



Competitive Renewable Energy Zones (CREZ) in Texas:

Presented to: Increasing Renewable Energy in the Western Grid Summit
WGA / NWCC
Fort Collins, CO
September 28, 2007



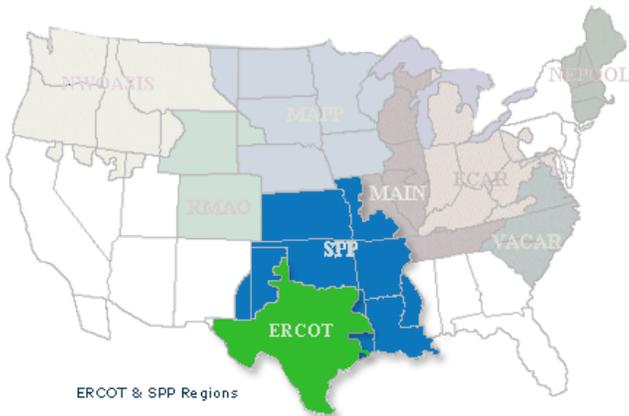
The Wind Coalition

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The Wind Coalition – Serving Texas & South Central U.S.

Our Members Own, Develop & Supply Major Components to Large Wind Projects In:

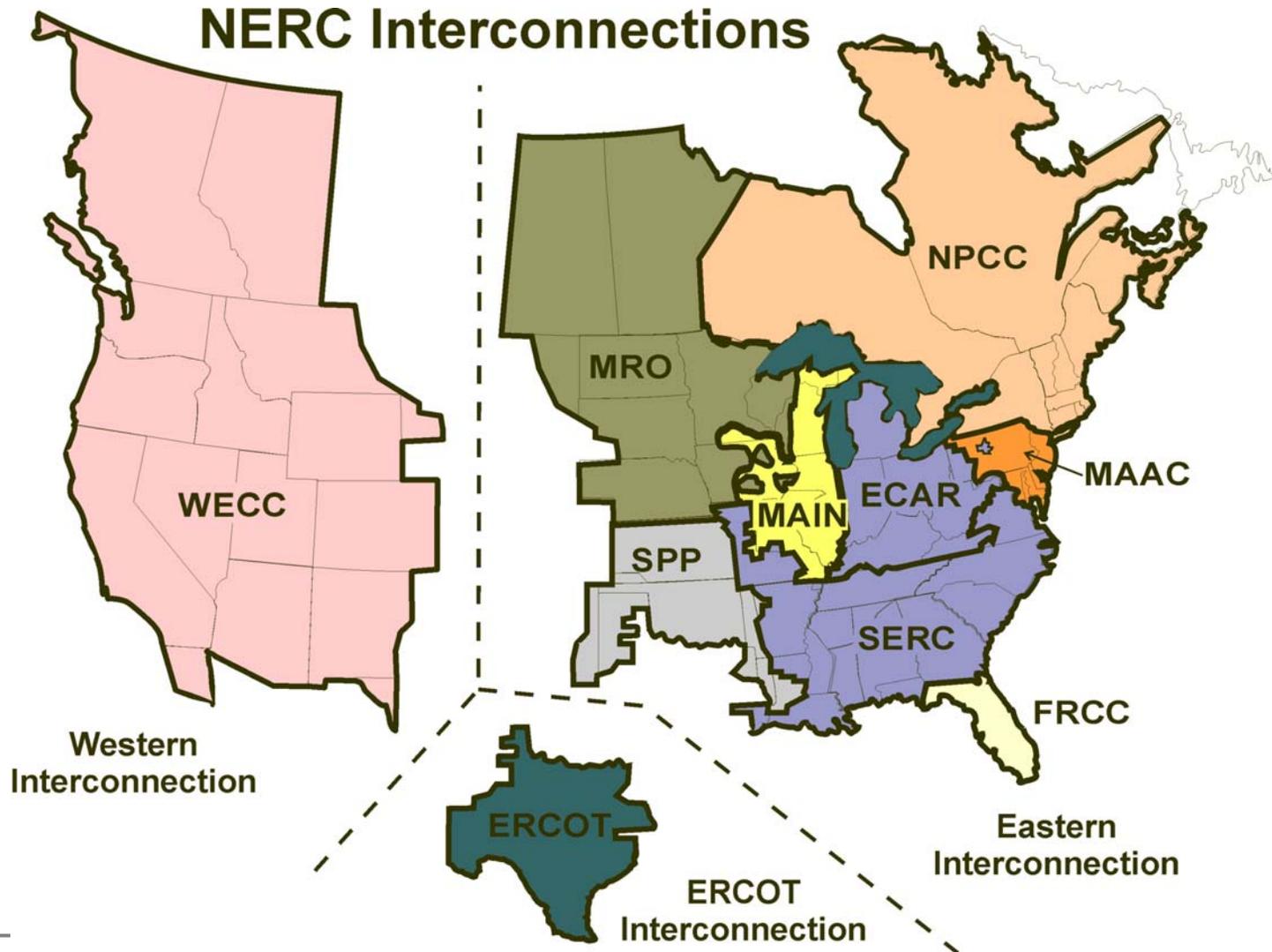
- **Texas**
- **Kansas**
- **Oklahoma**
- **New Mexico**



