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How to Develop and Fund Energy Independence for the United States

Executive Summary:

The President of the United States should develop and implement a *Declaration of Energy Independence*

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How to Develop and Fund *Energy Independence* for the United States

Executive Summary:

With gasoline prices fluctuating 10 to 15 cents at the pump almost daily, the notion is to spend 10 cents now to save $10 a gallon, later - while leveraging the United States' tremendous technology development and commercialization capabilities to enable us to become a *net-exporter* of renewable energy. An "Energy Independence Fund" (EIF) is envisioned, whereby 10 to 15 cents of every gallon of gasoline and diesel fuel is placed in a public/private trust. Although much effort by many companies, research institutions and government have taken place, the U.S. is more than twice as dependent on foreign oil as it was in 1973. Therefore, one can conclude that whatever we have done - is not enough. We cannot continue to do the same things and expect different results. *We must be bold in our goals, decisive in our actions, and resolute in our passion - to solve our energy problems for generations to come.* The EIF is *not* supposed to be enough to actually *build* the infrastructure, but is supposed to prime the pump… to encourage, incentivize and leverage our free market system to step up and solve the problem.

Description:

Why: *If* we, as a country, make the bold decision to become an energy-independent, net-exporter of clean, renewable energy - then, and only then will we have the stamina, fortitude and will power to turn around our diminishing role as a national economic leader. This will enable us to become the economic world leader for centuries to come. If we fail to make this bold decision, we will continue be in a reactive, defensive mode on all international issues.

What: There is really only one course of action - at a strategic level: We must create an Energy Independence Fund. This EIF must have one goal only: to fund the development, deployment and success of clean, renewable energy that enables the United States to achieve energy independence by the year 2025. The (initial) focus must be transportation fuel, in that the increasing energy gap is based on oil.

Specifics of the fund need to be developed: A core team and seed money is needed in order to develop these specifics. Tenets of the fund include:

- *By America, for America*: The only objective is ensure America re-establishes itself as an energy exporter, focusing solely on clean, renewable energy.
- *Oversight of operations*: This public/private organization needs complete autonomy from political persuasion. However, due to the economic, national security, and environmental aspects of this organization, the EIF manager would need to have a seat on Executive Office of the President. It should *not* be managed by any government agency (like the Department of Energy), but it should be in close contact with DoE leadership. This is a business-oriented organization, with commercialization of clean, renewable energy solutions as its prime directive.
- *Oversight of funds / funding*: The EIF leadership should "fund the funders," and have high-level management responsibilities. Delegation to the lowest level of existing organizations should be maximized (vs. creating new entities). (More, below.) The EIF would follow the same financial reporting requirements (*Sarbanes-Oxley*) as a public company.
- *Reviews*: Quarterly reviews to the President and annual progress reviews to Congress.
- *Large investments required*: The fund is too large for NGO investors. However, existing VC funds must be leveraged (see below).
- *Address many technologies*: Not sure which ones will "win:" need to fund multiple technologies, in various labs (ex: Stanford's Global Climate and Energy Project) and companies (ex: AirProducts).
- *Filter out poor engineering*: Need to ensure that poor technologies are not funded.
- *Filter out poor management*: Need to ensure that poor management teams are not funded.

- *Focus on "free" sources of energy*: The fossil fuel industry is based on readily available raw material: oil. The cost for alternative fuel should be similar to fossil fuel: exploration, extraction, refinement and transportation. Solar ("free sun") and hydrogen (from nearly limitless water) are two examples. (For grid-level energy, wind and wave energy could be researched, but not initially).
- *Leverage universities*: Rely on best-of-breed universities, already performing transportation energy technology research. Enable others to participate, through a proposal process. (technical talent)
- *Leverage existing venture / capital management funds*: Rely on best-of-breed VC funds, with a very positive track record - already funding transportation energy technology research. (funding / management talent - Examples include: Nth Power / ÆQUITAS Capital Management / Cascadia Pacific Management, Northwest Technology Ventures).
- *Leverage existing organizations / companies*: Ensure those organizations who are performing research in this field have access to, and encourage partnership with the EIF (Examples: PNNL / DoE / Battelle / SBIR / ETO / GM / GE, etc.)
- *Operational guidelines*: It is anticipated that about 90% of the funds will use existing mechanisms (indirect channel: universities, VC funds, etc.) and that about 10% will be direct through the EIF. Additionally, the organization of the EIF will need to have leaders with varied backgrounds to help assess potential projects, through a proposal process. For instance: Policy, process / materials scientists, energy engineers, economic development planners, legal (patent / other), market / business expertise, energy company executives, and technology business.
- *Security / Repository*: Information obtained through research needs to be safe-guarded as well as searchable by need-to-know participants, (with specific limits for certain IP). This dual-role IT requirement is essential, and will be difficult to maintain, at best. Processes and IT systems will be implemented, appropriately.
- *Equity*: A public/private equity venture should be developed. The public should benefit from profits, along with companies that are formed, through technology implementation. Since approximately 4% of a barrel of oil will be taxed, the public will benefit by the EIF's ownership of 4% of any companies / technologies developed through funding. This will enable win/win relationships with all participants.
- *Licensing*: Developers of new technologies should be supported through existing technology transfer organizations where possible.
- *Export innovation*: When developed, the intention of the EIF is to help for-profit companies export clean, alternative fuels.
- *Areas to address*: New fuel: Research, development, commercialization; New / modified infrastructure: development, refinement, transportation, delivery; Efficiency efforts: I.C.E. efficiencies, Hybrid support, Infrastructure review / improvements; Existing technologies (ex: Fuel cells), New technologies and New processes (ex: Hydrogen-from-water). (Example: a national effort to build very large energy manufacturing complex that could manufacture storable energy (hydrogen syngas, or perhaps oil from tar sands) in sufficient quantities to tip the balance of energy "ownership" in favor of the United States.)

Successful example:
After 1973, Denmark made the tough decision to do something about their 98% foreign oil energy-dependence. Within 33 years, they became a net-exporter of energy (www.worldchanging.com/archives/002384.html).

How to fund:
There are at least five options to fund the EIF - For the Declaration of Energy Independence:

[1] Diversion of $15 billion a year in federal money.

[2] Use existing gasoline taxes: Direct 10 cents of current taxes. Generates $14^{+} billion/year.

[3] New gasoline taxes. Maintain about a 4%-5% base rate (10to 15 cents / gallon).

[4] Combination: Use 5 cents of existing taxes and an additional 5 cents (<2% per gallon).

[5] If the federal government refuses to address this problem, States' Governors should.