Winter 2004-05 Natural Gas Outlook—The View from the West

Presented at NRRI Teleconference
October 27, 2004

David Maul, Manager
Natural Gas and Special Projects Office
California Energy Commission
Today’s Review

• Natural Gas Fundamentals Outlook
• Price Outlook
• Actions State Commissions Can Take
• Concluding Remarks
Natural Gas Fundamentals Outlook

– Western perspective
– Demand trends
– Weather outlook
– Supply trends
– Infrastructure status
– Operations status
California’s Annual Natural Gas Consumption by End Use Sector

- **Residential**
- **Natural Gas Vehicles**
- **Commercial**
- **Industrial**
- **Electricity Generation**

Trillion Cubic Feet
California's Demand Trends

California Natural Gas Demand, by Sector

Million Cubic Feet per Day

- Electricity Generation
- Industrial
- Commercial
- Residential

Western Weather Outlook

- NOAA, WSI—West likely to have a moderate winter
- Snowfalls have started early—California ski season has started 1 month early
- Hydropower outlook good for California—helps reduce total and peak gas demand next summer
- Severe drought in the Colorado River Basin—will increase total gas demand next summer
NOAA’s Winter 2004-05 Outlook

Temperature Outlook
Winter (Dec. - Feb.) 2004/05
Conditions Compared to 1971-2000 Normal

"Equal Chances" --
Neither warmer nor cooler than normal conditions favored
Western Supply Trends

- California production is slowly trending down
- Rockies production is increasing
- Gulf shut-ins of 1.5 bcf/day is worrisome
- Drilling activity is at an (almost) all time high
- New wells are being drained faster
U.S. Active Gas Drilling Rigs

Number of Rigs

Source: Bakers Hughes
Gas Depletion Rates

Lower - 48 Wet Gas Production from Gas Wells,
by Year of Production Start

BCFD

Infrastructure Status

- Kern River Pipe Expansion completed May 03
- Wild Goose Storage Expansion completed Nov 03
- California has ample surplus infrastructure capacity for this winter
Western Infrastructure Status

Western North American Natural Gas Pipelines
(Not to scale)
1. TPPL BC
2. El Paso
3. Kern River
4. Mojave
5. Northwest
6. TCPL Alberta
7. Paiute
8. PG&G
9. PG&E-GTN
10. SoCalGas
11. SDG&E
12. Transwestern
13. Tuscarora
14. Southern Trails
15. Kern Mojave
16. North Baja

GAS SUPPLY BASINS:
- Major Basins
- Secondary Basins
- Cities
California Natural Gas Storage

Billion Cubic Feet

Capacity
Inventories
Average inventories over the previous five years

Beginning of the month levels, unless otherwise indicated
California Energy Commission estimate
NG Price Outlook

- California doesn’t predict absolute market prices
- California tracks many drivers of market prices
- NG fundamentals don’t appear to support current market prices
- Other drivers have been used to explain current market price levels
- California is planning to pay higher prices
California’s NG Context
Prices to Consumers

Weighted Average Cost of Gas

- PG&E
- Southern California Gas
- San Diego Gas & Electric

Dates:
- January 2002
- March 2002
- April 2002
- May 2002
- June 2002
- July 2002
- August 2002
- September 2002
- October 2002
- November 2002
- December 2002
- January 2003
- February 2003
- March 2003
- April 2003
- May 2003
- June 2003
- July 2003
- August 2003
- September 2003
- October 2003
- November 2003
- December 2003
- January 2004
- February 2004
- March 2004
- April 2004
- May 2004
- June 2004
- July 2004
- August 2004
- September 2004

Cost in 2004$/Mcf
Actions for State Commissions

• Short term for this winter
  – Energy efficiency
  – Energy efficiency
  – Energy efficiency
Actions for State Commissions

• Energy efficiency
  – Focus on natural gas and electricity
• Energy efficiency
  – Increase program funding, effectiveness, and choices
• Energy efficiency
  – Establish an aggressive public information campaign
Actions for State Commissions

• Mid term
  – Renewable energy programs
  – Demand response programs
  – Assess NG infrastructure adequacy on a regional basis
    • Deliverability
    • Pipe
    • Storage
    • Financial hedges
    • Risk management programs
  – Help ensure supplies exceed demand
Concluding Remarks

• Fundamentals: Western supply, demand, and infrastructure look good and don’t support current level of market prices
• Market Prices: the reality of current and near term prices can only be explained by other market drivers
• Western Outlook: the West should not contribute to any potential price run ups this winter
• Energy Efficiency: this tool remains the most effective short term method to help consumers manage their bills
Thank you.

Questions?
West Coast LNG Proposals

Proposed and Announced West Coast LNG Terminals and Capacity (in MMcfd)

- **Offshore, California**
  - Cabrillo Deepwater Port, BHP Billiton
    - 800 MMcfd
  - Crystal Clearwater Port
    - Crystal Energy, Small Ventures, et al.
    - 800 MMcfd

- **Long Beach Harbor**
  - Long Beach LNG Facility
    - Sound Energy Solutions
    - 700 MMcfd

- **Offshore Tijuana, Baja California**
  - Terminal GNL Mar Adentro de Baja California
    - Chevron Texaco
    - 700 MMcfd

- **Ensenada, Baja California**
  - Energia Costa Azul
  - Sempra & Pacific LNG Consortium/Shell Group
    - 1,000 MMcfd

Port Penguin LNG Terminal
Chevron Texaco
(Location and capacity to be determined)

California Energy Commission
March 2004