

The Energy Policy Act of 2005 Legislative Achievement or Management Fiasco?

The Passionate E-Mail.

I received an impassioned E-Mail chain letter last week. The author asked everyone on the list to boycott ExxonMobile because the price of gasoline is too high. My response? The price of oil is set by a complex interaction between producer nations and the commodity markets. The current price increases have been caused by the very thin margin between world supply and demand, and a lack of refining capacity – particularly in the United States. Since gasoline, diesel, propane, and heating oil fuels are all made from oil, consumers can expect more price shocks in the future. The supply of oil and refining capacity will continue to be inadequate until new production comes on-line, or demand decreases. Although future oil prices promise to be very volatile, resource depletion guarantees the long term price trend is UP. As for "Big Oil", I agree these imperious corporations need to stop hiding behind the walls of their PR fortresses and "come clean" about profits and prices. But most troubling of all, they should tell us why (most of them) aren't finding enough oil to increase their reserves. They appear to be using higher and higher levels of technical sophistication to find smaller and smaller puddles of oil.

Although the boycott idea is naive, it reflects a genuine distrust of "Big Oil" and an unfortunate lack of knowledge about resource depletion. But the letter got me to thinking. It added "fuel" to my concern that the recently passed energy bill will fail to resolve America's energy challenges.

We need a better plan.

Program Management Vs. Political Power

Read the poorly written conference summary of the Energy Bill. Just passed by Congress and signed by a grateful President, the Energy Policy Act of 2005 is a collection of fashionable technology decisions driven by political expediency, rather than the practical disciplines of sound program management. In more than 1700 pages of disjointed and profligate spending, Congress has found a politically beneficial way to funnel \$14.5 billion to farmers, energy companies, and an assortment of pop-culture ideas.

The Energy Policy Act of 2005 is too fragmented to be useful. Lest someone be offended, all solutions have been considered equal. This legislation virtually guarantees that competing groups of energy solution advocates will continue to position themselves for additional taxpayer largess. There is no practical mechanism to focus our resources on the best technology. It would appear Congress has even discouraged objective scientific inquiry by hand picking the winners.

How was this achieved?

Although Congress has neither the qualifications nor requisite self discipline, it has put itself into the position of making program manager decisions. As a result, preordained solutions have been selected without adequate critical evaluation or technological development. Many simply pander to pop culture idealism (the hydrogen car), entrenched special interests (ethanol from corn), corporate influence (shale oil development), or down home pork (coal). The ensuing energy programs will be dominated by entrenched special interests with big wallets or pop culture appeal.

Dare we ask? Is Congressional duplicity built into the energy bill?

This patchwork of legislative micromanagement and vague directives throws taxpayer money at multiple projects. Tax credits, loan guarantees, accelerated depreciation, and/or direct financing have been specified for multiple research projects including; ethanol, nuclear power, methane hydrates, clean coal and coal gasification projects, oil from oil shale, hydrogen production, fuel cell development, solid-state lighting devices, bioenergy from cellulose feedstocks, solar power, ocean energy, a zero-energy house, energy efficiency, and cogeneration of hydrogen and electricity from renewable sources. Worthwhile research has been intermixed with legislative pork in a tome of bewildering complexity.

Congressional hearings and political opportunism have thus produced a long list of energy projects and policy. Everyone is positive the results will be good. We have lots of promises.

But no credible management plan.

Despite lengthy hearings, years of bureaucratic confusion, and indeterminable political vacillation, Congress has failed to launch a disciplined and well organized program of energy research and development. For example, the energy bill establishes a program to encourage the purchase of stationary and vehicular hydrogen fuel cell systems, even though the technology is not ready for prime time. This timetable, which is good politics (but lousy science), ignores the realities of fuel cell development and hydrogen production, storage, distribution and consumption. Nevertheless, it sets a goal of enabling the private sector to make a fuel cell vehicle commercialization decision by 2015, and encourages the purchase hydrogen fuel cell products before then – perhaps on the assumption - technology will solve all problems.

Somehow. Maybe.

The Energy Policy Act of 2005 lacks focus. The lines of authority and responsibility are too fragmented. Turf wars are inevitable. Solutions will be selected on the basis of political power and expediency, rather than the prudent management of technology. The bill failed to establish a comprehensive energy strategy, ignored the basic marketing questions, selected technology without regard to reality, glossed over the manufacturing challenges, ignored the related energy consumption issues, and simply assumed there are no distribution problems. But worst of all, the energy bill did not establish a cohesive management mechanism for cooperative energy research and development, production, distribution, and consumption.

