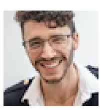
THIRD WAY

MEMO *Published July 27, 2021 • Updated November 3, 2021 • 13 minute read*

How to Unleash the LPO's True Potential



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Takeaways

- The Loan Programs Office (LPO) has supported 30 energy projects, produced at least 37,000 energy jobs, and prevented over 60 million metric tons of greenhouse gas emissions through loans and loan guarantees for innovative energy technology.
- Recent bipartisan legislative efforts and actions taken by the Biden Administration to reduce barriers to applicants and LPO have resulted in a surge of applications, which could quickly exhaust the Office's available financing authority in some project categories.

- Congress can capitalize on more of these opportunities to deploy clean energy, create jobs, and cut emissions by investing:
  - 1) At least $2 billion in credit subsidy cost for LPO's innovative energy program;
  - 2) $2-$3 billion in LPO's advanced vehicle manufacturing program to support newly-eligible project types; and
  - 3) $200 million for credit subsidy costs in LPO's Tribal energy development program, and allowing the program to make direct loans.

What LPO does, and why it matters.

The LPO is a specialized agency within the Department of Energy that provides loans and loan guarantees for large scale energy projects through its three programs. LPO's "Title 17" program provides loan guarantees for innovative technology projects in advanced nuclear energy, advanced fossil energy, renewable energy, and energy efficiency. The LPO also has a program for advanced vehicle manufacturing projects (the Advanced Technology Vehicles Manufacturing Direct Loan Program or "ATVM") and one for tribal energy development (the Tribal Energy Loan Guarantee Program or "TELGP").

The LPO is perhaps best-known for providing loan guarantees for technology that has not yet reached full commercialization, as part of its Title 17 program. The program examines eligible energy projects and can either guarantee a portion of private lenders' debt in case of default or guarantee debt from the U.S. Treasury's Federal Finance Bank. [1] In this way, LPO plays a key role in helping energy project developers cross the "valley of death" by allowing them to access capital that the private sector would otherwise not provide or would only provide at extremely high costs.

The value of the Title 17 program in innovation financing is twofold. First, it assumes the technology risks of early deployment until the technology has demonstrated commercial operating history and the private sector is ready to take over. Secondly, LPO performs a level of due diligence that commercial lenders may not be able or willing to undertake for new technology. In other words, the LPO takes the time and has access to the experts (both in-house and from national labs) to examine projects from financial, technical, legal, and market analysis standpoints to determine their technical and financial viability, and to assess and mitigate the associated technology risks. Commercial lenders will then feel confident in lending to projects that have passed LPO scrutiny and have its financial backing.

The ATVM program also plays a vital role in technological innovation but differs from Title 17 in both the types of projects it supports, and in type of support it offers. In the past, ATVM has invested in manufacturing of electric vehicles (EV) and more fuel-efficient light-duty vehicles. However, it can also invest in the manufacturing of associated components and EV charging infrastructure. The Biden Administration also announced its intention to use some of the remaining ATVM loan authority to help supplement the domestic battery supply chain. [2] And instead of providing loan guarantees like Title 17, ATVM offers low-cost direct loans. [3]

