

# **The Deepwater Oil Spill Exposes a Persistent Failure to Plan and Failure to Lead**

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The 1969 Santa Barbara Oil Spill catalyzed the environmental movement in the US and inspired some important legislation but did not lead policymakers to take the next step and start the long process of weaning the US from its oil dependency (Photo: Unknown)

President Obama is facing with the explosion of the Deepwater Horizon, a “local” disaster that exposes a deeper, endemic crisis in US energy policy and the US economy as a whole. As he has been in office for still just 16 months, Obama does not bear primary responsibility for this ongoing crisis but he has only recently, a couple weeks after the accident, publicly hinted at the "elephant in the room": the obvious connection between the undersea oil volcano and our equally obvious need to transition from using oil as our primary transport fuel. Simple reference to the Kerry-Lieberman climate bill that encourages more offshore drilling does not constitute an answer to our oil dependence.

Unfortunately public rhetoric and policy discussions that hinge on the notion of a dependence on "foreign" oil plays the role of a "shortstop" in keeping the discussion from going to the heart of the problem. The idea that oil produced on American shores will somehow differentially serve American consumers overlooks the international nature of the oil business with total offshore oil reserves destined never to make much of a difference in the overall price and availability of oil. [Estimates put the total reserves of offshore oil](#) in US waters at 18 billion barrels conventionally recoverable and an additional 58 billion barrels "technically recoverable". While this oil, if pumped, would just be sold on the world market, it equals the equivalent of 11 years of consumption for the US at our current oil consumption rate of 8 billion barrels/year. Subtracting the huge costs of oil spill cleanups and damage, most of the [economic benefit of offshore drilling](#) would accrue to oil companies and secondarily to state and federal governments in harvesting royalties, however the latter are going to be left "holding the bag" for the really, really big costs.

To ground this discussion in reality for just a moment, the [2009 US DOE Transportation Energy Data Book](#) attributes to the US 2% of the world's oil reserves, 8% of production, and 24% of consumption while the rest of the non-OPEC world comes out just a little better at 29%, 48% and 67% respectively. Conventional natural gas is not a much more promising energy source for the future with the US having 3% of the reserves, 18% of the production, and 21 % of the consumption. In the US, transportation accounts for 70% of all petroleum use and 24% for industrial uses. Consumption of petroleum for transportation in the US is 84% for road

transportation with around 65% for cars and light trucks and 18% for medium and heavy trucks. Airplanes use 9%, shipping 4.2%, and rail 2.0%. Even if we consumed petroleum and natural gas in proportion to worldwide production, [there are credible predictions](#) that we are somewhere in the neighborhood of the worldwide peak in production whether today or in a decade's time. Even if there were two more decades until the peak and we looked away from oil's climate and local pollution impacts, would it be justified for our generation to run through this exhaustible resource?

The ballooning US trade deficits are attributable in the last decade [approximately 55-60% to outgoing payments for petroleum imports](#) but with the 2008 price spike, oil's proportion climbed to 65%. With oil prices once again ascending the petroleum related component of the US trade deficit will continue to climb. With the last US trade surplus in 1973, the total US trade deficit has since 2003 stayed in [the range \\$500B to 800B per year](#).

Turning back to politics, the President, whether by his own inclination or badly counseled by his advisors, has since taking office had a tendency to let the issues be defined for him rather than shaping policy with original view of his own. He has approached health care, financial reform, and climate and energy as though there was some pre-formed wisdom which he simply needs to allude to or tap into in order for the American people and Congress to understand. Erring on the side of being too laid back, perhaps partaking of the Spirit of Aloha, has not always served him well: to get health care across the line he had to shed the "cool customer" image to actually win the votes in Congress.

The apparent rationale for his laid-back approach to issues, so commentators say, comes from overlearning what is considered to be a mistake of the early Clinton White House. Clinton's hands-on approach to policy is supposed to have alienated Congress and doomed Clinton's health care efforts. Obama has taken the opposite tack and can claim at least passage of a health care bill, though it is not clear yet how positive an achievement this will be considered when it actually takes effect.

