



Loan Programs Office



Shepherds Flat (Oregon)

# A Year of Continued Impact

Annual Portfolio Status Report | Fiscal Year 2018



During FY 2018, the Department of Energy's Loan Programs Office continued to demonstrate its value as a **driver of innovation** in the realization of America's all-of-the-above energy strategy. The LPO's commitment to efficiently and effectively managing a **\$28 billion portfolio** continues to reinvigorate, advance, and transform America's energy infrastructure while protecting taxpayers.

Portfolio Funding Status (\$ millions)								
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Total Obligated	\$24,109	\$23,989	\$23,451	\$27,854	\$29,322	\$29,322	\$28,522	\$28,379
Disbursements	\$8,696	\$15,412	\$18,688	\$21,706	\$24,342	\$25,467	\$25,742	\$25,742
Repayments/Discounts	\$13	\$284	\$1,553	\$3,486	\$5,141	\$6,399	\$7,978	\$9,017
Write-offs/Loss on Sale	\$0	\$0	\$54	\$198	\$198	\$272	\$806	\$806
Exposure*	\$8,697	\$15,197	\$17,317	\$18,321	\$19,297	\$19,092	\$17,288	\$16,310

\*Exposure includes outstanding interest.

California Valley Solar Ranch (California)



# WHO WE ARE

The Department of Energy's Loan Programs Office (LPO) provides debt financing for large-scale, all-of-the-above energy infrastructure and automotive manufacturing projects in the United States. Leveraging decades of financial, technical, legal, and environmental experience, LPO has closed on more than \$30 billion in loans and loan guarantees that bridge gaps in the commercial debt market. These gaps arise when commercial lenders are unwilling to issue

debt, or adequate amounts of debt, when a project deploys technology that has yet to demonstrate a history of commercial operations or entities like tribes have yet to demonstrate a history of commercially deploying energy projects.

Once LPO closes a loan or loan guarantee, projects are monitored and evaluated throughout project development, construction, commissioning, and operation until the loan has been repaid in full. The Portfolio Management Division currently manages LPO's portfolio efficiently and effectively, protecting taxpayer interests. With a proven track record that includes transforming existing energy infrastructure, reviving nuclear construction, accelerating growth of utility-scale solar and wind, and expanding domestic manufacturing of electric vehicles, LPO has helped catalyze new energy technology and create jobs.

## Available Loan & Loan Guarantee Authority Total: \$44 billion

### Advanced Technology Vehicles Manufacturing

\$17.7 B

### Advanced Nuclear

\$12.5 B

### Advanced Fossil

\$6.5 B

### Renewables

\$3.0 B

\$160 M in Credit Subsidy Available

### Tribal

\$2.0 B

## Going Forward

LPO will continue driving innovation in energy technologies by leveraging its \$44 billion in available loan authority:

**\$17.7 billion** for manufacturing fuel-efficient, light-duty or ultra-efficient vehicles and qualifying components under the Advanced Technology Vehicles Manufacturing program

**Up to \$24 billion** for the Title 17 Innovative Energy Loan Guarantee Program to support advanced fossil, advanced nuclear, and renewable energy & efficient energy projects

**Up to \$2 billion** for tribally-owned energy projects through the Tribal Energy Loan Guarantee Program

At the end of FY 2018, \$5.7 billion in Title 17 loan authority had been conditionally committed to two projects.

As of the end of Fiscal Year 2018





# FY 2018

# BY THE NUMBERS

Since issuing its first loan in 2009, the portfolio has evolved to mainly comprise mature, operating projects that are amortizing on schedule. With timely repayment by borrowers and various prepayments, the LPO portfolio exposure balance decreased by 6% to \$16.3 billion in FY 2018, its lowest level in nearly 6 years.

