



# SULFUR OUTLOOK

**2006 Fertilizer Outlook and Technology  
Conference**

**Tampa, Florida**

**November 2-4, 2005**

U.S. Department of the Interior  
U.S. Geological Survey

# Refineries Located in Area Most Affected by Hurricane Katrina (As reported 8/30/2005)

Company	Site	Refining Capacity (Bbl/day)	Status
ConocoPhillips *	Belle Chasse, LA	247,000	Shutdown; expect water damage
Chalmette Refining LLC (ExxonMobil)	Chalmette, LA	187,200	Shutdown; expect water damage
Marathon Petroleum LLC.	Garyville, LA	245,000	Shutdown
Murphy Oil USA Inc.	Meraux, LA	120,000	Shutdown – expect water damage
Motiva Enterprises LLC	Convent, LA	235,000	Shutdown
Motiva Enterprises LLC	Norco, LA	226,500	Shutdown
Valero Saint Charles Refinery	Norco, LA	185,000	Shutdown – out 1 or 2 weeks
Chevron USA Inc. *	Pascagoula, MS	325,000	Shutdown

Source: Adapted from Office of Electricity Delivery and Energy Reliability (OE)  
U.S. Department of Energy

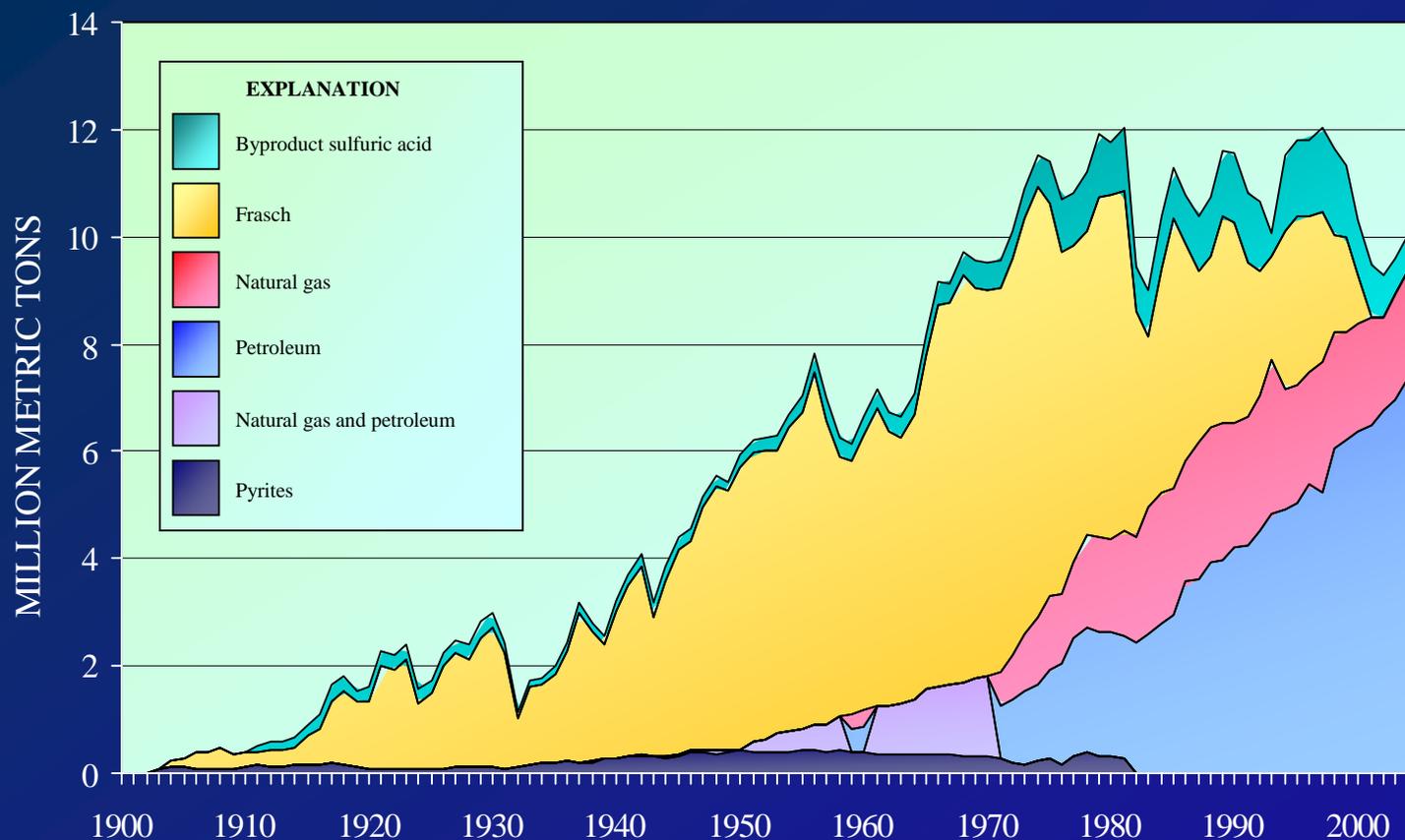


# Refinery Status by Date

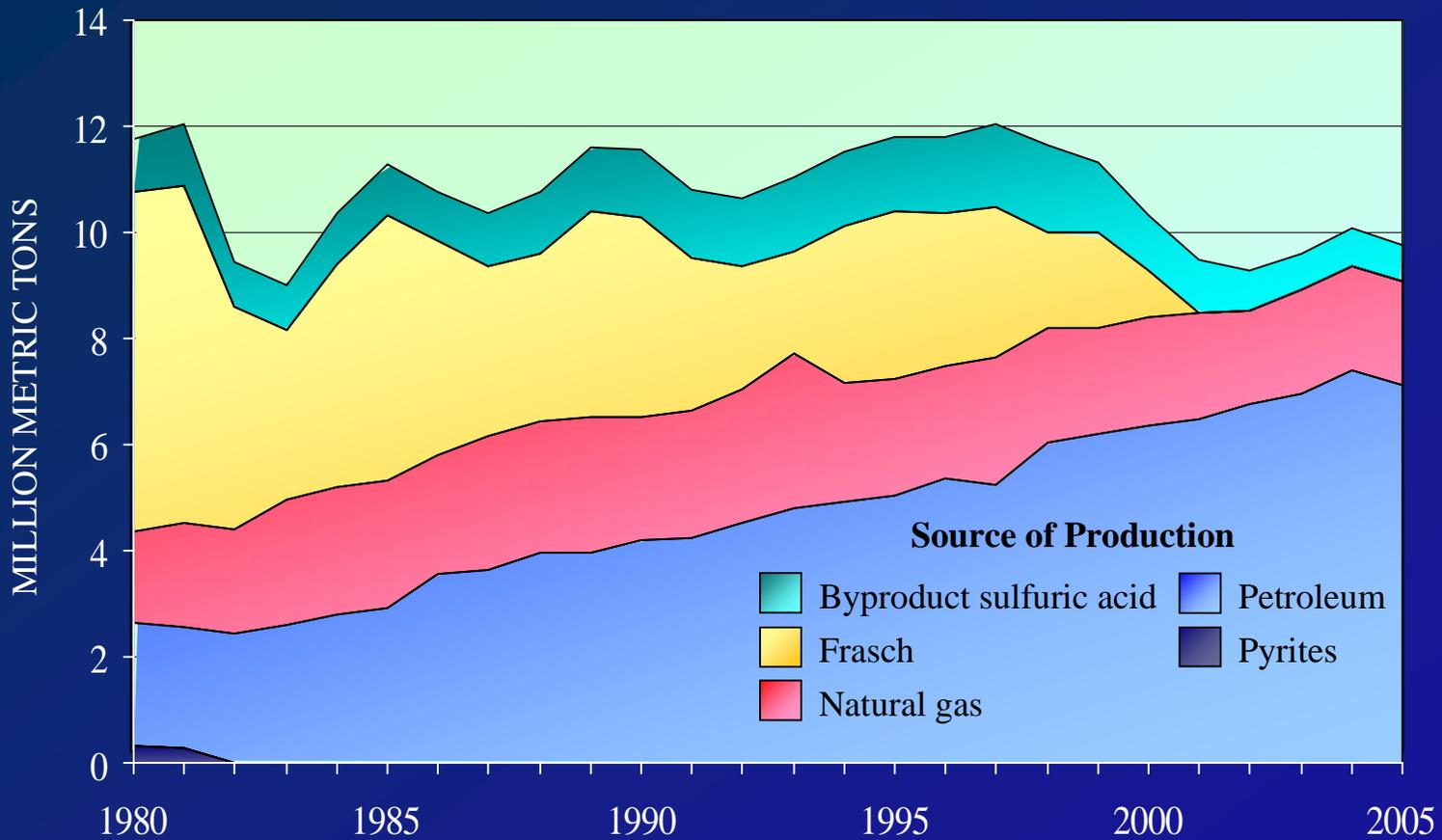
Region	Company	Location	RefiningCapacity (Bbl/day)	9/23	10/14	10/31
<b>Port Arthur, TX/Lake Charles, LA</b>	Citgo	Lake Charles, LA	324,300	Shut down	Restarting	Near full rate
	ConocoPhillips	West Lake, LA	239,400	Shut down	Restarting	Reduced rate
	ExxonMobil	Beaumont, TX	348,500	Shut down	Shut down	Reduced rate
	Shell (Motiva)	Port Arthur, TX	285,000	Shut down	Shut down	Near full rate
