

07/03/2019

Re: Notice 2019-32: Credit for Carbon Oxide Sequestration--IRS Request for Information on the Amended 45Q Tax Credit

CC:PA:LPD:PR (Notice 2019-32), Room 5203  
Internal Revenue Service  
P.O. Box 7604  
Ben Franklin Station  
Washington, D.C., 20044

To Whom It May Concern:

This comment is on behalf of Closed Loop Systems LLC, a waste-management company, based out of Geneva, NY. We design-build-operate-maintain customized vermicomposting systems for municipal, agricultural, institutional, and industrial clients. All of our clients either divert organic waste from landfills, incinerators, or land-spreading; therefore there is significant greenhouse gas avoidance. The byproduct (soil) from our vermicomposting process is 35% soil organic carbon content and has a tremendous ability to retain water and create healthy soil.

Communities across the country have started diverting organic waste from landfills due to problems associated with methane release. It is also becoming widely recognized that there is an immense opportunity to capture organic “waste” and convert and store it as stable soil carbon.

However, we believe that there needs to be an incentive to validate the importance of turning organic waste into healthy soil, and validate the role that this conversation process contributes to carbon sequestration. We appreciated the opportunity to offer comment on this tax credit 45Q because we know what a huge effect it could have on the emerging industry of composting.

We ask that the carbon sequestration obtained through composting be clearly included under Title 26 Section 45Q, either under the geological storage category or under the utilization category. Clear inclusion of composting will ensure business growth in the composting industry while fulfilling the legislative intent of carbon sequestration and of displacing greenhouse gas emissions. We support composting, vermicomposting and all composting processes that pertain to the conversion of organic materials into stable soil carbon for use in landscaping, agriculture and beyond, to be included in this definition.

There is a well-documented history of composting processes being verified for GHG reduction and carbon sequestration. Most compost products are between 15%-35% organic matter content. Compost producers are also already regulated in most states to report amount of material that comes in as biological carbon and leaves as soil carbon. There is well documented benefits of adding compost products to land and the important role it can play to retain water, cycle atmospheric carbon, and benefit soil microorganisms. [*Carbon Footprint of a University Compost Fa-*

*cility: Case Study of Cornell Farm Services*, M. Schwarz and J. Bonhotal, <https://ecommons.cornell.edu/handle/1813/66468>]

Compost producers are currently not being compensated for these ecosystem services attributed to diverting organic waste from landfills and incinerators. It is well understood the drawbacks of organic waste in landfills and there is already a strong business case for the economic benefits of compost facilities in local municipalities. [*America's Food Waste Problem*, <https://www.epa.gov/sciencematters/americas-food-waste-problem>]

IRS Notice 2019-32 specifically requests comments on the following:

.01 What rules should apply to demonstrate secure geological storage and measurement of qualified carbon oxide? What reporting requirements should be put into place?

An adequate EPA MRV (monitoring, reporting and verification) plan should be filed annually to verify the carbon sequestration. A good operations plan of a compost facility will be able to determine the amount of carbon sequestered on site. All lands in which the compost is applied will be monitored to prove the permanence of the soil carbon storage. Yearly reporting should be required to verify the lifecycle analysis for geological storage. For carbon utilization products there should be a supply chain protocol, e.g. billing information to determine or provide conservatively estimate the permanence of the carbon sequestered. [*Soil as Carbon Storehouse: New Weapon in Climate Fight?*, J. Schwartz, [https://e360.yale.edu/features/soil\\_as\\_carbon\\_storehouse\\_new\\_weapon\\_in\\_climate\\_fight](https://e360.yale.edu/features/soil_as_carbon_storehouse_new_weapon_in_climate_fight)]

.02 What standard should trigger recapture and how should any recapture be measured?

Recapture of eroded soil carbon or lost emissions during the composting process will be determined by the MRV plan. Eroded soil carbon can be measured by catch basins at the site of soil carbon storage. Fugitive emissions from composting process will not be recaptured unless there is a biogas collection system. Fugitive emissions will be calculated during the lifecycle analysis.

.03 Is guidance needed to further clarify terms including carbon capture equipment, qualified carbon oxide, direct air capture facility, qualified facility, tertiary injectant, utilization, and life-cycles greenhouse gas emissions?

