Testimony to Energy Subcommittee
Science, Space and Technology Committee
by Ryan M. Yonk PhD,
American Institute for Economic Research
[redacted]

Introduction

The Loan Programs Office (LPO) was created in 2005[1] by the Energy Policy Act to offer loan guarantees under authority granted in Title XVII. It has been substantially amended twice, first by the American Recovery and Reinvestment Act of 2009 and most recently, the Inflation Reduction Act in 2022. Loan guarantees are currently available only under Section 1703, which funds high-risk clean energy technology. While the LPO still oversees loan guarantees made under the Section 1705 program (of Solyndra fame), that program expired in 2011.[2]

When governments initiate loan guarantee programs, they generally target fledgling companies or struggling industries. The Loan Programs Office, likewise, was created with the goal of fostering innovative clean energy technologies in the United States, and to promote its deployment. The hope in creating the office was to incentivize the creation of new and cheaper clean energy, which was viewed as being underprovided in the marketplace. These new, and generally riskier, endeavors were viewed as likely to fail to reach their potential without the provision of capital through this lending program.

Since its creation, the Title XVII loan guarantee program has largely failed to meet its objectives of improving the environment, promoting economic growth, and producing a more secure energy supply. Instead, it has been used as a political tool, exposing taxpayers' money to unnecessary risk, while diverting capital from alternative energy investments. It primarily benefited large, politically connected corporations and increased the likelihood that riskier endeavors are funded. Government loans distort markets, misallocate funds, and fail to promote welfare-enhancing innovation in the sectors where they are applied.

The United States currently faces an increase in energy demand.[3] There is significant discussion regarding how to produce more energy at a lower cost without causing harm to the environment.

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[1] U.S. Department of Energy, Loan Programs Office, n.d. "Title XVII: Overview of the Title XVII Innovative Clean Energy Projects Loan Program*." U.S. Department of Energy.* Retrieved from https://www.energy.gov/lpo/articles/t17-downloadable-handout-overview?nrg_redirect=473100

[2] Brown, Phillip, 2012. "Loan Guarantees for Clean Energy Technologies: Goals, Concerns, and Policy Options." *Congressional Research Service.* Retrieved from: https://fas.org/sgp/crs/misc/R42152.pdf

[3] Bocca, Roberto, 2025. "Surge in Global Energy Demand Growth, and more top energy stories." *World Economic Forum.* Retrieved from https://www.weforum.org/stories/2025/04/surge-in-global-energy-demand-growth-and-

Often, this centers around higher demand for electric battery storage, cryptocurrency, and artificial intelligence, as well as traditional residential and commercial purposes.

The Global Energy Review[4] estimates that in 2024 global energy demand increased by 2.2%, substantially above the average from the previous decade of 1.3%. The year-on-year increase of electricity demand in the United States was 3%.[5] In the next five years, American demand for electricity is expected to grow by 15.8%.[6] Both globally and in the United States it is apparent that the demand for energy will only continue to grow. Finding approaches that will truly incentivize innovation and produce more and cheaper energy will provide substantial benefits.

It can be easy to look to the government to solve this problem and make sure that we have access to more and cheaper energy, however, government loan guarantee programs present a number of policy difficulties, and the Department of Energy's program is no exception. This testimony illustrates how the Department's loan guarantee program distorts markets, misdirects funds, and fails to promote truly innovative technology despite existing for 20 years.

Policy Issues in the Loan Guarantee Program

Proponents of the LPO program have since its inception argued that clean energy technologies ought to be subsidized by the government because they provide social benefits in excess of what can be returned to lenders, prompting private markets to underinvest.

The loan guarantee program is well-intentioned, as most policy is, but its designers failed to fully consider many unseen effects. Just because a program can expand entrepreneurs' access to credit does not mean that it is a success. Historically, most of the loans guaranteed by the LPO have subsidized lower-risk power plants.[7] In many cases these were backed by big companies that already had vast resources.

