

A Fact Sheet on Governor Parkinson's Coal Plant Agreement with Sunflower Electric

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According to press reports & handouts to legislators, Sunflower's proposed 895 Megawatt (MW) coal plant at Holcomb (with an ultra-supercritical boiler, see #5 below) will now generate 6.67 million tons per year of carbon dioxide down from 10.7 million tons from the two 700 MW coal units in Sunflower's previous proposal. The Governor has also claimed that the agreement includes "offsets" to these emissions amounting to 3.016 million tons or about 45% of the total. As yet a detailed accounting of these figures has not been made available. The purpose of this fact sheet is to analyze each of the offsets and other conditions that are purported to compensate for the large new carbon emissions from Holcomb 2. ([conclusions at bottom](#))The most dubious will be discussed first.

1. **Two oil fired generating units, Garden City 1 & 2 must be permanently decommissioned from Sunflower's fleet.** A look on Sunflower's website at <http://www.sunflower.net/facilities.aspx> will show that these two units are no longer listed in their summary of facilities. They were also not listed in their 2006 annual report, and they were not listed in DOE's 2003 *Inventory of Existing Generating Units in the US*. GC3 is still listed, and it entered service in 1962, which means GC1 & GC2 are even older. Finally the *Lawrence Journal World* confirmed that *these units have not been used for more than 20 Years!* (<http://www2.ljworld.com/news/2009/may/05/units-be-decommissioned-part-coal-plant-deal-haven/>)

To include the GC1 & GC2 generating units as carbon offsets is patently absurd.

2. **Sunflower must use or cause to be used biomass fuel equivalent to 10% of the heat input to Holcomb 1 & 2.** It does not specify where this fuel is to be burned. However they need not proceed with this project if it is found to be *technically or economically infeasible*. Technical feasibility is not defined, which in itself suggests this condition is not enforceable. However, it's technical feasibility is in question.

The sum total of biomass burning must be equivalent to about 125 MW of electricity generation. According to a recent presentation to the Midwest Section of the Air & Waste Management Assn by Black & Veatch Consulting Engineers, a biomass burning operation of this size exceeds anything in regular operation in the United States. To reach 10% co-firing at a particular site requires separate fuel handling facilities and boiler modifications. Also the alkali content of agricultural biomass such as switch grass may damage the boilers of power plants. Finally biomass burning tends to reduce the efficiency of a boiler. It's obvious why Sunflower caused this technical feasibility escape clause to be included in the agreement.

Economic feasibility *is* defined as meaning that the cost of biomass fuel may not exceed 200% of the cost of coal. According to DOE documents the cost of Wyoming Powder River Basin (PRB) coal delivered to Holcomb, KS. should be about \$20/ton. That translates to about \$1.23 per million BTUs. According to our preliminary research, wood waste could meet a \$2.46 per million BTU threshold, but there is little wood waste available anywhere near Holcomb. The cost of agriculture biomass would likely be several times that of PRB coal. The reason for this is the high cost (and high carbon footprint) of collecting & transporting such a diffuse resource. Finally Sunflower will be competing in the future against increasing demand for biomass needed for cellulosic ethanol plants.

Thus there is legitimate concern that Sunflower will ultimately be excused from this important performance requirement due to the cost of biomass fuel which may exceed the

specified threshold. Both contingencies taken together, we conclude that it is unlikely that Sunflower Electric will ever burn an appreciable amount of biomass to serve as a carbon "offset" for Holcomb 2.

3. **Sunflower must spend 1% of gross revenues for energy efficiency programs.** While this would be a step forward there is no performance standard or goal specified. Governor Sebelius's original compromise offer included a requirement for 100 MW of energy conservation. Apparently Governor Parkinson abandoned this performance standard. Further the agreement allows Sunflower to credit any expenditure for their experimental Bioenergy Center toward the 1% requirement. In fact Sunflower may reduce expenditures for energy efficiency to only 0.5% of gross revenues if they so choose. There is no guarantee that the Bioenergy Center will ever offset a single pound of carbon.
4. **Sunflower must use "reasonable efforts" to build two 345Kv transmission lines to Colorado.** *They have until 5 years after the start up of Holcomb 2 to accomplish this.* Given that it would take a year or more to get the new coal plant permit & to clear appeals and four years to construct, these lines need not be in place *until 2020 or beyond.* This prospect hardly supports the Governor's claims that this will be a boon to wind power in Kansas. One wonders which direction the Holcomb power will actually be flowing in the meantime. If it is to the east, then it will broadly compete against wind developers.