	Total	Port Arthur, TX	233,500	Shut down	Restarting	Near full rate
	Valero	Port Arthur, TX	255,000	Shut down	Restarting	Full rate
<b>Houston/Texas City, TX</b>	Shell Deer Park	Deer Park, TX	333,700	Shut down	Reduced rate	Full rate
	Lyondell Citgo	Houston, TX	270,200	Shut down	Reduced rate	Reduced rate
	Astra Oil	Pasadena, TX	100,000	Shut down	Full rate	Full rate
	Valero	Houston, TX	83,000	Shut down	Reduced rate	Full rate
	ExxonMobil	Baytown, TX	557,000	Shut down	Full rate	Full rate
	BP	Texas City, TX	437,000	Shut down	Shut down	Shut down
	Valero	Texas City, TX	209,950	Shut down	Full rate	Full rate
	Marathon	Texas City, TX	72,000	Shut down	Full rate	Full rate
<b>Corpus Christi, TX</b>	ConocoPhillips	Sweeny, TX	229,000	Shut down	Full rate	Full rate
	Flint Hills Resources	Corpus Christi, TX	288,126	Reduced rate	Full rate	Full rate
	Citgo	Corpus Christi, TX	156,000	Reduced rate	Full rate	Full rate
	Valero	Corpus Christi, TX	142,000	Reduced rate	Full rate	Full rate
<b>Still down from Katrina</b>	Valero	Three Rivers, TX	90,000	Reduced rate	Full rate	Full rate
	ConocoPhillips	Belle Chasse, LA	247,000	Shut down	Shut down	Shut down
	ExxonMobil	Chalmette, LA	187,200	Shut down	Shut down	Restarting
	Murphy Oil	Meraux, LA	120,000	Shut down	Shut down	Shut down
	Chevron	Pascagoula, MS	325,000	Shut down	Restarting	Full rate

Source: Adapted from Office of Electricity Delivery and Energy Reliability (OE)  
U.S. Department of Energy

