

Breakthrough Energy Catalyst US RFP FAQ

Version 1.0 – April 15, 2022

This document addresses questions about Breakthrough Energy Catalyst (BEC)'s RFP for the United States. Questions have been submitted through the Breakthrough Energy Catalyst website and raised in the informational webinar held in December 2021. The information provided by this FAQ is for general informative purposes and are not intended to be comprehensive, and no representation or warranty, express or implied, is made by BEC, as to the accuracy, reliability, or completeness of this information.



General

1. *How does one contact Breakthrough Energy Catalyst (BEC) for general questions or clarifications?*

Respondents can email CatalystUSRFP@breakthroughenergy.org with additional questions or clarifications.

2. *Will the information that was submitted into BEC's global Request for Information (RFI) be considered for this RFP or do Respondents need to resubmit information?*

BEC's RFI was an independent process and was used to design the RFP process; participation in the RFI was optional and not required for participation in the RFPs. Therefore, any information submitted as part of the RFI will not be used for this RFP.

3. *Do projects have to be located in the United States or its territories? Does the entity or company that is developing or financially sponsoring the project need to be located in the United States?*

For this RFP, BEC will consider projects only located in the United States. The entity or company developing or financially sponsoring the project does not need to be located in the United States. BEC has also issued RFPs for the United Kingdom and the European Union and intends to expand beyond the US, UK, and EU in due time.

4. *Do pilots for the technologies need to be located in the United States?*

Pilot projects and other technology development steps may occur anywhere, as long as the technology is still translating into a commercial scale development that is being deployed in the US or one of its territories.

5. *Are projects that have public utilities, public entities, or foreign entities as partners eligible to apply to this RFP?*

Projects that have public utilities, public entities, or foreign entities as partners are eligible to apply for funding through this RFP so long as those projects are permitted under their partners' requirements and legal limitations, and the project is located within the United States or US territories.

6. *How will BEC maintain confidentiality for RFP submissions?*

BEC will use reasonable efforts to maintain the confidentiality of all information submitted that is clearly marked confidential within the broader BEC organization. Additionally, BEC will provide its form Mutual Non-Disclosure Agreement (MNDA) to Project Proponents for execution upon request. Please contact CatalystUSRFP@breakthroughenergy.org for the MNDA form.



7. Will BEC require a license to the technology IP for use beyond the specific project?

BEC intends to participate as a passive, minority project investor with an expectation of receiving reports and information from projects. BEC does not plan to invest in or acquire technology rights, so the expectation would be that participation in BEC's program and an investment from BEC would not require BEC to take a license from a particular technology. To the extent that there are BEC partners who want to acquire technology licenses for their own purposes, there would need to be a separate discussion between the partner and the technology provider in which BEC would not participate.

8. Can a technology OEM be involved in multiple funding requests coming from different unrelated project developers?

BEC is open to reviewing proposals from multiple developers using a similar technology, and each project proposal will be reviewed on its own merits.

9. Is it possible for multiple projects to cooperate in one area, for example for shared infrastructure?

BEC is open to supporting multiple projects in a single area. The consortium, governmental authority or other convening entity is encouraged to contact BEC at CatalystUSRFP@breakthroughenergy.org to discuss further.



Process

1. How do I find the RFP reference documents?

Reference documents can be found on the [RFP webpage](#) located on the Breakthrough Energy website.

2. Where can I find instructions for submitting my proposal?

Instructions can be found in the RFP document located on the BEC [RFP webpage](#).

3. Is the Intent-to-Bid form always required to submit a proposal?

The Intent-to-Bid form is required to submit a proposal; you will not receive an email with a link to upload submissions and your Unique Respondent ID unless you complete the [form](#).

4. When is it recommended to submit the Intent-to-Bid form?

BEC recommends submitting the Intent-to-Bid form when you believe your project can demonstrate its capability to deliver and mitigate critical risks. Additionally, BEC recommends that the project be beyond the pilot stage and that it has key commercial and developmental aspects in place, such as critical contracts, permits, and licenses.

