Clean vs. Cheap Power: Options to Consider
Framing the Question

• The renewable energy vs. LNG debate is often framed as
  
  Clean vs. Cheap
  
• This implies the question is a struggle between
  
  Environmentalists & Economists
  
• A more accurate framing of this question would be
  
  Clean & Stable vs. Cheap & Volatile
  
• Fuel price volatility is something we talk a lot about, but don’t do a very good job of estimating and including it in our decision-making process
Monte Carlo 101

- Complete view of volatility and risk
- Generates many possible price paths
- Based on historical data
- Verified by others
- Easily updated
- Uses generic software
- Used broadly

Used by: utilities & energy planning orgs, e.g., Northwest Power & Conservation Council; Federal Govt., e.g., DOE/NELT and EPA; and Fortune 500 companies)
Three Options to Consider

- Which fossil fuel?
  
  **Oil vs. Natural Gas**

- For natural gas, what price index?
  
  **Oil-indexed vs. Henry Hub index**

- What’s the priority for future generation?
  
  **Renewable Energy vs. Natural Gas**
Oil vs. LNG

Monthly Electric Bill -- 600 KWhr

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Oil-linked vs. HH-linked
Oil-linked LNG – Status Quo Renewable Energy vs. High Renewable Energy

Monthly Electric Bill -- 600 KWhr
Fuel Choice Effect on 600 kWh Electric Bill
10 Years After Switching to Gas - Today's dollars

- **Oil & Diesel**
  - Average: $616
  - 5% increase: $243
  - 5% decrease: $140

- **Oil-Indexed Gas**
  - Average: $425
  - 5% increase: $201
  - 5% decrease: $139

- **Henry Hub Indexed Gas**
  - Average: $245
  - 5% increase: $166
  - 5% decrease: $152

- **High Renewable Energy w/ Henry Hub Gas**
  - Average: $215
  - 5% increase: $164
  - 5% decrease: $154

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Mahalo!

Any Questions?
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