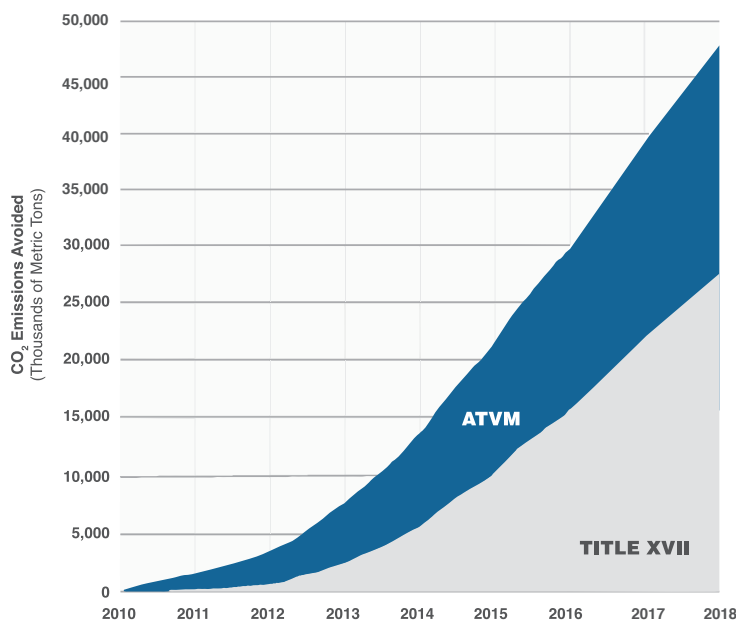
This year also marked a record for total energy production in a fiscal year period, as energy projects achieved more than 10.45 million megawatt-hours, enough to power roughly 950,000 homes.

Portfolio Project Data				
Fiscal Year Ended	9/30/2018		9/30/2017	
	Title XVII	ATVM	Title XVII	ATVM
Total # of Active Projects	19	1	20	1
# Projects in Construction	1	0	1	0
# Projects in Operation	18	1	18	1
# Projects Unfunded	0	0	1	0
Generation Capacity (MW)	3,953	—	3,953	—
Electricity Generated (GWh, Cum.)	54,597	—	44,150	—
CO <sub>2</sub> Avoided (Mtonnes, Cum.)	27.1	20.1	22.1	17.4
Production Capacity (Million vehicles/yr)	—	2.3	—	2.3
Vehicles Produced (Million, Cum.)	—	16.6	—	14.6



Beyond record energy production, the portfolio had a substantial climate impact by avoiding roughly 5 million tons in greenhouse gas emissions.

