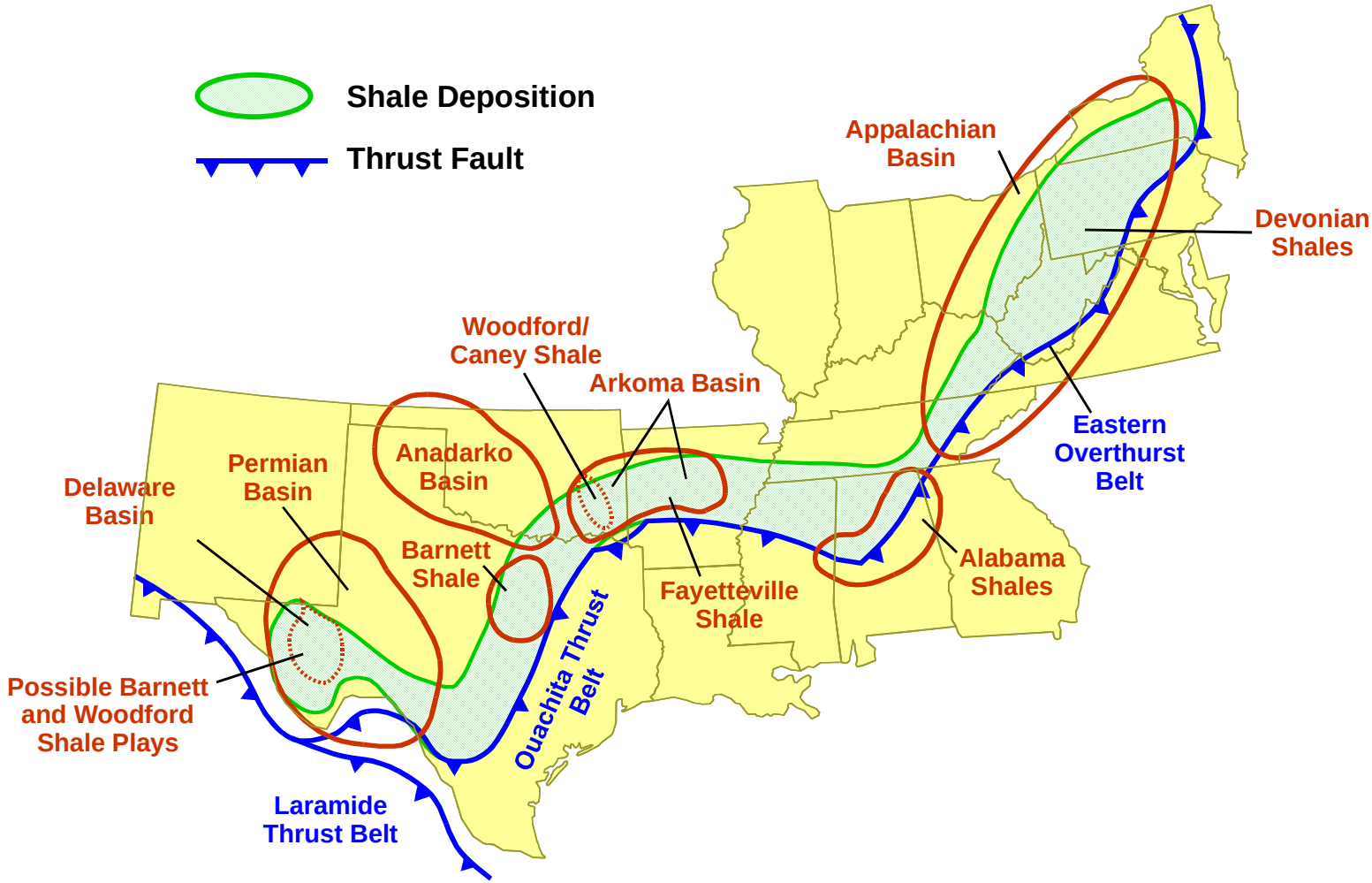
Current and Possible Areas of Gas Shales



Source: Cambridge Energy Research Associates.