What is missing so far in the Obama Presidency is the President taking the role of educating and perhaps changing the public's views on important issues, which have been heavily colored by a very strong and organized counter-reform messaging machine. The President has shied away from using the "bully pulpit" and allows Congress, which is considered by the public at the moment to be corrupt and untrustworthy, to shape the terms of the debate.

With the approach to a climate and energy bill this year, post-health care, the President opened up with a tactic rather than with a strategic plan for energy. [His announcement in March](#) that he would lift the ban on offshore drilling in parts of the Gulf and the East Coast was a means of gaining support from Republicans for the ever more [amorphous climate and energy package](#) which is currently in the Senate. Meanwhile, with so many issues and concerns, it is safe to say that energy is not top-most on most people's minds in the Great Recession.

But the President has so far treated this as a case of another industrial accident [for which liability can be assigned](#) to the owner or commissioner of the oil rig, BP. President Obama has not even

advanced to the rhetorical level of George Bush's 2006 State of Union where Bush declared America "[Addicted to Oil](#)", despite Bush, in action, being responsible for gutting the regulatory agencies that may have prevented the spill. While nominally a more "liberal" President and not from the oil patch, Obama has not presented a tangible vision of a post-oil society and, in combination with his preferred policies and speeches, the public is left mired in the oil-dependent present.

Discussions about who is to blame, who will pay, and what can be done in the Gulf to recover from the spill are important but are ultimately distractions from the most important question:

What will the US do to wean itself from its oil dependency?

In media accounts, the effort to make this a conventional tale of corporate or regulatory malfeasance is becoming the favorite of supposedly hard-hitting television journalists. Yet these interviewers avoid looking into the frightening "maw" of our economy's fatal dependence on oil. The President is also looking away, focused as he is on technical and regulatory "fixes" for the offshore drilling disaster.

The upcoming climate bill in the Senate is being sold as an effort to reduce our dependency on oil and other dirty fuels but it contains few aggressive provisions to get us there. The [just released details](#) of the bill, indicate that its mild cap and dividend provisions may slightly raise oil prices (starting in the area of \$.10-\$.20/gallon and increasing by 3-5% over inflation per year). And offshore drilling provisions are in the current draft, offered now as an opt-out for states that wish to keep the ban in place. As a whole, the bill postpones until the 2020's any serious moves to cut emissions and focuses on the implementation of coal carbon capture and storage rather than more promising renewable technologies and grid enhancements. Ironically, Senator Kerry has mentioned on TV, as if this were a sign of his seriousness, that he had been working with the oil industry on this bill.

If we assume the best intentions of the President and the Congressional leadership, one single legislative session or bill cannot undo 30 years of negligence and foolish disregard in the area of energy. Whatever his ultimate goals and political commitments as President, Obama, if he endeavored to "do the right thing", would have a number of hurdles (described below) to overcome. However right now, he, his Administration and his Congressional allies are managing just a few cosmetic moves in the direction of change. On the issue of oil use and oil dependence, the bill and the Administration's efforts are weak.

I am proposing here a stronger response that deals directly with America's oil dependency.

## A Strategic Energy Plan for Oil-Independence and Carbon Mitigation



A serious effort to get off oil will involve an equal emphasis on battery electric and grid-tied or grid-optional large vehicles like this trolleybus. The de-electrification of public transportation, while greeted by some as progress, now appears to have been a big mistake. (Photo: Adrian Corcoran)

The only solution to our oil dependency and the inevitable disasters that come from a mad rush to extract as much oil as possible from the earth is to create a strategic national energy plan that addresses both our oil dependence and our climate concerns. A plan is required because changes in the transportation and energy system involve the coordination and arrangement in a sequence of certain key activities and infrastructure changes, for which market mechanisms, the current "default" preference for policymakers of both Left and Right, are ill-equipped. Such a plan would also be the occasion for leaders of government to show and exercise leadership rather than look around for a lucky break or well-meaning private actors and companies to step into the breach. Turning to planning is unfortunately now in America a politically fraught move but there is simply no alternative, if we want to have a sustainable economy, whether in the narrow economic sense or the broader ecological sense.

