

Breakthrough Energy Catalyst

December 1, 2021

Request for Proposals – USA and Territories

[Long Duration Energy Storage](#)

[Green Hydrogen](#)

[Sustainable Aviation Fuel](#)

[Direct Air Capture](#)

REV 1_12.01.2021



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Attachment A PART I SUBMISSION

- A.1 Submission Information (Excel Template)
- A.2 Technical Volume (Volume I)
- A.3 Organization Volume (Volume II)
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Attachment B PART II SUBMISSION



1 Solicitation Details

Issue Date: December 1, 2021

Process: This Request for Proposals (RFP) aims to solicit proposals from Respondents to identify and select projects in the United States and its territories for deployment of equity investment, grant funding, and offtake commitments. We seek to fund projects across Breakthrough Energy Catalyst's (BEC) target technology sectors: green hydrogen, sustainable aviation fuels, direct air capture and long duration energy storage (defined further below). BEC plans to use RFP responses to select and award blended financing solutions to a limited number of qualifying high-impact projects in the US.

Respondents shall be responsible for all costs incurred in responding to this RFP. BEC will not be responsible for reimbursing or otherwise compensating Respondents for costs they incur in connection with responding to this RFP.

Initial Proposals submitted by January 31, 2022, will be evaluated for the first round of funding by BEC. BEC's initial evaluation will focus on advanced development project opportunities (near shovel ready) that have near-term funding needs and are targeting start of construction by the end of 2022. The initial evaluation date (1/31/2022) will focus on those highly mature near-term project funding opportunities submitted by such date; however, BEC intends to consider additional projects through an ongoing RFP process that will remain open for as long as BEC has funds to deploy. This US RFP is currently expected to remain open for submission until December 31, 2027 ("RFP Close Date"), subject to availability of BEC funds and other considerations. Proposals submitted after the initial evaluation date of January 31, 2022, will be reviewed on a rolling basis when received (but no less frequently than semi-annually) until 30 days after the RFP Close Date.

All references to days in this document shall refer to calendar days.

Submission, PART I Due Date: All Respondents seeking funding in the first half of 2022 must have their responses submitted by January 31, 2022. Submissions will be evaluated on a rolling basis after this date.

Submission, PART II: Projects selected from Part I will submit additional information outlined in Attachment B no later than 30 days after BEC's invitation to participate in Part II. BEC may invite Respondents to provide additional information and/or participate in in-person meetings to discuss projects in further detail.

Questions: An RFP informational webinar will be held shortly after the issuance of this RFP to address initial questions on December 14, 2021. After the webinar, all questions and clarification requests from prospective Respondents must be submitted to CatalystUSRFP@breakthroughenergy.org and will be answered in a timely fashion by BEC with an expectation that answers will be posted publicly to all prospective bidders.

Submissions: All Respondents must complete an Intent-to-Bid form ([link](#)). Once the form has been completed, BEC will provide an email with a Unique Respondent ID (URID), a link to the Part I Submission form, and additional details. The URID will be used by the Respondent to support a file naming convention (detailed in Section 6).

1.1 Definitions

Days – means calendar days for all purposes in this RFP.



Front End Loading (FEL) – means the Project’s development maturity according to the AACE International guidelines (<http://web.aacei.org>).

Project means an eligible project in this RFP and must be a commercial scale project that is or will become operational within BEC’s targeted technologies. Technologies and technology development efforts alone will not be considered. A Project must be proposed as a complete entity or related entities, with a single site located in the US or its territories, an operational plan, and an expectation of production for sale to the market for the respective technology.

Respondent is the company or organization who submits a response to the RFP.

Technology Readiness Level (TRL) means the technology’s maturity according to the International Energy Association (IEA)’s Technology Readiness Level (TRL) scale: (<https://www.iea.org/reports/innovation-gaps>)



2 Breakthrough Energy Catalyst Solicitation Background

2.1 Who is Breakthrough Energy Catalyst?

Breakthrough Energy (BE) was established in 2015 when Bill Gates and a coalition of private investors began to focus their collective resources to fight climate change. BE is a network of entities and initiatives, including investment funds, non-profit and philanthropic programs, and policy efforts linked by a common commitment to scale the technologies needed to forge a path to net zero emissions by 2050. BE includes several programs and initiatives, including Breakthrough Energy Fellows, Breakthrough Energy Ventures, and Breakthrough Energy Catalyst.¹ Our approach builds on the proven model of public-private partnerships used to transform health, education, and public welfare around the world.

Breakthrough Energy Catalyst (BEC) is a new program to help bridge funding gaps to launch commercial stage demonstration projects by bringing together stakeholders – developers, buyers, and financiers – to increase the availability and scale of low-carbon technologies. In doing so, BEC seeks to reduce the green premium and displace fossil-based technologies in favor of cost-effective, climate-positive alternatives.

2.2 Our Mission

FUNDING THE NEXT GENERATION OF NET-ZERO TECHNOLOGIES

The world will never reach net zero emissions unless products that do not emit greenhouse gases can compete with products that do. The IEA estimates that more than half of global emission reductions required for decarbonization will come from new technologies that are currently under development or do not yet exist. Commercializing new low carbon solutions will entail an unprecedented shift in technology, away from today's fossil-based incumbents to those which enable deep decarbonization, in less than 30 years. The world needs another industrial revolution.

BEC is launching a catalytic model to enable the technology shift required to decarbonize global industry while, at its core, fostering economic growth. The BEC mission is to catalyze funding in commercial scale projects that demonstrate the viability of emerging climate technologies. The program will support technologies at a critical juncture where investment and creative financing structures can significantly reduce the green premium — the difference between the price of a carbon-emitting technology and its clean alternative.

BEC's aim is to support projects which displace fossil-based alternatives and, in doing so, enable market creation. Our financing approach represents a blended capital solution which aims to lower the cost to deploy projects in target sectors while driving deep and measurable greenhouse gas and green premium reductions.

BEC will begin funding select, high-impact projects in 2022 and aims to deploy \$3 billion over six years using a variety of funding vehicles. Notably, BEC's will align funding with the market and public funding to

¹ Breakthrough Energy Ventures is an independent company from Breakthrough Energy Catalyst. Its goal is to invest in climate-based solutions and to generate a financial return on its investments. Breakthrough Energy Catalyst is focused on the adoption of technology at commercial scale by providing catalytic capital to stand-alone projects (through grants and equity), where the primary purpose of funding is not to generate income.



create an estimated 5-10x multiple on BEC's funding. Our strategic partners include governments, corporations, philanthropists, and individuals.

