

FIGHTING FOR ENERGY INDEPENDENCE

Source: <http://sci.tech-archive.net/Archive/sci.physics/2004-09/8073.html>

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Date: 09/20/04

Date: Mon, 20 Sep 2004 19:41:01 GMT

FIGHTING FOR AMERICA'S ENERGY INDEPENDENCE

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[From: fidyl@yahoo.com

[Date: Sun, 19 Sep 2004

Fighting for America's Energy Independence

By Matt Bivens

The Nation

April 8, 2002

<http://www.alternet.org/story.html?StoryID=12804>

Byron Dorgan, a North Dakota Democrat, took to the Senate floor on February 27 with an impassioned plea for a small federal subsidy that has fueled an explosion of activity in the wind-power industry. "Congress is messing around back and forth, stuttering, and not getting it done," Dorgan complained.

The so-called wind production tax credit (PTC) Dorgan was championing is tiny as subsidies go -- over a decade it has cost roughly \$55 million -- and remarkably effective. Wind is the fastest-growing energy industry in the world, and last year was the US wind-power industry's best ever, with power capacity equivalent to that of roughly six coal-fired power plants coming online -- minus coal's pollution. "The exciting thing is, [wind-power growth] is happening all over the country -- it's not just California," says Christine Real de Azua, a spokeswoman for the American Wind Energy Association.

Nevertheless, the wind PTC struggled to get a proper hearing. Finally, on March 8, Congress approved a meager two-year extension, which wind's supporters had tacked

onto the unemployment insurance bill. That's a short time frame for investors to do much planning, though, so Dorgan and others continue to push for at least a five-year extension.

Judged just on its merits, this would probably pass with bipartisan support. But Congress is tentatively committed to gargantuan new subsidies to coal, oil, gas and nuclear power — the only disagreement so far is exactly how obscenely enormous they will be. So the five-year wind PTC will be held hostage, to provide green window dressing for less admirable legislation. The Republican energy plan, touted in the President's State of the Union address, would dole out \$35.6 billion over ten years — or about \$125 per American — to the oil, gas, coal and nuclear industries. The Democratic Senate energy bill is larded with almost as many tax-funded mega-giveaways to polluters. By contrast, the wind PTC has, to date, cost every American about 19 cents.

The good news is that wind power and other renewables don't have to depend on federal leadership. An energy revolution of wind, solar and clean-burning hydrogen fuels is fast approaching — thanks to engineers and entrepreneurs, farsighted state governments and business realities: Renewables have been steadily dropping in price. They are winning victories in the marketplace even while swimming against the federal riptide of subsidies to Big Oil and King Coal.

'Greenery, Market Forces, Innovation'

America is the Persian Gulf of wind. The Energy Department estimates that wind in the Dakotas alone could meet two-thirds of America's electricity needs; Texas could meet the last one-third. But there are good winds across America — in a ranking of the top states for wind, California, the wind-power poster-child, comes in at a lowly seventeenth. Solar power is equally bountiful: The Union of Concerned Scientists says 100 square miles in Nevada could produce enough solar electricity to power the nation.

Worldwide, solar — like wind — is experiencing growth rates reminiscent of the computer industry. Germany has harnessed a world-leading 6,000 megawatts of wind power — roughly equal to twenty coal-fired power plants — and has decided to phase out nuclear power entirely by 2025. Japan and Germany are putting photovoltaic solar panels on thousands of roofs, while Spain and the Philippines last year agreed to bring solar electricity to 400,000

rural Filipinos. A similar program has been under way in South Africa since 1999, with Nelson Mandela's vocal support. And Ireland just announced what will be the world's largest offshore wind park. Eddie O'Connor, managing director of Ireland's utility Eirtricity, says offshore wind could provide two-thirds of Europe's electricity by 2020. "The resource is there, the technology is proven, the costs continue to drop — all that is needed is the political will to see it happen," O'Connor says.

