



## Guidance for Creating a Community Benefits Plan for Carbon Capture Large-Scale Pilot Projects



February 2023

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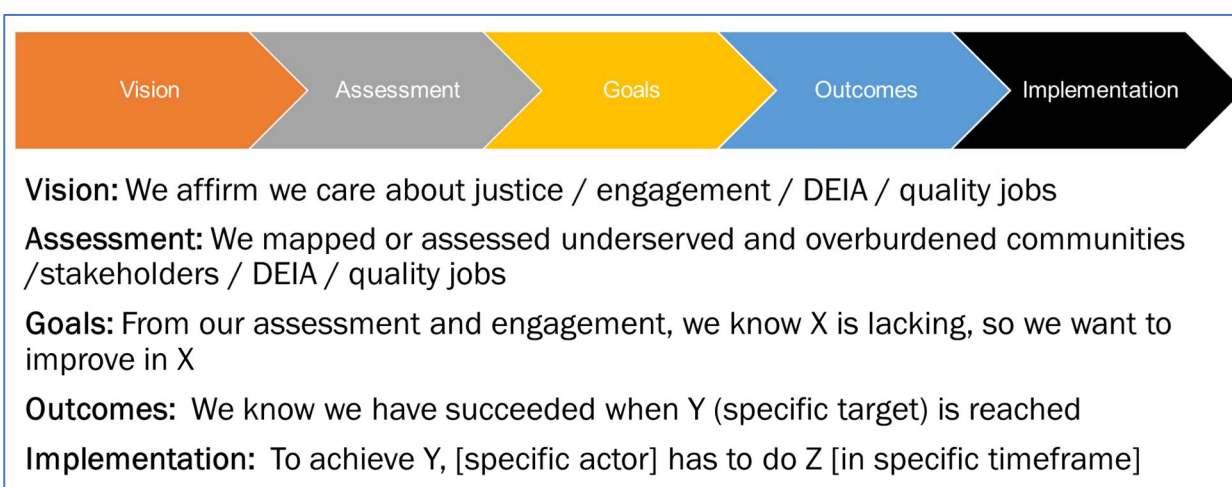
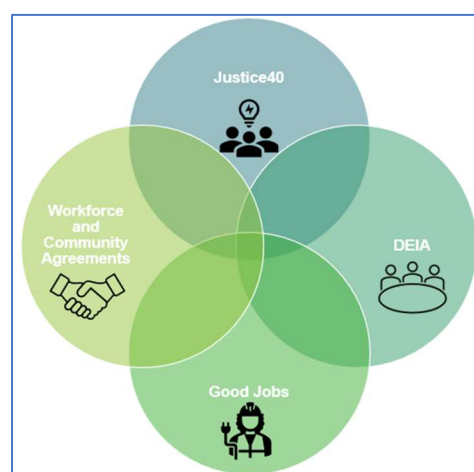
# DISCLAIMER

This Carbon Capture Large-Scale Pilot Projects guidance document (Guidance) is not a rule or regulation, and the recommendations it contains may not apply to a particular situation based upon the individual facts and circumstances. If there are any inconsistencies between a specific Carbon Capture Large-Scale Pilot Projects funding opportunity announcement (FOA) and the statements in this document, the FOA is the controlling document and applicants should rely on the FOA language.

# INTRODUCTION

## *What is the purpose of this document?*

This document is intended to provide supplemental information to assist applicants developing a Community Benefits Plan (CBP) for the Carbon Capture Large-Scale Pilot Projects<sup>1</sup>. As shown in the graphic to the right, Community Benefits Plans are based on a set of four core interdependent policy priorities: engaging communities and labor; investing in America's workforce; advancing diversity, equity, inclusion, and accessibility; and implementing Justice40. These key principles, when incorporated comprehensively into project proposals and executed upon, will help ensure broadly shared prosperity in the clean energy transition. CBP FOA requirements are intentionally flexible to generate the best approaches from applicants and their partners that are



<sup>1</sup> This guidance is for CBPs prepared for the Carbon Capture Large-Scale Pilot Projects FOA, FOA Number DE-FOA-0002963, which is authorized by section 41004(a) of the Bipartisan Infrastructure Law (BIL).

responsive to the communities, workers, and groups impacted by their projects. In CBP sections where there is content overlap with other sections of the CBP or the FOA, applicants should clearly reference those sections. This lets reviewers know that applicants are thinking about all these pieces holistically and that community benefits activities are integral to overall project success. Plans should be specific, actionable, and measurable: the idea is to move beyond vision or assessment into actionable goals, outcomes, and implementation steps as shown above.

Because this Guidance is for the Carbon Capture Large-Scale Pilot Projects FOA, a significant part of this plan will relate to assessing potential impacts of future deployment of the proposed technology on the host communities and workforce—including specifically changes to non-GHG air pollution and other waste streams as well as water usage. The CBP guidance is therefore organized into two parts: Part A addresses the community and workforce impacts of the pilot operation itself, and Part B addresses plans for instrumentation, data collection, and analysis to be done during pilot testing to elucidate how future demonstrations and deployments of carbon capture will impact communities and workforces.

Applicants may include other elements in their CBP as well as supporting references.

CBPs will be scored at 20 percent of the overall technical merit review of applications. This Guidance is designed to provide specific information and examples to aid applicants in developing a CBP that showcases their work in a way that is maximally responsive to DOE FOA requirements.

It is anticipated that the initial CBP will be more detailed for Phase 1 of the proposed project, but applicants should also describe in a higher level a summary of goals, outcomes, and implementation strategies the applicant would pursue in Phases 2 – 4.

### ***Will these plans be public?***

As appropriate, DOE reserves the right to share non-confidential/non-privileged portions of information contained in CBPs publicly after awards are announced, including any negotiated agreements (Workforce & Community Agreements). However, during project selection and negotiations the content in CBPs submitted in FOA applications cannot be shared by DOE with the public. Applicants may share details of their CBP with stakeholders and other parties at their own discretion. For example, applicants may create a slide deck, factsheet, or other communication tool to communicate their plans and get feedback.

### ***Where can I find additional information?***

For answers to common Frequently Asked Questions (FAQs), see: Community Benefits Plan Frequently Asked Questions (FAQs).<sup>2</sup>

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<sup>2</sup> <https://www.energy.gov/clean-energy-infrastructure/community-benefits-plan-frequently-asked-questions-faqs>

# COMMUNITY BENEFITS PLAN PART A: IMPACTS DURING PILOT CONSTRUCTION, OPERATION, AND DECOMMISSIONING

Part A of the Community Benefits Plan should address the community and workforce impacts of the pilot project construction, operation, and decommissioning and disposition or continued use at and around the proposed host site(s).

## Community and Labor Engagement in Carbon Capture Large-Scale Pilot Projects

The Community and Labor Engagement section (“Engagement section”) should describe the applicant’s **plans and actions to engage and partner with stakeholder groups in the community or communities most impacted by and vulnerable to project development**, such as: underserved, overburdened, or disadvantaged communities and members of those communities; surrounding or frontline/fence-line communities; and labor unions representing workers or trades that will be needed for construction and/or that represent existing workers at the project site. Beginning community involvement early on—even for a short duration large-scale pilot project—will allow the community to better understand CCUS and prepare for demonstration or commercial projects if and when they come.

This section should also identify any federally recognized Indian Tribes, including Alaska native village or regional or village corporations (hereinafter, “Tribal Entities”) for whom the proposed project may have implications (in addition to any Tribal project partners). DOE is and remains responsible for government-to-government consultation with any federally recognized Indian Tribes, including Alaska native village or regional or village corporations, about a proposed project.

Here, “engagement” differs from a plan to hold events or listening sessions (though the plan will likely reference holding these types of events). It also differs from communications, as traditionally understood in terms of a developer simply reaching out and providing information. Community and labor engagement is about relationship building leading toward partnerships, and one way to think about this section is a plan for creating and maintaining a relationship that can eventually lead to working partnerships. Engagement is also about building accountability – for example, through the use of Workforce and Community Agreements. Engagement should primarily focus on organizations directly representing a particular group of stakeholders, rather than with individuals representing themselves, although some elements of engagement may include meeting with individuals. This can help ensure traditionally excluded stakeholders and groups are given sufficient representation.

The success of these relationship-building efforts bears not just on the relationships between a particular project, its workers, and its host community; it has the potential to impact the future deployment of carbon capture domestically and globally. Public engagement can make a difference: “Best Practices: Public Outreach and Education for Geologic Storage Projects”<sup>3</sup> offers some case studies of how public engagement helped align other DOE projects with community priorities; and “Promising Practices for Meaningful Public Involvement in Transportation Decision-Making”<sup>4</sup> offers additional guidance and information. Additional resources for labor engagement include “Solar Power in Your Community”<sup>5</sup> and “High-Road Workforce Guide for City Climate Action”.<sup>6</sup>

### Process

There is no singular process for generating engagement plans, and successful plans will iterate and improve throughout project phases and in response to stakeholder input and needs. Some common steps to engage with relevant communities and other groups are shown below:

- **Perform a social characterization analysis** that describes community dynamics, decision-making processes, etc.
- **Identify stakeholders, especially those that are most impacted by project development**, including organizations representing under-represented or disadvantaged communities and members of those communities.
- **Identify goals** for stakeholder engagement.
- **Choose methods** of stakeholder engagement suited for those goals and **prepare a timeline for** implementing the methods that tracks with project activities. This activity would include an analysis of opportunities for two-way engagement and Workforce and Community Agreements as applicable.
- **Specify roles** for who will be responsible for conducting engagement activities and continuing relationship-building with community organizations.
- **Identify feedback and evaluation strategies** that will measure whether engagements are successful, in the eyes of the Carbon Capture Pilot Project team as well as the community members and stakeholders the team is working with.
- **Specify the resources needed** to carry out the engagement plans.

### *How to engage with workforce organizations including labor unions*

The process for engaging workforce organizations including labor unions can be different than other communities or groups. The first step to engage with labor unions is to identify the project’s potential employment impacts. This includes identifying which classification will be needed across every project phase, as well as the labor unions that represent them. This includes not only workers who

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<sup>3</sup> <https://netl.doe.gov/node/5828>

<sup>4</sup> [https://www.transportation.gov/sites/dot.gov/files/2022-10/Promising Practices for Meaningful Public Involvement-in-Transportation Decision-making.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-10/Promising_Practices_for_Meaningful_Public_Involvement-in-Transportation_Decision-making.pdf)

<sup>5</sup> <https://www.energy.gov/sites/default/files/2022-06/Solar%20Power%20in%20Your%20Community%20Guidebook.pdf>

<sup>6</sup> [https://www.usdn.org/uploads/cms/documents/workforce-guide\\_4.12.21\\_form.pdf](https://www.usdn.org/uploads/cms/documents/workforce-guide_4.12.21_form.pdf)



are operating on the project site, but also those supporting off-site activities, including those working in transportation.

Finding the relevant unions and the appropriate union contacts may take time and research.<sup>7</sup> There could be several different unions with overlapping trade jurisdictions in a geographic area; be aware that contact with only one union for a certain trade may not be best practice. Working with local Building and Construction Trade Councils, Central Labor Councils, and State Labor Federations—which often exist at the local and/or county level and which may comprise many local unions involved in infrastructure work—can offer a good starting point for identifying and connecting with local union groups. However, not all relevant unions will be members of these councils. Additionally, some unions have national and local branches; working with national chapters may help project teams identify and connect with local affiliates.

Every union has its own mission, priorities, and concerns, and taking the time to understand each union can help support effective engagement. Unions often maintain websites to outline their mission and priorities, share news about their latest actions and public statements, and provide resources for members. Their statements or actions may also be recorded in public records and news sources. In addition to reviewing these resources, the High-Road Workforce Guide for City Climate Action<sup>8</sup> suggests initiating introductory, brief, and informal conversations with identified labor unions, both to introduce the project and its goals, and to understand the concerns, priorities, and initiatives of each union. The DOE's Solar Power in Your Community guide<sup>9</sup> offers additional guidance on union engagement.

Here are some examples of processes to use when engaging with these entities:

- **Labor Unions:** It is advantageous to engage with labor unions who already represent workers in relevant industries and facilities.
  - *Construction Unions:* Most large projects will involve many different unions, as they all represent trades with different skill sets. For construction activity, reaching out to the national, state, or local headquarters office of a building trades council can be an effective first step. Building trades councils are comprised of construction unions and have experience working with contractors and project owners on project labor agreements.
  - *Manufacturing, Production, and other Unions:* For ongoing operations and production activities, reaching out to the national headquarters office of a relevant industrial union can be an effective first step to connect with their local affiliates.

