

DOE Loan Programs Office

Deployment: How the Government Delivers Clean Energy and U.S. Jobs Today

August 2011

U.S. DEPARTMENT OF ENERGY | LOAN PROGRAMS OFFICE

Program Summary

LPO administers three clean energy loan programs

Title XVII Section 1703

- Provides loan guarantees to innovative clean technologies, where obtaining conventional private financing is difficult due to high technology risk and capital-intensive nature of investment
- Policy Objective: To deploy a wide array of innovative clean energy technologies at scale
- Credit Subsidy Cost: Self-pay for nuclear and advanced fossil. Some self-pay authority and limited credit subsidy for renewables and energy efficiency.

Title XVII Section 1705

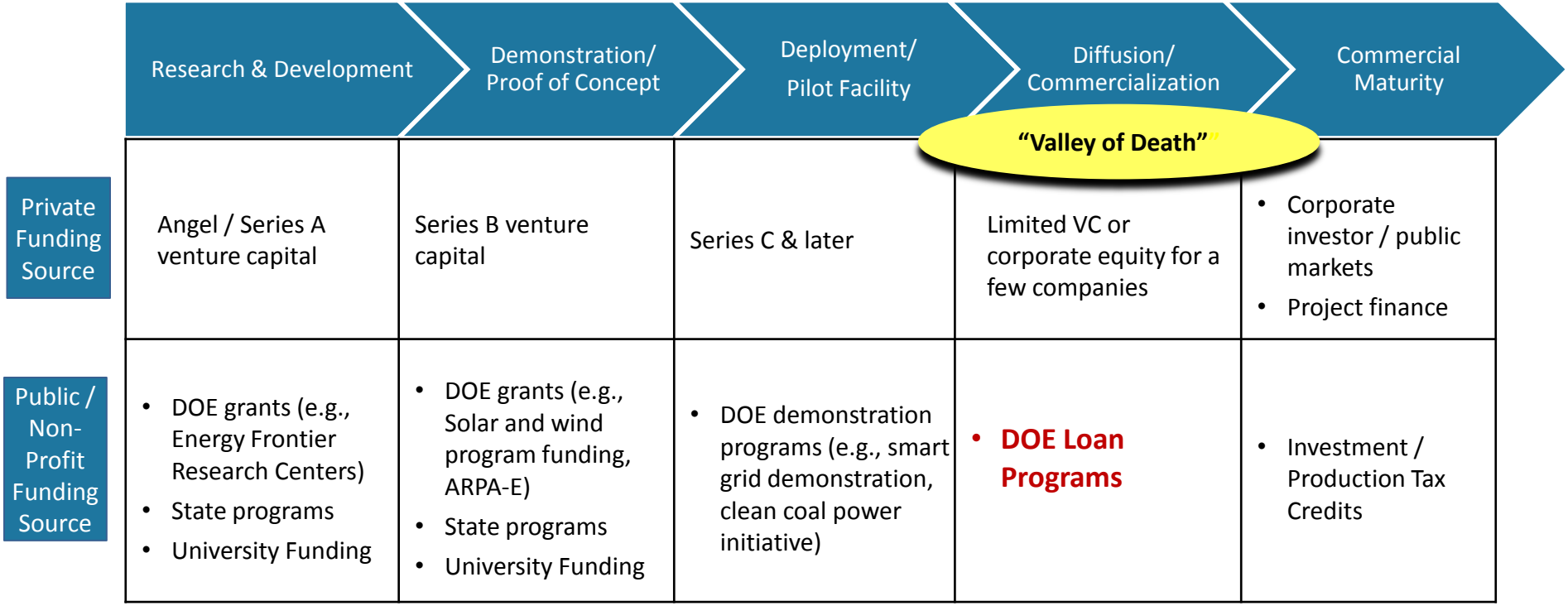
- Provides loan guarantees to commercial-scale renewable energy projects, including those employing more mature technologies, that begin construction prior to September 30, 2011
  - Energy sectors include: Biomass, Hydrogen, Solar, Wind/Hydropower, Geothermal, Transmission, or any other renewable energy systems
- Policy Objective: To deploy renewable energy projects and create jobs in a tight credit market
- Credit Subsidy Cost: paid by DOE, through appropriated funds

Advanced Technology Vehicle Manufacturing (ATVM) Loan Program (Section 136)

- Provides direct loans to manufacturers of advanced technology vehicles and related automotive components
- Credit Subsidy Cost: paid by DOE, through appropriated funds

Bridging the Clean Energy "Valley of Death"