Most important, wind and solar power can now be efficiently stored by using them to create hydrogen, a fuel that generates only drinkable water as waste. Electricity generated from wind or sunlight can be used to zap water — "electrolyze" it — to harvest the H from H₂O. That hydrogen can then be used in fuel cells to produce heat and electricity or to power automobiles. Lester Brown of the Earth Policy Institute envisions wind farms producing electricity by day and hydrogen for cars by night. "None of this is as pie-in-the-sky as it sounds," reported Fortune magazine in November 2001. "Potent commercial forces are bringing the hydrogen economy along faster than anyone thought possible only a few years ago."

Britain has already announced that every tenth car sold there by decade's end must be powered by hydrogen or some other zero-emissions fuel. Hydrogen fuel-cell systems can be found across New York City — from the Condé Nast building to sewage treatment plants to a Central Park police station — and across America — from a post office in Alaska to the space shuttle. Automobile and oil companies have set up well-funded hydrogen-fuels divisions, and major car companies are racing to bring a hydrogen car to market. Toyota intends to start selling one in January of next year. "Greenery, market forces and innovation are reshaping our industry and propelling us inexorably toward hydrogen energy," a Texaco executive told Congress last year. The executive director of advanced technology vehicles at General Motors agreed, telling a petrochemicals conference, "Our long-term vision is of a hydrogen economy." No less a person than Henry Ford's great-grandson, Ford Motor chairman William Ford, says hydrogen will put an end to "the 100-year reign of the internal-combustion engine."

Costs and True Costs

Twenty years ago, a kilowatt-hour (kWh) from sunlight cost about \$2.50. Today's photovoltaics turn out

kilowatt-hours for 20–25 cents — a tenfold drop in cost, but still expensive. For this reason, solar is still dependent on government support. The Energy Department has a much-ballyhooed "Million Solar Roofs Initiative" — but it has no real money. Instead, solar is being brought in by innovative local governments, especially in energy-anxious California. The Sacramento Municipal Utility District leads the nation with ten megawatts of solar power installed, and last year it tripled its staff and contractors to reduce a six-month backlog of residents eager to buy its subsidized solar roofs. San Francisco voters in November approved a \$100 million bond issue to install up to twenty megawatts of solar roofs on schools and thirty megawatts of windmills.

Wind is more competitive than solar; it once cost 40 cents per kWh but is now routinely under 5 cents — even without the wind PTC of 1.7 cents per kWh. With the wind PTC, wind power is competitive with energy from newly built and supersubsidized coal (5 cents per kWh) and natural-gas plants (4 cents at current low gas prices), and is cheaper than energy from a new nuclear plant (7 cents per kWh). Those ballpark averages come from the government's Energy Information Administration, and they reflect what it would cost to set up a new power plant from scratch and run it. If you leave aside the massive construction costs of big polluting plants — which isn't a very helpful way to think about energy — then coal, nuclear power and gas are all in the 2–3 cents per kWh range.

But cents-per-kWh quotes are deceptive: They say nothing about the economic and human costs of pollution-created problems. The Centers for Disease Control and Prevention (CDC) say coal dust kills 2,000 miners each year and has cost taxpayers more than \$1 billion a year since the 1970s in related health and pension benefits. The Justice Department has paid nearly \$200 million in compensation to about 2,000 uranium miners and millers for their cancer (the mines fed nuclear weapons, not just nuclear power). The government has also spent \$1.48 billion cleaning up uranium mine tailings — mounds of radioactive slop left behind in places like Mexican Hat, Utah, and Ambrosia Lake, New Mexico. And dozens of uranium and coal miners are hurt and killed each year in accidents.

There are other status quo costs as well. Last year we depended on foreigners for 55 percent of our oil. As noted in a bill before Congress to drill in the Arctic National Wildlife Refuge, America "spends over \$100

billion per year for foreign energy and equally significant amounts on our military presence in the Persian Gulf oil arena." Status quo costs also include 1.56 billion metric tons of carbon dioxide -- to say nothing of more poisonous particulate matter -- put into our air in 2000 alone, just by energy generation. That in turn drives health problems like our asthma tragedy: Asthma affects every twentieth American, including 5 million children. In 1998, the CDC says, asthma killed more than 5,438, put a half-million people in hospitals and led to 100 million days of restricted activity. The CDC puts the asthma price tag for 1998 at \$12.7 billion.