Why not? Why didn't the Energy Policy Act of 2005 include a credible program management structure with the authority and funding needed to achieve the goals so important to our nation's economic health??

Can We Come Together On A Common Sense Plan?

The first step in addressing any problem is to understand it. We need a really good definition of the challenges that lie ahead – technical, social and economic. Thus we start with a thorough review of the energy market. We need a realistic forecast of America's energy requirements by fuel type by year for the next 20 years. Fuel types fall into two basic categories: fuels for mobile applications (cars, trucks, railroad engines, airplanes, etc.), and fuels for stationary applications (power plants, furnaces, generators, pumps, industrial motors, etc.). Then we need a forecast of fuel resources by type by year for the same 20 year period. The supply forecast must include a conservative estimate of resource depletion, potential political challenges, and international competition for available fuels. Our market plan should also examine future cost/price trends and their potential impact on our economy.

Where shortages appear in our forecast – and they will – we need to review alternative solutions. Again, there are two categories: energy efficiency and new resource development. Since energy

efficiency improvements provide us with the quickest and cheapest solution, all avenues of improved energy efficiency must be defined and quantified. The remaining energy shortfall defines the annual fuel volume requirements of our resource development objectives.

Changes in energy consumption, no matter how they occur, will have an impact on our culture. It's inevitable. Employees will either have to live closer to where they work or telecommute. For many families, one stall of the suburban two car garage will be empty. Private vehicles will gradually be replaced by public transportation. Neighborhood relocalization will displace distant shopping malls for daily needs. Municipalities will have to encourage higher density zoning. These multiple changes all need to be explored before we can develop our strategic plan because they define the parameters of distribution and consumption.

Our energy solutions will come from existing and proposed technologies. Each one deserves careful consideration and evaluation. We need to understand the source, use and application of each technology, its ultimate development, manufacturing and distribution cost, the method of consumption, and its environmental impacts. Tradeoffs need to be made between competing and complimentary technologies. Selected technologies will be matched against a set of specific performance objectives, given adequate funding, and developed according to a timeline with managed milestones.

Energy is not just "Big Oil". In point of fact, most of our energy challenge lies with foreign governments, cultural conflict, multiple companies working the supply chain, technology, increased demand, insufficient attention to fuel efficiency, environmental constraints, NIMBY activism, weather, and geography. (For more information about oil supply chain challenges, see my article "**Oil Depletion? It's All In The Assumptions**" on www.tceconomist.blogspot.com). The point is, before we invest our money in the development of energy solutions, we need to understand the energy industry as a whole, including exploration, production, transportation, refining, distribution and consumption. Against this knowledge, we can select options that make common sense because they fall within existing industry attributes and the evolution of consumer demand.

If we do a good job, we now have a clear definition of the problem. We have characterized our challenge by fuel type, by application, and by development objectives. Available technologies have been identified. Government, corporate and academic resources have been evaluated. We have factored cultural change and economic impact into our strategy. We have given due consideration to ecology and energy efficiency. This report would then be communicated to the public in multiple media formats and forums. Public education is a vital component of our program.

By the way. Did Congress take these steps? No.

Why not?

The next step is to create a business plan to address the problem. Yes Virginia. If we are to make any sense of this highly complex effort, we need a real business plan with a statement of goals and objectives, a comprehensive strategy, and an organization.

- The statement of goals and objectives establishes what we need to accomplish and a timeline for the completion of our strategy. It is highly likely that an honest job of market research will reveal we Americans must moderate our energy intensive lifestyle. We have to move from a carbon-based energy cycle to an energy resource that does less environmental damage. Energy moderation will mean cultural change on a scale we have never experienced. So although our goal will be to gradually reduce per capita petroleum consumption, it will have to be done in a way that sustains our economy and the transformation of our culture. The objectives we then postulate will address the means to achieve these basic goals.

- It appears our strategy falls (roughly) into three phases: those changes and developments that can be done within 5 years (improved energy efficiency, introduction of hybrid vehicles, etc.), those changes and developments that can be done in 5 to 15 years (development and distribution of alternative fuels, diesel fuel from coal, the nuclear option, enhancements to public transportation, etc.) and those changes and developments that will take longer than 15 years (introduction of a new fuels technology, lifestyle changes, etc.).
- A task of this magnitude requires the resources of a large organization. It must have the funding, structure, responsibility, and authority to carry out its mission. This organization must provide, or identify and contract, the technical, manufacturing, and distribution resources needed to ensure the success of America's energy program. It should make periodic reports to Congress on its progress.

