

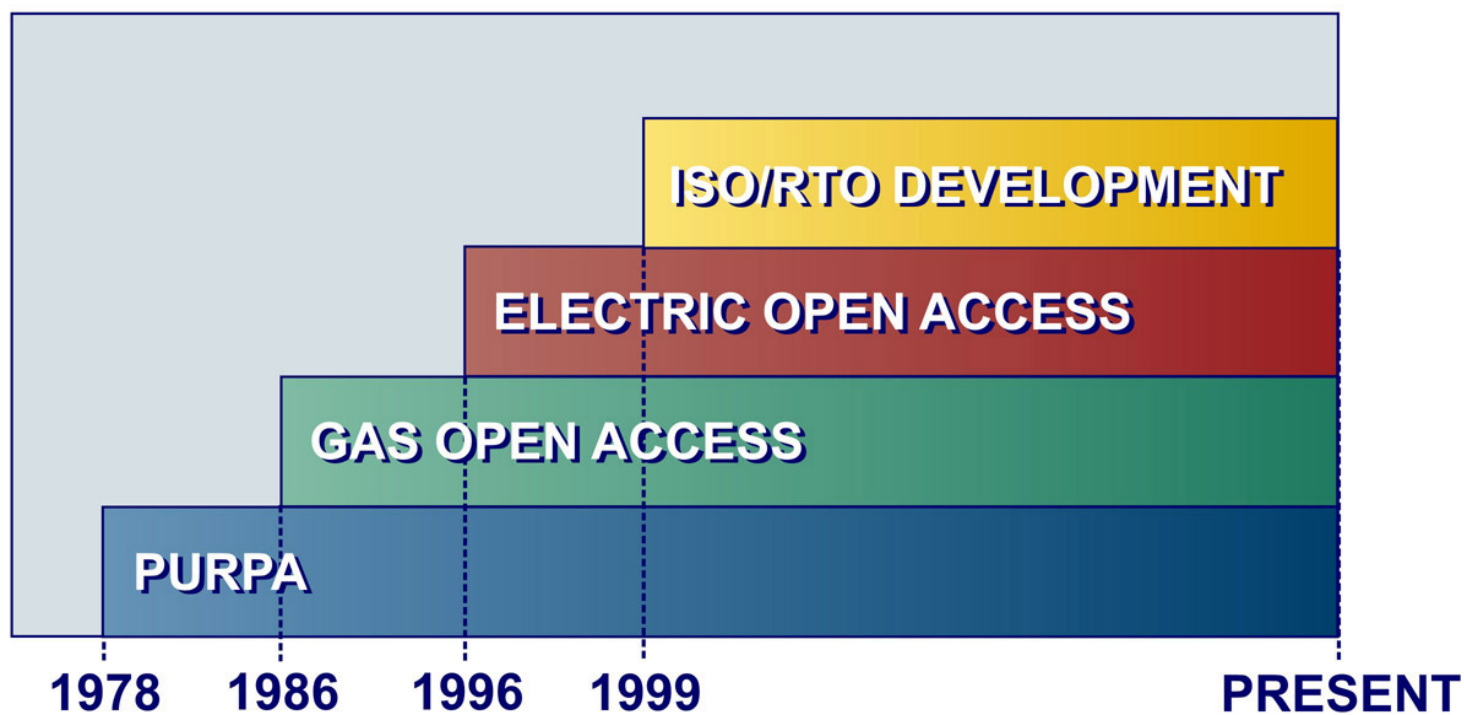
# Making Markets Work: Steady Progress on the Road to Competition