A growing chorus of corporate leaders and former government officials is calling for an electrified, oil-independent transportation system for national defense reasons as well as environmental ones. Recently Bill Ford, chairman of Ford Motor Company [made the connection between national security](#) and oil, indicating that Ford's product roadmap will focus on electric drive vehicles in the future. James Woolsey, former CIA chief under Clinton, has been a [long-time advocate of electrification](#) for reasons of national defense.

Other nations are rapidly moving away from oil through plan-based efforts by governments in coordination with the private sector, even as almost every other country is starting from a position of less oil-dependence than the US. The Chinese leadership, as is well-known, is very

concerned about the effects of oil shortages and prices on China's economic development. China is in the process of building [an extensive high-speed rail network \(to Europe too\)](#) and is as well working on developing a lead in the area of battery powered vehicles. President Obama mentioned in a recent speech China's ambitious rail program as an analogue to his efforts in the US but I believe he knows that there is no comparison between the scale of their efforts and our much modest ones. Japan and Switzerland have almost entirely electrified rail networks and France has the goal of electrifying [its entire rail network by 2025](#). Russia, despite its plentiful oil reserves, has electrified the Trans-Siberian and Murmansk lines of its railways in the last 10 years. [Denmark, Japan, France, and Israel all are executing plans](#) to build widespread electric vehicle charge and battery-swap infrastructure. By contrast, US freight and passenger transportation in all modes is almost totally dependent upon oil, leaving the US vulnerable to political and geological disruptions of supply and price spikes (see [Alan Drake's proposal](#) for a comprehensive electrified train system for the US).

### **Two Pronged Strategy: Efficient Use and Oil-Independent Infrastructure**

There are two prongs to getting off oil which also share a common path. One prong is increasing the efficiency of oil use in the US via increasing the person or freight miles traveled per unit petroleum consumed. The other prong is building an oil-independent transport infrastructure and oil-independent vehicles. Investment in routes on the path common to both should be favored over those that commit us interminably to oil.

The dream of a quick-fix, a "drop-in" technological solution that will simply replace oil has proved to be elusive and has so far found little basis in the science of energy. So the proposed solution has a number of parts and involves tradeoffs and some large initial costs. However, the invitation is there to any readers to find a better, presently available solution and publicize it.

#### **Efficient Use:**

1. Levying a gas tax or price stabilization tax that insures that drivers can plan on a minimum gas price going forward on an ascending schedule. Instead or in addition, a carbon tax or fee would disincentivize coal use as well, though might be supplemented by a gas tax to reduce gas use. (the Kerry Lieberman bill's cap and dividend provisions will raise gasoline prices imperceptibly in the first few years).
2. Enable full use of existing passenger rail and bus transportation infrastructure via adequate funding to [increase schedules](#), keep current fare levels. Determine via market surveys and statistics optimal service levels for each route.
3. Encourage shared ride and shared vehicle programs and services using Internet and mobile phone resources to coordinate and develop ride-sharing social networks
4. Mandating [idle-stop systems](#) (a.k.a. "mild hybrid") on all new trucks and cars as of 2013. Comprehensive idling reduction program at all truck stops, including incentivizing "shore power" electric hookups and retrofit kits. Mandate [Cold ironing](#) facilities at all shipping berths by 2015.
5. Incentivize [Transit Oriented Development](#) via federal incentives for zoning changes at the local government level and developer and homeowner tax incentives.

While focusing on efficient use alone seems “pragmatic”, it actually does not have nearly the appeal and long-term economic stimulative effect of building an infrastructure that moves passenger/driver miles and freight ton-miles off of oil permanently. To focus on efficient use without building for the long-term is an incomplete strategy.

