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## Articles

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### The report 'Rethinking Energy' pegs the B.S. meter

By [Norman Rogers](#)

[Rethinking Energy](#) is a report published by RethinkX, a San Francisco [think tank](#). The report has great pretensions but little competence.

The authors are Tony Seba and Adam Dorr. They are extreme futurists with lots of exciting predictions about the future but no concept of economic realities. *Rethinking Energy* uses the jargon of accounting and engineering as a gloss for pure fantasy.

[Tony Seba](#) is the money man. At least that is the image he cultivates. He modestly describes himself as a “world-renowned thought leader, author, speaker, educator, angel investor and Silicon Valley entrepreneur.” [Adam Dorr](#) is apparently the helper. He describes himself this way:

Adam is a passionate educator and advocate for reason and scientific literacy. His wider intellectual interests include moral philosophy, theories of justice, and the social, economic, and political implications of disruptive technologies. He also enjoys surfing, building things, and playing the guitar.

*Rethinking Energy* contains a legal disclaimer more than 500 words long. Here is a selection from the disclaimer:

The content of this report does not constitute advice of any kind and you should not take any action or refrain from taking any action in reliance upon this report or the contents thereof.

What a ringing endorsement! If this is how little they value their work, they probably should have named the report: “Don’t Read This.”

The theme of the report is that conventional power plants will become “stranded” assets worth next to nothing because solar, wind and batteries (abbreviated as SWB) will take over. They describe this as a valuation bubble. After SWB takes over, America’s fossil fuel plants will sit nearly idle and thus will be worth nearly nothing.

Wind and solar generate electricity according to the state of the weather. Generation of power depends on wind and sunshine. The advocates of solar don’t like to talk about what happens after sunset. Batteries are expensive, fragile, and explosive. For example, the Gemini solar plant in Nevada will cost \$2 billion including a \$500 million lithium battery system. The battery will wear out and have to be replaced after five years for

\$300 million. The battery will store 1400 megawatt hours, or as much energy as five million sticks of dynamite.

The natural gas plants that usually back up wind and solar when generation is weak or non-existent are essential. You can't replace fossil fuel plants with wind or solar, not even a little bit, because fossil fuel plants provide essential backup. At times wind and solar generate exactly nothing. All wind or solar does is to decrease the burning of fossil fuels in the backup plants. As the percentage of wind or solar energy in a grid increases there are successive barriers that raise the cost.

I will use solar as an illustration but similar considerations apply to wind. When a system hits about 20 percent solar energy a problem of excessive solar energy in the middle of the day starts to be a problem. Batteries must be added to store excessive quantities of solar electricity at peak times for use later in the afternoon or the early evening. The batteries double the cost of the solar electricity. When solar approaches 50 percent of system electricity, the battery solution becomes inefficient and costs further increase. That can double the cost of the electricity again.

Solar electricity is a supplement to a natural gas generating system, not a replacement. When solar is generating electricity, it displaces an equal amount of electricity from gas. Exclusive of subsidies, each kilowatt hour of solar costs about 8-cents to generate and it saves about 1.5 cents of gas fuel. Each kilowatt hour of solar costs more than 5-times what it would cost to just use the gas. When batteries are added to the solar plants, the solar electricity price doubles to 16-cents per kilowatt hour, or more than ten times the cost of sticking with the gas.

Fossil fuel plants will not be "stranded" no matter how much solar and wind is added. They have to remain as essential backups for the wind and solar. Further, it is highly unlikely that wind and solar will become dominant. That would skyrocket the cost of electricity, a political impossibility.

### **Is it science, or is it political manipulation?**

*Rethinking Energy* is part of a trend to use the jargon of science as a cover for political or money schemes that have nothing to do with science.

Politicians and ideologues have long attributed mental illness to their opponents giving a scientific gloss to attacks on their enemies. *The Authoritarian Personality*, published in 1950, started the trend of depicting conservatives as mentally ill using the "science" of psychology. The liberal media often depicted Trump as mentally disturbed. Depicting their political enemies as mentally disturbed was a favorite Soviet tactic. Adam Dorr, one of the authors of *Rethinking Energy*, wrote a [book](#) claiming that conservatives are selfish and mean spirited while liberals are open minded and kind.

Propagandists justify the most sinister political schemes by claiming they are inspired by science. These schemes brazenly take advantage of the scientific ignorance among the elites and especially in the media. Actual scientists, that are in a position to correct the record are mostly employees of universities or large corporations. As such, due to woke political culture, they are not free to speak their minds or even basic truths.

The push for wind and solar energy is touted as necessary to save the world from global warming. Global warming is both a political scheme and a money scheme. It gives socialists an excuse to impose carbon taxes, tell everyone where to live and take away their automobiles. Global warming provides money and benefits to scientists and the manufacturers of green energy installations. But the science of global warming isn't solid science. It is opaque science implemented by dubious computer models of the Earth's atmosphere.

When you hear that a policy is based on science, look more carefully.

*Norman Rogers writes often on science topics. He has websites [here](#) and [here](#).*