2.3 Our Strategy

BEC SPEEDS THE DEVELOPMENT, COMMERCIALIZATION, AND ROLLOUT OF CLIMATE BREAKTHROUGHS IN TARGETTED TECHNOLOGIES TO GET TO ZERO

BEC will start by focusing on four critical catalytic-stage technologies: green hydrogen (GH₂), sustainable aviation fuel (SAF), direct air capture (DAC) and long duration energy storage (LDES). These technologies have already proven their potential at a smaller scale, but the timeline for their commercial development is still way too long. They are presently at a critical juncture where catalytic capital is able to spur economies of scale and innovation, resulting in technology and production cost declines. This funding will drive innovation and achieve fossil-based cost parity faster, resulting in earlier market adoption for BEC's target technologies.

To jumpstart this process, BEC will provide funding to drive down the cost of emerging technologies and drive competitive demand for these green products. In order to do so, we need to drive down the "green premium" – the differential between the cost of green versus fossil-based technologies. As these technologies mature and become market competitive, BEC intends to expand its focus to include other hard-to-abate sectors, such as low-carbon steel and green cement.

BEC is committed to a true learning environment that shares lessons learned from all projects it funds for the greater objective of moving these sectors forward at speed and at scale toward rapid decarbonization. This means that we expect projects we fund to have the same commitment to sharing lessons learned broadly, including periodic reporting on the project's business and operations. This information may be shared with BEC and its community of partners and investors, who can be found on the BEC website. In addition, BEC will work with its portfolio of projects to develop information that will be shared broadly with the general public and investment community.²

2.4 Our Impact Measurement Framework

RECOGNIZING COMPANIES FOR DECREASING THE COST OF NEW TECHNOLOGIES IS CRITICAL

Many companies already have methods to quantify and report on the work they do to reduce their direct emissions. Some even have started to adopt methods for their indirect emissions, which account for the majority of total emissions. However, there is currently no recognition for companies that are providing catalytic investments to reduce green premiums. In contemplation of this challenge, BEC sought to develop a rigorous methodology that uses analytic tools founded in specific new technology experiences to solve this issue.

As part of this work, BEC is developing the Emerging Climate Technology Framework (ECTF). This tool will help incentivize and recognize the impact of catalytic investment using best practices to quantify and claim the effects of their catalytic funding/investment for emerging technologies. ECTF calculates future green premium declines and emission reductions based on historic experience in new technology spaces. The model is currently being refined and validated with analytics and sustainability thought leaders and expected to launch in 2022.

² We will not require any compulsory sharing of proprietary information.



3 Eligibility Information

3.1 General

Respondents must meet the eligibility criteria set forth below. There are five key priorities for BEC when considering Projects as outlined below.

Impact	Development	Financials	Commercial	Technical
<ul style="list-style-type: none"> ✓ Impact of BEC's catalytic investments (project and industry) ✓ Includes green premiums, catalyzed CO2 reduction, etc. ¹ 	<ul style="list-style-type: none"> ✓ Project readiness assessment ✓ Ability to deliver impact at scale, fast, and with minimized risk ✓ Looks at project maturity, timeline consortium, RFP response, etc. 	<ul style="list-style-type: none"> ✓ Alignment with BEC's blended finance approach and catalytic nature of fund ✓ Ticket size appropriate, right justifications on catalytic support needs, demonstrated last-mile funding need 	<ul style="list-style-type: none"> ✓ Includes commercial maturity (off-takes, PPAs, long-lead items and critical equipment supplies, etc.), quality of contracts, etc. ✓ Commercial partnership alignment (equity play) 	<ul style="list-style-type: none"> ✓ Tech maturity, feasibility of concept, thoroughness of engineering and design process, etc. ✓ Considers also aspects like degree of innovation, ability to scale further, etc.

Risk management² across most dimensions is critical to success; business ethics and integrity will be underpinning all our decisions

1. Social and economic impact (jobs, local content, knowledge development, GDP diversification, etc. are very important factors but more for the final evaluation stages: green-premiums, emission reduction and scalability have higher priority | 2. Includes: (a) Identification and assessment of technical, financial, commercial, operational risks (b) development of appropriate and feasible risk mitigants, and (c) processes to continuously assess and minimize risks across all project phases

These priorities should serve as the basis for the Respondent's understanding of eligible projects.

3.2 Eligible RFP Respondents

ENTITIES AND CONSORTIA

For-profit entities and consortia, educational institutions, and nonprofits that are incorporated (or otherwise formed) under the laws of a national or sub-national government are eligible to submit an RFP response.

GOVERNMENT ENTITIES

National, state, provincial, municipal, local, and other sovereign entities are eligible to submit an RFP response.

3.3 Eligible Projects

BEC is specifically seeking eligible Projects that will have a catalytic effect accelerating the commercial development of future Projects and markets for a given technology. Below are the Project technologies of interest and which technologies or Projects may not qualify for this RFP. **Please reference Chapter 2, Definitions, for the definition of a Project which will be eligible for consideration.**

Green Hydrogen (GH₂) – the creation of hydrogen using methods that reduce carbon emissions compared to traditional steam methane reforming (especially projects deploying electrolysis using renewable energy):

- Includes H₂ from electrolysis with low carbon electricity input/supply usage (with a preference for renewable energy use)
- Will consider other technologies for low carbon hydrogen production other than electrolysis



- Projects may include supporting infrastructure for H₂ production facilities (*e.g.*, pipelines/transportation, conversion, utilization in industries or mobility provided these facilities are essential to and have a direct commercial connection to a project company's operations)

Sustainable Aviation Fuel (SAF) – the production of low-carbon or zero-carbon jet fuel (*e.g.*, using sustainable feedstocks, power-to-liquids):

- Includes all ASTM-certified pathways, *e.g.*, HEFA, AtJ, FT/Gasification
- Includes power-to-liquids (e-fuels)
- Includes only pathways and projects using sustainable feedstocks

Direct Air Capture (DAC) – the process of capturing CO₂ directly from ambient air with the result of reducing overall CO₂:

- Includes solid or liquid sorbents and C-Mineralization
- Excludes planting trees or plants
- Projects may include supporting infrastructure for C-capture facilities (*e.g.*, injection wells, C-utilization, pipelines/transportation, etc.)

