

Some Questions for Communities and Developers Interested in Hosting Carbon Capture and Utilization Projects

This document was created to support communities and developers in their efforts to create clear expectations for carbon capture and utilization (CCU) projects. In support of a sustainable environment and economy, it is essential that carbon capture and utilization projects scale successfully and bring benefits to everyone, including the communities in which they are sited.

Communication and trust between developers and communities is essential on a wide range of topics so that stakeholders can support a project and ensure its quick progress. This document is not comprehensive, but does identify some areas that both sides may want to agree on in order for the project to be timely and successful.

For communities, this document introduces questions to consider asking of project developers looking to site a CCU project in your region. The purpose is to get important questions on the table, so that communities and developers can work together to agree on these areas.

For developers looking to site a carbon capture and/or utilization plant in a community, this document gives some background on items that communities may care about as they contemplate hosting a CCU project. What information do they need, and where can it come from? How do community questions get addressed?

1. How does the proposed technology or approach work today?

- a. Describe the technology, preferably with diagrams of how and where it will be installed in the community.
 - i. At what scale is it operating today, and where?
 - ii. How many tons of CO₂ removal per year are being removed today
 - iii. How many tons of CO₂ will the proposed facility remove annually?
- b. What type of setting does the proposed technology or approach need ?
 - i. Geography - does it need open spaces or forest or beach, what kind of terrain?
 - ii. Climatologically - temperature and humidity conditions, other factors?
 - iii. Socially - is it acceptable to have a large facility or noise in the proposed location, traffic for future employees
- c. Is there a report available that can inform community members about the details of the proposed technology?

2. Is there room for future efficiency improvements to the proposed technology and/or supporting systems?

- a. What is the current level of systems operating efficiency?
- b. Are there any projections for improvements over the next 5 years? 10? 20? If so, the question is how these would impact the value of the proposed installation and possibly require updates, more electricity, or resources from the community after the initial installation.

3. How much new grid electricity does the proposed technology require, and where will it come from?

In some circumstances, a CCU facility will require additional, new electricity sources in quantities larger than the existing grid in a community could supply. Usually the type of power needed is “clean” power such as wind or solar. Storing some of that energy for off-peak production times may also be needed.

- a. What are the power projections for the next 5 years? 10 years? 20?
- b. Where will the power come from? If new power, how much land does it require and are the siting and necessary agreements to install it underway yet?
- c. Are there vendors and a supply chain available in the necessary timeframe to install the power?
- d. What are estimates for power equivalencies (i.e., this project will need X Megawatts of power and compare that to local, regional, or state power production)
- e. How will electricity be stored so as to minimize the installation of new power and not overtax the grid during peak load times? Are there projections for the next 5 years? 10 years? 20?
- f. What is the proposed form of electricity storage? If new storage, how much land does it require and are the siting and necessary agreements to install it planned?
- g. If new electricity infrastructure will be needed, who will pay for that, and what additional benefits can be brought to the community with the new electricity infrastructure?
- h. Is there a report that can be shared on electricity and energy storage needs with supporting detail - framed in ways that the average community member can comprehend such as “enough power for county X or Y thousand homes”?

4. What are the impacts of the proposed technology on water?

How much water will the proposed process use or produce, and of what quality? If this can be framed in terms of an average home water consumption or other relatable metric as well as in liters or gallons that would be helpful.

- a. What are anticipated groundwater impacts?
- b. What are anticipated drinking water impacts?
- c. What are anticipated wastewater impacts?
- d. If new water infrastructure will be needed, who will pay for that, and what additional benefits can be brought to the community with the new water infrastructure?

5. CO₂ storage and/or transport infrastructure

- a. What will be done with the CO₂? Is all of it going to one purpose, multiple purposes? Are there possibilities for this CO₂ to contribute to a more circular economy – use in products like concrete or plastics?
- b. How will the CO₂ be transported, if required? What is the status of plans and any needed approval permits to get this done? What is the status of engagement with the community through which the CO₂ might be transported – pipelines and land ownership/rights of way?
- c. How will it be stored, if required? What is the status of plans and any needed approval permits to get this done?