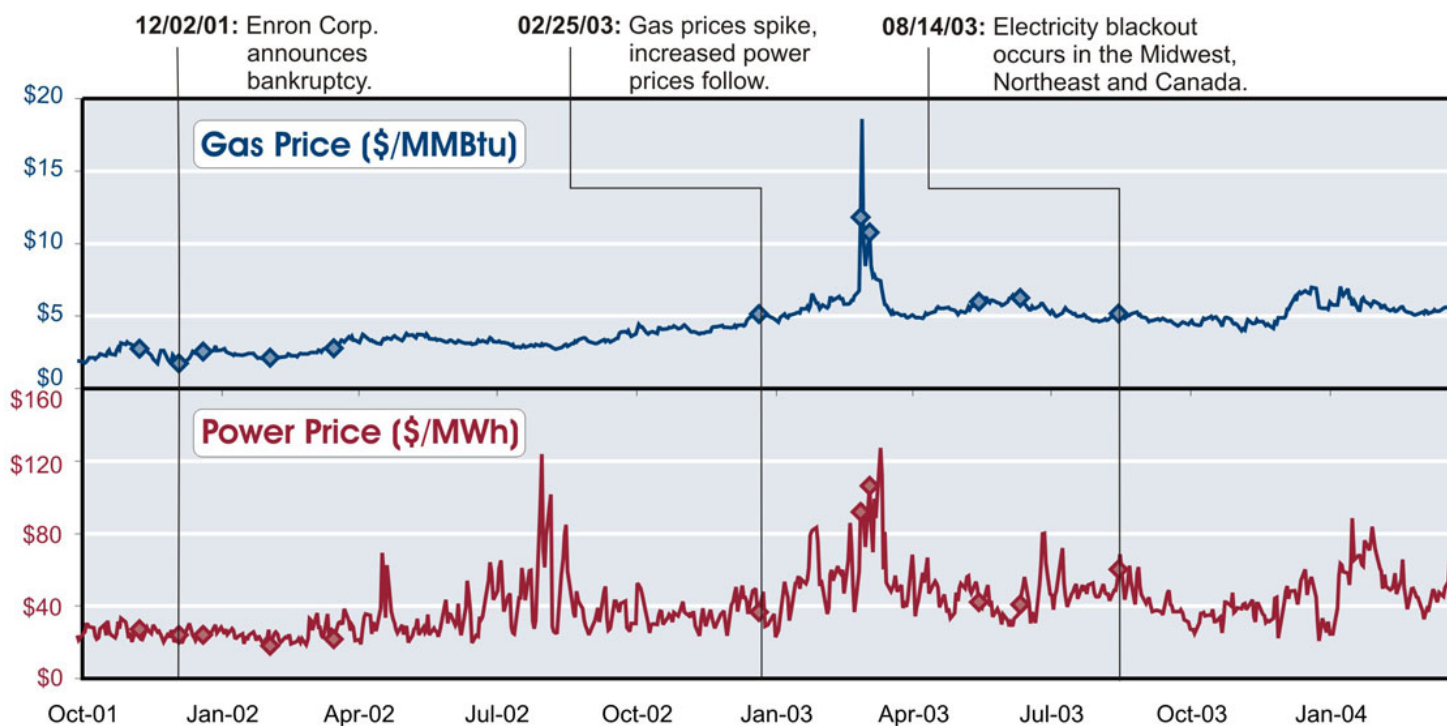
*Pat Wood III, Chairman*  
*Federal Energy Regulatory Commission*