5. How should I answer questions in the Intent-to-Bid form if I do not have precise answers?

BEC recommends answering the questions as accurately as possible. If you do not have precise answers for questions, such as levelized cost or production output values that are subject to change with investment assumptions, please provide your best estimate. Several of the questions asked in the Intent-to-Bid form will require an in-depth follow up response in the Part I submission. Therefore, you should submit the Intent-to-Bid form when you believe you have substantial information that can be provided to BEC in your Part I submission.

6. Can I include anecdotal information in the Intent-to-Bid form, or should I include that in the Part I submission?

BEC recommends that Respondents hold any anecdotal information for their Part I submission, as the Intent-to-Bid form is intended to collect high-level information on the proposal and provide information needed to submit the Part I documents.

7. What if I did not receive an email after submitting the Intent-to-Bid form?

Please wait 24 hours to receive an email; if no email is received within 24 hours, please contact BEC at CatalystUSRFP@breakthroughenergy.org to resolve the issue.



8. Can I go over the page limit for the Part I or Part II submission?

Respondents must follow the page limit; any additional pages will not be considered as part of the submission.

9. Do I have to follow the naming convention outlined in the RFP document?

Respondents must follow the naming convention outlined in section 6 of the RFP document. If the naming convention is not followed, the system will not allow you to upload your submissions and you will receive an error email.

10. Can I submit supplemental files in addition to the Part I submission files?

BEC will only accept the requested information as outlined in Attachment A of the RFP document.

11. How do I know if I was successful in submitting my proposal?

BEC will send an autogenerated email to confirm your submission. If no email is received within 24 hours, please contact BEC at CatalystUSRFP@breakthroughenergy.org to resolve the issue.

12. What if I did not receive an email after uploading my Part I submission?

Please wait 24 hours to receive an email; if no email is received within 24 hours, please contact BEC at CatalystUSRFP@breakthroughenergy.org to resolve the issue.

13. I keep getting a Part I Submission error email, what do I do?

BEC recommends that you check the file naming convention. If you are sure that the naming convention is correctly followed, please contact BEC at CatalystUSRFP@breakthroughenergy.org to resolve the issue.

14. The link to upload my submission has expired, what do I do?

BEC requests that you contact CatalystUSRFP@breakthroughenergy.org or a new link. The submission link expires after 30 days.

15. Can everyone expect to receive feedback or a response for every submitted proposal?

BEC intends to provide a response to each submission received by January 31, 2022, by the end of Q1 2022. Projects that submit proposals after January 31, 2022, will receive a response if/when they have been selected for the next step or if they have been declined due to ineligibility.



16. Are all the listed documents in the Attachment B (Part II Submission) required to be submitted at the same time?

BEC may request portions of the Part II submission either before, in-parallel to, or after the pitch-presentation, and will inform the Respondent of its request. Furthermore, BEC intends to ask for some of the Part II submission after a project has been down-selected post-pitch presentation in order to continue evaluating the project. BEC is open to reviewing materials as they become available and envisions the evaluation process / Part II information requests to be iterative.

17. How do I submit Part II submissions?

Projects that are selected to participate in Part II submission will receive a notification, which will outline instructions on how to submit the requested information.

18. When will I hear back about Part II submissions?

For projects that submit before January 31, 2022, a response will be provided by end of Q1 2022. For projects that submit a proposal after January 31, 2022, a response will be provided on a rolling basis.

19. How do I submit a proposal that incorporates multiple technologies (e.g., green hydrogen and sustainable aviation fuel)?

If a proposed Project includes aspects of more than one technology of interest, the Respondent shall identify the dominant technology of interest and submit the RFP response for this technology. Any ancillary or secondary technology (within the BEC technology focus areas) should be noted within the body of the submittal.

20. If a Respondent has a number of different projects in different locations, should it submit multiple applications, or just the most promising one and wait for feedback? Would multiple projects be funded?

A Respondent is advised to submit individual proposals for each project. Note that if a 'project' is a multi-site installation of distributed-scale equipment (such as for LDES) under a single Special Purpose Vehicle, the Respondent may submit a single application. See the RFP document and elsewhere in this FAQ for details.