October 2007
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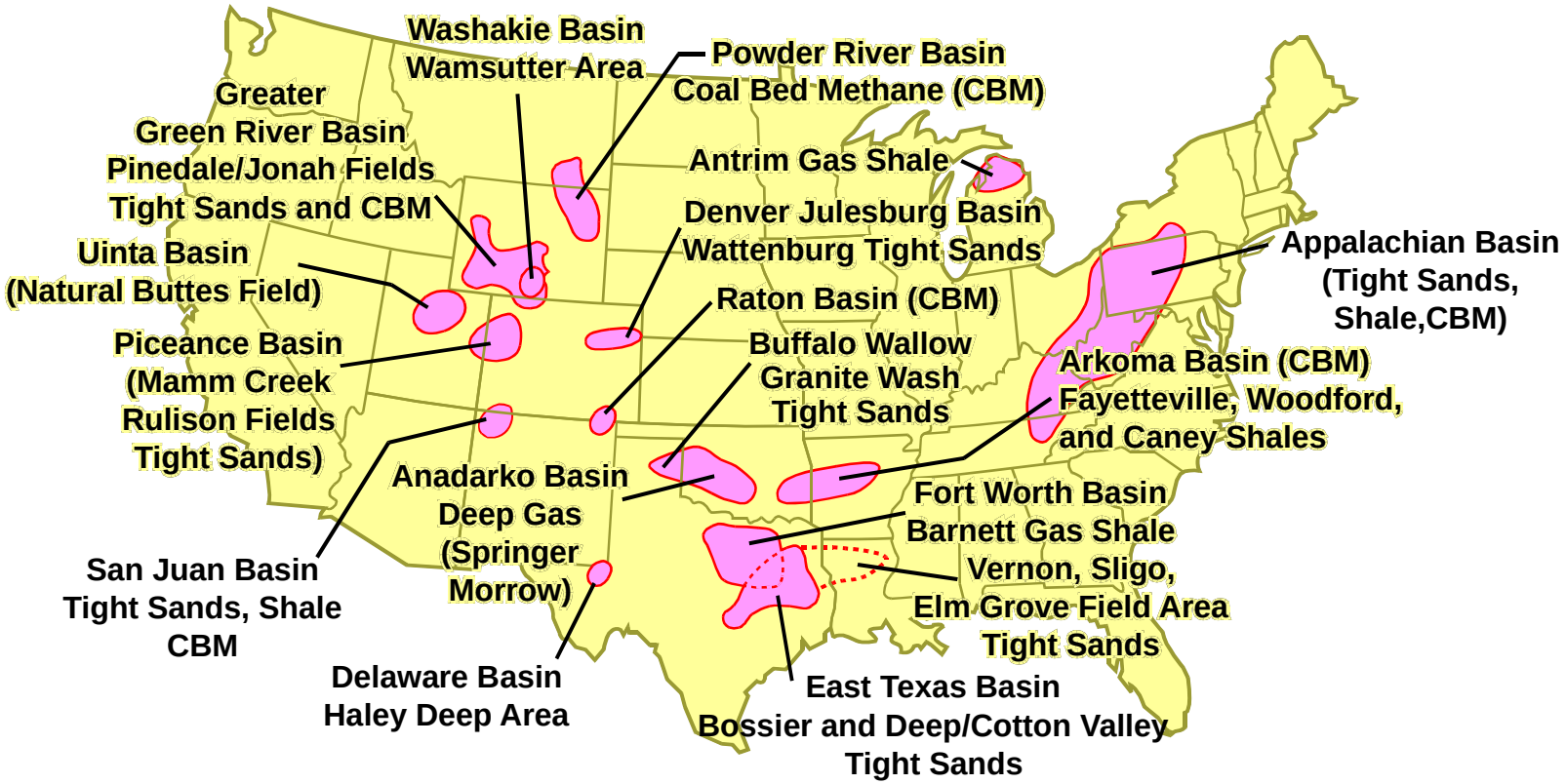
Current US Lower 48 Gas Unconventional Hotspots



Source: Cambridge Energy Research Associates.