### **Oil-Independent, Carbon-Independent Infrastructure:**

See [Drake et. al.](#) for a slightly different more detailed proposal

1. Double or multi-tracking the US rail system on all but low traffic lines enabling consistent speeds of 110 mph on non-high speed lines for freight and passenger trains.
2. Stepwise electrification of rail infrastructure to 100% electric traction.
3. Building on an accelerated basis dedicated high speed rail lines per the US HSR Association’s recommendation: <http://www.ushsr.com/hsrnetwork.html>
4. Electrification of 80% of government vehicle fleets using a variety of battery charging technologies including trickle charge, rapid-charge and [battery exchange](#) technologies.
5. Extended tax incentives for corporate vehicle [fleet conversion](#) to battery power or for plug-in hybrids.
6. Rapid build-out of a super-grid supportive of renewable energy development throughout the US.
7. A robust regime of incentives for renewable energy development ([advanced feed in tariffs](#) based on cost recovery plus reasonable profit with descending incentives for projects in later years).
8. Electrification of high traffic bus routes via either [trolleybuses](#) or [streetcars](#).
9. Build out of [light rail](#) and regional rail networks to interconnect high and medium density cities and suburbs.
10. Corporate tax credits for build-out of tele-presence (e.g. Cisco's [product here](#)) technologies and to encourage tele-commuting and tele-meeting

While technologies could evolve in the future that might alter the relative proportions in the above plan, these policy proposals and programs rely on technologies that are available today, some of them with a track-record of over a century. However, the goal of getting off oil, let alone fossil fuels has not been a priority of US industrial development and government policy, so our rail and transport networks have remained dependent on the happenstance of oil extraction and the oil markets.

### **Substantial and Insubstantial Hurdles that Delay Us**

If our country does not first slide into a state of permanent second or third-class status, it is inevitable that we in the US will move to a post-oil, post-carbon transport system incorporating most of the largely electric-drive technologies listed above. However this should not lull our current leadership into complacency or half-measures, because sliding into a state of decay and dependency is a distinct possibility. Will Obama be the President to lead us there, as Eisenhower was the President who built the Interstates? Or will he be the President who excited hope, talked a good game but gave too much discretion to fossil fuel interests? We can be the last nation in the

world to wean ourselves off oil, massively in debt, and always be in the position of borrowing know-how from others or we can start to move “on our own power” towards a position of leadership in this area.

The current Senate climate bill sees most of what is proposed above as distant pipe dreams rather than near future realities. Most of the electric vehicle provisions in it are termed "pilot programs" with greater favor shown to natural gas vehicles and mild oversight for unconventional natural gas extraction. Public transportation and rails are given little or no mention.

Leadership will be required to push ahead to the solutions based on what is already known about the physics and technology of transport and energy, instead of stopping at the half-way measures or the dead-end technologies that depend on fossil fuels. True leadership involves anticipating and overcoming hurdles. I have listed below the main hurdles which present themselves to whomever, I hope President Obama, decides to place the American economy on a sustainable energy basis.

### **Hurdle #1: Market Idealization (Market Fundamentalism) Vs. Planning**

One of the greatest hurdles is the ongoing influence of market idealization (or "[market fundamentalism](#)") in Washington in general, on both sides of the aisle in Congress and in the White House. In the era of market idealization over the last 30 years, planning, especially government planning, got a bad name as markets were supposed to constitute all of economic life as well as being perfect and complete economic institutions. Through his sojourn at the [University of Chicago](#), one of the centers of market idealization, President Obama was exposed to an environment that celebrated a view of markets as self-sufficient, self-regulating institutions which perhaps continues to color his view of planning and government's role.

The use of "cap" legislation, carbon pricing, or emissions targets does not substitute for planning because such unspecified "plans" to achieve quantities of emissions reductions cannot substitute for the sequence of timed and specified actions that constitute a plan. Emissions caps or targets suggest that the market will find its way without planning. In some areas this works better than planning but in transportation and energy infrastructure, not so much.