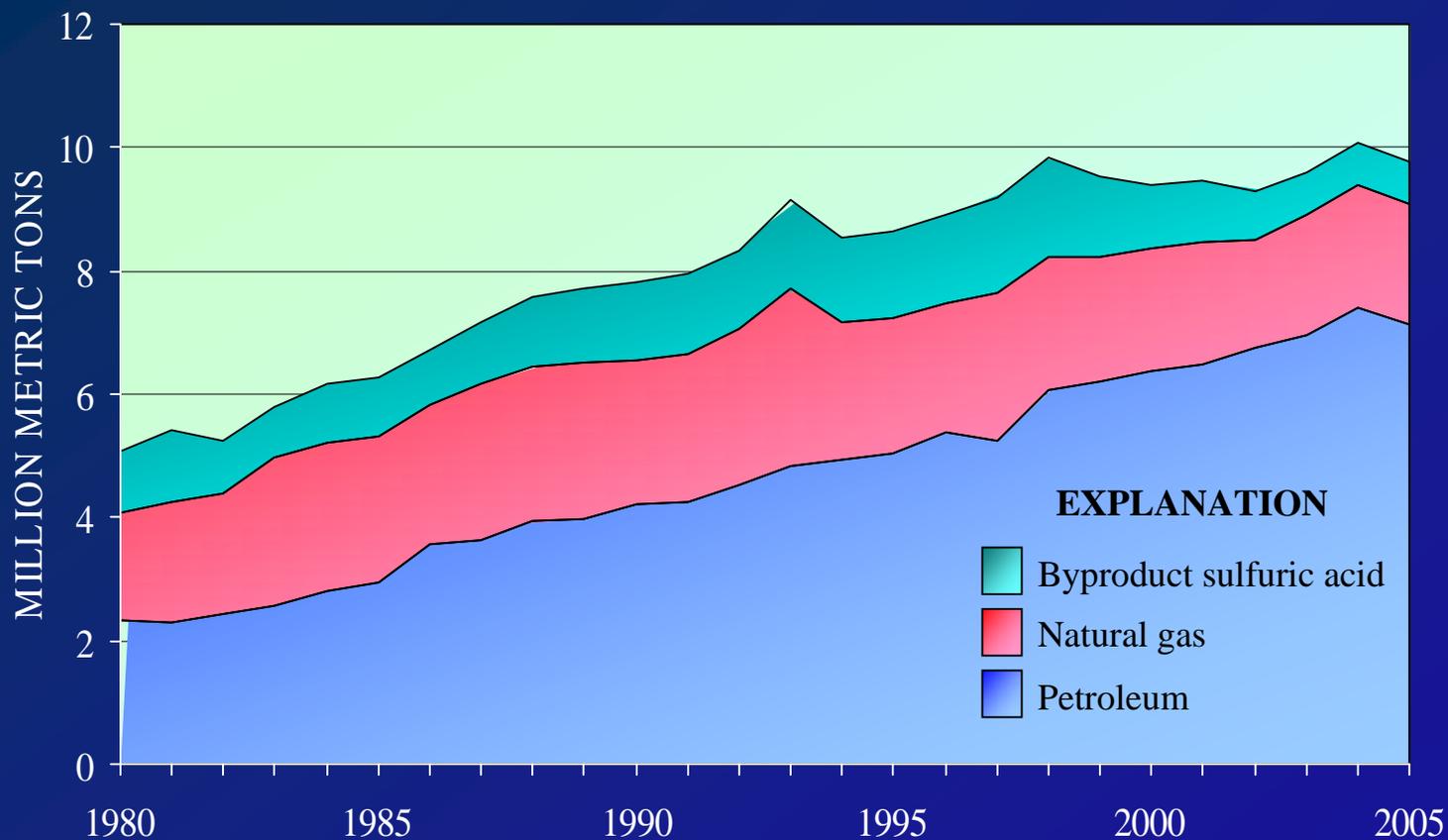
# Historic U.S. Sulfur Production



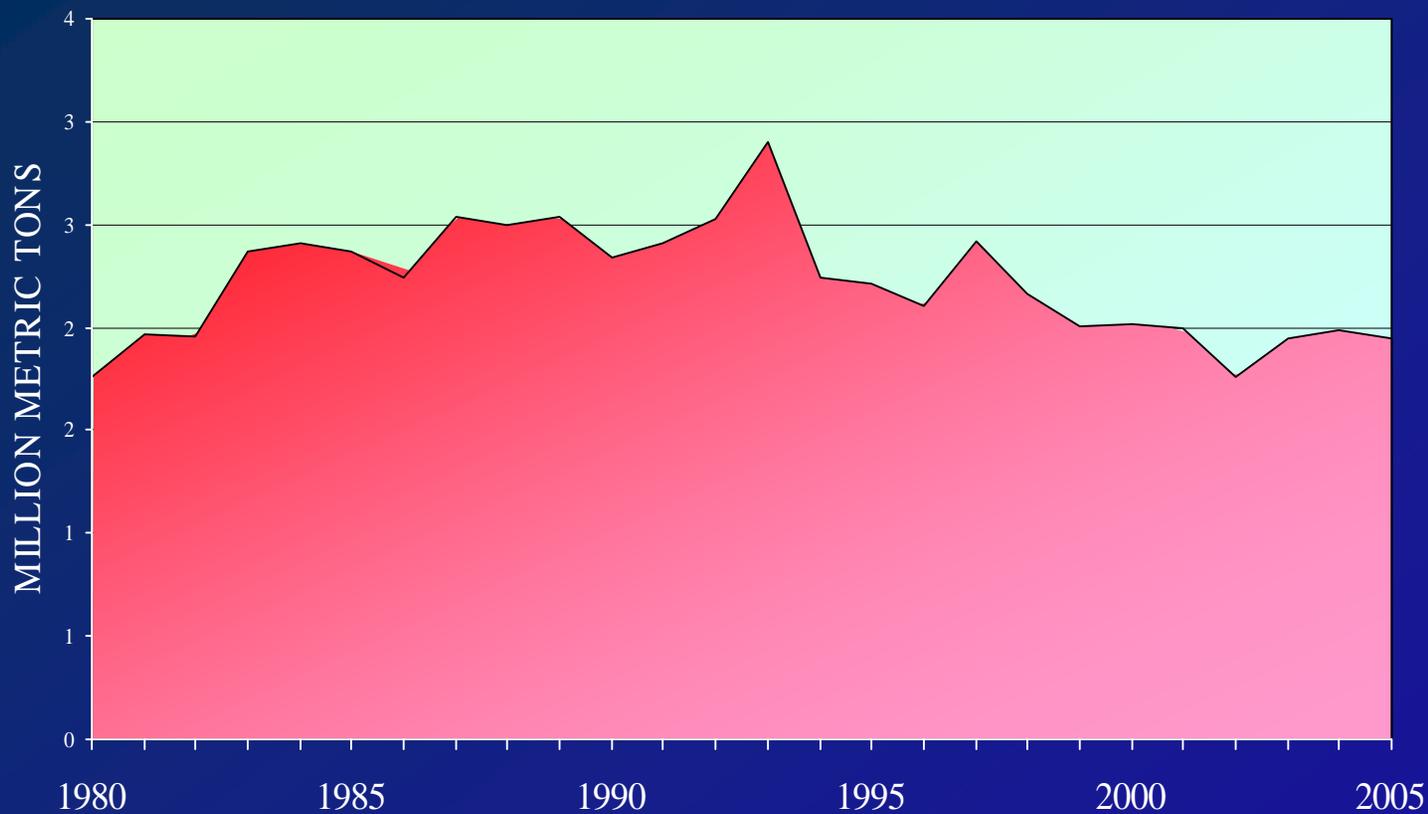
# U.S. Sulfur Production since 1980



# Remaining U.S. Sulfur Production Sources

