

Aligning Value with Communities: Conceptualizing a ‘Carbon Steward’ Federal Tax Credit

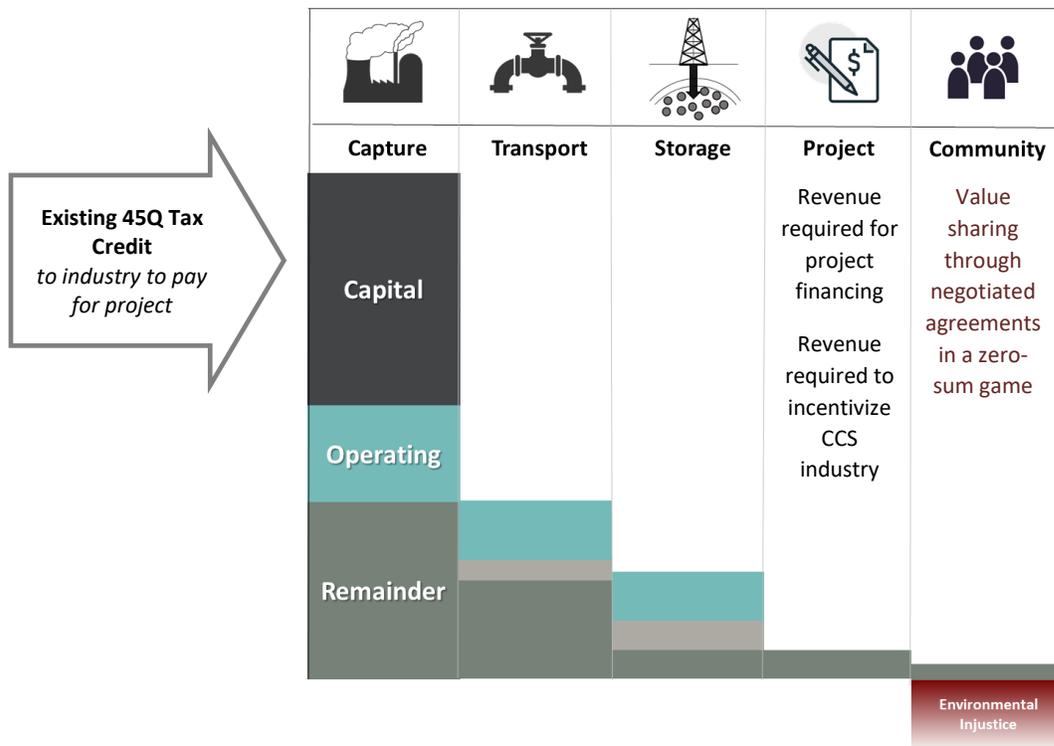
By Ashleigh Ross and Anna Littlefield



A significant and growing risk to wide-spread deployment of carbon capture and storage (CCS) projects in the US exists not in the technical space, but rather with social license to operate. The central challenge is how to achieve the principles of environmental justice for communities when the only incentives go directly to industry, and stakeholders must negotiate for fair compensation. Here we propose that a **direct to community and landowner tax credit**, the ‘Carbon Steward Tax Credit,’ may be the solution that enables true alignment between projects and communities. Providing communities value *independent of* but *aligned with* the project or developer can promote much stronger relationships for near- and long-term deployment of CCS.

Federal tax credits have been integral in kick-starting the CCS industry within the United States, but these credits are targeted at the physical project infrastructure to activate private industry. Both the Infrastructure Law which provides \$12.1B in CCS funding and the Inflation Reduction Act that increased the available Section 45Q tax credit for CCS from \$50/ton to \$85/ton of CO₂ stored have accelerated private investment and catalyzed deployments.

In the diagram below, we see how the 45Q tax credit applies to a CCS project. The tax credit is granted to the owner of the capture equipment (at the source of the emissions) and is anticipated to be sufficient to flow downstream (left to right in the diagram) to cover transportation and injection costs, which may be done by separate companies. Some projects, generally involving liquid transportation fuels, may have additional revenue. The degree to which there is margin to share depends on specific project costs over this value chain. The CCS operator then determines how much can be allocated to communities and individual stakeholders based on project economics.