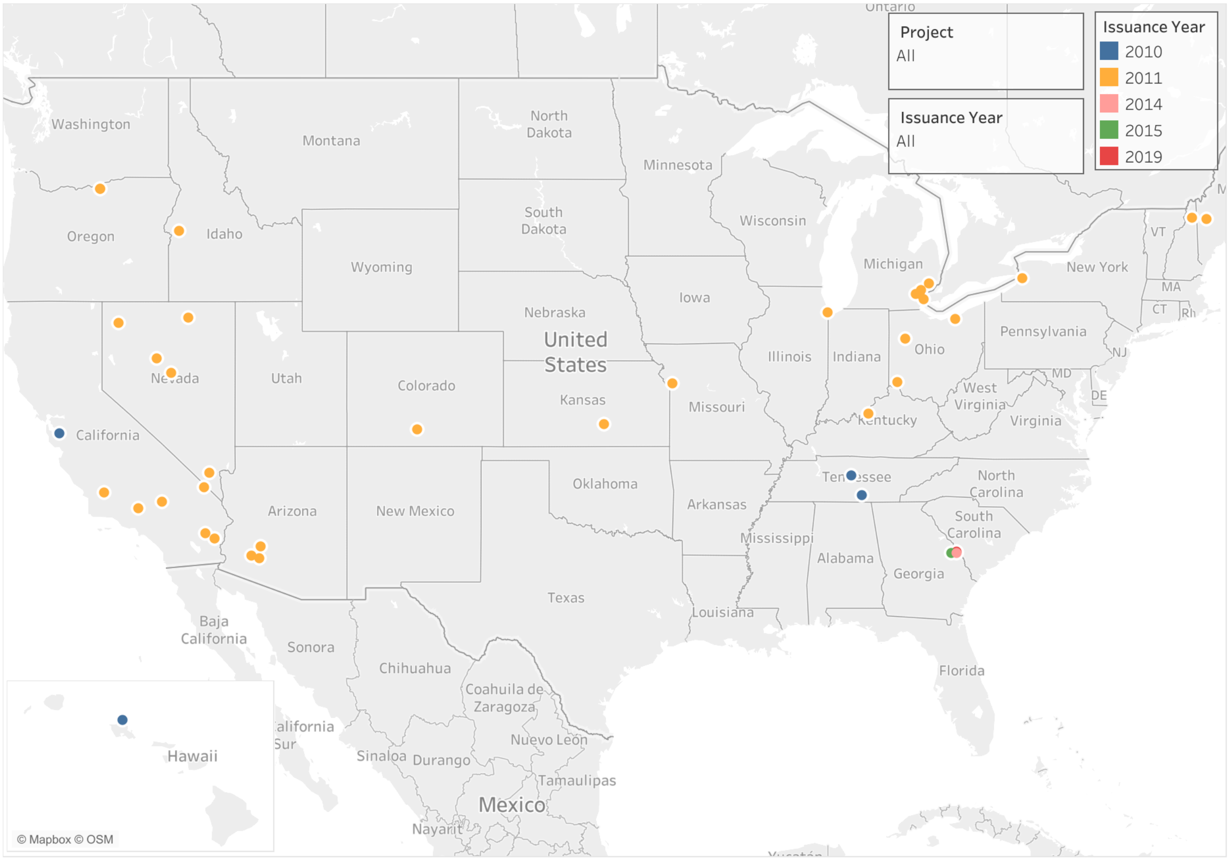
TELGP could also play an important role in our energy transition. While it has no requirements that loan guarantees go to technologies that are "innovative," its stated goal is to support economic opportunity and improve energy independence on Tribal lands. Eligible projects may include distributed renewable resources, energy storage, electricity transmission and distribution upgrades, and energy extraction and transport infrastructure.

All three LPO programs are subject to the Federal Credit Reform Act of 1990, which requires agencies to place the cost of federal credit programs on a similar budgetary basis to other federal spending. In practice, this means that LPO must estimate and cover the cost of the government extending or guaranteeing a loan, known as the credit subsidy cost (CSC). [4] Congress appropriated funds to cover the CSC for ATVM applicants (with $2.4 billion still available); ATVM at this time does not allow applicants to cover CSC, so it must have these funds appropriated in order to make loans. Congress also appropriated funds only for renewable and efficient energy projects within Title 17 (with $160 million remaining). Otherwise, the applicants to Title 17 must pay the CSC themselves, making CSC one of the largest barriers for applicants.

To date, the Title 17 and ATVM programs have supported 30 energy technology projects. [5] Their current portfolio is responsible for creating at least 37,000 clean energy jobs and preventing over 60 million tons of greenhouse gas. [6] Its supported projects span 18 states representing nearly every region and have helped companies deploy clean energy and low carbon vehicles at a critical time of higher market uncertainty and higher costs for clean energy technology. Though TELGP has $2 billion in loan guarantee authority, it has been unable to fund any energy development projects to date. Additional funding and targeted policy changes are needed to improve this program's reach and efficacy.