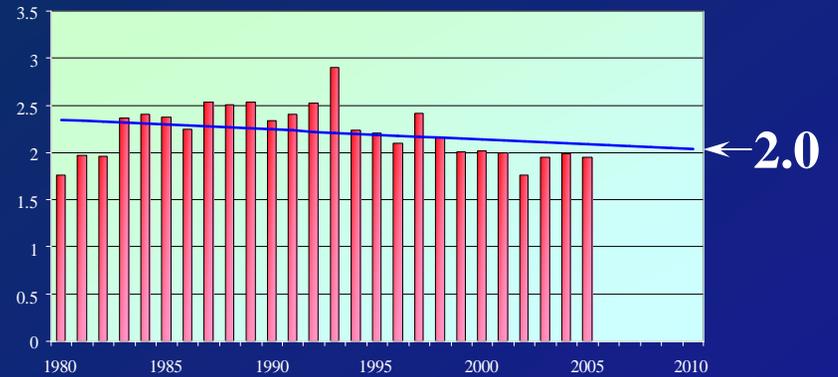


# U.S. Sulfur Recovered from Natural Gas Since 1980

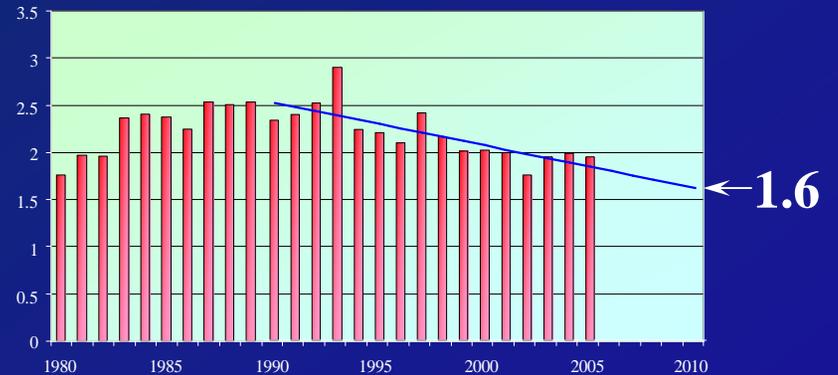


# U.S. Sulfur Recovered from Natural Gas Projections Based on 25, 15, and 10 Years