Federal loan guarantees serve a public benefit only if they accomplish what economists call additionality, meaning the program must be offering loans to projects that would not have

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[4] Global Energy Review, 2025. "Global Energy Review 2025." *International Energy Agency.* Retrieved from https://www.iea.org/news/growth-in-global-energy-demand-surged-in-2024-to-almost-twice-its-recent-average

[5] Jones, Dave., Rangelova, Kostantsa., Walter, Daan., and Bryony Worthington, 2025. "US Electricity 2025 Special Report." *Ember.* Retrieved from https://ember-energy.org/app/uploads/2025/03/US-Electricity-2025-Special-Report.pdf

[6] Wison, John., Zimmerman, Zach., and Rob Gramlich, 2024. "Strategic Industries Surging: Driving US Power Demand." *GridStrategies.* Retrieved from https://gridstrategiesllc.com/wp-content/uploads/National-Load-Growth-Report-2024.pdf?ref=floodlightnews.org

[7] de Rugy, Veronique, 2012. "Who Benefits from the Department of Energy's Loan Guarantee Program?" *Mercatus Center*. Retrieved from https://www.mercatus.org/research/data-visualizations/who-benefits-department-energys-loan-guarantee-program

otherwise garnered funding in the open market. If they fail to do so, they are simply adding unnecessary transaction costs and putting taxpayers' money at risk.

Some exploratory research on the additionality of loan guarantee programs for energy technology from both the DOE and UDSA reveals poor additionality.[8] This has led some to even refer to the LPO as a "taxpayer backed ATM[9] for unreliable energy technologies." Energy credits and subsidies affect the market signals that unregulated prices give. Thanks to these, we are unable to know if demand for energy declines, since the prices stay high due to the artificially low costs of production. Instead of rewarding stability and production through price competition, LPO-backed projects with secured financing distort the market. We end up with low prices for reliable energy production and disincentivizing innovation.[10]

However, even if the loans could prove to offer funds to projects that would otherwise fail to attain this in the market, this by itself would still not be enough justification for its existence. These programs shift the calculation of private investors, while also creating rent-seeking and moral hazard problems.

Government action is not justified merely because there can be a market failure. It is not uncommon for these government agencies to fall prey to rent seekers and political incentives. The Title XVII Loan Programs Office is no exception to this. Because it provides funding to endeavors in the energy sector, it can easily be utilized to promote a specific political agenda, and it can also mean that only those who are politically connected get access to funding.

Corporations, politicians, and interest groups can capture these government programs to serve their private interests. This would not be a problem if it happened in the open market because it would be private individuals dealing with their own money. This is not the case here, and although the LPO is the one that decides to undertake the risk, taxpayers are the ones footing the bill if it fails. This was the fundamental problem with the Solyndra scandal in 2011. It was not that it had to file for bankruptcy after securing a loan guarantee but rather that evidence emerged following that failure that demonstrated that Solyndra's path to securing a government loan guarantee had been dictated by political pressure, not market viability. As documented in a

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[8] Juchau, Chris and David Solan, 2014. "Draft: Energy Technology Loan Guarantee Programs: The Search for Additionality in Support of Commercialization." *Energy Policy Institute.* Working Paper from WPSA 2014. Retrieved from: https://wpsa.research.pdx.edu/papers/docs/WPSA%202014%20-%20Energy%20Technology%20Loan%20 Guarantee%20Programs.pdf

[9] Béliveau, André, 2025. "End the "Green New Scam" Loan Machine." *RealClearEnergy.* Retrieved from: https://www.realclearenergy.org/articles/2025/04/21/end_the_green_new_scam_loan_machine_1105095.html.

[10] Fisher, Travis, 2023. "The Inflation Reduction Act Could Turn Electricity Markets into Subsidy Clearinghouses." *CATO INSTITUTE.* Retrieved from https://www.cato.org/blog/inflation-reduction-act-could-turn-electricity-markets-subsidy-clearinghouses

chapter of Nature Unbound[11], my book with two of my colleagues, Solyndra's application rushed through or even skipped critical oversight steps in order to reach approval before a California trip that President Obama had planned.

Government loan initiatives, like the LPO, also create a moral hazard problem since companies are more likely to participate in riskier endeavors knowing that they will be able to fund them through non-market alternatives. In a market economy, if a private entity decides to loan or invest in risky technologies, they are rewarded for taking this risk with higher returns on their investment. Unfortunately, when the government is the one that backs the loans, the borrower is gambling with taxpayers' money and doesn't have to bear the full costs of their behavior or the ultimate failure of the enterprise.