**LPO PORTFOLIO CLIMATE IMPACT**  
Cumulative CO<sub>2</sub> Emissions Avoided

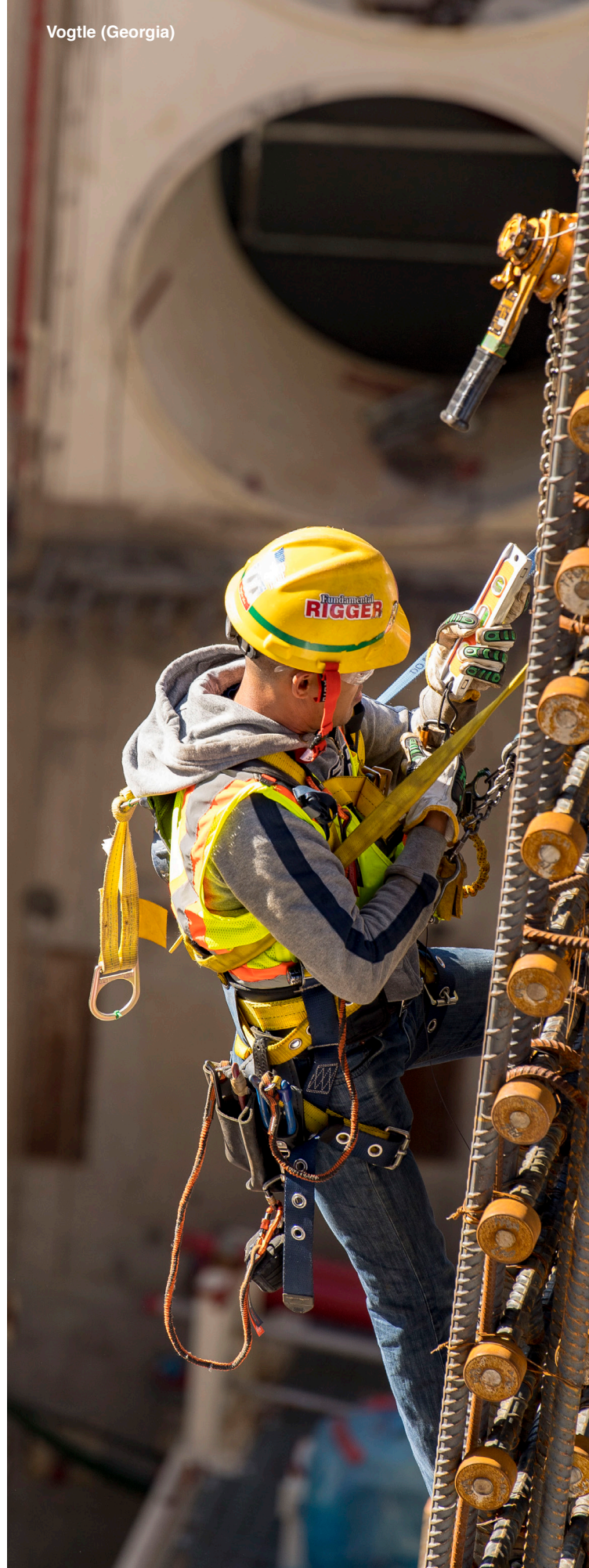


Thanks to stronger performance across almost every project, **the portfolio's energy production not only exceeded the previous year's by 8%**, it also outstripped closing model projections on an aggregate basis for the first time in the history of the portfolio.

As FY 2018 drew to a close, the portfolio remained strongly positioned for the future, thanks to:

- 78% of an outstanding portfolio balance owed by investment grade borrowers
- 70% of original credit subsidy cost allocated at closing on a net basis across the portfolio returned to the U.S. Treasury via annual re-estimates

**More than 35% of LPO's \$25.7 billion in disbursed funds have now been repaid**





Another measure of success for LPO's portfolio is that it continues to attract new private investment. Since 2017, nine portfolio projects have been acquired either on the open market or via private placement. This secondary market incentivizes

developers to allocate capital to new projects. And, providing consents under the loan agreements allows LPO to negotiate supports from incoming sponsors that further de-risk loans.

LPO Equity Ownership Sales FY2017 - FY2018				
Project	Ownership Stake	Buyer	Seller	Role
Alamosa	100%	KEPCO	Carlyle Group	Owner
Agua Caliente	49%	GIP	NRG/NRG Yield	Partial Owner/ O&M
California Valley Solar Ranch	100%	GIP	NRG/NRG Yield	Partial Owner/ O&M
Desert Sunlight	25%	GIP	NRG Yield	Partial Owner
Solana	41%	Algonquin	Abengoa	Indirect Owner of Atlantica Yield <sup>1</sup>
Mojave	41%	Algonquin	Abengoa	Indirect Owner of Atlantica Yield <sup>1</sup>
USG Oregon	60%	OGP Holdings (Ormat)	US Geothermal Inc.	Partial Owner/ O&M
Blue Mountain	100%	Cyrq	AltaRock	Owner
Mesquite 1	50%	Con Edison	Mesquite	Partial Owner

<sup>1</sup>Atlantica is 100% equity owner of project

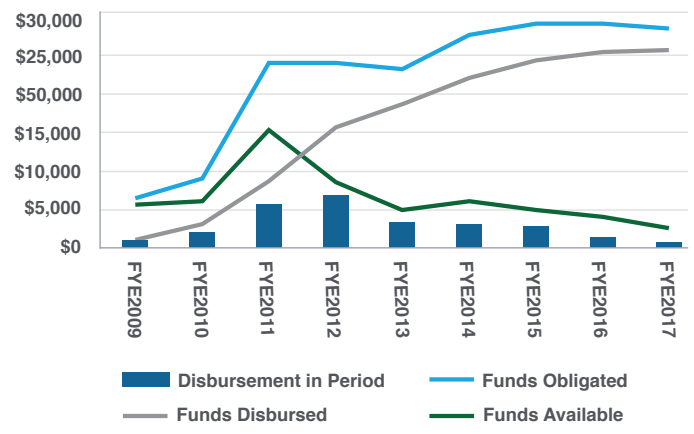
Since 2017, nine LPO portfolio projects have been acquired either on the open market or via private placement





