WRITTEN TESTIMONY OF CHRISTOPHER HORNER, SENIOR FELLOW AT THE COMPETITIVE ENTERPRISE INSTITUTE, ON "TRADE AND GREEN JOBS", SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, FEBRUARY 15, 2011

The Committee today is considering the idea that the United States might become a world leading exporter of politically selected technologies and that this path might be blazed by mandating or otherwise expanding government (taxpayer) support schemes for those goods.

As I explain, experience shows that this is highly unlikely, if very likely to cause great harm.

'Green jobs' generally refers to a series of support schemes ensuring more man-hours per unit of energy produced. That is, ensuring more expensive, less efficient energy. This has obvious economic impacts, none of them positive. That makes the recently coined argument that these schemes are actually, somehow, the way out of the economic downturn more curious.

Congress should view 'green jobs' as the new 'shovel-ready jobs'. It simply is not as advertised.

Even strong supporters of these programs nonetheless say things like Harvard economist Edward L. Glaeser recently wrote in the *New York Times*, that "it always was a mistake to think that clean energy was going to be a jobs bonanza," and "We shouldn't pretend that cheaper solar energy will end up employing millions of our less-skilled citizens."[1]

Then there is "Michael Eckhart, president of the American Council on Renewable Energy [who said China has] 'won manufacturing… Game over, exit the stadium'".[2]

But do not worry. "[H]e said there are U.S. jobs in installing and maintaining solar panels in the United States." That acknowledges that the U.S. will not somehow become a world leading exporter of renewables by mandating their use here, and indeed it belies the public sales pitch for massive 'green jobs' schemes. It does, however, reaffirm what scrutiny of even those studies claiming net job gain from green jobs schemes reveals: not only will they not replace lost jobs in America, they won't replace the additional jobs their support schemes cause to be lost.

China Syndrome

About China, it seems that "The White House calculates that there is enough public anxiety about the U.S. slipping in competition with China, India and other emerging nations that voters could rally behind calls for investing in future growth."[3]

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[1] Edward Glaeser, "Why Green Energy Can't Power a Job Engine", *New York Times*, January 18, 2011, http://economix.blogs.nytimes.com/2011/01/18/why-green-energy-cant-power-a-job-engine/.

[2] Saqib Rahim, "TRADE: U.S. may reap rewards of clean technology, but not necessarily in manufacturing", Climate Wire, September 16, 2010 http://www.eenews.net/climatewire/2010/09/16/4.

The truth is that, while yes China (and others) may be playing a "game" with us as Mr. Eckhart alludes, it was never a contest. When goods, vastly more expensive than their alternatives, are made and purchased because of a political program, the low-cost unit will nearly always be the winner, and that will rarely if ever be ours. As Germany has discovered (see below).

Again courtesy of 'green jobs' lobbyist Mr. Eckhart, China affirms the flaw in the model being advanced, that the way to become leading exporters of something is to mandate those somethings here at home. China is not making solar panels for domestic installation, but in fact refuse to adopt the kind of scheme called for here to allegedly make us competitors with the Chinese in making them.[4] So by making many but hardly using the machines, China proves the obvious: one need not mandate or force the use of something to be a leader in making and exporting them.

China therefore is not producing solar panels for domestic use but for export, to satisfy western governments' near obsession with politically dictated energy sources; their crash program into wind is largely driven by the same reasons. If western governments abandon this emphasis you will see China's wind and solar industries largely if not entirely re-purposed in near-record time.

As the Scientific Alliance (UK) wrote in a recent update:[5]

> At a recent meeting in the European Parliament, "Lord Stern … argued that economic difficulties should not be an excuse for countries to avoid action to mitigate climate change: *"China is taking the lead on this and so must Europe."*
>
> What he failed to note is that China is taking the lead in the sense of using its low-cost manufacturing base to produce photovoltaic cells and wind turbines for highly subsidised markets in the West. European taxpayers are helping to expand the China's manufacturing sector at the expense of their own, while China itself continues to invest heavily in coal-fired and nuclear power stations." (emphases in original)

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[3] "Obama to Push New Spending: State of Union Speech to Call for Boosting 'Competitiveness' While Nodding to Need for Budget Cuts.", *Wall Street Journal*, January 22, 2011, http://online.wsj.com/article/SB10001424052748704754304576096171216582908.html?mod=WSJ_hp_MIDDLETopStories.

