

QUESTIONS AND ANSWERS

PLEASE REFER TO THE GENERAL FAQs SECTION OF ARPA-E'S WEBSITE ([HTTP://ARPA-E.ENERGY.GOV/?Q=FAQ/GENERAL-QUESTIONS](http://arpa-e.energy.gov/?Q=FAQ/GENERAL-QUESTIONS)) FOR ANSWERS TO MANY GENERAL QUESTIONS ABOUT ARPA-E AND ARPA-E'S FUNDING OPPORTUNITY ANNOUNCEMENTS. ADDITIONAL QUESTIONS SPECIFIC TO THIS FOA ONLY ARE INCLUDED BELOW. PLEASE REVIEW ALL EXISTING GENERAL FAQs AND FOA-SPECIFIC QUESTIONS BEFORE SUBMITTING NEW QUESTIONS TO ARPA-E.

I. Full Application Phase Questions:

Q1. I have several questions regarding the SEED topic on DE-FOA-0001954:

Non-carbothermic smelting technologies

- a) Is the focus of this topic on developing new chemistries or process for smelting from raw materials or is secondary aluminum processing also included in this topic?
- b) Is a recycling and integrated smelting technology included in this scope of topic, or is the inclusion of recycling out of scope?
- c) Are there any target metrics, and what are they?
- d) What are the anticipated deliverables?

ANSWER:

- a) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open. The focus of the non-carbothermic smelting subtopic is the smelting of raw materials.
- b) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open.
- c) Applicants are encouraged to propose and justify their own metrics that ensure the concept they are submitting has the potential to achieve significant reductions in U.S. energy consumption (measured in quads), energy-related imports (measured in quads), or energy-related emissions (measured in megatons/gigatons of CO₂ or CH₄, etc.).
- d) Applicants are encouraged to propose and justify project deliverables most appropriate to the particulars of their proposal.

QUESTIONS AND ANSWERS

**Q2. I have several questions regarding the SEED topic on DE-FOA-0001954:
Environmental Sensors capable of operation in deep ocean environments for
mining polymetallic nodules**

- a) Which sensors are expected to propose a solution to this topic?
- b) To what depth are the sensors expected to be used at?
- c) Should this be a self- contained unit for use by a human in real time?
- d) Should this take the form of an autonomous robot which can survey and collect the data on its own?
- e) Are there any target metrics, and what are they?
- f) What are the anticipated deliverables?

ANSWER:

- a) Applicants are encouraged to justify and propose any sensor that can aid with mining polymetallic nodules.
- b) Applicants can propose sensors capable of operation in deep ocean environments for mining polymetallic nodules, at depths of 5500m or greater.
- c) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open.
- d) Applicants are encouraged to refer to Section XVI. Appendix G. Part 2.A. of the FOA: the solicitation is open.
- e) Applicants are encouraged to propose and justify their own metrics that ensure the concept they are submitting has the potential to achieve significant reductions in U.S. energy consumption (measured in quads), energy-related imports (measured in quads), or energy-related emissions (measured in megatons/gigatons of CO₂ or CH₄, etc.).
- f) Applicants are encouraged to propose and justify project deliverables most appropriate to the particulars of their proposal.

QUESTIONS AND ANSWERS

Q3: I have several questions regarding the SEED topic on DE-FOA-0001954: Advanced trees and other engineered biological systems for carbon sequestration

- a) Is there a specific tree or plant which should be targeted?
- b) Would the integration between roots, soil and microbes collectively address this topic, or is this focused on agriculture only?
- c) Should the focus be a genetics-based project or a combination of genotype and phenotype?
- d) Should the focus be on developing the hardware tool technologies which would enable the discovery of the biological systems, should it be focused on solely genetic based experimentation, or should it be focused on a combination of both?
- e) Are there any target metrics, and what are they?
- f) What are the anticipated deliverables?

ANSWER:

- a) Applicants are encouraged to propose and justify any tree/plant species or biological system they determine has the potential to achieve eventual megaton to gigaton scale carbon sequestration.
- b) Engineering root-microbe-soil interactions is in scope of this topic, as is focusing specifically on a plant system.
- c) Applicants may choose to focus on genotype and/or phenotype, as is most appropriate for the particulars of their proposal.
- d) Applicants may choose to focus on hardware tools and/or genetic based experimentation, as is most appropriate for the particulars of their proposal.
- e) Applicants are encouraged to propose and justify their own metrics that ensure the concept they are submitting has the potential to achieve significant reductions in U.S. energy consumption (measured in quads), energy-related imports (measured in quads), or energy-related emissions (measured in megatons/gigatons of CO₂ or CH₄, etc.).
- f) Applicants are encouraged to propose and justify project deliverables most appropriate to the particulars of their proposal.