Some major problems with markets are that they don't price in future risks or distant future rewards very well in many sectors, including energy and transport, and, when unregulated, tend to focus market participants on their most immediate concerns. Markets also do not produce all the conditions for their own survival and continued profitability. Governments have historically stepped in to provide people and markets with structure for transactions that threaten to undermine trust between market actors. Additionally, governments of most nations with complex economies provide public goods like infrastructure that enable longer term social and economic goals of both private and public actors to be achieved. While market-like institutions can be imposed upon the "natural" monopolies of the electricity and the rail businesses, these market reforms do not generally orient these businesses to rapidly change their infrastructure but rather focus them on squeezing value out of existing assets.

Planning can originate from private and non-profit actors as well as from government though this does not release governments from the duty to initiate or help structure plans that effect diverse sets of stakeholders. The Desertec Initiative is an example of a large-scale international energy plan that has originated in the private and non-profit sectors. The [Desertec Foundation](#) and the [Desertec Industrial Initiative \(DII\)](#) are working on building a renewable energy supergrid that spans Europe, North Africa and the Middle East in order to provide renewable electrical power to the area, balancing wind and solar resources across the region. [Munich Re](#), a large re-insurance company based in Germany, concerned about environmental and climate risk in the future and along with a consortium of electrical utilities and technology companies, including Siemens, ABB, Abengoa, MAN Solar Millennium has created the DII. Whether the impulse to plan has come from the private sector or from government, government needs to be involved in making sure that large scale energy and transportation plans serve national interests and are executed and financed in a transparent and fair manner.

As market idealization has been also a particularly fervent form of anti-Communism, government involvement in planning has been associated in the minds of US politicians and sections of the public over the past 30 years with centrally-planned Communist economies. Due to these still largely unchallenged views of market idealists, politicians making the argument for planning will need to run the political gauntlet of being accused of being a Communist (or, as is common in the precincts of the Tea Party and Fox News, a fascist). Unfortunately, academic economists too have also been lax in making the case for government planning beyond Left-Right ideology. Republicans and Democratic Presidents and other government officials between 1940 and 1980 did not generally have to justify their use of planning but since 1980, planners and planning advocates have needed to keep a low profile.

So presenting a full-on Oil-Independence Plan from the side of government would present the President with either having to make a two-stage argument (first for a role for planning and then for the plan) or to compress the two together in one artful package. The latter is not inconceivable but, our President, so far, has shown more interest in pointing out how much he has in common with the Republican Party that has been almost completely captured by market idealists.

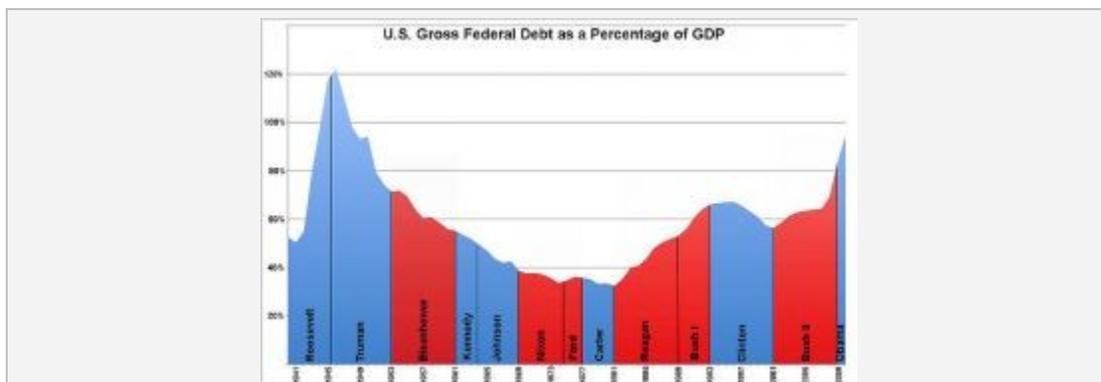
On the other hand, almost everybody in contemporary American politics is for energy independence and national defense. It is not a stretch to imagine our centrist to right-leaning Democratic President reaching across the aisle to push for a "Oil Independence Transportation Plan". This would require preparation, research and political leadership by the President, the Administration and Congress but is eminently do-able. Thus a brilliant and principled politician, maybe even our current President, could present this plan as a combined act of patriotism and long-term economic good sense.

