

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. Concept Paper Phase Questions:

Q1. I HAVE A QUESTION REGARDING DE-FOA-0002760.

WE ARE ORGANIZING A TEAM TO TRY TO PROPOSE A PROJECT IN CATEGORY 3 (BATTERY SAFETY). IT SEEMS THAT WE NEED TO COLLABORATE WITH TEAMS IN CATEGORY 1 OR 2. SO HERE COMES THE QUESTION: DO WE NEED TO IDENTIFY WHICH PARTNER WE SHOULD COLLABORATE WITH BEFORE WE SUBMIT THE PROPOSAL OR DOE WOULD BRIDGE THE CONNECTION AFTER THE AWARDS ARE SELECTED?

ANSWER: Awardees in Category 3 will be introduced to awardees in Categories 1 and 2 within the EVs4ALL Program after awardees are selected. Since projects selected for award negotiations will not be known until a formal announcement is made by ARPA-E, applicants to Category 3 are advised to make no attempt to explicitly identify prospective partners or collaborators in Categories 1 or 2 at the concept paper or full application phase.

- Q2.
- I. **TABLE 1 LISTS THE PRIMARY CELL PERFORMANCE METRICS TO QUALIFY FOR CATEGORY 1 OR 2. IS IT REQUIRED TO MEET ALL OF THE METRICS TO QUALIFY FOR THE CATEGORY. SPECIFICALLY, THE VOLUMETRIC AND GRAVIMETRIC ENERGY DENSITIES CAN BE DIFFERENT DEPENDING ON THE CHOICE OF CATHODE. FOR EXAMPLE, SULFUR IS SPECIFICALLY CALLED OUT AS A POTENTIAL CATHODE OF INTEREST, AND WHILE SUCH A BATTERY COULD HAVE EXCELLENT GRAVIMETRIC ENERGY DENSITY IT WOULD HAVE POOR VOLUMETRIC ENERGY DENSITY. COULD SUCH A TECHNOLOGY QUALIFY FOR CATEGORY 2? TABLE 1 LISTS THE PRIMARY CELL PERFORMANCE METRICS, BUT NOT ALL CELL TECHNOLOGIES REQUIRE THE SAME AMOUNT OF ADDITIONAL WEIGHT AND VOLUME TO BE CONVERTED TO USABLE BATTERY PACKS FOR EVS. IF A TECHNOLOGY DID NOT MEET THE VOLUMETRIC ENERGY DENSITY AT THE CELL LEVEL, BUT OFFERED IMPROVED LIGHTER, CHEAPER, AND SMALLER CONVERSIONS TO BATTERY PACKS COULD IT QUALIFY FOR CATEGORY 2?**
 - II. **FOR THE SBIR/STTR PROGRAM, IT IS POSSIBLE TO SIMULTANEOUSLY APPLY FOR BOTH AN SBIR AND AN STTR. IN SOME PROGRAMS THERE ARE SEPARATE BUDGETS FOR SBIR AND STTR SO THERE IS AN ADVANTAGE IN SIMULTANEOUSLY APPLYING FOR BOTH PROGRAMS. IS THERE ANY ADVANTAGE TO SIMULTANEOUSLY APPLYING FOR BOTH IN THIS FOA?**
 - III. **THE FOA MAKES NO MENTION OF TRL OR MRL AND REQUIRES A SET OF PERFORMANCE, COST, SAFETY, RELIABILITY, AND MANUFACTURABILITY COST CHARACTERISTICS THAT NECESSARILY MEANS THAT YOU ARE LOOKING FOR IMMATURE TECHNOLOGIES. DO YOU HAVE SPECIFIC MRL OR TRL LEVELS THAT ARE REQUIRED?**

ANSWER: I. The expectation is that proposal submissions to Categories 1 and 2 of the EVs4ALL Program will include battery technologies that have the potential to simultaneously achieve the primary cell-level performance metrics (see Table 1, Section I(E), DE-FOA-0002760 and Table 1, Section 1(F), DE-FOA-0002761). Submissions featuring technologies that may not be able to simultaneously achieve ALL primary cell-level performance metrics will still be evaluated; an inability to meet ALL primary cell-level performance metrics does not disqualify a submission from being considered for funding under the EVs4ALL Program. Per the FOA, a comprehensive treatment of all performance metrics is required at the concept paper stage, including for metrics that cannot be met. Please also refer to the subsection titled "Program Considerations Beyond Primary Metrics".

