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In Defense of the U.S. Department of Energy's Transformative Loan & Grant Programs Part 1

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Generating Revenues for the U.S. Treasury & Advancing U.S. Global Competitiveness

Many promising ideas, concepts, and innovations that could improve, add to, and make game-changing breakthroughs in energy, manufacturing, and the bioeconomy – and create new jobs, bring economic growth to U.S. communities, and catapult the U.S. into a global lead in innovation – wind up languishing, losing steam, and ultimately falling silent, never to be heard from again, for one simple reason: lack of sufficient capital.

At whatever point on the path to commercialization that an innovation or emerging technology might be, federal assistance in the form of grants, loans, loan guarantees, and incentives are often not only helpful … but often essential … in advancing these initiatives so they can bring their benefits to the American people … and the world.

The U.S. Department of Energy's (DOE's) Title 17 Innovative Technology Loan Program and Advanced Technology Vehicle Manufacturing (ATVM) Loan Program are two of the most important funding programs in the federal government.

They not only advance innovations, emerging technologies, and transformative projects from promising concepts to commercial realization, but benefit the federal government and American taxpayers in multiple ways.

They:

- Generate revenues for the U.S. Treasury far in excess of their costs.

- Have a loss rate of only 3.1%, which is comparable to that of major banks and financial institutions.
- Are able to finance first-of-a-kind projects, which carry a high degree of risk. **The typical loss rate for venture capital firms that support startups and first-of-a-kind ventures, by comparison, ranges between 25% and 40%**[1]. DOE's Loan Programs Office (LPO) is able keep its loss rates low by thoroughly vetting projects during its rigorous application and due diligence processes. Borrowers also are charged a credit subsidy cost[2] which is paid at financial close as a risk premium to offset any expected losses to the government from making a loan or issuing a loan guarantee.
- Are one of the few ways in which first-of-a-kind projects can be financed, which, due to their high degree of risk, very few private sector financial institutions will consider.
- Were created for this very reason.

These are the programs that:

- Gave **Tesla** its start, by financing the acquisition of its Fremont California manufacturing facility (which had been idled by GM) along with the development and production of the Tesla Model S
- Financed the development and manufacture of **Ford's EcoBoost motor**, which is now available in all Ford vehicles,
- Financed the **first utility-scale wind and solar projects**, which primed the pump for the private sector investments that have led to the massive growth of the wind and solar industries and the dramatic reduction in their costs
- Financed the four-unit 4,563 MWe **Vogel Nuclear Electric Power Generating Plant** in Waynesboro, Georgina, the largest generator of clean energy in the U.S.

The Title 17 and ATVM programs do what private sector lenders won't do: *lend to high-risk, first-of-a-kind projects*.

Because of this, these programs are the nation's most effective pathways to deploy new technologies, advanced manufacturing processes, and sustain an ongoing conduit of job-creating, local-economy-growing, local-tax-generating, and global-market-capturing projects.

These programs:

1. **Allow U.S. entrepreneurs and entities to take advantage of and benefit from global market trends.**

As Will Rogers famously said, "*Even if you are on the right track, you'll get run over if you just sit there.*"

To remain competitive globally, U.S. companies must constantly track market trends and innovate. Two global market trends that will dominate future decades are:

- **The phase out of the sale of internal combustion vehicles.** According to Statista, a global data and business intelligence platform that tracks statistics, issues reports, and provides insights on over 80,000 topics from 22,500 sources in 170 industries:

  "As of 2024, 60 countries and territories around the world had set targets, signed pledges or announced plans to phase out gasoline and diesel cars by a concrete date," beginning with Norway, Ethiopia, and, in part, Singapore in 2025, followed by 6 countries in 2030, 25 countries in 2035, 22 countries in 2040, and 4 countries in 2050.

- **The expansion of renewable energy.** According to the Global Electricity Review, global growth in wind and solar pushed renewables to provide more than 30% of global electricity, based on electricity generation in 2023, covering 80 countries representing 92% of global electricity demand.

These are trends over which the U.S. has very little influence or control. U.S. companies, as Marianne Williamson said, "*must either get on the train or be left behind.*"

2. **Allow the U.S. to be energy dominant in competing with China as well as other countries in dominating global markets.** These programs allow the U.S. to not only expand domestic manufacturing, with a focus on growing, building, using, and selling American products here, but to expand U.S. energy and market dominance worldwide.

