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Re : Nuclear Energy Dangerous to Your Wallet, Not Only the Environment

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Nuclear Energy Dangerous to Your Wallet, Not Only the Environment

by Pete Dolack

The ongoing environmental disaster at Fukushima is a grim enough reminder of the dangers of nuclear power, but nuclear does not make sense economically, either. The entire industry would not exist without massive government subsidies.

Quite an insult : Subsidies prop up an industry that points a dagger at the heart of the communities where ever it operates. The building of nuclear power plants drastically slowed after the disasters at Three Mile Island and Chernobyl, so it is at a minimum reckless that the latest attempt to resuscitate nuclear power pushes forward heedless of Fukushima’s discharge of radioactive materials into the air, soil and ocean.

There are no definitive statistics on the amount of subsidies enjoyed by nuclear power providers — in part because there so many different types of subsidies — but it amounts to a figure, whether we calculate in dollars, euros or pounds, in the hundreds of billions. Quite a result for an industry whose boosters, at its dawn a half-century ago, declared that it would provide energy “too cheap to meter.”

Taxpayers are not finished footing the bill for the industry, however. There is the matter of disposing radioactive waste (often borne by governments rather than energy companies) and fresh subsidies being granted for new nuclear power plants. None of this is unprecedented — government handouts have the been the industry’s rule from its inception. A paper written by Mark Cooper, a senior economic analyst for the Vermont Law School Institute for Energy and the Environment, notes the lack of economic viability then :

> "In the late 1950s the vendors of nuclear reactors knew that their technology was untested and that nuclear safety issues had not been resolved, so they made it clear to policymakers in Washington that they would not build reactors if the Federal government did not shield them from the full liability of accidents." [page iv]

Nor have the economics of nuclear energy become rational today. A Union of Concerned Scientists paper, *Nuclear Power : Still Not Viable Without Subsidies*, states :

> "Despite the profoundly poor investment experience with taxpayer subsidies to nuclear plants over the past 50 years, the objectives of these new subsidies are precisely the same as the earlier subsidies : to reduce the private cost of capital for new nuclear reactors and to shift the long-term, often multi-generational risks of the nuclear fuel cycle away from investors. And once again, these subsidies to new reactors—whether publicly or privately owned—could end up exceeding the value of the power produced." [page 3]

The many ways of counting subsidies

Among the goodies routinely given away, according to the Concerned Scientists, are :

*Subsidies at inception, reducing capital costs and operating costs.

*Accounting rules allowing companies to write down capital costs after cost overruns, cancellations and plant abandonments, reducing capital-recovery requirements,

*Recovery of "stranded costs" (costs to a utility's assets because of new regulations or a deregulated market) passed on to rate payers.

Yes, you read that last item correctly. Even when the energy industry receives its wish to be rid of regulation, it is entitled to extra money because of the resulting rigors of market pressures.

The amount of government subsidies for nuclear (and for oil and gas) is far greater than that for solar energy, despite Right-wing attempts to exploit the Obama administration's generous loan guarantees to failed California solar-panel manufacturer Solyndra. A primary source for Right-wing disinformation campaigns against renewable energy appears to be a report by the U.S. Energy Information Agency that lists direct federal government subsidies to renewables as significantly larger than for nuclear or for natural gas and petroleum liquids for fiscal years 2007 and 2010.

The report, prepared at the behest of three hard-line Republican members of the House of Representatives, was narrowly focused, and notes that it "do[es] exclude some subsidies." And, as a snapshot, the decades of previous handouts to nuclear, oil and gas companies are not accounted for. Nor does the Energy Information Agency report account for legacy costs — solar and wind power, for example, do not leave behind tons of radioactive waste as does nuclear energy.

Numerous research papers paint a fuller picture. A Congressional Research Service report found that nuclear power had received $74 billion for research and developmentby the U.S. government for the period 1948 to 1998, more than all such money given for fossil fuels, renewables and energy efficiency combined.

A report by the venture-capital firm DBL Investors, *Ask Saint Onofrio*, reports that nuclear energy cumulatively has received four times more subsidies than solar energy in California, and that nuclear subsidies were higher than solar in 2011 and all previous years. Nuclear has received $8.2 billion in subsidies in California, while providing the state with three percent of its power in 2012.

The uneconomical state of nuclear power is a global phenomenon, not limited to any one place. A comprehensive study prepared for the Green Party of Germany's Heinrich Böll Stiftung, *The Economics of Nuclear Power : An Update*, reports :

> "Up to now, nuclear power plants have been funded by massive public subsidies. For Germany the calculations roughly add up to over 100 billion Euros and this preferential treatment is still going on today. As a result the billions set aside for the disposal of nuclear waste and the dismantling of nuclear power plants represent a tax-free manoeuvre for the companies. In addition the liability of the operators is limited to 2.5 billion Euros — a tiny proportion of the costs that would result from a medium-sized nuclear accident."