By promising to cover loan payments if a company fails, loan guarantors allow entrepreneurs easier access to private capital. Supporters of these programs argue that private capital is too risk averse to properly finance whatever it is they seek to subsidize. Nonetheless, most of the LPO's section 1705 funding has gone to large corporations that already have access to capital for investments. Some recipients include multiple Fortune 200 companies, utility companies, and multinationals. Many are wholly owned by even larger companies.[12] Indeed the structure of the program application pushes the result in this direction as applicants expect to pay between $150,000 and $400,000 in fees before even being considered.[13]

Previous administration and its incentives

Since this program started in 2005, we have seen it grow over the last two decades. Under the 2022 Inflation Reduction Act, the latest amendment that the Title XVII Loan Programs Office permitted was to fund projects invested in "legacy energy infrastructure." Because of this initiative, the ever-growing number of mineral producers benefited from it well outside its original mandate.

In the final days of the Biden administration we saw a push for loans to be approved. This is not surprising, since President Trump had announced that he would pause all the loans[14] appropriated through the Inflation Reduction Act. The Biden administration strongly supported the LPO, as a tool used to promote energy endeavours like funding a nuclear plant in Michigan,

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[11] Yonk, Ryan, Randy T Simmons, and Ken Sims, 2016. *Nature Unbound: Bureaucracy vs. the Environment*. Independent Institute.
[12] de Rugy, Veronique, 2012. "Who Benefits from the Department of Energy's Loan Guarantee Program?" *Mercatus Center*. Retrieved from https://www.mercatus.org/research/data-visualizations/who-benefits-department-energys-loan-guarantee-program
[13] Loan Programs Office, n.d. "LPO Good Governance: Informational Resources and Documents." Department of Energy. Retrieved from https://www.energy.gov/lpo/lpo-good-governance-informational-resources-and-documents
[14] White House, 2025. Executive Order (EO) 14154. Retrieved from https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/

promote lithium mining in Nevada, and build factories for electric vehicle components in Ohio and Tennessee.

This administration relied heavily on promoting innovation on clean energy as a policy, with the electric vehicle subsidies[15] being just one example. Naturally, there was a fear that the Title XVII LPO would be used as a political tool by the incoming Republican administration and change the path that it had been on before. This fear led to a race to close $25 billion in pending loans[16] across the country in the last few months of the Biden administration. This not only shows that the LPO was following a clear political agenda that the incumbents feared would completely change, but it also begs the question of how fast were these applications processed and whether they were subject to the same vetting procedure others would during the same conditions.

On January 16th, 2025[17], the LPO announced eight more conditional commitments that comprised $22.92 billion. The current administration temporarily froze[18] these and other previous loans up to $41.2 billion[19] and has been reviewing them on a case-by-case basis, releasing the first loan guarantee on February 12[20] for an alternative jet-fuel company in Montana.

The program continues

The program, although heavily criticized by the Trump administration during the campaign trail because of the type of projects it was funding, is still active.[21] As of December 2024, there

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[15] U.S. Department Of Transportation: Newsroom, 2025. "INVESTING IN AMERICA: Biden-Harris Administration Announces $365 Million in Awards to Continue Expanding Zero-Emission EV CHarging and Refueling Infrastructure." *U.S. Department of Transportation.* Retrieved from https://highways.dot.gov/newsroom/investing-america-biden-harris-administration-announces-635-million-awards-ev-charging.

[16] Storrow, Benjamin., Tamborrino, Kelsey., Dabbs, Brian., and Jessie Blaeser, 2024. "Biden inks billion-dollar climate deals to foil Trump rollbacks." *Politico.* Retrieved from https://www.politico.com/news/2024/11/20/biden-climate-trump-rollbacks-00190719

[17] Loans Programs Office, 2025. "Deal Digest: LPO's Latest Conditional Commitments Help Keep Power Affordable Through New Generation and Expanded Transmission for Utility Customers in Twelve States." *U.S. Department of Energy.* Retrieved by https://www.energy.gov/lpo/articles/deal-digest-lpos-latest-conditional-commitments-help-keep-power-affordable-through-new

