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# Potential Deregulation of Florida's Electricity Market

“Power Generation and Fuel Supply:  
Alternative Resource Provider  
Perspective”

# 30 years of fossil fuel experience

- power plants waste fuel
- fuel shortages of the 1970s created demand for efficiency
- inefficiency = waste, pollution
- ensures our dependence on foreign fuel sources

# CEO of ExxonMobil

- “This world shouldn’t be wasting energy, and it absolutely does waste energy; we shouldn’t use any natural resource inefficiently, as eventually the world will run out.”

» Lee Raymond, quoted in *The Economist*,  
“A Survey on Energy”, February 10, 2001

# Need for more efficient energy systems

- production efficiency = less \$\$\$,  
less emissions
- energy independence
- CO2 mitigation

# Traditional alternative resources

- solar power - abundant in Florida



» PV stations recharging batteries  
Courtesy: National Renewable Energy Laboratory

# Traditional alternative resources

- Wind power
  - not enough in Florida



# Solar, Wind Benefits

- 100% fuel-efficient
- 100% clean
- abundant
- secure



# Deploying new technologies

- Public Benefits Fund (PBF)
- Renewable Portfolio Standard (RPS)
- Net metering
- Million Solar Roofs



Bridge to a renewable future

# Hydrogen

# Hydrogen (H<sub>2</sub>)

- the universe's most abundant element, more than 90% of all matter
- the fuel of fuel cells
- the energy component in **all** fossil fuels
- space program prompts hydrogen projects within the state

# Hydrogen production scenario

## Peaker Plant

Nominal Rating: 700 MW

Heat Rate: 9800 BTU/kWh

Efficiency: Approx 35%

Operating Hours: 1000/year

Fuel Consumed: 6.86 Million Cu.Ft

Electricity Production: 700,000 mWh

# Hydrogen production scenario

	Peaker Plant	Combined-Cycle
Nominal Rating:	700 MW	Dependent on hours
Heat Rate:	9800 BTU/kWh	5716 BTU/kWh
Efficiency:	Approx 35%	Approx 60%
Operating Hours:	1000/year	Dependent on rating
Fuel Consumed:	6.86 Million Cu.Ft	6.86 Million Cu.Ft
Electricity Production:	700,000 mWh	1,200,000 mWh

# Hydrogen infrastructure

- production is in place
- fuel cell industry developments
- fuel cell systems in our homes based on production from fossil fuels
- distributed power

# Hydrogen-powered transportation



# Hydrogen from renewables

- this is the bridge to the future
- hydrogen can be stored
  - whenever the sun shines
  - or the wind blows
- electricity can't be stored

# In conclusion

- let's not use obsolete models on which to base restructuring
- Hydrogen is the bridge to a secure, clean and renewable future.
- “Fossil fuels are a terrible thing to waste.”



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