21. Does a Special Purpose Vehicle (SPV) need to have been created to apply?

An SPV does not need to be in place yet to submit a proposal. However, BEC intends to provide project funding, not funding to corporates. In most scenarios, BEC would expect to provide funding to an SPV that holds ownership of a discrete project.



22. What is the expected timeline for evaluation and project funding after a proposal has been submitted?

Depending on the maturity of the project, BEC will notify projects within 60 days of submitting a proposal on whether they are progressed to the next stage of the evaluation process. Not receiving a notification within 60 days of your submission does not mean that you are no longer considered for BEC's funding. There may be projects that are not mature yet but are still under consideration. For those projects, BEC intends to continue evaluating them and will request updates as these projects become more mature and de-risked.

23. If a project is not selected after a Part I submission, can it re-apply when it is further de-risked?

A Respondent may contact BEC at CatalystUSRFP@breakthroughenergy.org if there are significant changes or achieved milestones in the project's development.

24. How do I calculate the levelized cost of the output for a project? Is it acceptable for the project promoter to devise/select one?

For the Intent-to-Bid form and Part I submission, the project developer may select the appropriate commercially acceptable methodology.



Financial

1. Does BEC provide funding to projects, companies, or both?

At the moment, BEC intends to only provide funding for projects (i.e., project financing) that deploy technologies focused on green hydrogen, long duration energy storage, direct air capture, and sustainable aviation fuel.

2. Will projects be eligible for both grant and equity or will they be eligible for only one of the two?

Projects will be considered for both equity funding and grant funding. BEC will analyze project financials to determine what funding can be leveraged to help projects become commercially viable and ensure that they can be replicated in the future.

3. Will the grants be non-dilutive and non-reimbursable?

BEC expects that grants will not require repayment. However, there will likely be limitations and restrictions around how the grants are used, and these limitations will be outlined in the investment agreements that are agreed upon by BEC and the project.

4. What is BEC's return expectation for equity funding?

BEC intends to provide low-return, risk-tolerant equity in order to improve overall project economics and facilitate broader commercialization of target technologies. As such, BEC's target return is expected to be substantially lower than market given the higher risk nature of the projects under consideration and will depend on the project's risk profile and the use of funds to reduce the green premium.

5. What amount of BEC funding can projects expect to receive if they are selected from this process?

The amount of funding a project will receive is dependent on each project's funding gap, risks, and specific characteristics. BEC does not envision to provide less than \$10M of funding per project; however, there may be exceptions to the \$10M threshold, particularly if only grant funding is provided.

6. What is the minimum and maximum amount of the capital stack that BEC is willing to sponsor?

BEC intends to be a minority investor. Therefore, for equity investments, BEC will likely sponsor less than 20%. For clarity, there is no constraint on the percentage of offtake that a [BEC partner](#) can contract for (i.e., can be 100% of the project's production).



7. Will the same access to funding be available for projects regardless of when proposals are submitted?

Since the BEC program intends to provide funding to projects around the globe, and BEC's RFPs will be open for six years, it is expected that funds will draw down over time. Therefore, there is a benefit to being early in the process as there will be greater funding available initially. Respondents are encouraged to submit a proposal when they believe that the project is able to demonstrate its capability to deliver and mitigate critical risks in order to have the greatest chance for consideration during the evaluation process.

8. Does BEC provide funding only to projects focused on the upstream infrastructure of the value chain or will it also provide funding for downstream infrastructure? (e.g., funding available only to hydrogen production facility or also to transportation/distribution infrastructure)

BEC will consider providing funding to projects that include downstream infrastructure in addition to the upstream infrastructure provided that the downstream infrastructure is essential for the project's operation. BEC's primary focus will be to provide funding to upstream infrastructure.

9. How does BEC expect to allocate funding across technologies and geographies?

BEC intends to focus its funding on projects that have the most impact on carbon reduction and green premium reduction, and therefore, does not plan to allocate a specific amount of funding for each technology or geography. However, the expectation is to fund projects within each of the four technologies and each of the identified geographies (US, UK, EU).