## **Hurdle #2: Deficit Worries and Hysteria**

Given that we are in an economic downturn and tax revenues will not be able to be boosted substantially, a post-oil transport infrastructure built in a timely manner will probably involve deficit spending. Some parts of this system can be built and financed privately and paid back via

user fees while others will have the status of public goods, like roads, that will need to be paid for via taxes and or potentially inflationary deficit spending, i.e. printing money.

We have been facing a rise in public debt and budget deficits over the course of the Bush administration and the first part of the Obama Administration. The current level of the public debt stands at approximately 60% of its maximum in relationship to GDP at the end of WWII (108%). Misinformed politicians, pundits, and financiers take this as an occasion to stir hysteria that is stoked by a combination of fabrications and partial truths about the potential impact of budget deficits on the American economy. Economists, such as [Paul Krugman](#), [Dean Baker](#) and Joe Stiglitz, who have studied economic history and effects of deficit spending on jumpstarting the economy, have attempted to correct these misguided views of deficit spending in the context of a severe economic downturn.



This graph of the "gross" and not the usually cited public debt (now at 67%) indicates that excluding the first year of the Obama Administration the last four Democratic Presidents reduced the gross federal debt while the last four Republican Presidents increased it relative to GDP. In general, economic depressions and wars tend to increase the federal budget deficit.

[Deficit hysteria](#) seems to have a strong political component to it, as these fears remained largely dormant in the Republican Administrations that have run up large debts in the past. As a preventative, those who are opposed to a strong government role in the domestic economy (though generally not to military adventures) have attempted to intimidate the President and others by warning of runaway budget deficits. There are now some more severe budget problems in other countries (Greece for instance) and the differences between the US situation and these countries are played down to intimidate those who would want to spend deficits on building US domestic economic growth.

While [those who stir deficit hysteria](#) tend to be closed-lipped about their large-scale political and economic agenda, they generally are opponents of all government-provided social services and government-led economic initiatives preferring to reserve these functions for private enterprise. Deficit hysteria implies the idealization of markets, though is a more sophisticated variety that acknowledges that there is "some" role for government, only to minimize that role in every proposal, due to fear of budget deficits. Unfortunately President Obama has some vulnerability to deficit hysteria, in that he has not come out vigorously in defense of government's role in the domestic economy, preferring instead to adopt an attitude of compromise and conciliation with

people who talk as if there is no legitimate role for government social programs or in the domestic economy.

While budget deficits need to be monitored closely, the US has luckily somewhat more flexibility than many other countries to engage in deficit spending. A very strong case can be made that deficit spending to help finance a post-oil transportation infrastructure is a very good use of public funds and also shows nations that hold our debt that we are spending in ways that will improve our overall competitiveness and resilience as a nation. Deficit spending in this way actually works to reduce [our trade deficit which is in most years larger](#) than our budget deficit and largely attributable to oil imports.

### **Hurdle #3: Balancing the Interests of Stakeholders, Mix of Private and Public Enterprise**



The French SNCF is a public benefit corporation that runs and owns the French trains and stations. In order to open up the rails to competition the rails and rights of way are owned by another government-owned company, the RFF, enabling, theoretically, private train companies to compete with SNCF on the same tracks. (Photo: Wikimedia Commons)

An Oil- and Carbon-Independence Plan will require the participation of a number of stakeholders some of whom will be less than enthusiastic participants in this ambitious effort. The railways in the US are ambivalent about the ambitious plans of advocates for either high-speed rail or electrification. Like other large infrastructure-dependent businesses, these usually risk-averse corporations make money by squeezing value out of their existing infrastructure and sticking to decades-long incremental capital investment strategies. Additionally, and ironically, railways, our cleanest and most efficient means of transporting freight even with diesel traction, haul the dirtiest fuel, coal, to power plants of the large coal-burning utilities; the largest source of revenue for railways is coal transport [accounting for 21% of 2007 revenue](#) with intermodal (container) being the fastest growing segment.