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<sup>7</sup> <https://www.dol.gov/general/workcenter> and <https://demo.ussba.io/about-sba/organization/sba-initiatives/labor-partnerships-worker-organizing>

<sup>8</sup> [https://www.usdn.org/uploads/cms/documents/workforce-guide\\_4.12.21\\_form.pdf](https://www.usdn.org/uploads/cms/documents/workforce-guide_4.12.21_form.pdf)

<sup>9</sup> <https://www.energy.gov/sites/default/files/2022-06/Solar%20Power%20in%20Your%20Community%20Guidebook.pdf>



- **State and Local Workforce Development Boards:** Workforce Development Boards (WDB) direct federal, state, and local funding to workforce development programs<sup>10</sup>. They also oversee the American Job Centers, where job seekers can get employment information, find out about career development training opportunities, and connect to various programs in their area.
- **American Job Centers:** American Job Centers (AJCs) provide free help to job seekers for a variety of career and employment-related needs<sup>11</sup>. Nearly 2,400 AJCs, funded by the U.S. Department of Labor's Employment and Training Administration, are located throughout the United States.
- **Pre-Apprenticeship Programs:** Pre-Apprenticeship is a program or set of strategies that is designed to prepare individuals to enter and succeed in a Registered Apprenticeship Program (RAP). Quality pre-apprenticeship programs<sup>12</sup> can play a valuable role in providing work-based learning to help people prepare for an entry-level RAP. While Pre-Apprenticeship programs have varied designs and approaches, the Department of Labor has outlined the elements of a quality pre-apprenticeship program that can place an individual on the potential career pathway to employability through a RAP<sup>13</sup>.
- **Registered Apprenticeship Programs:** Registered Apprenticeship is an industry-driven, high-quality career pathway where employers can develop and prepare their future workforce, and individuals can obtain paid work experience, receive progressive wage increases, classroom instruction, and a portable, nationally-recognized credential<sup>14</sup>. Registered Apprenticeships are industry-vetted and approved and validated by the U.S. Department of Labor or a State Apprenticeship Agency. RAPs enable and energize more employers to participate and provide them access to larger talent pools that have been trained for entry-level to management positions, thereby meeting industry demands and reducing unemployment rates across the country.

### ***How should Tribal engagement be approached?***

In the event of an award for a project in, or with significant impacts on, tribal communities, the awardee will provide information to support DOE's development of a Tribal engagement plan that acknowledges each Tribe's consultation policies, traditions, and expectations, and adheres to DOE

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<sup>10</sup> Find your state and local Workforce Development Board at:  
<https://www.careeronestop.org/LocalHelp/WorkforceDevelopment/find-workforce-development-boards.aspx>

<sup>11</sup> Find an American Job Center here:  
<https://www.careeronestop.org/LocalHelp/AmericanJobCenters/american-job-centers.aspx>

<sup>12</sup> Find and connect with a local pre-apprenticeship program here:  
<https://www.apprenticeship.gov/apprenticeship-job-finder>

<sup>13</sup> <https://www.apprenticeship.gov/employers/explore-pre-apprenticeship>

<sup>14</sup> Find and connect with a Registered Apprenticeship program here:  
<https://www.apprenticeship.gov/apprenticeship-job-finder>

Order 144.1 on Tribal consultation. Appropriate mitigation will be identified through government-to-government consultation to off-set any such potentially adverse implications.

DOE is and remains responsible for government-to-government consultation with any federally recognized Indian Tribes, including Alaska native village or regional or village corporations, about the proposed project.

The federal government has affirmed its commitment to Tribal engagement through federal law, agency policy, and Executive Orders and Memoranda.<sup>15</sup> This commitment was reaffirmed in the “Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships”:

American Indian and Alaska Native Tribal Nations are sovereign governments recognized under the Constitution of the United States, treaties, statutes, Executive Orders, and court decisions. It is a priority of my Administration to make respect for Tribal sovereignty and self-governance, commitment to fulfilling Federal trust and treaty responsibilities to Tribal Nations, and regular, meaningful, and robust consultation with Tribal Nations cornerstones of Federal Indian policy. The United States has made solemn promises to Tribal Nations for more than two centuries. Honoring those commitments is particularly vital now, as our Nation faces crises related to health, the economy, racial justice, and climate change — all of which disproportionately harm Native Americans. History demonstrates that we best serve Native American people when Tribal governments are empowered to lead their communities, and when Federal officials speak with and listen to Tribal leaders in formulating Federal policy that affects Tribal Nations.<sup>16</sup>

### ***How do we know if our Engagement section is well developed?***

An inadequate plan will have vaguely defined aims without specifying methods and objectives for implementing the plan.

A good plan will define the scope, schedule, personnel, and budget to enact the plan, as well as identify key community and labor partners. A good plan will specify organizations and entities representing traditionally excluded stakeholders and those most vulnerable to project impacts, including frontline communities and labor union(s) representing affected workers, and implement strategy to meaningfully engage them. A good plan will also evidence being two-way, meaning that project developers respond to community concerns and make decisions based upon them, for example through Workforce and Community Agreements. A good plan could indicate how past community engagement, for example on other pollution control projects, will be leveraged and strengthened for this project.

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<sup>15</sup> See, e.g., Executive Order 13175, available at: <https://www.energy.gov/nepa/downloads/eo-13175-consultation-and-coordination-indian-tribal-governments-2000>

<sup>16</sup> <https://www.federalregister.gov/documents/2021/01/29/2021-02075/tribal-consultation-and-strengthening-nation-to-nation-relationships>

## Elements

This section should include the elements listed below. Please use headers to delineate elements.

### *Background and Experience*

The background provides a brief narrative description of prior or ongoing efforts by members of the applicant's project team to engage communities, labor, Tribal Entities, and other stakeholder groups. If no engagement has occurred regarding the pilot project itself, applicants can describe engagement related to the existing facility, for example on other pollution control projects.

The Background and Experience element could answer some of the following questions:

- Which labor unions, environmental justice organizations, and organizations representing under-represented or disadvantaged communities and members of those communities have been engaged and what was the nature of the interaction? What is this project team's history of engagement, if any, with other organizations and groups? Were these local, state, or national groups? On what scales has engagement happened? What methods have been used in engagement?
- What has the timeline of this engagement been?
- Would these engagements be characterized as one-way (e.g., communication of materials or information) or two-way (listening to ideas, creating a dialogue)?
- What are some key learnings that will shape your approach to engagement going forward?
- What were the results of the engagement?
- Were agreements reached detailing commitments and responsibilities?
- How were those agreements documented? Did the engaged parties sign these agreements?

If there has not been any engagement to date, note that in this section with a brief explanation.

### *Statement on existing community and labor support*

Applicants should describe any **existing** support and/or concerns expressed by labor, impacted tribes, and surrounding community/communities for the project and/or the facility where the project would be implemented. This element should include a description of the steps taken to gather this information.

Some steps applicants may take to identify and communicate to DOE existing support or concerns include:

- Describing any community stake or ownership for the facility, or existing workforce and community agreements (if already existing--these may be separate from future planned agreements for the proposal);
- Reviewing records of any communications from community members expressing concerns or support;
- Reviewing public records from relevant local government agencies (e.g., agencies focused on environmental protection, labor, public health, economic development) to find expressions of support or concern;

- Reviewing minutes from public meetings where the facility or proposed project were discussed;
- Reviewing local media for op-eds about the facility and/or decarbonization and emission reduction efforts;
- Identifying community-based or workforce organizations, including labor unions, with a topical or geographic connection to the facility and reviewing public statements from these organizations; and
- Submitting information related to relevant lawsuits or protests by labor or community groups.

Applicants may reference the “Community and Labor Partnership Documentation” if appropriate.

*Engagement plan for impacts of pilot construction, operation, and decommissioning*

As part of the application, applicants should develop a plan for engaging groups and communities impacted by the pilot project itself during all phases of the project including construction, operation, and decommissioning and disposition or continued use. This plan should include objectives for the engagement and when and how the project teams will engage stakeholders, labor unions and workforce organizations, and communities. This may be presented in a manner that fits the applicant’s project (e.g., Gantt charts, tables, or more descriptive matrices) and should include a description of specific methods that will be used. Effective methods are ones that are matched to both project phases and goals (setting engagement goals is described below). For example, during the project development phase, the team may set engagement goals of eliciting project design feedback from frontline communities and local labor unions relevant to project. The corresponding method could be to hold listening sessions at a local community center and at labor union meetings.

While Carbon Capture Large-Scale Pilot Projects may have a limited time of operation, beginning community involvement early on will allow the community to better understand CCUS and prepare for demonstration or commercial projects if and when they come. **At minimum, this section should include a discussion on how surrounding communities will be engaged if there are significant impacts from the pilot project including construction activities, changes in emissions, water use, or other pollution, and strategies to mitigate the impacts, including alternate site selection.** If the applicant is planning on pursuing formal Workforce and Community Agreements—which offer one avenue to meaningfully include traditionally excluded stakeholders and provide real benefits—applicants may discuss those plans as part of the engagement plan.

**Applicants should specifically describe how these methods will be extended to include traditionally excluded stakeholder groups** (e.g., disadvantaged communities, frontline/fence-line communities, labor unions, Tribes), especially those in the vicinity of the host site(s). If awarded, awardees will work in conjunction with the Department of Energy to develop a Tribal engagement plan as appropriate. Applicants are encouraged to describe how they will ensure that stakeholders and communities will not be unduly burdened by demands for engagement. This can involve talking to people about how they would like to be engaged (e.g., mediums, locations, timing) to design

engagement that is less burdensome<sup>17</sup>. Applicants are encouraged to design and advance engagement plans with consideration to a larger process leading to partnership with communities, including through recognized representatives or intermediaries.

### ***How to include traditionally excluded stakeholders***

The first step is to gather information on not just which stakeholder groups are traditionally excluded, but why. This may include reaching out to key individuals one-on-one to learn about potential barriers and opportunities for involvement in the project. Some of these may be logistical (e.g., meetings in places without public transport or at inconvenient times, no access to information about meetings, information only in English vs. the language spoken by relevant stakeholders), and it should be relatively clear how to address these (e.g., select different locations, provide childcare, offer information and facilitation in multiple languages, provide food). However, other disincentives to engage might arise from power dynamics or the content and structure of previous meetings, and these may require further discussions with traditionally excluded stakeholders to identify and address. Such discussions may also be held with organizations representing particular groups of traditionally excluded stakeholders, which could help set the groundwork for future Workforce and Community agreements.

### ***Setting engagement goals***

Setting internal goals for engagement is important, as is identifying the goals stakeholders and communities have for the engagement process.

Here, applicants can describe time allotted for internal discussions of goals (including who from the organization needs to participate in these discussions), as well as external discussion of goals with the identified stakeholders and communities. The latter can be done as “pre-engagement” conversations and/or folded into the agendas of initial engagement activities.

Goals will vary based on project stage, but might include:

- Listening to concerns, including comments regarding cumulative impacts and impacts of commercial-scale carbon capture and storage projects, in order to provide information on specific concerns *and* collaborate on how to address those concerns;
- Discussing how communities want to access or participate in creating data about the project and its potential impacts on surrounding communities;
- Understanding what communities and workers identify as potential benefits and determining strategies to achieve those benefits;
- Determining any project enhancements to maximize community benefits and support; and
- Understanding pathways for formal partnership with communities, including through recognized representatives or intermediaries.

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<sup>17</sup> To learn more about participant fatigue in community-based research, see: [https://www.montana.edu/energycommunities/ResearchFatigueCourse/unit\\_5/Unit5HowToLimitResearchFatigue.html](https://www.montana.edu/energycommunities/ResearchFatigueCourse/unit_5/Unit5HowToLimitResearchFatigue.html).

Social acceptance is not a guaranteed outcome of effective engagement; however, informed consultation can lead to broader social acceptance. Typically, there is not usually one entity that can grant acceptance; some communities within a geographic area might support the proposed project while others do not. Additionally, social acceptance, even if granted, can fluctuate and be revoked. A strength of Workforce and Community Agreements is that they can help settle disputes ahead of project deployment, strengthen civic participation, increase worker empowerment, secure the required workforce, and equitably align the resources and needs of local workers and communities with the benefits and opportunities of new projects.