10. Are projects able to seek additional funding sources concurrently with BEC's RFP funding?

BEC recognizes that project Respondents will be seeking other opportunities or financing resources as it responds to BEC's RFP. In fact, BEC wants to attract commercial investors to qualifying projects through its catalytic funding. For the initial RFP submission, there is no requirement to forgo other opportunities. However, if the project matures through BEC's process, and as BEC devotes more resources into its diligence and negotiation steps, then there would be an expectation that projects engage on a good-faith basis in BEC's efforts to provide funding. If a project is able to obtain full funding from commercial sources, it should discontinue the pursuit of funding from BEC.

11. What is the process to be considered for offtake contracts with BEC partners?

BEC expects that if a project proposal demonstrates a need for offtake, either because it has not filled the entire offtake obligation or there is a desire to partner with one of BEC's partners, then BEC will play a matchmaking role to connect the project to its partners as appropriate. BEC's partners and projects will enter into arm's length negotiations, if both choose to do so, with the expectation that the project will negotiate in good faith and that there is some green premium associated to the clean product but that the green premium would be market competitive with other options available in the marketplace.



12. For grant awards, will OPEX be considered or only CAPEX?

BEC intends to deploy grant and equity during project development and construction. However, there may be instances in which BEC may provide grants for OPEX. BEC will assess these instances on a project-per-project basis when evaluating a project's financials.

13. For purposes of OPEX calculations, how long should one assume that a project will run?

Respondents should assume the same project duration that they are expecting for matters such as depreciation, maintenance cycles, ground leases, offtake contracts, and permits.

14. Are projects with product outputs that do not have a green premium eligible for participation under this RFP?

BEC will evaluate projects on several criteria, include financial aspects. Under the financial criteria, BEC will analyze whether a project requires catalytic funding and whether the project is competitive in the marketplace without BEC's funding. Projects that do not require catalytic funding and/or are competitive in the marketplace are unlikely to be considered for funding under this RFP. However, if a project can demonstrate that funding will further a particular technology in a manner that catalyzes future projects, then the project may be considered for funding even if its output does not have a significant green premium that needs to be reduced.

15. Will BEC only fund projects in the US that have an accompanying application for a Department of Energy (DOE) loan or loan guarantee?

Projects are not required to have an accompanying application for a DOE loan or loan guarantee to be considered for BEC's funding. BEC believes that there is an opportunity for projects that are in the application process for a DOE loan or loan guarantee to participate in this process, especially if they are seeking incremental funding that they have not been able to access in other parts of the market and have been de-risked through the diligence process with the DOE. BEC also believes that there is opportunity for projects not pursuing funding from DOE or other programs to participate in this process.

16. Can projects use BEC's funding for the cost-share in a federal grant application?

BEC will allow its funds to be used for the cost-share in a federal grant application so long as there's no limitation within the agreements that exist for the other party and the project proponent. BEC believes that its funds could play a significant role in such situations, so there would not be a limitation on using the funds for cost-sharing purposes.



Technical

1. What is the range of TRL's that BEC will consider?

BEC references the IEA scale, which ranges from 1-11. More information about this scale can be found at <https://www.iea.org/reports/innovation-gaps>. BEC will consider projects that deploy technologies with TRLs at or above 5. BEC's evaluation will not fixate on or emphasize one particular TRL value. Rather, BEC will focus on a project's ability to demonstrate that the technology is mature enough to be deployed in a First-of-a-Kind early-commercial scale project. BEC will like to see that the technology has been extensively and successfully tested and validated under appropriate conditions and at a meaningful scale (i.e., successful pilots and/or demonstrations).

2. Does a project need to be in a particular Front End Loading (FEL) stage to participate in this RFP?

BEC will consider projects in all stages of development; however, BEC is seeking mature projects that have progressed further in the development phase for its initial evaluation and funding. More information can be found at <http://web.aacei.org>.

3. For each technology, is there an ideal project size or range of project size that is required in order to apply to the RFP?

BEC will consider projects of all sizes so long as the technology is beyond the R&D pilot stage. BEC is ideally looking for projects that deploy and further scale emerging climate technologies. When evaluating projects, BEC will consider the impact of the project, taking project size into consideration.