Left to themselves, the US freight railways would not be able to undertake nor necessarily see it in their short or medium-term interest to electrify their railroads nor embark on a massive program of track build-out. The railways are in favor of [tax incentives](#) to help them continue capital

improvements but these alone will probably be not enough to double and triple track mileage. The railways own their own rights of way and are currently entirely self-funding and compete largely on price and capacity with other freight modalities. In order for massive public investment to be possible, the railways would have to develop an entirely different relationship with the federal government, which might involve being partially bought out.

If they were intent on executing a Post-Oil transport plan, policymakers would need to lead the railways into a new relationship or perhaps buy some of them out. The massive level of public investment required to enable the railways to carry triple the freight plus 20 to 30 times the passenger volume would transform their capital base with largely public funds or public guarantees to be able to undertake the risk. Such action would require a combination of vision, leadership and negotiation skills from the side of government.

As diesel locomotion (actually diesel-electric) is still a very efficient method of hauling freight and passengers relative to other modes of transportation, the transition to an Oil-Independent infrastructure could be achieved in two stages: first railway track build-outs that are electricity-ready and then the electrification of those railroads as a separate project.

An alternate route towards oil-independent transport is possible that “deals in” the trucking industry but requires the adaptation of several existing technologies and an alteration to the interstate system: Using hybrid dual-mode trolley long-distance trucks on dedicated lanes of the interstate that also have a backup generator or battery pack that enable easy on and off and grid-detached travel. There are no technological breakthroughs required to do this but it needs the backing of a government or government-funded research program that seriously studies electrification of lanes of interstates and the high speed attachment and detachment of trolley poles or pantographs to overhead lines.

Designing and executing an Oil- and Carbon-Independence Transport and Energy Plan would also not necessarily inspire the other large conservative infrastructure-based companies, the power utilities, to join in the spirit of the enterprise. Similarly to the freight railways, utilities wring value from a decades-old infrastructure and generally adopt change very slowly. Particularly challenging for many US utilities is a transition away from coal which accounts for approximately 50% of electricity generated in the US. Selling electricity to railways may be an additional source of revenue but also would involve new infrastructure and might require new generation, which would need to be low- or zero-carbon. A portion of the electricity demand from railways may be supplied by federal power generation facilities, perhaps by a newly founded Railways Power Administration, modeled on the [Western Area Power Administration](#) or similar. Passenger railway power demand would require daytime generation which would coincide with solar but freight would add to baseload demand as it would operate around the clock.

A clear expression of purpose and demonstration of intent by government leaders to reduce oil demand in the US is a prerequisite for successful negotiation with stakeholders in shaping the post-oil future. So far the President and Congressional leaders haven't shown the guts and independence of mind to work this out with industry stakeholders.

#### **Hurdle #4: Some Americans' Love of Expansive Resource Use (and Disregarding the Consequences)**

Different cultures tend to have differing attitudes towards the material world and what is considered attractive or desirable in the use of resources. In Japan, with one of the world's highest population densities, cultural preferences include a focus on small, sometimes intricate objects. Traditional agriculture in China is highly space- and resource-efficient. In Europe, culture has emerged from similar resource constraints, for which it is much admired throughout the world. In the US, we have through a large portion of our early history, not had to deal with as many resource constraints, including a belief that more abundance is always around the next bend. Europeans came here in search of "El Dorado" and we have had the tendency to believe in "[Virgin Land](#)", either physically or virtually, into which we could move if we "messed up" or wanted to leave our original physical context.



President Jimmy Carter wore a cardigan in some TV addresses to show that he was practicing energy conservation during the winter at the White House. Even though he was presenting Americans with a prudent message, in hindsight with the triumph of Reaganism and reactive resource- and energy-profligacy, our image-obsessed culture has held onto Carter's slight awkwardness, school-teacherly manner and absence of swaggering machismo rather than the content of his message.