   Any loss in the availability of financing to advance innovations and first-of-a-kind technologies will not only stunt the ability of U.S. companies to grow, build, use, and sell American products here, but to capture large shares of emerging and global markets and dominate these markets in the years ahead.

Anywhere that U.S. companies do not or cannot go, China will.

3. **Make money for the U.S. Treasury. The Title 17 and ATVM programs have generated *$4.9 billion in earnings for the U.S. Treasury* from interest payments on the Title 17 and ATVM loan obligations, as of the end of 2023.**

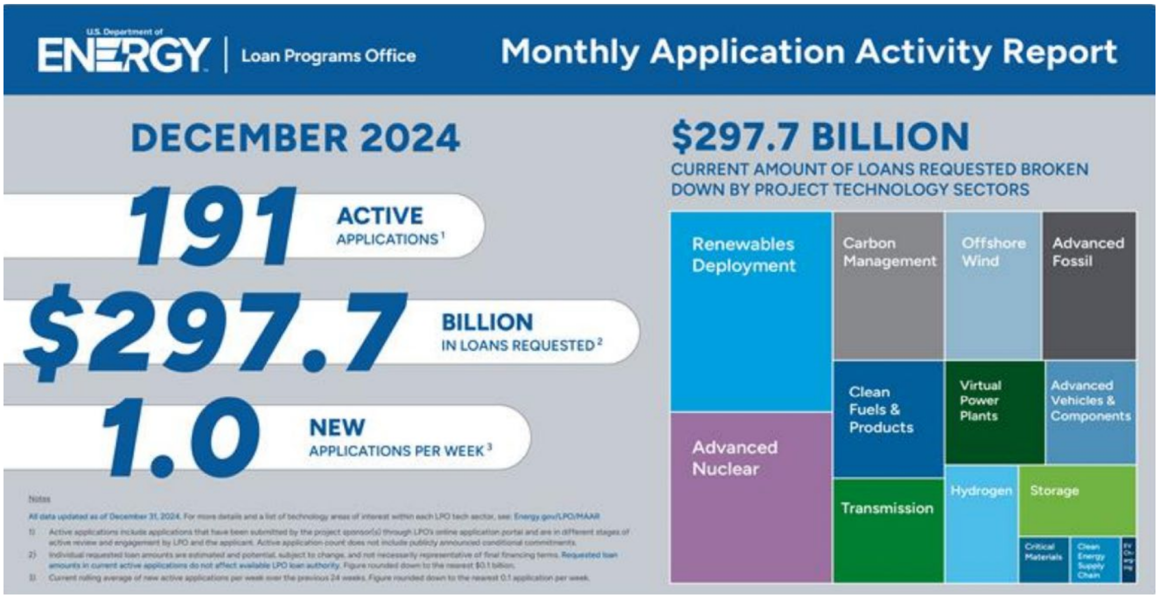
There has been an average of approximately 30 active loans and loan obligations during the 14 years (2009-2023) since the first LPO loan was issued to Ford Motor Company to complete the development and manufacture of its EcoBoost motor.

The average amount of interest earned by the U.S. Treasury during this period of time was $350 million per year. There are now 45 active loans. In addition, 15 conditional commitments have been issued to provide additional loans to cutting-edge projects, and there are more than 160 applications that have been under review by the LPO seeking over $200 billion to develop their projects.

If an average of 30 active loans have generated $350 million per year for the U.S. Treasury in the 14-year period between 2009 and 2023, it is fairly easy to see how much the U.S. Treasury will make from:

- The current group of active loans: *$525 million per year*,
- The 15 conditional commitments: *an additional $175 million per year*, and
- The 160 projects in the LPO pipeline: *an additional $1.87 billion per year*.

At a time when budgets are being cut and savings are being sought in federal government expenditures, it does not make sense to eliminate, or even cut back, a program that is on track to earn, within a few years, more than $2 billion per year for the U.S. Treasury ... and that is from just the projects that the LPO currently has in place and under review.



