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California's Bogus "Renewable Energy"

by Norman Rogers

California has [declared](#) that 50% of electricity in the state must come from [renewable](#) sources by 2030. California's definition of renewable sources is bizarre and heavily influenced by the ideas of the green left. For example, most hydro electricity is not considered renewable, even though hydro uses no fuel and emits no greenhouse gas. [The Sierra Club does not like dams that interfere with rafting.] Nuclear generation is omitted from the list of approved technologies, even though nuclear is non-polluting and emits no greenhouse gas. However, chopping down trees and burning them to make electricity is apparently ok. [Not that there is anything wrong with that.]

In order to implement the renewable mandate, most of the renewable power will come from dominant wind and solar power. Within California there are only about 5700 megawatts of wind generating capacity and 8000 megawatts of solar generating capacity. To fully generate this capacity the wind must be blowing at high noon. However the average power generated from the combined 13,700 megawatts of wind and solar is probably about 25% of the capacity, or on average of about 3500 megawatts. [My estimate of a 25% capacity factor may seem low but for the western interconnection it is 21% for wind and 18% for solar. See page 22 [here](#).] California's 3500 megawatts of renewable electricity is about 12% of retail sales of electricity in California. But, California claims that 29% of its electricity is currently renewable. How can this be? The answer is dubious bookkeeping. California can contract for renewable electricity from any place in the [Western Interconnection](#) that stretches as far east as Colorado and includes the two western provinces of Canada. The electricity does not actually have to flow to California. It is a paperwork thing, assigning the renewable character of the electricity to California's account. There is not supposed to be double counting where some other state claims the same electricity.

It is possible that states other than California are claiming, or at least bragging about, the same renewable power as California claims. Colorado, for example, could brag about how much renewable power is generated in the state, while selling the electricity's renewable attribute to California. That allows California to count renewable power consumed in the Colorado region as its own. Colorado can still brag about how much renewable power is generated in within its

borders. Further, the renewable power is actually consumed in the Colorado region because that's how the grid works. California isn't actually getting the renewable power; California's power comes mostly from natural gas plants located in California. This scheme is implemented by renewable power certificates (RPC's). An RPC represents 1-megawatt hour of renewable power. The certificate can be sold to a utility and thus provide the utility with authority to claim 1 megawatt hour of renewable energy. The utility doesn't actually get the power, but the power is exclusively "allocated" to them. This is a scheme very similar to the *carbon offsets* that can be bought and sold.

The owner of a wind power farm in Colorado can, at least in theory, create both a renewable power certificate and a carbon offset certificate. The RPC can be sold to California to help satisfy its renewable power requirement. The carbon offset certificate representing CO2 emissions avoided can also be sold, perhaps to Al Gore to relieve him of responsibility for flying an in private jet. The wind farm owner can also brag, truthfully, that it is generating renewable power for use in Colorado.

Carbon offsets are a financial instrument where both the buyer and seller have an [incentive to lie](#). The same is true of RPC's. Certainly the owner of a wind farm could counterfeit certificates and effectively sell multiple certificates for the same power generated. The buyer of the certificates is not buying real power, but trying to satisfy a renewable power requirement by using someone else's renewable power. Certainly the buyer is incentivized to overlook accounting funny business, especially if the price is right. The creation and sale of the certificates is carried on in secret and the price is not disclosed, so the incentive to cheat is all the greater.

The Second Court of Appeals described renewable power certificates this way:

"Generally speaking, RECs are inventions of state property law whereby the renewable energy attributes are "unbundled" from the energy itself and sold separately. The credits can be purchased by companies and individuals to offset use of energy generated from traditional fossil fuel resources or by government agencies to satisfy certain requirements that these agencies purchase a certain percentage of their energy from renewable sources."

Apple Computer, as part of its [greenwashing operation](#), claims that it's stores in the U.S. use renewable power. Presumably they are buying RPC's from someone.

The California renewable power program requires that the RPC's be purchased only from generators connected to the Western Interconnection. They don't, for example, permit the purchase of RPC's from a wind farm in China. Why not? Obviously they feel the need for a fig leaf. Since all the generators in the Western Interconnection are connected together they can claim that there is a physical connection to a distant generator in Colorado or Idaho, even if very little or no power flows from those generators all the way to California.

Apparently the RPC scheme can backfire. In Colorado certain solar power projects are required to sell their RPC's to the local utility. But the utility, Xcel, does not want the certificates. However, Xcel, has offered to "buy" the certificates for a [negative price](#). The solar power operators have to pay Xcel to take the certificates.

For California to make 50% of its real power be renewable would be very difficult. Solar power does not work at night, so the possibilities of solar are limited to replacing midday power. [There is such a thing as thermal solar with heat storage that can work at night if the sun shined on the same day, but it is very expensive.] California is a wind power poor state and the good sites are concentrated in small areas. If enough wind power could be installed to ensure 50% renewable power the result would be too much wind power when the wind was blowing well. That would result in wasting power and lowering the utilization of both wind power and the conventional power that is needed to backup the wind power. It would be massively expensive. A high proportion of wind power would likely create grid stability problems.

In the Pacific Northwest, during the spring when hydro power is plentiful the hydro and wind power generators are in competition. The wind power generators cannot collect the federal subsidy of about 2 cents for each kilowatt hour generated unless they “sell” the power to someone. The result is [negative pricing](#), or paying customers to use the power. The hydro power generators have no such incentive, so they simply spill water from the dams instead of generating power.

The term renewable power is practically meaningless, or more exactly it means whatever different state legislatures say it means. Green lobbies, like the Sierra Club, are possessed by quasi-religious ideas about what is good electricity and what is bad electricity. The green lobby can have great influence because everybody else doesn't care much about the subject. We are not running out of resources to generate fossil-fueled and nuclear power. Nuclear fuel is essentially limitless, especially if breeder reactors and thorium reactors are introduced. As it is, nuclear fuel is currently extremely cheap. The supply of coal is so great that the prospect of running out of coal would be many centuries in the future. Renewable power is not about limiting CO2 emissions. If it were, nuclear and hydro would be embraced. Renewable power is about promoting wind and solar and a few other sources of power with minor potential, such as biomass burning.

Renewable power and state requirements for a certain portion of power to be renewable are actually special interest legislation designed to enrich the developers of wind and solar power. The ostensible objectives of preserving resources or preventing global warming are cover to justify the schemes. The green left, with its bizarre ideas works hand and hand with the commercial interests. Environmental organizations, like the Sierra Club, or Greenpeace, gain a mission, so that they can be seen as doing something supposedly useful, besides being against practically everything.

Norman Rogers writes often about environmental matters. He has a [website](#).