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## Countdown to Failure?

# America's Energy Future

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President Obama's recent address to the nation was apparently the first major speech from the Oval Office to focus primarily on an environmental issue. Obama's main point was sound: whether considered from the environmental, economic or security perspective, breaking the hold of fossil fuel on this country is clearly in the national interest. The President rightly pointed out that, while we have known the dimensions of this issue for decades, the nation has not taken the necessary steps to break the dependence. In fact, many other nations have taken stronger steps and are leaving us behind. Historians may well look back at this failure to adapt to a new global energy reality as the key failure which lead in time to the United States becoming a second rate economy.

The President called for mobilizing American society to move beyond fossil fuels. But few American's believe that he and his party are ready, willing and able to take the necessary steps to achieve that goal. For one thing, we have heard all this before. As John Stewart pointed out on The Daily Show, Obama is not the first president to commit to ending the US oil addiction. Check out this clip to hear how similar those nine presidential calls to action have been.

But it is not history which is primarily fueling Americans' skepticism. US citizens are now accustomed not only to Obama's inflated rhetoric but also to his failure to deliver on that rhetoric. Obama promised an end to torture…but our government still inhumanly treats prisoners. Obama promised to end illegal rendition… but the practice continues. Obama promised to end government spying on everyday Americans…yet his Administration continues prying into the communications of US citizens who are not under suspicion for any crime.

Given all these failures to deliver on promises, is it any wonder that the American People are skeptical – believing in their hearts that Obama and the Democrats lack the will to end the nation's fossil fuel addiction?

Still there is a more fundamental reason why everyday Americans are skeptical and increasingly cynical. So long as money runs Washington DC, those with the money will be successful most of the time in diluting and manipulating legislation to assure that the appearance of reform, the appearance of a new direction, is really only that…appearance without substance, tinkering at the margins when fundamental change is needed.

Obama and the Democrats show no interest in reforming this fundamental US political reality. Through the agency of money, our current electoral system provides the appearance that candidates are democratically elected while in reality they are selected by those who control the most money. Is it any wonder then that politicians purchased in this manner do the bidding of their owners?

But let us suspend our disbelief for a moment and consider the possibility that – as it has in other times of crisis – America's elite rulers will recognize their enlightened self-interest and muster the will to move us beyond fossil fuel. Let's consider what sort of society we would become if, for example, the Sierra Club's vision for moving beyond fossil fuels were adopted and realized.

The Sierra Club's energy policy is available on line. Here's how that policy is introduced:

> The Sierra Club will promote energy conservation and efficiency and the development of appropriate energy production alternatives described in this policy in a manner that builds a humane global society, honors human rights and dignity, and restores and protects the natural environment. All persons require safe and affordable sources of energy at levels sufficient to provide for human needs and sustainable livelihoods. This

policy supports that goal with effective action."

The policy rightly focuses first on conservation which it calls "essential" to success in moving beyond fossil fuel. Conservation is by far the most economical and effective current opportunity to reduce per capita fossil fuel consumption in the US. The policy also supports Distributed Clean Energy, that is, green energy which is generated in or near the places it is consumed. Placing photovoltaic and hot water solar systems or wind turbines on the rooftops of homes and apartment buildings are examples of distributed power generation. The classic application of distributed power generation makes use of the heat generated in industrial production to power industrial plants.

One great advantage of distributed power generation is that it reduces the distance power must be transmitted before delivery to users. Eliminating long, high voltage transmission lines eliminates major landscape eyesores and also the large power losses which occur when high voltage is used to wheel power from centralized power plants to distant locations. Because by its very nature distributed energy generation is decentralized, the attractiveness of power plants as targets for sabotage and consequently the net potential impact of sabotage are both markedly reduced. What terrorist would chose as his target a photovoltaic system powering your home or the building where you work?

The Sierra Club also actively supports the development of new, large-scale centralized renewable power generation. Big solar and wind power plants located far from population centers will require new, high voltage transmission lines. Rural residents don't want the unsightly and potentially hazardous lines and will resist. Local environmentalists will not want sensitive habitats to become sacrifice areas devoted to sprawling renewable energy generation. An estimated 6.5% to 7.5% of US Centralized Power Generation is lost during the transmission process. When it comes to energy conservation, eliminating the power losses associated with long distance power transmission is an obvious winner.

