



***Texas Energy Sector and
Barnett Shale Update***

**Victor G. Carrillo
Chairman**

Railroad Commission of Texas





Texas Railroad Commission

- Established in 1891
- No rail issues since 2005
- Regulate oil & gas, pipelines, surface mining, natural gas utilities
- 3 statewide elected officials
- Unquestionably worst named state agency in Texas

[Texas Energy Commission](#)



TEXAS OVERVIEW

“Mature” Producing Province: > 1.25 mm wells drilled

>7,500 active oil/gas operators

Total Active Producing Wells:

151,861 oil

103,969 natural gas

#1 producer of oil & natural gas in the U.S

~343 million barrels oil (2009)

~ 7.6 Tcf natural gas (2009)

- Largest pipeline infrastructure in nation
- 27% total U.S. refinery capacity
- > 200,000 employed in sector (2008)
- Oil & gas & petrochemicals > \$200 Billion (2008)

Texas #1 Wind Power Producing State: ~9,816 MW

TX NATURAL GAS



2009 Production ~7.6 Tcf

Global Rankings:

#1 United States

#2 Russia

#3 Texas (if country!)

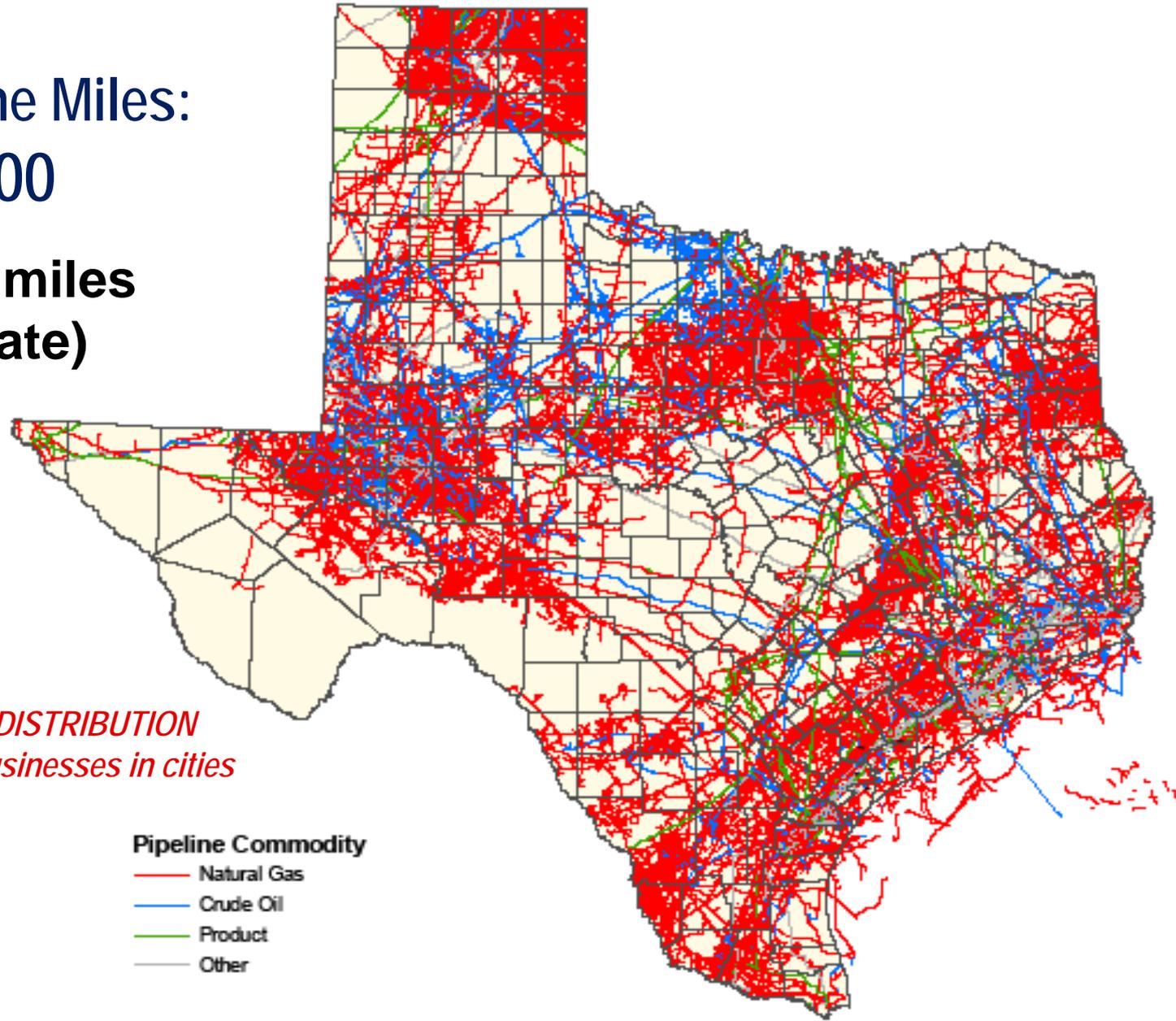
#4 Canada

**Without TX, United States
would import ~50%**

Nation's Largest Pipeline Infrastructure

Total Pipeline Miles:
282,000

**>200,000 miles
(intrastate)**



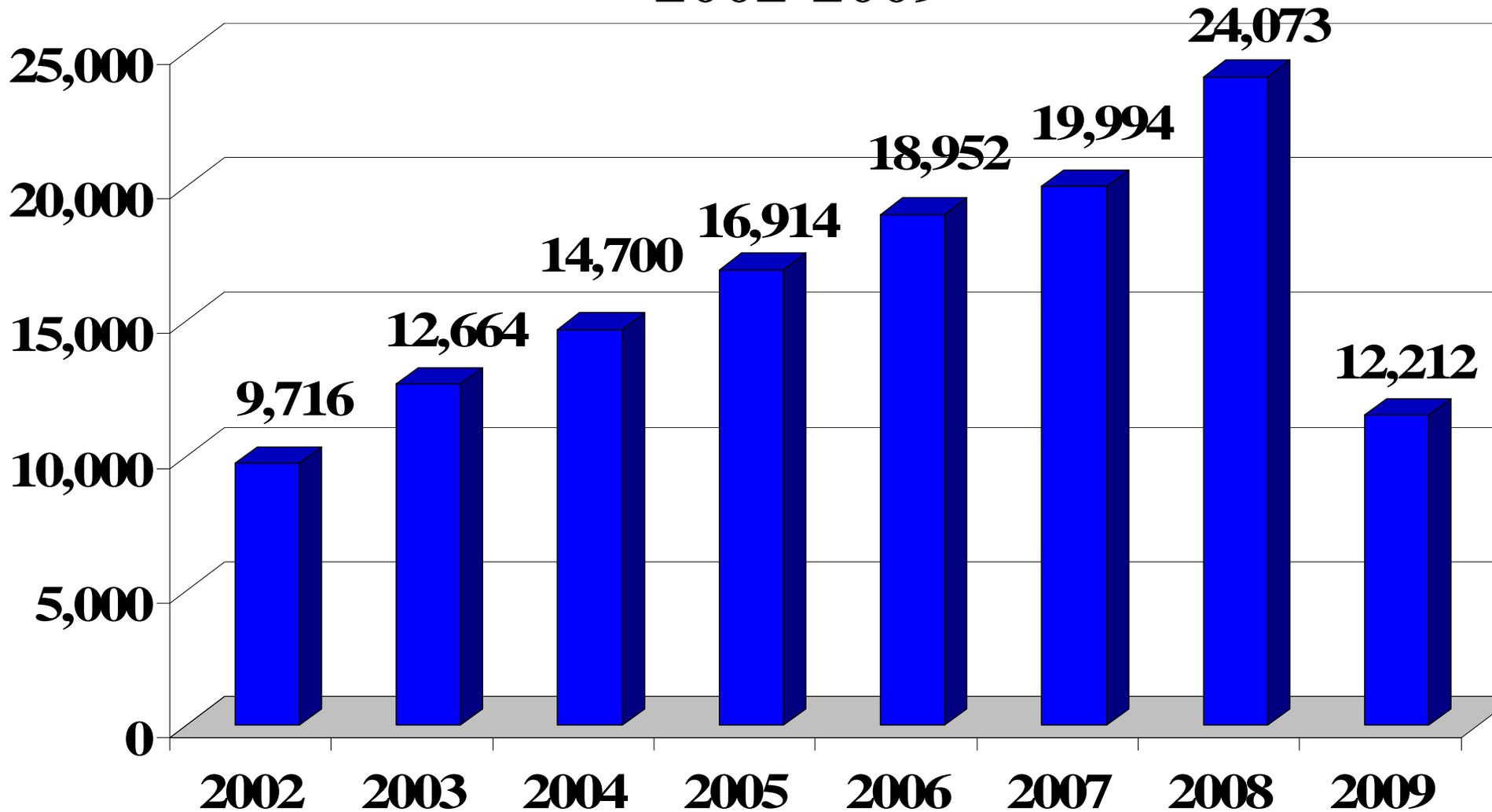
Miles do not include DISTRIBUTION systems to homes or businesses in cities

