



# Summary of Direct Air Capture RD&D Provisions in American Energy Innovation Act

*Resources for the Future, Fall 2020*

## Important Notes:

- This is a summary of a portion of the American Energy Innovation Act (AEIA). We will call that portion “the Legislation.”
- While the Legislation’s allocations are mostly specific to FY2021-FY2025, this summary makes a few additional assumptions and we ask you to make them too:
  - We assume that funding authorizations will translate into actual funding.
  - Because FY2021 is well underway, it is unlikely that the Legislation would still provide substantial FY2021 funding. Consequently, this summary shifts all funding to one year later than what is stated in the Legislation.
  - It is quite common and expected for funding to continue beyond the initially authorized period. We assume that enacting the Legislation would result in higher funding for ten years (FY2022-FY2031), as specified below.
- In answering our questionnaire, please use the assumptions in this summary so that the assumptions you use are known by the readers of our report/paper and are consistent with the assumptions made by the other experts who are answering the same questions you are answering.
- The Legislation described below is a portion of a larger bill. However, this elicitation is just about this portion, not about the larger bill. In answering, please answer about the effects of this portion only.
- The Legislation specifies that all activities prescribed in it are to be the responsibility of the Department of Energy, unless otherwise mentioned.
- All dollar values below are in nominal dollars.

## Summary of the Legislation

The carbon removal section of the AEIA (sec. 1405) would result in a projected total of \$727 million dedicated to direct air capture research, development, and demonstration activities for FY2022 – FY 2031. This ten-year total of \$727 million represents an increase of \$563 million over the \$164 million of corresponding projected funding without the AEIA (if FY20 funding continued and were scaled up at a projected inflation rate). The carbon removal section of the AEIA would establish the following:

- Research, Development & Demonstration Program
  - This RD&D program shall test, validate, or improve technologies and strategies to remove carbon dioxide from the atmosphere on a large scale
  - “May include research, development, and demonstration activities relating to--
    - direct air capture and storage technologies;
    - bioenergy with carbon capture and sequestration;
    - enhanced geological weathering;
    - agricultural and grazing practices;
    - forest management and afforestation; and
    - planned or managed carbon sinks”
  - The program is to be led by the US Department of Energy, in coordination with other federal agencies including the US Department of Agriculture.
  
- Air Capture Technology Prize Competition,
  - This program is to be designed and led by the Department of Energy in conjunction with the US Environmental Protection Agency, for technologies that capture CO<sub>2</sub> from “dilute media” including the atmosphere.
  - Eligible projects will demonstrate carbon capture technology at least on a bench scale, in order to show potential for commercial-scale application and significant reductions of atmospheric carbon dioxide in the future.
  - \$15 million is authorized for this competition, which needs to be established no more than two years after the bill section is enacted.
  
- Direct Air Capture Test Center Grants
  - This section also directs DOE to award grants on a competitive basis to at least one entity for the operation of at least one test center that shall “provide unique testing capabilities for innovative direct air capture and storage technologies.”
  - Each awarded center shall
    - “advance research, development, demonstration, and commercial application of direct air capture and storage technologies;
    - support large-scale pilot and demonstration projects and test direct air capture and storage technologies;
    - develop front-end engineering design and economic analysis; and
    - maintain a public record of pilot and full-scale plant performance.”
  - Funding amounts for these grants are not explicitly specified, but instead shall be determined by the DOE.