### ***Choosing methods of engagement and building a timeline***

Establishing a match between project phase and engagement method is important for cost effective and timely execution of the project, as well as making sure engagement covers the full project life cycle (design and permitting, construction, operation, and decommission/demolition). Building relationships with stakeholders takes time and transparency. Thus, an effective Engagement section should allocate sufficient time for relationship building, incorporating or responding to input, sharing the results of engagement with the community, and any plans for negotiating formal agreements with labor and community partners.

Different methods of engagement correspond to different project phases and objectives. Each method will require different investments of time and funding. Applicants should clearly identify when in the project timeline engagement is expected to occur and what type of engagement is planned. For example, in the design phase, applicants might be focusing on community outreach, education, and information gathering. The method of engagement could be information sharing on a project website or social media account or participation by the project team at community events (e.g., setting up a booth at a community health fair or grocery store).

As the project develops and stakeholder identification matures, awardees can carry out more targeted engagement activities like focus groups with specific sectors and/or participatory mapping exercises with communities. As engagement activities become more involved, it is important to have a plan to receive, analyze, and incorporate or respond to stakeholder input.

It is increasingly the standard to offer a mix of virtual and in-person engagements; bear in mind that each may be more or less accessible to different groups. Some methods of engagement, here abridged and adapted from WRI's "Guidelines for Community Engagement in Carbon Dioxide Capture, Transport, and Storage Projects"<sup>18</sup>, include:

- **Public hearings:** Formal public hearings are often required by regulation. They can involve logging questions from members of the public, or a time allotment for people to comment.
- **Town hall meetings:** More of an open forum than a formal public hearing; can be convened by the developer, government, or regulator.

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<sup>18</sup> <https://www.wri.org/research/guidelines-community-engagement-carbon-dioxide-capture-transport-and-storage-projects>

- **Open house:** Often includes information or education about a project; may be done before town hall meetings and public hearings.
- **Informal, targeted chats:** These involve short presentations to targeted audiences (e.g., local business, environmental NGOs), followed by open discussion.
- **Focus groups:** A way to learn more initial reactions and ideas from a select group. On one hand, these can be very valuable in early stages when developing more concrete Engagement sections; on the other hand, if only select people are invited (which may be inevitable because of the small size), they can be viewed as exclusionary.
- **One-on-one meetings:** These can be valuable for developing relationships, but best practice is to conduct them transparently because perceptions of a developer secretly meeting with people can undermine trust.
- **Facilitated discussions:** These involve facilitation by a (typically trained) third-party.
- **Virtual workshops:** These can combine aspects of the above formats (open houses, informal chats, town hall meetings).

Further advice on methods and execution:

- Engage early with methods that are *not* a formal process (e.g., required by the National Environmental Policy Act (NEPA)) as the first engagement. This can build trust, enable collaboration on issues or challenges earlier in the project, and lead to better outcomes and project success.
- Use a combination of methods and do so with transparency. Ensure that one-on-one meetings are disclosed and that entities are given equal chances to participate.
- Respond to questions and designate a person whose job it is to follow up on those questions in a timely manner if the questions are not answered on the spot. Summarize the discussion and disseminate the information for clarity and transparency.
- Consider involving third parties who can weigh in on the robustness and validity of the information provided during engagements.

Applicants should follow, as appropriate, federal requirements for human subjects research.

### ***Establishing roles and responsibilities***

Applicants are encouraged to designate personnel to serve as representative(s) to liaise with the community; and may also hire an outside person to conduct relationship-building. Things to consider when defining roles include: preserving institutional knowledge (it is hard to maintain a relationship if the person responsible keeps changing), decision-making authority, expertise and training of individuals, integration with other project activities, and interpersonal skills. If contracting with external parties for stakeholder engagement support, consider that different consultancies may have different strengths with different types of stakeholders.

To ensure all necessary roles and responsibilities are identified, it is important to specify roles and responsibilities related to any planned partnerships with labor unions, community organizations, institutions, nonprofits and local businesses.



### ***Developing milestones***

Thoughtful milestones can enable successful engagement by tying engagement to project activities and decisions, creating transparency and accountability, and providing a shared vision for the project plan. Major milestones and work descriptions relevant to the plan, and those that lead to formal agreements with labor and community partners, should align with and be included within the overall project schedule and workplan. Work performed under the CBP will be monitored by DOE as specified in the FOA.

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#### **Example of milestones that could be a part of an Engagement Plan for Phase 1 of a project**

Below is an example of a series milestones matched to project phases that could be a part of an Engagement Plan for a Carbon Capture Large-Scale Pilot Project CBP.

- By month three, Phase 1: host a listening session, invite at least ten community-based, labor, and/or workforce organizations interested in learning more about carbon capture and storage, and host a second listening session if less than five of these organizations participate.
- By month five, Phase 1: publish a presentation and written fact sheet in at least two different languages used within the community that answer questions heard in the above-mentioned listening session.
- By month seven, Phase 1: present these materials at least twice (at least once in-person and once virtually) and receive feedback using transcribed and digitally posted comments to record feedback. The total audience of these presentations should be at least fifty people not affiliated with the project and should reflect at least five different community-based, labor, and/or workforce organizations.
- By month nine, Phase 1: receive written and oral comments from the community on how the project could change in response to questions/concerns surfaced in the listening sessions. Host an internal meeting to evaluate findings and make a plan for incorporating these findings into project planning/decisions.
- By month twelve, Phase 1: write a public report to share with attendees to document how their feedback/input was used in project planning and let them know of future opportunities to engage in an ongoing manner throughout the project lifecycle.
- For each step, report relevant data to DOE.

Note: This example is a small subset of activities that could be undertaken. For more information on Community Benefits Agreements -- one type of Workforce and Community Agreement which could be used to support accountability -- see the Community Benefit Agreement (CBA) Toolkit.<sup>19</sup>

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<sup>19</sup> <https://www.energy.gov/diversity/community-benefit-agreement-cba-toolkit>

If SMART (Specific, Measurable, Achievable, Relevant, and Timely) milestones are used, some tips include:

- For “Specific”, make goals narrow and concrete—this will enable the measurability.
- For “Measurable”, identify what data or evidence can be used to assess whether the project team is making progress towards or achieve the goal.
- In terms of “Achievable”, knowing benchmarks, as well as where other companies or organizations are, can help calibrate what is achievable. This should also take into account the time and resources available to implement this goal.
- In terms of “Relevance”, consider the goals identified for engagement.
- With “Timely”, consider setting interim milestones on the way to a larger goal.

### ***Workforce and Community Agreements***

If applicants are planning to pursue formal Workforce and Community Agreements, they may discuss those plans as part of their Engagement Plan. A Memorandum of Understanding (MOU) with respective community and labor organizations committing to work toward such agreements could be a good indicator of steps taken. If there are opportunities for co-ownership or a community stake, applicants should discuss that here.

DOE supports the negotiation of Workforce and Community Agreements because these agreements help settle disputes ahead of project deployment, strengthen civic participation, increase worker empowerment, secure the required workforce, and equitably align the resources and needs of local workers and communities with the benefits and opportunities of new projects. Robust Workforce and Community Agreements:

- Are negotiated between the project developer and an inclusive, representative, and accountable coalition of community and labor partners;
- Are legally enforceable with clear metrics, timelines, transparency, and reporting processes; and,
- Assign roles and responsibilities to determine compliance and outline processes to address non-compliance.

For information on the following topics, see the [Community Benefits Plan Frequently Asked Questions \(FAQs\)](#):<sup>2</sup>

- *What are Workforce and Community Agreements?*
- *What is DOE looking for related to Workforce and Community Agreements in funding proposals?*
- *What is a Community Benefits Agreement?*
- *What is a Community Workforce Agreement (CWA)?*
- *What is a Project Labor Agreement (PLA)?*

### *Resource Summary*

This element provides a summary of project resources dedicated to implementing the Engagement section. This may include information about staff (number, time on project, and experience), facilities, capabilities, and budget (both federal and cost share) that will support implementing engagement activities.

## Investing in the American Workforce in Carbon Capture Large-Scale Pilot projects

Investing in America's workforce means shifting from seeing 'labor as a cost' to 'labor as an investment.' DOE's investments seek to create domestic energy and supply chain jobs with good pay, benefits, predictable schedules, and with assurances that workers will have a free and fair chance to join or form a union. Investing in workers includes hiring workers as employees rather than through temp agencies or as independent contractors. It also means fostering safe, healthy, and inclusive workplaces free from harassment and discrimination. Investing in American workers involves making investments in training, education, and skill development and supporting the corresponding mobility of workers to advance in their careers. By supporting such employment practices, DOE seeks to ensure that the efficiency, ingenuity, and high skill of the American workforce is the foundation of America's competitive advantage in the global energy industry and related supply chains. **If the Carbon Capture Large-Scale Pilot Project will not result in the creation of new permanent jobs, applicants can focus on ensuring that construction/decommissioning and disposition jobs—as well as existing jobs and workforce development— support the goals above.**

Applicants may wish to cross-reference the Engagement and DEIA sections. It is important to think of the Investing in the American Workforce section as one interconnected piece of a bigger story that describes how the project will meet broader calls for justice, equity, inclusion, and quality jobs, and engagement.

### Process

There is no singular process for generating an Investing in the American Workforce (IAW) section, and successful IAWs will iterate and evolve throughout project phases and in response to stakeholder input and needs. An effective IAW will demonstrate the applicant understands the issues involved in the creation of quality jobs and the development of a diverse, skilled workforce; will address what success looks like and what changes will occur if the IAW is successfully implemented. Completing the Investing in the American Workforce (IAW) is set within the context of ongoing engagement, considerations of equitable access to programs and opportunities, past performance, and future plans. Some common steps to create the IAW section are shown below:

- Characterize the quality of the jobs that will be offered in both construction and if applicable, ongoing operations;

- Determine the types and level of investments needed for workforce education and training;
- Characterize prior and ongoing engagement with labor unions, community colleges, and other workforce organizations (this is a good place to reference the Engagement section);
- Identify methods to support workers' rights, including a free and fair chance to join a union, and how to signal commitment to workers' rights to the workers;
- Specify how workplace health and safety and worker rights will be supported in the workplace, in both construction and ongoing operations;
- Create plans or revise existing mechanisms to track and address retention; and,
- Identify plans and resources needed to achieve goals in each of these areas.

*Applicants are encouraged to review the [Community Benefits Plan Frequently Asked Questions \(FAQs\)](#)<sup>2</sup> for additional information.*

### ***How do we know if our IAW section is well developed?***

An inadequate IAW section may have vaguely defined and/or disjointed aims, without specifying implementation strategies.

A strong IAW plan will look across short, medium, and long-term time horizons to cohesively and holistically map the potential to create and support quality jobs and workforce development. It will fully consider the benefits and impacts that the project will have on jobs and workers across every phase of the project and across dispersed geographic areas (i.e., both within and beyond the project host site). A good plan will define the scope, schedule, personnel, and budget to enact the plan, as well as identify key partners and relevant labor unions. A good plan will also evidence being two-way, meaning that project developers respond to worker and union concerns and make decisions based upon them. Effective IAW plans will also build on, and work in concert with, the Engagement and DEIA plans.

## **Elements**

This section should include the elements listed below. Please use headers to delineate elements.

### ***Background and Experience***

The Background and Experience element should briefly describe the Carbon Capture Pilot Project team's previous and planned efforts to provide above average pay and benefits; properly classify employees in both the construction and ongoing operations phases; support the rights of workers to have a free and fair chance to join a union; promote workplace health and safety in partnership with workers; and invest in equitable workforce development efforts. Applicants may briefly include information on proactive engagements or existing relationships with community and labor organizations (or reference the Engagement section); prior experience with Project Labor Agreements, Community Workforce Agreements, or other Collective Bargaining Agreements; lessons learned from prior efforts to provide quality jobs and equitable workforce development; and any other relevant information.

### *Pilot project workforce impacts*

In this section, applicants should identify the potential impacts of the project on the workforce for construction, operation, and decommissioning and disposition or continued use phases of the pilot. At a minimum, this should include:

- An explanation of applicant's commitment to ensuring workers have a free and fair choice to form and join a union;
- An assessment of the jobs that will be created and their occupational distribution;
- Changes to the knowledge, skills, and abilities needed within the workforce, and, if applicable, the training programs with whom the applicant could work to fill those gaps;
- Changing industry structures leading to different employer/employee relationships or changes to collective bargaining agreements; and
- Any changes to job quality, wages, fringe benefits, and job security.