Long Duration Energy Storage (LDES) – the storage of energy in a system that can discharge electricity over time for a duration greater than 8 hours, with a focus on storage of renewable energy resources:

- Includes all storage technology pathways that have not yet achieved competitive commercial viability that meet the time duration requirement for at least 1MW/8MWh. Potential examples could include, without limitation, the following:
 - Gravitational systems
 - Compressed or liquid air storage
 - Modular-pumped hydro
 - Molten salt or refractory storage, but also other forms of thermal storage
 - Green hydrogen storage & re-electrification
 - Electro-chemical storage (*e.g.*, redox flow, aqueous, metal-air, etc.)
- Allows for hybrid solutions (*e.g.*, Li-Ion + LDES)
- Excludes currently commercially competitive technologies, such as standalone Li-Ion and large-scale pumped hydro
- Prioritizes utility-scale systems (*i.e.*, 1MW/8MWh and above)
- May be integrated at Generation, Transmission and/or Distribution level, as well as behind the meter
- May be a collection of storage systems less than 1MW/8MWh each, that in total meet at least 1MW/8MWh and are part of the same operating company being financed

3.3.1 Project Technologies Not of Interest

The following technologies and/or technology characteristics are not within scope for this RFP:



- Technologies that are not proven and properly validated at pilot scale or not expected to have successfully completed a pilot phase (including design, construction, commissioning and extensive testing and validation) within six months of submitting a proposal to this solicitation
- Projects which are estimated to result in higher carbon emissions during any day, month, or year of operations (at steady state operations) compared to a fossil equivalent resource where applicable
- Projects that are not at a commercial scale from a business and technology perspective

3.4 Eligibility Criteria

PROVEN TECHNOLOGY

The technology has been proven in pilot scale conditions to reduce overall CO₂ and is able to move to a commercial scale, with substantial development progress toward implementation of said project.

EXPECTED OPERATION DATE BY END OF 2030

The Project is expected to achieve full commercial operations no later than December 31, 2030, with a preference for Projects achieving commercial operations by the end of 2027.

COMMERCIAL SCALE PROJECT

The proposal is for a fully commercial scale operating project established in a geographic location(s) that includes or will include all components to produce output within the defined BEC technology sectors (GH₂, SAF, LDES, DAC).

PROPOSAL ADVANCES COMMERCIALIZATION OF THE TECHNOLOGY

The proposal should present information on a project that deploys at least one of the BEC technology focus areas. For projects that involve multiple BEC technologies (e.g., PtX-SAF made using CO₂ from DAC and green H₂ from electrolysis, SAF-HEFA using green H₂ supply, green H₂ production for storage and re-electrification, etc.), Respondents should submit the proposal under the predominant technology.

FURTHERS GREEN TECHNOLOGY INNOVATION

The Project must avoid, reduce, or sequester emissions of greenhouse gases.

LOCATION

The Project must be located in the United States or a United States Territory.

3.5 Financing Structures

Through the RFP, BEC is seeking to provide funding (and offtake agreements, where applicable) to innovative Projects within the targeted technologies and may offer the following instruments to selected Respondents (either through one instrument or multiple, at the discretion of BEC):

- Equity investment – investment into a project that will be more risk tolerant and at a lower investment rate of return than traditional equity investors
- Grant funding – non-dilutive funds that do not require repayment to BEC



- Offtake agreement - agreements that will be negotiated between BEC partners directly with Project developers for the purchase of project output

The amount of funding provided by BEC will be determined on a Project basis and should not be assumed in the Applicant's financial model. BEC seeks to also prioritize Projects that are likely to receive governmental funding from the US federal government, including in connection with programs existing or arising under the US Department of Energy as contemplated by BEC's announcement located here: [Bill Gates & Energy Secretary Granholm Announce \\$1.5 Billion to Fund Technology Demonstrations to Combat the Climate Crisis \(breakthroughenergy.org\)](#). BEC strongly encourages projects that are participating in programs that are being established pursuant to the Infrastructure Investment and Jobs Act that was approved in November 2021 to submit into this RFP and to highlight programs for which your Project is seeking participation.

3.6 Number of Submittals Eligible for Review

A separate RFP response shall be submitted for each Project, although a Project may include multiple technologies within the same Project. If a proposed Project includes aspects of more than one of the technologies of interest, 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.

When a specific technology concept is aiming for multiple project locations, a separate RFP response per project location shall be submitted unless multiple projects are part of a single corporate entity and treated as a single project for financing purposes.

3.7 Authority to Submit Proposal

In submitting RFP responses, the Respondent represents that:

1. During the last five years, neither it nor any of its officers (in their capacity as an officer) is being, or has been, alleged, charged with or convicted of a criminal violation under any law and there is not, nor has there been, any material litigation against Respondent nor any officer thereof (in their capacity as an officer) that could reasonably be expected to affect the ability to develop or operate the Project; and
2. They have full authority to submit this proposal to BEC and to undertake negotiations of equity investments with BEC, and such negotiations and the consummation of an investment would not contravene, conflict with or violate any law, regulation or commitment to any third party.



4 Submission Requirements

Respondents are required to submit information in sufficient detail in English to support a thorough analysis of the Project's compliance with the objectives and requirements established in this solicitation document. BEC will use reasonable efforts to maintain the confidentiality of all information submitted that is clearly marked confidential. BEC will provide its form Nondisclosure Agreement to Project Proponents for execution only upon their request.

4.1 Process Overview

The following illustration outlines the Submission, approval, and post-selection process for Projects in this RFP.



RFP Release: This is a rolling RFP, initially released on December 1, 2021, with an initial evaluation of mature projects submitted by January 31, 2022. All subsequent submittals will be reviewed periodically as they are received after the initial evaluation date.

RFP Information Webinar: BEC will host an RFP Information Webinar to provide information on its solicitation and selection process, answer questions, and address clarifications. This event will occur on December 14, 2021 and will be recorded to be available as a reference to Respondents. Additional sessions may be added in the future and will be announced at least one week prior to the session on the BEC website.

Part I Submission: Within 60 days of initial release, the Part I Submission is due with the files detailed in Attachment A for those mature projects seeking funding in 2022. BEC will continue to accept new Submissions on a rolling basis after the initial 60-day deadline and will review those Submissions in due course.

Projects Submitted on or before 1/31/2022:

Pitch Presentations/Pre-Pitch Part II Submissions: Within 60 days of the completed Part I Submission, mature projects identified for potential funding during the review of the Part I Submission will be invited to a pitch presentation and will be requested to submit the Part II Submission. The invitation will outline what is required in the pitch presentation and which portions of the Part II Submission are being requested prior to the presentation. Respondents must submit the requested portion of the Part II Submission and the pitch presentation within 21 days of receiving the invitation.

Part II Submission: Mature projects that are invited to continue in the process after the pitch presentation will be notified within 30 days after the presentation and will be requested to submit within 30 days of notification any remaining portion of the Part II Submission. Projects that submitted after January 31, 2022, or projects that are still under consideration from the initial round, will be invited for Part II Submission on a rolling basis, currently expected to be no less frequently than semi-annually. BEC will have the option to request a portion or all of the Part II Submission. Details on which portions of Part II Submissions are required will be outlined in the invitation. Thereafter, Respondents have 30 days to complete and submit the Part II Submission as detailed in Attachment B.



