Newsletter 50 – Power Plant Finance

Education, Certifications, Special Skills
Masters of Business Administration
Stanford Graduate School of Business
Bachelor of Science in Mechanical Engineering
Rice University
Texas Engineering 38724

Experience
Management of construction organizations for 42 years.
Member of 51 project teams

Professional and Community Affiliations
AGC Project Delivery Systems National Subcommittee – 1998-99
Lorman Seminars 2003-2014
USGBC and CEFPI speaker
Adjunct Faculty Texas A&M 2012-2013

Founder and First President, West University Recycling

Leading the investment into the construction of a new electrical power plant is one of the hardest decisions in modern investment. Making a profit depends on conditions over 20 or 30 years, and right now almost all of them are predicted to change drastically. The trouble is, the predictions are all different.

Suppose you are thinking of investing in the design and construction of a natural gas fired power plant in Texas. It will need 20 years or so of high percentage use at current prices to be profitable. So maybe:

- **Renewable power, which makes up 18% of Texas generation, will grow slowly over the period, allowing your plant to be a successful ERCOT price bidder every night and some days. (+$61,313,000)**
- **Or maybe electrical vehicles will double the power needed in the state, and renewable power won't be able to keep up, so you will get a lot of use during the days as well as night. (+$428,298,000)**
- **Or maybe global warming will finally scare Texas government like California, and they will start requiring homes and businesses to add solar panels, and total plant demand will fall a lot. (-$153,285,000)**
- **Or maybe we will impose a carbon tax in year 5 like Canada, say $30 per ton of CO2 emitted.(-$4,384,000)**
- **Or Texas might go to a system of paying approved plants a capacity payment for being available, so you wouldn't lose much in the worst case, like European and some US systems do. You could wait to see and not invest yet. (+$313,701,000)**
- **Or maybe the cost to build solar and wind projects will continue to fall 30% per year like last year, and someone will invent a cheaper battery for night time,**

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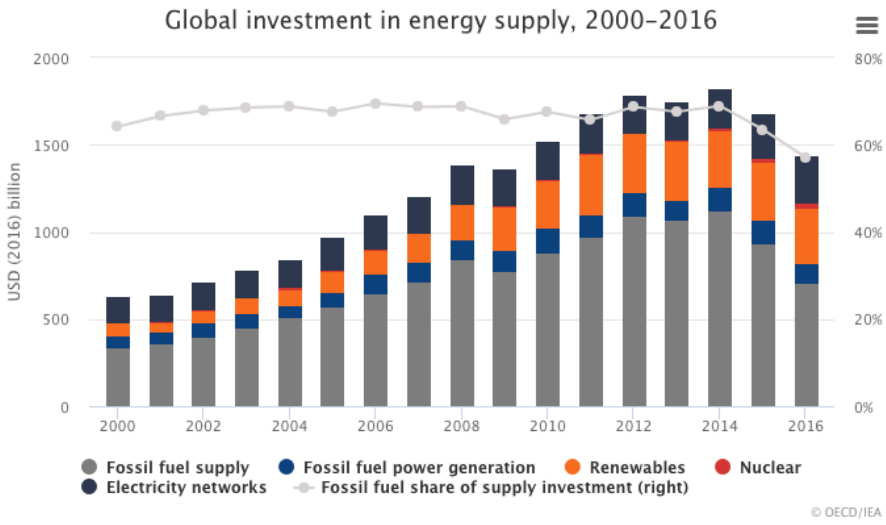
- **and the average price ERCOT pays will fall from 2.8 cents per kilowatt-hour to 2.0 cents. (-$317,358,000)**

- **Or maybe we will get worried about our enemies having the ability to shut down gas pipelines with Internet hacks, and require a certain percentage of nuclear and coal plants to be 100% on the grid, so natural gas will only have a non essential peaking share. (-$34,368,000)**

The figures in parentheses are our amateur guesses at the net present value of the investment of $500 million in this hypothetical project. They go all over the place. You could put a probability on each one, multiply it out, and invest on the result. Or you could go have a nice drink and build something else.

All these concerns are present all over the world right now. From the International Energy Agency, energy investment is beginning to fall:



So… despite our long historical preference for short term markets, we really need to make this an easier investment decision. We are getting nostalgic for investor owned public utilities!

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