The electoral defeat of Jimmy Carter in 1980 by Ronald Reagan and the subsequent growth of a culture of reactive anti-environmentalism has impressed politicians with the dangers of appearing to "wear the cardigan" rather than use resources "like you just don't care", yielding a culture of reactive or revived [profligacy](#). Contrarian anti-environmentalism both on the Right and in the apolitical Center has meant a return for many to the energy and material use patterns with which Americans grew up until the 1973 OPEC Oil embargo. Because of the political defeat of Carter (for a number of reasons), the 1985-2001 return of cheap oil, and the 2001-2009 Bush Presidency, few politicians have attempted to experiment with what is possible in the way of communicating a stance that counsels wise use of resources while retaining a sense of American identity.

Obviously, we will need leaders to set an example and attempt once again to join the American spirit with an awareness of the earth's limits and wise use of resources. Expansive plans to create a post-oil infrastructure can be combined with measures that suggest that the America of the future will not lay waste to the earth. The ability to break up the cultural "forced choice" between abstemiousness versus expansiveness will involve creativity on the part of political and cultural leaders. Whether the Obama Administration is up to the task and has the will to engage in this vital transition to a new kind of American identity remains to be seen.

### **Hurdle #5: The Biofuels Distraction**

A few years ago, using biofuels as an oil substitute were treated seriously by some environmentalists and became a big favorite of politically powerful agricultural lobbies. Since then, it has dawned on most of the environmental movement plus more and more policymakers that biofuels are a poor source of fuel and environmentally may be under many conditions worse than using oil. The net energy yield, plus land use, plus water use put into making ethanol or biodiesel from dedicated crops rather than waste products turns out to be [net negative for the environment](#) and economically disruptive for food production. To produce mechanical energy from sunlight it is far more advantageous to erect solar panels or use wind turbines in agriculturally marginal areas, which would occupy far less space, have far lower environmental impact, and produce far more energy.

Unfortunately, in the American heartland, it is difficult, in the absence of renewable electricity policy that is attractive to farmers and higher prices for food crops, to turn away from support for biofuels and the overproduction of corn for that purpose. While perhaps research may turn up a more sustainable biofuel, a strategy based on biomass production for biofuels other than as a subsidy to farmers is unjustified. There may in the future be niche uses for some future biofuel process but these will not serve the vast energy demand currently served by oil. A gradual shift to a sustainable agriculture policy that addresses the economic concerns of farmers without continuing our unsustainable corn policy would be the long-term solution.

As an immediate strategy, the policymakers would need simply to slowly back away from biofuel subsidies, while a compelling and well-explained alternative for farmers and farm-belt politicians is developed.

### **Hurdle #6: Corporate Funding of and Influence in American Politics**

A recurrent theme throughout the last year and half of reform attempts has been the notable influence of incumbent industries and their lobbyists in influencing politicians in Washington of both parties. While there are many corporations that stand to benefit from an Oil- and Carbon-Independence Plan, these have not yet made common cause and many see their short-term interest in the energy and transport status quo.

The likelihood of formulation and implementation of a plan with the longer term interests of the US in mind, would be greater with corporate money taken out of politics to a very large degree, as then lobbyists would more likely to be seen as advisors and industry representatives rather than

represent the co-"employers" of legislators. This is not to say that there aren't politicians who bravely stand up now for the long-term view of what is best for the overall American economy. It can only be hoped that more politicians show this type of courage on a number of policy fronts and, as well, in the service of campaign finance reform.

### **Are There Any Other Options?**

Those who read these recommendations with a jaundiced eye may say: "You expect too much from government" or "this will never happen".

**My response:** Short of the United States slumping into further energy dependency, accelerated trade deficits, inflation due to spiraling oil prices and accelerated climate change worldwide, what are the other options?

If you have another workable option please share it with me or, better yet, the Administration and the world.

Standing on the side of the fishermen and the wildlife of the Gulf is not an act of excessive and unrealistic belief in human goodness, an underestimation of our energy demand, or an exaggeration of the sensitivity of natural systems. It is simply the recognition of the unwinding of a model of economic and energy development that has run its course.