The federal government has limited subsidies for distributed power development to tax credits and has failed to require utilities to buy distributed power from those who generate it at market rates. Under these arrangements, only the well off can afford the up-front investment necessary to develop distributed power generation and only the well off can benefit from available tax credits.

Under the Sierra Club policy – as under current federal and state government policy – energy corporations retain positive incentives to develop new centralized power generation while the disincentive to develop distribute power generation is maintained. And while the Sierra Club opposes nuclear power, Congress and the Administration are doing all they can to enable development of a new generation of centralized nuclear power plants.

The federal government is clearing the way for massive new power transmission lines on federal lands. Private lands battles are also underway over rights of way for new transmission corridors. These controversial transmission corridors would not be necessary if the US focused future energy development on distributed green energy.

Sierra Club officials say that emphasizing distributed power generation during the transition to a green energy future can not decrease greenhouse gas emissions soon enough. They claim development of centralized green energy is therefore necessary. Examination of the literature comparing the feasibility of renewable centralized with renewable distributed power generation, however, does not support the Sierra Club's conclusion – at least not from a technical standpoint.

Renewable centralized and renewable distributed power generation both face similar challenges getting from conception to the point of actually coming on line. For example, both are likely to require adjustments to the electric grid to accommodate power coming from new locations. When it comes to price per unit of electricity produced, distributed and centralized power generation costs are comparable as found, for example, in a 2004 study by the California Energy Commission and presented in the table below.

Since publication of the CEC study in 2004 the differential in cost between centralized and distributed power generation has continued to narrow. The trend is expected to continue.

So could a focus on distributed power generation be accelerated in a manner that would lower CO2 emissions sufficiently to prevent the worst impacts of climate change? The German experience suggests a positive answer. Germany leads the world in installed solar capacity; 90% of that capacity is rooftop solar distributed generation. Germany has accomplished this through directly paying the up front capital and installation cost and by mandating that schools, government buildings and military installations bring distributed power generation on line.

Increasing to 50% the share of distribute power in the US energy mix by 2030 and doing that exclusively with renewable and waste heat energy appears technically feasible. A goal that ambitious, however, would require aggressive government programs along the lines of what Germany has done. Putting America's youth to work installing solar panels and windmills on homes and small businesses would have the added advantage of stimulating the economy not by pouring money into banks and corporations but by providing jobs to everyday Americans.

The barriers to development of green distributed power are not technical but political. So long as money controls the

political agenda it will be difficult to level the playing field much less truly incentivize the development of distributed power generation.

If the Sierra Club's energy policy were implemented massive energy corporations would continue to dominate energy markets and these corporations would continue to monopolize a grossly inordinate share of political power. Lacking specific proposals and the political will to implement them, distributed green energy would remain a minor component of total US power generation available only to the well off. The environmental destruction that goes hand in hand with the dominance of Big Capital would also continue.

Seen in this light the Sierra Club's embrace of centralized power appears short sighted. But that policy can also be viewed as simply taking account of political and economic realities. There is truth in that. Breaking the strangle hold of Big Capital on American politics and the economy would be very difficult and must be considered a long shot. Reorienting US energy policy to focus on distributed green energy would require (among other things) that the Environmental Establishment break loose of the Democratic Party and make common cause with other progressive movements. That, however, would run counter to the organizational culture of the Sierra Club which, like most of the Environmental Establishment, has become overwhelmingly corporate-professional. But if that is what is required to limit climate change impacts and move us to a sustainable energy future then that is what the oldest and most venerable member of the Environmental Establishment should embrace.

Is a green energy future compatible with the political dominance of powerful corporations and industries? In other words, is the Sierra Club's energy policy likely to sufficiently limit the impact of climate change and achieve the other lofty goals quoted at the outset? With the Environmental Establishment supporting the continued domination of large centralized power generation and barring a mass movement to demand adequate incentives for distributed power generation, we will likely have the opportunity to find out ….. that is if we survive long enough.