LPO financing helps fill a well-documented gap in the market



The Financing Gap LPO Fills

Certain types of projects struggle to get built without loan guarantees

- **First-of-a-kind projects**
  - Traditional lenders have limited capacity/desire to underwrite innovative, first-of-a-kind energy technologies
  - Hard for commercial lenders to technically de-risk projects
  - DOE is uniquely positioned to do so
- **Projects seeking loans with long tenors**
  - Certain technologies (both innovative and more-mature) are not economically viable without long-term financing.
  - Few lenders are willing to make loans of this length – regardless of the promise of the underlying project
  - The U.S. government has the necessary long-term time horizon to make this type investment – at relatively little risk to taxpayers
- **Big-dollar bets**
  - Utility-scale scale projects are extremely capital-intensive
  - Few traditional lenders have the capacity to make loans of the necessary size – particularly for projects with any degree of technological or completion risk.
    - To the extent they are willing to make such loans, the cost of capital is often prohibitive; club deals exacerbate the problem
  - The U.S. government has the financial resources – and the long-term time horizon – to provide the necessary capital

Program Features

LPO financing is a cost-effective use of government resources

- Self-Supporting
  - All Title XVII program costs, including personnel, are covered by fees paid by applicants
- Excellent Leveraging of Government Resources
  - LPO financing is additive, i.e., it enables sponsors to build projects that would not otherwise get built, and attracts equity that would not otherwise be invested
  - A relatively small amount of appropriated credit subsidy supports a large amount of new private sector investment (approximately 13x multiplier, to date)
  - When loans are repaid, the nation has benefitted from the investment – at no cost to taxpayers. Where credit subsidies are "self-paid," the government can even turn a profit
- Promotes Economic Growth and Job Creation
  - Large, innovative clean energy projects create permanent operating and temporary construction jobs. Significant job multiplier effects as well
  - Projects lower delivered cost of renewable energy, incentivize build-out of the domestic supply chain, and upgrade and expand infrastructure needed to capitalize on future energy innovation

What the Loan Programs are Not

LPO differs from other types clean energy programs

- Not a grant program
  - LPO provides loans and loan guarantees, which it expects to be repaid
- Not a rubber stamp
  - LPO accepts projects on a competitive basis. Not all eligible projects receive financing
  - Every project that receives financing goes through a rigorous and comprehensive financial and technical review process – similar to what a private sector lender would conduct – before a single dollar of taxpayer money is put at risk
- Not an operating cost to the government
  - While credit subsidy appropriations and loan authorities "score" for budgeting purposes, the costs associated with administering the Title XVII programs are paid by applicants

How the Program Works:

Every project goes through a rigorous and comprehensive review – similar to what a private sector lender would conduct – before taxpayer funds are put at risk

Activity

- Eligibility reviews
- Completeness reviews
- Preliminary financial and technical evaluation
- Preliminary NEPA screening
- Full financial and technical evaluation and scoring
- Market due diligence
- Technical due diligence
- Legal/ Regulatory due diligence
- NEPA compliance
- Credit analysis and develop Credit Package
- Credit subsidy calculation
- Negotiation of Term Sheet
- Credit Committee (DOE)
- Credit Review Board (DOE)
- Interagency reviews (OMB, Treasury, NEC)
- Final legal documents
- Finalize credit subsidy
- Financial close
- Performance tracking

Impact of the Loan Programs

LPO has made a significant contribution to our national clean energy economy

- Nearly $40 billion in loan and loan guarantees to 42 clean energy projects with almost **$61 billion in total project costs**
- Created or saved over **65,000 jobs across 39 states plus the District of Columbia**
- Will remove as much carbon dioxide from the air every year as taking **over 4 million cars off the roads**
- LPO's 22 power generation projects will produce over 31 million megawatt-hours of clean energy – **enough to power nearly 3 million homes**
  - Total project costs for generation projects almost double amount invested in clean generation projects by entire U.S. private sector in 2009
- ATVM projects will save approximately 311 million gallons of gasoline annually

Sample Projects

LPO-financed projects are changing the national clean energy landscape

Since January 2010, LPO has financed:

- Six solar and wind manufacturing projects, including two that will rejuvenate previously shuttered auto facilities in Ohio and Indiana
- The first two electric vehicle manufacturing facilities in the U.S.
- The world's largest wind farm
- Several of the world's largest solar generation facilities
- The first-ever national energy project, which will put solar panels on commercial rooftops across twenty-eight states
- One of the country's first commercial-scale cellulosic ethanol plants
- The first nuclear power plant to be built in the U.S. in the last three decades
- An AREVA-sponsored uranium enrichment facility

