places much more difficult than the Georgia Bight, such as the typhoon-riddled Pacific Ocean off Japan. In 2011, an offshore wind farm withstood the same typhoon that devastated the Fukushima Daiichi nuclear reactor.[26] This year, Japan added a law promoting offshore wind.[27]

6) I urge the Georgia PSC to promote wind by demanding Georgia Power get on with it.

It seems convenient that Southern Company deems too hard and in need of further research or of further subsidy by the ratepayers or the taxpayers everything except those projects that are already so subsidized: natural gas pipelines and power plants, and nuclear power plants. Plant Vogtle has the gravy train of Construction Work in Progress (CWIP) charges billed to Georgia Power customers for years now with no electricity to show for it. That one at least is visible on power bills, as "Nuclear Construction Cost Recovery Rider." The hidden CWIP for natural gas power plants is not so visible.[28]

(I am happy to say that I, personally, do not pay anything on my electric bill to support Plant Vogtle construction, because my utility is Colquitt EMC, which is one of four EMCs that never bought into the new nukes at Plant Vogtle, considering it a bad business deal.)

Maybe it is a hard problem to integrate solar, wind, and storage with microgrids into a composite grid that will enable shutting down the rest of the coal plants, with natural gas to follow. Or maybe it is not that hard, considering that Tom Fanning said in this year's Stockholder Meeting that Southern Company leads in microgrids. Also, Stanford Professor Mark Z. Jacobson and his research team have spent years spelling out how to do it, including for Georgia.[29] Hard or not, as Tom Fanning frequently reminds us, Southern Company has the biggest private utility research and development operation in the country. Let's see SO's R&D results on a smart renewable energy grid.

Or we can wait for FPL or Duke or a smart EMC to do it instead.

As the electric utilities' own think tank, Edison Electric Institute (EEI), warned them all back in 2013, solar and batteries could lead to many customers generating their own power and using the grid only as a backup, which could cause "irreparable damages to revenues and growth prospects" of the incumbent utilities.[30] EEI even made an analogy with what happened to the telephone companies when they tried to ignore the Internet: many of them went bankrupt, and it took years to sort out the mess. After discussing that EEI report with Tom Fanning at the 2013 Stockholder Meeting, I discussed with the PSC, on June 18, 2013, the similarities of the Internet growing like compound interest and solar power deployment doing

---

[26] "RECENT DEVELOPMENT AND CHALLENGES OF WIND TURBINE TECHNOLOGY," Chuichi Arakawa, JST Japan & Denmark embassy, Fukuoka, 2012, http://www.jst.go.jp/sicp/ws2012_denmark/presentation/presentation_16.pdf

[27] "Offshore wind farms in Japan turn viable with new law," Yukinori Hanada and Nana Shibata, Nikkei Asian Review, 14 February 2019, https://asia.nikkei.com/Business/Business-trends/Offshore-wind-farms-in-Japan-turn-viable-with-new-law

[28] "Georgia Power, Get the Facts, Investing in Georgia's Energy Future:" Georgia Power, accessed 22 October 2012, no longer online, but recorded by LAKE, http://www.l-a-k-e.org/blog/?p=396, "The Georgia Public Service Commission (PSC) voted Dec. 21 to approve a plan that will increase Georgia Power's base rates about 10 percent beginning Jan. 1, 2011 to recover the costs of investments in cleaner generation sources, power lines, smart grid technologies, environmental controls and energy efficiency programs to meet current and future customer demand.
Beginning Jan, 1, 2011:
Additional increases are as follows
YEAR MONTHLY DOLLAR INCREASE PERCENTAGE INCREASE
2011 $10.76 10%
2012 $3.09 2.6%
2013 $1.48 1.2%
For business customers, the average increase will range from about 7 percent to 8.7 percent....
Cleaner Natural Gas Generation—To ensure adequate and cleaner energy when our customers need it. At Plant McDonough, coal-fueled units are being replaced with natural gas units. The new units will produce enough electricity to power 625,000 homes. This change will ensure reliability of electric service to north Georgia while reducing the environmental impact of the plant on the local community."

[29] "Abstracts of 18 Peer-Reviewed Published Journal Articles From 2009-2018 by 96 Co-Authors Forming the Scientific Basis of 100% Clean, Renewable Wind-Water-Solar (WWS) All-Sector Energy Roadmaps for Towns, Cities, States, Countries, and the World," Mark Z. Jacobson, Stanford University, 17 September 2018, https://web.stanford.edu/group/efmh/jacobson/Articles/I/100Pct-WWS-Papers.pdf

[30] "Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business," EEI, January 2013, http://www.l-a-k-e.org/topics/solar/2013-01-01--eei-disruptive-challenges/