# Article information:

Addressing critical challenges in carbon dioxide removal - ClimateWorks Foundation  
<https://www.climateworks.org/blog/addressing-critical-challenges-in-carbon-dioxide-removal/>

# Article summary:

1. Variation in the permanence of carbon storage is a critical issue when evaluating the cost of competing CDR strategies.

2. Accurately measuring CO2 removal is challenging, but technology is progressing and investments in public data collection can help.

3. Carbon removal needs to be differentiated from traditional carbon offsets to avoid guilt by association and ensure that high-cost, high-quality carbon removal options can compete in the same market.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides an overview of three key issues related to carbon dioxide removal (CDR): variation in the permanence of carbon storage, accuracy in measuring real climate benefits, and concerns around the conflation of CDR with traditional carbon offsets. The article does a good job of providing an overview of these topics, but there are some areas where it could be improved.

First, while the article does provide some information on potential risks associated with CDR projects, such as wildfires burning away forests that are part of California’s forest carbon offset program or seepage where CO2 escapes back into the air from geologic formations, it does not provide enough detail on how these risks can be mitigated or managed. Additionally, while the article mentions environmental justice implications associated with shifting where emissions are reduced and community resistance to carbon offsetting policies, it does not explore these issues in depth or provide any solutions for addressing them.

Second, while the article does mention new technologies that have been developed to measure volumetric CO2 flow more accurately (such as remote sensing from satellites and Lidar), it does not discuss any potential limitations or drawbacks associated with these technologies. Additionally, while it mentions calcium isotopes being used to quantify the amount of CO2 stored underground after injecting it via direct air capture machines, it does not explain how this process works or what other methods might be used for quantifying CO2 storage underground.

Finally, while the article discusses how traditional offsets credit activities avoid or reduce CO2 emissions which competes with climate mitigation whereas carbon removal addresses a different problem - cleaning up pollution from sources that remain or can’t be reduced after serious mitigation occurs - it fails to explore any potential conflicts between these two approaches and how they might interact with each other if both were implemented at scale simultaneously.

In conclusion, this article provides an informative overview of three key issues related to CDR but could benefit from further exploration into potential risks associated with CDR projects as well as

# Topics for further research:

* Carbon dioxide removal mitigation strategies
* Environmental justice implications of carbon offsetting
* Limitations of remote sensing and Lidar for measuring CO2 flow
* Quantifying CO2 storage underground
* Conflicts between traditional offsets and carbon removal
* Implications of implementing both traditional offsets and carbon removal at scale

# Report location:

<https://www.fullpicture.app/item/bfcf39ebe16960e576d8cbd7ed4b0c0b>