### **Quality Jobs**

Indicators of job quality which may be described include, but are not limited to:

- Family-sustaining wages;
- Employer-sponsored Health insurance and pension/retirement coverage options;
- Work-family benefits, such as paid family and medical leave, paid sick leave, other paid time off, and mental health supports;
- Employer investments in training, such as safety and health management programs that include hazard prevention and control, safety and health training, and anti-harassment training;
- Caregiving supports like flexible schedules, telework, childcare facilitation, and back-up childcare;
- Predictable scheduling; and,
- Classification of workers as permanent employees (if applicable).

Human resources policies and procedures, regularly scheduled trainings, plans for offering skills-based assessments that could take the place of required credentials, and employee-led planning efforts may also be discussed.

For more information on what constitutes a quality job, see the Community Benefits Plan Frequently Asked Questions (FAQs).<sup>2</sup>

### **Worker Rights**

Employees' ability to organize, bargain collectively, and participate through labor organizations of their choosing in decisions which affect them builds meaningful economic power, safeguards the public interest, contributes to the effective conduct of business, and facilitates the amicable settlement of disputes between employees and their employers. It therefore facilitates project efficiency and continuity and supports multiple public benefits. The applicant is encouraged to describe steps they will take to support the rights of workers to join or form unions of their choosing,

ensure project success and continuity, address health and safety in a way that ensures worker engagement in these plan designs, and track and address retention. Applicants may also describe how Project Labor Agreements or Community Workforce Agreements will be utilized in construction activity and the level of commitment to collective bargaining for ongoing operations work as applicable (consistent with the Engagement section). This description should include information on construction, ongoing operations, and decommissioning.

Guiding questions include:

- What assurances are in place to enable workers have a free and fair right to workplace organizing and union representation without retaliation?
- What labor unions has the project team engaged with for the planning construction activity?
- Has the applicant worked with labor unions in the past?
- If no engagement has occurred to date, please explain briefly and describe plans, if any, for future labor engagement before project initiation and during the project.
- What are the applicant's plans to ensure project success and continuity by mitigating labor disputes or strikes (e.g., labor peace agreements; good faith negotiations)?

### ***Workforce training, education, and development***

In addition to identifying changes to the knowledge, skills, and abilities needed within the workforce for the pilot project, applicants are encouraged to describe the broader workforce training and education landscape relevant to an applicant's project needs. Applicants may identify any existing programs in their project area and the potential for those programs to meet project needs. Applicants may describe plans to engage with training and education providers in order to ensure that project needs can be met by a locally trained workforce. This is a good time to cross-reference plans for labor-related engagement.

Employer investments in workforce education and training can take several forms, including:

- Participation in labor-management training partnerships, including registered apprenticeships and pre-apprenticeships;
- Commitment to employer contributions to training programs and paid time for employees to participate in skills training;
- Partnerships with community colleges;
- Sector-based approaches to workforce development;
- Promotion of worker voice in training programs;
- Provision of continuing education programs for employees to earn credentials and degrees relevant to their career pathways;
- Provision of personalized, modularized, and flexible skill development opportunities, such as performance-based assessments, on-demand and self-directed virtual training; and,
- Tuition or flexible scheduling for education and training.

For more information on Registered Apprenticeship Programs, see the [Community Benefits Plan Frequently Asked Questions \(FAQs\)](#).<sup>2</sup>

### *Implementation Strategies*

The Implementation Strategies element should describe plans to invest in workforce development and the retention or creation of quality jobs related to the pilot project based on the project impacts identified above. This may include a description of targeted outcomes and implementation strategies, including milestones, for Investing in the American Workforce. Applicants are encouraged to link key plans, such as negotiation of Workforce and Community Agreements, to an overall schedule for execution. Additionally, applicants are recommended to support this section with metrics to measure the success of the proposed actions.

#### **Example of moving from goal to outcome to implementation**

Based on your assessment of the workforce required to implement the large-scale pilot project, you project that the vast majority of jobs created will be during the construction and decommissioning phases. Your workforce and labor engagement has also revealed that a significant number of local workers already possess the relevant skills for these roles. You want your project to support the local population to the greatest extent possible for this project and build relationships with local unions and workers that could be used for later projects.

One **goal** you establish is to increase the amount of construction workers coming from the surrounding community compared to prior projects.

You may set an **outcome** that a defined percentage of the construction workers will come from the county in which your facility is located.

Your **implementation strategy** may involve entering into a Project Labor Agreement that includes a clause related to hiring local community members.

### *Resource Summary*

The Resource Summary should describe project resources dedicated to implementing Investing in the American Workforce activities including staff, facilities, capabilities, and budget.

## **Diversity, Equity, Inclusion, and Accessibility (DEIA) in Carbon Capture Large-scale Pilot Projects**

The Diversity, Equity, Inclusion, and Accessibility (DEIA) Plan describes the actions the Carbon Capture Pilot Project team will take, if selected for award, to foster a welcoming and inclusive



environment; support people from groups underrepresented in Science, Technology, Engineering, and Mathematics (STEM), construction and operations workforces, and other applicable workforces; advance equity; and encourage the inclusion of individuals from these groups in all phases of the project. This section should also discuss activities to ensure equitable accessibility to economic opportunities created from the project.

The Executive Order on Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce<sup>20</sup> defines Diversity, Equity, Inclusion, and Accessibility as:

**Diversity** means the practice of including the many communities, identities, races, ethnicities, backgrounds, abilities, cultures, and beliefs of the American people, including underserved communities.

**Equity** means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment.

**Inclusion** means the recognition, appreciation, and use of the talents and skills of employees of all backgrounds.

**Accessibility** means the design, construction, development, and maintenance of facilities, information and communication technology, programs, and services so that all people, including people with disabilities, can fully and independently use them. Accessibility includes the provision of accommodations and modifications to ensure equal access to employment and participation in activities for people with disabilities, the reduction or elimination of physical and attitudinal barriers to equitable opportunities, a commitment to ensuring that people with disabilities can independently access every outward-facing and internal activity or electronic space, and the pursuit of best practices such as universal design.

### ***What does “underrepresented” mean?***

The term “underrepresented” is context-dependent and should be considered relative to the relevant communities, workforces, and locations. For example, according to the National Science Foundation’s 2019 report titled, “Women, Minorities and Persons with Disabilities in Science and Engineering”, women, persons with disabilities, and underrepresented minority groups—blacks or African Americans, Hispanics or Latinx, and American Indians or Alaska Natives—are vastly underrepresented in the STEM (science, technology, engineering and math) fields that drive the energy sector. That is, their representation in STEM education and STEM employment is smaller than their representation in the U.S. population.<sup>21</sup> For example, in the U.S., Hispanics, African

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<sup>20</sup> <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/06/25/executive-order-on-diversity-equity-inclusion-and-accessibility-in-the-federal-workforce/#:~:text=%28e%29%20The%20term%20%E2%80%9Caccessibility%E2%80%9D%20means%20the%20design%2C%20construction%2C,with%20disabilities%2C%20can%20fully%20and%20independently%20use%20them.>

<sup>21</sup> <https://nces.gov/pubs/nsf19304/digest/about-this-report>

Americans and American Indians or Alaska Natives make up 24 percent of the overall workforce, yet only account for 9 percent of the country's science and engineering workforce. DOE seeks to inspire underrepresented Americans to pursue careers in energy and support their advancement into leadership positions.<sup>22</sup>

### Process

There is no singular process for generating DEIA plans, and successful plans will iterate and evolve throughout project phases and in response to stakeholder input and needs. This process can and should overlap with activities in the IAW and Justice40 sections, and applicants can reference these components as applicable. Some common steps to create a DEIA section are shown below:

- Formulate **why** the applicant is creating a DEIA plan for this project, beyond funding requirements. Common reasons for organizations to implement DEIA plans include: to cultivate a workplace culture that will attract and retain top talent, to align practices with the values members hold, to better communicate with clients and other stakeholders, and to act on research that a more diverse workplace will improve creativity and productivity.<sup>23</sup> Clarity on this vision for DEIA in the project will help to build buy-in for a plan that is implemented.
- **Assess** the current state of diversity, equity, inclusion, and accessibility in the organization and the economic opportunities (e.g., job opportunities, contracting opportunities, opportunities for suppliers) created from the project. This will be an initial assessment; if there are knowledge gaps, identify internal analysis needs and itemize those needs in the plan.
- Develop **goals and desired outcomes**. What does success in achieving these goals look like? How will it be measured?
- **Identify partnerships** critical to reaching desired goals and outcomes. Partnerships are key to reducing barriers to employment and ensuring that disadvantaged and underrepresented workers have access to jobs and training. Partnerships also can facilitate access to financing, insurance, and capacity development for minority and women owned businesses.
- Develop **implementation strategies** to reach those outcomes. This includes specifying roles and responsibilities, defining required resources, establishing accountability measures, and developing a timeline for executing the strategies.

Awardees must make all employment decisions in a nondiscriminatory manner that does not extend a preference to a particular individual based on membership in a protected class, consistent with federal and state labor and employment laws and regulations. An awardee may lawfully set placement goals—objectives or targets that are reasonable steps to advance equity in the workplace. See, e.g., 41 CFR 60-2.16. However, an awardee is expressly forbidden from setting quotas for individuals in a protected class. For example, an awardee can set a placement goal about

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<sup>22</sup> <https://www.energy.gov/articles/introducing-minorities-energy-initiative>

<sup>23</sup> <https://www.nature.com/articles/s41467-018-07634-8/>

broadening recruitment and outreach to increase the diversity of its applicant pool but cannot set a quota to hire two individuals from a protected class.

***How do we know if our DEIA plan is well developed?***

An inadequate DEIA plan might include a few vague commitments to values without specific, actionable items.

A good DEIA plan will include milestones, roles and responsibilities for who is executing the plan, timelines, mechanisms for tracking progress, and ensuring accountability. This includes identifying measures of success. A good DEIA plan is also one your organization will act upon to implement. This means that there needs to be pathways to buy-in for all the people who have roles and responsibilities for enacting it; evidence of having begun or mapped out those conversations can be useful.

***How do we avoid creating additional burdens for members of underrepresented groups?***

There is a history of well-intentioned but rushed and not-fully-considered DEIA work that creates additional harms or burdens for underrepresented groups. Often people from underrepresented groups are asked to take on this work in a volunteer capacity or are informally consulted on various DEIA topics without compensation, sometimes by multiple employees or teams who think their ask is light and don't realize the cumulative impact on underrepresented individuals and the organizations that represent them. It is critical to analyze who is being asked to carry the load, how other work responsibilities are shifted to accommodate it, and how compensation for this work is done. It is also critical to avoid tokenization – the practice of making only a perfunctory or symbolic effort to be inclusive to members of minority groups, especially by recruiting people from underrepresented groups in order to give the appearance of racial or gender equality within a workplace or educational context. The de-facto assumption or expectation that individuals speak for or represent views from an entire group should also be avoided. Recognition for DEIA work should not just be financial; it comes at the expense of other activities and should be considered in review and promotion. Potential methods to avoid overburdening members of underrepresented groups include, but are not limited to, hiring external consultants or experts to support DEIA work; paying and otherwise valuing members of your organization who do DEIA work; creating accessible “opt-in” mechanisms for participation; providing DEIA and/or implicit bias training to staff to promote an office-wide understanding of DEIA and the risks of overburdening underrepresented groups; creating safe and responsive channels for individuals to provide feedback about DEIA efforts; and offering support services to staff.

***What are some ways to address systematic barriers to access?***

Addressing systematic barriers to access is required to avoid occupational segregation. Wrap-around services, comprehensive support services, and more can work to remove such barriers and provide improved access to opportunities.

## Elements

This section should include the elements listed below. Please use headers to delineate elements.

### *Background and Experience*

The Background and Experience element should describe prior and ongoing efforts by the Carbon Capture Pilot Project team relevant to DEIA, based on findings from an initial assessment that examines the context of DEIA within the Carbon Capture Pilot Project team's organizations including any relevant accountability mechanisms. It can also describe efforts taken by the teams to advance DEIA related to suppliers, partners, and other relevant entities, diversity of the broader workforce and wealth building opportunities. The description may include a discussion of how the project team's DEIA work fits in with the larger organization's strategy or include key data points, charts, or graphs.

