

June 24, 2008

Re: Energy Plan Comments
C/O: NYSERDA
17 Columbia Circle
Albany, NY 12203-6399

From: David C. Amsler
417 Bush Hill Rd.
Franklinville, NY

Energy Council for Citizens Power Alliance (CPA)
<http://citizenpoweralliance.org/>
and VP Concerned Citizens of Cattaraugus County.

Dear Energy Planning Board Members:

On reading your Draft Scope of 2009 NYS Energy Plan, I see that it contains all the usual vague goals, but only a passing reference to the one goal that makes all the others possible:

We must have a viable economy in this state.

To insure that we must have:

- 1) An adequate supply of electric generating capacity that will be available 24/7, not just when the sun shines or the wind blows.
- 2) Affordable electric power so that high rates do not chase residents and businesses to other states.
- 3) Environmentally friendly sources of power — not those that desecrate one of the last major assets of NYS: it's natural beauty, nor contribute to climate change or acid rain.

To address these needs, we must also anticipate the changing requirements for electrical power.

The spike in the cost of oil will accelerate the development of, and the switch to, the electric automobile. The development of the lithium ion battery, for the first time, allows sufficient power to be packed in a small and light enough package to power a family sized automobile 40 miles. GM and others have commitment to develop and build electric powered vehicles on a large scale. Electric automobiles offer the best hope to both help resolve our environmental problems and our imported oil problem.

The electric automobile also offers a chance for this country to regain technological leadership and create real jobs here. However, an ample supply of affordable electrical power must be available when needed to insure that the electric vehicles are practical.

Some charging of electric vehicle's batteries will occur during off peak hours, but as they become more common, we should anticipate parking lots at businesses, malls and city streets to be equipped with charge card activated recharging stations, more common than parking meters are today, and their demand will be during peak daytime hours.

The electric automobile is not just a case of moving energy consumption and pollution to a different location, but is the essence of conservation since the internal combustion engine converts only about 20% of the potential energy in gasoline to motive power, while electric motors operate at near 90%. Further, we have affordable options for electric power that are largely CO2 free.

A second example of a likely shift to electric power from petroleum, is heat pumps for homes and business to replace oil, propane derived from oil, and increasingly expensive natural gas for conventional furnaces. Heat pumps can move about 5 times more heat than they consume, while conventional furnaces can never deliver more heat energy than the energy they consume.

Coupling heat pumps to tap the near constant temperature of the ground (geothermal) makes them viable in New York even on the coldest winter days, or alternatively, they are available with built in supplemental gas heating for use on coldest days.

In the most recent issue of Forbes magazine, an article titled "Brownouts" charts our declining level of reserve electric generating capacity to meet peak demands and the probability of sharply peaking electrical rates. It concludes with: "Buy candles".

We do not need to accept this fate.

We currently have an irrational fascination with wind turbines and solar electric power. Neither can supply the power we need when it is needed and both are expensive, and being built only when heavily subsidised by Federal and NYS government programs.

Wind energy proponents like to picture wind energy replacing dirty coal energy, but coal fired plants which now supply the largest part of our power, simply cannot ramp up and down fast enough to take advantage of wind energy when it is available, and their fires must be kept burning at a level to meet demand when the wind dies. The hidden cost of this waste must be added to the already high cost of wind energy to determine its true cost. Also wind turbines produce their rated output only about 25% of the time, and much of that at night when our grid is awash with excess energy and thus that wind energy contributes nothing.

Solar voltaic panels drop their output with each passing cloud even faster than wind turbine output varies.

Large amounts of electric power cannot be stored with today's technology, but if we are to invest in intermittent sources of power, we must also invest in the means to convert that power to energy we can store such as by pumping water into reservoirs and building increased hydroelectric generating facilities to convert that water back to electric power when it is needed. This is obviously added cost that wind and solar proponents do not want to discuss,, but must be taken into account if we are to seriously contemplate relying on intermittent power sources.

While not applicable to New York, it should be noted that unlike solar voltaic panels, the older, less sexy solar concentrator plants now being built in the Southwest do makes sense for that location, since the heat that they capture can be stored before converting it into electric power, which cannot be stored. Thus these can ride out the occasional passing cloud and their peak output coincides with peak demand from air conditioning units in that part of the country.

Geothermal energy looks likely to become a major source of clean electrical power in the future. This country is already the leading producer of large scale geothermal energy, but it has been restricted to the geyser areas. Now, thanks to deep drilling technology developed by the oil industry, we can drill down the 2 -3 miles needed to tap geothermal energy in most parts of this country.

Until geothermal energy proves to be ready to develop on a large scale, nuclear power is our best short term solution. It can deliver the affordable power we need, when it is needed, and it is largely CO2 free.

Until new plants are built, we can stretch our existing available-on-demand generating capacity by implementing time of day pricing. The ability of residents and businesses to find ways to shift their power consumption to off peak times to save money will exceed that saved by any laws intended to force a reduction in peak time loads and will inspire new businesses. Of course we should anticipate that this simple proposition will be fought by those that want to sell their intermittently available energy at maximum price when they have it available, rather than when it is needed by the people of this state.

David C. Amsler

