

THE FALLING EROI KILLS WESTINGHOUSE: 2 U.S. Nuclear Reactors Construction Halted

[IWB](#) August 16, 2017

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Yes... it's true. Two state of the art nuclear power projects bankrupted the mighty Westinghouse Electric Corporation, a company founded in 1886. Actually, this is old news as Westinghouse filed for bankruptcy back in March 2017. However, the breaking news is that the Westinghouse bankruptcy has now forced two utility companies to stop construction on two nuclear power reactors in South Carolina. (*photo: courtesy of 12 News, Augusta, Ga*)

While many factors will be attributed to the halting of these two nuclear power reactors, such as rising costs, construction delays, decreasing electricity demand and the bankruptcy of Westinghouse, the real reason is the FALLING EROI – Energy Returned On Investment.

As a refresher for newer readers, **the falling EROI means that it's taking more and more energy inputs to produce less and less net energy**

for the market. For example, in 1970 the U.S. EROI of its oil and gas industry was 30/1. Thus, the burning of one oil barrel worth of energy produced 30 oil barrels to the market. Today, shale oil production comes in at a whopping 5/1 EROI, six times less than the profitable energy in 1970.

Moreover, those who have been following my analysis on energy, understand that the falling EROI of oil and natural gas are gutting the entire global economy. Even though nuclear power generation doesn't come from burning oil and natural gas, the construction of the reactors most certainly consumes a massive amount of fossil fuels. **Actually, it takes a great deal of the burning of coal, natural gas and oil to produce nuclear, solar and wind power plants.**

This was especially true for the construction of Westinghouse's two nuclear power plant projects, the Vogtle Plant in Georgia and the V.C. Summer plant in South Carolina.

Two Nuclear Power Plant Projects That Bankrupted Westinghouse

The Vogtle Nuclear Plant (Units 3 & 4), located near Waynesboro, Georgia, started construction with the new Westinghouse AP1000 nuclear reactors in 2013. Here is a picture of Vogtle Plant under construction last year.

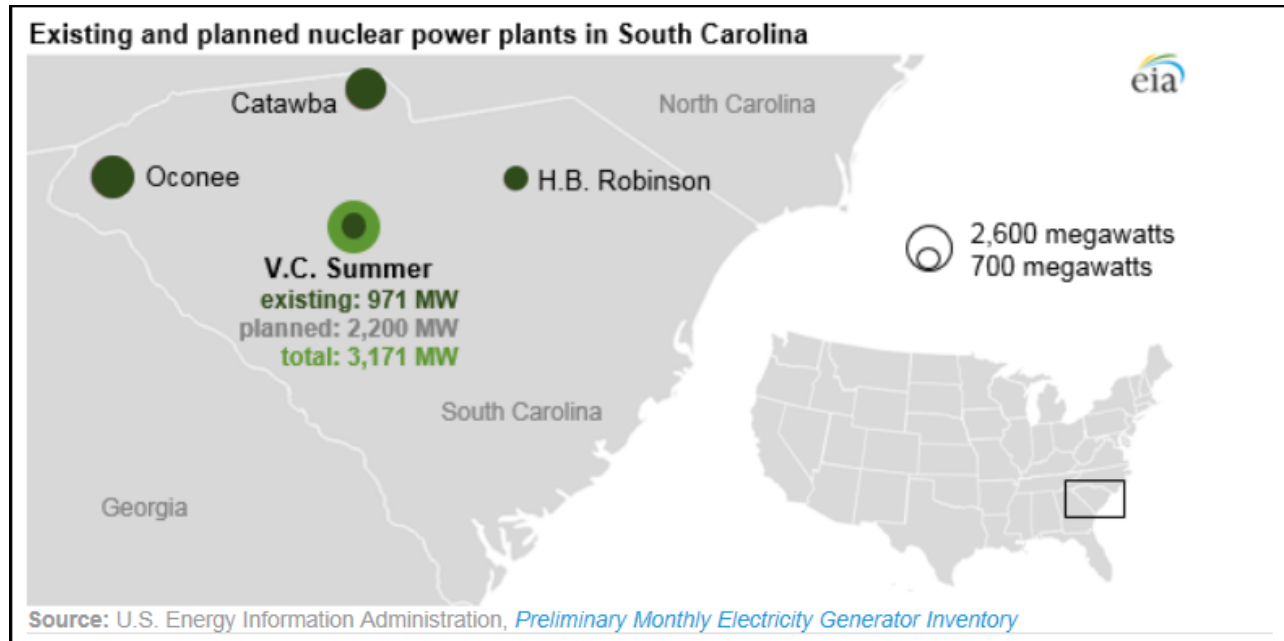
Vogtle Nuclear Plant (Units 3 & 4) – Georgia



(photo: courtesy of High Flyer at SRS Watch)

As you can see, Vogtle 3 & 4 are the extension of the original Units 1 & 2 that were commissioned in 1987. Originally, the Vogtle 3 & 4 were to cost \$14 billion and be operational by 2016 (Plant #3) and 2017 (Plant #4). However, the total costs are now estimated to reach \$29 billion for the Vogtle Plant, and it won't be operational until at least 2022. (source: [Reuters article](#)).

While work at the Vogtle Plant in Georgia still continues, construction has been halted at the V.C Summer Plant in South Carolina. [According to the EIA](#), on July 31st the South Carolina Electric & Gas Company (SCE & G) and South Carolina Public Service Authority (Santee Cooper) halted construction on the two new nuclear reactors at the V.C. Summer Plant.



The V.C Summer Plant (Units 2 & 3), like the Vogtle Plant, are an extension of an existing older nuclear plant called V.C. Summer Plant 1. The original cost to build V.C. Summer 2 & 3 were estimated at \$9.8 billion, plus a transmission facility and interest costs. However, schedule delays and cost overruns have also seriously impacted the V.C. Summer Nuclear Plant project.