Pipeline Commodity

- Natural Gas
- Crude Oil
- Product
- Other

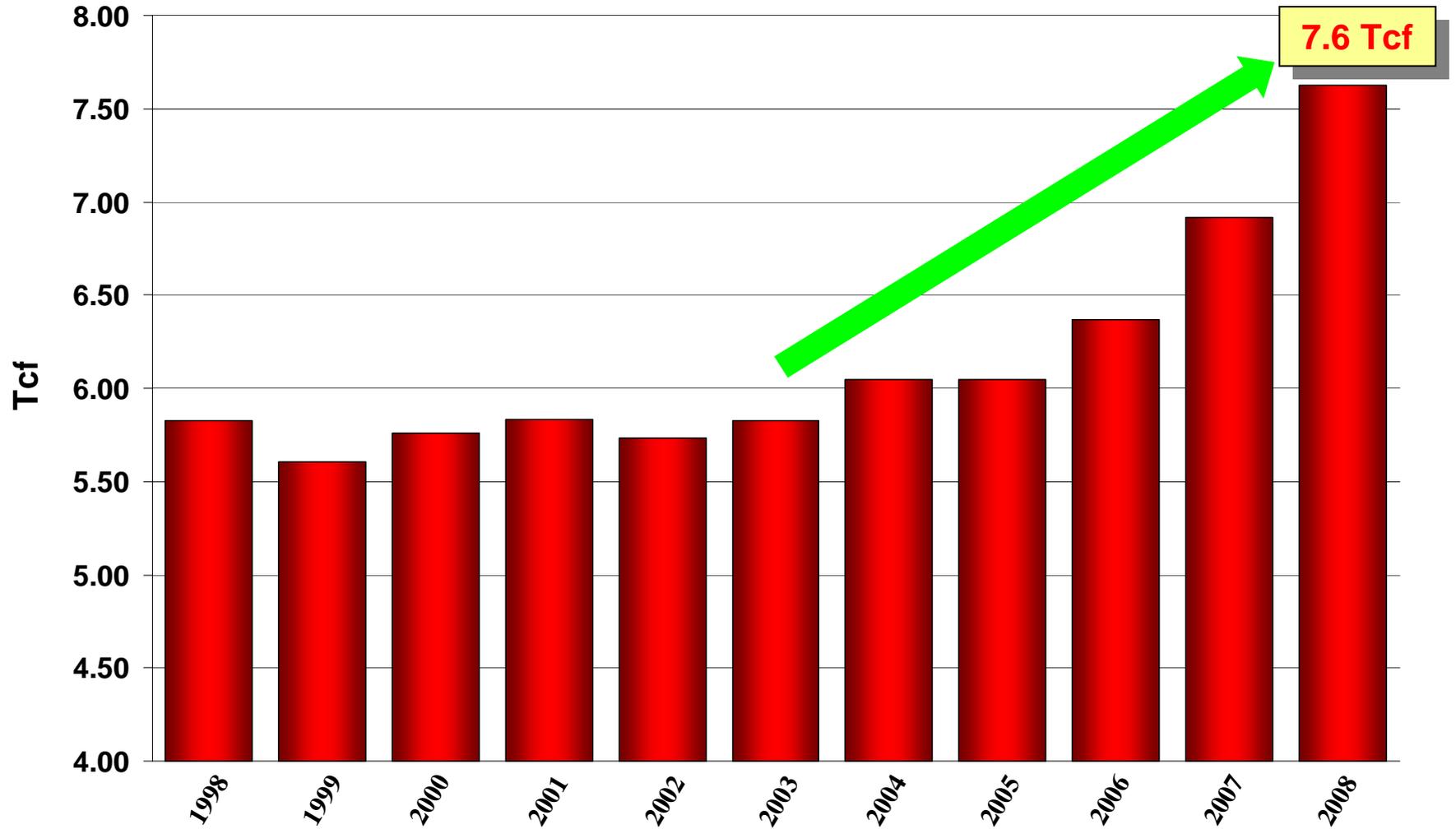
Texas Drilling Permits

2002-2009

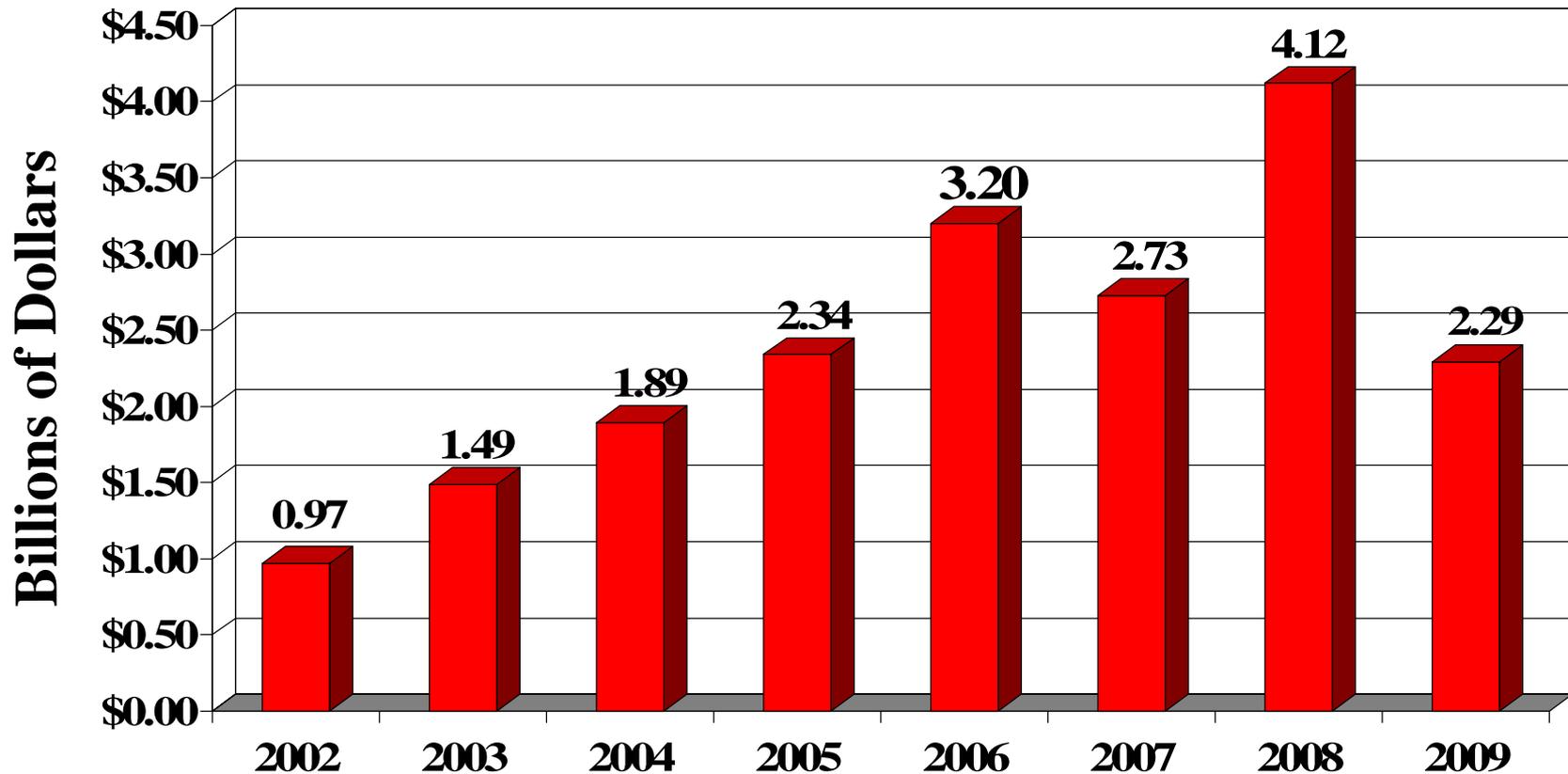