**Western Governors Association**  
**April 15, 2004**

# The Steady March to Markets



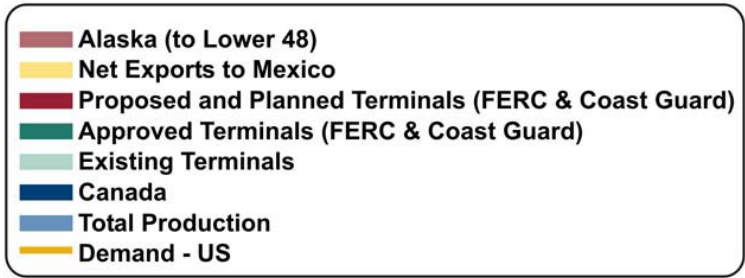
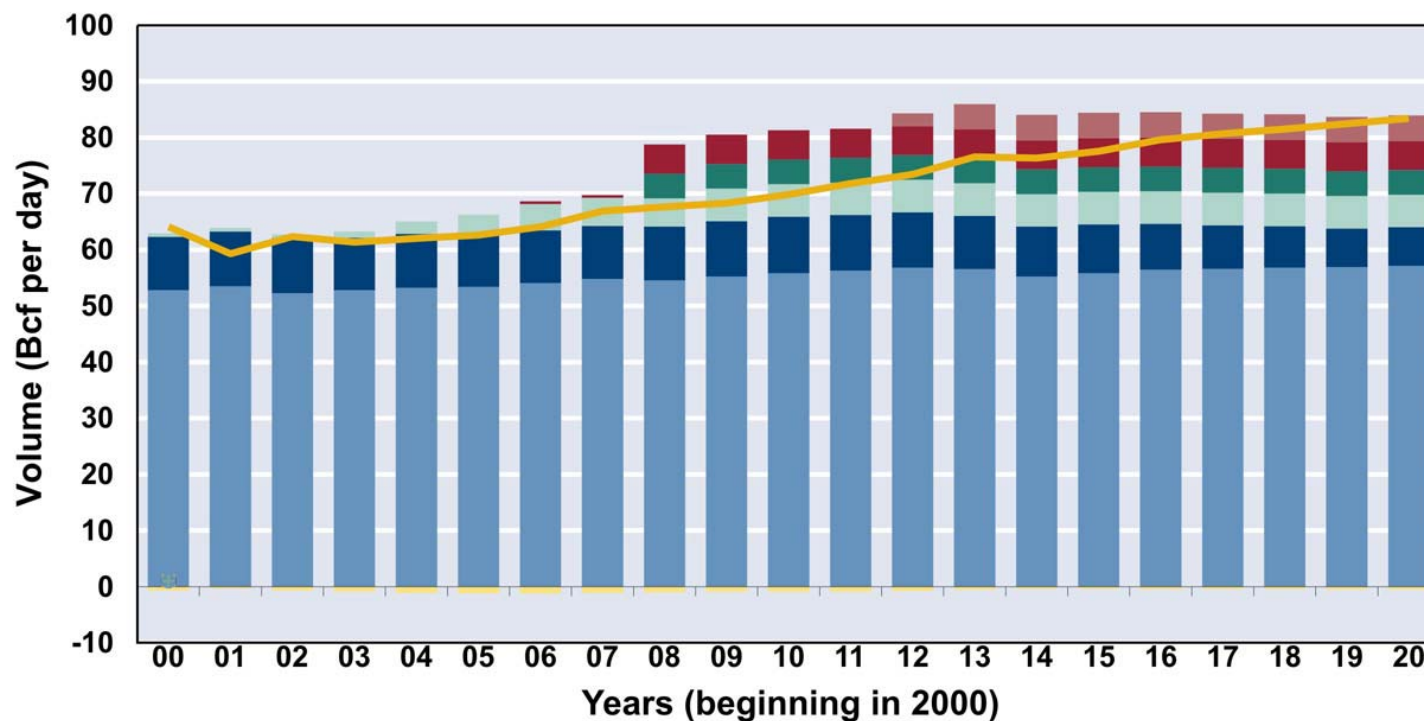
# Price Response to Market Conditions



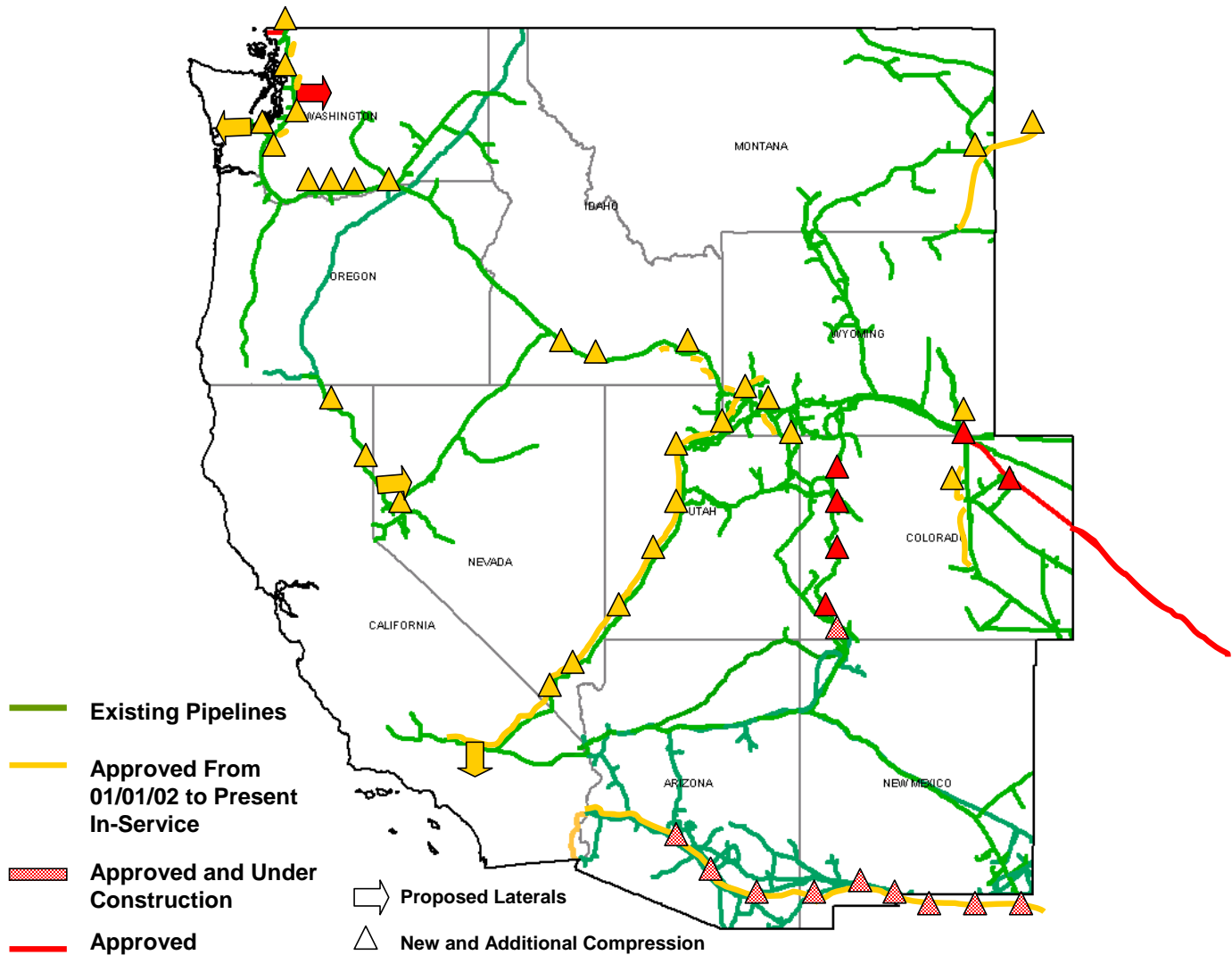
Graph market events gas&power timelines.cdr