Updated May 2008
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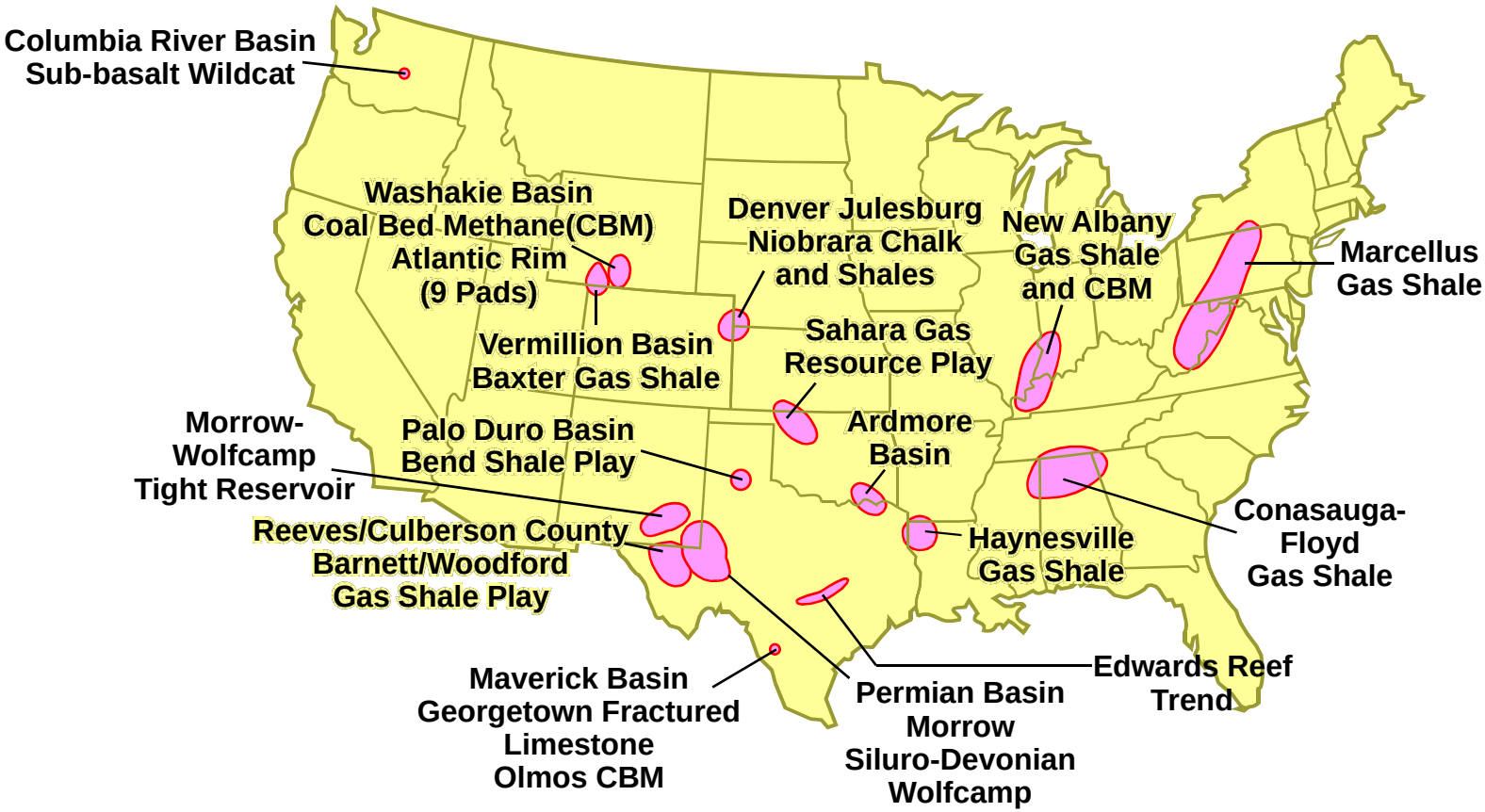
Evolving US Lower 48 Unconventional Gas Hotspots



Source: Cambridge Energy Research Associates.