[18] White House, 2025. Executive Order (EO) 14154. Retrieved from https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/

[19] Bloomberg, 2025. "Trump Freezes Energy Department Spending, Loans." Retrieved from https://www.bloomberg.com/news/articles/2025-01-24/trump-freezes-energy-agency-spending-loans-as-part-of-review

[20] Holland and Knight, 2025. "DOE funding pause Update: Week 4." Retrieved from https://www.hklaw.com/en/insights/publications/2025/02/doe-funding-pause-update-week-4

[21] Loans Programs Office, n.d. "Title 17 Clean Energy Financing – Innovative Energy and Innovative Supply Chain." Department of Energy. Retrieved from https://www.energy.gov/lpo/innovative-energy-and-innovative-supply-chain

remain (the latest update available on the website) 191 active applications[22] and $297.7 billion in loans requested. Most proposed projects were based in the West (AK, CA, HI, NV, OR, WA) and the Plains (KS, ND, NE, OK, SD, TX).

While the Biden administration used the Loans Programs Office to promote clean energy technologies, the Trump administration is moving towards a different approach. The former approved loans that would promote the creation of better battery storage[23], electric vehicles[24], and hydroelectric power.[25] The current administration has shifted towards promoting alternative jet-fuel[26] and nuclear energy.[27] This change in priority clearly demonstrates that regardless of which party is in power, the LPO is more likely to follow the preferences of the administration instead of where market demand leads.

The Department of Energy's Secretary Chris Wright stated[28] in his confirmation hearing that *"the only pathway to reduce greenhouse gas emissions and lift up people's quality of life is through energy innovation and America's been a hotbed of that, and we need to return a vigor and a focus on innovation on energy right here in this country."*

However, his desire to use the LPO to finance nuclear and next generation geothermal energy that would bring the prices down represents a fundamental misunderstanding of the potential for markets, and a continuation of previous attempts to achieve desired ends through political rather than market means.

Instead, Secretary Wright's statement clearly expresses the potential for market solutions to lead to both more and cheaper energy along with energy that has fewer environmental impacts. Instead of a lack of demand that must be remedied by government subsidy, the issue is one of regulation that restricts the ability to innovate and experiment.

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[22] Loans Programs Office, 2025. "Monthly Application Activity Report." Department of Energy. Retrieved from https://www.energy.gov/lpo/monthly-application-activity-report
[23] Loans Programs Office, 2025. "Convergent." Department of Energy. Retrieved from https://www.energy.gov/lpo/convergent
[24] Project Horizon. 2025. "Project Horizon." Department of Energy. Retrieved from https://www.energy.gov/lpo/project-horizon.
[25] Loans Programs Office, 2025. "Polaris." Department of Energy. Retrieved from https://www.energy.gov/lpo/polaris
[26] Gallucci, Maria. 2025. "Trump DOE OKs first LPO disbursement – after GOP senator voices support." *Canary Media.* Retrieved from https://www.canarymedia.com/articles/air-travel/montana-saf-refinery-is-first-project-to-get-doe-loan-money-under-trump
[27] Department of Energy, 2025. "DOE Approves Loan Disbursement for Palisades Nuclear Plant." Retrieved from https://www.energy.gov/articles/doe-approves-loan-disbursement-palisades-nuclear-plant
[28] C-Span. 2025. "Energy Secretary Nominee Chris Wright Testifies at Confirmation Hearing." *C-SPAN.* Retrieved from https://www.c-span.org/program/senate-committee/energy-secretary-nominee-chris-wright-testifies-at-confirmation-hearing/654446

The current path taken by the administration

President Trump's executive order[29] "Unleashing American Energy" paused the previous commitments until February 12, 2025 when the first loan guarantee was allowed[30] to go through. Reuters reports[31] that Montana Senator Steve Daines, pointed to his own intervention and encouragement with the Department of Energy to complete the guarantee as moving it forward. This is not a surprise as Daines has remained supportive of the energy policies from both the Biden and Trump administrations, and those policies have resulted in substantial tax-payer backed investment in Montana.