4. What is BEC's approach to hybrid projects? (e.g., projects that incorporate clean hydrogen and SAF or storage projects that have a Li-ion component and LDES component)

BEC will consider hybrid projects under this RFP provided that the primary technology is one of the four technologies BEC is focused on. For example, if you have a storage project that includes a combination of Li-ion and LDES, then LDES must be the primary technology of the project (in terms of capex and installed capacity).

5. If a Respondent has a number of distributed-scale or modular and decentralised projects with the same customer, will BEC consider a proposal with a multi-site bundle structure, or is it just looking for single-site projects?

These types of scenarios will have to be evaluated on a project-by-project basis. Typically, BEC's preference would be to have projects with no distributed or decentralised assets, but as long as the assets are all part of the same SPV, BEC will evaluate the specific proposal.



6. What does BEC mean when it references “early commercial” and “First-of-a-Kind” (Foak) projects? Does BEC consider R&D pilots as well?

To BEC, early commercial or Foak projects are projects that are commercial in nature, in that they generate a product or service sold to an offtaker with the expectation of regular operation. Generally, these projects are not R&D. However, these projects have never been built and operated before as such, and have a degree of novelty in terms of (a) size, (b) technology design/integration, (c) new equipment components, (d) operating philosophy, (e) geographic location or type of site, or (f) etc. These are projects that, because of maturity and risk levels, are not able to easily access private capital for funding the entire scope and are not commercially feasible yet without other types of financial support or de-risking tools.

7. What is the scope of clean hydrogen and what pathways for hydrogen production are considered under this RFP? Will any pathway be prioritised over the other?

BEC’s focus is predominantly on clean hydrogen projects that will use electrolysis with a low-carbon energy input (ideally, 100% renewable energy input to cover the project’s energy demand for its entire lifetime). However, BEC will also consider projects that use other technologies for hydrogen production (including bio-derived pathways such as gasification of renewable feedstock, pyrolysis of biomethane, etc.) provided that those projects reduce emissions compared to traditional methods of producing hydrogen, such as steam methane reforming, and comply with the other eligibility criteria of the RFP.

8. Are hydrogen technologies such as storage and compression eligible if they are not linked directly with H2 production? What about electrolyser production capacity expansion?

At this time, BEC is focused on clean hydrogen production and directly linked infrastructure. Electrolyser manufacturing and other parts of the value chain are not in scope at the moment. Some projects might not be able to split (commercially or operationally) the scope of H2 production from downstream supporting infrastructure such as pipelines/transportation, conversion, storage, or utilization in industries and mobility. These integrated projects will be considered for further evaluation, as long as the developers can demonstrate that these facilities are essential to and have a direct commercial connection to a project company’s operations.

9. Will BEC consider SAF projects that only use an ASTM-certified pathway?

BEC will focus primarily on ASTM certified pathways for SAF projects. These pathways include, but are not limited to, Alcohol-to-Jet (AtJ), Fischer-Tropsch/Gasification, and HEFA. BEC will also consider power-to-liquids (PtL), or synthetic fuels (aka RFNBO - renewable fuels of non-biological origins). However, BEC may consider pathways that are not ASTM certified provided that the developer is able to demonstrate that the certification can be reasonably achieved by the time the plant is commissioned.



10. Are there specific SAF feedstocks, such as algae, that are not eligible for this RFP?

BEC will consider SAF feedstocks that are sustainable and that comply with relevant frameworks such as the European Union's Renewable Energy Directive (RED), the U.S. EPA's Renewable Fuel Standard, and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA). Specifically, BEC will analyse if the feedstock is accessible and can be procured in a sustainable manner over the life of the SAF production plant. BEC will also look at the economics, the GHG impact or Carbon Intensity, sustainable use of land and other resources (e.g., water), non-competition with crops for food, ability to receive sustainability certification and accreditation by approved bodies or schemes, etc.

11. Is there a carbon intensity threshold that projects must not exceed?

BEC does not have a specific threshold. One of BEC's evaluation criteria is impact, which will look at the project's ability to reduce greenhouse gas emissions compared to emissions released by incumbent fossil-based technologies, to catalyse future emissions reductions, and to scale the technology it is deploying.