of Data

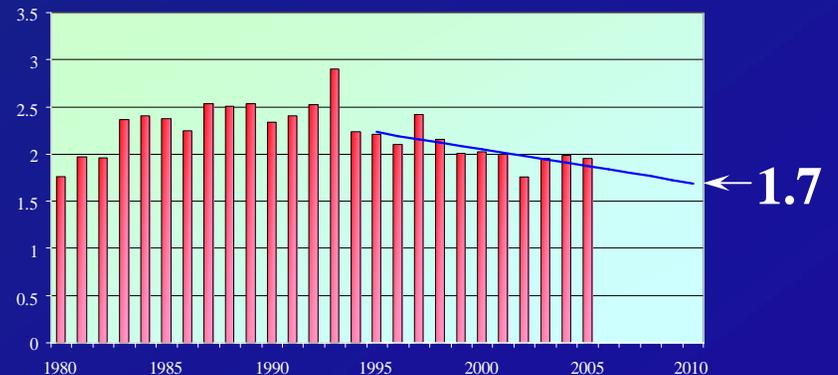
25 Years



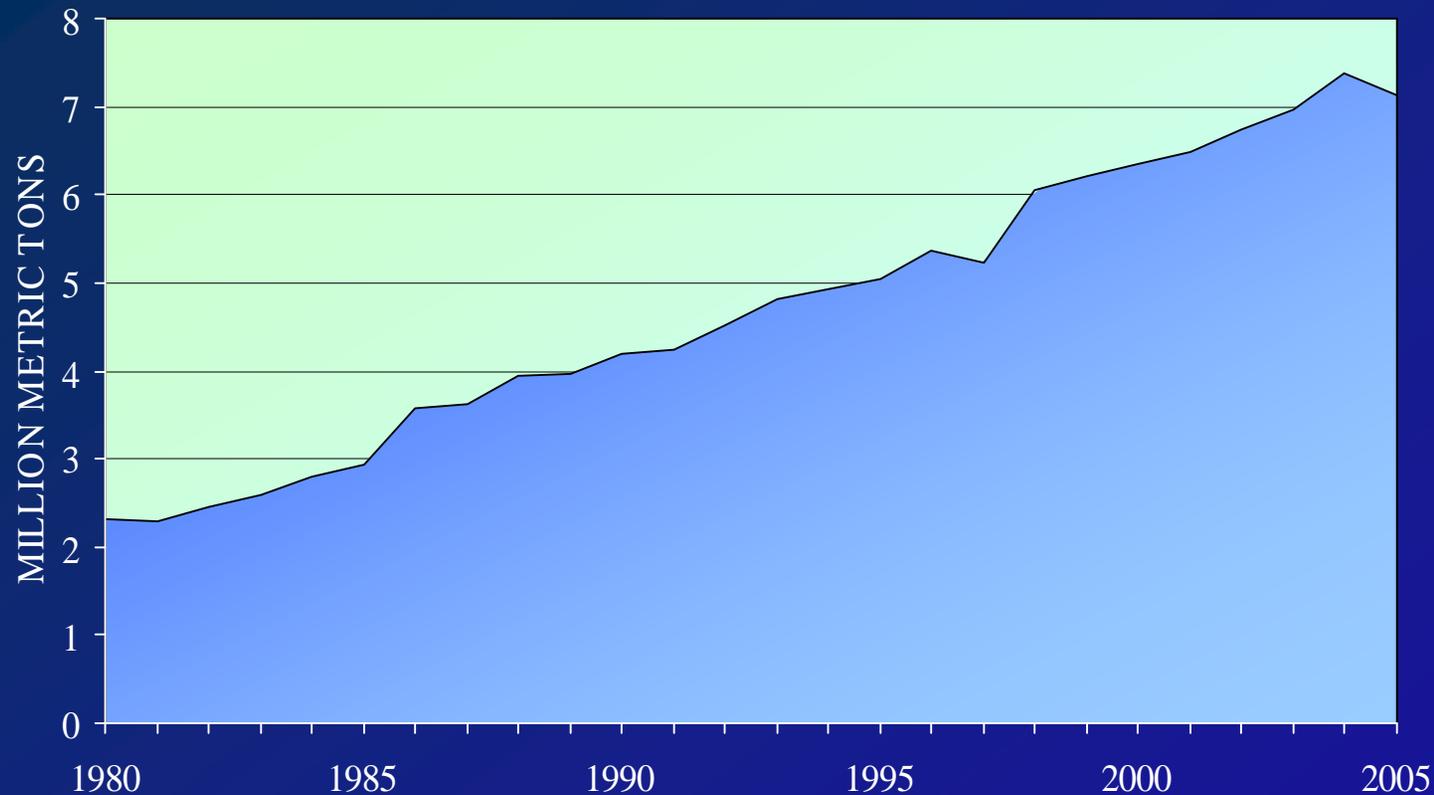
15 Years



10 Years

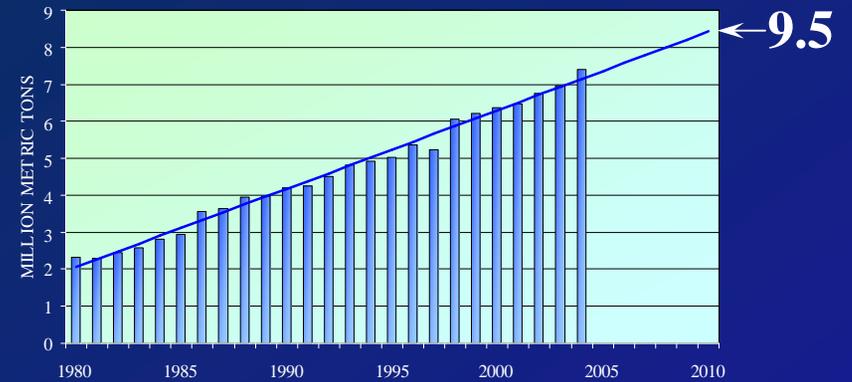


# U.S. Sulfur Recovered from Petroleum Refining