



Deployment • Innovation • Liftoff

Financing American Energy

Title 17 Clean Energy • Advanced Transportation
Tribal Energy • CO₂ Transportation Infrastructure

**New York Energy
Conference**

Stuart Page

Senior Consultant, LPO

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Building a Bridge to Bankability

Deployment Milestones

Demonstrated
Innovative
Technology

1

First
Commercial
Deployments

2

Follow-On
Commercial
Deployments

3

Commercial
Scale-Up

4

Commercial
Debt Market
Education

Full Market
Acceptance

Scale-Up & Liftoff to Full Commercialization



A History of Portfolio Success Across Sectors

Over \$40 billion in innovative clean energy & advanced transportation loans and commitments

Advanced Nuclear | \$12 Billion

First AP1000 reactor in the U.S. (**Vogtle**)

Advanced Vehicles & Components | \$19.6 Billion

Accelerated domestic electric vehicles manufacturing.
(**BlueOval SK, Ford, Nissan, Tesla, Ultium Cells**)

Concentrating Solar Power | \$5.8 Billion

Five CSP plants utilizing diverse technologies.

Utility-Scale PV Solar | \$4.7 Billion

First five photovoltaic (PV) solar projects larger than 100 MW in the U.S.

Critical Materials | \$3.2 Billion

Supporting domestic supply chains for electric vehicles battery manufacturing in the U.S. (**Li-Cycle, Redwood Materials, Rhyolite Ridge, Syrah Vidalia**)

Virtual Power Plants | \$3.0 Billion

Landmark commitment to scale up access to DERs nationwide. (**Hestia**)

Wind Energy | \$1.7 Billion

Four onshore farms, including one of the world's largest. (**Shepherds Flat**)

Advanced Fossil | \$1 Billion

Conditional commitment for industrial decarbonization & clean hydrogen project. (**Monolith**)

Geothermal | \$546 Million

Innovative thermal extraction, revitalizing the sector.

Hydrogen | \$504 Million

Innovative clean hydrogen storage facility.
(**Advanced Clean Energy Storage**)

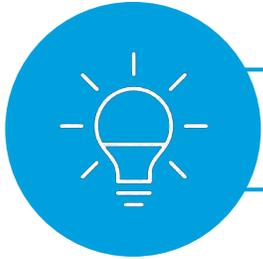
Transmission | \$343 Million

Advanced transmission lines for improved grid reliability. (**One Nevada Line**)

NOTE: Loan Amounts on this page represent the approximate amount of the approved loan at closing (or, for active conditional commitments, at time of conditional commitment announcement), including principal and any capitalized interest. Note that in making an obligation of use of loan authority, DOE does not include capitalized interest in those amounts.



LPO Financing Programs



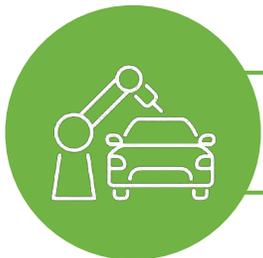
Title 17 Clean Energy (Title 17)

- ✓ **Project located in the United States.**
- ✓ **Be an energy project.**
- ✓ **Achieve significant and credible GHG or air pollution reductions.**
- ✓ **Have a reasonable prospect of repayment.**
- ✓ **Include a Community Benefits Plan.**



Tribal Energy (TELGP)

- **Innovative Technology**
- **Innovative Supply Chain**
- **Industrial Decarbonization**
- **Energy Infrastructure Re-investment**
- **Advanced Transportation**
- **Common Carrier CO₂ Transportation**
- **Tribal ownership**



Advanced Transportation (ATVM)



CO₂ Transportation Infrastructure (CIFIA)

The Next Generation of LPO Financing

LPO is working with stakeholders across innovative clean energy & advanced transportation sectors



Advanced Vehicles & Components

Vehicles • Components • Lightweighting
• Manufacturing • Electric Vehicle (EV)
Battery Manufacturing



Biofuels

Advanced Biofuels • Biodiesel •
Cellulosic Biofuels • Renewable
Diesel • Renewable Natural Gas
(RNG) • Sustainable Aviation
Fuel (SAF)



Critical Materials

Extraction • Manufacturing • Mining •
Processing • Recovery • Recycling



EV Charging

Deployment • Manufacturing



Hydrogen

Generation • Infrastructure •
Transportation



Offshore Wind

Offshore Wind Generation • Offshore
Wind Supply Chain & Vessels



Renewable Energy

Electrification • Geothermal •
Hydrokinetics • Hydropower •
Repowering Onshore Wind • Solar
Supply Chain • Waste Conversion



Storage

EV Bidirectional Storage • Newer
Battery Chemistries & Flow Batteries •
Compressed Air Energy Storage •
Pumped Storage Hydropower •
Thermal Energy Storage



Transmission

Grid Efficiency • Grid Reliability •
High-Voltage Direct Current (HVDC)
Systems • Offshore Wind Transmission
• Systems Sited Along Rail & Highway
Routes



Virtual Power Plants

Connected Distributed Energy
Resources (DERs)