Find this dollars-and-cents stuff tedious? The American Lung Association cuts to the chase: A March 2001 literature review offers solid evidence that power plants are killing us off by the thousands. One study cited attributes 30,100 deaths every year to power plant emissions.

While we're on the subject of costs, consider that the cheapest and safest form of alternative energy is -- using less. Vice President Cheney says we will need 1,300 new (300 megawatt) power plants, "more than one new plant per week, every week for twenty years running." Put aside for a moment that those plants could all be wind- or solar-powered, and consider: Had Cheney consulted less with Enron and more with the best government scientists, he'd know that a three-year study found that an efficiency program could cut projected electricity demand by 20-47 percent -- the equivalent of from 265 to 610 of Cheney's plants. Bill Prindle, a buildings expert with the Washington-based Alliance to Save Energy, has a list of proven efficiencies that slim Cheney's 1,300 plants even further, to just 170.

This is not about "conservation" -- i.e., living without air conditioning or making other virtuous sacrifices -- but about "efficiency" -- high-tech solutions like better lighting and appliances. Amory Lovins, co-founder of the Rocky Mountain Institute, calls it installing "negawatts." "Negawatts" are the cheapest, cleanest, most-quickly-installed -- and, by the way, the most terrorist-proof -- of all energy sources. As Lovins has noted, a 0.4 mile-per-gallon improvement in the average vehicle would save as much oil each year as we'd ever get from the Arctic refuge. The National Academy of Sciences concluded in July 2001 that a 40-mpg average, nearly double what we have now, is within quick reach.

Efficiency spending often pays for itself. Cool Companies (www.coolcompanies.org), set up by an efficiency advocacy group, offers such anecdotes as one about a business that invested \$370,000 in improved lighting, saved \$700,000 that year on its energy bill and also racked up productivity gains of nearly \$14 million over the same period. Unfortunately, the market needs help — education and a regulatory shove — to fully harvest similar savings. That's because those who design and construct buildings rarely pay the light bill or the salaries of future tenants. Builders are rewarded for, and buyers are worried about, keeping initial costs low — which are easier to comparison-shop than future life-cycle costs.

An entrepreneur with a choice between wind for 3 cents and coal for 2.9 cents would buy coal. But a responsible society would crunch the numbers. Solar power and efficiency do not have secret costs that include thousands of deaths, millions of dollars in lost productivity, billions of dollars sent to the world's oil dictatorships and tens of billions spent policing the Persian Gulf. This doesn't mean we should look with loathing upon the oil and coal industries — after all, they provide heat for our homes and fuel for our cars. But it does mean we should question a government that ignores cleaner alternatives and instead shovels our tax dollars into pollution-creating furnaces.

Consider the billions of tax dollars we give to polluters each year. This largesse is sprinkled throughout our tax code in ways that thwart easy analysis. So estimates of the subsidies for fossil fuels and nuclear power yield wildly different numbers — from the US Energy Information Administration's conservative estimate of \$2.7 billion in 1999 to guesstimates as high as \$80 billion a year. In search of less spongy data, Norman Myers and Jennifer Kent wrote *Perverse Subsidies*, which identified \$21 billion the United States hands over every year to fossil fuels and nuclear power. "If taxpayers were aware that a good chunk of their taxes were going down the rathole into these subsidies, they'd be marching on the Mall," said Myers in an interview. "But it's hard to get the message to the taxpayer because these subsidies are so numerous and so varied, and some are so covert."

Myers and Kent also found that renewables get at best a tenth of the subsidies the dinosaurs do. They calculate that the \$90 million or so the United States spends on solar research wouldn't be enough to pave two miles of Interstate highway. Meanwhile, the wind PTC costs us

somewhere from 0.2 percent to 0.025 percent of what the supersubsidized polluters pull down. Critics of renewables have seized upon the wind PTC to argue that wind is not "market ready." Fair enough -- but then, what is?