Projects Submitted after 1/31/2022:

Pitch Presentation – Rolling Basis: BEC will have the option to invite Respondents for a pitch presentation in tandem with the Part II Submission request or to invite Respondents for a pitch presentation after reviewing Part II Submissions.

After Pitch Presentation (all Projects selected regardless of submittal date):

Project Down-Select Notice: Projects selected for further consideration after the Part II Submission and pitch presentation will be notified and presented with details of BEC’s proposed non-binding offer, as well as a final due diligence request list for any items still in process.

Due Diligence and Negotiations: Within 7 days of Project Down-Select Notice, Respondents will provide notification of its desire to enter negotiations and further consideration, as well as a schedule for due diligence deliverables (which will be no later than 30 days after BEC’s notification).

Closing and Funding: BEC and the Respondent will work as promptly as practicable to finalize definitive documents, approvals, and establish the final closing and funding terms.

4.2 Required Information and Materials

RFP response materials and requested information must be uploaded using the link that is emailed to the Respondent following submission of the Intent-to-Bid form.

- 1) Required Materials: Attachment A sets forth the information and materials BEC requires from Respondents.
- 2) Additional Requested Information: In addition to information requested in this solicitation, each Respondent may also be requested to submit additional information as outlined in Attachment B. Should BEC request additional information, the Respondent will have up to 30 days to provide the requested information (unless otherwise indicated in the written notice to the Respondent from BEC).

4.3 Submission and Evaluation Process

The Submission is divided into a Part I Submission and a Part II Submission. Detailed instructions for the contents of the Part I Submission are set forth in Attachment A, and instructions for the contents of the Part II Submission are set forth in Attachment B. For a compliant Submission to be considered, all requested information must be provided.

Part I: The Part I Submission provides BEC with a description of the Project, technical information, background information on management, financing, construction, operating strategies, and progress to date of critical path schedules. These schedules include items such as obtaining licenses or regulatory permits and approvals, site preparation, and long-lead procurements. They will be used as a basis for determining the overall eligibility of the Project and the Project’s readiness to proceed. BEC will evaluate each Part I Submission based upon the factors summarized in Attachment A. Projects that do not meet the requirements set forth in this Solicitation will not receive any further consideration.

Financial Model: As part of the Respondent’s Part I Submission, BEC will accept the Respondent’s model in Excel form, provided that such model shows a full operating life view of the costs, revenues, and investment profile of the project in reasonable detail (including any special accounting and/or incentives applicable to the Project). The Financial Model should not assume



any equity or loan value from BEC as an assumption. As a priority Part II Submission item, it is expected that Respondent will provide support and information to BEC to complete BEC's financial model later in the process.

Part II: The Part II Submission is expected to be submitted as contemplated within its notification letter after BEC invites a Respondent to make a Part II submission. Upon invitation to participate in Part II, BEC will identify those items within Part II that are highest priority and required from the Respondent prior to the pitch presentation (defined below). All other items should be submitted as soon as reasonably possible by the Respondent and no later than 30 days after the pitch presentation. The Part II submission consists of the items summarized in Attachment B as well as other information that may be requested to facilitate BEC's continued due diligence review. BEC shall have the right, at its sole discretion, to defer consideration of a Part II Submission and to terminate an incomplete Submission at any point. Projects that do not meet the requirements set forth in this Solicitation will not receive further consideration.

Pitch Presentation: BEC may invite Project sponsors to participate in pitch presentations, to be scheduled at the mutual convenience of BEC and the Project sponsors. The pitch presentations may happen before, in parallel with, or subsequent to, review of Part II Submissions, and will involve presentations followed by Q&A. Details of the scope and format of the pitch will be provided to the selected Respondent prior to the presentation.



5 Procedure and Criteria

5.1 Evaluation Procedure

After determining project eligibility, project Submissions will be reviewed by BEC and partner stakeholders. The review of the Part I Submission will result in a three-scale rating, per the criteria identified in Section 5.2:

- (1) Red: this project is not currently appropriate for BEC funding
- (2) Yellow: BEC needs more information from this project, or the project needs further development
- (3) Green: this project appears to be mature and promising for potential investment by BEC

BEC may request additional information as necessary. BEC will conclude with either a recommendation to: (1) not proceed with the project at this time, (2) pause the review of the project to await new information/development, or (3) invite the Respondent to provide a Part II Submission and/or pitch presentation. Finally, projects chosen for potential funding will be subject to review for adherence to BEC codes of conduct and other policies to ensure alignment with BEC guidelines (standards, principles, and values).

5.2 Evaluation Criteria

Projects will be evaluated across five areas: Impact, Development, Financial, Commercial and Technical.

5.2.1 Evaluation: Impact

The impact of the proposed project will be reviewed across several subcategories, including the current and future greenhouse gas reductions, the impact on reducing the green premium of the low-carbon product, and the impact on future scalability of the technology pathway.

Emissions reduction potential will be viewed both as the ability of the project to reduce emissions on a gross basis in the near term (*i.e.*, upon commencement of project operations), as well as the future emissions avoidance that could be catalyzed by the project. For example, future emissions avoidance could be catalyzed by new project developments that are accelerated or aided by the completion of the project, such as by de-risking commercial operation of the technology.

Impact of a project will also be evaluated based on the scalability of the technology pathway. BEC is seeking projects that enable rapid scale up (e.g., through a robust development pipeline or with modularized solutions) to facilitate broad market adoption of the project technology.

5.2.2 Evaluation: Development

The development status of a project will be evaluated based on several subcategories, including the project readiness, the capability of the project developer (or consortium), and the overall quality of the Submission.

Project readiness will be viewed based on several areas such as the phase of the project (*i.e.*, FEL levels, status of FEED or pre-FEED work), status of necessary permits, licenses and approvals, acquisition or lease



of land, feedstock supply and product offtake agreements, purchase agreements for equipment (especially critical and long-lead items), and other activities that exhibit progress towards project development.

The capability of the project developer (or consortium) will be based on the team's experience in similar technology and project deployments, access to technical knowledge and subject matter expertise relevant to the technology, choice of contractors and sub-contractors (where relevant), and availability of resources (financial or otherwise) necessary to develop the project.

Additionally, the overall quality of the Project and Submissions will be considered, including the completeness and thoroughness of responses, the reasonableness of assumptions and the ability of the project team to succinctly present a balanced view of the project/technology's value, opportunities, risks, and challenges.