Yes, we are looking for these definitions to be clarified and to include soil carbon storage through composting within these definitions and frameworks. Any particular, in-vessel composting, trench vermicomposting, or other in-situ composting systems will be evaluated during their lifecycle analysis and yearly MRV requirements.

We ask that distributed units may be aggregated as qualified facilities so that the benefits of the compost can be available for local communities that produce the waste. Because organic waste has high water concentration, the transportation of organic waste is costly, would result in greenhouse gas emissions, and would reduce business opportunities.

.04 Is guidance necessary on what types of utilization qualifies as fixation of qualified carbon oxide through photosynthesis or chemosynthesis, such as through the growing of algae or bacteria?

We ask for clarification that composting processes are included. There are established markets for the utilization of soil carbon in landscaping, infrastructure projects and agriculture, but the supply is too low for the demand. Incentivizing facility constructions will help relieve this market shortage.

[soil carbon shortage: *Only 60 Years of Farming Left If Soil Degradation Continues*, C. Arsenault, <https://www.scientificamerican.com/article/only-60-years-of-farming-left-if-soil-degradation-continues/>]

.05 Is guidance necessary to establish boundaries for lifecycle emissions for carbon oxide utilization to determine how much qualified carbon oxide is displaced from being emitted to the atmosphere?

We believe the EPA MRV plan could be suitable or any accredited lifecycle analysis done by a qualified firm as determined by IRS.

.06 What type of contractual arrangements do investors anticipate with parties that capture or dispose of qualified carbon oxide and what would be common terms of ensuring disposal, utilization, or use?

There should be contractual proof to track the supply chain and ensure that the MRV plan is followed according to the annual lifecycle analysis. We ask to allow for a business-friendly environment that would incentive investments in composting infrastructure.

.07 What factors should be considered in determining the time and manner of the election to transfer the section 45Q credit and what other issues should be considered?

Tax credit transference should be outlined so that there is not any significant loss of carbon during the storage.

.08 What constitutes the beginning of construction for a qualified facility?

We ask for the IRS to consider some of the methods discussed in IRS Notice 2018-59 regarding solar installations. As it relates too composting, the equipment will vary depending on method of composting. We would support several different designations as mentioned in Notice 2018-59 to be applied to the facilities such as the "physical work test" or the "five-percent safe harbor". Both of these options discussed would be appropriate.

.09 Is guidance needed around respecting project developers and investors as partners in a partnership and the allocation of the section 45Q credit and recapture among partners in a partnership?

We are looking for clarifications to provide a business-friendly environment that would benefit those that are currently providing the ecosystem service of composting, as well as incentivize the development of new facilities that fit waste-diversion and soil-carbon supply needs.

The tax credit should allow for distributed facilities because of the benefits and ease of implementing regional composting systems that can be managed under a cooperative or company network. Additionally, the GHG reduction is much greater if facilities are distributed. Allocation of tax credit based upon carbon sequestered by units owned by partners, rather than amount invested by partners, should be allowed.

.10 What issues may arise in the measurement of qualified carbon oxide utilization?

The chain of distribution, sale and use will affect whether and how much of the carbon oxide in the utilized product is released after it is sold or transferred away. As it is diffi-

cult or impossible to verify the amount released from a product once sold, utilization was not included under 45Q(f)(4) Recapture. It will help if the EPA provides guidance as to when analysis is sufficient, and under what conditions additional supporting testing is required.

We applaud the updates to Title 26 Section 45Q due to the Bipartisan Budget Act of 2018 and urge the IRS to clarify that compost production is eligible for these tax credits. Clarification by the IRS will encourage organic waste diversion from landfills and to encourage the ecosystem benefits of increased soil carbon (stormwater management through improved water infiltration, drought resilience through increased water retention, water quality through improved filtration, etc.).

We conclude by noting that both the [National Academy of Sciences](#) and the [Intergovernmental Panel on Climate Change](#) have identified composting as an important pathway to carbon removal. Soil carbon is beneficial for water retention and building healthy soils. Our soils are one of the best opportunities for large-scale carbon sequestration.

If there are any questions concerning the above, please contact Jacob Fox at 210-833-8666 or by email at [foxjacob@me.com](mailto:foxjacob@me.com)

Sincerely,

Jacob Fox