The intervention by Senator Daines points to the core problem of government intervention in these markets. When elected officials lobby agencies to approve certain guarantees or other subsidies, taxpayer dollars will be directed toward projects based on those interventions rather than the projects' own merits. This illustrates one of the underlying problems that public choice theory highlights. Programs, like the LPO, that are financed by taxpayers' money, provide an opportunity to seek public monies for private endeavors..

Although the main focus of energy type has changed for the LPO, it still fails to achieve its goals of financing technologies that will benefit Americans. Recently, the Trump Administration allowed two partial loan disbursements to Palisades, the nuclear plant in Michigan[32], from the initial amount the previous administration approved, despite the Nuclear Regulatory Commission conclusion[33] that Palisades is one of the worst-performing nuclear sites in America. Although it is estimated[34] that up to 600 jobs will be returned to people who used to work there, the unseen costs to all of being deprived of other, better performing, plants that could come up through the market is enormous.

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[29] White House, 2025. Executive Order (EO) 14154. Retrieved from https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/
[30] Holland and Knight. 2025. "DOE funding pause Update: Week 4." Retrieved from https://www.hklaw.com/en/insights/publications/2025/02/doe-funding-pause-update-week-4
[31] Gardner, Timothy, 2025. "Trump administration approves sustainable aviation fuel refinery loan." *Reuters.* Retrieved from https://www.reuters.com/sustainability/trump-administration-approves-sustainable-aviation-fuel-refinery-loan-2025-02-11/
[32] Gardner, Timothy, 2025. "US disburses part of loan to Michigan nuclear power plant for restart." *Reuters*. Retrieved from https://www.reuters.com/business/energy/us-disburses-part-loan-michigan-nuclear-power-plant-restart-2025-04-22/
[33] Klug, Fritz, 2012. "NRC downgrades Palisades, making it one of the four worst-performing plants in U.S." *Mlive.* Retrieved from https://www.mlive.com/news/kalamazoo/2012/02/nrc_downgrades_palisades_makin.html
[34] Department of Energy, 2025. "DOE Approves Loan Disbursement for Palisades Nuclear Plant." Retrieved from https://www.energy.gov/articles/doe-approves-loan-disbursement-palisades-nuclear-plant

Further the development of the Department of Energy's Community Benefits Plan[35] (CBP) as a guide for decision-making and a metric of success is problematic. This operation evaluates potential awardees and their projects to see if they meet the requirements for funding. Companies have to fulfill four requirements: community/labor engagement, investing in American jobs, providing equal access to all individuals, and promising a minimum of 40% of Federal investments to benefit disadvantaged communities. If companies fail to meet these demands, the D.O.E. will not offer financial assistance. All of which fail to ask the essential question: will the project be economically viable and will it produce the energy it claims to be able to.

Place of the Market

Although it may seem commendable for the government to help fund energy companies in a desire to produce more and cheaper energy, unintended consequences abound and go undetected among individuals who are spellbound by rhetoric around alternative energy and greater production. Businesses make a costly assumption based on the dangerous precedent set by the LPO: the government will bail out the company. A battery company called Kore Power initially received[36] a conditional loan agreement of $850 million from the Biden administration to build a factory, but it was frozen once Trump took office. This has caused uncertainty to impact their decision-making process due to their reliance on these LPO loans and has left them adrift.

Instead in private markets, lenders seek borrowers who will pay them back by providing an innovative and profitable product or service that consumers value. Both parties want to benefit from this arrangement, lenders and borrowers try to avoid activities which are too risky because they will both ultimately bear the cost. This is in stark contrast to how companies act when it comes to LPO loans. In the event a company fails to pay back the loan, the government intervenes to satisfy the financial failure with taxpayer dollars.

These risky loans are not the only problem. When you guarantee a loan by the government, who gets it is defined by political power and lobbying skills, not the collective intelligence of the market. When subsidies like those offered by the LPO are available, some companies will continue doing what they already do, and manage to get it financed through political influence. Leaving out those innovators would actually fulfill the original mission of the LPO. The question of what could have been, what economists call the opportunity cost of these loans, is a serious consideration, even if it is a difficult empirical one.