5.2.3 Evaluation: Financial

The financial aspects of the proposed project will be evaluated based on the project economics, business model and funding plan.

The evaluation of project economics will include the project's returns, revenue streams, and levelized cost of output products. The initial evaluation may include a review of the financial model for elements such as prospective returns, expected pricing for supplies and outputs, return and debt coverage exposures to market price movements (uncontracted or non-fixed price feedstock and product sales), operations and maintenance costs, thoroughness, and reasonableness of assumptions.

The funding plan evaluation will review details on the proposed sources and uses of funding as well as the maturity of funding activities. The Project proponent will need to clearly demonstrate that, despite applying best engineering and project finance practices, catalytic funding is required to close a funding gap, reach financial closure, and move the project into implementation (construction, O&M). This includes capital raised to date, proposed final capital stack, existence of loan term sheets or commitment letters, and secured or progress towards securing other sources of governmental or non-profit grants or loan guarantees. Additionally, BEC will evaluate the 'funding gap' and determine whether the Project sponsors funding request aligns with BEC's objectives and as a last-mile funding source.

5.2.4 Evaluation: Commercial

The commercial elements (agreements, suppliers, etc.) of the project will be evaluated based on the quality and level of maturity. This may include the level of contracting completed and the quality of the commercial contracts (pricing terms, warranties, certainty). For example, BEC may review the status and duration of offtake contracts, supplier contracts, EPC contracts, quotes or contracts for key pieces of equipment, and utility providers. Additionally, the quality of the commercial contracts will be assessed through such elements as the credit quality of off-takers and suppliers, experience of EPC and O&M contractors, etc.

In instances where commercial contracts are not available, the Respondent may also discuss the maturity and availability of markets for their products and the strategy developed to access such markets.



5.2.5 Evaluation: Technical

The technical review of the project will assess the technical quality, feasibility, and readiness/maturity of the technology being deployed and the overall project. The review will consider evidence and results of demonstration and pilot projects, the maturity of any innovative aspects of the project, the quality and thoroughness of the engineering work completed (with strong emphasis of safety and other operational and environmental criteria), and the scaling factor from successful demonstration and pilot projects to the proposed project's scale. Additionally, BEC will evaluate the design / engineering rationale for efficiency, adherence to engineering best practices and standards across all project phases, and major design, operational or HSE (Health Safety and Environment) concerns. In particular, BEC reviews will focus on evaluating and analyzing all technical KPIs and underlying assumptions, as well as all relevant and essential documentation (e.g., design basis, key engineering drawings and documents, safety and risk assessment analyses/reports, etc.).

5.3 Code of Conduct Compliance

Prior to the Pitch Presentation, BEC will provide Project respondents with its Code of Conduct and other applicable corporate guidelines to ensure compliance with BEC standards, principles, and values. Project will certify prior to the Pitch Presentation that it will comply with such policies or note any disagreement for review by BEC. This review will help ensure BEC and funding recipients act in a manner of integrity, transparency, sustainability, and ethical conduct, and that projects do not exacerbate or support environmentally unsustainable, immoral, or illegal practices. BEC requires ethical actions by all Projects and strict compliance with all applicable laws, international agreements and conventions. BEC will have no tolerance for unlawful practices, criminal activities, illegal / illicit behavior, bribery, or corruption. BEC strives to fund projects with responsible and sustainable businesses, following best-in-class environmental sustainability practices for the entire project life cycle, use best practices in health and safety to protect employees, contractors, and the broader community, and apply adequate ESG accounting and reporting practices. BEC will not support projects that engage in the extraction or manufacturing of fossil hydrocarbons with the primary purpose of increasing their production, unless using technology for GHG emissions reduction.



6 Submission Schedule and Instructions

In order to encourage complete and continuous Submissions, BEC will review Submissions on a rolling basis, with the first evaluation date set for January 31, 2022. Project Down-Select of qualified Respondents for due diligence and negotiations will not occur until a Project's Part II Submissions are evaluated.

6.1 Submission Schedule

- 12/1/2021: RFP launched.
- 12/14/2021: First RFP Informational Webinar
- 1/31/2022: First evaluation date for mature projects
- 2/1/2022-2/30/2022: Notification of pitch presentations and pre-pitch Part II Submission for mature projects³
- 2/7/2022-3/7/2022: First Pitch presentations
- 4/1/2022-4/30/2022: First Project Down-Select notice
- *Submissions received after 1/31/2022 will be evaluated on a rolling basis, but no less frequently than semiannually.*

6.2 Electronic Submissions

All document submissions must be uploaded using the link that is emailed to the Respondent; the link will be emailed to the Respondent after he or she has submitted the Intent-to-Bid form ([link](#)). Respondents are required to provide all the data outlined in Attachment A, Section A.1 in the provided excel template. Volumes I, II, and III detailed in Attachment A, Sections A.2, A.3, and A.4 respectively shall be submitted in PDF format. Volume IV in Attachment A, Section A.5 shall be submitted in excel format. The Submissions for Sections A.1, A.2, A.3, A.4, and A.5 will be uploaded using the link that is emailed to the Respondent. Only one document per volume will be accepted and any data provided outside of the page limits identified will not be accepted.

6.3 Formatting Instructions

Respondents must provide all requested information in the following formats:

- a) For Attachment A, Part I Submissions Volumes I, II, and III:
 - i) Use Times New Roman 11-point font, or similar
 - ii) Use single-space paragraphs
 - iii) Strictly adhere to the page limits identified in Attachment A, ***all information provided beyond the page count will not be considered***

³ BEC reserves the right to invite projects earlier than contemplated if projects submit earlier than 1/31/2022 and appear favorable for further discussion.



- iv) ***Answer only the questions outlined and provide only the documentation requested, additional documentation will not be considered during Part I Submission***
- v) Adhere to a format consisting of standard 8.5" x 11" paper
- vi) Have 1" margins (top bottom, left, and right) with exceptions for charts and graphics within reason
- vii) Charts and graphics must have legible font no smaller than 9-point
- viii) Use the following naming convention: URID#.Category.Volume
 - (1) Examples:
 - (a) 31.GH2.Volumel.pdf
 - (b) 31.SAF.Volumell.pdf
 - (c) 31.LDES.Volumelll.pdf
 - (d) 31.DAC.VolumelV.xlsx
 - (2) Note: URID will be emailed to Respondent once Intent-to-Bid form has been completed.

6.4 Multiple Submissions

Respondents may apply more than once under this solicitation but may apply with each Project only one time under one technology category each.