There you are. Three key components of a successful business plan.

By the way. Again. Did Congress put these three elements into place? No.

Why not?

It's Time to Re-mission NASA

We need a large organization that is familiar with the challenges of technology development to manage our energy program. Look around. Where can we get an established technology management resource that is large enough to handle this program? An outfit like Battelle Science and Technology International? Sure. The DOE (Department of Energy). Of course. The people at DOE certainly understand the challenge and management disciplines.

But this effort is far larger and more important than anything we have ever attempted. We need a dedicated technology development center. Management skills. Technological competence. A sense of mission. A sense of urgency. A program that is both comprehensive and cohesive. And we need a management team that can (hopefully) make science based choices.

Here are a few of the program challenges this organization must manage:

- Create an energy R&D program that recruits the best talent we have from academia and industry.
- Establish and fund cooperative projects.
- Establish an international research program to share development costs and technical knowledge.
- Define planned products and their purpose by application, volume/time, and cost/price targets.
- Select the best technologies against an established criteria (such as Energy Returned On Energy Invested - EROEI).
- Manage the resources needed to bring selected energy solutions to market, including research, development, manufacturing, and distribution.
- Establish objectives and milestones for each project.
- Establish and conduct phase reviews.
- Manage project financing, including the source and use of funds.
- Explore alternative project funding mechanisms such as R&D partnerships, cooperative ventures with industry, and cost sharing programs with other national governments.

- Propose and initiate the necessary regulatory changes, including safeguards for intellectual property, methods of fuel distribution and handling, and environmental mitigation.
- Foster communication, rather than competition, among alternative energy solutions.
- Work with industry to be sure selected energy resources can be manufactured (or produced), distributed and consumed within an evolving supply chain.
- Identify the required feedstock resources for manufactured products.
- Provide quarterly reports to the American people on program progress.

Give our organization a name that articulates energy, a positive definition of program responsibility, and the authority to carry out its mission. We can make this work if we are united by our concern for the potential cultural, economic and ecological impacts of petroleum depletion. Prudent energy resource management must include conservation, improved efficiency, ecologically responsible energy production and consumption, and the development of alternative energy resources under the direction of a qualified product management team.

And by the way, America's energy program must be an international program.

- Since no nation will be able to resolve its energy challenges without due consideration for the energy needs of other nations, we must encourage international cooperation in the development and production of our planet's energy resources.
- In addition, we need to resolve both the technical and the political issues of sharing our planet's dwindling energy resources. Equitable sharing will be a long term challenge. But we have a choice - share or compete. From the perspective of cultural economics, a well crafted sharing arrangement will have the least recessive impact on international GDP, and consequently offers the best way to mitigate the inevitable cultural impact of energy resource depletion.

And finally. Petroleum depletion will inevitably force extensive cultural change. Of particular interest is the development of a constructive response within our state, municipal and county infrastructure, the implementation of a pragmatic federal agenda, and the formation of productive partnerships between private and public organizations. (For more information on energy initiatives, read Chapter 9, Recommendations, in my book "**Oil, Jihad and Destiny**").

Now where can we find an existing organization that has the skills to manage complex technology programs?

NASA

Think about this.

What is more important. Heat for your home? Or a mission to Mars?
Fuel for your car? Or counting the pixie dust floating around some planet?

NASA had a mission. Now it needs a new one.

There are some very bright people at NASA. Forget outer space. Think of our kids. Think of humanity. Re-mission NASA. Put these people to work on a comprehensive energy program. We need their intellectual energy. We need their program management skills. NASA can provide the focus we need for a successful energy program.

Sure. I know this idea is not politically expedient. Congress has a hard time setting priorities. And we sure as hell can not expect Congress to do something perfectly logical and fiscally

responsible. But nevertheless, I firmly believe we should take the best minds we have in America (and on our planet) and put them to work on a REAL challenge with REAL benefits for all of us.

I mean – like – why not?

If we have to blow tax payer money on this organization,
shouldn't they be working on a challenge that benefits humanity?

Move most of NASA (AND its budget) over to the DOE, restructure the entire energy program, and presto – we have the right stuff.

Does this proposal make sense?