According to the article, [*Vogtle, Summer nuclear plants face bleak outlook after Westinghouse bankruptcy*](#), the two South Carolina utility companies stated they would need an additional \$11.4 billion to finish the project that won't be ready for operation until late 2021 or early 2022. Thus, **the total cost would be \$25 billion for the V.C. Summer 2 & 3 and would be more than double their original projected cost.** Here is a picture of the V.C. Summer Plant under construction in May, 2017.

V.C. Summer Nuclear Plant (Units 2 & 3) – South Carolina



(photo: courtesy of High Flyer at SRS Watch)

As we can see, both of these nuclear power plants in Georgia and South Carolina will cost more than double their original price tag and will take more than twice as long to complete. Unfortunately, SCE & G and Santee Cooper finally had to shut down work on V.C. Summer Plant, because they did not receive [any response from the Trump Administration](#) for financial assistance.

It will be interesting to see how long the Vogtle Nuclear Plant in Georgia is able to continue construction as they are in the same financial mess as the V.C. Summer Plant. However, the utility Southern Company in Georgia is waiting until the end of August to announce if they will stay with the Vogtle Plant or walk away.

The Falling EROI Is Killing The Nuclear Energy Industry

I have read several articles on both of these nuclear power projects and some are criticizing that the reason for the shut down of the V.C. Summer Plant in

South Carolina was due incompetent contractors not being able to do the job at the projected cost and timeline. Not only is this completely hilarious, it's also false.

Why? Because the Vogtle Plant In Georgia is experiencing the same issues of huge cost overruns and long time delays. Furthermore, the supposed experts on nuclear energy, the French, are also dealing with serious problems with building new plants. According to the article, [Nuclear industry prices itself out of power market, demands taxpayers keep it afloat:](#)

The nuclear industry has essentially priced itself out of the market for new power plants, at least in market-based economies. **Even the nuclear-friendly French?—?who get more than three fourths their power from nukes?—?can't build an affordable, on-schedule next generation nuclear plant in their own country.**

So, the entire global nuclear industry is experiencing the same difficulties in bringing on these new generation III+ nuclear reactors (AP1000 & EPR). Moreover, the Chinese Government also wants to build many of these new generation III+ reactors, but approved no new projects last year due to the construction delays and cost overruns of these new nuclear reactors in the U.S. and Europe.

While the bankruptcy of Westinghouse and the halting of construction at V.C Summer Plant have taken place in just the past six months, an industry expert made this warning about the Vogtle Plant, two years ago (quoted from the article above):

The Georgia debacle should not shock anyone. Bloomberg explained two years ago that “even as sympathetic an observer as **John Rowe [former chair of the U.S.'s largest nuclear utility]** warns that the new units at Vogtle will be uneconomical when?—?or if?—?they're

completed.”

To many Americans, John Rowe’s opinion of the future nuclear power industry might come as a real shocker, but if you understand the Falling EROI, it isn’t. Again, many factors will be blamed on why nuclear is no longer a commercially viable energy source. However the real cause is that the ENERGY INPUT is too great a cost for the ENERGY OUTPUT supplied to the market.

Lastly, the quote from the article, [***Nuclear Power Is In Crisis As Cost Overruns Cripple Industry Giants***](#), sums it up nicely:

Four global nuclear industry giants ? French utilities Électricité de France (EDF) and Areva, US-based Westinghouse and Japanese conglomerate Toshiba ? face crippling debts and possible bankruptcy because of their investments in nuclear power.

The French government is selling assets so it can prop up its heavily indebted nuclear utilities. EDF plans to sell \$13.8 billion of assets to rein in its \$51.8 billion debt, and to sack up to 7,000 staff. Areva has accumulated losses of over \$14 billion over the past five years.

French EPR reactors under construction in France and Finland are three times over budget ? the combined cost overruns for the two reactors amount to about \$17.5 billion. Bloomberg noted in April 2015 that Areva’s EPR export ambitions are “in tatters“, and now Areva itself is in tatters.

The four big industrial giants, powerhouses of our high-tech energy future, are now mere shadows of their former selves. There is no pulling out of this BLACK HOLE. Oh no... nuclear power is dead for good, even though it will limp along for a while. Furthermore, I have read analysis that more than half

of the nuclear power plants in the United States are not profitable... LOL.

Conclusion & Final Remarks

Evidence shows that the new generation nuclear power plants are suffering from massive cost overruns as well as long time delays. **The first two new nuclear plants to be built in the U.S. in the past 30 years, have seen their projected costs more than double while their date for completion have been pushed back by 4-5 years.** Unfortunately, if the U.S. Government doesn't step in with \$20+ billion in financial aid, both of these nuclear plants may never be completed.

That being said, it's just not the U.S. Nuclear Industry that is experiencing serious trouble in completing its two new nuclear power plants. Europe is also stuck with new nuclear plant projects whose costs are running amuck and will likely not be economical going forward.

The DEATH of the Nuclear Industry is due to the Falling EROI- Energy Returned On Investment.... PERIOD.

While the Collapse of the Roman Empire was blamed by several factors, such as economic decline, reliance on slavery, government corruption, over taxation, debasement of the silver currency, poisoning of drinking water by the use of lead pipes, moral decline, the barbarian invasions and so on and so forth... those were mere symptoms. Again, the ROOT CAUSE for the collapse of the Ancient Roman Empire was its falling EROI.

Lastly, those who believe that Thorium Reactors are better and will be the ENERGY SAVIOR of our future, this is delusional thinking at best. I am sorry to be so blunt... but there it is. Thorium reactor technology is still decades from reaching commercial status... if ever. Unfortunately, we have run just run out the clock.

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