The Leading Criticisms of These Programs

The features of the Title 17 and ATVM programs, as described above are, unfortunately, not well understood, not taken into account, or are ignored by their detractors. These programs have been criticized for:

1. **The failure of Solyndra:** This criticism has hung over the Title 17 program for more than a decade and continues to persist. However:

   This ignores that the Title 17 and ATVM programs:

   - Were established specifically to advance high-risk, first-of-a-kind projects which typically have a high failure rate,
   - Thus, some projects will fail.

   This ignores that:

   - The average failure rate experienced by private sector venture capital firms that invest in startups and first-of-a-kind technologies is 30% or more, and
   - The LPO's failure rate for the loans and loan guarantee obligations it has issued over its 15-year lifetime is 3.1%, which closely matches the failure rates of major U.S. banks and financial institutions which are not willing to financing high-risk ventures, with financing only available for good-credit and collateral-based business and personal loans.

LPO portfolio performance summary as of end of FY 2023

Loan & Loan Guarantees Issued	**$42.1 billion**
Conditional Commitments	**$14.64 billion**
Amount Disbursed	**$33.28 billion**
Principal Repaid	**$14.3 billion**
Interest Paid*	**$4.87 billion**
Actual and Estimated Losses	**$1.03 billion**
Actual Losses as % of Total Disbursement	**3.1%**

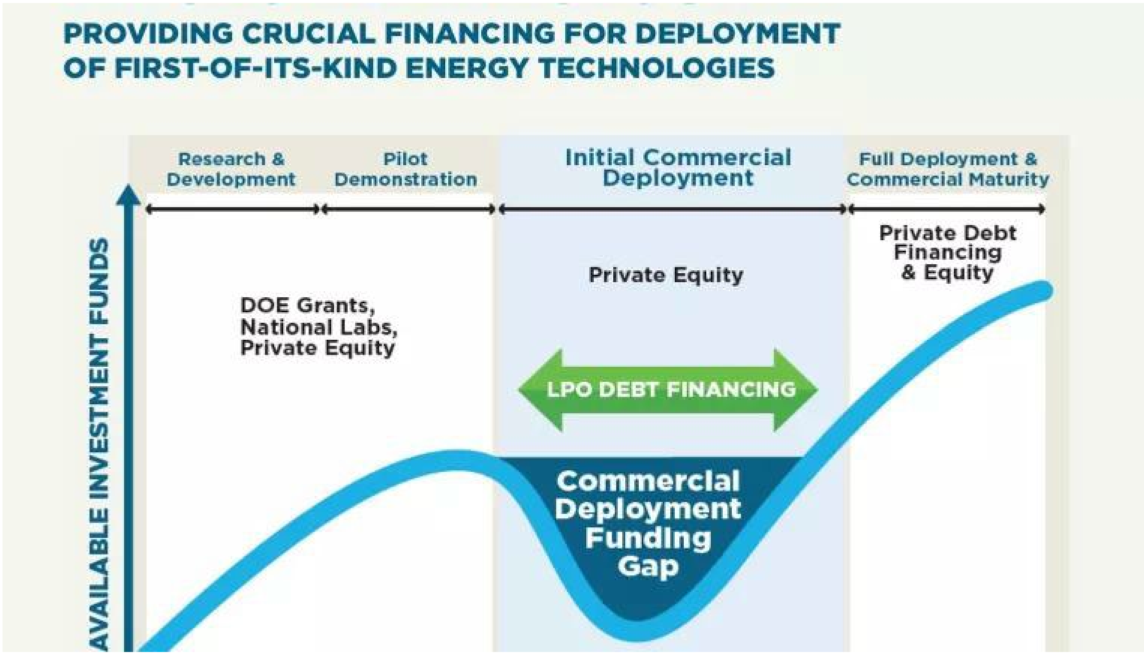
* Calculated without respect to Treasury's borrowing cost.

This also ignores that:

- These programs have more than made up for their losses which, according to the LPO's 2023 annual report, amounted to $1.03 billion at the end of 2023, which is less than one-quarter of the $4.9 billion in interest that has been earned by the U.S. Treasury from the LPO's loans over the same period of time.
- They Usurp the Private Sector by Performing Private Sector Functions: Projects that incorporate first-of-a-kind technologies, materials, and processes come with a high risk of failure; hence, they are only very rarely financed by traditional lenders.

Virtually every one of the projects that has been financed by the Title 17 and ATVM programs almost certainly would not have been financed by the private sector and, thus, would not exist today without the LPO's loan programs.

