Background

The Directive 2008/98/EC of 19 November 2008 “on waste and repealing certain Directives” (EC Directive, 2008), transposed into Italian law by Legislative Decree no. 152/2006, has intervened to substantially change the legal framework on waste, introducing measures to enhance the principles of precaution and prevention in the management of waste and to maximize recycling/recovery.

The most important provisions regard the identification of criteria to clarify when a waste ceases to be such, which has a significant impact on the internal market and for the promotion and realization of the "recycling society". These end-of-waste criteria should be laid down at European level, if they are not, the Member States may decide case by case whether certain waste has ceased to be such, taking into account the applicable case law (COM, 2011; Rottgen, 2013).

With the decree of the Ministry for the Environment 14 February 2013, n. 22, in accordance with the Directive, Italy has laid down the rules for the termination of waste status of certain types of Solid Fuels Secondary (CSS). As indicated in Article 184-ter of Legislative Decree 3 April 2006, n. 152 the material that ceases to be waste is defined as "CSS-Fuel".

End of waste criteria

The classification of the Solid Fuel Secondary (CSS), is based on the requirements of the harmonized technical standard UNI EN 15359 “Solid recovered fuels” (SRF), which takes into account three parameters (and related classes) of strategic importance for environmental technology and performance/economy, such as LCV (commercial parameter), Cl (process parameter) and Hg (environmental parameter). According to the Regulation are to be classified CSS-secondary solid fuel only the fuel (CSS) with LCV and Cl as defined by the classes 1, 2, 3, and their combinations and - with regard to the Hg - as defined by the classes 1 and 2, reported in Table 1 of Annex 1 to the Regulation.

Table 1. Classification of secondary solid fuels (from EN 15359)

<table>
<thead>
<tr>
<th>Characteristics of classification</th>
<th>Unit of measurement</th>
<th>Limit value for each class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>LCV</td>
<td>mean</td>
<td>MJ/kg as fed</td>
</tr>
<tr>
<td>Cl</td>
<td>mean</td>
<td>% s.s.</td>
</tr>
<tr>
<td>Hg</td>
<td>median</td>
<td>mg/MJ as fed</td>
</tr>
<tr>
<td></td>
<td>80th percentile</td>
<td>mg/MJ as fed</td>
</tr>
</tbody>
</table>

In Table 2, Appendix 1, there are identified the limit values for a number of physical and chemical parameters, which if exceeded will not affect the end-of-waste classification. For the production of CSS-Fuel are
allowed municipal waste, special non-hazardous waste and also materials not classified as waste, as long as non-
hazardous under the CLP Regulation. In Annex 2 of the Decree is given a negative catalog, which lists the waste
(European List by code) that is not allowed for the production of CSS-Fuel.

Annex 3 of the decree indicates the techniques and treatment processes for the production of CSS, which,
however, are only illustrative not prescriptive. The manufacturer, in fact, has full power to the choice of techniques
to be used for the production of CSS-Fuel.

The CSS-Fuel may only be used in cement kilns with a production capacity exceeding 500 t/d clinker (subject
to IPPC Directive) for the production of heat, or in power plants with a rated thermal input exceeding 50 MW
combustion (subject to IPPC Directive) for the production of electricity. The plants must be in possession of
integrated environmental authorization (AIA) and equipped with quality certification ISO 14001 or EMAS
registration.

In order to ensure a high level of environmental protection and human health defense, the systems which use
CSS - Fuel should apply, where pertinent, the provisions of Legislative Decree 133/2005 on co-incineration, as well
as the values emission limit set out in Annex 2 of the decree, unless AIA provides more stringent requirements.

Additional requirements for the production and use of CSS

In accordance with the European regulations on the end of waste, the standard specifies that the manufacturer
of CSS-Fuel should adopt a system of quality management in compliance with UNI EN 15358 (quality management
systems - Particular requirements for their application to the production of secondary solid fuels) or should be in
possession of EMAS registration.

The regulation also requires disclosure obligations and documents, which are:

- The declaration of conformity by the manufacturer, attesting that, for each sub-lot of CSS - Fuel,
  verification of compliance with the quality requirements set out in Table 1 and all the other requirements laid down
  by decree. This certification, which also contains data identifying the user, must be kept for one year and presented at
  the request of the competent authority;
- An annual communication that the manufacturer must provide the competent authority, which covers
detailed information on the type and quantity of waste input, the amount of CSS-fuel product, the results of the
  performed analysis, the types and quantities of waste resulting from the process and its final destiny, the
  biodegradable part of the CSS-Fuel and user of the same;
- An annual communication that the user must transmit in the same manner as referred to in the preceding
  paragraph and which concerns, among other things, the identification data of the manufacturer of CSS-Fuel used, the
  results of the characterization of sub-lots, the percentage of replacement of fossil fuels.

Finally, are also provided specific requirements for the storage, handling and transportation of the CSS-fuel.

Concluding remarks

The decree is part of the measures to ensure a sustainable use of resources in line with the European
guidelines expressed in the Communication to the European Parliament, the Council, the European Economic and
Social Committee and the Committee of the Regions "Roadmap to a Resource Efficient Europe ".

The use of fuels produced from waste reduces, in fact, the consumption of fossil fuels, promotes the use of
biomass and contributes to achieving the objectives laid down in Directive 2009/28/EC on renewable sources.

Additionally, through the lightening of administrative procedures is promoted the recovery of waste and its
removal from the landfill with consequent benefits in terms of emissions of greenhouse gases.

References

COM, (2011), Communication from the Commission to the European Parliament, the Council, the European economic and social
Committee, Roadmap to a Resource Efficient Europe. 2011-1067 final, European Commission, Brussels, On line at:


Rottgen D., (2013), Secondary solid fuels: the first decree on the "end-of-waste" (in Italian), Ambiente & Sicurezza, 7, On line at:
http://www.aitecweb.com/Portals/0/pub/Rassegna%20Stampa/2013/04/20130410_Combustibili_solidi_secondari_al_via_il_p
rimo_decreto_sull_endofwaste.pdf.