Texas Annual Natural Gas Production

1998 – 2008



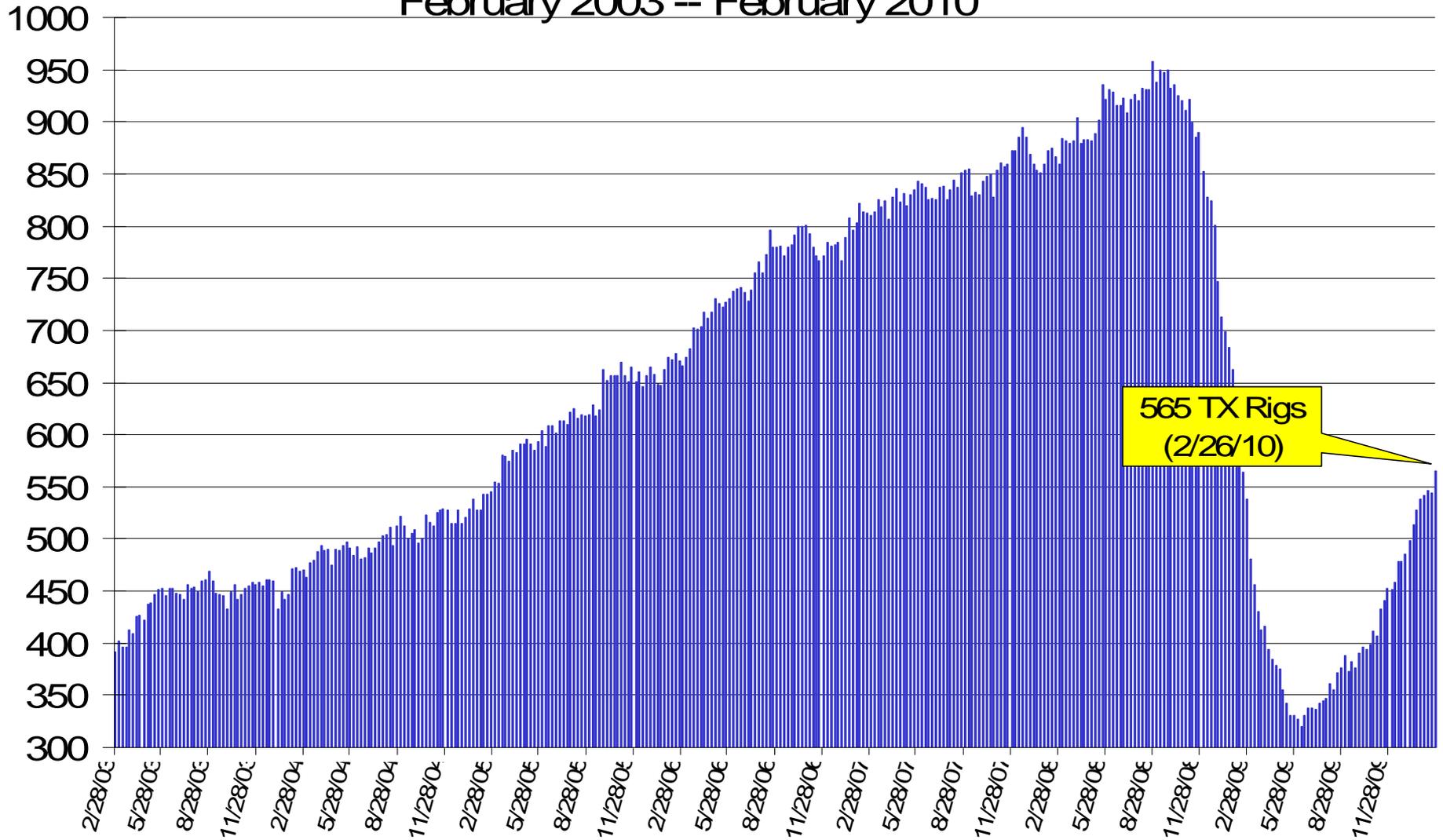
Texas Oil & Natural Gas Severance Tax Collections (FY 2002 – 2009)