Members:

<i>AES</i>	<i>Shell</i>
<i>Airtricity</i>	<i>Blattner</i>
<i>Babcock</i>	<i>GE</i>
<i>BP</i>	<i>Siemens</i>
<i>Clipper</i>	<i>Stewart Title</i>
<i>Edison Mission</i>	<i>Trinity Towers</i>
<i>Eurus</i>	<i>Vestas</i>
<i>Gamesa</i>	
<i>Great Plains</i>	<i>AWEA</i>
<i>Horizon</i>	<i>Environmental</i>
<i>Invenergy</i>	<i>Defense</i>
<i>Noble</i>	<i>Public Citizen</i>
<i>PPM</i>	<i>TREIA</i>
<i>RES</i>	

The Electric Power Grids of North America





Texas Wind Capacity

1995 = 0

Mid-2006 = 2,300 MW (passed CA):

In Service -- Late 2007:

4,525 MW

*Additional Signed
Interconnection Agreements*

3,600+ MW

*Additional Interest
Interconnection Studies*

35,000+ MW



The Wind Coalition

Source: ERCOT & SPP; Texas peak load < 72 GW

Why Has Wind Power Flourished in Texas?

Solid Fundamentals: windy, energy growth, high prices

Effective Package of Federal & State Policies

Polls

education for policy-makers

RPS

catalyst for minimum action over long-term

REC

supports additional voluntary action

PTC

production incentive

CREZ

ensures transmission infrastructure



CREZ

Competitive Renewable
Energy Zones

Proactive Transmission Policy

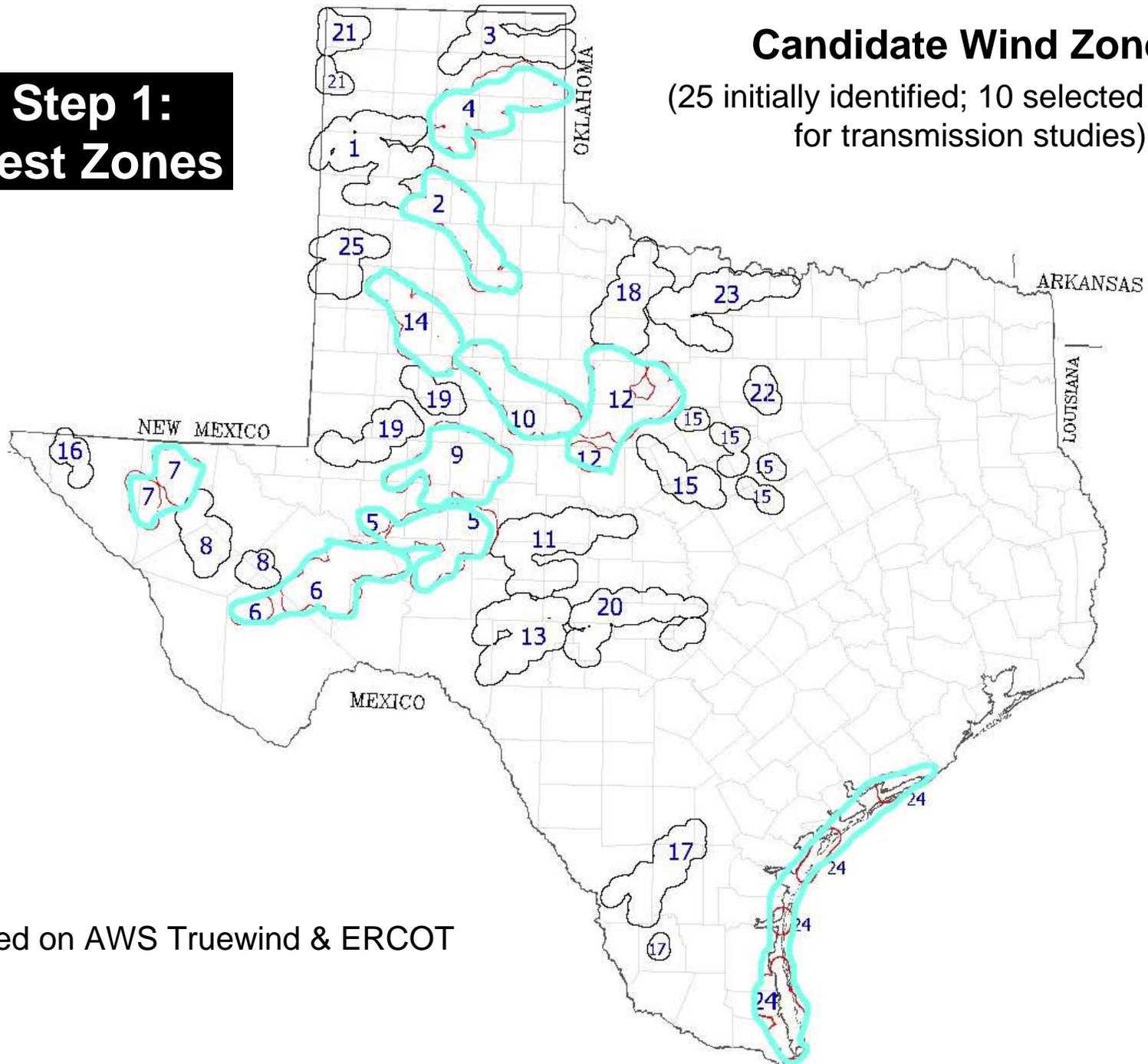
CREZ Proactive Transmission Approach Is Applicable Throughout U.S.