Apollo Projects

House minority leader Richard Gephardt called in January for "an 'Apollo Project' to develop environmentally smart, renewable energy solutions." Among other things, he proposed 100,000 hydrogen-fueled cars by 2010. Five days later, Gephardt gave the Democratic response to the State of the Union address and mumbled something unmemorable about energy. Democratic Senator John Kerry and independent Jim Jeffords have called for harvesting 20 percent of our energy from renewables by 2020, and Jeffords has offered an excellent bill to mandate that. But the emerging "Senate energy bill" is a much messier offering by Tom Daschle and Jeff Bingaman. Already Daschle-Bingaman has declined to demand real fuel efficiency, and had adopted a far less aggressive 10-percent-by-2020 renewables standard -- even while larding in so many new subsidies for fossil fuels and nuclear power that Public Citizen derides the bill as "Enron-influenced, Exelon-tested and Exxon-approved."

So the Democrats are slouching timorously toward perhaps someday actually standing for something. Gephardt is right, of course: We could still leap to the front of this coming revolution. An Apollo Project for clean and secure energy might, for example, put a hydrogen pump next to every gasoline pump -- doing for hydrogen-fueled cars what Eisenhower's Interstate highway system did for gasoline cars. Estimates of the price tag for such a project range from \$20 billion to \$100 billion. Or we could kick off a renewables procurements policy. The Institute for Energy and Environmental Research suggests spending \$20 billion a year buying solar panels, fuel cells and fuel-efficient vehicles for federal and local government use -- as a way of pushing those technologies into true mass production.

A common response to such proposals is to tsk-tsk: "Prohibitively expensive!" "The government can't pick winners!" But we are already showering billions of dollars every year on the dirty energies of yesteryear. Even if we don't want the Apollo Project, shouldn't we be dismantling the Anti-Apollo Project of perverse subsidies?

Then again, if we ended the subsidies to the dinosaurs, who would bankroll the GOP? In 2000, oil and gas gave \$13 to presidential candidate George Bush for every \$1 to candidate Al Gore. Coal gave \$9 out of every \$10 to Republicans. And according to the Center for Public Integrity, the top 100 officials in the Bush White House have the majority of their personal investments, up to \$144.6 million, sunk in the old-guard energy sector.

The Green Scissors Campaign, an alliance of environmentalists and taxpayer watchdogs, parses the Bush-backed energy bill giveaways: \$21.2 billion for oil and gas, \$5.8 billion for coal, \$5.9 billion for utilities and \$2.7 billion for nuclear power. That same oilman's orgy included, for green window dressing, a wind PTC extension, but while the wind PTC couldn't get a hearing on its own, nuclear power certainly could. Last fall House Republicans worked furiously on legislation that, in the event of a nuclear catastrophe, hands taxpayers the bill. This federal insurance program for nuclear power was approved under rules that keep everyone anonymous — rules usually reserved for noncontroversial matters like renaming post offices. A White House statement praised this sneaky vote: "To assure the future of nuclear energy, [taxpayer-subsidized] liability coverage must continue for nuclear activities." (In other words: The White House concedes that nuclear power can't survive in a free market.) This subsidy, the Price-Anderson Act, awaits Senate action along with the rest of the subsidy binge; it is already part of the Daschle-Bingaman bill.

Arguably, fossil fuels and nuclear deserve no subsidy at all. But with the "free market" Republicans leading and the Democrats meekly following, we encourage dangerous, dirty and terrorist-friendly energy infrastructures (often in the name of security!). That's not to suggest despair; from California to Europe, renewables are emerging as the business and political favorites. But it is to ask, impatiently, how much longer Americans will be expected to overpay for energy — in health costs, environmental damages and misused taxes. The people of America are being overcharged; it's time to ask for a refund.

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The terrorist mission of Jesus stated in the Christian bible:

"Think not that I am come to send peace on earth: I came not so send peace, but a sword.

"For I am come to set a man at variance against his father, and the daughter against her mother, and the daughter in law against her mother in law.

"And a man's foes shall be they of his own household.

– Matthew 10:34–36.

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