LPO has supported projects in many regions of the country

Active and fully repaid LPO portfolio projects



In addition to the projects displayed here, LPO has supported 6 projects that discontinued their participation in the program, and 5 projects which closed on a deal with LPO but did not ultimately receive proceeds from a loan

Source: Loan Program Office official website

There are dozens of promising technologies emerging across the clean energy sector that could launch entire new industries, if given the right springboard. This could generate hundreds of thousands of new jobs, cement America's global leadership in energy, and put the US closer to meeting its mid-century decarbonization goals. LPO has exactly the kinds of tools that can help make these outcomes real, but we need to make sure they're in tip-top shape.

After soaring and slowing, LPO is ready to rise again.

In 2009, the Obama administration saw an opportunity to produce cutting edge energy jobs as one of many approaches to address the economic crisis of the time. With President Obama's signature stimulus bill, the American Recovery and Reinvestment Act (ARRA), the administration introduced temporary LPO reforms that completely scaled up the then obscure program. These included a firm deadline to issue loans and loan guarantees by the end of 2011, and appropriation of funds to cover the CSC, removing a significant cost of securing a loan guarantee. LPO loans and loan guarantees soared.

During this period of high activity, we witnessed defaults like in the much-politicized case of Solyndra, but we saw many more successes. For instance, in 2011 LPO's Title 17 program provided loan guarantees for the country's first five utility scale solar projects of over 100 MW in capacity. [7] By 2016, an additional 45 major solar projects of 100 MW capacity or more were built, all privately financed. LPO made the case for investing in large solar projects, and then the market followed.

ATVM also saw big wins during this period. DOE issued a $465 million loan to Tesla in early 2010 to build a new plant in Fremont, California. This project created over 1,500 permanent jobs and brought to market the first zero-emission, zero-gas, full-size electric vehicle. [8] Tesla has since expanded its manufacturing to facilities in Nevada, Texas, and New York and become a powerhouse in the global EV industry.

About half of all historical LPO disbursements occurred in the 2010-2013 period, which mainly captures the construction periods for loans that closed before the 2011 deadline. [9] But activity tapered off rapidly after that. In fact, nearly all of LPO's active projects closed their respective deals before the end of 2011.

Several factors contributed to this slowdown. The transition after the 2011 deadline created administrative challenges. Lack of clarity in eligibility criteria and complicated application processes deterred many prospective borrowers, despite the draw of low interest rates. The Trump Administration made no secret of its desire to see LPO failed rather than fixed. President Trump's annual budget request consistently sought to defund and shutter the Office, which couldn't have been encouraging for project developers deciding whether to invest the time and resources in a program that could vanish before they reached the closing table.

The Biden Administration and Congress are working to improve LPO right now.

After years of fighting just to keep its engine running, LPO is suddenly shifting into high gear. The Energy Act of 2020 introduced the first set of permanent reforms to LPO since its creation in 2005. It increased processing transparency, deferred fee payment to the closing of the loan guarantee, and expanded project eligibility. [10] Under the Biden Administration, DOE has quickly worked to clarify costs and charges, provide flexibility in repayment procedures and interest rates, and further expand the list of eligible technologies. These steps were designed to make DOE's financing tools more efficient, accessible, and appealing to potential borrowers—and they seem to be working. DOE Deputy Secretary David Turk recently noted that LPO had three applications in all of 2020. It now receives about three applications per week. [11]

The House Energy and Commerce Committee's CLEAN Future Act and the Senate's Infrastructure Investment and Jobs Act (IIJA, formerly known as the Bipartisan Infrastructure Framework), both include provisions that expand ATVM eligibility. IIJA makes low-emission medium- and heavy-duty vehicles, aircraft, trains, ferries, and more eligible for ATVM loans. Both bills also include provisions that allow applicants to guarantee or supplement loans from state financing entities such as green banks and clean technology accelerators.

The CLEAN Future Act and the IIJA also enable financing to an even broader range of applicants by clarifying and refining the definition of something called the "reasonable prospect of repayment." Loans and loan guarantees can only go to projects that have a reasonable prospect of repayment, but the definition of this term has been left vague prior to these two pieces of legislation. Current interpretations of this concept can limit LPO access to only a subset of more established firms, or projects that can secure sufficient cashflow with offtake agreements. [12] The CLEAN Future Act and the IIJA would allow firms both large and small to use other metrics, such as non-contractual cash flows, the overall financial strength of the loan recipient, or the financial strength of the loan recipient's investors and strategic partners, to demonstrate their ability to repay a loan.