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Updated May 2008.

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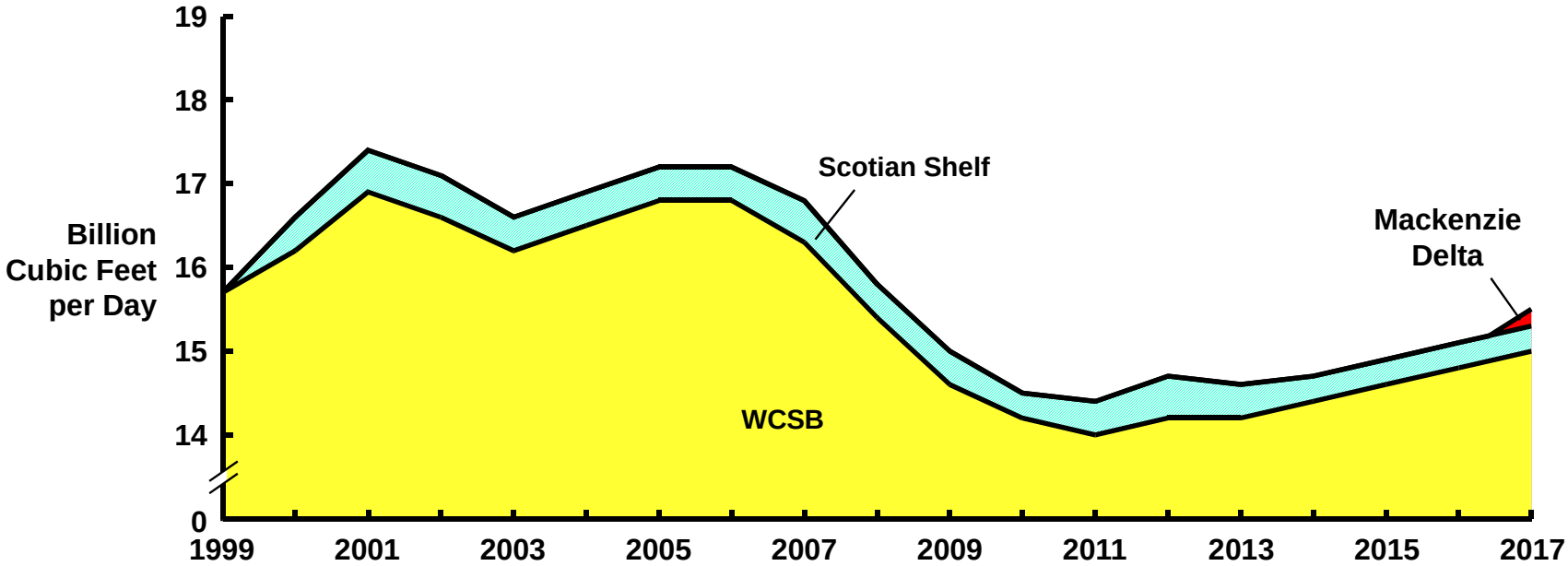
Canadian Dry Gas Productive Capacity



Canadian Gas Capacity (Bcf per day)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
WCSB	15.7	16.2	16.9	16.6	16.2	16.5	16.8	16.8	16.3	15.4	14.6	14.2	14.0	14.2	14.2	14.4	14.6	14.8	15.0
Eastern offshore*	–	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.3	0.4	0.5	0.4	0.3	0.3	0.3	0.3
Mackenzie Delta	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.2
Total	**15.7**	**16.6**	**17.4**	**17.1**	**16.6**	**16.9**	**17.2**	**17.2**	**16.8**	**15.8**	**15.0**	**14.5**	**14.4**	**14.7**	**14.6**	**14.7**	**14.9**	**15.1**	**15.5**

Source: Cambridge Energy Research Associates.
*Includes 0.04 Bcf per day in 2008 onward from New Brunswick onshore.