[4] See, e.g., "Unlike Germany, China refuses to introduce tariff incentives that would drive domestic demand for solar energy. Even with its dominant share of solar cell and panel production, and even as the country scrambles to generate more power, analysts estimate China installed less than 500 MW of solar power inside its own borders in 2010. With no incentive to sell at home, it's no wonder that Chinese companies prefer to export their hardware. … "The (Chinese) government does not want to be purchasing or installing PV at the current prices. It wants to use the Western market to create volume to drive down the cost and, when the cost is lower, then China will start buying," says Michael Eckhart, president of the trade group American Council on Renewable Energy." "Special Report: Is a solar trade war about to flare?", Reuters, January 17, 2011, available at http://news.stv.tv/environment/221163-special-report-is-a-solar-trade-war-about-to-flare/.

[5] Scientific Alliance (UK) Newsletter, 'Engineering the Future,' February 10, 2011.

In fact, experience indicates that mandating their use here is one more harmful move making it ever less likely they will end up being made here, because of the higher cost of energy 'renewables' necessitate.

But to follow this argument and believe that we will win the supposed great windmill race, or become the world leader in making them, is to believe that my buying a million copies of Windows will make me Bill Gates.

The answer to the rhetorical question proffered by certain policymakers -- "do we want to buy all of our windmills and solar panels from China?" -- is not to mandate their use here. We will always find ourselves buying from the low-cost producer, and just as the Germans have discovered with solar, that will rarely if ever be us. The answer is instead to decide against mandating or coercing their use here in the first place.

Not 'New', Not of 'the Future'

Talking points supporting these schemes, even out of the White House, often call windmills and solar panels 'new technology', 'the energy of the future', or 'nascent'.[6] All of that is difficult to maintain under scrutiny. Wind- and solar-powered electricity was commercialized over a century ago. They are not new, not 'nascent', and not of the future. Indeed, mandating or coercing capital to pursue those old failures actually delays technological innovation.

We cannot begrudge China for taking advantage of our leaders, who also assure us that energy sources having taken on totemic significance but which are still more than a century old, are 'new', 'nascent' and 'of the future'. But neither do we need to enable them.

Green 'Census' Jobs and the Green-Jobs Bubble

As the above quotes from industry supporters Messrs. Eckhart and Glaeser indicate, it seems that even interested experts agree that these programs will not lead to a U.S. economic or jobs boom of any sort. The best one can hope for is a debt-funded bubble, which must burst, and Americans have too much recent experience with such bubbles to accept seeing Washington repeat it.

Although we are no longer told about the spectacular success in creating green jobs in Europe let's look anyway at those we were previously told were our models to follow, and what really is happening in those laboratories of bureaucracy the European Union Member States.

As a recent story in the *Globe and Mail* opened:

> The Spanish and Germans are doing it. So are the French. The British might have to do it. Austerity-whacked Europe is rolling back subsidies for renewable energy as economic

[6] Although e.g., President Obama calls wind and solar 'new' technologies, even the industry will dispute that, for example, Southern California Edison calls solar PV a "mature" technology, in its PUC filings. http://www.renewableenergyworld.com/rea/news/article/2011/02/solar-pv-becoming-cheaper-than-gas-in-california.

> sanity makes a tentative comeback. Green energy is becoming unaffordable and may cost as many jobs as it creates. But the real victims are the investors who bought into the dream of endless, clean energy financed by the taxpayer. They forgot that governments often change their minds.
>
> Spain is famous for its housing bubble, whose bursting drove the national unemployment rate to 20 per cent-plus. Less well known is the renewable energy bubble, inflated by a government bent on shaking down the taxpayer to subsidize clean energy – a social program disguised as a politically correct industrial program.[7]

Many EU specifics follow, below.

Because the jobs these schemes create are almost exclusively temporary, mostly installation but anyway existing only so long as the political will to transfer taxpayer wealth from use A to politically determined use B, you can also consider them as much like census jobs.

We have even seen one industry (solar) boast that it is the most labor-intensive of all energy sources, even convincing lawmakers to repeat the claim as a virtue.[8] This indicates the U.S. could be the most prosperous country in the world if we only hooked up electrical generators to bicycles, treadmills and giant cranks for the workforce to run on, ride on, or walk around turning at eight-hour shifts.

If jobs is the goal, two key points stand out: first, there are many far cheaper ways to create equally temporary jobs, also incurring the debt and requiring taxes to pay for that, but without mandating such inefficiencies which ensure higher energy prices on top, further harming the economy. Like ‘green jobs’ schemes, programs paying people to dig ditches and fill them back up incur debt, and taxes to pay the debt off. 'Green jobs' schemes, however, also require higher energy prices to operate after they are built, thereby imposing more economic costs.