Since 1980

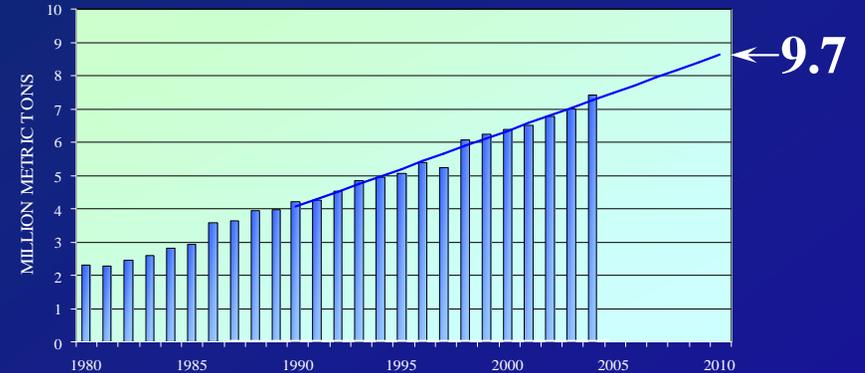


# U.S. Sulfur Recovered from Petroleum Refining Projections Based on 25, 15, and 10 Years of Data

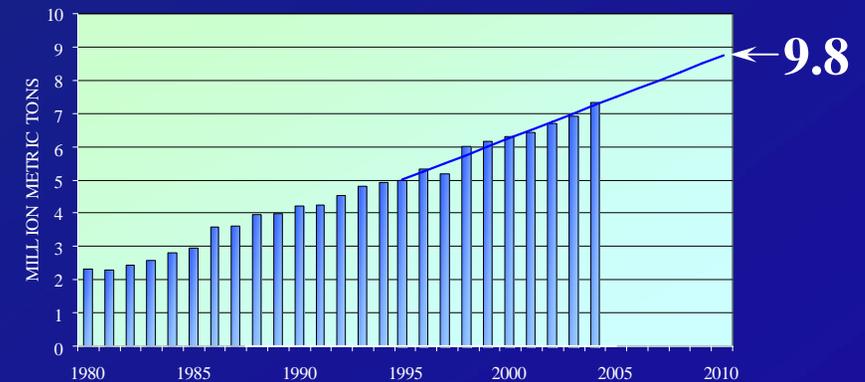
25 Years