We know LPO can run well. Now let's turbocharge it.

Word is already getting out that LPO is open for business and ready to provide more constructive partnerships than it's been able to for the past several years. Recent adjustments to the loan programs will help LPO operate well. But given the scale of opportunities to establish new industries, the potential for domestic jobs, and the urgent need to deploy innovative carbon-free technologies to meet emissions goals, we need more than "well". We need LPO to perform spectacularly. Through the bipartisan infrastructure package and reconciliation, Congress can provide additional tools and resources to maximize the returns from this newly upgraded LPO. To ensure we take advantage of the opportunities heading our way, Congress should:

- **Increase LPO's loan guarantee authority.** The $40 billion in remaining financing authority spread across LPO might seem eye-popping. But with so many emerging industries in clean energy and a new administration that has already taken important steps to make the programs more effective, the current authority won't be sufficient. For instance, the Renewable Energy and Efficient Energy category has less than $4.5 billion in authority remaining. [13] This pot of authority is expected to finance projects ranging from offshore wind to energy storage to electricity transmission to sustainable aviation fuels. All of these are important development opportunities for the US. But any one of them on its own could theoretically produce enough worthy loan guarantee applicants to drain the remaining authority. According to LPO Director Jigar Shah, the office is "averaging about $7 billion of applications per month, and more are coming every day." Congress should provide at least an additional $23 billion in loan guarantee authority that is "mixed use", meaning DOE could distribute it across the various Title 17 technology categories as needed. [14] A $23 billion increase in authority would add an estimated $230 million to the score of legislation. *UPDATE: The House's Build Back Better Act (BBBA) provides an additional $40 billion in loan authority for Title 17 across all of its technology areas, nearly doubling its existing authority. This is critically important for meeting the scale of incoming loan guarantee applications.*

- **Provide Title 17 credit subsidy cost.** Depending on risk level and other factors, the ability to cover CSC could be what makes or breaks an otherwise strong application. Congress should appropriate additional CSC funding that Title 17 borrowers can draw from, much like it did during the last recession. Historically, Title 17 has been able to leverage each dollar of credit subsidy funding into ten dollars of loan authority. For this reason, an appropriation of $2.2 billion would allow Title 17 to cover credit subsidy costs for its remaining loan authority across all of its technology areas. If the Title 17 loan authority is increased as recommended above, additional CSC should be appropriated accordingly. [15] *UPDATE: The House's BBBA provides $3.6 billion in credit subsidy for all of Title 17's innovative energy authorities, automatically unlocking about $36 billion in new loan authority.* [16] *This boost for all of the program's technology areas would ensure that more applicants will be able to afford the cost of a loan guarantee. A negotiated package should include this important funding.*

- **Provide credit subsidy to cover new ATVM authorities.** As previously mentioned, ATVM has no "self-pay" option for CSC, meaning that ATVM must have funds on hand in order to make any loans. With its proposed authorities broadened to include medium- and heavy-duty vehicles, aircraft, trains, and ferries, credit subsidy must be appropriated to the program. *UPDATE: The House's BBBA provides $3 billion in credit subsidy to start making these loans.* [17] *We enthusiastically support this funding and hope to see it in any enacted reconciliation bill.*

- **Provide additional funding and flexibility to TELGP.** Tribes and Tribal Energy Organizations that are unable to get private or state loans are similarly unable to make use of a loan guarantee program. Advocates have been concerned both with DOE's outreach to Tribes, noting that Tribes have been more likely to take advantage of grant program for their energy development needs.[18] Congress must change TELGP's authority to allow it to make direct loans for energy development on Tribal lands, provide it with the same financing mechanisms as Title 17 and ATVM, and appropriate $191 million to cover CSC, allowing the program to fully utilize its $2 billion in loan authority. *UPDATE: The House's BBBA includes $200 million for TELGP, gives it access to the Federal Financing Bank, increases its total commitment authority to $20 billion, and allows it to guarantee 100% of a loan. This funding will allow more applicants to afford loan guarantees from this program, and these policy changes would enable the program to more readily guarantee loans for Tribes seeking to improve energy access on their lands.*