Updated May 2008
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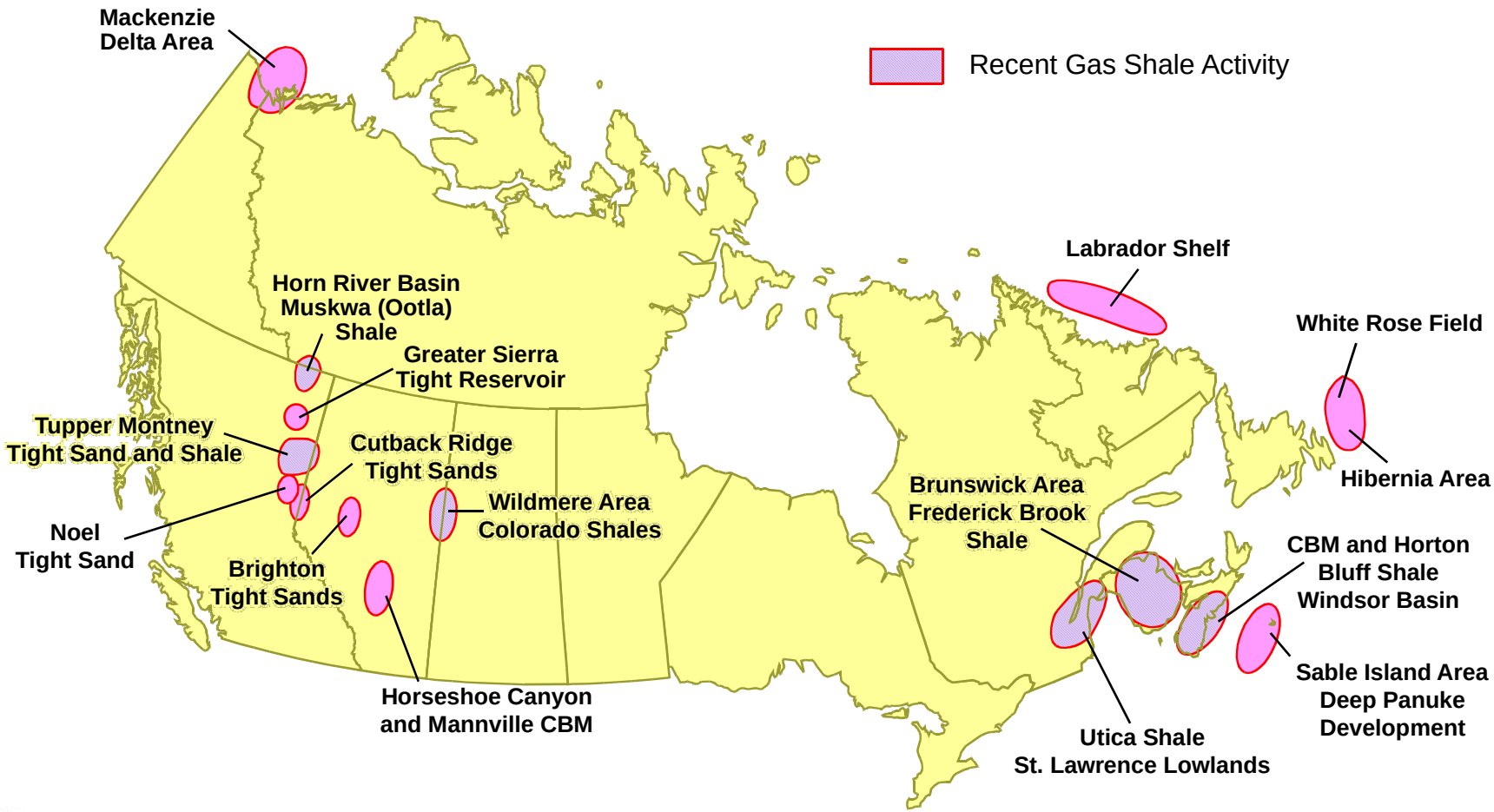
Major Canadian Unconventional Gas Exploration and Development Hotspots



Source: Cambridge Energy Research Associates.
Updated May 2008
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LNG Facilities in North America—CERA Outlook for 2012

Source: Cambridge Energy research Associates.