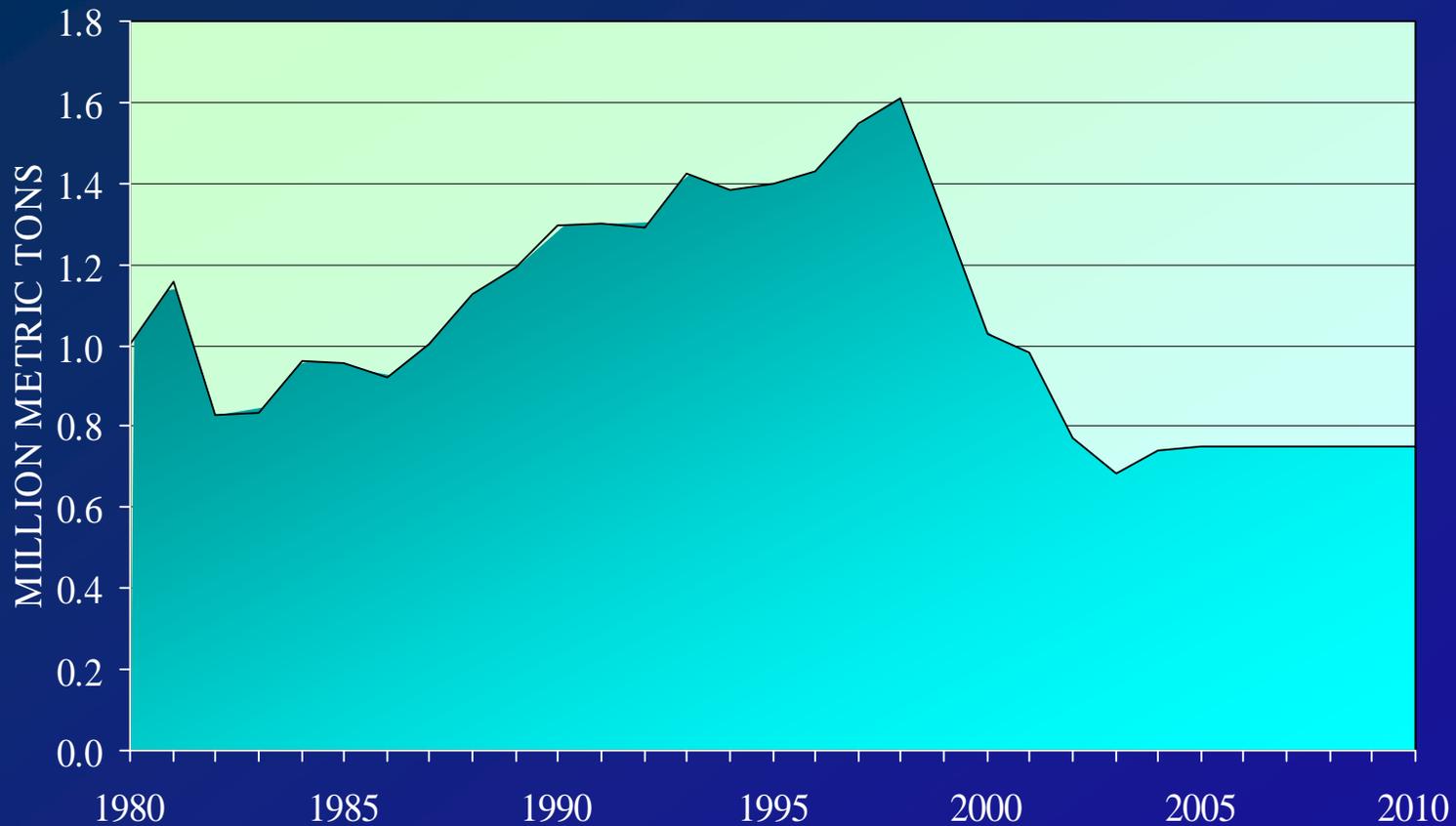
15 Years



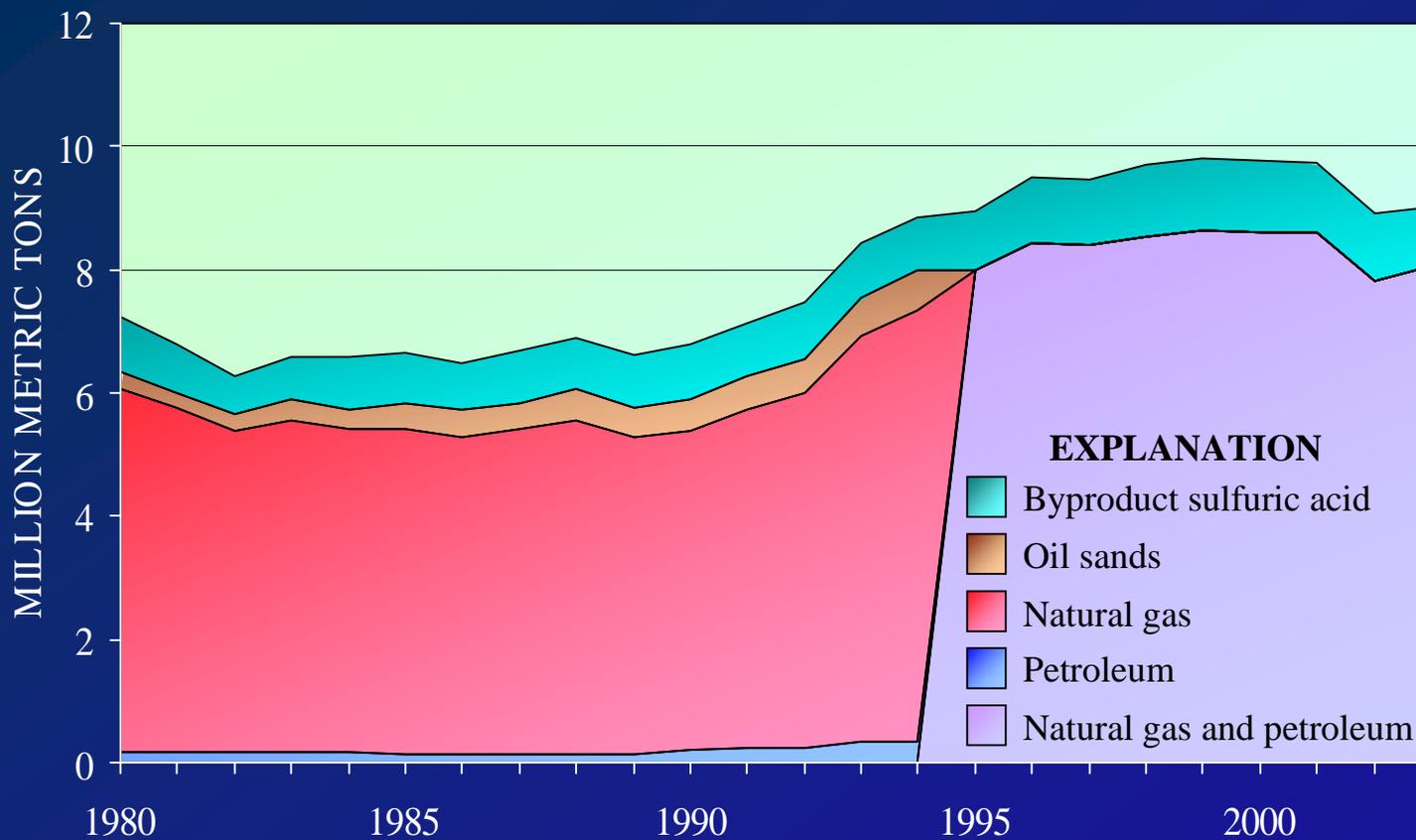
10 Years



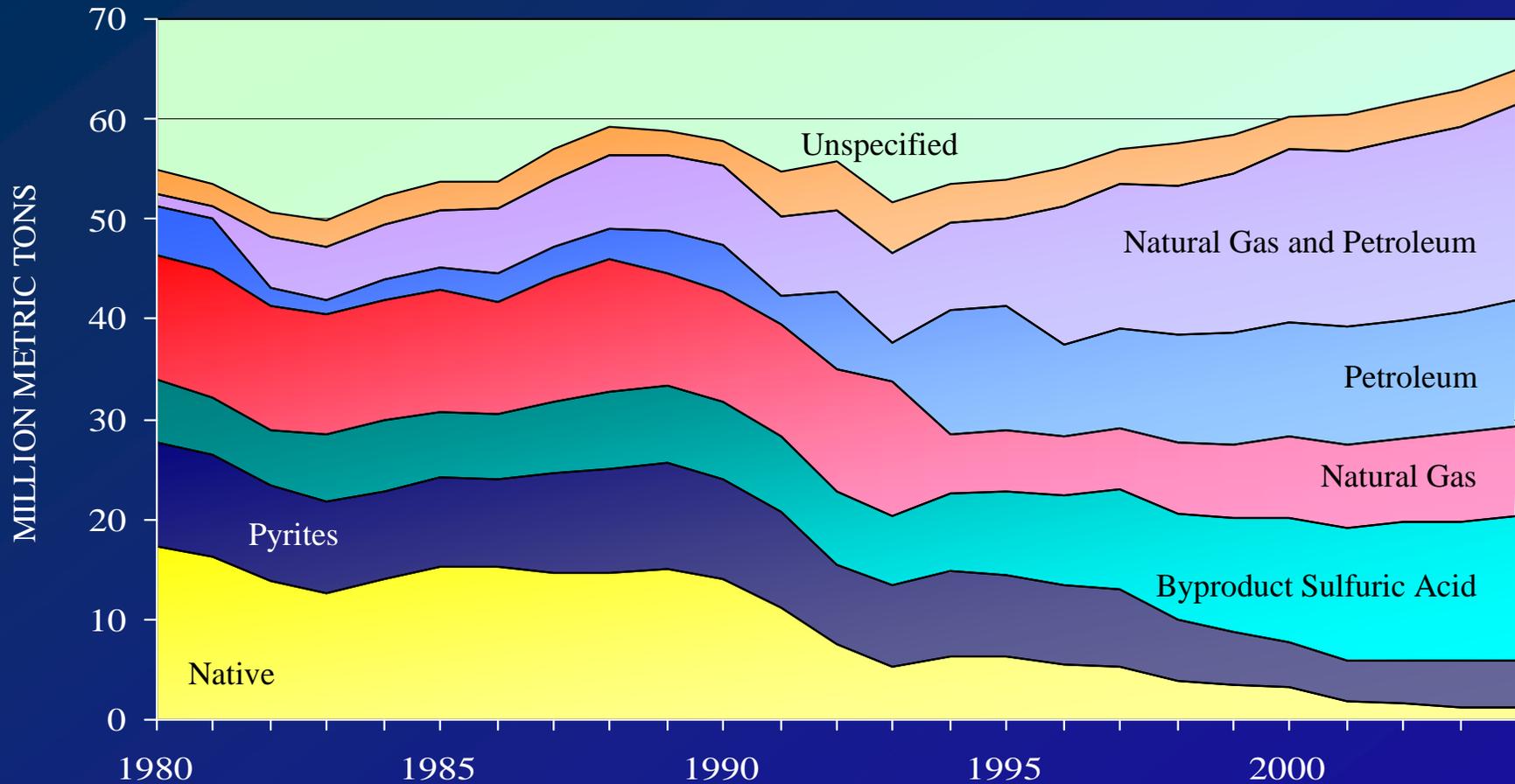
# Sulfur Content of Byproduct Acid Production Since 1980 (U.S.)