Just as renewable energy is a very expensive, and possibly the most expensive, way to reduce emissions, and the most expensive way to produce energy, it is probably the most expensive way to create jobs, and these are almost uniformly temporary jobs, at that. As reported by the *Washington Post*, the administration’s own claims of the per-job cost of green jobs that it identifies as having created are as high as $445,00 per job.[9]

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[7] Eric Reguly, “Austerity pulling plug on Europe's green subsidies”. The Globe and Mail (CA), January 26, 2011, http://www.theglobeandmail.com/report-on-business/commentary/eric-reguly/austerity-pulling-plug-on-europes-green-subsidies/article1883888/

[8] See, e.g., press release, “AS CONGRESS LOOKS TO NEW JOB CREATION LEGISLATION, SENATORS ASK OBAMA AND REID TO CONSIDER SOLAR MANUFACTURING BILL: Menendez, Stabenow, Bennet, Wyden and Gillibrand tout job creation benefits of Solar Manufacturing Jobs Creation Act”, November 30, 2009, http://menendez.senate.gov/newsroom/press/release/?id=f5a21c37-22c2-465b-994e-c57a62bb4d19

[9] Juliet Eilperin, Steven Mufson, ‘Clean energy sector keeps eye on funds that sustain it”, *Washington Post*, October 23, 2010, http://www.washingtonpost.com/wp-dyn/content/article/2010/10/23/AR2010102303287.html.

Second, the energy industry is not supposed to be a jobs program. *Fewer* workers per unit of energy ensures more affordable energy meaning more jobs in the broader economy. More workers per unit of energy produced means less productivity.

Productive economic activity flows from *lessening* the burdens being piled on top of industry, including those trying to produce more efficient energy sources (who see capital misdirected to politically determined sources). Encouraging instead, e.g., more domestic oil, coal and gas production would create jobs in the industry but also in the broader economy.

The German Model

The one bubble that has yet to fully burst is Germany's, but that fate clearly is unfolding. This model remains worthy of our focus because late last year the White House revived its claim that Germany offers a successful model of what they hope to accomplish here with similar policies.[10]

Germany's electricity costs are the second-highest for families among the 27 members of the EU (22.9 euro cents per kilowatt-hour, 39 percent more than the EU average of 16.5 cents). Yet a late January headline in *Focus* Magazine read "Es vird dunkel in Deutschland"[11] (translated: "It gets dark in Germany"). About the projected, looming blackouts, "Liberal MEP Holger Krahmer is quoted saying, 'this shouldn't surprise anybody given the irrational energy policies of excessive reliance on renewables.'"

We have already seen widespread warnings that the politically driven obsession with creating jobs by trying to be the leader in solar power threatens to "collapse" Germany's electricity system.[12]

Just in December, "the German government announced it may discontinue the solar industry's sweetheart tariffs in 2012. This latest announcement follows a surprise reduction in 2009 and another reduction to start in 2011. More is in the offing. In October, the German Energy Agency, the country's official advisor on renewables, called for Germany's drive toward solar to be "cut back quickly and drastically" by capping its installations of solar panels at a mere one gigawatt per year, down from the estimated eight to 10 GW being installed this year. Past cuts alone, it warned, would not avert the "catastrophe" of too much solar."[13]

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[10] Weekly Address: Solar Power & a Clean Energy Economy, October 2, 2010, http://www.whitehouse.gov/blog/2010/10/02/weekly-address-solar-power-a-clean-energy-economy

[11] "Es wird dunkel in Deutschland ", Focus, January 22, 2011, http://www.focus.de/immobilien/energiesparen/stromversorgung-es-wird-dunkel-in-deutschland_aid_592633.html.

[12] See, e.g., "Energie-Agentur warnt vor Netz-Kollaps", *Berliner Zeitung*, October 17, 2010.

[13] Lawrence Solomon, "The Green Energy Collapse: Across the world, unsustainable subsidies for wind and solar are being cut back", *Financial Post* (CA), 3 December 2010, http://opinion.financialpost.com/2010/12/03/lawrence-solomon-green-collapse/.

The longstanding, state-funded think tank RWI-Essen responded to U.S.-based admiration in a paper (republished in the peer-reviewed literature), titled "Economic Impacts from the Promotion of Renewable Energy Technologies: The German Experience".[14] In it, their experts concluded:

> "[A]lthough Germany's promotion of renewable energies is commonly portrayed in the media as setting a 'shining example in providing a harvest for the world' (*The Guardian* 2007), we would instead regard the country's experience as a cautionary tale of massively expensive environmental and energy policy that is devoid of economic and environmental benefits."

As regards jobs, like others who have studied the issue these authors concluded that Germany's 'green jobs' schemes have on net killed jobs.

> "Any result other than a negative net employment balance of the German PV promotion would be surprising. In contrast, we would expect massive employment effects in export countries such as China."