### ***Formulate a vision for DEIA in the project***

It is helpful to clearly define why the applicant is creating a DEIA plan<sup>24</sup>. The internal process for formulating a DEIA vision will vary by organization, and what resources are available (e.g., if the organization has a DEIA office). It may be useful to have an external facilitator work with the organization on a discussion of the DEIA vision, or it may just involve a team meeting. The key point is that team members are on the same page about the purpose of putting together a DEIA plan, as well as how it fits into existing efforts. It would be appropriate to include in the plan a few sentences on the outputs of that conversation (e.g., a DEIA vision statement).

### ***Doing an initial assessment***

Applicants are encouraged to summarize the results of an initial assessment of DEIA in the project. There may be aspects where there is a lack of data, and in this case, gathering that data and analyzing it can be included in the DEIA plan, including specifying what data sources are needed, how to gather new data if needed, who will gather the data and analyze it, and how long it will take. Applicants will probably draw on both internal and external data (e.g., for benchmarking), as well as both qualitative and quantitative data.

Guiding questions for an initial assessment, and to help think about outcomes and implementation strategies, could include:

#### *Assessing DEIA training and culture in the organization:*

- Does the project or organization have an existing DEIA mission statement and philosophy?
- Do project leaders actively enact this DEIA mission, especially as it informs creating a diverse and inclusive work environment? Provide examples of how.
- What percentage of organizational resources, in terms of staff, staff time, and funding goes to DEIA activities?

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<sup>24</sup> Some advice for vision and mission statements including DEIA can be found at <http://www.nonprofitinclusiveness.org/building-inclusiveness-your-mission-and-values>.

- Is there a reporting process that tracks DEIA milestones and metrics in the organization? Does the reporting process involve transparent, third-party reporting systems, and incorporate employee feedback?
- What existing employment, salary, retention, and promotion data is tracked about the organization? Is it disaggregated by race, gender, and other variables? Is this data shared with employees and/or made public?
- What are the DEIA training requirements and learning opportunities for employees? What mechanisms are used to measure the effectiveness of these training activities?
- How are participation and outcomes tracked, measured, and shared? Are there DEIA elements in staff performance appraisals, and clear guidance and examples of how employees will be evaluated and what successful performance looks like?
- Are these policies and practices well-known among the employees — what percent of employees are familiar with them?
- Are these policies and practices clear and effective?

*Assessing hiring, including collaborating and contracting with persons from underrepresented groups. Basic analysis:*

- How many people are in the organization, and what is the breakdown between management and staff?
- What percent of people employed in the organization are from underrepresented groups?
- What percent of management is from underrepresented groups?
- What percent of contracts are with minority-, women-, Veteran-owned or other disadvantaged businesses?
- What percent of collaborators (project partners, research collaborators, co-investigators, sub-contractors) are from underrepresented groups? From MSIs? How are collaborations typically formed?
- How are current employment and diversity statistics benchmarked against appropriate comparison populations, such as existing employment data for specific STEM fields across the scientific community, and existing graduation rates in specific fields, using, for example, the data available through the National Science Foundation's (NSF) National Center for Science and Engineering Statistics, and NSF Science & Engineering Indicators, and scientific professional societies?

*Recruitment:*

- What percent of job applicants are from underrepresented groups? What percent of hires are from underrepresented groups?
- How diverse are the workforce recruiting networks (e.g., outreach programs and job groups)?
- What efforts are taken to remove bias from job description language and developed objective hiring criteria? Examples could include using gender-neutral pronouns and job titles; scanning for gender-coding or other phrases that signal unconscious bias towards age, race, or culture; and evaluating language for being welcoming to applicants with disabilities.

- What training is offered to address implicit bias and ensure effective interviewing? Is anonymous resume screening conducted, i.e., without candidate personally identifying information?

*Retention and promotion:*

- Are candidates assessed on their aptitude for supporting DEIA goals and an inclusive workplace culture, using standardized behavioral interview questions?
- How robust and transparent are pay equity processes and are these grounded in statistical analysis with annual reviews? Are there formal remediation protocols?
- What employee benefits, policies, resources, and initiatives exist to improve well-being and address the needs of employees across career stages and personal family circumstances (e.g., family support services/childcare, alternative and flexible work schedules)?
- What strategies are in place to retain workers from underrepresented groups?
- Are promotion strategies tracked with an eye towards equity? Are voluntary and involuntary separations tracked with disaggregated data to examine trends?
- Are there mentorship opportunities and programs? If so, are they currently staffed and utilized equally by individuals from different identity groups?
- Does your organization have a process for requesting and providing reasonable accommodations?

*Assessing knowledge sharing:*

- How diverse is the target audience when disseminating results? For example, is there prioritization of MSIs, underserved communities, or organizations working with underserved communities when sharing details and research outcomes of the work?
- How transparent and accessible is the information shared? Is information publicly disseminated and through what channels?
- Is data presented in meaningful ways for the purposes of community engagement and interpretation?
- Could the communication channels and language be rendered more accessible? Are there different forms of communication that need to be employed, e.g., for communities with different levels of digital access? What about language accessibility for speakers of other languages?
- Is the process of disseminating results empowering to those communities involved? In other words, are communities in a position to use the knowledge to pursue their priorities? If not, is there anything that could be done to facilitate this?

*Contracting with minority-, women-, Veteran-owned and other disadvantaged businesses:*

- How have federal, state, or local directories of certified minority-, women-, Veteran-owned and other disadvantaged businesses been explored? Numerous sources may help you identify businesses that have been certified by a government entity as a minority-, women-, Veteran-owned or other disadvantaged business.

- How have state or local government's small and minority business contracting offices been contacted? Many state and local governments have offices that serve as a conduit on key issues affecting the small and disadvantaged business communities. They may also provide services to connect minority- and women-owned and other disadvantaged small businesses to contracting and procurement opportunities.
- What Chambers of Commerce are in the project area, and how have they been engaged? There are many chambers that specifically represent minority-, women-, Veteran-owned and other disadvantaged businesses. Working with these chambers can help you identify and connect with minority-, women-, Veteran-owned and other disadvantaged businesses.
- Have project business hosted or participated in supplier diversity programs or training? To increase supplier diversity, many companies host supplier diversity programs and training to identify and connect with minority-, women-, Veteran-owned and other disadvantaged businesses.

For more information on the following topics, see the [Community Benefits Plan Frequently Asked Questions \(FAQs\)](#).<sup>2</sup>

- *What are Minority Serving Institutions?*
- *Which Executive Orders describe the Administration's priorities on diversity, equity, inclusion and accessibility?*
- *What types of communities have been denied systematic fair, just, and impartial treatment?*

### *Strategies, Milestones, and Timelines*

This element should describe targeted outcomes and implementation strategies, including milestones, work descriptions, and a timeline for execution. This could be presented in table or graphical form, or as narrative.

The DEIA Plan schedule should define the timeline on the same schedule as the Integrated Project Schedule (IPS) and Workplan. This element is recommended to include anticipated barriers to achieving certain goals, such as lack of organization support, funding, and expertise.

### ***Moving from goals to outcomes to implementation strategies***

A goal is an aspiration, while an outcome is what it looks like when the goal is achieved. The implementation strategy spells out what needs to happen to reach that outcome, when it will happen, and who will do it.



### Example of moving from goal to outcome to implementation

Your company is pursuing a Large-Scale Pilot Project at a facility located in a rural area. You are in the engineering and design stages and have not yet initiated any major procurement, but have a sufficient Bill of Materials to know 80%+ of the parts and services your project will require to build and operate. You and your company are thinking through ways to increase meaningful actions on DEIA in your project—you want your project to be an example for the carbon capture industry on how to do this well.

Perhaps you develop a **goal** (among several) to support underrepresented enterprises and groups in your project's sub-contracts, partnerships, purchases, and other services.

You may set two **outcomes** that:

- 1) a goal of at least 40% of the parts and services required for build, operate, and decommission the pilot come from minority business enterprises, minority-owned businesses, woman-owned businesses, and/or veteran-owned businesses.
- 2) a goal of one MSI sub-contract to support data collection, monitoring, and analysis for 2 years of operation of your carbon capture large-scale pilot project towards publishing a paper in a peer-reviewed journal article.

Your **implementation strategy** may involve things like: identifying potential established minority business enterprises, minority-owned businesses, woman-owned businesses, and/or veteran-owned business vendors and soliciting bids for goods and services that your project requires; reaching out to MSIs with relevant research groups to explore partnerships on data collection, monitoring, and analysis; developing a system to track and report key metrics related to diverse sub-contracting on this project; and hiring an expert to consult on ensuring workforce development and sub-contracting project activities incorporate DEIA throughout.

Below is a list of actions that can serve as examples of ways the project could incorporate diversity, equity, inclusion, and accessibility elements. These examples should not be considered either exhaustive or prescriptive. Applicants may include appropriate actions not covered by these examples and should include a comprehensive set of specific DEIA actions anticipated in connection with the project.

A good DEIA plan will include both **outcomes** and **implementation strategies** in one or all of these three areas. Please note there may be important DEIA activities that do not fit into these three areas. Below are some examples of goals that may be identified through an initial assessment.

- **Organizational and cultural change: Create or contribute to existing diversity, equity, inclusion, and accessibility programs at the applicant's organization**

- Enhance or collaborate with existing DEIA programs at the home organization.
  - Implement evidence-based, diversity-focused education programs (such as implicit bias training for staff) in the organization.
  - Dedicate time and resources for team members to engage in DEIA training, networking, and learning opportunities externally.
  - Institute or improve reporting process for tracking DEIA milestones and metrics in the project.
  - Look for ways to make the worksite more accessible.
- **Including, collaborating with, and contracting with persons from underrepresented groups**
  - Identify minority business enterprises, minority-owned businesses, woman-owned businesses, and veteran-owned businesses to solicit as vendors and sub-contractors for bids on supplies, services, and equipment.
  - Identify workforce training programs hosted by the proposed project and/or nearby organizations to foster improved access to jobs for members of the community, including individuals underrepresented in relevant industries and those facing barriers to employment, such as those with disabilities.
  - Support quality pre-apprenticeship programs in the local community to improve access to career-track training and jobs for underrepresented workers, including returning citizens. Who will be partnered with to ensure successful outcomes?
  - Participate in High Road Workforce Partnerships<sup>6</sup> that include community-based organizations, local government, and union programs that serve populations with barriers to employment such as women, residents of disadvantaged communities, returning citizens.
  - Plans can include information and commitments for hiring, retention, contracting, collaboration, and workforce development.
- **Education and outreach: Consider DEIA when sharing knowledge or results**
  - Disseminate results of research and development in MSIs or other appropriate institutions serving underserved communities.
  - Make data available and accessible to communities that may be interested.
  - Work with community groups to figure out how results or insights from the work could be useful for community priorities.
  - Create educational opportunities for schools or other educational institutions in underserved communities where the project team could share their expertise on topics that the communities are interested in.
- **Sustainability:** Consider DEIA leadership engagement, DEIA organizational structure and resources, and DEIA integration.
  - Integrate DEIA into strategic planning, mission, and communications; advance accountability through DEIA performance goals.

In addition to describing any plans for partnerships with MSIs, Minority Business Enterprises, Minority-Owned Businesses, Woman-Owned Businesses, and Veteran-Owned Businesses, the applicant may also demonstrate how the project will support a diverse and inclusive workforce by advancing high wages and reducing income disparities across race and gender lines. Applicants may describe geographically targeted outreach (e.g., presentations at job fairs) in communities, use of banners and billboards near the proposed project, online advertising, and other plans for making sure people have equitable access to career-path employment. This can reference IAW and Justice40 sections as applicable.

For more information on the following topics, see the [Community Benefits Plan Frequently Asked Questions \(FAQs\)](#).<sup>2</sup>

- *What are quality pre-apprenticeship programs or apprenticeship readiness programs?*
- *What are specific DEIA Actions that I should consider?*
- *What are strategies to expand opportunities on my construction project for women, economically disadvantaged, local workers?*
- *What are quality pre-apprenticeship programs or apprenticeship readiness programs?*
- *What is the U.S. Department of Labor's Mega Construction Project Program?*

### *Resource summary*

This element provides a summary of resources dedicated to implementing the DEIA section. This may include information about staff (number, time on project, educational qualifications, and experience); contracting or partnering organizations with relevant expertise; and facilities, capabilities, and budget (both federal and cost share) that will support implementing engagement activities. It can also include information about how any identified barriers can be overcome and how the required resources will be obtained.