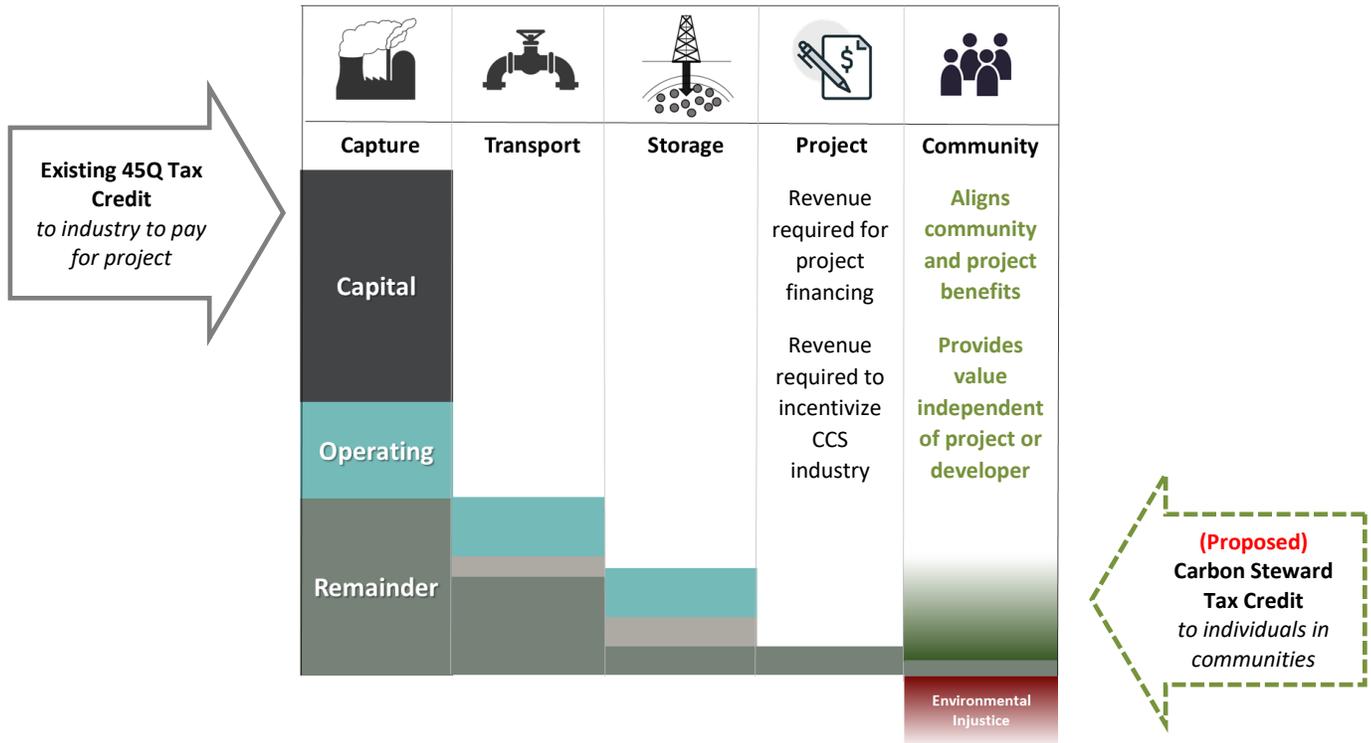


In this system, the project and community are by design at odds in a zero-sum game, with only so much 45Q tax credit value available. The tax credit was intended to sufficiently cover costs to catalyze the industry, not to generate high margins. However, traditional stakeholder approaches often rely on value sharing, and communities are expecting and demanding more. When value sharing is insufficient but there is public good in a project, eminent domain can play a role. This is playing a role in CCS as well, but with the negative entrenchment of positions that often accompanies it.

The system is structurally set up for a “you vs me” negotiation, without a market-based value driver that can absorb increasing stakeholder costs. The net result may be an intractable situation, where communities keep expecting higher levels of value sharing, but operators are structurally hamstrung in their ability to respond. The outcome is greater contention between operators and their communities and the necessity of eminent domain which only perpetuates the challenges. The current trajectory of stakeholder battles may lead to lower rates of CCS acceptance and deployment, and greater costs to achieve climate change goals.

We posit that we must find means of alignment with our communities, as we cannot afford the long-term implications of “you vs me” when deploying CCS projects with taxpayer dollars for the purpose of climate change. What if individuals and communities are directly incentivized to participate in CCS? What if CCS developers *enable* a value stream, instead of negotiating over already minimal margins?

A tax credit as depicted below could be a simple solution to this complex problem. 45Q goes to industry to pay for the project. Value assurance could similarly go directly to the stakeholders in the project. By providing them an independent value stream, set at a federal level tied to the social cost of carbon, it automatically generates value alignment and a sense of partnership to achieve a mutual goal. It further empowers communities by giving them a direct negotiating power with their tax credits, rather than deriving value exclusively from a developer.



We anticipate that enabling an independent value stream for our communities may be far more effective at generating public acceptance than the actions of individual operators. While operators will continue to use best practices in stakeholder engagement, even for those going above and beyond, the positive impact will be limited to that project. The federal government emphasizing the value of these projects and thanking our communities on the front line will likely be more effective at driving the kind of broad-based acceptance and support needed for CCS to take its place.

With the basis tied to the social cost of carbon, these “carbon stewards” could receive a portion of credit depending on their role (owner of pore space, landowner with pipeline right-of-way, members of the surrounding community). Measures could be included to allow for greater allocations in, for example, low-income areas, disadvantaged communities or in regions with historical environmental justice concerns, or “energy communities” as recently defined within the Inflation Reduction Act. The benefit can be greater during active operations, and appropriately tapered down when a project concludes.

Operators in the CCS industry will continue to advocate for higher values for 45Q credits to allow for more rapid and widespread decarbonization. However, we must urgently address the

growing stakeholder challenges. The ‘Carbon Steward’ tax credit may prove beneficial not only in improving public perception of the industry, but in driving the kind of alignment necessary for a successful energy transition in the United States. We must consider frameworks such as this that allow industry to operate in a true partnership with communities and give credit where credit is due.

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Ashleigh Ross has 20 years of dedication to CCS (Carbon Capture and Sequestration) across a broad range including strategy, technology, policy, economics, commercial and project development, and deep subsurface expertise. In a previous role, she was responsible for the development of BP's CCUS (Carbon Capture Utilization and Storage) strategy and portfolio, particularly in the Western Hemisphere. She also served as the CCS expert and reservoir engineer at ConocoPhillips. Ashleigh has a B.S. in Chemical Engineering from Oklahoma State University. She also has a M.S. in Chemical Engineering and a M.S. in Technology and Policy from M.I.T. where her work was on techno-economic-based deployment strategies for CCS. Additionally, Ashleigh holds a M.Phil. in Environmental Policy from the University of Cambridge where she was a Gates scholar.

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