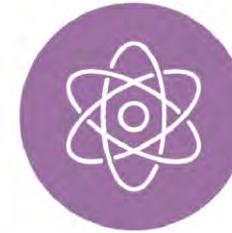
Advanced Fossil

Carbon Feedstock Waste Conversion •
Fossil Infrastructure Repurposing &
Reinvestment • Hybrid Generation •
Hydrogen Generated From Fossil
Sources • Synfuel



Carbon Management

Carbon Capture & Storage (CCS) •
Carbon Dioxide Removal (CDR) •
Direct Air Capture (DAC) • Industrial
Decarbonization • CO₂
Transportation Infrastructure



Advanced Nuclear

Advanced Nuclear Reactors •
Micro Reactors • Nuclear Fuel Cycle •
Nuclear Supply Chain •
Nuclear Upgrades & Upgrades •
Small Modular Reactors (SMRs)



Tribal Energy

Energy Development Projects •
Energy Storage • Fossil Energy •
Renewable Energy • Transmission
Infrastructure • Transportation of Fuels

Monthly Application Activity Report August 2023

167

ACTIVE
APPLICATIONS ¹

\$143.9

BILLION
IN LOANS REQUESTED ²

1.8

NEW
APPLICATIONS PER WEEK ³

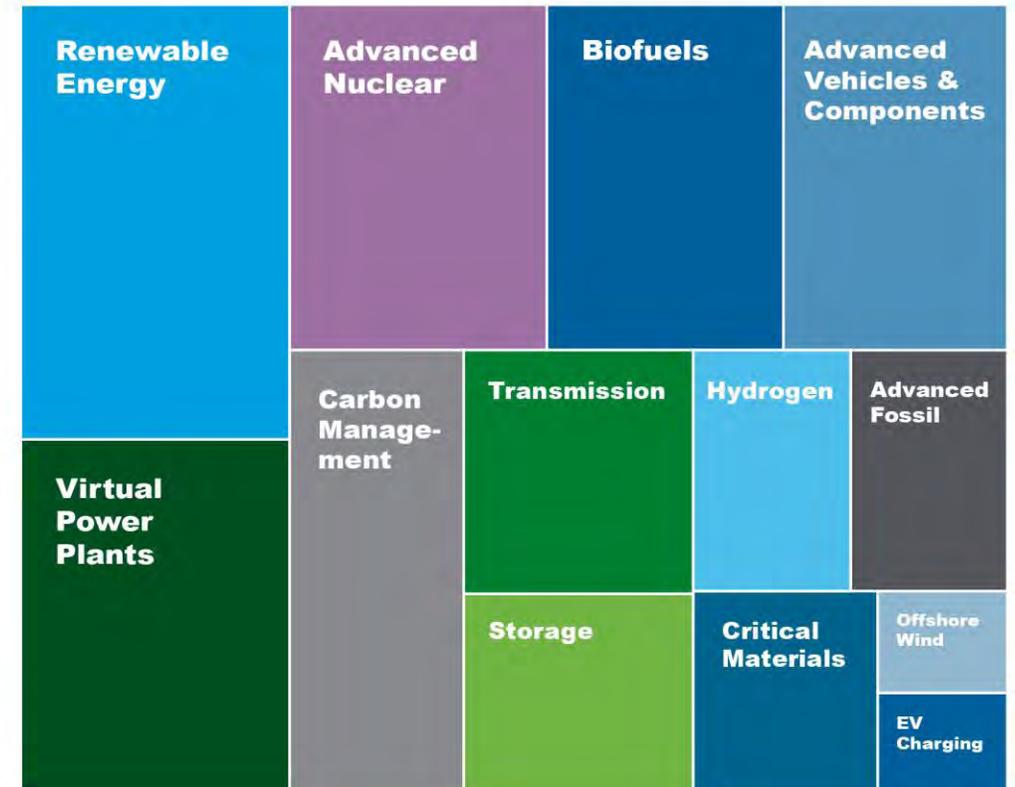
Notes

All data updated through August 31, 2023. For more details and a list of technology areas of interest within each LPO tech sector, see: [Energy.gov/LPO/MAAR](https://www.energy.gov/lpo/maar)

- 1) Active applications include applications that have been submitted by the project sponsor(s) through LPO's online application portal and are in different stages of active review and engagement by LPO and the applicant.
- 2) Individual requested loan amounts are estimated and potential, subject to change, and not necessarily representative of final financing terms. **Requested loan amounts in current active applications do not affect available LPO loan authority.** Figure rounded down to the nearest \$0.1 billion.
- 3) Current rolling average of new active applications per week over the previous 24 weeks. Figure rounded down to the nearest 0.1 application per week.