About the political practice of claiming or projecting large job gains:

> While such projections convey seemingly impressive prospects for gross employment growth, they obscure the broader implications for economic welfare by omitting any accounting of off-setting impacts. The most immediate of these impacts are job losses that result from the crowding out of cheaper forms of conventional energy generation, along with indirect impacts on upstream industries. Additional job losses will arise from the drain on economic activity precipitated by higher electricity prices. ...[T]he private consumers' overall loss of purchasing power due to higher electricity prices adds up to billions of Euros. Second, with the exception of the preferentially treated energy intensive firms, the total investments of industrial energy consumers may be substantially lower. Hence, by constraining the budgets of private and industrial consumers, increased prices ultimately divert funds from alternative, possibly more beneficial, investments. The resulting loss in purchasing power and investment capital causes negative employment effects in other sectors, casting doubt on whether the [renewables law's] employment effects are positive at all. (citations omitted)

This experience compelled even the left-wing *Guardian* columnist George Monbiot, who wrote, in his column "Solar PV has failed in Germany and it will fail in the UK: Our tariff plan is near-

[14] Vance, et al. "Economic Impacts from the Promotion of Renewable Energy Technologies: The German Experience", RWI-Essen, November 2009, http://repec.rwi-essen.de/files/REP_09_156.pdf. See also Hillebrand et al., "The expansion of renewable energies and employment effects in Germany", Energy Policy 34 (2006) 3484-3494.

identical to Germany's – that's the one that produced woeful amounts of energy, jobs and innovation":[15]

> I have come to oppose solar photovoltaic power (PV) in the UK, and the feed-in tariffs designed to encourage it, because the facts show unequivocally that this is a terrible investment. There are much better ways of spending the rare and precious revenue that the tariffs will extract from our pockets. ... Money spent on ineffective solutions is not just a waste: it's also a lost opportunity.
>
> Environmentalists have no trouble understanding this argument when lobbying against nuclear power. Those who maintain that it's more expensive than renewable electricity argue that we shouldn't waste our money investing in it. But now I hear the same people telling us that we should support every form of renewable generation, regardless of the cost.
>
> In principle, tens of thousands of jobs have been created in the German PV industry, but this is gross jobs, not net jobs: had the money been used for other purposes, it could have employed far more people. The paper estimates that the subsidy for every solar PV job in Germany is €175,000: in other words the subsidy is far higher than the money the workers are likely to earn. This is a wildly perverse outcome. Moreover, most of these people are medium or highly skilled workers, who are in short supply there. They have simply been drawn out of other industries.

The Broader European Experience

More broadly, European countries previously cited in Washington as models to follow -- but which, upon scrutiny, turned out to merely have made this mistake so we don't have to -- are desperately scrambling to mitigate the damage in the face of tremendous political pushback from the constituencies they created and nurtured into the equivalent of our own ethanol industry (with which the parallels run deep).

UK think tank Open Europe informs us of how earlier this month the Czech daily *Hospodářské Noviny* criticized the European Commission's calls for more spending on renewables, noting that "Europe is running a race which no one else is running. And the victory in this race will do nothing for the global climate."[16]

Specifics from those example countries where similar subsidy schemes had to be scaled back include Spain, Holland, France, Italy, and Denmark; Spain is addressed immediately below, the

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[15] George Monbiot, "Solar PV has failed in Germany and it will fail in the UK: Our tariff plan is near-identical to Germany's – that's the one that produced woeful amounts of energy, jobs and innovation", *Guardian*, March 11, 2010, http://www.guardian.co.uk/environment/georgemonbiot/2010/mar/11/solar-power-germany-feed-in-tariff

[16] Citing http://hn.ihned.cz/c1-49683010-globalni-ulet-bruselu, and also Frankfurter Allgemeine-Zeitung, http://www.faz.net/s/Rub0E9EEF84AC1E4A389A8DC6C23161FE44/Doc~E817DC35BF80D4BE0932A4B57C74BDFCA~ATpl~Ecommon~Scontent.html.

latter four are addressed in an appendix to this testimony. Most disturbing is that, although promoters no longer cite these as examples, their policies are nonetheless still being promoted.

