Maine Needs Hydro

HYDROPOWER: A DAM GOOD FORUM
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Chris R. Karam, P.E.
GEI Consultants
5 Milk St, Portland, Maine
Global and United States Hydro

- 1/5th of global generation is hydro
- China, Canada, Brazil, US, Russia
- US Hydro = power for 30 million homes
- US Hydro avoids 225 million tons of CO2 emissions/yr = 42 million cars
>70% homes use oil as primary heat source
× Highest % in US
East of Mississippi, Maine is:
✓ Highest % of Renewable
✓ Highest % of Hydropower
✓ One of lowest CO2 emissions
Maine Power Generation 2013-14

- Natural Gas: 35%
- Hydro: 29%
- Renewable (non-Hydro): 33%
- Coal: 1%
- Petro: 2%

62% Renewable
Maine Generation

1990’s: ~33% Maine Yankee
2014: ~35% natural gas, ~29% Hydro

- Petroleum
- Natural Gas
- Peak Hydro 777 MW
- Biomass
- Wind
- Coal

1990’s: Maine Yankee shutdown in ’97

1996: ~33% Maine Yankee
1999: ~35% natural gas, ~29% Hydro
2012: ~35% natural gas, ~29% Hydro
Dec. 2014 Vermont Yankee shutdown (604 MW)
Was 5th largest power source in New England
Need a reliable, clean power source

Our Top Three Challenges - ISO New England
1. Natural gas infrastructure constraints
2. Replacing old plants (coal, oil, nuke)
3. Balancing reliability
   Wind and solar are less reliable due to weather
Unique Benefits of Hydro

Considerations:
- Changes to natural flow
- Fish, Habitat
- Aging structures
- Energy pricing

Water supply
- Irrigation
- Flood control
- Recreation
- Fast ramp-up
- Dependable

Unique Benefits of Hydro
We need Hydro

Energy Costs: $ / kWhr

Regulations:
• Hydro 8-10 yrs vs. Natural gas 1.5 yrs
• Some existing hydro projects consider abandonment vs relicensing

Opportunities:
• Collaboration of stakeholders, owners, regulators. We’re all rate payers.
• New technologies – fish friendly turbines
Thanks