This means that the nearly 50,000 jobs that were created by the 30 projects that were active at the end of 2023, and the economic stimulus and tax dollars that these projects have brought to the 90 local communities in which their operations were located, would not have occurred had the Title 17 and ATVM financing had not been available.



2. **Project 2025:** *Project 2025* states that the "Administration should prioritize energy and science dominance to ensure that Americans have abundant, affordable, and reliable energy; create good-paying jobs; support domestic manufacturing and technology leadership; and strengthen national security."

   I strongly support this statement. While I agree that the nation should prioritize the use of domestic content and domestic manufacturing, I also feel strongly that the U.S. must continually monitor and analyze global market trends, two of which are listed above, to ensure that the nation's policies and investments are aligned in ways that will propel the U.S. toward market dominance.

   Project 2025 calls for:

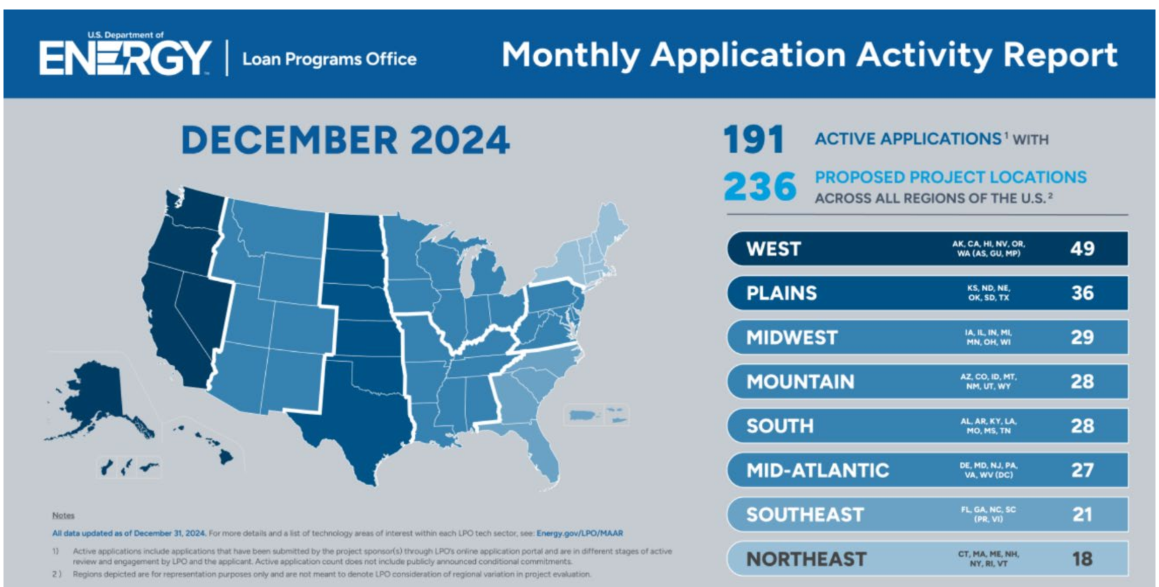
   - The repeal of "massive spending bills like the Infrastructure Investment and Jobs Act (IIJA)3 and Inflation Reduction Act (IRA), which established new programs and are providing hundreds of billions of dollars in subsidies to renewable energy developers, their investors, and special interests," and the recission of funds not already spent by these programs, as well as
   - The elimination or significant reform of the DOE Loan Program, as well as the elimination or reform of two other DOE programs supported by AFCC and its member companies which are included in AFCC's FY2026 E&W appropriation requests, the Advanced Research Projects Agency – Energy (ARPA-E) and the Office of Clean Energy Demonstrations (OCED).

   It should be noted that:

- *Project 2025's* characterization of renewable energy ignores the massive impact that renewable energy – and the investments made in renewable energy – have had in:
  - ✓ creating jobs
  - ✓ adding additional energy resources to the grid
  - ✓ the speed at which new energy systems can be built and placed in operation
  - ✓ and the much lower costs of construction and operation of renewable energy systems per megawatt hour compared to traditional energy systems
- *Project 2025's* suggestion that the U.S. should turn away from further investments in renewable energy would undermine the nation's ability to capture greater shares of the two, expanding global market trends described above, in which the U.S. already is a global leader and could gain global dominance ... but only if it continues to invest in these markets.