- **Provide the necessary funding for an active LPO.** We want LPO to be reviewing a lot of new applicants in search of clean energy firms and technologies of the future. But that requires sufficient staff and resources. Congress should appropriate at least the $36 million in the President's FY2022 budget request for administrative expenses across all three LPO programs.[19]

TOPICS

GREEN FINANCE 45

ENDNOTES

1. The Energy Policy Act of 2005 allows up to 80% debt in the project. DOE can guarantee up to 90% of debt from a commercial lender or guarantee 100% of debt from US Treasury's Federal Finance Bank

2. "Biden-Harris Administration Announces Supply Chain Disruptions Task Force to Address Short-Term Supply Chain Discontinuities". White House Briefing Room. https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/08/fact-sheet-biden-harris-administration-announces-supply-chain-disruptions-task-force-to-address-short-term-supply-chain-discontinuities/

3. "ATVM Lending Reference Guide". Department of Energy. https://www.energy.gov/sites/default/files/2020/04/f73/ATVM_Lending_Reference_Guide_March2020.pdf

4. The Credit Subsidy Cost is calculated mainly with two variables: probability of default; and the "recovery" after default. These variables are used to "risk adjust" the borrower's principal and interest payments to the government and provide an estimate of payment shortfalls.

5. This includes 19 projects in its current portfolio, 5 projects that have repaid in full, and 6 project that received partial LPO support, due to discontinued participation. In addition to those 30 projects, there are 5 projects that concluded a deal with LPO but did not ultimately receive or pursue a loan.

6. The job and emission reductions only pertain to LPO's current portfolio, it excludes projects that paid in full or discontinued their participation.

7. "Energy Department Analysis: Loan Guarantee Program Launched Utility-Scale Photovoltaic Solar Market in the United States". Department of Energy. https://www.energy.gov/articles/energy-department-analysis-loan-guarantee-program-launched-utility-scale-photovoltaic-solar

8. "Tesla". Department of Energy. https://www.energy.gov/lpo/tesla

9. "Annual Portfolio Status Report Fiscal Year 2020. Department of Energy. https://www.energy.gov/sites/default/files/2021-03/DOE-LPO_APSR_FY2020.pdf

10. Energy Act of 2020. https://www.aip.org/sites/default/files/aipcorp/images/fyi/pdf/energy-act-of-2020.pdf

11. US Chamber of Commerce, "Our Clean Energy Future Depends on Critical Minerals," https://www.uschamber.com/on-demand/energy/our-clean-energy-future-depends-on-critical-minerals.

12. An offtake agreement is when a producer negotiates with a seller prior to the construction of a production facility to sell upcoming goods. Thus, securing a market for the producer's future output. This includes power purchase agreements (PPA).

13. Page 5 of https://www.energy.gov/sites/default/files/2021-06/DOE-LPO_REEE_Loan_Guarantee_Solicitation_16Jan20_Final.pdf.

14. This would return Title 17 to its peak authorization level of $47 billion, as provided in the Omnibus Appropriations Act of 2009.

15. The recommendation for $2.2 billion minimum for CSC comes from applying the calculation made in the President's Budget Request, seeking CSC at 10% of new proposed loan authority. Applying that same 10% rate to the total loan guarantee authority still remaining for Title 17 (up to $24 billion) results in a CSC of $2.4 billion. Third Way then removed the $160 million in previously appropriated CSC that remains in the Renewable Energy and Efficient Energy category to arrive at $2.2 billion. LPO's existing loan authority for each category in Title 17 can be found here, and the President's request for expanded loan authority and appropriation of CSC funds can be found on page 413 of the FY22 Detailed Budget Estimate for the Department of Energy.

16. Build Back Better Act of 2021. https://www.congress.gov/bill/117th-congress/house-bill/5376/text

17. Build Back Better Act of 2021. https://www.congress.gov/bill/117th-congress/house-bill/5376/text

18. "Department of Energy Loan Programs: Tribal Energy Loan Guarantees," Congressional Research Service. https://crsreports.congress.gov/product/pdf/IN/IN11452

19. FY 2022 Congressional Budget Request. Department of Energy. https://www.energy.gov/sites/default/files/2021-06/doe-fy2022-budget-volume-3.2_0.pdf