

Environmental Choice^M Program

CERTIFICATION CRITERIA

DOCUMENT

CCD-074



Product: **Solid Biofuels**

Environment Canada's Environmental Choice^M Program is pleased to publish the following certification criteria document on ***Solid Biofuels***.

The Environmental Choice Program is designed to support a continuing effort to improve and/or maintain environmental quality by reducing energy and materials consumption and by minimizing the impacts of pollution generated by the production, use and disposal of goods and services available to Canadians.

Forestry, agricultural and construction residues can be efficiently processed into solid fuel products that are higher in heating value than conventional wood logs and with enough heat energy to meet user requirements. These fuels are renewable, and displace limited non-renewable fuel stocks such as coal and all carbon dioxide emissions are considered to have a neutral impact on global greenhouse gas emissions and climate change. Other emissions produced during combustion are comparable or better than coal.

Coal makes up the large majority of solid fuel combusted for process and heating in industrial applications such as limekilns, blast furnaces, or electricity power plants. Solid fuels used by households are typically wood logs.

Based on a review of currently available life cycle information, the product category requirements will produce an environmental benefit through **conservation of non-renewable and renewable resources** and reduced **greenhouse gas emissions**.

Life cycle review is an ongoing process. As information and technology change, product category requirements will be reviewed and possibly amended.

It is anticipated that ***Solid Biofuels*** that meet these criteria will apply to the Environmental Choice Program for verification and subsequent authorization to use the Environmental Choice EcoLogo^M in product marketing and promotion.

Notice

Throughout this document, any reference to a standard or guideline means to its latest edition.

The Environmental Choice^M Program (ECP) reserves the right to accept equivalent test data for the test methods specified in this document.

Notice of Intent

Future revisions of this Certification Criteria Document may require **pressed firewood logs** to comply with the requirements of Underwriters Laboratories of Canada's standard ULC-C127, *Composite Firelogs*.

Interpretation

1. In this set of requirements, please note the following definitions:

"char" means one of the products produced from the pyrolysis (heating without oxygen) of biomass used as a solid fuel coal replacement in industrial heating applications (e.g., kilns, furnaces, boilers or co-fired with coal in steam electricity generation), it does not include charcoal for use in cooking;

"clean construction and demolition wastes" for the purposes of this certification criteria document, means wastes from the construction, renovation, or repair of buildings and building products that are not treated with organic and/or inorganic substances to change, protect or supplement the physical properties of the materials (including *inter alia* wood preservatives, paints, varnishes or other surfaces coatings, halogenated compounds and/or compounds containing heavy metals).

"fines" means sawdust resulting from fuel pellet disintegration during manufacture, transportation or handling of the pellets;

"pressed firewood logs" means firewood logs manufactured by the compression of sawdust, shavings and fines left over from the processing of trees into lumber and other wood products;

"solid biofuel" means, for the purposes of this document, char, wood pellets and pressed firewood logs;

"wood-wastes and agricultural wastes" means any of the following (a) mill residues (e.g. waste by-products associated with the processing of forest materials such as bark, sawdust, solid trim, shavings, veneer clippings, clarifier sludge, pulping liquors), (b) logging residues (e.g. residual materials left in the forest following harvesting such as slash, sortyard debris, thinning, stumps, roots), and (c) crop residues (e.g. materials not needed for soil re-incorporation such as straw, chaff, corn cobs, bean residues, and dried stalks of harvested grain).

"wood pellet fuel" means 100% wood-based fuel pellets manufactured by the compression of sawdust, shavings and fines left over from the processing of trees into lumber and other wood products;

Category Definition

2. This category includes all **solid biofuel** products, as further defined in the subcategories in this section. The subcategories are:
 - (a) pressed firewood logs;
 - (b) wood pellet fuel; and
 - (c) char.

General Requirements

2. To be authorized to carry the Ecologo^M, the solid biofuel must:
 - (a) meet or exceed all applicable governmental and industrial safety and performance standards; and
 - (b) be manufactured and transported in such a manner that all steps of the process, including the disposal of waste products arising therefrom, will meet the requirements of all applicable governmental acts, by laws and regulations including, for facilities located in Canada, the *Fisheries Act* and the *Canadian Environmental Protection Act* (CEPA).

Product Specific Requirements

3. To be authorized to carry the Ecologo^M, the **solid biofuel**:
 - (a) must be manufactured from wood-wastes and agricultural wastes and / or clean construction and demolition wastes;
- 3.1 To be authorised to carry the EcoLogo^M, the **wood pellet fuel** must meet the following standards established by the Pellet Fuels Institute;
 - (a) to ensure a consistent hardness and energy content, bulk density must exceed 40 lbs/ft³ (0.62 g/cm³) when tested using a method consistent with ASTM E-873-82 *Standard Test Method for Bulk Density of Densified Particulate Biomass Fuels*;
 - (b) to avoid dust, total fines content must not exceed 0.5% by weight, as determined by amount passing through a 1/8 screen;
 - (c) to be able to be burned easily in most stoves, inorganic ash content must not exceed 1.0%, when tested using a method consistent with ASTM D-1102 *Standard Test Method for Ash in Wood*; and

- (d) to avoid stove and vent rusting, sodium content must not exceed 300 ppm of water-soluble sodium, when tested using a method consistent with ASTM E-776 *Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel*.

3.2 To be authorised to carry the EcoLogo^M, the **char** must meet the following:

- (a) to ensure a consistent hardness and energy content, bulk density must exceed 250 kg/m³ when tested using a method consistent with ASTM E-873-82 *Standard Test Method for Bulk Density of Densified Particulate Biomass Fuels*;
- (b) to be burned easily and minimize particulate emissions, inorganic ash content must not exceed 10%, when tested using a method consistent with ASTM D-1102 *Standard Test Method for Ash in Wood*;
- (c) to avoid equipment rusting, sodium content must not exceed 300 ppm of water-soluble sodium, when tested using a method consistent with ASTM E-776 *Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel*; and
- (d) proof of compliance with 3.2 a. 3.2b and 3.2c must be updated annually.

Verification

- 4. To verify a claim that a product meets the criteria listed in this document, the ECP will require access, as is its normal practice, to relevant quality control and production records and the right of access to production facilities on an announced basis.
- 5. Compliance with requirement 3(b) shall be attested to by a signed statement of the Chief Executive Officer or the equivalent officer of the licensee. The ECP shall be advised in writing immediately by the licensee of any noncompliance which may occur during the term of the license. On the occurrence of any noncompliance, the license may be suspended or terminated as stipulated in the license agreement.

Conditions for EcoLogo Use

- 6. The EcoLogo may appear on wholesale or retail packaging, or on the product itself, provided that the product meets the requirements in this document.
- 7. All licensees and authorized users must comply with the ECP's *Guide to Proper Use of the EcoLogo^M* regarding the format and usage of the EcoLogo.
- 8. Any accompanying advertising must conform with the relevant requirements stipulated in this guideline, the license agreement and the ECP's *Guide to Proper Use of the EcoLogo^M*.
- 9. A criteria statement appears with the EcoLogo whenever the EcoLogo is used in association with the **Solid Biofuel**. The intent of this statement is to provide clarification as to why the product was certified and to indicate constraints to which the certification is limited. This is to ensure no ambiguity over, or misrepresentation of, the reason(s) for certification.

*For additional copies of this guideline or for more information about the Environmental Choice Program, please contact: TerraChoice Environmental Marketing Inc.,
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