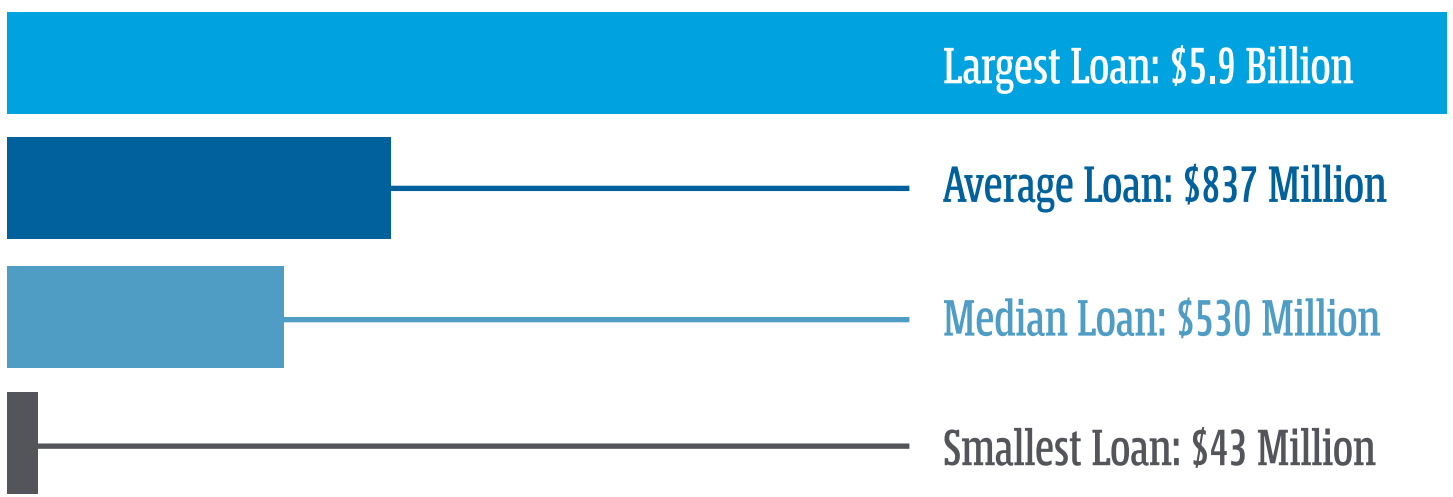
LPO provides **access to debt capital** for first-of-a-kind projects and other high-impact energy-related ventures in a way that private lenders often can't or won't. Having provided more than \$30 billion in debt financing toward large-scale infrastructure projects and automotive manufacturing, LPO achieved success in helping the private sector understand how projects can be financed so that they can later be taken over and replicated by commercial lenders, and LPO can then move on to new emerging technology markets.

**LPO Disbursement History (\$MM)**



The median loan size for LPO projects that have received disbursements is roughly \$530 million at closing.

**Total Loans: \$30.1 Billion**







One Nevada Line (Nevada)

LPO can provide **flexible, custom financing** that helps to meet the specific needs of individual borrowers. While the program typically has sufficient loan authority to provide all of the debt a project may need, it can also co-lend and provide flexible debt capacity that can upsize or downsize to fit the capital structure, filling in a range of financing gaps.

