DE-FOA-0002504 – REMEDY

Questions can be sent to ARPA-E-CO@hq.doe.gov

FIRST DEADLINE FOR QUESTIONS: 5 PM ET, MAY 11, 2021
SECOND DEADLINE FOR QUESTIONS: TBD

QUESTIONS AND ANSWERS

PLEASE REFER TO THE GENERAL FAQS SECTION OF ARPA-E'S WEBSITE (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. Concept Paper Phase Questions:

Q1. Can I speak or meet with the ARPA-E program director or other ARPA-E personnel about this funding opportunity announcement?

ANSWER: No. Upon the issuance of this Funding Opportunity Announcement (FOA), ARPA-E Program Directors and other ARPA-E personnel are prohibited from communicating (in writing or otherwise) with Applicants, or potential Applicants regarding the FOA. This "quiet period" remains in effect until ARPA-E's public announcement of its project selections. During the "quiet period," Applicants may submit questions regarding the FOA to ARPA-E-CO@hq.doe.gov with the FOA name and number in the subject line. Applicants may also submit questions regarding ARPA-E's online application portal, ARPA-E eXCHANGE, to ExchangeHelp@hq.doe.gov with the FOA name and number in the subject line. ARPA-E will not accept or respond to communications received by other means (e.g., fax, telephone, mail, hand delivery). E-mails sent to other e-mail addresses will be disregarded.

Q2. I submitted a Concept Paper to the ARPA-E OPEN 2021 funding opportunity that would be a good fit for the the DE-FOA-0002504 REMEDY funding Opportunity. Should I submit my Concept Paper to the REMEDY Funding Opportunity also?

ANSWER: Applicants who submitted REMEDY eligible Concept Papers to the OPEN 2021 FOA but would rather submit to either the REMEDY FOA or REMEDY SBIR/STTR FOA, should send a withdrawal request to ARPA-E-CO@hq.doe.gov including their OPEN 2021 Concept Paper Control Number. ARPA-E will then withdraw that Concept Paper and the Applicant can then submit a Concept Paper to the applicable REMEDY FOA instead.

Q3. Can foreign technologists apply? - I'm a British scientist.

ANSWER: See Section III.A (Eligible Applicants) of the FOA for information about the institutions and individuals that are eligible to apply to the FOA.

Q4. I submitted a concept note to the Open 2021 FOA on our Atmospheric methane oxidation project. It is designed to reduce atmospheric methane levels significantly. Shall I update and submit it again for this REMEDY FOA?

ANSWER: See Q2 above.

Q5. Is there a difference between DE-FOA-0002504 and DE-FOA-0002505, other that the latter being through the SBIR? (difference in terms of application content, etc.?)

ANSWER: No.

QUESTIONS AND ANSWERS

Q6. These FOA's appear identical, apart from one apparently being administered as an ARPA-e award and the other being administered as a SBIR/STTR award.
Can you indicate what this distinction means in practice? All other technical narrative & administrative requirements appear the same.

ANSWER: The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are highly competitive programs that encourage domestic small businesses to engage in Federal Research/Research and Development (R/R&D) with the potential for commercialization. More information about SBIR/STTR awards can be found at https://www.sbir.gov.

Q7. Please clarify if landfill methane is a technical priority under this FOA.
The REMEDY FOA presentation from Director Lewnard in late 2020 referred to landfill methane more than once, but there don't seem to be any explicit references to landfill methane in the actual FOA.

ANSWER: The REMEDY FOA scope does not include landfill methane abatement.

Q8. On Page 26 of the REMEDY FOA, Table 3 VAM Baseline Parameters, it lists Baseline GHG emission from methane slip and methane combustion as 112,854 tonnes CO2(e) per year, and Controlled GHG emission from methane slip and methane combustion of 12,916 tonnes CO2(e) per year, with 99.5% methane reduction in the comments column.
I was not able to independently arrive at the same numbers through my calculations. Could you please explain the basis for those numbers, or direct me to a reference source that you used to determine those numbers?
On the same Table 3, you also show a methane concentration of 0.6%. Is it by volume, or by mass? Could you provide me with the basis for the 0.6%?

ANSWER: Table 3 Baseline GHG emissions should read 118,794 Tonnes/yr CO2e (vs 112,854); controlled emissions should read 12,872 tonnes/yr CO2e (vs 12,916), using standard conditions of 68 F/1 atm. Thank you for pointing out the error. Given the significant digits for the inputs, it is best to consider no more than 2 significant figures for any of the inputs in Tables 1-3

Methane concentration is by volume. There is a wide range in reported VAM methane concentration; please see reference 61.

Q9. Under topic area 2: "Reduction of methane emissions from Flares required for safe operation of oil and gas facilities"– Would ARPAE consider projects that allow upgrading of natural gas to higher value products that can be used onsite at the remote locations or the main goal of this FOA is to improve combustion efficiency of NG flare gas to CO2 to reduce GHG potential?

ANSWER: Please see FOA:

Section 5:

Systems that propose to monetize methane must address the economics for marketing their product(s), and demonstrate a market that would use at least 1 billion cubic feet methane/yr.

Section D:

Oxidation of methane to CO2 is sufficient. REMEDY metrics incorporate the value proposition for processes that propose to monetize methane by capturing it for use or converting it to higher-value products. However, REMEDY does not prioritize monetization of methane over oxidation. As noted previously, submissions based on monetizing methane must demonstrate an amenable market, addressing impact of site locations/remoteness, volume of saleable product(s), and net revenue after delivering product(s) to market.

Section 3, Submission Specifically Not Of Interest

Flare reduction programs focused on associated gas flaring due to lack of natural gas takeaway capacity.

Q10. Also - for the REMEDY program, what is meant by proposed effort; are we just describing the technology or will we need to plan a specific project?

ANSWER: ARPA-E will not pre-assess an applicant's proposal. Prospective applicants must review the technical requirements of the FOA and independently determine whether their proposed concept warrants a submission.

Q11. Are solutions that replace the flare step, i.e., remove the methane from the uncombusted flare gas, of interest to ARPA-E if they meet the other metrics put forth in the REMEDY FOA?

ANSWER: Yes

Q12. We are developing internal pipeline repair robots for gas and oil pipelines. CEOs of the largest gas/oil companies, such as Saudi Aramco, TOTAL, Shell, etc, have shown interest in using our robots when commercialized. Does it fit into your DE-FOA-0002504?

ANSWER: No. Repair robots are outside the scope of the REMEDY FOA