Clean Energy Development, Energy Infrastructure, and Market Regulatory Arrangements in the U.S.

Energy Regulatory and Market Development Forum 2007

Gold Coast, Queensland
Australia

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Federal Energy Regulatory Commission
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Fueling U.S.
Electric Generation 2006

Total = 4.044 Billion MWh

COAL 49%
NATURAL GAS 29%
NUCLEAR 19%
WATER 7%
OIL 2%
RENEWABLES and OTHER 3%

Source: Based on EIA data, Electric Power Monthly, August 2007
Top twenty generation companies in the United States

Source: Derived from Platts Powerdat.
Note: Only generation facilities with a nameplate capacity of 20 MW and greater were included.
Existing Bulk Electric Transmission Grid

Transmission Lines
Voltage (kV)
- 230 kV
- 345 kV
- 500 kV
- 765 kV
- DC
- ▲ ▲ ▲ AC-DC-AC Tie

Source: Derived from Platts POWERmap.
The percent of transmission plant owned by top 10 companies is 27%.
US Sources of Gas Supply

LNG Export
To Japan

LNG Import Points

Gas Import/Export Point
Gas Production Areas
Domestic production and Canadian imports will not keep pace with total consumption. LNG will be a vital component of U.S. gas supply.

Source: EIA, EEA, FERC
U.S. Competition Policy

- Competition, not deregulation
- Reaffirmed as national policy
- Reliance on mixture of competition and regulation
- Goal: workable competition
Actual and planned transmission investment by shareholder-owned electric companies in the United States (2000-2009)

Note: In 2004 and 2005, the industry exceeded investment projections in their transmission capital budgets. The Handy-Whitman Index of Public Utility Construction Costs is used to adjust for inflation from year to year. Data represents both vertically integrated and stand-alone transmission companies. *Planned total industry expenditures are estimated from 90% response rate to EEI’s Electric Transmission Capital Budget & Forecast Survey. Actual expenditures from EEI’s Annual Property & Plant Capital Investment Survey & Form 1s.

In the United States, there are 480,000 kilometers of interstate and intrastate transmission pipeline.