

SUNDAY
Los Angeles Times

NOVEMBER 9, 2003

Bush Plan for Hydrogen Is Just Hot Air

By JEREMY RIFKIN

President Bush hopes to reverse his dismal record on energy and the environment with what the administration trumpets as an alternative plan to address global warming and guarantee energy independence. But the proposal is only a Trojan horse to promote the interests of the coal, oil, gas and nuclear industries.

From Nov. 19 to 21, the White House will host energy ministers from around the world to sign an agreement to share research and development with the goal of ushering in a hydrogen economy over the next several decades. The United States has proposed that it lead this first-of-a-kind global research and development effort, which it calls the International Partnership for the Hydrogen Economy.

Hydrogen — the lightest and most abundant element of the universe — is the next great energy revolution. Scientists call it the “forever fuel” because it never runs out. And when hydrogen is used to produce power, the only byproducts are pure water and heat.

The shift to fuel cells and hydrogen energy — when it happens — will be as significant and far-reaching in its effect on the American and global economy as the steam engine and coal in the 19th century and the internal combustion engine and oil in the 20th century.

Hydrogen has the potential to end the world's reliance on oil from the Persian Gulf. It will dramatically cut down on carbon dioxide emissions and mitigate the effects of global warming. And because hydrogen is so plentiful, people who have never before had access to electricity will be able to generate it.

The environmental community is up in arms over the Bush hydrogen agenda. Why? Hydrogen has a Janus face. Though it is found everywhere on Earth, it rarely exists free-floating in nature. Hydrogen has to be extracted from fossil fuels or water or biomass.

In other words, there is “black” hydrogen and “green” hydrogen. And it is this critical difference that separates Bush's vision of a hydrogen future from the vision many of us hold in the environmental movement.

Bush and Secretary of Energy Spencer Abraham say hydrogen can free us from dependence on foreign oil. What they leave unsaid is that their plan calls for extracting hydrogen from all of the old energy sources — oil, natural gas and coal — and by harnessing nuclear power. Bush would like to take us into a hydrogen future without ever leaving the fossil fuels and nuclear past.

Today, most commercial hydrogen is extracted from natural gas via a steam reforming process. Although natural gas emits less carbon dioxide than other fossil fuels in producing hydrogen, it is a finite resource and in relatively short supply.

Hydrogen can also be extracted from coal, and enthusiasts point out that the U.S. enjoys ample coal reserves. The problem is that coal produces twice as much carbon dioxide as natural gas, which means a dramatic increase in global warming.

The coal industry counters that it might be possible to safely store the carbon dioxide emissions underground or in the ocean depths for thousands of years and has convinced the

Using fossil fuels in energy process gets us nowhere.

White House to subsidize further research into this. For many environmentalists, the issue of storing carbon dioxide seems eerily reminiscent of the arguments used by the nuclear industry about nuclear waste.

The nuclear industry would like to produce hydrogen, but there are still unresolved issues surrounding the safe storage of nuclear waste, the skyrocketing costs of building new reactors and the vulnerability of nuclear power plants to terrorist attacks.

There is another way to produce hydrogen — the green way — that uses no fossil fuels or nuclear power. Renewable sources of energy — wind, hydro- and geothermal power and photovoltaic cells — are increasingly being used to produce electricity. That electricity, in turn, can be used, in a process called electrolysis, to split water into hydrogen and oxygen.

Hydrogen could also be extracted from sustainable energy crops and agricultural waste in a process called gasification. There would be no increase in carbon dioxide emissions because the carbon taken from the atmosphere by the plants is released back during hydrogen production.

The White House proposal calls for large subsidies to the coal and nuclear industries to extract hydrogen. The secretary of Energy claims that the administration is equally committed to research and development of renewable sources of energy to extract hydrogen.

However, the White House and the Republican Party have systematically blocked efforts in Congress to establish target dates for the phasing in of renewable sources of energy in the generation of electricity and for transport.

If the U.S. is successful in steering the International Partnership for the Hydrogen Economy toward a black hydrogen future, it could lock the global economy into the old energy regime for much of the 21st century, with dire environmental and economic consequences.

The real benefits of a hydrogen future can be realized only if renewable sources of energy are phased in and eventually become the primary source for extracting hydrogen. In the interim, the U.S. government should be supporting much tougher automobile fuel standards, hybrid cars, the overhaul of the nation's power grid with emphasis on smart technology, the Kyoto Protocol on global warming and benchmarks for renewable energy adoption.

All of these other initiatives should be carried on concurrently with an ambitious national effort to subsidize and underwrite the research and development of renewable energy technology, hydrogen and fuel cells.

The goal should be a fully integrated green hydrogen economy by the end of the first half of the 21st century.

Jeremy Rifkin is the author of “The Hydrogen Economy: The Creation of the World Wide Energy Web and the Redistribution of Power on Earth” (Tarcher/Putnam, 2002).