6. Formal risk assessments

- a. Has a lifecycle assessment been completed? If so, can this be shared with the community? If not, when will this be completed?
- b. What are the most likely adverse consequences?
- c. What are other possible adverse consequences that are less likely?
- d. How likely are they?
- e. What plans do you have to address them?
- f. Will the LCAs be independently reviewed?
- g. Will LCA's be updated on an annual basis and shared open source with the community?
- h. Have any other risk assessments been completed?
- i. What might waste streams from the facility look like and are their plans to mitigate them – e.g. wastewater, chemicals, etc.
- j. What impacts might this have on localized air pollution, whether a predicted increase/decrease in criteria pollutants in particular?



- k. Will there be more traffic as a result of the new facility? If so, will you be altering the road(s) to accommodate additional traffic? Which roads, specifically? Who is expected to pay for the new road capacity?
- l. How will the physical appearance of the CCU plant and the related electricity, water and/or roads infrastructure impact the landscape? Do you have renderings available for the community to look at?
- m. What might be the potential environmental impacts of the facility and/or its supporting infrastructure? Will these be long-term or temporary?
- n. How much noise will the CCU plant and related infrastructure bring to the community?

7. Funding

- a. Will the developer expect any contributions from the community to help build the plant - indirectly? Infrastructure support such as electricity or water as described above, roads or utilities, training centers, or other support?
- b. Are there potentially opportunities for different models of ownership, such as a community owned model or share?

8. What are the new jobs that will be available for the carbon capture plant?

- a. What are the types of jobs?
- b. Pay ranges?
- c. Benefits?
- d. Union?
- e. How many jobs of each type, approximately?
- f. What is the timeline for these jobs—how many are temporary (e.g. construction) versus long-lasting (e.g. plant operations/management)?
- g. What is the developer's expectation for where the labor for these jobs will come from? Will people be hired locally and trained locally as needed (how many), or will candidates be sought nationally and relocated (how many)? Is there a commitment for certain percentages to meet certain quotas (e.g. local/from certain zipcodes, veteran, racial minority, women, re-entering citizens etc.)?
- h. If training will be provided locally, how will that be accomplished? How will it be paid for? If by the developer, are those funds on hand and protected?

9. Plant construction

- a. What are the planned dates for plant construction and any related infrastructure?
- b. How many workers will be needed and where will they come from?
- c. Where will they be housed?

10. Are there other social benefits for the community?

- a. Other than creating jobs, can you do anything else for the community, e.g. create a community center, or playground, makerspace, help create a health care center, public infrastructure (roads, levies) etc?
- b. Are profit sharing or other innovative financial models under consideration for the community?

11. Is there a draft available of a Community Benefits Plan for this project?

- a. If not, when might it be available?

12. How will Developers and Communities communicate and build a relationship?

- a. Will Developers include Community representatives from the beginning? If so, how, what process do you envision?
- b. How frequently will Developers and Communities need to be in conversation?
- c. Will community participants be compensated for participating in these processes? If yes, how so?
- d. Will other resources like wraparound services be provided so community members can participate in relationship building (e.g. providing transportation, food (vouchers), childcare, etc.)?
- e. Are developers planning to communicate using multiple tactics to access community members? What tactics will be used (e.g. letters/mail, online surveys, in-person meetings, virtual meetings)?
- f. Will developers provide resources for community members to better understand materials (e.g. translation services, aides or interpreters for hard of hearing/deaf people, etc.)?
- g. Which representatives do Communities want to see in meetings with Developer organizations? Who does the Developer want to be talking to from the Community? How will developers decide which community members participate in what processes? How are representatives for the community determined?



- h. How will Developers let the Community know if anything is going wrong or not as planned? What are Developer guidelines regarding transparency?
- i. What steps are Developers taking to establish credibility/trust with the Community before starting making changes to their area?
- j. Can the community have the authority to say "go or no go" at any point in the process? What are the steps for communicating this to the developer?
- k. How will Community input be valued, and opinions respected?

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