The original Sunflower - Tri-state proposal envisioned two 600 MW coal plants that would run output through three 345 Kv transmission lines. One would run from Holcomb to Burlington, Colorado and two would run from Holcomb to Lamar, Colorado. We presume one of the lines to Lamar has been abandoned for now. Instead of three 345 kv lines serving 1200 MW of coal power we would now have two 345 Kv lines serving 600 MW. This suggests that a modest 200 MW of wind capacity on average could be served by these lines, which is good. Also connecting to the western grid in Colorado would help reduce the intermittency of wind power production since, if the wind is not blowing in Colorado, it may be blowing in Kansas. On the other hand Colorado has its own wind farms and the vast majority of the market for Kansas wind is in the population centers to the east.

Also if, as expected, Sunflower tries to build a second new plant, the 200 MW of spare capacity on the lines would quickly be displaced by more coal power. So, in the larger scheme of things, these lines will provide only marginal help for the Kansas wind industry.

5. **Efficiency of the boiler.** According to the handout supplied to legislators by the Governor's office, Holcomb 2 is described as an "*ultra* supercritical coal generating unit." However the actual agreement signed by the Governor describes the unit as a "super critical coal generating unit." Thus Sunflower is under no legal obligation to use the more efficient ultra supercritical boiler. The difference is as much as 4 efficiency points (42% vs 38%) or about 11%. That's a lot of extra carbon.
6. **Sunflower to use "reasonable efforts" to advance a Bioenergy Center & Algae Reactor.** The dubious nature of this enterprise has been exposed [on the Sierra Club website](#). It is in a very early stage of development and would be prohibitively expensive. It is highly unlikely that this project will ever displace any of the carbon emitted by Holcomb 2.
7. **Sunflower and/or partners must build new wind farms in Kansas equivalent to 20% of the "net capacity" of Holcomb 2.** Net capacity refers to output after deducting the parasitic load (to run controls etc), so it's not clear just how many MW we are talking about here, since the 895 MW coal plant is referred to as "nominal capacity" in the agreement. It should be at least 160 MW of new wind.

Although the language is ambiguous, this new capacity is supposed to be in addition to any requirement for Sunflower and Midwest Energy to comply with a statewide Renewable Portfolio Standard (RPS). The problem is that if Sunflower and Midwest are *not covered* by the RPS now under consideration by the legislature, then most of this new capacity will not materialize. If Sunflower *is covered* they must also meet the 20% RPS requirement by 2016 instead of 2020. *We must watch closely to ensure that electric coops are made subject to the Kansas RPS.*

8. **Modifications to Holcomb 1.** Among other things, Sunflower must install new mercury controls on Holcomb 1 such that the total of mercury emissions from H1 and H2 will not increase from the 327 pounds emitted in 2005 by Holcomb 1. This firms up a verbal commitment made by Sunflower during the Holcomb 2&3 permit proceedings.
9. **Escape Hatches in the Settlement Agreement.** The agreement includes a number of "escape hatches" for Sunflower that cause considerable skepticism about the outcome of this enterprise. For example Sunflower's performance is conditioned upon receiving all the governmental approvals necessary for it to perform the terms of the agreement *including the recovery of all costs through its rate structure*. The construction of this large coal plant and other elements of the program are likely to generate massive rate increases in western Kansas. If, for example, the KCC, under a new governor & in the interests of reducing these rate increases, allows financing of the coal plant but disallows the new wind farms and energy efficiency, Sunflower is excused from satisfying that part of the agreement. There are a number of other contingencies that would allow Sunflower to escape its obligations if permit or legal proceedings changed the setting for this agreement, even in a minor way.

Conclusions. ([back to top](#))

The Sunflower Settlement Agreement includes a few items that would represent a gain for the environment. Overall, however, the Governor has vastly exaggerated the extent to which the settlement compensates for, or offsets, the 6.7 million tons of new heat-trapping greenhouse gas emissions that would be generated by Holcomb 2 in the state of Kansas. It contains much ambiguous language and numerous escape hatches whereby Sunflower may avoid some future performance requirements. Thus we can only conclude that this agreement is a serious step backward for the environment of Kansas and elsewhere.

The agreement is also subject to the passage of new legislation. We will update this document after the nature of the new bill becomes clear.