The paper later says :

> "Successive studies by the British government in 1989, 1995, and 2002 came to the conclusion that in a liberalised electricity market, electric utilities would not build nuclear power plants without government subsidies and government guarantees that cap costs. In most countries where the monopoly status of the generating companies has been removed, similar considerations would apply."

New plants are being built, with new subsidies

Significant cost overruns are the norm in building nuclear power plants, and it isn't investors who are on the hook for them.

Three nuclear projects are under construction in the United States and two in Western Europe, a group that features an assortment of cost overruns and generous guarantees :

*The two new Vogtle reactors in Georgia are already $3 billion over budget although their completion date is three and a half years away. The largest owner, Southern Company, has received $8.3 billion in federal loan guarantees. Overruns at this plant are not unprecedented ; the two existing reactors cost $8.7 billion instead of the promised $600 million, resulting in higher electricity rates.

*The Watts Bar 2 nuclear reactor in Tennessee, which received its license to operate in October, has seen its cost rise to $6.1 billion from $2.5 billion. (This is technically a restart of a unit on which construction was suspended in 1985.) The existing reactor at this site has a history of safety problems.

*The Summer 2 and 3 reactors being built in South Carolina have already caused rate payers there to endure a series of rate increases. Cost overruns just since 2012 have totaled almost $2 billion.

*In October 2013, British authorities approved a new nuclear reactor at Hinkley Point, England, that features subsidies designed to give the owner, Électricité de France, aguaranteed 10 percent rate of return on the project. Power from the plant will be sold at a fixed price, indexed to the consumer inflation rate. In other words, *The Independent* reports, "should the market price fall below that [agreed-upon] level the Government would make up the difference." The agreed-upon fixed price set by the Cameron government at the time was double the wholesale price for electricity.

*Olkiluoto-3 in Finland was supposed to have cost €3 billion, but is 10 years behind schedule and €5 billion over budget.

High costs despite high subsidies

There would at least be a small silver lining in this dark picture if the electricity produced were cheap. But that's not the case. From the mid-1970s to the mid-1990s, the cost of producing electricity from nuclear power in France tripled and in the United States the cost increased fivefold, according to the Vermont Law School paper [page 46].

Then there are the costs of nuclear that are not imposed by any other energy source : What to do with all the radioactive waste ? Regardless of who ultimately shoulders these costs, the environmental dangers will last for tens of thousands of years. In the United States, there is the fiasco of the Yucca Mountain nuclear waste dump in Nevada. The U.S. government has collected $35 billion from energy companies to finance the dump, which is the subject of fierce local opposition and appears to have no chance of being built.

Presumably, the energy companies have passed on these costs to their consumers but nonetheless are demanding the government take the radioactive waste they are storing at their plants or compensate them. As part of this deal, the U.S. government made itself legally responsible for finding a permanent nuclear-waste storage facility.

And, eventually, plants come to the end of their lives and must be decommissioned, another big expense that energy companies would like to be borne by someone else. The Heinrich Böll Stiftung study says :

> "[T]here is a significant mismatch between the interests of commercial concerns and society in general. Huge costs that will only be incurred far in the future have little weight in commercial decisions because such costs are "discounted." This means that waste disposal costs and decommissioning costs, which are at present no more than ill-supported guesses, are of little interest to commercial companies. From a moral point of view, the current generation should be extremely wary of leaving such an uncertain, expensive, and potentially dangerous legacy to a future generation to deal with when there are no ways of reliably ensuring that the current generation can bequeath the funds to deal with them, much less bear the physical risk. Similarly, the accident risk also plays no part in decision-making because the companies are absolved of this risk by international treaties that shift the risk to taxpayers." [page 17]

The British government, for instance, currently foots more than three-quarters of the bill for radioactive waste management and decommissioning, and for nuclear legacy sites. A report prepared for Parliament estimates that total public liability to date just for this program is around £50 billion, with tens of billions more to come.

Liability caps for accidents are also routine. In the U.S., the Price-Anderson Act, in force since 1957, caps the total liability of nuclear operators in the event of a serious accident or attack to $10.5 billion. If the total is higher, as it surely would be, taxpayers would be on the hook for the rest. As a further sweetener, the Bush II/Cheney administration, in 2005, signed into law new nuclear subsidies and tax breaks worth $13 billion. The Obama administration, attempting its own nuclear push, has offered an additional $36 billion in federal loan guarantees to underwrite new reactor construction, again putting the risk on taxpayers, not investors.

The Vermont Law School paper aptly sums up this picture with this conclusion :

> "If the owners and operators of nuclear reactors had to face the full liability of a nuclear

> accident and meet the alternatives in competition that is unfettered by subsidies, no one would have built a nuclear reactor in the past, no one would build a reactor today, and anyone who owned one would exit the nuclear business as quickly as they could." [page 69]

If we had a rational economic system, they surely would.

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Pete Dolack *writes the Systemic Disorder blog and has been an activist with several groups. His book, It's Not Over : Learning From the Socialist Experiment, is available from Zero Books.*