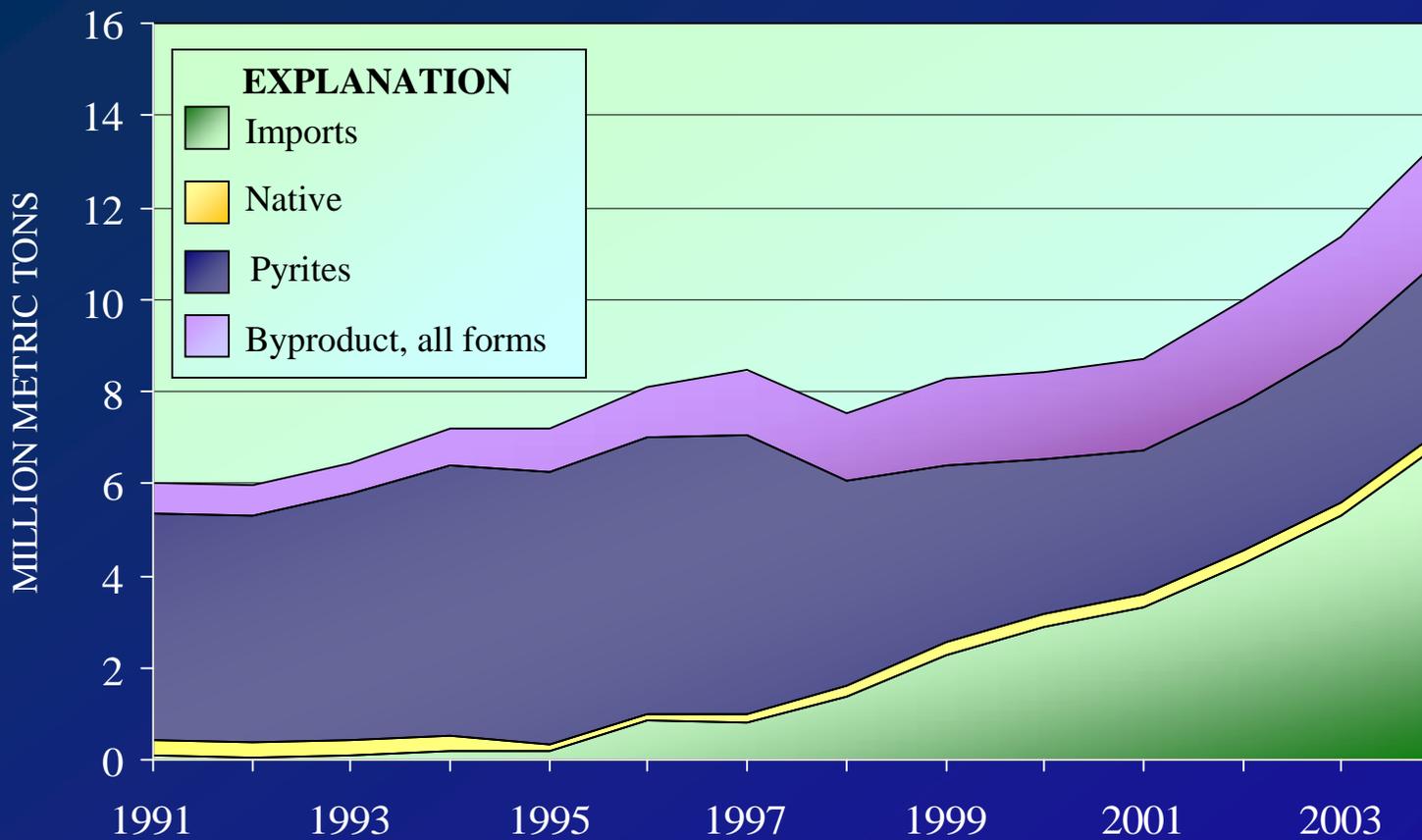
# Canadian Sulfur Production by Source



# World Sulfur Production by Type



# Trends in Sulfur in China



# Conclusions



Production



Consumption



Balance