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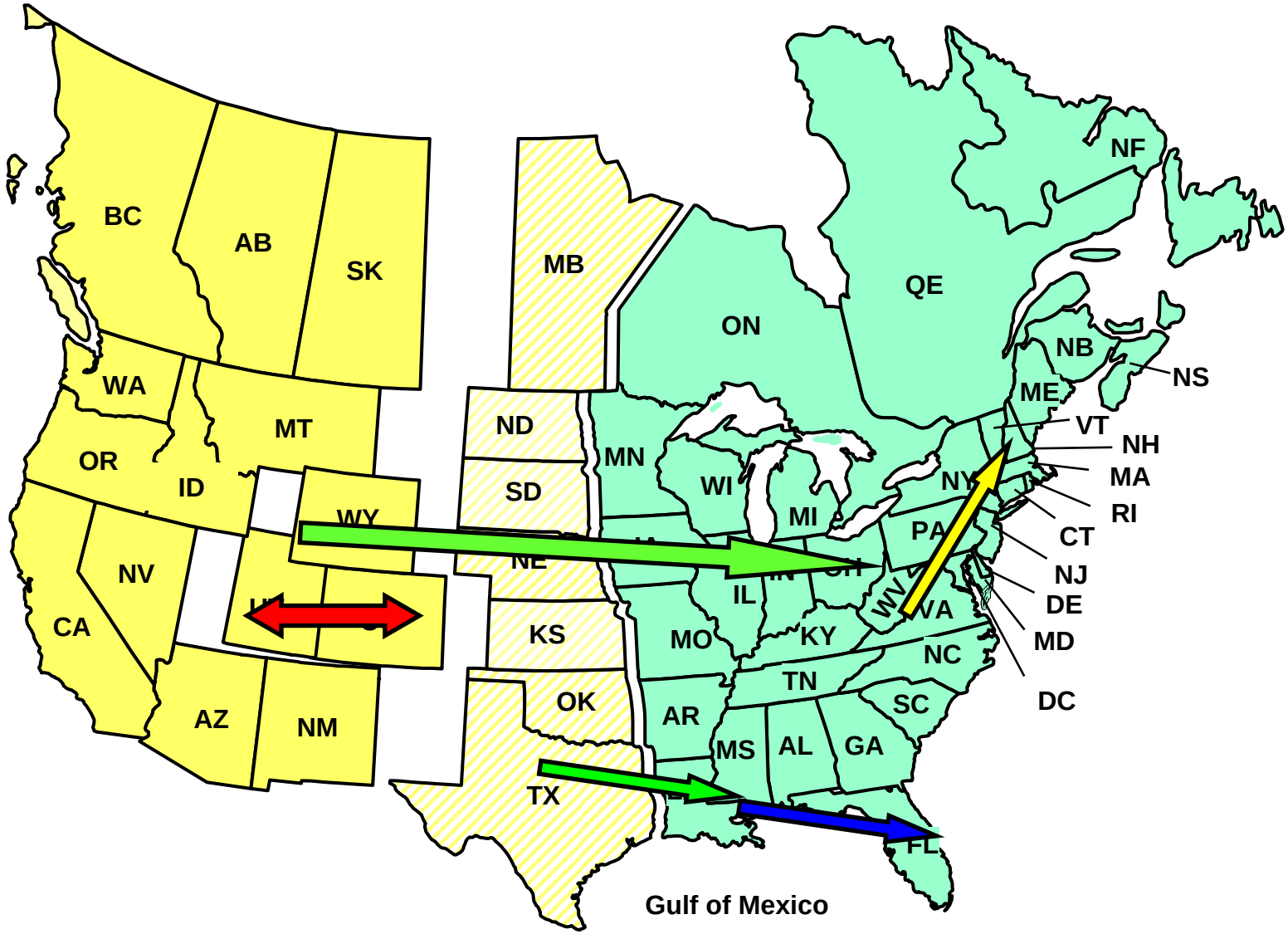
Four Major Bottlenecks



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

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