Climate Action Reserve Biochar Protocol v1.0 DRAFT

Eligible Biochar Feedstocks List [DRAFT]

All feedstock sourcing operations must comply with relevant environmental laws and regulations, and end uses further restricted for some feedstocks to prevent, for example, application of toxic/hazardous substances to soils. Assumed business as usual fate for each feedstock source is identified, as are any additional environmental safeguards. Note that additional environmental safeguards are specified for biochar application in the Eligible Biochar End Uses List.

Feedstock categories	Eligible sources	Assumed business as usual fate(s)	Environmental safeguards
Agricultural waste	Harvest residues (straw, stalks, etc.)	Combustion; decomposition	Documentation that sufficient residues have been retained to maintain soil organic carbon and productivity of the site
	Orchard, vineyard, woody biomass prunings	Combustion (pile burning); decomposition	Demonstrate activity is part of normal management cycle/operations
	Orchard/vineyard renewal clearings	Combustion (pile burning); decomposition	
	Fruit and vegetable residues, including nut shells	Decomposition	None
Animal husbandry waste	Animal manure	Decomposition; combustion	None
Aquaculture by- products	Plants/organisms growing as a by-product to aquaculture operations, such as seaweed, waste algae, invasive plant species	Decomposition	If invasive species are harvested, species must not have been intentionally introduced to provide biochar feedstock.
Biodigester waste	Fermentation residues	Decomposition	None
Food processing residues	By-products, residues and waste biomass from food processing operations, including washing, cleaning, peeling, centrifugation, and separation	Decomposition	Rate of residue per unit of food processed must not increase to provide biochar feedstock.
	Expired food	Decomposition	None
	Food service (e.g., restaurants/kitchens) organic waste/residues	Decomposition	

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Forestry	By-products and residues from harvesting or forest management activities (e.g., slash), including biomass treated and/or removed during fuel reduction or pest management activities	Combustion (pile burning); decomposition	Demonstrate that feedstock is waste or by- product of operations. Material from in-forest biomass must be less than 10" diameter, excepting cases where the Project Developer can demonstrate heightened risks of fire, insect infestations, or human safety.
	Non-merchantable post-disturbance (pest infestation, wildfire, windthrow) woody biomass	Decomposition	
	Waste and residues from management of woody vegetation associated with agroforestry and rangelands	Decomposition; combustion	Demonstrate activity is part of normal management cycle/operations
Purpose-grown biomass	Perennial, non-woody species	Combustion; no business as usual fate, i.e., not previously grown	Grown on marginally productive lands, based on identification of land by USDA NRCS or Agriculture and Agri-Food Canada as non-prime farmland or by Must be a native species or sterile hybrid if a non-native species.
			Must not replace existing commodity crops. Harvesting activities must involve minimal soil disturbance.
Sewage sludge	Biosolids	Decomposition	None
Urban waste	Urban/rural green waste (e.g., prunings/cuttings, landscaping residues)	Decomposition	None
	Construction/lumber waste	Decomposition	
	Wastepaper and cardboard	Decomposition	
	Biomass component of municipal solid waste	Decomposition	
Wood processing	By-products and residues from wood processing facilities (e.g., sawmill sawdust)	Combustion; decomposition	None