Positive list of permissible biomasses for the production of biochar

European Biochar Certificate

Feedstock

Origin	Feedstock	ID	EBC-Feed	EBC-AgroOrganic	EBC-Agro	EBC-Urban	EBC-ConsumerMaterials	EBC-BasicMaterials	Special requirements and notes
Agriculture: biomass from agricultural farms, including both residues and biomass deliberatly cultivated for biochar production.	Annual energy crops (e.g. corn, rape, sugar beets, sunflowers) grown specifically for energy or material biomass use.	Ag-01	✓	✓	✓	✓	✓	✓	For EBC-AgroOrganic only from organic cultivation. For C-sink certification, the amount of fertilizer used must be declared.
	Perennial energy crops (e.g. miscanthus, marbled silphyia, meadow cuttings) grown specifically for energetic or material biomass use	Ag-02	✓	✓	✓	✓	✓	✓	For EBC-AgroOrganic only from organic cultivation. For C-sink certification, the amount of fertilizer used must be declared.
	Woody biomass from short rotation plantations (SRC)	Ag-03	✓	✓	✓	✓	✓	✓	For EBC-AgroOrganic only from organic cultivation. For C-sink certification, the amount of fertilizer used must be declared.
	Tree, vine and shrub pruning	Ag-04	✓	✓	✓	✓	✓	✓	Particular attention to be paid to heavy metals from crop protection spraying. For EBC-Feed: only from defined and documented sources, biomass from municipal collection not allowed.
	Harvest residues such as straw, cabbage, leaves, stalks, husks	Ag-05	✓	✓	✓	✓	✓	✓	Particular attention to be paid to heavy metals from crop protection spraying.
	Old straw and grain dust	Ag-06		✓	✓	✓	✓	✓	Observe worker's protection in case of heavily dusty biomasses.
	Vegetables	Ag-07		✓	✓	✓	✓	✓	Only residual and waste materials that cannot or can no longer be used as animal feed. For EBC-AgroOrganic only from organic farming
	Seeds	Ag-08		✓	✓	✓	✓	✓	This only concerns expired seeds. For EBC-AgroBio only seeds from organic farming. Mineral
Forestry and wood processing: Natural bark and wood, untreated or mechanically treated, from forestry operations, sawmills or similar operations	Bark	F-01	✓	✓	✓	✓	✓	✓	
	Wood chips only from mechanically treated wood (pure firewood)	F-02	✓	✓	✓	✓	✓	✓	Only from certified, sustainable forestry. Approved are the FSC and the PEFC labels, others on request.
	Wood, wood residues from mechanical processing (waste wood A1)	F-03	✓	✓	✓	✓	✓	✓	Only from certified, sustainable forestry. Approved are the FSC and the PEFC labels, others on request. For EBC-Feed: only from defined, well documented sources, biomass from municipal collection not allowed.
	Sawdust, sawdust shavings	F-04	✓	✓	✓	✓	✓	✓	Only from certified, sustainable forestry. Approved are the FSC and the PEFC labels, others on request.
Landscape management: Residues generated by municipalities, landowners, landscaping contractors, NGOs active in nature conservation	Foliage	S-01		✓	✓	✓	✓	✓	No road wiping material. Special measures for checking leaves for contamination can be determined in the instruction manual.
	Root stocks	S-03		✓	✓	✓	✓	✓	The soil content is considered an additive and must not exceed 10% of the DM.
	Biomass from nature conservation	S-04	(✓)	✓	✓	✓	✓	✓	For EBC-Feed: only from defined, well documented sources, biomass from municipal collection not allowed.
	General landscaping residues	S-05	(✓)	✓	✓	✓	✓	✓	For EBC-Feed: only from defined, well documented sources, road-side biomass and biomass from municipal collection not allowed.
Recycling economy: Residual biomass, organic residues and wastes from industrial processes ("defined source") or from collection/separation by specific recycling companies	Urban green cuttings	R-01		✓	✓	✓	✓	✓	Without food- and other biomass processing wastes
	Waste paper	R-02			(✓)	(✓)	✓	✓	For EBC-Agro only defined sub-assortments from defined sources (paper with low mineral filler content and without varnishes) and with small amounts of foreign matter: total content of synthetic coating, varnishes and plastic contamination max not exceed 1% (10% for EBC-ConsumerMaterials and EBC-BasicMaterials, individual approval needed when 1% limit is exceeded). To be regulated in the operating manual if required.
	Untreated waste wood (A1), wood shavings, bark, wood wool	R-03		✓	✓	✓	✓	✓	
	Treated waste wood (glued, painted, coated) without PVC or heavy metal enrichment or wood preservatives (waste wood A2)	R-04			(✓)	(✓)	✓	✓	For EBC-Agro and EBC-Urban only sub-assortments from defined sources (e.g. pure plywood waste) without coating and max. 1% synthetic binder (glue). Synthetic binder and coating must in total not exceed 10% for EBC-ConsumerMaterials and EBC-BasicMaterials, individual approval needed when 1% limit is exceeded. To be regulated in the operating manual if necessary.
	Treated waste wood (glued, painted, coated) with PVC content and/or heavy metal enrichment, without wood preservative (waste wood A3)	R-05				(✓)	(✓)	✓	Individual approval is needed for EBC-Urban and EBC-ConsumerMaterials. Synthetic binder, coatings and/or plastic contamination must in total not exceed 1% and 10% for EBC Urban and EBC-ConsumerMaterials/EBC-BasicMaterials, respectivly.More frequent analysis on PCDD/F and heavy metals may be specified int perating manual if necessary.
	Waste wood with wood preservatives (waste wood A4)	R-06				(✓)	(✓)	✓	Individual approval is needed for EBC-Urban and EBC-ConsumerMaterials: Producer must demonstrate complete thermal elimination of wood preservatives by the pyrolysis conditions applied. Synthetic binder, coatings and/or plastic contamination must in total not exceed 1% and 10% for EBC Urban and EBC-ConsumerMaterials/EBC-BasicMaterials, respectivly. More frequent analysis on PCDD/F and heavy metals may be specified int perating manual if necessary.
	Residues from industrial biomass processing	R-07		(✓)	(✓)	(✓)	(✓)	(✓)	Each individual feedstock needs to be evaluated by the EBC, and a special permit issued regulating additives, processing, controlling. R-07 feedstock are only permitted with the signed EBC process assessment.
	Paper fibre sludge	I-01		✓	✓	✓	✓	✓	Only from chemically untreated wood fibers, a pollutant analysis of the paper fiber sludge must be available.
Kitchen and canteen waste	Kitchen, canteen and restaurant residues	K-01			✓	✓	✓	✓	Contamination by plastic must not exceed 1% (10% for EBC-ConsumerMaterials and EBC-BasicMaterials, individual approval needed).
Food processing residues on vegetable basis, from food industry and manufactures, food wholesale, supermarkets, convience stores etc.	Material from washing, cleaning, peeling, centrifuging and separation processes	N-01		✓	✓	✓	✓	✓	The soil or sand content is considered an additive and must not exceed 10% of the DM.
	Pomace, kernels, husks, grist or press residues (e.g. from oil mills, spent grains)	N-02	✓	✓	✓	✓	✓	✓	
	Expiered food residues	N-03		✓	✓	✓	✓	✓	Only vegetable food. Contamination by plastic must not exceed 1% (10% for EBC-ConsumerMaterials and EBC-BasicMaterials, individual approval needed).
	Manufacturing residues from the production of canned food	N-04		✓	✓	✓	✓	✓	only pure vegetable residues
	Residues from spices and seasoning	N-05	✓	✓	✓	✓	✓	✓	
	Residues from potato, corn or rice starch production	N-06	✓	✓	✓	✓	✓	✓	
	Fruit, grain and potato mashes, alcohol distillery residues	N-07	✓	✓	✓	✓	✓	✓	
	Malt spent grains, -germ, and dust from beer production, hop spent grains, lees and sludge from breweries	N-08	✓	✓	✓	✓	✓	✓	
	Pomace, wine lees, sludge from vinification	N-09	✓	✓	✓	✓	✓	✓	
	Tobacco, tobacco dust, -grit, -ribs, -sludge	N-10		✓	✓	✓	✓	✓	
	Tea and coffee grounds	N-11		✓	✓	✓	✓	✓	
	Fruits	N-12	✓	✓	✓	✓	✓	✓	
	Molasses residues	N-13	✓	✓	✓	✓	✓	✓	
	Mushroom substrates	N-15		✓	✓	✓	✓	✓	Eligibility for EBC-C-sink must be reviewed separately, carbon from peat must not be credited.