## Justice40 Initiative in Carbon Capture Large-scale Pilot projects

Executive Order 14008 created the Justice40 Initiative – which established a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities. Applicants should submit a Justice40 Initiative section within the CBP that describes plans to address energy and environmental justice (EEJ). Meaningful engagement with impacted communities is a key component of environmental justice and is covered in detail as part of the Engagement section.

### ***What is environmental justice?***

Environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no population bears a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, and local

laws, regulations, and policies. Meaningful involvement requires effective access to decision makers for all, and the ability in all communities to make informed decisions and take positive actions to produce environmental justice for themselves—and as such closely relates to meaningful engagement as described in the engagement section.

In other words, environmental justice addresses both how benefits and harms are distributed among groups (distributive justice) and whether there is meaningful involvement in decision-making (procedural justice).

The Assessment and Implementation components of the Justice40 section tend to focus more on distributive justice (i.e., analyzing the distribution of negative impacts and benefits) than procedural justice (i.e., meaningful involvement in decision-making). It is recommended that applicants develop the Engagement section together with the Justice40 Initiative and other sections of the CBP.

### ***What is energy justice?***

DOE defines energy justice as “the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system.”<sup>25</sup> Equity is distinct from equality because equity recognizes that harms and benefits have not been distributed equally, and that just and fair remediation requires responding to these existing imbalances.

### ***What is Justice40?***

On January 27, 2021, President Biden issued Executive Order 14008, Tackling the Climate Crisis at Home and Abroad.<sup>26</sup> Section 223 of that Executive Order established the Justice40 Initiative<sup>27</sup>, which creates a goal that 40% of the overall benefits of certain federal investments – including investments in clean energy and energy efficiency, clean transit, affordable and sustainable housing, training and workforce development, the remediation and reduction of legacy pollution, and the development of clean water infrastructure – flow to disadvantaged communities (defined below).

### ***How are disadvantaged communities defined?***

Pursuant to E.O. 14008 and the Office of Management and Budget’s Interim Justice40 Implementation Guidance M-21-28, DOE has developed a definition and tools to locate and identify disadvantaged communities.<sup>28</sup> Pursuant to Office of Management and Budget’s Memorandum M-23-09, DOE recognizes disadvantaged communities as defined and identified by the White House

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<sup>25</sup> <https://www.energy.gov/diversity/articles/how-energy-justice-presidential-initiatives-and-executive-orders-shape-equity>

<sup>26</sup> <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

<sup>27</sup> Read more about Justice40, including the interim guidance from the White House: <https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/> and <https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf>

<sup>28</sup> <https://energyjustice.egs.anl.gov/>.

Council of Environmental Quality's Climate and Economic Justice Screening Tool (CEJST) Version 1.0.<sup>29</sup>

DOE would prefer that funding recipients use either DOE or CEJST definitions and tools to identify disadvantaged communities, which would allow for more streamlined reporting and consistent comparative analyses across all regions. However, DOE recognizes some states have dedicated significant time and resources towards identifying communities of concern in their jurisdictions and may desire to use their own tools and definitions. DOE would prefer that state tools and definitions are aligned with the criteria pursuant to the interim implementation guidance; for information on these criteria please see DOE's General Guidance for Justice40 Implementation.<sup>30</sup>

***Does this mean that 40% of the benefits of our project have to go to disadvantaged communities?***

The 40% is not on a per-project basis—individual projects may contribute more or less substantially to this goal (i.e., have a higher or lower percentage) based on factors unique to the project.

However, successful applicants will demonstrate the ability to act in alignment with the intent of the Justice40 Initiative—by working to maximize benefits flowing to disadvantaged communities in ways that are relevant to that project. Recipients of DOE funds should ensure that performance of project tasks within disadvantaged communities meaningfully benefits those communities and does not result in significant or permanent increased negative impacts to the disadvantaged community. Doing a CBP well is one way to guard against increased negative impacts.

***What if my project is not in a disadvantaged community? Or what if no one lives around it?***

The Justice40 Initiative section is required regardless of whether a project or work site is located within a disadvantaged community. Because the Justice40 Initiative includes a wide range of environmental, economic, health, and other social benefits that may accrue across many locations, applicants are encouraged to think broadly about project impacts and creatively about ways to provide benefits to disadvantaged communities even if the main project work site itself is not located in a disadvantaged community. For example, benefits and negative impacts can occur throughout the lifecycle of the project including project inputs, waste-streams, and decommissioning and disposition or continued use. Applicants are encouraged to consider modifications to technical parameters and project cost plans to support the delivery of these benefits.

For example, a project that remediates legacy soil pollution on a site, where the remediation is required prior to construction on that site, could provide benefits to a disadvantaged community downstream that had previously been subject to leaking by reducing or eliminating the leakage of

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<sup>29</sup> <https://screeningtool.geoplatform.gov/>

<sup>30</sup> <https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf>

soil pollution into the river. Applicants could also partner with a nearby worker training program to train workers for the project that serves individuals from disadvantaged communities.

### Process

There is no singular process for generating plans related to EEJ, and successful plans will iterate and evolve throughout project phases and in response to stakeholder input and needs. The Justice40 Initiative section includes assessments of the impacts of your proposed project— which can reference assessments in other parts of the CBP. These project impacts can be experienced by groups as potentially positive (“benefits”), neutral or ambiguous (“neutral/uncertain impacts”), or negative (“negative impacts”). As noted above, the CBP must specifically address localized impacts related to changes in air pollution (including criteria air pollutants and other hazardous pollutants such as NOX, SOX, and PM, as well as potential pollution from solvents, sorbents, or other materials used in the carbon capture technology), water use, water pollution, impacts to consumer energy prices, safety related to CO<sub>2</sub> transport via pipeline, and job retention or creation. Applicants are encouraged to report all anticipated impacts inclusive of benefits, neutral/uncertain impacts, and negative impacts. Energy and environmental justice involve, in part, examining how anticipated potential impacts are distributed among different groups of people. Core elements of the Justice40 Initiative assessments include evaluations of impacted communities/groups and identification of impacts and where they flow.

The Justice40 Initiative section should build on information from assessments to develop an implementation plan, milestones, and timelines that outline concrete steps the project will take to implement energy and environmental justice efforts, advance beneficial outcomes, and minimize negative impacts. Core elements of the implementation plan include milestones to maximize benefits, minimize negative impacts, and measure, track, and report project impacts and benefits; an assessment of the barriers to realizing benefits and minimizing negative impacts; and a resource summary.

### ***How do we know if our Justice40 section is well developed?***

A weak Justice40 section might include vague descriptions of benefits and negative impacts and/or a broad characterization of the region that lacks a detailed characterization with respect to disadvantaged communities. An inadequate plan might include only broad statements of intent to provide benefits, without credible implementation plans to measure, track, report, and adjust the project to ensure the delivery of benefits. An inadequate plan might lack mechanisms for community input to identify benefits and shape project direction.

A strong Justice40 section will include very specific benefits and negative impacts—and display an understanding of how these impacts unfold over time—and propose methods for measurement, tracking, and reporting of those impacts, as well as opportunities for communities to engage in defining and monitoring these impacts. Good plans should speak to how the plan may provide benefits aligned with DOE’s eight Justice40 policy priorities. Good plans will also provide a clear

assessment of where those impacts may flow—and the degree to which they flow to disadvantaged communities. Good plans will define concrete actions to maximize benefits to disadvantaged communities and minimize negative impacts, and milestones, timelines, roles and responsibilities for who is implementing the plan. A good Justice40 plan is also one your organization will take real, meaningful steps to implement. This requires securing buy-in from every individual who has a role or responsibility related to the plan. It may be useful to provide evidence of steps or mechanisms that can be—or have already been—taken to ensure everyone understands the plan and their specific responsibilities, and that they feel committed to the plan’s success. This section should include the elements listed below. Please use headers to delineate elements.

### Elements

#### *Background and Experience*

The Background and Experience element should include a description of any prior or ongoing efforts by the project team relevant to energy and environmental justice and local community impacts of the pilot project. Applicants are recommended to briefly summarize how the project meaningfully supports energy and environmental justice outcomes. Please mention how the Justice40 Initiative Plan incorporates lessons learned and builds on prior/ongoing efforts, as appropriate.

#### *Assessment of pilot project impacts and where they flow*

The impacts of carbon management projects depend on *what* the benefits and harms are, *who* experiences them, and *how* the impacts interact with existing burdens. As with other energy technologies, the way commercial-scale carbon capture is deployed can combat or exacerbate existing inequalities. For example, existing oil, gas, and chemical facilities are disproportionately sited in communities of color and low-income communities.<sup>31 32 33</sup>

An important step in supporting energy and environmental justice is to accurately and precisely identify what communities or groups may be impacted by a particular project—including what existing and cumulative burdens (i.e., multiple burdens that may interact and compound) those communities or groups may already be facing.<sup>34,35</sup>

Applicants are encouraged to consider impacts to groups, communities, and Tribal Entities for all inputs and outputs along the full lifecycle of the project and facility, in addition to impacts at the project site(s) or work location(s).

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<sup>31</sup> <https://medicine.yale.edu/news-article/oil-and-gas-wastewater-wells-disproportionately-located-in-lower-income-communities-in-ohio-yale-school-of-public-health-study-finds/>

<sup>32</sup> <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2019.305558>

<sup>33</sup> <https://www.currentargus.com/story/news/2022/06/23/new-mexico-people-of-color-most-impacted-by-oil-and-gas-study-says/65362321007/>

<sup>34</sup> National Renewable Energy Laboratory. (2021). Energy Justice: Key Concepts and Metrics Relevant to EERE Transportation Projects. Retrieved from <https://www.nrel.gov/docs/fy21osti/80206.pdf>

<sup>35</sup> Pacific Northwest National Laboratory. (2021). Advancing Environmental Justice. Retrieved from [https://www.pnnl.gov/sites/default/files/media/file/PNNL\\_EnvironmentalJustice\\_WhitePaper-Primer\\_2021.pdf](https://www.pnnl.gov/sites/default/files/media/file/PNNL_EnvironmentalJustice_WhitePaper-Primer_2021.pdf)



Applicants should therefore describe all applicable communities or groups which could experience impacts from the construction, operation, and decommissioning and disposition or continued use of the pilot. They should identify which of these are considered disadvantaged communities<sup>36</sup> and characterize the existing burdens they are facing using EJSCREEN,<sup>37</sup> disadvantaged community definition tools, or other analytic tools. Applicants are recommended to include data/descriptors for each impacted community or group at the most granular level possible, and to characterize the existing burdens faced by impacted groups. Narrative descriptions as well as figures, tables, or other formats may be used. Applicants should then describe what benefits and negative impacts each group will experience due to pilot project construction, operation, and decommissioning and disposition or continued use. Impacts should be quantifiable, measurable, and trackable.

Below is a list of steps applicants could take to assess impacted communities and groups, identify disadvantaged communities, characterize existing burdens, identify project impacts, and determine where those impacts flow.

***We have some experience with social impacts assessment / environmental impacts assessment — how is an energy and environmental justice assessment different? And how is this different than Social Characterization Assessment or stakeholder analysis?***

There is going to be considerable overlap between the tools, methods, and indicators used in these types of assessments, and your prior experience will be helpful. What is unique about the Assessment is that it pays particular attention to (a) who, in terms of which specific groups and communities, bears risks and enjoys benefits; and (b) cumulative burdens, i.e., how this project adds to and interacts with the impacts that these groups and communities are already facing from energy and other types of projects, past and present. Other forms of social and environmental impact assessment frameworks may not explicitly examine both of these. Assessment examines how effects are distributed among groups, and whether those are fair and equitable. This means you have to know both about the effects and the demographics of who is affected.

### **IDENTIFYING IMPACTED COMMUNITIES, GROUPS, AND/OR TRIBAL ENTITIES AND CHARACTERIZING EXISTING BURDENS**

When identifying impacted communities, groups, and/or Tribal Entities, consider groups of individuals living in geographic proximity (such as census tract) and geographically dispersed sets of individuals (such as migrant workers or Indigenous Americans), where either type of group experiences common conditions<sup>38</sup>.

Guiding questions could include:

- What communities or groups are within the project's affected area(s), or would otherwise be impacted by the proposed project?