Attachment A

PART I SUBMISSION

The Submission is divided into a Part I Submission and a Part II Submission. Part I Submission will provide BEC a description of the Project, technical information, critical path permitting and regulatory approvals, expected environmental benefits, financial information and strategy, company insights and staffing, and a Project development schedule. BEC will evaluate the Part I responses for each Respondent as received and will then notify selected candidates if they move to the Part II Submission, outlined in Attachment B.

The information requested in Part I Section A.1 is to be entered directly into the provided excel template. The information requested in Sections A.2, A.3, and A.4 should each be provided in a PDF document, and the information requested in Section A.5 should be provided in excel format. Submissions for Sections A.1, A.2, A.3, A.4, A.5 will be uploaded using the link emailed to the Respondent; the link will be emailed to the Respondent after he or she has completed the Intent-to-Bid form. Submitted documents must reference the section numbers and titles provided. Page maximums denoted herein are mandated, any content beyond the page limits ascribed below will not be reviewed or considered.

A.1 Submission Information (Excel Template)

The following information is to be entered directly into the provided excel template titled *URID#.Category.SubmissionInformation.xlsx*. Example: 31.GH2.SubmissionInformation.xlsx.

- 1) **Respondent Information:** Enter the following information for the Respondent: Respondent entity name, website address, mailing address, city, state, postal code, primary contact information including first name, last name, title/position, phone, and email.
- 2) **Project Information:** Enter the Project name, select the applicable technology category, enter the Project/generation capacity (e.g., in Megawatts or Gallons per Year), levelized unit cost in \$/unit produced, and total capital cost in millions of USD.
- 3) **Project Location:** Enter the following information regarding the Project location: coordinates and physical address (including jurisdictions that project is located in).
- 4) **Project Sponsor(s):** Enter the following information for each Project Sponsor with equity of five percent (5.0%) or more: indicate the lead sponsor (must have one lead sponsor), entity name, website address, mailing address, city state, postal code, contact first name, contact last name, contact title/position, contact phone, and contact email.
- 5) **Project Partner(s):** For each of the following categories provide the entity name, website address, and point of contact first name, last name, and email:
 - a) Licensing Partners
 - b) Major Equipment Suppliers
 - c) EPC/EPCM and/or Engineering Providers/Partners
 - d) Offtake/PPA Partners
 - e) Other Partners/Major Suppliers
- 6) **Relevant Intellectual Property:** Provide a listing of any patents, copyrights, and trademarks that are currently owned, applied for, or licensed by the Proponent, including the name of the applicant, the date of application, the name/title of the relevant patent/copyright/trademark, and the jurisdiction of application.
- 7) **Front End Loading (FEL):** Engineering level (select from the drop down).
- 8) **Technology Readiness Level (TRL):** Select from the drop down based on the lowest TRL in your critical supply chain. For example, if Critical Part X has a TRL 4 but the overall technology being

proposed is a TRL8 the score entered here should be TRL 4. For more information please see: <https://www.iea.org/reports/innovation-gaps>.

- 9) **Timeline:** Expected Final Funding Decision (mm/dd/yyyy), Expected Construction Start Date (mm/dd/yyyy), and Expected Commercial Operation Date (mm/dd/yyyy).
- 10) **Emissions Reduction:** Provide total emissions reductions expected based on product usage in metric tons CO₂/unit produced, justification of this numerical value should be provided in the writeup in Section A.2. Project should estimate and show its calculations as compared to a traditional equivalent product or its expected manufacturing of the project key components and operations.
- 11) **Project returns:** Enter the unlevered project IRR and equity levered IRR.
- 12) **Project Certification:** Certification provided by an officer of the company and majority equity provider (both if different parties) of the following: "The undersigned certifies that the data and information submitted, and the representations made in this Submission and any attachments to this Submission are true and correct, to the best of the Respondent's knowledge and belief after due diligence, and that the Respondent has not omitted any material facts. The undersigned further certifies that [s]he has full authority to bind the Respondent." Respondent to provide full name, title, entity, and contact information for signatories.

A.2 Technical Volume (Volume I)

To be provided in one PDF document titled *URID#.Category.Volumel*. Example: 31.GH2.Volumel.pdf. Document headings should be the same as reflected below. Strict adherence to the page count is required.

- 1) **Executive Summary (≤2 pages):** Provide a description of the nature and scope of the project including answers to the following questions: what challenge your Project is addressing, what unique or innovative technology will this Project further, what is the purpose of the proposed Project, what is the size and capacity of the Project, and what are key milestones for the Project. Describe the technical and commercial feasibility of the technology and how you will be deploying it in your Project. Describe the successful outcomes anticipated by this Project. Include the amount and type of capital requested from BEC (capital gap explanation and rationale to qualify for BEC funding).
- 2) **Project Eligibility (1 page):** Projects must meet the following requirements (a) the technology must be proven in conditions to be deployed (TRL 5 or greater) to reduce overall CO₂ and is projected to move to a commercial scale project, with substantial development progress toward implementation of said project; (b) schedule to achieve full commercial operations no later than 12/31/2030; and (c) the Project is a fully commercial-scale operation with an established site and all components. The following eligibility also applies by technology.
 - a) **Green Hydrogen:** Includes H₂ from electrolysis with any form of power input, biomass/waste, methane pyrolysis, and hydrocarbons with carbon capture; no use in direct weapons production or oil refineries. Projects may include more than only H₂ production facilities (e.g., pipelines, conversion, utilization in industries or mobility).
 - b) **Sustainable Aviation Fuel:** Includes HEFA, AtJ, FT/Gasification, Power-to-liquids (e-fuels), and other ASTM-certified pathways; includes only pathways and projects using sustainable feedstocks.
 - c) **Direct Air Capture:** Includes solid or liquid sorbents and C-mineralization; excludes planting trees or plants; projects may include more than only C-capture facilities (e.g., injection wells, C-utilization, pipelines/transportation, etc.).

- d) **Long Duration Energy Storage:** Includes all routes; potential examples include (list is not exhaustive), e.g., mechanical – gravitational, compressed air, modular-pumped hydro, thermal – refractory, molten salt, chemical – green hydrogen storage & re-electrification, electro-chemical (redox flow, aqueous, metal-air); allows for hybrid solutions (e.g., Li-Ion+LDES); excludes standalone Li-Ion and large-scale pumped hydro; focus on utility-scale systems at all grid levels, e.g., REN + LDES (PPA firming, other generation, T&D, behind the meter), or integration at Generation, Transmission and/or Distribution level

3) Project Description (≤25 pages): Provide the following details about the proposed Project.