John Constable of the UK's Renewable Energy Foundation notes the following in his forthcoming paper on 'green jobs':[17]

> 1. The EU's own study, *The Impact of Renewable Energy Policy on Economic Growth and Employment in the European Union* (27 April 2009), admits that the employment and GDP effects of the Renewable Energy Directive are "slight", even assuming that the EU27 retains a > 40 to 50% share of the world market in renewable energy trade. (Current share is between 60 and 70% but dropping quickly.)[18]
>
> 2. The gross effects of job creation are numbered in the millions (3m), but the net effects, even under the optimistic export scenario above, are numbered in the hundreds of thousands (400k), and are not uniformly positive for all EU states.
>
> 3. GDP effects are fractions of a 0.5% in 2020, even on optimistic assumptions about trade.
>
> 4. These are very feeble benefits for what the gross employment figures tell you is an enormously disruptive rebalancing of the European economy. Put another way, the EU renewables strategy is a gamble where the stake is enormous, the risk of losing is high, but the reward for winning is very modest indeed. In other words it's economically reckless.
>
> 5. There are signs of unease in the Trade Union movement. An extreme left wing grouping, the Campaign against Climate Change, estimates that the results of their very enthusiastically endorsed green policies mean the direct displacement loss of 594,000 jobs in UK motor manufacturing, road transport, and aviation over twenty years. The only remedy they can find is for the government to employ 1 million people in a National Climate Service. This is febrile and unbalanced, but revealing of deep concerns nonetheless.[19]
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> 6. He also writes the following quotation in a recent piece in *Standpoint*:[20]

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[17] From an email by John Constable to this author. Referencing the forthcoming, John Constable, *Green Collar: The Prospects and Character of the Low Carbon Economy* (Civitas: London (2011)).

[18] See: http://ec.europa.eu/energy/renewables/studies/renewables_en.htm. For the word "slight" see p. 24 and 25 of the summary.

[19] See: *One Million Climate Jobs: Technical Note: Jobs Gained and Lost* (2010), see also www.climate-change-jobs.org/node/14.

[20] John Constable, "Renewables won't keep the lights on", *Standpoint* (Jan.-Feb.2011), 54-55. http://www.standpointmag.co.uk/node/3639/full.

> "the [UK] Coalition [government] is attempting to drive a green industrial revolution by means of state-guaranteed rates of return for investors in nearly half the electricity sector. The Government's own figures show that this will be expensive, resulting in costs that will seem all the more insupportable if natural gas prices remain low. In addition, current ambitions may have disastrous opportunity costs. To achieve targets, government must commit itself to currently available emerging technologies and thus will forestall or forego as yet unknown inventions and innovations."

Spain

This month Spanish Prime Minister Jose Luis Rodriguez Zapatero admitted for the first time that Spain's solar industry just might be a bubble after all, in that it resembles another bubble we all experienced recently. Both are courtesy of well-intentioned but misguided efforts by the state to design an economy of its political liking.

Spain's green layoffs the last two years, since exposure of the error of citing them as a shining success story here in the U.S., have been devastating. According its own renewable associations these are around 40,000 jobs lost (some 8,000 in the wind sector and 32,000 in the solar sector).

It was a bubble. Created by expensive 'green jobs' schemes. It burst. Leaving Spain vastly worse off than had it not ever incurred the debt and economic harm in the first place.

Other signs of the obvious include how, in December:

> "Spain slashed payouts for wind projects by 35% while denying support for solar thermal projects in their first year of operation. Spain's renewables industry also faces a cap on the number of megawatt-hours eligible for subsidized rates. This latest round of Spanish cuts followed announcements in November that payouts for solar photovoltaic plants would be cut by 45%. Drastic as all these cuts seem — they will gut large parts of the renewables industry — they come as a relief to the industry, which had feared worse. In June, the Spanish government had threatened to renege on contracts it had entered into with the renewables industry, effectively bankrupting it."[21]

Later that same month the government cut the subsidy to windmills and solar panels, again. This included cutting solar subsidies retroactively, in one sense, in that those who bought in at astronomical guaranteed returns for 25 years are taking a haircut even though they were locked into the Ponzi-style pyramid.

Then the government approved another increase in the price of electricity for households and small business. The New Year's gift increased electricity rates 9.8%, bringing to about 20% the increase in the cost of electricity in 12 months piled on Spanish households and small

[21] Solomon, "The Green Energy Collapse: Across the world, unsustainable subsidies for wind and solar are being cut back", *Financial Post* (CA), 3 December 2010.

businessmen. With more inevitably to come, as even Spain's high electricity prices were 30% too low to pay for the renewable energy, and the true cost had to be hidden from the voters.

It is important to note that this was predicted by researchers led by Dr. Gabriel Calzada in a study[22] the Obama administration organized with AWEA, CAP and UCS to assail, including on the basis that it did not consider the future (untrue) and the future would be good (even less true).

Within 24 hours last Spring windmill maker Gamesa announced the closure of one plant in Navarra (Spain) plus a reduction of 10% of its Spanish labor force, and the opening of a plant in China.[23] As with the Redcar steel plant closing in the UK because of cap-and-trade and various other 'green jobs' schemes only to simultaneously open another in India, the principal denies the inescapable: they closed a facility as a result and moved the capacity to China.

I attach more recent developments along very similar lines in France, Holland, Denmark and Italy at the end of this testimony. **If we follow these policies, we should expect these results**.