- 1) Identify the “Best” Resource Zones***
- 2) Develop a Transmission Master Plan***
- 3) Begin Building Transmission to Zones***

Step 1: Best Zones

Candidate Wind Zones

(25 initially identified; 10 selected as focus for transmission studies)



Based on AWS Truewind & ERCOT

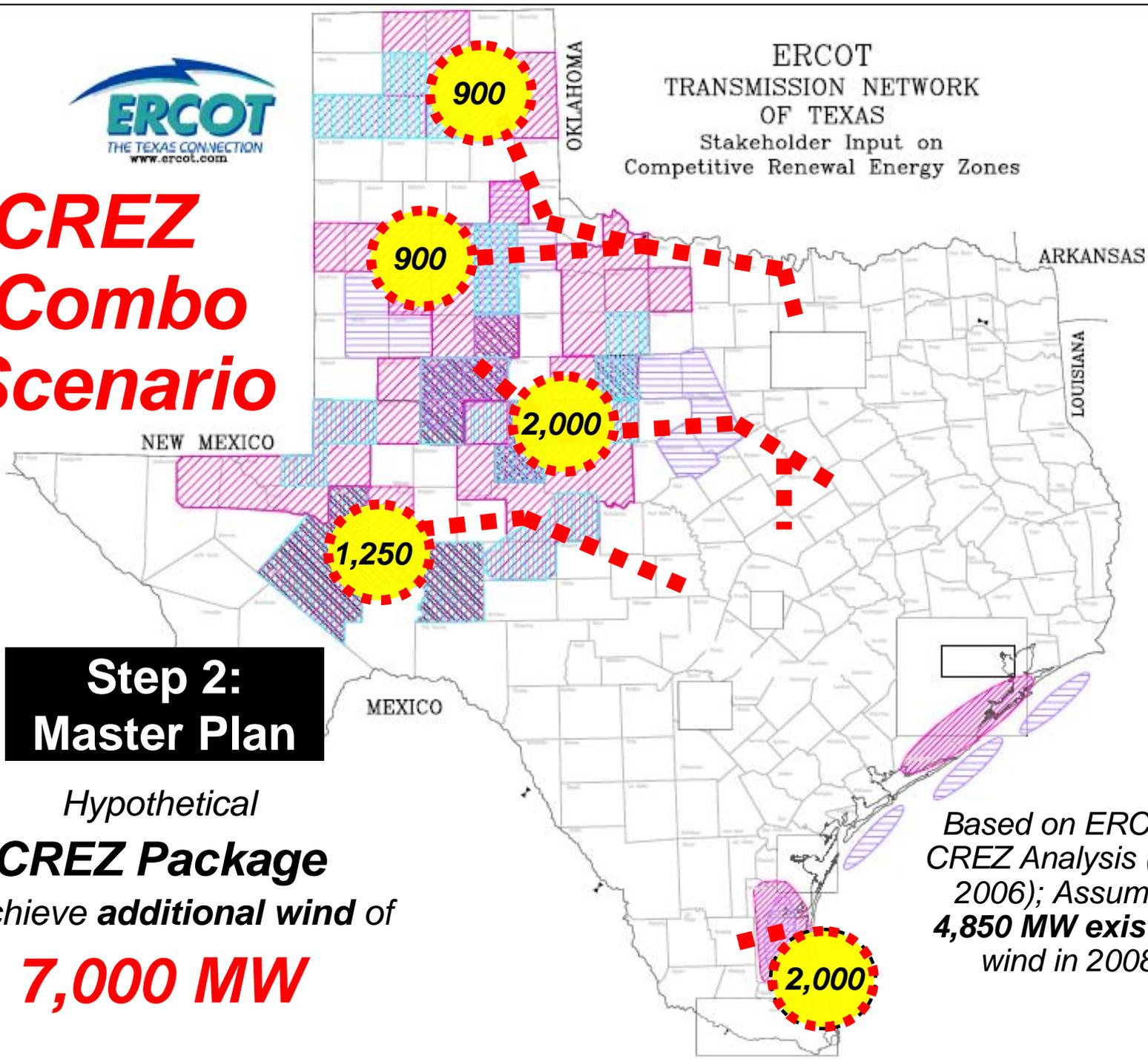


ERCOT
TRANSMISSION NETWORK
OF TEXAS
Stakeholder Input on
Competitive Renewable Energy Zones

CREZ Combo Scenario

**Step 2:
Master Plan**

Hypothetical
CREZ Package
to achieve *additional wind of*
7,000 MW



*Based on ERCOT
CREZ Analysis (Dec
2006); Assumes
4,850 MW existing
wind in 2008*

Step 3: Designate CREZ & Start Building Lines

PUC Contested Case will Designate CREZ ***(Texas PUC Docket #33672)***

- *54+ Intervenors (about 25 wind developers)*
- *12 zones nominated by developers with*
24,511 MW *in financial commitments*
- *961 filings to date*
- *Awaiting “**Interim Final Order**”*

CREZ Timeline

- mid-2002* *CREZ concept first contemplated (by David Hurlbut)*
2004 *Texas Energy Planning Council recommends CREZ*
- mid-2005* **CREZ Law Passed** (*SB20 modifies PURA §39.904*)
- Dec. 2006* **CREZ Rule Adopted** (*§25.174*)
- Jun. 2007* *CREZ Designation Final Order expected (now delayed)*
- Mar. 2008** **CREZ Final Order Expected** (*PUCT Docket 33672*)
- CREZ Transmission Optimization Study** (*ERCOT*)
- Wind Integration Study** (*GE for ERCOT*)
- Excess Development in CREZ / Dispatch Priority* (*PUCT 34577*)
- Selection of Transmission Providers** (*PUCT 34560*)
- + 12 mo. *Transmission Providers file CCN applications*
 Wind Developers Post Financial Commitment (10%)
- + 6 mo. *Expedited Transmission CCNs*
- + 12 - 36 mo. *Transmission Lines Built*
- +12 mo. **CREZ Wind Installed** (*nominal target - 2012*)

Hallmark of Texas / ERCOT Electric Market:

Efficient, Competitive Markets

*Who Pays for
Transmission ?*

Transmission Costs “Uplifted”

Queue?

No Interconnection Queue

Integration?

Single Control Area

Max efficiency?

Nodal Market (by 2009)

Generation Risk?

Investors

CREZ - The Key Question:

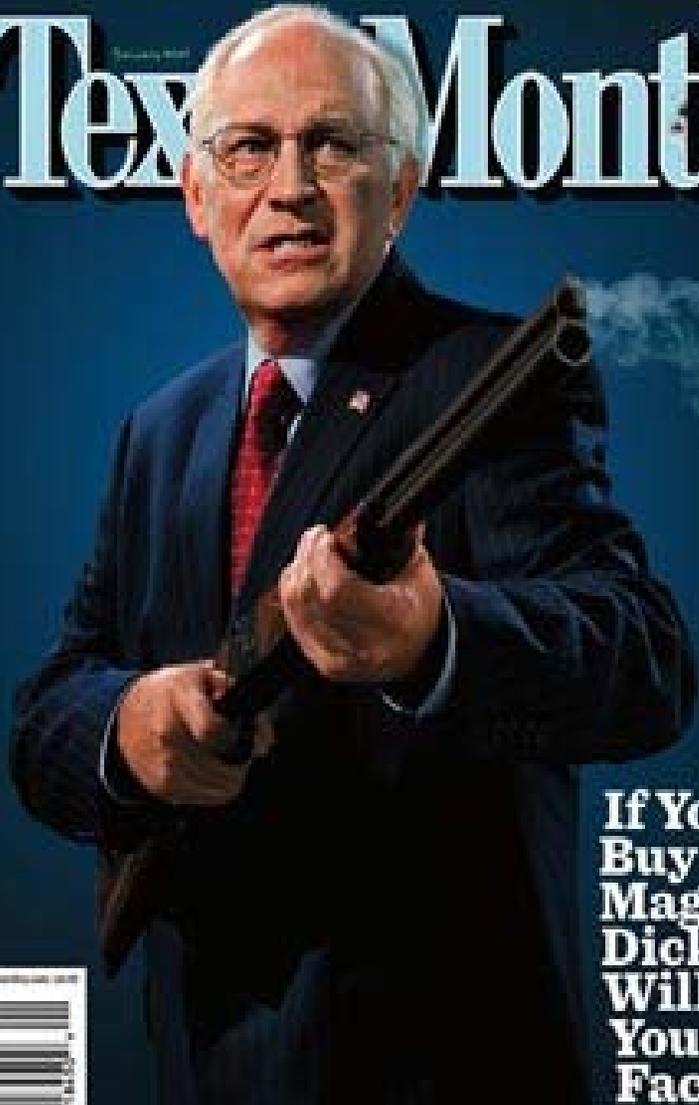
***Is Multi-Billion \$
Investment in
New Transmission
to serve CREZ
“Cost-Effective” ?***

***There are deep-rooted misconceptions
in the “Conventional Wisdom” of
public, media & elected officials***

BUM STEERS!

Who Is Dan Patrick? by Mindy Schwartz • The Best Golf Holes in Texas by Drew Webb
God Bless Erykah Badu's Pad by Michael Hall • Coal Hard Facts by S. C. Gwynne

Texas Monthly



If You Don't Buy This Magazine, Dick Cheney Will Shoot You in the Face

*Yes, this is a photo-illustration. If we don't say so, Dick Cheney will shoot us in the face.

from **Coal Hard Facts**
article in *Texas Monthly*, Dec. 2006

“Coal and **gas** are relatively **cheap** but pollute...”

“**wind** and solar are gentle but **expensive**, and electrical expense is a leading cause of eviction of poor people in America”

Gasoline:

\$3 / gallon

X

8 gallons /mmBTU

***\$24 per
million BTU***

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Generalized Energy Cost Factors

FUEL \$/million BTU		PLANT \$/kW
24	Gasoline	250
14	Crude Oil	
7	Natural Gas	500
2	Coal	2000
1	Nuclear	3000
0	WIND	2000
0	Solar	4000

Source: rough order cost factors by VERA; gasoline "plant" cost for 5 kW generator



Average Production per Oil Well

Texas

7

barrels/day/well

Saudi Arabia

5,140

barrels/day/well

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Source: 1998 data - Texas Railroad Commission & Matt Simmons (for Saudi Arabia)



The Wind Coalition

U.S. Emergency Back-Up Plan

Strategic Oil Reserve (1975)

now **727** million barrels ~ **\$55 Billion**

announced **1.45** billion barrels ~ **\$110 Billion**

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

If the U.S. is willing to invest \$100+ Billion in a back-up plan, what is it willing to invest in its “Primary Plan” to meet future energy needs? Transmission Infrastructure should be a priority in the Primary Plan.

A photograph of two men at a podium. The man on the left, Paul Hudson, is speaking and gesturing with his hands. The man on the right, Rick Perry, is looking towards the speaker. The podium has a red sign with 'SMU' in white. The background features an American flag on the left and a blue backdrop with 'The Wind Coalition' logos and text. The text 'Political Leadership is Essential' is overlaid in large yellow font.

Political Leadership is Essential

*PUCT Chairman Paul Hudson &
Texas Gov. Rick Perry*

CREZ Interim Final Order

(items below are approximate pending written order)

***Transmission will support
Aggregate Wind in ERCOT:***

10,000 MW

18,000 MW

19,000 MW

26,000 MW

***specific decision
expected March 2008***





*According to Brendan Kirby (ORNL)
of ERCOT CREZ Analysis*

***More Wind will push down the
market electricity price & emissions***

Existing Wind saved Texans \$476 million in 2006

5,250 MW of New Wind will:

- Reduce customer payments to generators
by \$1.278 Billion per year***
- Reduce emissions statewide by 3-5%***

Questions ?