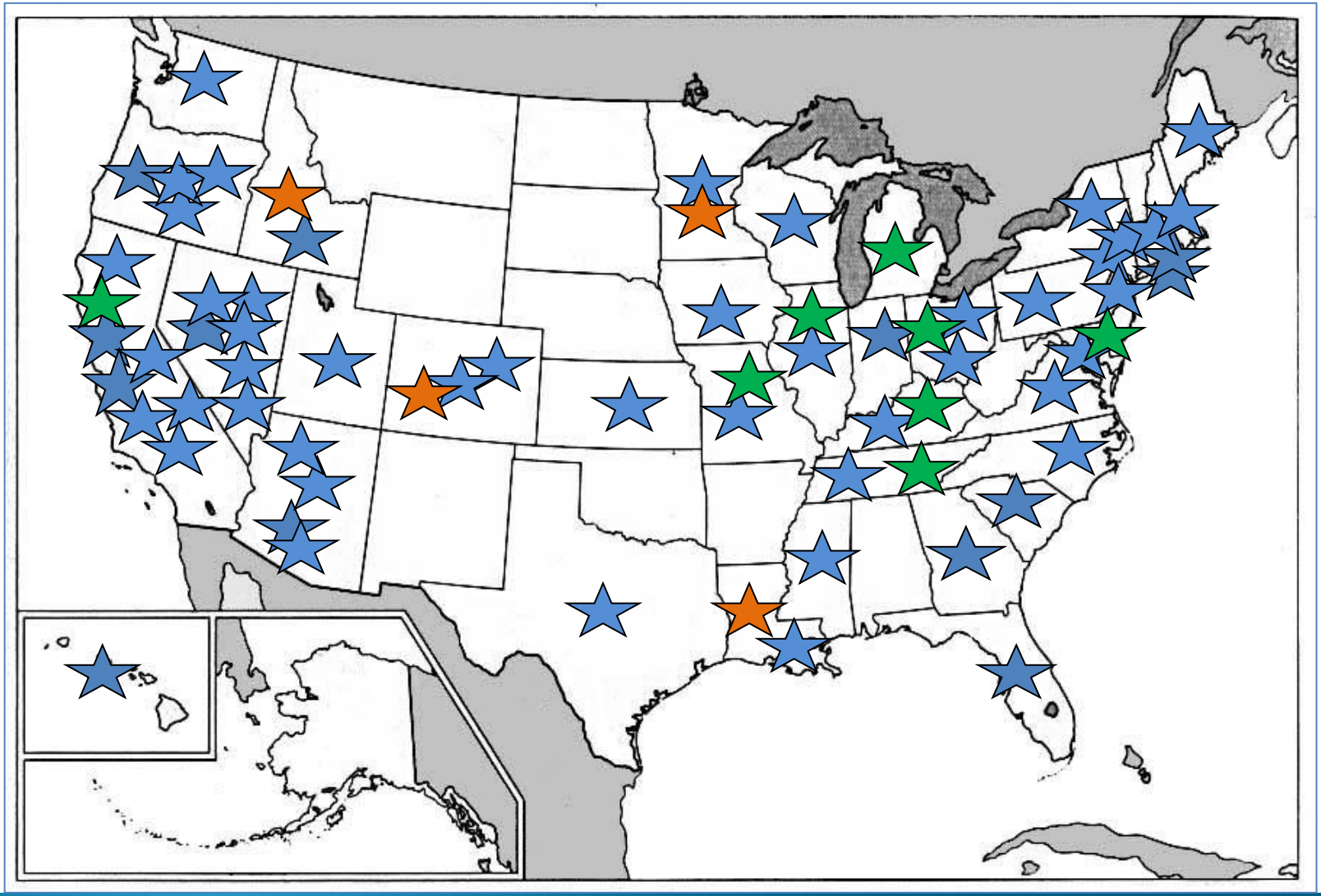
Awards and Accomplishments

LPO has been acknowledged for its successful work in 2010

- 2010 Deal of the Year (Shepherds Flat) – Energy Risk Magazine
- Deal of the Decade (Shepherds Flat) – Infrastructure Magazine (nominated)
- Deal of the Year (Shepherds Flat) – Power Finance & Risk (nominated)
- Deal of the Year – Renewable (Shepherds Flat) – Infrastructure Magazine (nominated)
- 2010 Global Awards for Excellence in BPM & Workflow – Workflow Management Coalition and BPM.com
- 2011 Laureate – International Data Group's Computerworld Honors Program

Current Project Footprint

LPO has already supported projects in 39 states plus the District of Columbia



1705 Approved

1703 Approved

ATVM Approved

Conclusion

- Loan Programs are Pro-Taxpayer
  - Projects are de-risked to fullest extent possible by over 100 deeply experienced professionals (ex-Fortune 100 financial institutions, Ex-Im, OPIC, etc.)
  - When projects succeed, loans are repaid and cost to government is zero
  - Title XVII programs are self-sustaining; borrower fees cover program's operating costs
- Programs are Pro-Business
  - Support large, commercial-scale ventures which:
    - Would not get done without guarantees
    - Drive down unit costs because of scale
    - Stand up supply chains, which creates U.S.-based manufacturing