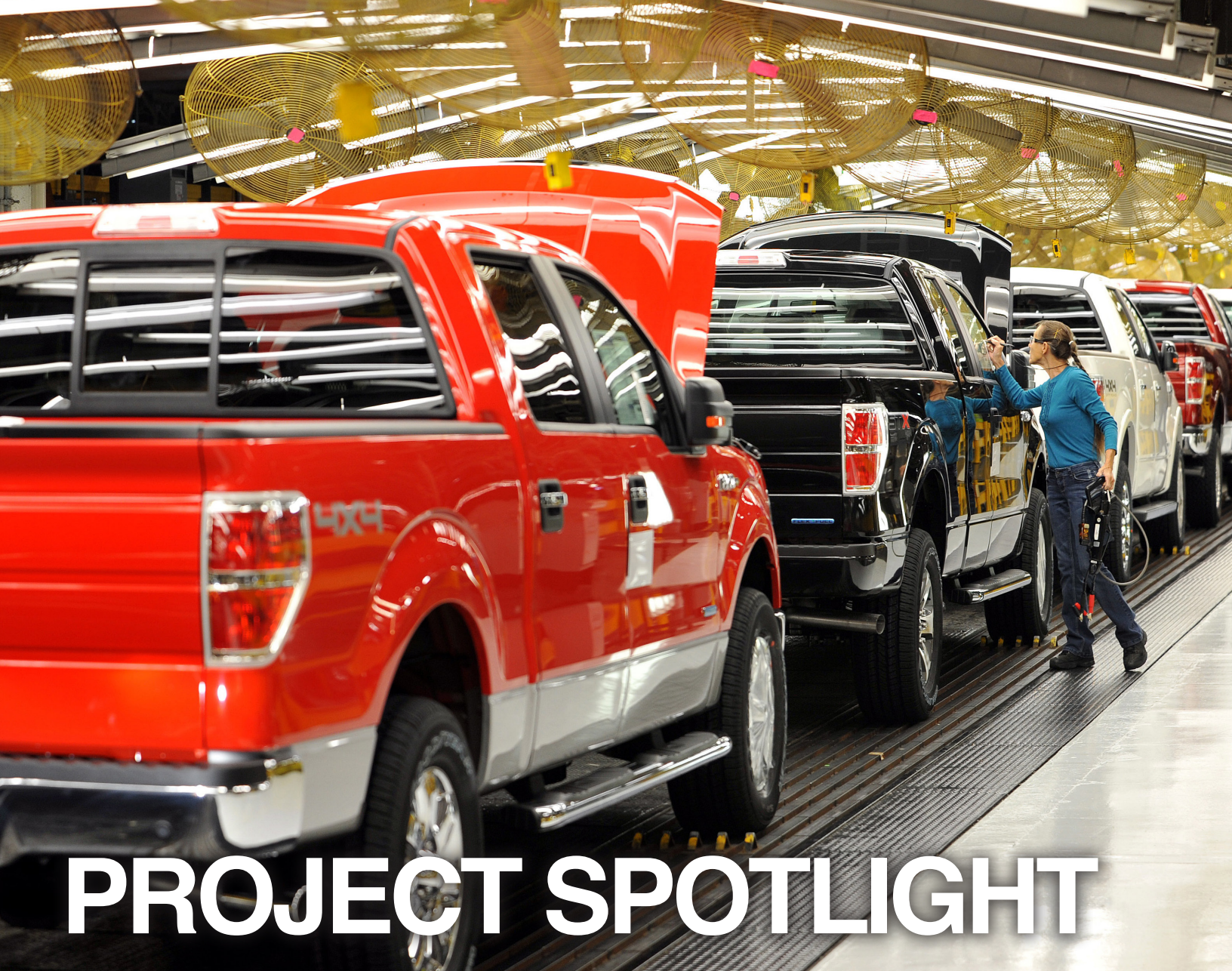
The most common form of lending in the LPO portfolio is project finance, but some projects use a corporate lending structure. The portfolio also contains several different types of borrowers, including private entities, investor-owned utilities, and public power utilities. LPO's involvement in projects provides the confidence other lenders and interested parties need to get involved. This has led to these lenders financing follow-on projects without LPO support.