Dare we ask? Why didn't Congress create a credible program management organization? Is Congress incapable of restructuring the Federal bureaucracy? Are these agencies supposed to be managed as a public trust for the benefit of the American taxpayer? And where is the Bush administration? At lunch?

Conclusion.

The Energy Policy Act of 2005 is not about success. It's about failure. It's unlikely the new energy law will stabilize or lower fuel prices, give America any real energy security, provide an effective framework for energy independence, result in the use of cleaner energy resources, or create a net increase in American jobs. Unless we get really, really lucky, it will not solve the energy challenges facing America (and the rest of the world). In fact, the energy bill's greatest impact - in all probability - will be to exacerbate the economic and cultural chaos that threatens to turn our whole existence upside down.

We are a long way from having all of the answers to our energy challenges. There will be many ideas. Some good. Some not practical. But we must test them all against economic and technical criteria. We must select and implement the best available technology based on the adroit use of scientific investigation under the direction of competent program management.

But it will not happen. Congress has failed us - again. When they passed this bill, were our politicians concerned about protecting their own selfish-best-interests?

- Although refinery capacity is a key downstream bottleneck to the production of gasoline, diesel fuel, propane and heating oil, Congress apparently believes it will not be politically expedient to take meaningful action until after fuel shortages occur.
- Even though conservation and improved energy efficiency should have been a centerpiece of America's energy policy, Congress has sidestepped politically dangerous measures like vehicle fuel economy and energy prudent development.
- Congress continues to make technology decisions based on political expediency rather than science based inquiry. One would think they should have learned their lesson after they used the Police Power of the State to force the use of MTBE as a gasoline additive – and poisoned our drinking water in the process.
- Worst of all, Congress has failed to communicate the need for a comprehensive energy policy to the American people. The realities of resource depletion have been largely ignored. One can only wonder, is this because Congress doesn't understand the problem? Or because it wants to avoid the subject?

Only two champions of truth stand out in my research of the Congressional Record. Joseph P. Riva, Jr., a Specialist in Earth Sciences for the Library of Congress, did an excellent report on oil depletion "World Oil Production After Year 2000: Business As Usual or Crises?" [in 1995](#). (For the numerically challenged, that's ten years ago). The other voice is Congressman Roscoe Bartlett, R- Maryland, who was allowed to speak before the House of Representatives on Peak Oil for one hour at 10 PM on March 14, 2005, and again for 10 minutes at 11:40 PM on April 20, 2005. (Late night presentations are allowed for subjects that Congress doesn't want to think about).

It is most regrettable. Sad. When I wrote *Oil, Jihad and Destiny*, I entertained the naive notion that Congress would understand the problem of oil depletion and take intelligent corrective action. In fact, the "Best Case" scenario described in my book makes this fundamental assumption. Unfortunately for us voters, and our kids, Congress has put us on a path that makes the book's "Production Crisis" scenario inevitable, and suggests the "Political Crisis" scenario is highly likely to happen.

Congress could have done a better job. America is the one nation on this planet with the financial and technical resources to launch an international program of science based cooperative energy research, development, production, and distribution. We could have made substantial improvements to energy efficiency and conservation, cooperative petroleum sharing agreements among nations, and long term international supplier/consumer agreements. Everyone on our planet would be a beneficiary. Creative cooperation is far more likely to be productive than political confrontation. The challenge is to get the players to focus their collective power on solving the problem, - rather than fighting with each other.

What we got from Congress was political expediency, evasion, pandering and conflict.

What a shame.

Am I right? You decide. Take the challenge. Do your own homework. Then answer the following four questions:

1. Has Congress shown it comprehends the potential economic, lifestyle, and environmental chaos of the energy challenges that lie ahead?
2. Has Congress done an effective job of communicating our emerging energy challenges to the people of this country?
3. Did The Energy Policy Act of 2005 establish a credible foundation for managing the business of energy research, development, production, distribution, and consumption?
4. Has Congress demonstrated that science based program management is more important than political expediency?

And one more:

Do you believe the Energy Policy Act of 2005 will solve our energy problem?

Join the Energy Bill Forum at <http://www.aspo-usa.com/forums/viewforum.php?f=3>
Register. Log In. Express your opinion.

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Oil Jihad and Destiny provides an assessment of world oil production, characterizes the economic devastation of oil depletion and suggests solutions to the emerging energy crisis. It is available for purchase at [BookSurge](#) and Amazon.