Natural Gas Spot Henry Hub



Texas Active Rig Count February 2003 -- February 2010



Unconventional Shale Gas

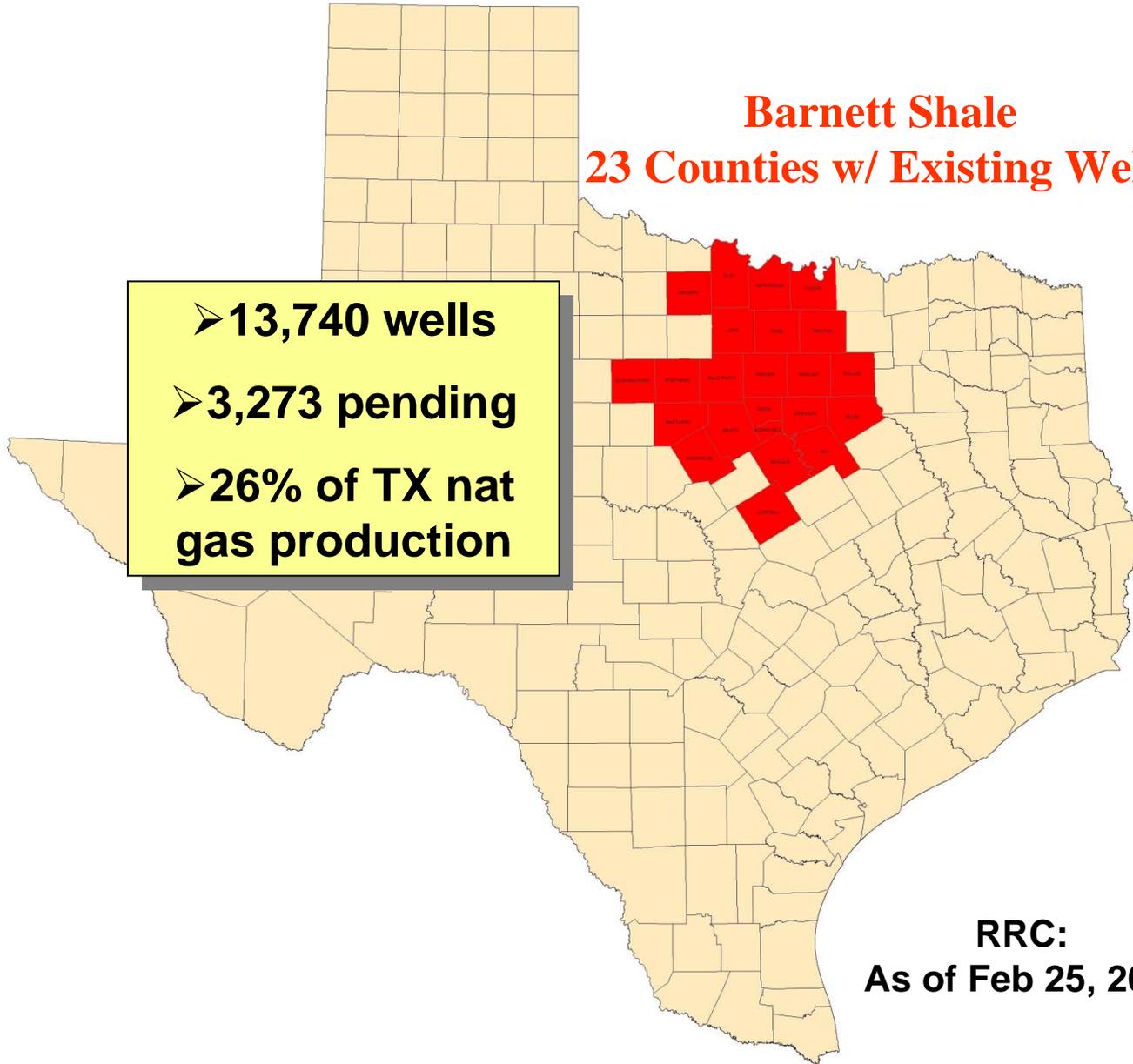


- Barnett Shale
- Technology driven
 - horizontal drilling
 - hydraulic fracturing
 - multi-well drills per pad
- 23 counties
- 246 operators
- USGS: ~26 Tcf
- Others: ~55 Tcf