Expensive Waste

Spending billions on further supports for uneconomic projects will only leave us far less well off. If making, e.g., solar panels, here in the U.S. is the goal, instead of merely creating temporary, expensive jobs to install them, then solar schemes are a terribly wasteful job-creation program.

Further, any industry whose principal argument remains that if it does not receive this particular government support scheme it will disappear or at least have to leave the country should be told, in response, to go ahead and disappear or leave the country.

The rest of the pitch, while never advanced, remains true: this is their fate even if they do get the specific government support scheme. Which is why these 'temporary' supports are always extended, after always prompting the same releases from the same associations claiming that all projects will be shelved unless the support – which can be as much as 30% of a project's cost – is rescued.

As syndicated columnist Debra Saunders recently wrote, after seeing yet another taxpayer-funded promise of a 'green jobs' bonanza turn out to be a temporary and expensive venture that soon packed up and left, "This leaves American solons with two choices: Keep feeding the meter -- or cut your losses.... With the unemployment rate at 9 percent, Washington should be looking to create jobs that aren't going to run to China.[24]

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[22] Calzada et al., "Study of the effects on employment of public aid to renewable energy sources", King Juan Carlos University, Madrid, March 2009, http://www.juandemariana.org/pdf/090327-employment-public-aid-renewable.pdf.

[23] See, e.g., "Gamesa Starts Building New Wind Turbine Plant In China", *Wall Street Journal*, May 10, 2010.

[24] Debra Saunders, "Green jobs not so evergreen", February 8, 2011, available at, e.g., Orange County Register, http://www.ocregister.com/opinion/jobs-287537-solar-american.html, citing " [Evergreen's now collapsed]

Congress has more than enough evidence to evaluate proposals to dig deeper on what otherwise promises to be a regrettable compounding of the problem created by the ethanol support schemes -- which offer many parallels, none of them promising.

The prospect is whether to perpetuate disastrous squandering of taxpayer resources. Late last year, after seeing an internal White House memo about the efficacy and wisdom of these 'green jobs' programs, the *Wall Street Journal* wrote that the schemes stick taxpayers with risk properly assigned to investors and, in the event of success, the taxpayer is excluded from the upside. In short, this "political allocation of capital" perverted market economics.[25] Quoting the memo, the *Journal* wrote how:

> "OMB and Treasury found severe problems with 'the economic integrity of government support for renewables.' Developers had almost no 'skin in the game,' meaning that their equity in projects was well below ordinary standards in the private market. They were also 'double dipping,' obtaining loan guarantees for projects that 'would appear likely to move forward without the credit support' in the stimulus because of other subsidy programs. The reason for the roadblock was 'an insufficient number of financially and technically viable projects.'"

The memo made the schemes appear to be mere political gifts to preferred parties. Writing about a GE project the White House singled out, "The memo dryly observes that 'the alternative of private financing would not make the project financially non-viable.'" That is, the program wasn't necessary for this project to go forward, at all, but was a gift, from politicians to favored entities if using taxpayer money.

> "Oh, and while Shepherds Flat might result in about 18 million fewer tons of carbon through 2033, 'reductions would have to be valued at nearly $130 per ton CO2 for the climate benefits to equal the subsidies (more than 6 times the primary estimate used by the government in evaluating rules).'
>
> So here we have the government already paying for 65% of a project that doesn't even meet its normal cost-benefit test, and then the White House has to referee when one of the largest corporations in the world (GE) importunes the Administration to move faster by threatening to find a private financial substitute like any other business. Remind us again why taxpayers should pay for this kind of corporate welfare?"

Massachusetts plant opened in 2008 with much fanfare and generous taxpayer assistance. But just one year later, The New York Times reported, company suits were talking to Chinese officials, who could offer cheaper labor -- average monthly wages below $300 as opposed to $5,400 in the Bay State -- sweetheart loans and other incentives."

[25] "Wind Jammers at the White House: A Larry Summers memo exposes the high cost of energy corporate welfare", *Wall Street Journal*, November 12, 2010, http://online.wsj.com/article/SB10001424052748704635704575604502103371986.html?KEYWORDS=browner.

Indeed, the president seemed to admit as much in a deliberate phrase he used serially in three high-profile speeches (his first address to Congress, his September 2009 UN “global warming” speech, and his first State of the Union speech) promoting the idea of a state-created 'renewables' industry. That is, he called for legislation “that would finally make clean energy the profitable kind of energy for American businesses.”

The key word there is to make inefficient projects “profitable”. The state can't make them work in any sense of the term applied to others not politically selected for success. That’s corporate welfare. This reflects the objective of various “green jobs” schemes: make everything else so expensive as to give life to the uneconomical. But that is incredibly economically harmful.