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<sup>36</sup> <https://www.energy.gov/diversity/justice40-initiative>

<sup>37</sup> <https://www.epa.gov/ejscreen>

<sup>38</sup> <https://www.energy.gov/diversity/justice40-initiative>

- Once you have a list of communities or groups broadly defined, consider if there are subsets of the groups or community that might face additional impacts based on other categories that aren't captured at the larger group or community level, including socioeconomic, demographic, or geographic/physical factors that can contribute to inequality, such as gender, citizenship, socioeconomic status, language accessibility, race/ethnicity, age, disability, education, physical or geographic barriers or structures, and access to transit.
- Determine what types of data/descriptors can be used to best describe or specify each community or group at the most granular level possible, including any sub-groups as identified above. Focusing at a granular level may reveal linkages or patterns that are lost at a higher level of analysis, which can be important in understanding—and acting to address—the inequitable distribution of benefits and harms among different groups, especially with an eye towards cumulative burdens. For example, while the construction of a new facility might impact watershed health across an entire city, the impacts of these changes will be experienced differently by communities within a city, e.g., groups who rely on public waterbodies for food, and/or groups who have preexisting health vulnerabilities. Different groups or communities may have different types of data/descriptors that are most accurate or informative, but could include: City, town, or county boundaries; Neighborhood; Private property borders; Tribal lands; Census tract number or census block group number; Geological feature boundary; Map or shapefile; Groups with similar characteristics (e.g., migrant workers or Indigenous Americans); Groups utilizing resources in a particular way; and/or Full address (could include radius of effect).
- Revisit and revisit this list after identifying project impacts: Where and to what communities or groups could these impacts flow? Add any communities or groups to this section.
- This section should also reflect any feedback obtained through engagement from impacted communities/groups.

### ***Identifying Disadvantaged Communities***

Applicants must determine which, if any, of the communities or groups impacted are disadvantaged communities (in whole or in part). See the above section for how to define disadvantaged communities.

- Review the list of impacted communities identified above. Which are disadvantaged communities, or located within disadvantaged communities, either in whole or in part?
- Are there groups or communities for which the designation of disadvantaged communities is not yet clear?
- While doing this, applicants can attempt to identify the factors that contribute to the inequalities faced by disadvantaged communities.
- If none of the impacted communities are disadvantaged communities, applicants should provide a detailed explanation to support this conclusion. For example, even if the project work site is located far from a disadvantaged community, what efforts have been taken to identify the benefits to disadvantaged communities provided by your project to the region or

state? What efforts or analysis have been taken to minimize negative impacts across the project's full lifecycle in disadvantaged communities?

### ***Characterize existing burdens***

For each impacted community and group, applicants are encouraged to characterize the existing burdens faced. For example, applicants could:

- Report and interpret indicator values (scores) for each host community using the EPA's EJSCREEN tool.<sup>39</sup>
- Consult DOE's working definition of Disadvantaged Communities<sup>40</sup> to examine the 36 indicators collected at the census tract level used to construct the working definition.
- Consult the Council on Environmental Quality's Climate and Economic Justice Screening Tool to examine indicators.<sup>41</sup>
- If applicable, use other publicly available tools. Some states have their own EJ screening tools, such as:
  - New York: <https://www.nyserda.ny.gov/ny/disadvantaged-communities>
  - California: <https://www.cpuc.ca.gov/discom/>
- Engage with impacted communities to assess existing burdens experienced by communities.

### **ASSESSING PROJECT BENEFITS AND NEGATIVE IMPACTS AND WHERE THEY FLOW**

Applicants should describe anticipated project benefits and negative impacts. They may include, to the greatest extent possible, metrics and units of measurement that can be used to track these impacts. Applicants are encouraged to describe where/to whom impacts will flow and to what extent they will accrue in disadvantaged communities, as well as the extent to which they align with community priorities and/or existing burdens. Applicants will track benefits throughout the project and report impact data to DOE.

Below is a list of steps applicants could take to assess project impacts and where/to whom those benefits will accrue. This is a good place to reference the IAW section and the Engagement section.

### ***Identifying Project Benefits and Metrics***

Benefits include environmental, economic, health, social, or other benefits, including benefits defined by impacted communities. While tracking benefits may include tracking direct investments, benefits are much broader than direct investments. To guide the implementation of the Justice40 Initiative, DOE identified eight policy priorities that outline some types of Justice40-relevant benefits that applicants are recommended to consider when assessing project benefits in disadvantaged communities<sup>42</sup>:

1. Decreased energy burden.

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<sup>39</sup> <https://www.epa.gov/ejscreen>

<sup>40</sup> <https://www.energy.gov/diversity/justice40-initiative>

<sup>41</sup> <https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>

<sup>42</sup> For more details visit <https://www.energy.gov/diversity/justice40-initiative>

2. Decreased environmental exposure and burdens.
3. Increased parity in clean energy technology access and adoption.
4. Increased access to low-cost capital.
5. Increased clean energy enterprise creation and contracting for Minority Business Enterprises/Disadvantaged Business Enterprises.
6. Increase clean energy jobs, job pipeline, and job training for individuals.
7. Increased energy resiliency.
8. Increased energy democracy.

For examples of metrics that could be used for DOE's 8 policy priorities, see the [Community Benefits Plan Frequently Asked Questions \(FAQs\)](#).<sup>2</sup>

Not all of these benefits will apply to every project and projects may have benefits that are not in this list. Furthermore, some categories of impacts listed above could be benefits for one project but negative impacts for another – for example, some carbon capture projects could result in decreased concentrations of non-CO<sub>2</sub> pollutant emissions while others may result in increased pollution (e.g. from auxiliary energy plants or truck traffic) relative to a pre-project baseline. Applicants should carefully consider and assess the impacts appropriately for their project. Benefits that are relevant for a particular applicant will depend on the project and the location, as well as on the priorities and needs of impacted communities. To the greatest extent possible, applicants should work with impacted communities early and often to define what benefits are most relevant to them.

Benefits should be quantifiable, measurable, and trackable to the greatest extent possible. It is likely that applicants include qualitative alongside quantitative benefits. Benefits will be reported to DOE and tracked throughout the project.

Guiding questions for an initial assessment of project benefits could include:

- Review the eight DOE Justice40 policy priorities (above). Which of these benefits could result from the proposed project?
- To what extent does the proposed project provide ancillary environmental benefits, such as reductions in criteria and hazardous air pollutants such as CO, NO<sub>x</sub>, SO<sub>x</sub>, and particulate matter?
- Does your project involve any clean up or remediation of legacy waste or hazardous pollutants?
- Does the project aim to remedy past harms from the energy system (e.g., remediating and repurposing fossil infrastructure)?
- To what extent does the proposed project provide social benefits (any benefit that affects people)? To what extent are those benefits inherent in the project, or contingent on external policy, social, or economic factors?
- Does your project include community-based organizations as key partners? Does your project feature participation by communities that enables them to influence key decisions?

- Does your project include Workforce and Community Agreements with traditionally excluded groups?
- To what extent will the proposed project spur enterprise creation, for example through contracts with other businesses or organizations?
- To what extent will the proposed project result in quality job creation, workforce development, and other economic benefits? This can reference the IAW section.
- Does the proposed project have engagement or technical assistance activities that can increase capacity in other organizations or groups?
- To what extent will your project provide other benefits relevant to the surrounding community that are not captured in the above?
- For all benefits identified, what metrics or units could be used to measure, track, and report those benefits? Are there metrics or sets of metrics that can be used to account for both baseline values (existing values) and changes in communities or groups?
- How can benefits be measured, estimated, or modeled? How can these values be checked to ensure they reflect experience on the ground? What opportunities are there for community participation in the measurement, estimation, or modelling of benefits?

***What if some of my benefits are hard to quantify or track?***

To support transparency and ensure beneficial project outcomes, benefits should be quantifiable, measurable, and trackable to the greatest extent possible; however, it is expected that applicants include qualitative alongside quantitative benefits. Applicants should strive to list all anticipated benefits, even if they cannot be quantified currently or in the future.

***What if my project has benefits that don't fall under any of the policy priorities outlined above?***

Please include all anticipated project benefits, even if they do not align with the policy priorities or other examples/categories in this document.

***Assessing project negative impacts and metrics***

Potential negative impacts could include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health impacts. Applicants are encouraged to consider direct impacts, indirect impacts, and cumulative impacts. Negative impacts should be quantifiable, measurable, and trackable to the greatest extent possible; it is expected that applicants include quantifiable alongside qualitative metrics. To the greatest extent possible, applicants are recommended to work with impacted communities early and often to define the negative impacts that are most relevant to them.

Guiding questions for an initial assessment of negative impacts could include:

- How does the proposed project rely on limited resources such as, freshwater, land, critical and minerals?

- What environmental pollution or waste streams (including those discharged to air, water, and/or soil) will your project generate, both during the project execution phase and after if equipment remains in operation (if applicable)?
- To what extent will the proposed project increase energy prices and/or energy burdens?
- To what extent will your project impact land-use patterns, including leading to increased reliance on cars or increased need for sprawl housing development?
- To what extent could your project impact home values, gentrification, or other indirect impacts?
- Would the proposed project be located on or adjacent to Tribal lands, lands considered to be sacred, or lands used for traditional purposes? Describe any known Tribal sensitivities for the proposed project area.
- What metrics or units could be used to measure, track, and report impacts? Are there metrics or sets of metrics that can be used to account for both baseline values (existing values) and changes in communities or groups?
- How would negative impacts be measured, estimated, or modeled? How can these values be checked to ensure they reflect experience on the ground? What opportunities are there for community participation in the measurement, estimation, or modelling of impacts?

***Assessing where/to whom benefits and negative impacts will flow***

Once project benefits and negative impacts are identified, applicants should provide an initial assessment of where/to whom they will flow and to what extent benefits and negative impacts will flow to disadvantaged communities. In addition, applicants are encouraged to examine groups beyond disadvantaged communities, and look at what categories of people, based on characteristics including gender, economic sectors, neighborhoods, and social institutions, will most directly benefit and/or experience negative impacts.

Guiding questions for an initial assessment of where and to whom benefits and negative impacts will flow could include:

- Review the list of impacted communities. Which of these communities are most likely to receive which benefits?
- To what extent does each benefit or negative impact flow to disadvantaged communities?
- What are the mechanisms by which the benefits or negative impacts listed will accrue in different communities or groups? How do those mechanisms impact which communities, groups, or sub-groups may have greater access to those benefits or negative impacts?
- Are there social, economic, geographic, or other barriers that would prevent a specific benefit from accruing in a particular community or group? Are there factors that would make it more likely for a negative impact to accrue in a particular community or group?
- What established pathways, structures, relationships, or mechanisms (social, economic, geographic, or other) already exist that would enable certain benefits to easily flow to some

communities or groups but not others? What factors exist that would influence the flow of negative impacts to some communities or groups but not others?

- Does your proposed project team have existing plans or relationships that would affect how benefits or negative impacts are likely to flow?
- For each benefit and negative impact, what is the expected timeframe over which that benefit or negative impact will accrue? Do different groups or communities experience a benefit or negative impact on different time scales?
- For benefits or negative impacts that have a clearly defined geographical area of effect – what is that geographical area? Which communities or groups would receive these benefits or negative impacts? Are the benefits and negative impacts evenly distributed within this geographical area? If not, how can you estimate an apportionment of benefits or negative impacts within this area?
- For benefits or negative impacts without a clearly defined geographical area of effect – what factors might impact which groups are most likely to receive project benefits or negative impacts? Are any of these factors more or less likely to occur for the proposed project due to economic, geographic, or other factors?

### ***Assessing how negative impacts interact with existing cumulative burdens***

A key factor in energy and environmental justice is the concept of cumulative burdens—when certain communities or groups are disproportionately exposed to multiple burdens that can compound or interact in detrimental ways.<sup>43</sup> Whereas a slight increase in a negative impact, for example increased energy burden, might have minimal consequences on one community (e.g., a high-income community) that same quantity of increase may have a huge effect on a different community (e.g., low-income community already facing high energy burden). Assessing how potential negative impacts may compound or add to existing burdens is crucial to energy and environmental justice.

Using the existing burdens characterized in the Assessment of Impacted Communities and Groups, applicants are encouraged to describe how anticipated flows of project negative impacts will interact with each other and with existing cumulative burdens in each impacted community. Applicants may describe the extent to which project negative impacts could exacerbate existing burdens in disadvantaged communities.

