

OPEN 2018 Full Application Best Practices

What Makes an ARPA-E Project?



Transformational Technology

- Challenges what is possible by surpassing other technologies under development
- Disrupts existing learning curves
- Leaps beyond today's technologies towards a distinctively innovative approach



High Risk

- Translates science into breakthrough technology
- Not researched or funded elsewhere and catalyzes new interest and investment
- Active engagement through rigorous project management and technical milestones



High Reward

- Have a significant impact in reducing imports, improving efficiency, or reducing emissions
- Quantified by primary energy saved or emissions avoided



Pathway to Impact

- Commitment from team to push technology toward real deployment
- Credible path to market
- Large commercial application



General Tips for Writing a Full App

Your proposal should be cohesive and consistent rather than pieces of information that form an incomplete story

2 Clearly justify your claims and when possible cite relevant work to support it

3 Don't use long prose when a graph or table will do

Once completed, read the proposal yourself. If you are not happy with it, chances are the reviewer may find deficiencies as well



Describe Your Technology

Problem statement

Clearly describe the problem to be solved, its scale, technical metrics, and timeline.

Proposed technology

- Describe the proposed technical solution in sufficient detail for us to properly assess it
- Clearly lay out how the proposed technology will meet the technical performance targets.

State of the art

- Describe clearly how the proposed technology represents a unique and innovative solution compared to state of the art (SoA) and competing technologies, including what may not yet be available in the literature or other public sources.
- Quantify the advantages/improvements of your technology over SoA and competing technologies as much as possible.

Impact

Describe specific impact of the proposed technology on energy landscape (in units of energy generated, saved, etc.), economics and society if implemented on commercial scale quantitatively. You may use the Super Sankey Diagram developed by Otherlab: http://departmentof.energy/



Describe Your Proposed Workplan

Approach

Describe the technical approach and how this approach will achieve the project objective(s)

Preliminary data

- Describe the background, theory, simulation, modeling, experimental data that support the proposed approach and achieving the project objective(s)
- Provide specific examples of supporting data and citations to scientific and technical literature
- Compare preliminary data to SoA

Work plan

- Identify major tasks, their objectives and a final deliverable
- Use "SMART" objectives (specific, measurable, attainable, relevant and time bound)

Technical Risk

Identify potential technical issues and risk and propose a risk mitigation plan

Schedule

Provide a schedule for the proposed effort by major tasks, including major milestones and Go/No-Go decision points as appropriate. (<u>A Gantt chart is highly recommended</u>.)

Task Descriptions

- Identify and provide a description for each main task in the proposed effort
- Describe the key technical milestones and how these define the critical path for success



Define a Reasonable Path to Market

Techno-Economic Analysis

- Provide a preliminary cost model for the proposed technology and compare economic benefits with competing technologies
- Identify major cost factors and explain how the proposed work will reduce cost and uncertainties

Technologyto-Market Strategy

- Describe how the proposed technology is expected to transition from the lab to commercial deployment, including:
 - a description of the eventual product, potential near- and long-term market entries
 - a likely commercialization approach (startup, licensing, etc.)
- Discuss potential manufacturing, supply chain, cost, and scalability risks
- Discuss anticipated roles for proposed research team in commercialization

Intellectual Property

- Describe existing intellectual property, if any, that will be used to develop the new intellectual property
- Discuss new intellectual property and data that is anticipated to be created as part of this
 effort, if any



FAQs

Visit https://arpa-e.energy.gov/?q=faq and click "Current Funding Opportunities"

A common FAQ:

- Q: Can team member composition be modified?
- A: Team member composition and amount of funds may be modified to account for new developments since submission of the concept paper.
- If you have a question not answered by the FAQs, please email the ARPA-E Contracting Officer: ARPA-E-CO@hq.doe.gov



A summary to wrap up.....

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Questions? ARPA-E-CO@hq.doe.gov

Please refer to eXCHANGE for information on deadlines

