Guiding Principles for a Sustainable Biochar Industry

The International Biochar Initiative and its global network of members and stakeholders endorse the following principles for an economically viable, socially responsible, and environmentally sound biochar industry:

Environmental Outcomes

1. Soil Health - biochar should be used to maintain and enhance soil fertility, particularly in marginal or degraded agricultural soils; and should not lead to soil degradation by nutrient export via feedstock removals or other management practices.
2. Climate stability - biochar systems should be at least greenhouse gas (GHG) neutral and preferably GHG negative; and should be used to draw down atmospheric carbon by creating and enhancing stable soil carbon sinks, to alleviate GHG emissions associated with decomposition and combustion of biomass residuals, and to offset fossil fuel use through bioenergy production.
3. Energy efficiency & conservation - biochar production systems should result in neutral or preferably net energy export; and, when appropriate, should recover and use process heat and syngas and/or bio-oil byproducts for energy production.
4. Feedstocks - biochar systems should prioritize the use of biomass residuals for biochar production.
5. Biochar production - biochar production systems should be safe, clean, economical, and efficient; and should meet or exceed the environmental standards and regulatory requirements of the regions where they are deployed.
6. Biochar quality - biochar should be characterized to demonstrate carbon stability, and to identify properties for matching biochars to complementary cropping systems.
7. Biological diversity - biochar should promote above- and belowground biodiversity by enhancing the ecological conditions for biodiversity at the local and landscape level; and biochar systems should avoid the conversion of native ecosystems and high conservation-value habitats.
8. Water - biochar systems should not pollute nor degrade water resources; and should promote the efficient utilization of water resources in agricultural production, and respect customary water resource rights, where applicable.

Social Outcomes

9. Food security - biochar systems should not jeopardize food security by displacing or degrading land grown for food; and should seek to complement existing local agro-ecological practices.
10. Local communities - biochar systems should involve stakeholders fully and transparently in planning and implementation; respect local land use rights; and should not result in displacement of peoples from their ancestral lands.
11. Biochar knowledge societies - biochar operations and the biochar industry should be continuously improved through research, education and the open sharing of scientific and traditional knowledge.

Economic Outcomes

12. Labor rights - biochar systems should not violate labor rights; and should commit to safe and fair labor practices including equitable compensation, benefit-sharing, and training and development opportunities for workers.
13. Economic development - biochar systems should contribute to the economic development of local communities, especially in regions of poverty.