Barnett Shale
23 Counties w/ Existing Wells

- **13,740 wells**
- **3,273 pending**
- **26% of TX nat gas production**

RRC:
As of Feb 25, 2010



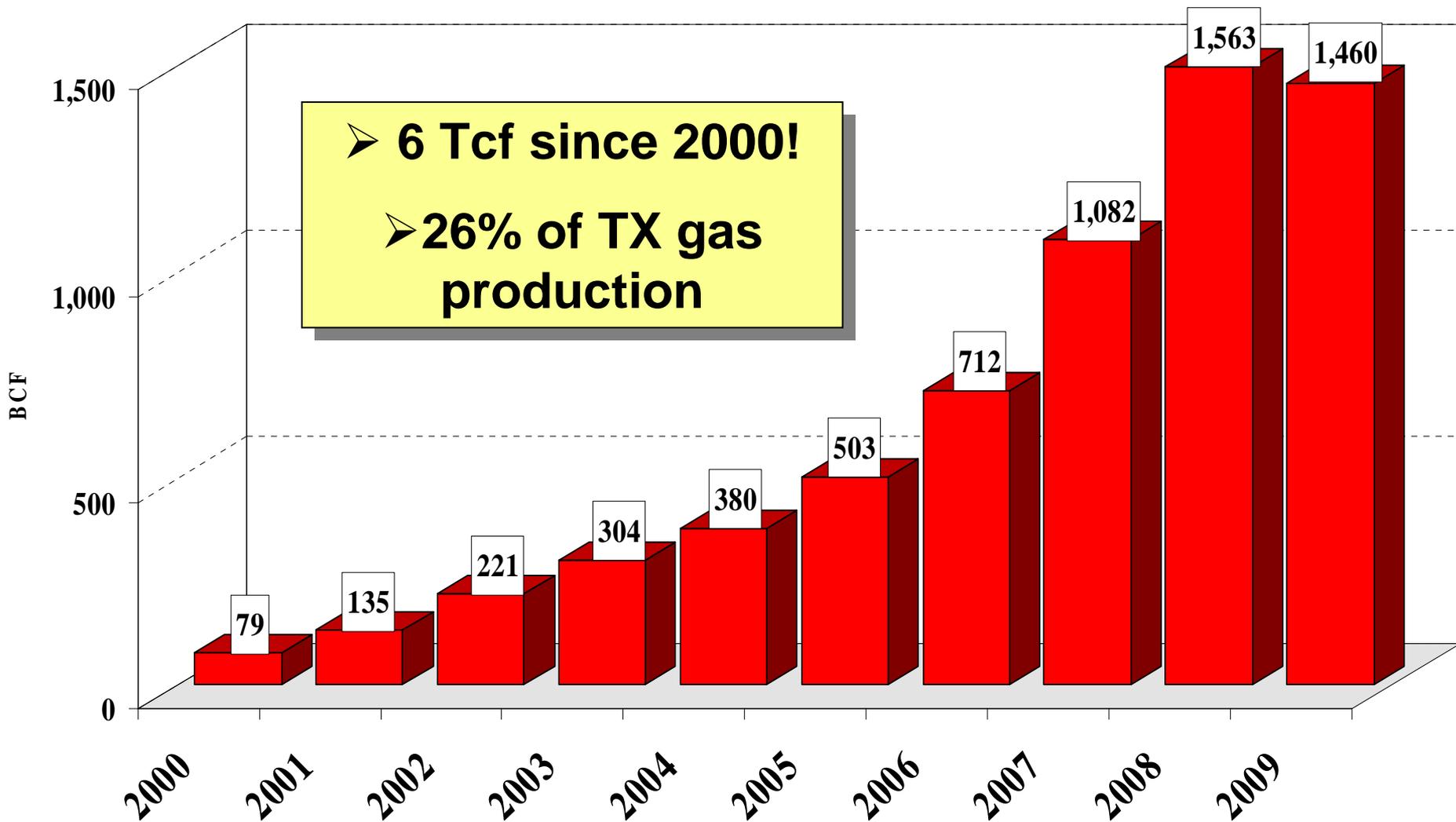
TX BARNETT SHALE ECONOMIC IMPACT

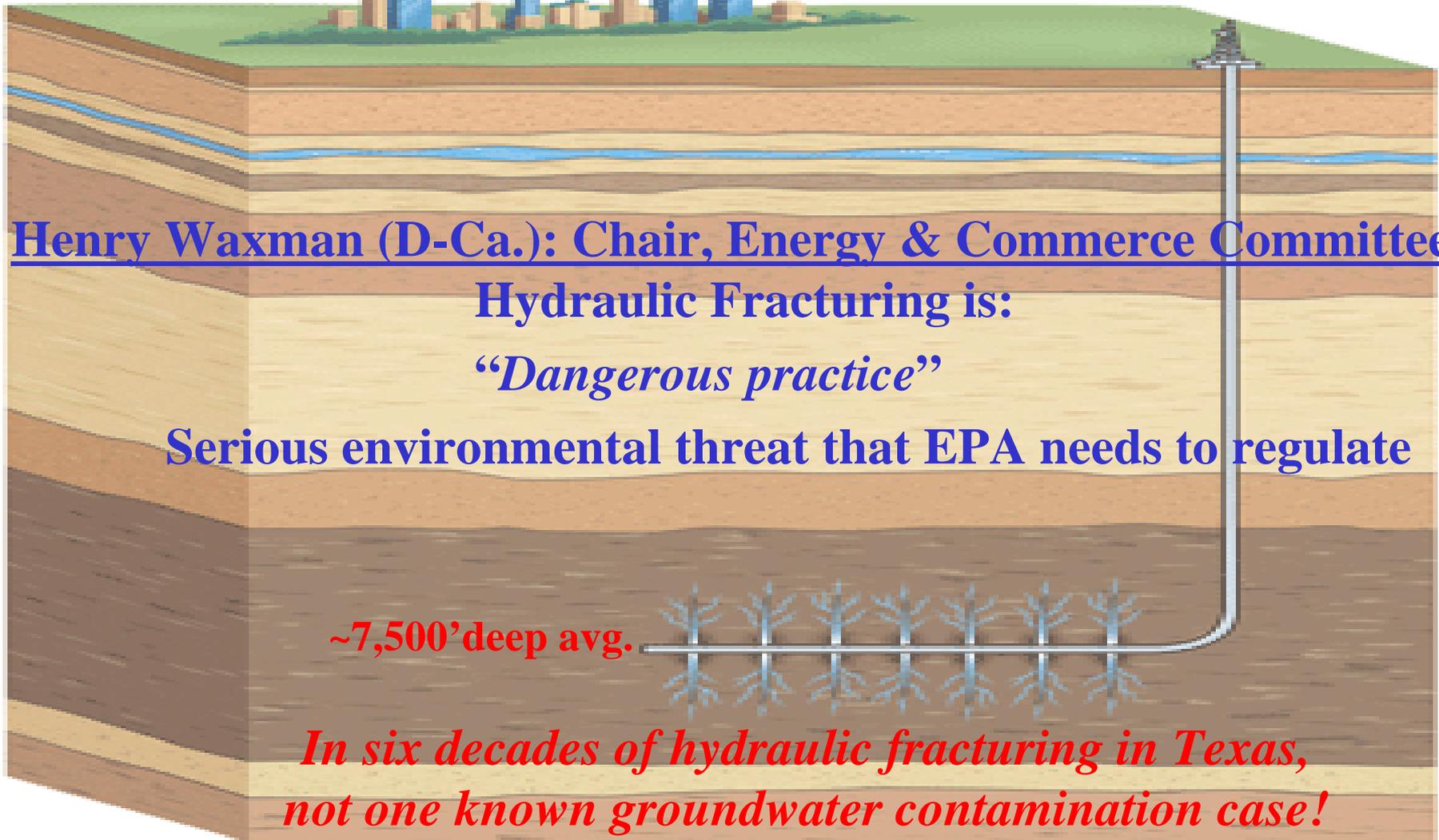
- 26% of gas production
- \$13.7 billion in annual output
- \$275 million in severance taxes (2008)
- 132,497 total Texas jobs
- 83,261 permanent Texas jobs
- 10.4% of regional private-sector employment