In short, none of the proffered reasons for doing this actually apply, upon scrutiny.

Conclusion

We are told that *it's time we begin investing in* that which the taxpayer has already spent billions on over numerous decades to painfully little avail. Indeed, that very rhetoric is an admission that we remain where we started decades ago, at square one, despite these scores of billions in supports here and scores more elsewhere.

It is hard to imagine a more compelling admission of failure, and exhibit to re-evaluate continued supports.

Further, As MIT’s Thomas Lee, Ben Ball, Jr., and Richard Tabors wrote in the conclusion of *Energy Aftermath*, a retrospective on Carter-era energy policies which are enjoying a resurgence in today's Washington, "The experience of the 1970s and 1980s taught us that if a technology is commercially viable, then government support is not needed and if a technology is not commercially viable, no amount of government support will make it so."[26]

It is in fact precisely the time that we -- via our elected policymakers -- begin showing more restraint before embarking on a vast compounding of the dilemma that ethanol supports have created, from which, politically, we apparently have found no way out.

[26] Thomas Lee, Ben Ball, Jr., and Richard Tabors, "Energy Aftermath", Harvard Business School Press (1990).

Recent Developments in Other EU "Green Economy" Programs

Denmark

Denmark's windmill binge has not reduced its coal use or carbon dioxide emissions, but has left it with Europe's highest residential electricity rates.[27] In 2009 Danish families paid 25.5 euro cents per kilowatt-hour, 55 percent more than the EU average of 16.5 cents.

Now, they are losing jobs after learning that these by-definition bubble industries must indeed face their reckoning no matter how madly the taxpayer is forced to support them.

"With the market for wind shrinking, Denmark's Vestas, the world's largest wind-turbine company, recently announced it is closing five production facilities in Denmark and Sweden and laying off 3,000 workers, or one-seventh of its global workforce. Other wind companies are also preparing for a downsized market"[28] It previously closed a plant on the Isle of Wight.

France

1) "In December, the French government unveiled a plan for a three-month moratorium on new solar projects that are eligible for subsidized tariffs. The goal was to prevent a speculative PV bubble while it mulls new regulations for renewable energy.

There is no doubt the replacement regime will be less generous. CRE, the independent regulator of the French energy and natural gas markets, recently estimated that taxes on electricity would have to almost triple to meet the rising costs of renewable energy. The question, of course, is whether rising energy taxes could kill more jobs than those created by renewable energy expansion."[29]

2) "Everybody knows about Spain's solar bubble, but did you know France had one too?

… Flush with visions for the solar future, the legislature set the price at 546 euros per megawatt-hour, almost ten times the market price of 55 euros that customers pay for electricity from other sources. Electricitie de France (EDF), the national utility, was obligated to buy from all comers, covering the costs with a special levy on other customers.

…The government cut the price support twice last year but was finally forced to impose a three-month suspension in December.

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[27] See, e.g., Hugh Sharman and Henrik Meyer, "Wind Energy: The Case of Denmark", CEPOS, Copenhagen, September 2009, http://www.cepos.dk/fileadmin/user_upload/Arkiv/PDF/Wind_energy_-_the_case_of_Denmark.pdf.

[28] Solomon, "The Green Energy Collapse: Across the world, unsustainable subsidies for wind and solar are being cut back", *Financial Post* (CA), 3 December 2010.

[29] Eric Reguly, "Austerity pulling plug on Europe's green subsidies". The Globe and Mail (CA), January 26, 2011, http://www.theglobeandmail.com/report-on-business/commentary/eric-reguly/austerity-pulling-plug-on-europes-green-subsidies/article1883888/

Now costing 1 billion euros per year, the program does not expire until 2017 and has put the utility in trouble. EDF's stock declined 20 percent last year, compared to only a 3.7 percent decline for the rest of Europe's Stoxx 600 Utilities Index. The utility is now 57 billion euros in debt. Plans to upgrade its aging fleet of 53 nuclear reactors — which provide 75 percent of France's electricity — have been thrown into doubt. The utility has been forced to raise the renewables levy on other customers from 4.50 euros to 7.50 euros per megawatt-hour, but financial analysts say they will have to pay up to 12.90 euros — almost 25 percent above the market price — for EDF to break even.