# U.S. Gas Demand Continues To Rise



# Gas Infrastructure in the West





# Recent Bumps in the Road



**The four horsemen haven't overshadowed  
the benefits of competitive markets**



# California Lessons Learned: No State Is An Island

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- ➔ Market design matters
- ➔ Clear behavioral rules required
- ➔ Keep an eye on infrastructure

# Enron Lessons Learned: Market Accountability

- ➔ Market transparency needed
- ➔ Timely market oversight required
- ➔ Corporate accountability demanded



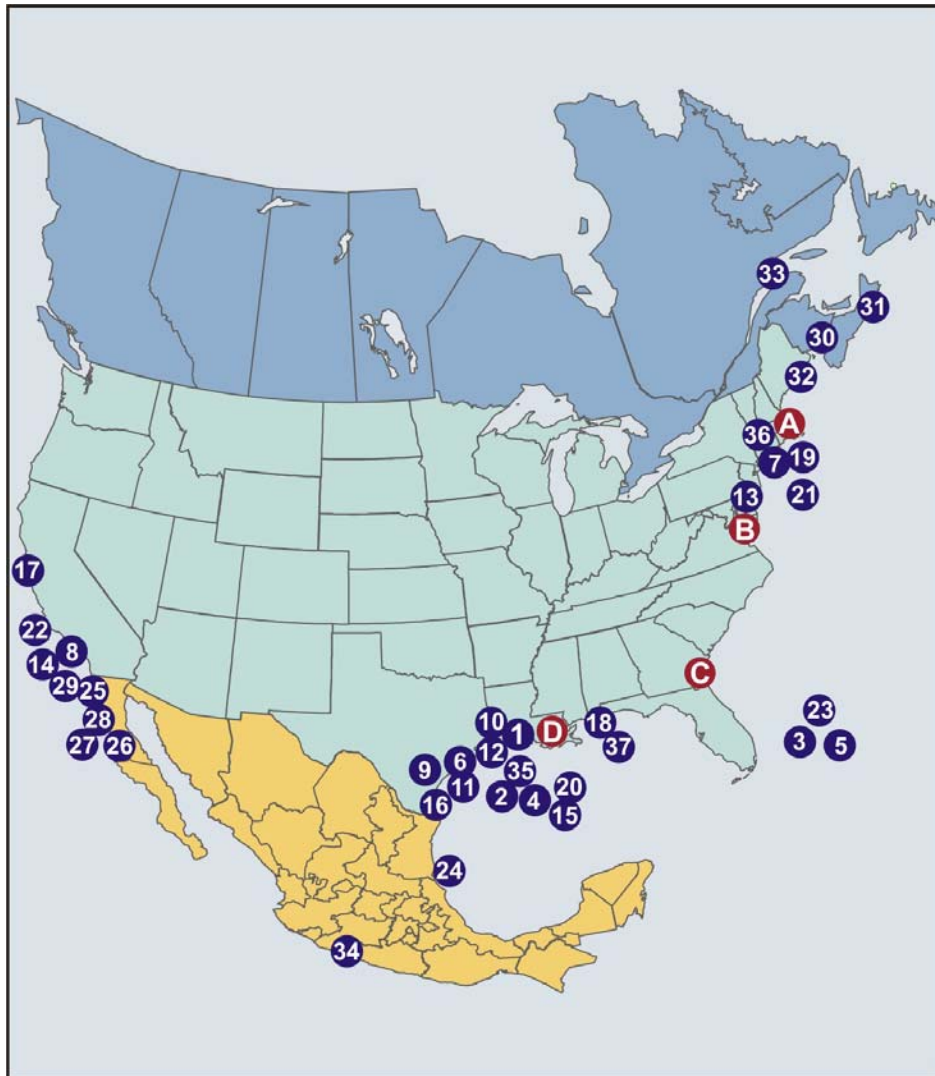


# Gas Price Lessons Learned: Interdependent Markets



- ➔ Energy markets are interdependent
- ➔ Pay attention to supply (LNG)
- ➔ Fuel Diversity beneficial
  - ⇒ Increased attention on wind
  - ⇒ Clarify emissions issues for coal

# Existing and Proposed N.A. LNG Terminals



## Existing Terminals with Expansions

A. Everett, MA	1.0 Bcfd	Tractebel
B. Cove Point, MD	1.0 Bcfd	Dominion
C. Elba Island, GA	1.2 Bcfd	El Paso
D. Lake Charles, LA	1.2 Bcfd	Southern Union

## Approved Terminals

1. Hackberry, LA	1.5 Bcfd	Sempra Energy
2. Port Pelican	1.6 Bcfd	ChevronTexaco
3. Bahamas	0.8 Bcfd	AES Ocean Express*
4. Gulf of Mexico	0.5 Bcfd	El Paso Global

## Proposed Terminals – FERC

5. Bahamas	0.8 Bcfd	Calypto Tractebel
6. Freeport, TX	1.5 Bcfd	Cheniere/Freeport LNG Dev.
7. Fall River, MA	0.8 Bcfd	Weaver's Cove Energy
8. Long Beach, CA	0.7 Bcfd	SES/Mitsubishi
9. Corpus Christi, TX	2.6 Bcfd	Cheniere LNG Partners
10. Sabine, LA	2.6 Bcfd	Cheniere LNG
11. Corpus Christi, TX	1.0 Bcfd	Vista Del Sol/ExxonMobil
12. Sabine, TX	1.0 Bcfd	Golden Pass/ExxonMobil
13. Logan Township, NJ	1.2 Bcfd	Crown Landing LNG – BP