**Royalty Example: January 2009, UT Arlington received
1st monthly gas royalty of \$500,000!**

Source: Perryman Group Report 2009

Newark, East (Barnett Shale) Gas Well Gas Production 2000 through 2009





Henry Waxman (D-Ca.): Chair, Energy & Commerce Committee

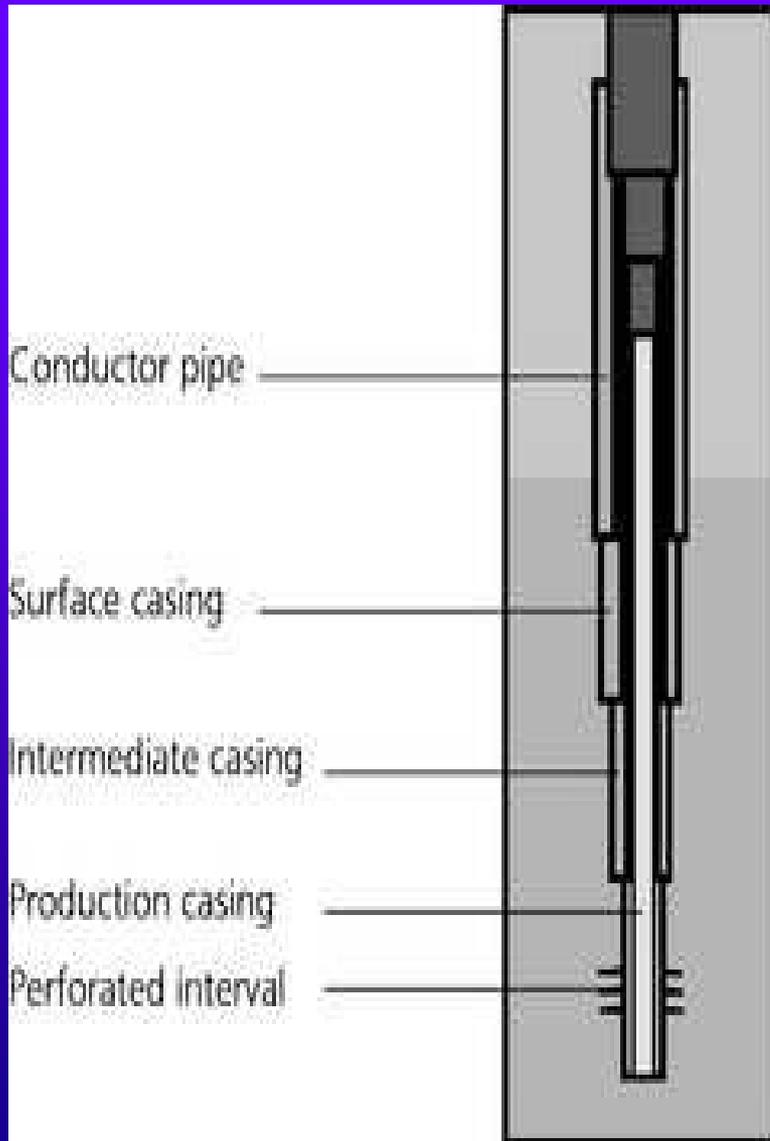
Hydraulic Fracturing is:

“Dangerous practice”

Serious environmental threat that EPA needs to regulate

~7,500’ deep avg.

***In six decades of hydraulic fracturing in Texas,
not one known groundwater contamination case!***



Required Casing Integrity:

- **Surface casing protects groundwater**
- **Steel casing, strength tested**
- **Cemented in place**
- **Multiple protective layers**
- **Key zones isolated & sealed off**

Barnett Shale Water Issues

- Society has ongoing need for quality water
- Hydraulic fracture stimulation essential
Horizontal well fracs: > 3 million gallons H₂O
> 70,000 barrels H₂O
- <1% of H₂O from all sources in region used
for Barnett Shale development
- Salt water disposal well demand:
~136 total disposal wells permitted
(85 commercial)
Cumulative daily capacity ~ 2.9 mmbpd

RRC Barnett Shale Water Policy

1. Closely monitor disposal/injection trends
(Volumes / Pressures / Locations / etc.)
2. Carefully review/scrutinize each application to ensure casing program protects groundwater
3. Encouraging disposal into deep Ellenburger Fm
 - Below Barnett Shale (@ least 250' buffer)
 - Fewer well penetrations
 - Greater vertical separation from shallow fresh water zones
 - Much more available pore space to receive large water volumes with minimal effect

Encouraging Innovative H₂O Recycling Projects:

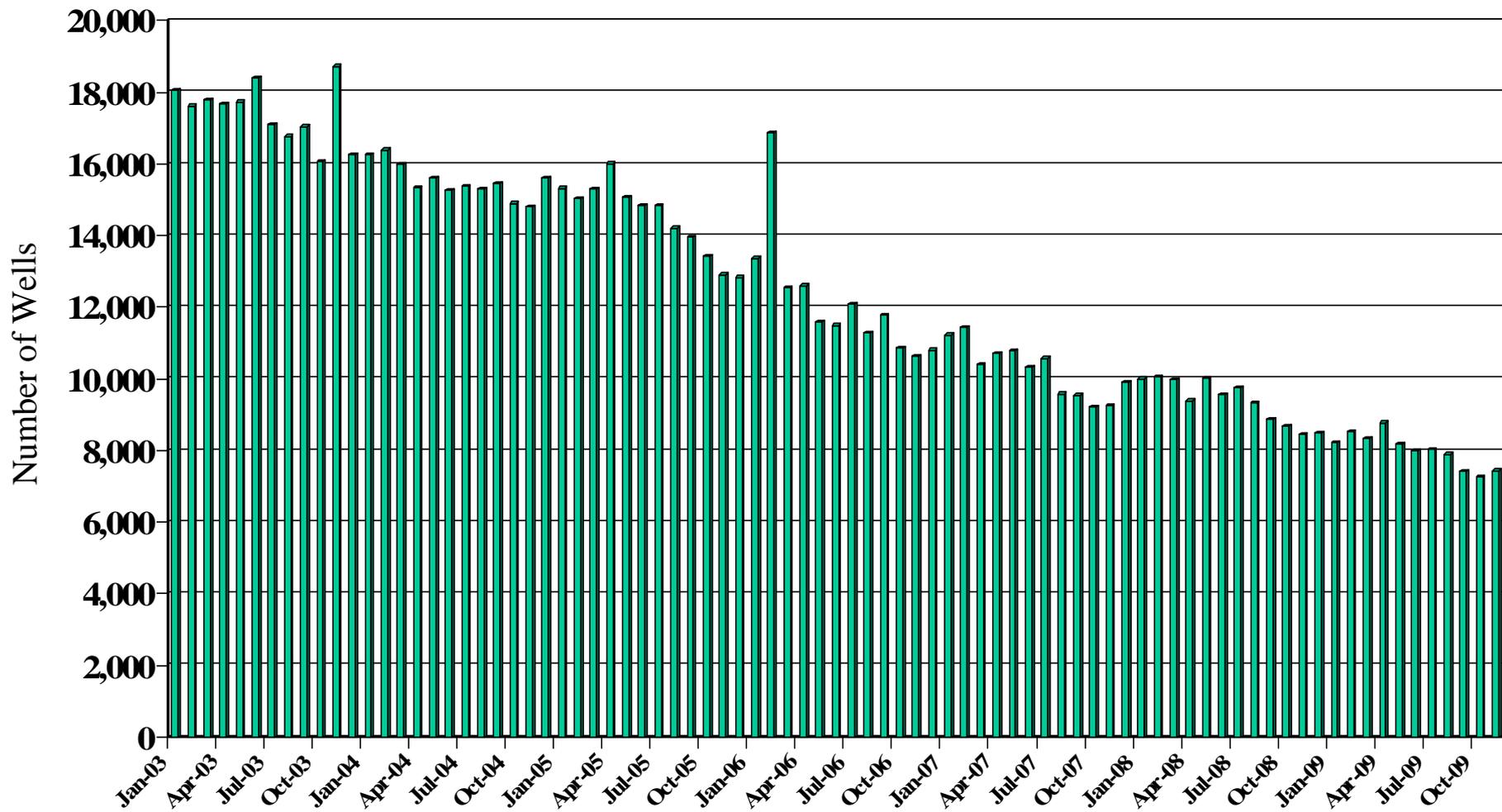
Devon & Fountain Quail Water Management

Process: Frac flowback H₂O IN / Distilled recycled H₂O OUT



- * Mobile distillation recycling process
 - * Processed >9.6 mm barrels of frac flowback H₂O
 - * Recovered >7.6 mm barrels of recycled H₂O
 - * Salt H₂O otherwise disposed of in SWD well
- ~80% of frac H₂O recycled!**
- * Now applying for stationary distillation facility permit

Orphaned Well Count 2003-2009



BARNETT AIR EMISSIONS ISSUES

- In response to claims of benzene & other potentially dangerous emissions in gas streams, Ft. Worth Rep Lon Burnam seeks 1-yr drilling moratorium
- Does RRC have jurisdiction re: AIR EMISSIONS?
 - NO: TCEQ has jurisdiction over AIR emissions
- Industry has proactively worked to support new tests to find source of emissions & address the concern

I will also seek alternative, REASONABLE solutions to the concerns voiced – but NOT a drilling ban!

Key National Energy Issues

Waxman/Markey Cap & Trade Bill

- >1,000 pages long, already passed in U.S. House of Reps
- Passage will disproportionately & negatively impact TX
- Increases regulatory & energy costs
- Will LOSE good oil/gas/refining/petrochem jobs
- Weakens domestic energy security
- Will NOT minimize so-called “global warming”

Gov. Haley Barbour: “Best plan to de-industrialize America!”

As current OCS Policy Committee Chair, I will advocate for increased ACCESS for E&P for areas currently off-limits

As RRC Chair, I will advocate for keeping Texas energy sector strong for DOMESTIC ENERGY SECURITY

IOGCC Chairman Governor Rick Perry - TX





Questions Anyone?