- a) Description of the **Project design and processes** involved in the Project, include a block flow diagram (including all critical interfaces outside the scope/boundaries of project). Project details including size (nameplate capacity – MW, ton(H₂)/hr, gal(SAF)/hr, ton(CO₂)/hr, MW/MWh for LDES, etc.), annual capacity, nameplate capacity and estimated (specific and average) energy inputs at plant level (e.g., kWh/kgH₂, ton(water)/ton(H₂), etc.).
- b) **Technology description** of the new or innovative technology solution included in the project (overview and deep dive on critical components/equipment) and a description of how and why the technology is new/unique, improved, and/or innovative to what is already in general use in the commercial marketplace. Please include a brief explanation of which technology options/alternatives have been considered, and a justification of the approach taken by the Project in the proposal.
- c) **Product Use & Transportation** of project output including transportation mechanism (e.g., shipping, pipelines, etc.), distance to end-use from point of production (if applicable), storage (if applicable), end-use (e.g., re-electrification, fuel, etc.), form of end-use product (e.g., ammonia, etc.), etc.
- d) **Site details** including location and justification for specific location, key site components (i.e., availability of water, electricity, gas, heat/steam, other utilities), site access (highways, rail, etc.), rights-of way, easements, other logistical considerations
- e) **Supply chain and acquisition strategy** of all raw material, major feedstock, and consumables (including water and power), and equipment necessary. Include detailed descriptions of critical path agreements such as front-end engineering agreement; technology license and teaming agreements; engineering, procurement, and construction (EPC) contract; long-lead contracts, feedstock agreements, and plant off-take or sales agreements
- a. Utility requirements including electricity and water. Details should include amount of power **and** water per unit produced (e.g., kWh/Nm³ of H₂); estimated peak power demand in megawatts (MW); source of both power and water including REN power agreements, virtual or locational power purchase agreements, REC purchases, carbon intensity of power source and water source, etc.; and water disposal, if required
- f) **Timeline** for construction, permitting, licensing, regulatory approval, and financing, please provide graphically. Indicate financial close/final funding decision, construction, commercial operation date.
- g) **Emissions reduction (optional)** in metric tons CO₂/unit produced. Please show all relevant calculations, source of carbon intensity methodology for calculations, including assumptions and justifications. Detail how this project will avoid/abate emissions now and/or in the future. Please note that this does not have to be full LCA calculation based on ISO standards, but at the minimum should include power/energy input sources and the estimated C-content.

- h) Details on **permitting requirements and status**. Identify and list all relevant interconnection, siting, approvals and permits and anticipated timelines for regulatory approval. Outline progress toward these permits and identify any risk/challenges/mitigations in achieving these permits. Submissions must include but are not limited to air emissions, liquid and solid waste, interconnection, siting, construction, and local and regional regulatory requirements.
- i) BEC requests that the Respondent identify any significant **federal and/or state legal requirements** that are applicable to the Project, whether pending or complete, that have, or could have, a material impact on the schedule and/or cost of the project, including without limitation, the following:
 1. National Environmental Protection Act (NEPA)
 2. Endangered Species Act
 3. California Environmental Quality Act (or similar state law)
 4. Buy American Act
 5. State Prevailing Wage
 6. Collective Bargaining
 7. Any other state/federal legal requirements that could impact schedule/cost

4) Project Risk Assessment (<10 pages), including a description and critical assessment of key project risks, along with a description of mitigants to the risks. Topics include may include the following (list is non exhaustive):

- a) Technology (pending patents, licensing agreements, etc.)
- b) Development (land/site, long-lead time for equipment, construction cost, performance, schedule, force majeure, etc.)
- c) Operations (performance, including guaranteed output failures/force majeure)
- d) Market price risk(s) and feedstock supply and cost risk
- e) Environmental & safety (EHS)
- f) Credit risk (Sponsor credit risk, Transaction party credit/payment risk, etc.)
- g) Political risk (legal, regulatory, project financial, tax incentives, etc.)
- h) Geographic risk (economic, currency controls, foreign currency exchange, etc.)
- i) Disputes (litigation, investigation, or threats from any third party or regulatory body or court against or impacting the Project or its schedule/cost).
- j) Permitting risk (including opportunities for intervention by third parties or discretionary reviews)

5) Project Maturity (3 pages): Provide the following details about the proposed Project.

- a) FEL and justification
- b) TRL and justification
- c) Identification of any (critical) components still in development and the respective TRL, timeline for maturity, and supply
- d) Supply chain maturity detail identifying if all critical components are commercially and readily available and if suppliers been identified and secured
- e) Outstanding matters such as disputes or controversies

- f) Prototype and/or demonstration detail including name, location, scale, one line of detail, and a brief description of the intent, testing protocol and results, and funding. If the results were verified by an independent third party, please provide contact information for that entity.

6) Market Analysis (5 pages): Explain the market challenge your Project is solving and the value it will provide to the proliferation of the technology under consideration.

- a) Provide the key finding of your market analysis including competitors and demand.
- b) Indicate how the analysis demonstrates a market need and gap for your technology solution and the ability to scale up your solution for large-scale commercial deployment.
- c) Identify the anticipated end use customer(s) and details on product use. Identify if there is a mid-tier customer for processing and delivery of your product. What is the method of transport and the expected distance to the end user?
- d) Identify the status of any and all offtake agreements or refining and/or transportation agreements as relevant including name of entity, status of agreement negotiations, and amount of offtake.

A.3 Organization Volume (Volume II)

To be provided in one PDF document titled URID#.Category.Volumell.pdf. Example: 31.SAF.Volumell.pdf. Document headings should be the same as reflected below. Strict adherence to the page count is required.

- 1) **Organizational Chart (1 page):** Provide a current corporate organizational chart showing the Respondent's relationship to any subsidiaries, affiliates, parent organizations, or joint ventures associated with the Project. Show the Respondent's relationship to each Principal (a stakeholder with ≥5% equity in the Project).
 - a) Additional partners identified shall also include licensing partners, equipment and material partners, suppliers, material commercial contracts, subcontractors. For each of the identified partners in these categories please provide entity name, contact information, and status of relevant agreements
- 2) **Key Staff (≤3 pages):** List the full names of key staff to be involved with the Project and their respective role.
- 3) **Prior Experience and Past Performance (≤5 pages):** Summarize the prior experience of each entity participant as it relates to carrying out undertakings similar to the one being proposed. Include a detailed description of current and previous experience with the specified technology or similar technologies. Respondents must, at a minimum, describe (a) examples of at least two projects in the identified technology, preferably, or in carbon neutrality or renewable energy sectors similar in nature and scope to the Project being proposed that have been completed (developed, financed, and managed construction) by the Respondent's organization or its Principals in the past 5 years, (b) examples of at least two projects in the proposed technology sector or carbon neutrality or renewable projects for which the Respondent's organization or Principals raised equity and secured debt for project financing, and (c) examples of at least two projects in the proposed technology sector or carbon neutrality or renewable projects for which the Applicant's organization was responsible for managing the operations and maintenance of a project for a minimum of two years. Each project example must be a project for which construction has been completed. Respondents that are not able to include examples of two project examples in their proposed technology sector should provide a detailed description of the facts that they believe are sufficient to demonstrate expertise.