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[35] The Office of Clean Energy Demonstrations, n.d. "Community Benefits Plans Overview." *Office of Clean Energy Demonstrations.* Retrieved from https://www.energy.gov/sites/default/files/2023-09/OCED%20CBP%20101%20Factsheet.pdf

[36] Allsup, Maeve, 2025. "Why LFP battery makers are walking back their domestic factory plans." *Latitude Media*. Retrieved from https://www.latitudemedia.com/news/why-lfp-battery-makers-are-walking-back-their-domestic-factory-plans/

We can already see that LPO has financed already large corporations, with substantial access to capital. This not only creates a moral hazard of them financing and engaging in riskier endeavours than they might otherwise have, but it also makes it more difficult for new ideas to emerge, since it further enhances already established ideas. Research on new energy technology has stalled, at least in part, because of the government's involvement. Government support, as a previous chief marketing officer at Tesla Motors[37] complained, may make it easier for those who receive support, but it also makes it more difficult for new ideas to gain private funding and grow.

Conclusion

The decision to pick winners and losers through government programs in the quest to correct perceived market failures has failed to promote innovation, and has most likely done the opposite. It has fallen prey to rent-seekers, political agendas, and moral hazard.

In lieu of these programs, the government would do better by stepping out of the way and letting entrepreneurs and the market develop the necessary technology for better energy production. The current head of the Department of Energy, Chris Wright, said it best in his interview with the Daily Caller last month[38]:

> "*The first and primary tool is private capital and private businesses. Most of these things, with a reasonable business climate, will happen in the marketplace. That is our preference.*

Unfortunately he went on to say:

> *But, if there are issues that are critical and have to happen in a timely fashion because of the mess we're in with our electricity grid today, then we will deploy capital*."

The better approach is to stick to the first part of his statement. The road to energy innovation is private capital and private business. What is missing now is the creation of a business climate that allows innovation and experimentation. This will only happen if we allow the market to work by removing programs that distort and hinder it as subsidies and government guaranteed loans.

[37] Siry, Darryl, 2009. "In Role as Kingmaker, the Energy Department Stifles Innovation." *Wired.* Retrieved from https://www.wired.com/2009/12/doe-loans-stifle-innovation/

[38] Pope, Nick, 2025. "How Chris Wright Plans To Help America Climb Out Of Energy 'Hole' Dug By Biden Admin." *Daily Caller*. Retrieved from https://dailycaller.com/2025/03/12/exclusive-chris-wright-plan-america-climb-energy-biden-admin/

Dr. Ryan M. Yonk Summary of Testimony

Since its creation in 2005 the Title XVII loan guarantee program has largely failed to meet its objectives and instead has been used as a political tool, exposing taxpayers' money to unnecessary risk, while diverting capital from alternative energy investments. Government backed loans distort markets, misallocate funds, and fail to promote welfare-enhancing innovation in the sectors where they are applied.

Federal loan guarantees serve a public benefit only if they accomplish what economists call additionality, meaning the program must be offering loans to projects that would not have otherwise garnered funding. If they fail to do so, they are simply adding unnecessary transaction costs and putting taxpayers' money at risk. Exploratory research on the additionality of the LPO's programs reveals poor additionality.

Although it may seem commendable for the government to help fund energy companies in a desire to produce more and cheaper energy, unintended consequences abound and go undetected among individuals who are spellbound by rhetoric around alternative energy and greater production.

The decision to pick winners and losers through government programs in the quest to correct perceived market failures, and jumpstart industries has failed to promote innovation, and has most likely done the opposite. Instead it has fallen prey to rent-seekers, political agendas, and moral hazard.

Instead using private markets, where lenders seek borrowers who will pay them back by providing an innovative and profitable product or service that consumers value leads to both innovation and success. Both parties want to benefit from this arrangement, and as a result lenders and borrowers try to avoid activities which are too risky because they will both ultimately bear the cost, and instead focus on opportunities that both see benefit in pursuing.

In lieu of LPO's programs, the government would do better by stepping out of the way and letting entrepreneurs and the market develop the necessary technology for better energy production. The current head of the Department of Energy, Chris Wright, said it best in part of his interview with the Daily Caller last month:

> "*The first and primary tool is private capital and private businesses. Most of these things, with a reasonable business climate, will happen in the marketplace.*