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<sup>43</sup> For example, a single community may be located in an urban heat island, be low-income, have poor public transportation, and be located in a food desert. If that community experienced a period of contaminated tap water where residents had to rely on bottled water to drink and cook – these cumulative burdens could interact and compound by making access to bottled water extremely difficult, whereas a wealthy community experiencing an identical contaminated tap water issue may not be impacted as significantly due to easier access to bottled water and/or high-cost filtration systems.

## Illustrative Example of a Carbon Capture Pilot Project Negative Impact

A Large-Scale Pilot Project negative impact assessment could look like the following:

- Your carbon capture unit is located in a highly populated area. While the host community is largely supportive of this project, many have raised concerns about potential negative impacts of this new facility including chemical evaporation and spills.
- The technology is solvent-based and therefore will have impacts related to 1) solvent evaporation to the ambient surroundings (including degradation/decomposition products, e.g. CO, NOx) and 2) disposal of spent solvent. The solvent you use (Methyl diethanolamine) is classified as hazardous per the Safety Data Sheet (SDS) – and therefore can pose risk to the surrounding people and environment during operation and disposal. While the quantity of solvent evaporation and potential resulting degradation products are expected to be well below the regulated limits based on your modelling and experimental results, you recognize the potential for harm from cumulative burdens, and perform the following assessment in order to inform pathways to mitigate this impact. This assessment is also part of your negotiated Community Benefits Agreement, which also specifies mechanisms for community engagement in monitoring and access to the data.
- You define the following set of metrics: (1) rate of solvent evaporation; (2) concentration of solvent in ambient air; (3) community complaints of solvent smell; (4) spent solvent disposed; and (5) incidents of solvent leakage onsite or during transportation.
- The data type(s), units, sources, and methodologies for measuring/estimating the potential negative impacts are, respectively: (1) measured, based on solvent make-up rate (kg/yr); (2) empirical, based on measured solvent make-up rate and volumetric flow rate of air through carbon capture unit (ppm or ppb); (3) measured, based on complaints logged on website and/or via phone-call (#/month); (4) measured, based on quantity disposed each year (kg/year); and (5) measured, requirement for full report to be completed and logged for any cases of leakage (#/yr).
- Temporally, this impact will last for the duration of the pilot project.
- For the initial assessment you analyze the host area surrounding the site (up to a 0.5mi radius due to results from your atmospheric dispersion modeling of anticipated solvent /degradation products) and the road that will be used for hazardous waste (spent solvent) transport. You note that the only residents within 0.5mi of the road are those living near (within 0.5mi) the facility.
- Therefore, the negative impacts will flow to those who live, work, and/or recreate within 0.5 miles of the capture facility. In that area, you determine that 65% is classified as disadvantaged communities per DOE's working definition.
- You use DOE's working definition and EJScreen 2.0 to assess existing burdens within this area, which shows that the disadvantaged communities score in the highest percentile of the EJ indices for PM 2.5 and ozone. The non-disadvantaged communities



also score high but to varying or lesser degrees. You overlay your expected increase in emissions with this map and discuss how your negative impacts add to already high burdens, which motivates additional work to consider ways to mitigate and avoid this impact to the greatest extent possible.

- Based on this analysis, you plan convene a series of community meetings to discuss how to plan for and communicate about waste disposal to minimize any potential negative impacts.

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***Do we need to include negative impacts or other impacts not included in “benefits” that are unlikely or have a low probability of actually occurring? What about impacts where we already have a mitigation strategy in place?***

Yes. All potential negative impacts should be reported, even those that are low probability and those for which the applicant has already planned or implemented strong mitigation strategies. There is a forecasting element to this work, and it is not expected that applicants have exact predictions about every indirect impact. Generally, it is better to evaluate all potential impacts, direct, indirect, and cumulative, and characterize the knowledge base and uncertainty whenever possible.

***Plan to maximize benefits and minimize negative impacts***

Applicants must provide a plan to minimize any negative impacts and ensure the delivery of benefits of the project to host communities, workers, tribes, and other impacted groups. This plan should include strategies, methods, and milestones to maximize benefits, minimize negative impacts and measure, track, and report impacts. Applicants should clearly describe how the plan includes accountability, feedback, and transparency mechanisms with impacted groups, such as community agreements and access to project data.

***Milestones and Timelines***

Applicants should describe milestones for maximizing benefits and minimizing negative impacts in disadvantaged communities, measuring and reporting project impacts, and plans for future work. Applicants are encouraged to define this timeline on the same schedule as the IPS and Workplan.

The Assessment step should generate a list of potential benefits and a list of negative impacts to mitigate. The core of this plan is to move from these goals (delivering the benefits and minimizing the negative impacts) to outcomes (specific, measurable outcomes that will indicate when those goals have been achieved) to implementation strategies (actions to reach the outcomes). Applicants may want to create a table or diagram that specifies goals, outcomes, and implementation strategies, mapping these to your timeline.

Information to include on the schedule:

- **Project Milestones for maximizing benefits and minimizing negative impacts:** A description of the technical, analytical, and engagement work of the project which could lead

to increasing project benefits and decreasing project negative impacts for communities, and especially disadvantaged communities.

- **Project Milestones to measure, track, and report project impacts:** A description of the technical and communications work of the project to track, monitor, and report project impacts, including specifying how the surrounding communities will be able to access monitoring data. Applicants are highly encouraged to describe how community feedback will be used to align Justice40 activities to be responsive to community needs.
- **Project Milestones to elucidate information gaps:** An effective schedule may include a brief list of tasks that will be carried out to clarify unknowns, including prioritization and who will be responsible for these research and analytical activities.
- **Updates to Assessments:** A description for how, when, and how frequently the project expects to update its Justice40 Initiative assessments of pilot project impacts and where they flow, including a clear indication of when any portions of these assessments that are unknown at the time of application will be completed. This may also include some mechanism for evaluating progress. Effective assessments will also be updated based on what is learned from community and stakeholder engagement, i.e., there may be additional impacts that stakeholders would like to see addressed.
- **Future work:** A description of potential EEJ and Justice40 activities for future work either under DOE awards or the lifecycle of the project.

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### Example of moving from goal to outcome to implementation

You may have identified increased truck traffic and corresponding air pollution from diesel fuel as a disbenefit/harm.

Your **goal** may be to minimize air pollution from truck traffic.

Your measurable **outcome** may be that PM2.5 does not increase in your defined project area.

Your **implementation strategy** may involve several coordinated steps:

- Purchasing and providing air monitoring equipment that can also be used by a community-based organization to jointly monitor PM2.5 and provide baseline data.
- Setting up a platform for data sharing on air monitoring or granting money to a community-based organization to do this.
- Working with the local highway department to develop a truck rerouting plan and ensure that the rerouting plan does not exacerbate pollution for other frontline communities or burden key infrastructure while not causing a significant increase in overall pollution including CO<sub>2</sub> pollution.
- Exploring alternative shipping methods to determine options for lower impact.

These are steps that need to be mapped along a timeline corresponding to the Integrated Project Schedule (IPS) along with specifying roles and responsibilities within your team.

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### *Resource Summary*

The Resource Summary element should describe project resources dedicated to implementation; tables, lists, or other figures may be used. Include information about staff (number, time on project, and experience), facilities, capabilities (including energy and environmental justice expertise), and budget (both federal and cost share) that will support implementing the plan. This can include contracting or partnering with organizations with relevant expertise.

## **COMMUNITY BENEFITS PLAN PART B: PLANS FOR INSTRUMENTATION, DATA COLLECTION, AND ANALYSIS TO ASSESS POTENTIAL COMMUNITY AND WORKFORCE IMPACTS OF COMMERCIAL-SCALE CARBON CAPTURE DEMONSTRATION AND DEPLOYMENT**

Part B of the Community Benefits Plan should address plans for instrumentation, data collection, and analysis that will be done during pilot testing to elucidate how future demonstrations and deployments of carbon capture will impact communities and workforces. Understanding these impacts is critical for future carbon capture projects to have a sufficient and skilled workforce, deliver benefits to the surrounding communities, and create and maintain quality jobs.

For example, while capturing carbon dioxide from an exhaust stream could potentially have the co-benefit of removing criteria air pollutants, more study is needed to understand the extent of this effect and the conditions under which these benefits could occur. However, point-source carbon capture technologies may also increase the overall net emission profile due to design and operational changes at the facility and supply chain impacts including, but not limited to, increased use of energy for capture operations. Moreover, the capture itself may emit new compounds (e.g., by introducing the potential for emissions of aerosols such as nitrosamines used in solvent-based capture systems) if not properly controlled. The extent of potential net emission reductions or increases that may result from carbon capture technology deployment at the unit, facility, and system level is highly specific to each facility and technology. The extent of co-benefits—in terms of the range of pollutants captured and degree of reduction, as well as potential disbenefits attributable

to the application of carbon capture technologies—is not well understood. DOE is continuing to assess these impacts for different operating conditions and technologies.<sup>44</sup>

### Process

While there is no singular method or process to create Part B of the CBP, it should be developed in close coordination with other technical and analytical project planning activities.

Some questions this process could answer include:

- Review the benefits and negative impacts identified in prior sections of the CBP and outlined below and add any relevant to your project that might be missing. What metrics could be used to assess these impacts in a way that could be extrapolated to commercial-scale projects?
- What community and labor groups will be included throughout this process to ensure the accurate identification of potential impacts and resulting data and analysis?
- What methodology would be needed to convert data generated at a pilot-scale to a commercial scale operation?
- What baseline data exists, and what additional baseline data is needed to ensure accurate assessment of potential changes?
- How will measurements be collected to represent the full range of operational states – not just the ideal or steady state condition?
- Does the location, configuration, or operation of your facility impact how generalizable your results could be? Are there any ways to maximize this generalizability?

### Elements

#### *Instrumentation, data collection, and analysis to determine potential local impacts of commercial-scale carbon capture*

Applicants should provide comprehensive and detailed descriptions of their plans to collect and analyze data to assess how carbon capture impacts host communities. Applicants are encouraged to include detailed information not only on the types of tests or assessments they will conduct, but also on the frequency at which they will be conducted. The assessments, including those enumerated below, should be done at the parametric and steady-state conditions reflected in other technical sections of the Carbon Capture Large-Scale Pilot Projects FOA. This section of Part B of the CBP can reference, and should be consistent with, information contained in other sections of the FOA application, including the Host Site Description and Carbon Capture Process Integration.

This element of the Community Benefits Plan should include, at a minimum, plans to assess:

- Non-CO<sub>2</sub> air pollution, emissions, or discharges, including criteria air pollutants *and* materials used in the capture unit such as solvents;

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<https://www.whitehouse.gov/wp-content/uploads/2021/06/CEQ-CCUS-Permitting-Report.pdf>

- Water use;
- Waste streams, including wastewater, spent solvent, and solvent degradation products;
- Any other process or construction inputs or outputs that could cause positive or negative environmental, health, economic, or other impacts; and
- Changes to consumer energy prices.

#### *Workforce data tracking and assessment*

Commercial-scale carbon capture deployment will create jobs in construction, maintenance, materials transport, and operations. As the energy industry evolves, skills will not map one-to-one from incumbent energy industries to new carbon management roles. Targeted workforce development, training, and outreach can reduce the risk that existing energy workers will be displaced, in addition to reducing operational and safety risks associated with having a workforce that is too small or has mismatched skills and experience.

Applicants should provide plans to assess long-term workforce impacts and opportunities of commercial-scale carbon capture and identify how the project is designed to include an understanding of the future workforce needs, should the resulting innovation be successful. Specifically, applicants should discuss their plans to track, assess, and report knowledge, skills, and abilities required to successfully implement carbon capture projects. This section of Part B of the CBP may reference the Investing in the American Workforce section in Part A.

#### *Engagement plan for data collection and analysis to inform future carbon capture deployment*

Applicants should clearly describe how they will engage communities and labor to provide input to the plans for instrumentation, data collection, and analysis described in this part of the CBP. This section should also describe when and how data on workforce and community impacts collected by the project team will be made publicly available. This section should include clear objectives, milestones, and timelines for such engagement. This section can reference the Community and Labor Engagement section of Part A of the CBP as appropriate.

## **HAVE MORE QUESTIONS?**

If you have further questions, please email them to [CCpilotsprogram@hq.doe.gov](mailto:CCpilotsprogram@hq.doe.gov).

If you have problems with OCED Exchange, email [OCED-ExchangeSupport@hq.doe.gov](mailto:OCED-ExchangeSupport@hq.doe.gov).

Include the FOA name and number in the subject line.