A.4 Financial Volume (Volume III)

To be provided in one PDF document titled URID#.Category.Volumelll.pdf. Example: 31.LDES.Volumelll.pdf. Document headings should be the same as reflected below. The cost volume shall not exceed in its collective totality 20 pages.

- 1) **Business Model (3 pages):** Provide a description of the following elements of the Respondent's business model for the Project. Outline full lifecycle costs, expenses, and revenue structure. Identify how the money will flow through the business and return revenue.
- 2) **Financial Plan (1 page):** Provide a description of the total capital cost breakdown into sources & uses, including all capex and transaction (including financing) costs, and capital budget contingency.
 - a) Description of shareholders agreement (including shareholders & shareholding, nature of equity (common, preferred, other), economic interests, voting interests/protective rights, shareholder loans and repayment terms); parent company equity guarantees.
 - b) Description of debt financing (mezzanine, subdebt, senior secured), including term, amortization profile (scheduled/cash sweeps), tenor, and pricing.
 - c) Description of the funding gap including (i) the efforts made to date to secure this capital in the market, (ii) the probable reason(s) for the difficulty in closing the funding gap, and (iii) justification for why BEC is the right entity to provide funding to close the gap.
 - d) Whether the Project will benefit directly or indirectly from federal, state, or local support, such as grants, tax credits, or loan guarantees from federal agencies or entities. Indicate whether any such incentives or assistance are subject to clawback and the circumstances under which a clawback could occur.
 - e) Customer off-take for products and services.
 - f) Detail the levelized unit cost of the Project's output and how this compares to the carbon-based product cost.
 - g) Detail the Project costs of operations, including any energy costs or other feedstock.
- 3) **Inputs & Assumptions Table (2 pages):** Please capture information and justification for key inputs and assumptions in the financial model including:
 - a) Technical (e.g., hourly/daily/yearly production, feedstock usage on a unit basis, energy usage on a unit basis (e.g., kWh/kg H₂), expected plant availability / downtime, etc.)
 - b) Operating costs (e.g., fixed and variable breakdown)
 - c) Maintenance Costs (e.g., major component replaces, frequency of replacements, etc.)
 - d) Capex (e.g., equipment, construction, etc.)
 - e) Credits (e.g., investment/production tax credits, US RIN, Low Carbon Fuel Standard credits, etc.)
 - f) Project Assumptions (e.g., project life, critical component life, depreciable basis, interest rates, DSCR, etc.)
 - g) Supporting calculations on LCOE

A.5 Financial model (Volume IV)

To be provided in one Excel document titled URID#.Category.VolumelV.xlsx. Example: 31.DAC.VolumelV.xlsx. The project finance model should show a full operational life view of production, revenue streams (offtake, CO₂, or other applicable credits, etc.), costs (construction, operations and maintenance, utilities, feedstock, etc.), and IRR. The model will reflect the complete economic circumstances impacting the project company.

Attachment B

PART II SUBMISSION



Immediately upon notification to participate in Part II Submission, the Respondent can begin providing the data requested by uploading the Submissions using the link emailed to the Respondent; this is the same link that is used to submit Part I Submission. The Part II Submission consists of documents listed here in Attachment B as well as any other, Project specific, documentation requested by BEC.

To the extent any of the material provided in Part II has any material inconsistencies with material submitted in Part I the Respondent should note those difference in File 1 as outlined below. Submission of Part II data will be considered only in PDF or Excel and must follow the same naming conventions outlined in Section 6 above.

1. **Item 1 - Updates, Changes, and Additions to Part I Submission:** Updates to any of the information provided in Part I should be outlined here. Provide a detailed description of all material amendments, modifications, and additions to the original Submission, including technical details, partnerships, financing structure, contracts signed, etc.
2. **Item 2 - Technology Validation Results:** Third-party independently verified results from prototype/pilot/demonstration project, if available.
3. **Item 3 – Intellectual Property:** Documentation provided by the U.S. Patent and Trade Office or other governmental authorities with respect to any intellectual property owned or submitted for approval by Respondent, along with a listing of any licenses to intellectual property required for the operation of the Project.
4. **Item 4 - Letters of Commitment:** From any partners identified in the Part I Submission or new since the original Submission.
5. **Item 5 – Permits:** Copies of all relevant and current permits or supporting documentation and/or permit applications.
6. **Item 6 - Comprehensive Project Plan:** Including each step, timing, dependencies, etc. between the present date and commercial operations.
7. **Item 7 – Funding Plan:** Detailed total sources and uses of funds including timing of funding and expenditures.
8. **Item 8 – Letter(s) of Support:** Documentation of state and / or local support.
9. **Item 9 – Agreements:** Copies of key contracts and agreements - EPC, materials, supplies, leases, operating / maintenance contracts, offtake agreements, grant agreements, etc.
10. **Item 10 - Engineering and Construction Plans:** Engineering and design contractors, equipment suppliers & technical specifications, EPC contractors, construction schedules, major calcs such as HMB and water balance, PFDs, P&IDs, single line diagrams, civil & MEP drawings, and safety & risk assessment studies (e.g., HAZOP, QRA, HAZID, OHID, ENVID, SIL, CFD analyses, etc.). Please note that BEC will request for specific engineering documents dependent on project phase (i.e., FEL1, FEL2, FEL3/FEED, Design/Engineering/Construction) and will specify request when inviting Respondents to participate in Part II Submissions.
11. **Item 11 - Engineer's Report:** An independent engineer's report that includes a review, evaluation, analysis and recommendations for the technology, project feasibility, engineering and design approach, outcomes of geotechnical studies, schedule, cost estimates, etc.
12. **Item 12 - Heat and Mass Balance Models:** Power flow models, as relevant, for LDES.
13. **Item 13 - Legal and Regulatory:** Legal opinions, permits and approvals, legal structure of project company, etc. Additional detail on any litigation or conflicts identified in initial Submission.



14. **Item 14 - Business Plan:** Demonstrates the Respondent's expertise, financial strength, management capability, market analysis for project's product, supply chain, operating and market risks (and corresponding mitigants).
15. **Item 15 - Evidence of Authority (1 page):** Submit evidence that the signatory of the Submission has authority to bind the Project Sponsor to the commitments and representations made in the process.