\$143.9 BILLION

CURRENT AMOUNT OF LOANS REQUESTED BROKEN DOWN BY PROJECT TECHNOLOGY SECTORS



Recent Loan Commitments

Company	Loan	Project	Construction Jobs	Operations Jobs	Tons CO2 Avoided pa	Capacity
Advanced Clean Energy Storage	\$504	Construction of largest US clean hydrogen production & storage facility	400	25	126,517	Electrolysers for H2, salt cavern storage
Monolith Materials	\$1,040	Nat gas conversion to carbon black and H2	1,000	75		Carbon black used in tire manufacture, H2 will be for clean ammonia fertilizer
Syrah	\$102	Manufacturing of graphite based anode material for Lithium-ion batteries	150	98	462,000	Enough material for 2.5 million EV's by 2040
Ultium	\$2,500	3 lithium-ion battery cell manufacturing plants	6,000	5,100	4,300,000	130 GWh of Lithium-ion battery cells each year

POST IRA

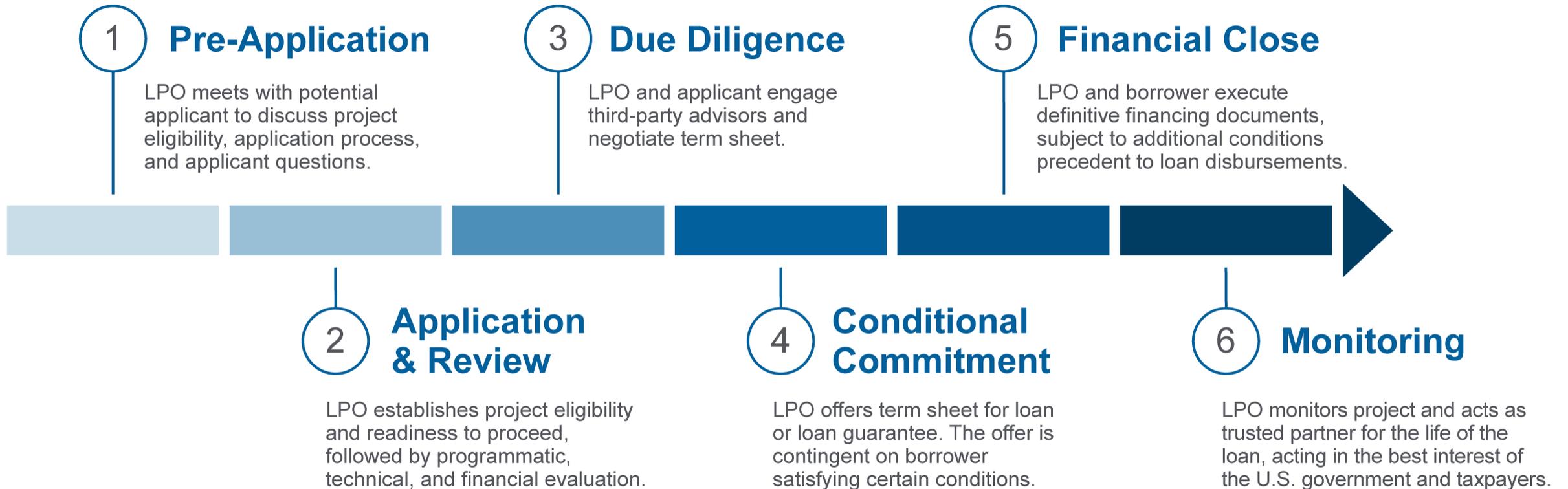
Blue Oval SK	\$9,200	3 Manufacturing plants for EV battery cells	5,000	7,500	4,000,000	120 GWh battery production annually
Cellink	\$362	Manufacturing plant for flexible wiring harnesses for EV's	165	1,200	64,000	Lighter, more efficient EV's. Enough capacity to support 2.7 million EV's annually
EOS	\$399	Manufacture of zinc bromine batteries for LDES	50	650		Annual electricity needs of 130k homes. 20 year life.
Hestia	\$3,000	DER's including rooftop solar, battery storage, VPP ready software	3,400		285,000	Loans to 75 - 115k households. Focus on disadvantaged
Kore Power	\$850	Advanced battery manufacturing facility	700	1,250	105,000	6GWh of battery cell storage capacity, supporting 28k EV's annually
Li-Cycle	\$375	Lithium iron battery recovery facility - recycling	1,000	270	716,000	Expected to support 200k EV battery needs annually
Redwood materials	\$2,000	Manufacture of ultra thin battery grade copper foil for battery anodes + cathode active materials	3,400	1,600	3,500,000	Support for more than 1million EV's per year.
Rhyolite Ridge	\$700	Mining and processing to produce lithium carbonate and boric acid	600	275	1,290,000	Over 20k tons lithium carbonate annually, enough for 370k EV's

Source: <https://www.energy.gov/lpo/portfolio-projects>



The LPO Loan Transaction Process

LPO engages early with applicants and remains a partner throughout the lifetime of the loan





Let's Talk About Your Project

Contact LPO to see what financing options may be available for your project



Schedule a no-fee, pre-application consultation:
[Energy.gov/LPO/Pre-App](https://www.energy.gov/LPO/Pre-App)



Learn more about LPO and all of its
financing programs at: [Energy.gov/LPO](https://www.energy.gov/LPO)

Questions? Call: **202-287-5900** or Email: **LPO@hq.doe.gov**

Stuart Page

Senior Consultant, LPO

Stuart.page@hq.doe.gov

