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# Myths and Truths of Renewable Energy in Georgia



Government Law

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# Myths About Renewable Energy

- Renewable energy is more expensive than nuclear power
- Georgia has a coherent, long-term renewable energy policy
- Solar developers are treated equally
- Only renewable energy generation gets subsidies

# Truths About Renewable Energy

- Renewable energy, especially solar, is cheaper than nuclear power
- There is no energy policy in Georgia and the Integrated Resource Planning process is routinely ignored and manipulated
- Non-utility solar developers face significant legislative and regulatory barriers to compete
- Every form of electric generation is subsidized in some way, especially nuclear power

# Solar power is cheaper than nuclear power

In the Seventh Semi-Annual Vogtle Construction Monitoring review in Docket 29849, Philip Hayet, the PSC Staff's expert witness, testified that the lifecycle costs of Vogtle Units 3 and 4 were **\$0.1368** per kWh when the original certification cost and financing costs were combined.

This evaluation does not include the additional \$737 million in cost overruns identified in the Eighth Semi-Annual Construction Monitoring Report and future cost overruns.

Direct Testimony of Philip Hayet, p. 34 (Table 7)(Georgia Power did not file rebuttal testimony in the 7<sup>th</sup> VCM proceeding)

# Plant Vogtle Units 3 and 4

- Westinghouse AP 1000 units
- Each unit will generate 1,100 MWs
- Estimated completion has been moved back from 2016 and 2017 to 2018 and 2019
- Georgia Power (45.7%), Oglethorpe Power (30%), MEAG (22.8%) and Dalton (1.5%)
- Original projected cost \$14 billion now \$15.6 billion
- Georgia Power customers are pre-paying \$1.7 billion in financing charges (SB 31)

# Vogtle Cost Overruns and Delays

- Vogtle Units 1 and 2 – original cost estimate of \$660 million for 4 units with the final cost of \$8.9 billion for 2 units
- Vogtle Units 3 and 4 are 21 months behind schedule and currently \$1.6 billion over budget
- Litigation is pending between the Owners and their Contractor regarding \$930 million in additional disputed costs
- Consumers are 100% liable for all Project costs including cost overruns

# The Cost of Solar

- Georgia Power Company's Advanced Solar Initiative ("GPASI")
- Small/Medium Scale programs participants are paid a levelized solar price of 13 cents per kWh
- For utility scale projects the Company's RFP will require bidders to bid a price "not to exceed" 12 cents per kWh

# The Cost of Solar in the New IRP

**ORDERED FURTHER**, that prior to issuing a Request for Proposal for the procurement of 425 MW Utility Scale and 100 MW Distributed Generation solar resources, Georgia Power shall project its avoided costs and shall file such avoided cost projections with the Commission for Commission review and approval.

**ORDERED FURTHER**, that Georgia Power Company shall not accept any bid for solar resources made pursuant to the Request for Proposal that exceeds the projected avoided cost approved by the Commission.

Final Order Nunc Pro Tunc, Dockets 36498 and 36499 (July 25, 2013)



# Environmental costs

	Nuclear	Coal	Gas	Solar	Wind	Biomass
Waste Disposal	Yes	Yes	No	No	No	Yes
Water for cooling	Yes	Yes	Yes	No	No	Yes
Carbon emissions	No	Yes	Yes	No	No	Yes
Greenhouse gas emissions	No	Yes	Yes	No	No	Yes

# Value of Solar (VOS) analysis

- Capacity or demand – the avoided capital investments in generation, transmission and distribution that flow from distributed solar generation
- Grid Support or ancillary services – at both the transmission and distribution level, reactive supply and voltage control, regulation and frequency response, energy and generator imbalance, scheduling, forecasting and system control and dispatch
- Financial – utility fuel volatility control, costs associated with emergency customer power and outages and recovery from outages
- Environmental – pollutants, greenhouse gas emissions, water use and land use
- Social – net job growth benefits compared to conventional generation options, increased local tax revenues and reduced occupational safety costs
- Direct Testimony of Karl R. Rabago, Presented on behalf of The Georgia Solar Energy Industries Association in Docket 36498, Georgia Power Company's Application for Approval of its 2013 Integrated Resource Plan, pp. 14-16 (May 10, 2013)

# Installed Price of Photovoltaics Continues to Decline

- Residential and Commercial PV
  - Installed prices continued their precipitous decline in 2012, falling year-over-year by \$0.9/W (14%) for systems  $\leq 10$  kW, \$0.8/W (13%) for systems 10-100 kW, and \$0.3/W (6%) for systems  $> 100$  kW. Among projects installed in 2012, median installed prices were \$5.3/W for systems  $\leq 10$  kW, \$4.9/W for systems 10-100 kW, and \$4.6/W for systems  $> 100$  kW.

Tracking the Sun VI – An Historical Summary of the Installed Price of Photovoltaics in the United States from 1998 to 2012, Galen Barbose, Naim Darghouth, Samantha Weaver, and Ryan Wiser, Lawrence Berkeley National Laboratory (July 2013)

# Georgia Lacks an Energy Policy

- The State of Georgia has no energy policy
- The Public Service Commission has no energy policy
- The Integrated Resource Planning (“IRP”) process is routinely ignored and manipulated
- Renewable energy programs have developed in response to unrelated initiatives.

# The IRP Process

- Contain practical alternatives to the fuel type and method of generation of the proposed electric generating facilities and set forth in detail the reasons for selecting the fuel type and method of generation
- The most recent IRP filed on January 31, 2013 contained no provision for renewable energy resources through the 20 year planning period
- The 2013 IRP did not mention the Large Scale Solar program or the Advanced Solar Initiative
- On Earth Day Georgia Power announced the acquisition of 250 MWs of wind power in 2015

# Legislative Barriers to Competition

- Georgia law currently:
  - Limits the development of distributed and renewable energy
  - Prohibits financing of renewable energy projects by third parties
  - Permits additional charges on renewable energy by utilities

# Regulatory Barriers to Competition

- Distributed and renewable energy is priced at the utility's avoided cost
- Bids for solar RFPs have been accepted on a first-come rather than least cost basis
- No net metering tariff
- No feed-in tariff

# Electric Generation Subsidies

- Some forms of generation are more heavily subsidized than others – nuclear power is very heavily subsidized by taxpayers and ratepayers
- Subsidies come in many forms: investment tax credits, accelerated cost recovery, government guaranteed insurance, limited regulatory oversight, etc.

# Nuclear Industry Subsidies

- Georgia Nuclear Energy Financing Act –  
Senate Bill 31 (2009)
  - Georgia Power residential and commercial customers pay 7.5821% of their gross monthly bill for the Nuclear Construction Cost Recovery Rider
  - Georgia Power will pre-collect \$1.7 billion in financing charges and profit
  - Financing charges will be collected in 5 years which normally would be collected over the 60 year life of the units

# Nuclear Industry Subsidies

- Price-Anderson Act
  - Limits plant owner's liability
  - Plant owners pay \$375 million annually for private insurance covering offsite liability
  - In case of catastrophic damages liability is limited to \$111.9 million assessed on each of the 104 licensed plants
  - U.S. taxpayers pay for all damages above \$12 billion

# Goals for the Future

- Pass Senate Bill 401 which removes artificial legislative barriers to the development of renewable energy
- Price distributed and renewable energy at retail or peaking rates not avoided cost
- Create a seasonal renewable energy rate which recognizes the peaking value of renewable energy
- Continue tax incentives for renewable energy
- Allow net metering
- Require an independent third-party evaluate any bids received for the IRP RFP for 425 MWs of solar