- II. Per Section III(A)(3), an applicant that meets both the SBIR and STTR eligibility criteria may request both SBIR and STTR funding, although only a single award would be made if that submission is selected for funding.
- III. There are no specific MRL or TRL levels required. However, Applicants are encouraged to carefully review the FOA sections entitled “Program Considerations Beyond Primary Metrics (Categories 1 and 2)” and Table 2 (Section I(E), DE-FOA-0002760 and Section 1(F), DE-FOA-0002761) for insights on technology maturity.

Q3. BATTERY RESEARCH FOR FLYING VEHICLES

BATTERY RESEARCH FOR FLYING VEHICLES. HAVE A QUESTION REGARDING THE PROGRAM OPENED FOR THE BATTERY DEVELOPMENT. IS FLYING CARS INCLUDED IN THE PROGRAM? I MEAN WE ARE WORKING MAINLY WITH AERO ELECTRIFICATION WHICH IS VERY SIMILAR TO AUTOMOTIVE.

ANSWER: Please refer to Section I(E), DE-FOA-0002760) for Technical Categories of Interest and Section I(F) for Technical Performance Targets. The EVs4ALL Program targets the development of battery cells that can be employed in battery packs for electric cars; the FOA makes no distinction between so called “land-based” and “flying” electric vehicles.

Q4. OUR TEAM IS INTERESTED TO ANSWER FOAS FOR “ELECTRIC VEHICLES FOR AMERICAN LOW-CARBON LIVING”. IT LOOKS LIKE THERE ARE TWO FOAS (DE-FOA-0002760 AND DE-FOA-0002761). I HAVE SEVERAL QUESTIONS REGARDING TO THIS TOPIC. PLEASE HELP ME UNDERSTANDING THE FOLLOWING QUESTIONS AND REQUESTS FOR CLARIFICATIONS, SUCH THAT WE CAN IDENTIFY WHICH FOA TO APPLY. THANKS.

- 1. WHAT ARE THE MAIN DIFFERENCES BETWEEN DE-FOA-0002760 AND DE-FOA-0002761?**
- 2. FOR DE-FOA-0002761, WILL THE FOLLOWING JOINT VENTURES QUALIFY THE SBIR ELIGIBILITY? IF THE JOINT VENTURE COMPRISES OF TWO COMPANIES, BOTH ARE REGISTERED IN US. BUT, ONE IS 100% OWNED BY US CITIZEN BUT THE SECOND ONE IS 100% OWNED BY FOREIGN CITIZEN.**

ANSWER: 1. The FOAs are the same except that the DE-FOA-0002761 EVs4ALL SBIR/STTR is for Small Business Applicants. However, note that small businesses that qualify as a “Small Business Concern”, as defined in the SBA’s “Guide to SBIR/STTR Program Eligibility” (http://sbir.gov/sites/default/files/elig_size_compliance_guide.pdf) may apply to only one of the two funding opportunities. Small businesses that qualify as “Small Business Concerns” are strongly encouraged to apply under the (SBIR/STTR FOA). To determine eligibility as a “Small Business

Concern” under DE-FOA-0002761 EVs4ALL (SBIR/STTR), please review the eligibility requirements in Sections III.A – III.D of that FOA.

2. Please refer to Section III.A of DE-FOA-0002761, including footnote 56.

Q5. WE ARE PREPARING A CONCEPT PAPER IN RESPONSE TO THE SUBJECT FOA. AS PART OF OUR TEAMING DISCUSSION, WE ARE CONSIDERING **REDACTED AS A POTENTIAL PARTNER. CAN YOU PLEASE CONFIRM IF **REDACTED** IS CONSIDERED A FEDERAL INSTRUMENTALITY AND WHETHER OR NOT THEY CAN PROVIDE COST SHARE?**