	Residues from the processing of coffee (silver skin), cocoa (press residues) or tea.	N-16	✓	✓	✓	✓	✓	✓	
Water maintenance & vegetal marine biomass	Screenings, floating debris, mowed material	W-01		✓	✓	✓	✓	✓	Contamination by plastic must not exceed 1% (10% for EBC-ConsumerMaterials and EBC-BasicMaterials, individual approval needed).
	Aquatic plants and algae	W-02	✓	✓	✓	✓	✓	✓	For EBC-Feed: only from aquaculture or dedicated collection of aquatic plants to strictly avoid impurities. Special attention must be taken in regard to contaminated water. Systems with no direct control of water quality need a special permit from CSI and proof of origin.
Textiles	Cellulose, cotton and plant fibers	T-01		✓	✓	✓	✓	✓	The content of synthetic fibers must not exceed 1% (10% for EBC-ConsumerMaterial and EBC-BasicMaterials, individual approval needed). For AgroOrganic, the fibers must not be dyed or otherwise chemically treated.
	Fibers of hemp, sisal, etc.	T-02		✓	✓	✓	✓	✓	
Anaerobic digestion	Non-animal digestate	G-01		(✓)	✓	✓	✓	✓	The proportion of animal source materials for the biogas plant must be less than 40%. Contamination of the digestate by plastic must not exceed 1% (10% for EBC-ConsumerMaterials and EBC-BasicMaterials, individual approval needed). For EBC-AgroOrganic, only digestate from agricultural biomasses or biomasses approved for EBC-AgroOrganic production.

Additives

Additives serve to improve pyrolysis conditions and biochar quality. Their share in the pyrolysed biomass must not exceed 10% DM in total. Higher dosages require individual approval.

Group	Feedstock								Special requirements
mineral and organic additives	Lime	Z-01		✓	✓	✓	✓	✓	
	Bentonite	Z-02		✓	✓	✓	✓	✓	
	Rock powder	Z-03		✓	✓	✓	✓	✓	
	Argile	Z-04		✓	✓	✓	✓	✓	
	Clay	Z-05		✓	✓	✓	✓	✓	
	Soil	Z-06		✓	✓	✓	✓	✓	
	Wood- und plant ashes	Z-07		✓	✓	✓	✓	✓	Only certified ashes. Approved are RAL-quality (Bundesgütegemeinschaft Holzasche, Germany) ash. Further ashes on request. The instruction manual may include additional analyses and limit values for ash (for Switzerland).

The inclusion of other biomasses and additives not included in the positive list can be applied for at CSI.

The decision about the inclusion in the positive list as well as possible additional requirements will be made by the scientific advisory board of the EBC.

For difficult decisions such as sewage sludge or livestock manure, a scientific report is prepared.

All decisions are justified and published on the EBC website.