

OCC AGM

POLICY RESOLUTION TEMPLATE

RESOLUTION TITLE: Supporting Industry Use of Biochar as a Tool for Climate Change Mitigation and Soil Management

SUBMITTED BY: Timmins Chamber of Commerce

ISSUE

Biochar is the solid remains of any organic material that has been heated to at least 350 degrees Celcius in a zero-oxygen or oxygen-limited environment, which is intended to be mixed with soils. If the solid remains are not suitable for addition to soils or will be burned as a fuel or used as an aggregate in construction, it is defined as char, not biochar. There is a very wide range of potential biochar feedstocks, e.g., wood waste, timber, agricultural residues and wastes (straws, bagasse, manure, husks, shells, fibres, etc.), leaves, food wastes, paper and sew-age sludge, green waste, distiller's grain, and many others.

BACKGROUND

Biochar is created using a process called pyrolysis. Organic waste such as wood chips, agricultural byproducts or switchgrass is burned in the presence of little or no oxygen, yielding oil, synthetic gas (known as syngas), and a solid residue resembling charcoal. It is charcoal, except that the point is not to burn it but to bury it. The pyrolysis process can be tweaked, with "slow pyrolysis" yielding more biochar and less oil and gas, and a faster version — seconds rather than hours or days — lowering the biochar product and upping the bio-energy side of the equation. In some systems, the syngas and oil can be used as a fuel to run the pyrolysis reaction, meaning it requires no external energy source beyond the organic waste itself. Proponents point to two completely distinct benefits to burying biochar.

The first is biochar's ability to store carbon in a stable form, preventing the CO₂ from organic matter from leaking into the atmosphere, where it contributes to climate change. Biochar also enriches the soil, which improves food security in developing countries and crop production almost anywhere. The details on the benefit to soil are still being researched, but in certain soil types, burying biochar can improve crop yields by improving water retention and moderating the soil's pH, or acidity.

Creating biochar reduces CO₂ in the atmosphere because the process takes a theoretically carbon-neutral process of naturally decaying organic matter and turns it carbon-negative: When plants decay, they emit CO₂, which other plants eventually absorb, and the cycle continues. Biochar stabilizes that decaying matter and accompanying CO₂ and puts it in the ground to stay for — potentially — hundreds or even thousands of years. With supposedly enormous potential to help slow global warming, this idea has drawn an impressive array of supporters toward biochar. Among its most vocal proponents is James Lovelock, founder of Gaia theory, who has touted biochar as the way to save the planet.

As the commercial biochar field begins to take off, the idea is also getting attention from policymakers.

RECOMMENDATIONS

The Ontario Chamber of Commerce urges the Government of Ontario to:

1. Fully-fund research-based projects that seek to understand how biochar offers high potential as a climate change mitigation technology.
2. Carefully design projects, policy frameworks, and agricultural extension advice to optimize results and avoid adverse outcomes from poor implementation practices.
3. Encourage well-designed biochar projects ready to be deployed.