

Uniform and environmentally compatible implementation of waste wood management in Germany

Waste Wood Ordinance will enter into force on 1 March 2003

On 1 March 2003 the Ordinance on the Management of Waste Wood will enter into force. The Ordinance specifies the requirements pertaining to the recovery and disposal of waste wood. The Federal Cabinet approved the Ordinance on 6 February 2002. The German Bundestag approved the government draft unchanged on 14 March 2002. The Bundesrat gave its approval to the Ordinance on 31 May 2002 subject to the proviso that changes be made (Bundesrat printed paper 273/02). Since the changes are essentially of a clarifying nature and further the aims of the Ordinance, the Federal Government adopted them on 19 June 2002. The German Bundestag thereupon approved the amended Ordinance in a second passage on 4 July 2002. The Ordinance was promulgated on 23 August 2002 (Federal Law Gazette I p.3302).

1. Starting situation

The Closed Substance Cycle and Waste Management Act (KrW-/AbfG) considerably extended the scope of waste law as compared to earlier legislation. Under the heading “closed substance cycle” the Act also includes all waste recovery measures relevant to the waste sector. The provisions in the Closed Substance Cycle and Waste Management Act that in many cases had to be kept general need to be specified for individual waste flows by means of more detailed provisions in order to ensure legal and investment certainty in the enforcement of the law.

The Ordinance on the Management of Waste Wood is considered a pilot project for such material-specific ordinances. In this context, waste wood was particularly suitable because

- it is a significant volume flow for waste recovery,
- it is suitable for both substance recycling and energy recovery,

- the environmental compatibility of some of the recovery paths for waste wood currently in practice is questionable, and
- there is an urgent need for standard nationwide regulation in view of the different regulations of the Länder.

2. **Basic elements of the Ordinance on the Management of Waste Wood**

The Ordinance defines specific requirements for substance recycling and energy recovery and for the disposal of waste wood on the basis of the Closed Substance Cycle and Waste Management Act. At the same time, these requirements are harmonised with the requirements to be adhered to for the management of waste wood pursuant to chemicals and hazardous substances law as well as the provisions governing the keeping of waste recovery and disposal records. The following regulations are particularly relevant:

- Both residual wood from industry and wood products that have become waste are classified as waste wood in this Ordinance. Generally speaking, this is wood residues and derived timber residues from woodworking and wood manufacturing as well as waste products such as furniture, packaging and wood from the construction waste sector. The prerequisite here is firstly, in the case of composite materials, that the wood content is greater than 50 percent by mass, and secondly, that the waste wood qualifies as **waste**. This means, for instance, that residual wood classified as a tie-in product or a by-product (e.g. wood chips from saw mills or weak wood from clearing) is not included in the scope of application.
- The Ordinance identifies the current recovery procedures for waste wood, namely the processing of waste wood for the manufacture of derived timber products, the manufacture of active carbon/industrial charcoal, the production of synthetic gas as a chemical raw material and the energy recovery of waste wood. Other possible recovery paths are not regulated by the Ordinance but are also not excluded so that this does not stand in the way of incorporating new recovery paths and innovative recovery procedures for waste wood. Whether these are permissible according to waste law is then assessed not on the basis

of the Waste Wood Ordinance but instead directly on the basis of the requirements in the Closed Substance Cycle and Waste Management Act.

- The requirements in the Waste Wood Ordinance define high-quality substance recycling and energy recovery procedures. There is no regulation in the Ordinance on priority for substance recycling or energy recovery pursuant to Article 6 para. 1 fourth sentence of the Closed Substance Cycle and Waste Management Act, since in the case of wood as a renewable raw material there are no clear advantages or disadvantages for the one or the other type of recovery. The waste holder thus has the choice between substance recycling and energy recovery, although the prerequisites for permissibility stipulated in Article 6 para. 2 of the Closed Substance Cycle and Waste Management Act are to be given due consideration in the case of energy recovery.
- Waste wood must be assigned to one of four waste wood categories depending on the level of pollution, from A I (waste wood in its natural state or only mechanically worked) to A IV (waste wood treated with wood preservatives, e.g. railway sleepers, hop poles, etc.) Instead of elaborate and uncertain sampling and analysis provisions, assignment to the respective category can occur on the basis of origin and in accordance with strict requirements for keeping waste wood separate and bans on mixing waste woods. To simplify assignment, the Ordinance contains a general rule to be assumed for the common types of waste wood. In the case of a mixture of different waste wood categories, the mixture must always be assigned to the category subject to the most stringent provisions.
- In order to ensure safe recovery, the waste wood categories A I to A IV are then allocated to the individual substance recycling paths; energy recovery is governed by the provisions of the Federal Immission Control Act and the statutory ordinances issued on the basis thereof. Waste wood containing PCBs is classified as a “special category” if its PCB content is more than 50 mg/kg. Waste wood containing PCBs must be disposed of in accordance with the PCB/PCT Waste Ordinance – only thermal treatment procedures come into question.

- The waste wood categories A I to A IV may be used for the manufacture of active carbon/industrial charcoal and the production of synthetic gas as well as in incineration and gasification plants that are licensed pursuant to the Fourth Ordinance on the Implementation of the Federal Immission Control Act and with regard to emissions are subject to the Seventeenth Ordinance on the Implementation of the Federal Immission Control Act. During these procedures, the organic pollutants contained in the waste wood are completely destroyed due to the high temperatures. Heavy metals are bound as solid in the residues or dispersed during waste gas purification.
- Only certain pollution-free or low-pollution waste woods can be considered for use in manufacturing derived timber products. Compliance with this requirement is guaranteed by binding pollutant limit values, including relevant sampling and analysis provisions, for the wood chips produced for use as raw materials for the manufacture of derived timber products. Waste wood processed in this manner for the derived timber products industry ceases to be waste and can be processed there as a primary raw material.
- In the context of the energy recovery of waste wood, use of waste wood in installations where fodder is dried in direct contact with the installation's exhaust and flames is restricted to waste wood category A I. This ensures that fodder contamination is ruled out.
- With regard to inspections and monitoring, the Waste Wood Ordinance is geared towards strengthening the personal responsibility of the installations, supplemented by moderate independent inspections and monitoring. The focus is on the operators of waste wood treatment installations that are obligated to allocate the waste wood to the given recovery paths. This allocation process is to be monitored regularly. This system of internal and independent monitoring is supported by documentation and reporting obligations. This provision produces a high level of precautionary environmental protection with the greatest possible personal responsibility while at the same time being enforcement-friendly.

3. Summary

Germany is breaking new ground with the Waste Wood Ordinance. Thus far there are no European regulations in this field. This Ordinance promotes the environmentally sound management of waste wood. It ensures a binding and nationwide standard for waste wood management and thus leads to greater equality in competition, in particular for small and medium-sized recovery and disposal enterprises. From the standpoint of its structure and system, this Ordinance is also intended to serve as a pilot ordinance for future requirements specific to material flows for waste recovery.

The text of the Ordinance on the Management of Waste Wood (in German and in English) can be found on the Federal Environment Ministry's homepage at www.bmu.de.