The starting point of **a committed partnership** is with LPO's Origination Division, which brings together an internal team of energy experts, experienced across the financial, technical, legal, risk, and environmental fields. They partner with project sponsors through pre-application consultations, the application process, due diligence and underwriting. After loan closing, LPO's Portfolio Management Division maintains the partnership through construction, project operation and maintenance, and eventual final loan repayment.

This approach is essential to achieving project milestones and overall project success, while protecting taxpayer interests.

By engaging early and often with applicants, the LPO team maximizes transparency and manages risk with a combination of proactive monitoring, discussions of emergent issues, and action to maximize project success, which can include approving distributions or equity ownership sales.





# PROJECT SPOTLIGHT

# FORD

The impact of LPO's access to capital can be seen in the long-term relationship with Ford Motor Company that began in 2009 while capital markets were stagnant. In September of that year, LPO issued Ford a \$5.9 billion ATVM loan to fund upgrades to 13 facilities in Illinois, Kentucky, Michigan, Missouri, New York, and Ohio. Those upgrades helped Ford create and preserve more

than 33,000 jobs across 15 different facilities in the U.S. that support the production of up to 2.3 million light-duty vehicles.

FY 2018 marked the end of Ford's run as the largest borrower in the portfolio by exposure, thanks to a history of making all scheduled payments in full and continued improvements in its credit rating.





# PROJECT SPOTLIGHT

## SHEPHERDS FLAT

LPO's largest operating energy project, Shepherds Flat, entered the portfolio in December 2010 by way of a \$1.3 billion partial loan guarantee under the Financial Institution Partnership Program (FIPP). Now one of the largest wind farms in the world, this 845-MW power generation project in eastern Oregon reached full commercial operations in November 2012.

At a time when only one large wind deal had been done in the bond market, LPO's partial guarantee

helped boost the project's credit rating and attract new investors in multiple markets. The deal was awarded 2011 Renewable Energy Deal of the Year by Environmental Finance for its innovative financing. In FY 2018, the project set a milestone by delivering its highest total production in four years of operation. This increase, one of the largest gains posted by any borrower in the LPO portfolio, not only exceeded the project's closing projections by 5%, it also exceeded the previous year's production by 28%.





# PROJECT SPOTLIGHT

## IVANPAH

The world's largest concentrating solar power (CSP) plant when it was completed, Ivanpah's construction was fueled by LPO guaranteeing loans totaling \$1.6 billion. When it came online, the facility's 392-MW capacity nearly doubled the amount of solar thermal energy produced in the U.S.

The LPO team has worked closely with Ivanpah as the facility addressed project development and operational start-up challenges that are common with first-of-a-kind projects, as well as challenging weather conditions. The project is tracking very

closely to their guaranteed energy production thresholds that set it up for long-term success.

**Ivanpah created 1,000 construction jobs and supports 61 permanent jobs. The majority of the project's supply chain was sourced in the United States.**



# FY 2018 LPO HIGHLIGHTS

## Improving Portfolio Risk Profile:

- LPO portfolio exposure balance decreased by 6% to \$16.3 billion, its lowest level in nearly 6 years.
- Over 35% of LPO's \$25.7 billion in disbursed funds have been repaid to the Federal government.
- On a weighted basis, current exposure is primarily concentrated in strong, creditworthy assets, with 78% of the outstanding balance owed by borrowers that are internally rated investment grade.

## Powering America:

- The year marked a record for total energy projection in a fiscal year, as energy projects achieved more than 10.45 million megawatt hours, which is sufficient to power roughly 950,000 homes, while avoiding roughly 5 million tonnes in greenhouse gases.

## Catalyzing Investment:

- Nine projects have attracted new sponsors through equity sales during FY 2017-2018.

### LPO Portfolio Performance Summary as of End of FY 2018

Loan and Loan Guarantees Issued	\$31.98 billion
Conditional Commitments	\$5.70 billion
Amount Disbursed	\$25.74 billion
Principal Repaid	\$9.02 billion
Interest Paid*	\$2.41 billion
Actual and Estimated Losses	\$0.81 billion
Losses as % of Total Disbursement	3.13%

\* Calculated without respect to Treasury's borrowing cost.



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