

ADVANCED NUCLEAR ENERGY PROJECTS LOAN GUARANTEE SOLICITATION

The Loan Programs Office (LPO) has issued an Advanced Nuclear Energy Projects Loan Guarantee Solicitation to support advanced nuclear energy technologies that will foster the deployment of future projects that replicate or extend a technological innovation. This solicitation makes as much as \$12.5 billion in loan guarantees available to support innovative nuclear energy projects in the United States that avoid, reduce, or sequester greenhouse gases.

Loan guarantees can help commercialize innovative nuclear energy technologies, as these projects may be unable to obtain full commercial financing due to the perceived risks associated with technology that has not been deployed widely in the United States at commercial scale.

The Advanced Nuclear Energy Projects Solicitation is authorized by Title XVII, Section 1703, of the Energy Policy Act of 2005. To date, LPO has supported a diverse portfolio of more than \$30 billion in loans, loan guarantees, and commitments, supporting more than 30 projects nationwide. The projects that LPO has supported include the first nuclear power plant to begin construction in the United States in the last three decades, one of the world's largest wind farms, several of the world's largest solar generation and thermal energy storage systems, and more than a dozen new or retooled auto manufacturing plants across the country.

THE SOLICITATION IDENTIFIES FOUR ADVANCED NUCLEAR TECHNOLOGY AREAS

The Advanced Nuclear Energy Projects Solicitation seeks applications for projects that cover a range of technologies. These technologies could include any nuclear generation or front-end technology that reduces greenhouse gas emissions and is new or significantly improved, as compared to more established technologies in service in the United States. While eligibility will ultimately be evaluated on a project-by-project basis, LPO has identified four key technology areas of interest under this solicitation:

Technology Area 1: Advanced Nuclear Reactors This area focuses on nuclear energy projects with evolutionary, state-of-the-art design improvements in the areas of fuel technology, thermal efficiency, modularized construction, safety systems, and standardized design.

Technology Area 2: Small Modular Reactors (SMRs) This area focuses on nuclear energy projects with evolutionary, state-of-the-art design improvements in the areas of fuel technology, thermal efficiency, modularized construction, safety systems, and standardized design and are nominally 300 MWe or smaller in size.



Technology Area 3: Upgrades and Upgrades at Existing Facilities This area focuses on projects consisting of improvements and/or modifications to an existing reactor that is (1) operating but that due to such improvements and/or modifications will operate more efficiently and/or will increase capacity; (2) is not operating and cannot operate without such improvements and/or modifications or; (3) is operating but would be required to cease operating unless such improvements and/or modifications are made.

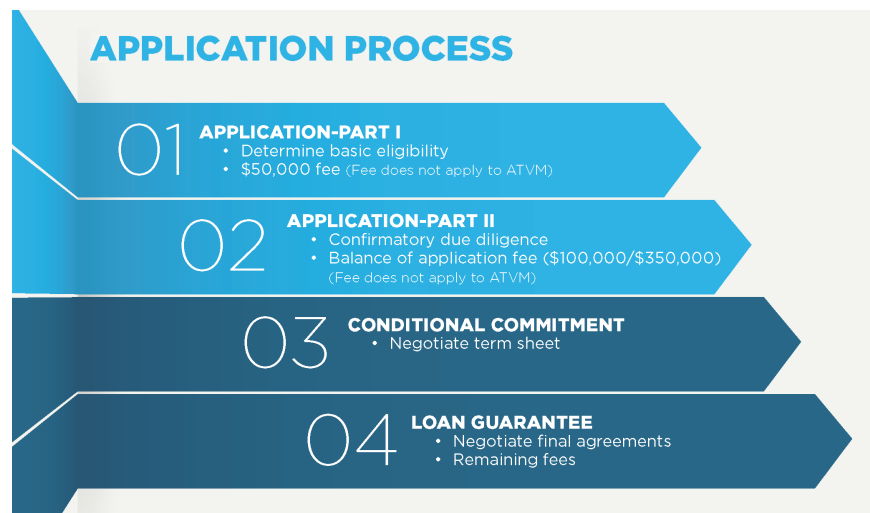
Technology Area 4: Front-End Nuclear This area focuses on advanced nuclear facilities for the “front-end” of the nuclear fuel cycle. Of the \$12.5 billion available under this solicitation, \$2 billion is available exclusively for “front-end” projects. This could include:

- a) **Uranium Conversion** Projects that economically convert U3O8 powder into a gaseous form of uranium hexafluoride;
- b) **Uranium Enrichment** Projects or facilities that transform natural uranium or uranium tails to a higher isotopic content of U235 including by (1) gas centrifuge or (2) laser isotope separation and;
- c) **Nuclear Fuel Fabrication** Projects that fabricate nuclear fuel including (1) production of UO2 powder that is “reconverted” from enriched UF6 gas from enrichment plants; (2) formation of UO2 pellets from UO2 powder through compaction and sintering; and (3) fuel assembly (i.e. insertion of pellets into zircaloy tubes and formation of a fuel assembly using fasteners.)

UNDERSTANDING THE APPLICATION PROCESS

In an effort to provide timely responses to applicants, applications will undergo a two-part review:

Part I will determine the initial eligibility of a project and whether it is ready to proceed. Applications that clear Part I are invited to Part II, which initiates the next stage of due diligence and underwriting.



Projects that complete an in-depth diligence and underwriting process and negotiation of a detailed term sheet may be offered a conditional commitment. If DOE offers a conditional commitment, negotiation of full documentation for the loan guarantee commences upon acceptance of the conditional commitment by the borrower. A loan guarantee will be issued only after all conditions to issuance have been satisfied. To learn more about the solicitation, please visit energy.gov/lpo