Unlike Spain, which entertained hopes of becoming a world leader in solar manufacturing, France seems to have created its bubble out of sheer delusions over the 'renewable future.' 'Most panels installed in France were made in China with a highly questionable carbon footprint,' Environment Minister Nathalie Kosciusko-Morizet told parliament last month. "Policies should create jobs in France, not subsidize Chinese industry."[30]

3) In December 2010 "France announced a four-month freeze on solar projects and a cap on the amount of solar that can be built, to nip a "veritable speculative bubble" by its rapacious renewables industry. These measures and others continue a retrenchment that saw industry payouts cut twice earlier this year, and that will likely continue as opposition grows to France's rapidly rising power tax on electricity. Complains the French renewables industry, which predicts job losses amid the slew of projects that will disappear: 'It's a sad joke to change regulations every three months.'" [31]

That is what replicating these policies begs, however.

Holland

"In a radical change of policy, the Netherlands is reducing its targets for renewable energy and slashing the subsidies for wind and solar power. It's also given the green light for the country's first new nuclear power plants for almost 40 years. Why the change? Wind and solar subsidies are too expensive, the *Financial Times Deutschland*, reports."[32]

"According to a recent report in the FT Deutschland (with translation kindly provided via the excellent Global Warming Policy Foundation), the Dutch government has made a rational and pragmatic decision to change its energy and climate policy quite radically. It has decided, like the UK but unlike Germany, to invest in new nuclear power stations as the only way to provide low carbon base load power. At the same time, it has stopped subsidising offshore wind turbines and all photovoltaic systems …

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[30] Carl Shockley, "France's Solar Bubble Pops", National Review Online, January 20, 2011, http://www.nationalreview.com/planet-gore/257549/france-s-solar-bubble-pops-carl-shockley

[31] Lawrence Solomon, "The Green Energy Collapse: Across the world, unsustainable subsidies for wind and solar are being cut back", Financial Post (CA), 3 December 2010

[32] Andrew Orlowski, The Register (UK), "Holland slashes carbon targets, shuns wind for nuclear", February 11, 2011, http://www.theregister.co.uk/2011/02/10/holland_energy_switch/.

The Dutch government will continue to provide support for land-based wind turbines, hydropower schemes and small biogas plants, since these require considerably less subsidy than solar or offshore wind installations. Quite simply, the Netherlands has decided to get the best value for its taxpayers' money when backing low-carbon power generation. With the German and Spanish governments having made heavy cut-backs in their generous subsidies of photovoltaic installations and the UK government already reviewing the feed-in tariff system for micro-generation, perhaps we are seeing a trend."[33]

Italy

According to Carlo Stagnaro and Luciano Lavecchia of the Instituto Bruno Leoni, who published a study titled "Are Green Jobs Real Jobs?: The Case of Italy",[34] based on official data and estimates that Italy's public cost for such subsidized jobs will peak at around €6-7 billion per year in 2020,[35] between 2000 and 2040 all subsidies for wind and solar power will come to roughly €63.6 billion; this means Italian consumers will be forced to spend, on average, between €566,000 to €1.26 million per green job.

> "This compares to the average 'stock of capital,' or cost per job, of €112,500 in the industrial sector and €163,200 in the whole economy, according to the Italian Institute of Statistics. So one green job costs on average as much 4.8 jobs in the entire economy, or 6.9 jobs in the industrial sector. The same amount of subsidies that have already been given or committed could produce nearly five times as many jobs if allowed to be spent by the private sector elsewhere in the economy….Our figures only seem to confirm what is intuitive: That the green economy may be very profitable for those who receive the subsidies, but that they are detrimental to the overall economy. Environmentalists and politicians keep speaking about the supposed "double dividend" of renewable energy. Subsidizing green sources may or may not deliver an environmental benefit, but our study suggests that if there is a payoff, it doesn't come for free."[36]

In short, Europe has reminded us that there is no free lunch, there are expensive trade-offs in these schemes, and that we should indeed look at what's happening there, and learn from their experience as the White House so often insisted.

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[33] Scientific Alliance (UK) Newsletter, 'Engineering the Future,' February 10, 2011.

[34] Luciano Lavecchia and Carlo Stagnaro"Are Green Jobs Real Jobs?: The Case of Italy", Istituto Bruno Leoni, Milan, May 2010, http://brunoleonimedia.servingfreedom.net/WP/WP-Green_Jobs-May2010.pdf.

[35] An amount which may be reduced now that the country has found it necessary to reduce the feed-in tariff for photovoltaic power; but see "Italy Has A US$60 Billion Solar Subsidy Problem, Says Barclays Capital", http://thegwpf.org/international-news/2332-green-suicide-italy-has-a-us60-billion-solar-subsidy-problem-says-barclays-capital.html, that is worse than Germany and Spain combined.

[36] Carlo Stagnaro and Luciano Lavecchia, "Clean Jobs, Expensive Jobs: Why Italy can't afford a "green economy", *Wall Street Journal* May 11, 2010, http://online.wsj.com/article/SB10001424052748704342604575222021623817924.html.