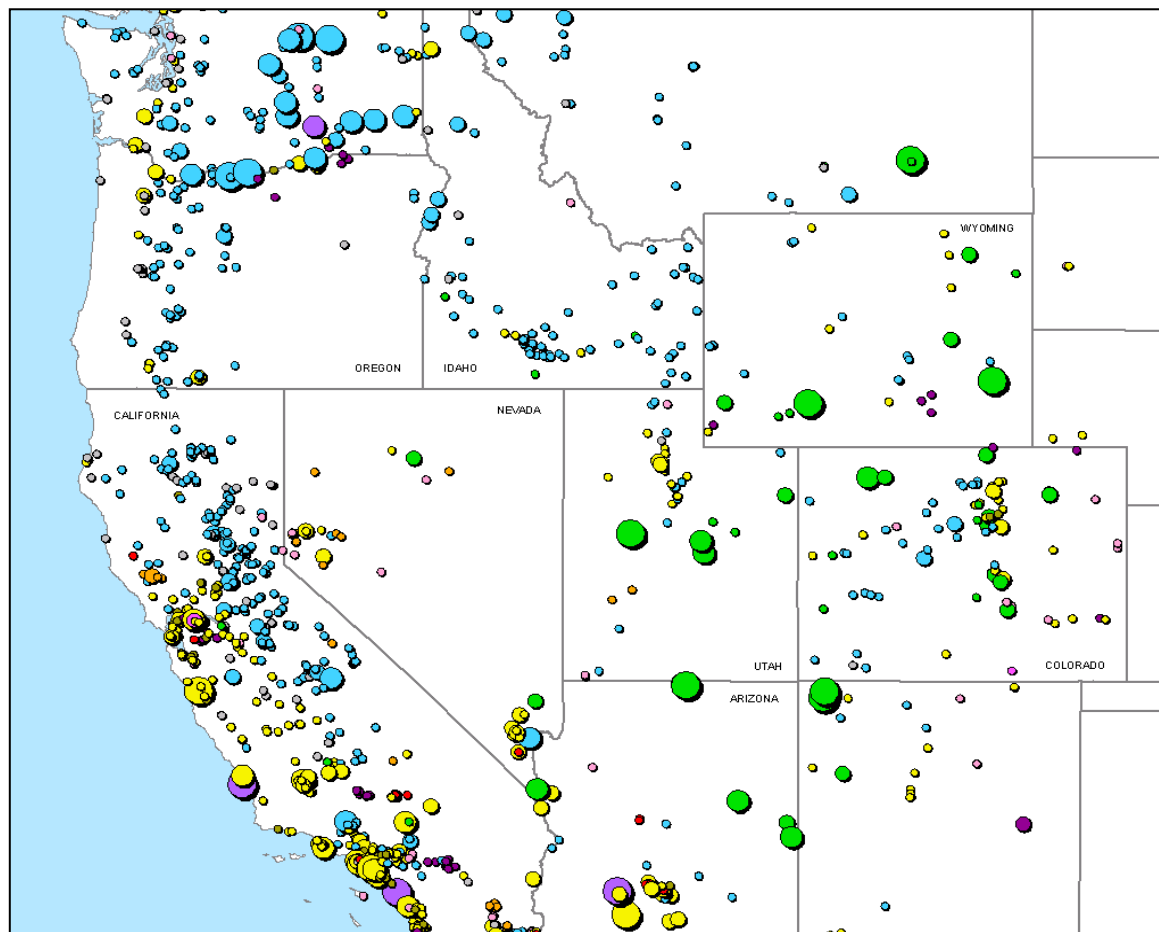
## Proposed Terminals – Coast Guard

14. California Offshore	1.5 Bcfd	Cabrillo Port – BHP Billiton
15. Louisiana Offshore	1.0 Bcfd	Gulf Landing – Shell Planned Terminals
16. Brownsville, TX	N/A	Cheniere LNG Partners
17. Humboldt Bay, CA	0.5 Bcfd	Calpine
18. Mobile Bay, AL	1.0 Bcfd	ExxonMobil
19. Somerset, MA	0.7 Bcfd	Somerset LNG
20. Louisiana Offshore	1.0 Bcfd	McMoRan Exp.
21. Belmar, NJ Offshore	N/A	El Paso Global
22. So. California Offshore	0.5 Bcfd	Crystal Energy
23. Bahamas	0.5 Bcfd	Seafarer - El Paso/FPL
24. Altamira, Tamulipas	1.1 Bcfd	Shell
25. Baja California, MX	1.0 Bcfd	Sempra & Shell
26. Baja California	0.6 Bcfd	Conoco-Phillips
27. Baja California Offshore	1.4 Bcfd	ChevronTexaco
28. Baja California	0.6 Bcfd	Marathon
29. California – Offshore	0.5 Bcfd	ChevronTexaco
30. St. John, NB	0.8 Bcfd	Irving Oil & Chevron Canada
31. Point Tupper, NS	0.8 Bcfd	Access Northeast Energy
32. Harpswell, ME	0.5 Bcfd	Fairwinds LNG – CP & TCPL
33. St. Lawrence, QC	N/A	TCPL and/or Gaz Met
34. Lázaro Cardenas, MX	0.5 Bcfd	Tractebel
35. Gulf of Mexico	1.0 Bcfd	ExxonMobil
36. Providence, RI	0.5 Bcfd	Keyspan & BG LNG
37. Mobile Bay, AL	1.0 Bcfd	Cheniere LNG Partners

\*US pipeline approved; LNG terminal pending in Bahamas

List is subject to change.

# WECC Map of Fuel Diversity



**WECC Generating Plants**  
Color by Primary Fuel Type

- COAL
- GAS-OIL
- GEOTHERMAL
- NATURAL GAS
- OIL
- SUN
- NUCLEAR
- HYDRO
- WIND
- OTHER

Size by Summer Capacity (MW)

- Over 1,600
- 800 to 1,600
- 200 to 800
- Under 200



# Blackout Lessons Learned: Reliability and Markets

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- ➔ Interconnected markets are regional
- ➔ Create and enforce clear rules
- ➔ Harness new technologies



# Making Markets Work





# Key Question

- How should the Western United States, Mexico and Canada jointly oversee efficient, reliable, competitive electric markets?