As H.G. Wells said, "Adapt or perish," a warning amply illustrated by the graveyard of firms that failed to adapt to the online shopping revolution.

Again, anywhere that U.S. companies do not or cannot go, China will.



3. **The OIG Conflict of Interest Interim Report:** S. Senator John Barrasso (R-WY), a senior member of the Senate Committee on Energy and Natural Resources (ENR), called for the suspension of the DOE Title 17 loan program following release by the Office

of Inspector General of a December 17, 2024 interim report that charged the Loan Programs Office with "not managing organizational conflicts of interest in compliance with regulations."

The OIG found that the LPO did not collect information about and track the 300+ contractors and third-party experts that it had hired to assist with loan processing and legal, engineering/technical, market analysis, and financial/credit due diligence and, thus, was unable to ensure that the contractors were not working for one or more prospective borrowers on the same or other projects.

This is a clear and egregious breach of the LPO's responsibility to ensure that each application is treated fairly and equally and is judged on its merits without bias or a vested interest in the applications under review.

Once this issue first came to light, the LPO should have taken immediate corrective action, rather than letting it continue and come to light in the OIG's interim report. This breach needs to be remedied immediately, with systems and procedures put in place to ensure that the potential for conflicts of interest is eliminated.

Suspending, or pausing, LPO operations until this situation is rectified is reasonable. Using this as a reason to end the program, however, is not ... and would rob the nation of the benefits that these programs provide to workers, local communities, and U.S. global competitiveness and dominance.

4. **Violation of Statute:** Section 9010 of the Consolidated Appropriations Act of 2021, which was crafted by the Alternative Fuels & Chemicals Coalition (AFCC) to revitalize and fix several problems that had hobbled the operation of the Title 17 and ATVM loan programs, stipulates that the fees charged to borrowers by the LPO are to be "collected on or after the financial close of an obligation."

   This stipulation makes specific reference to the "costs associated with third-party consultants engaged by the Secretary" to assist with application processing and due diligence. These fees amount to several million dollars per application.

   AFCC advocated for and succeeded in incorporating this deferral of fees in Section 9010(a)(3)(A) so that small businesses, startups, and pre-revenue companies would not be placed at a disadvantage and prevented from advancing emerging technologies and manufacturing processes, each of which holds the potential to greatly benefit to the nation, due to an inability to pay these fees prior to closing.

The LPO, however, submitted a Federal Register Notice in May 2023, in violation of §9010(a)(3)(A), stating that, effective immediately, borrowers would be charged for the costs associated with third-party consultants engaged by the LPO prior to start of due diligence.

The LPO's argument for this breach was that, while its loan authority was increased nearly tenfold by the Inflation Reduction Act (IRA), the funds that were made available "for necessary administrative expenses" and "the costs of guarantees" were not increased at a commensurate level and were not sufficient to keep pace with the inflow of applications that had been unleashed by Section 9010 and the IRA.

The LPO, therefore, made the choice to accept more applications, favoring the companies that could pay at the expense of companies for whom the statutory language had been enacted and could not pay. This needs to be corrected by ensuring that the LPO has sufficient funding in its annual appropriation for administrative expenses and the costs of guarantees.

How the DOE Loan Programs Benefit Local Communities

These loan programs have provided a lifeline for projects operating in 90 locations in the U.S. (with 236 more in the pipeline), which have created skilled high-paying jobs, increased consumer spending, generated revenues for local suppliers and businesses, stimulated economic growth, and enlarged local government tax revenues for public services and infrastructure repairs and improvements. Current projects in the LPO pipeline will expand these benefits to other local communities throughout the U.S.

Endnotes:

[1] Chandratillake, Suranga, "Venture Demystified: Loss Ratios in 2022/23 and what it could mean," Medium, September 5, 2022, https://medium.com/@suranga/venture-demystified-loss-ratios-in-2022-23-and-what-it-could-mean-40501f2f9c21

[2] The credit subsidy cost, mandated by the Federal Credit Reform Act of 1990, is required to be paid at financial close for any federal loan or loan guarantee as a risk premium to offset any expected losses to the government from making a loan or issuing a loan guarantee.

Part 2 of our story continues here.