IN ADDITION, IN THE EVENT OF AN AWARD INVOLVING A FEDERAL INSTRUMENTALITY AS A SUBRECIPIENT (IN THIS CASE **REDACTED), CAN YOU PLEASE ADVISE IF DOE WILL A) ENTER INTO SEPARATE AGREEMENTS WITH THE PRIME AND THE FEDERAL INSTRUMENTALITY (E.G. FUNDING **REDACTED** SEPARATELY) OR IF THE FUNDING WILL FLOW THROUGH THE PRIME?**

ANSWER: Federal agencies are treated as a “Federal Instrumentality” for purposes of the FOA (refer to Section II(C)(2) for details regarding the form of funding for awards to teams that include a federal instrumentality on the project team. Please also refer to Section III(B)(7) for details on cost share contributions by FFRDCs – federal instrumentalities would be treated equivalently.

Q6. DOES (HYBRID) LI-AIR BATTERY FALL INTO THE INTEREST OF THIS FOA?

ANSWER: All proposals that can meet the metrics described in Section I(E), DE-FOA-0002760 are encouraged to apply. There is no intent to be prescriptive regarding solutions.

Q7. REGARDING FOAS DE-FOA-0002761 & DE-FOA-0002760, IT IS UNCLEAR TO THE PROPOSING FIRM WHAT CONSIDERATION WOULD BE TAKEN IN EVALUATING PROPOSALS FOR EACH SOLICITATION. I.E., WHAT LEVEL OF MATURITY TECHNOLOGY AND START-UP WOULD QUALIFY THE COMPANY FOR SUBMITTING A NON-SBIR PROPOSAL? WOULD THE SBIR GRANT COME IN 3 PHASES (PHASE I, II, IIB) OR EVENLY DISPERSED OVER THE GRANT AS IS TYPICAL FOR ARPA-E GRANTS? ALSO, CAN THE PROPOSING FIRM SUBMIT IDENTICAL PROPOSALS TO BOTH FOAS?

ANSWER: Regarding the level of technological maturity, please refer to FAQ(2)(III), above. Awards issued under the DE-FOA-0002761 (SBIR/STTR) FOA are for combined phase I/II/IIS awards; please refer to Section II(A) of such FOA. Further information on funding for SBIR/STTR awards may be found on the SBIR website (see <https://www.sbir.gov/about/about-sbir> and <https://www.sbir.gov/about/about-sttr>). In response to your last question, please refer to FAQ(4)(I) above; Small businesses that qualify as “Small Business Concerns” are strongly encouraged to apply under the (SBIR/STTR FOA).

Q8. DOES THE SCOPE OF THE EVS4ALL FOA ENCOMPASS NON BATTERY CHEMISTRY TOPICS LIKE: THERMAL MANAGEMENT OF BATTERIES FOR INCREASED RANGE AND DECREASED CHARGE TIME.

ANSWER: Please refer to Section I(D), DE-FOA-0002760) for Technical Categories of Interest and Section I(E) for Technical Performance Targets. Text located within the Technical Categories of Interest section includes “Innovative cell/battery designs and materials that can achieve the key metrics [e.g., bipolar, shared cell/pack structures, high current distribution, advanced thermal management, etc.]”

Q9. (*) IS A STARTUP WHICH IS AIMING TO DEVELOP NEW GENERATION CATHODE MATERIALS WITH THE HELP OF AI. HOWEVER, (***) FOUNDED IN TURKEY, (**) IS A GLOBAL PLAYER IN CATHODE SYNTHESIS.**

WE WOULD LIKE TO APPLY THE PROGRAM FOR DEVELOPING MORE EFFICIENT EV BATTERIES (EVS4ALL).

COULD YOU PLEASE INFORM US IF WE HAVE TO BE US CITIZENSHIP OR THE COMPANY SHOULD BE US ORIGINATED?

ANSWER: Please refer to Section III(A)(3). That section includes the following: foreign entities, whether for-profit or otherwise, are eligible to apply for funding. Foreign entities must designate in the Full Application stage a subsidiary or affiliate incorporated (or otherwise formed or to be formed) under the laws of a State or territory of the United States to receive funding. All work under the ARPA-E award must be performed in the United States. An Applicant may request a waiver of such requirement in the Business Assurances & Disclosures Form, which is submitted with the Full Application. Waivers are seldom granted and when they are, are granted only for a small portion of the project work that could not otherwise be performed in the United States.