

Germany

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1. National statistics

Amount and type of the total construction and demolition waste disposal in Germany in 2006:

No.	Waste type	Total waste disposal	Thereof		
			Disposed where produced	Delivered	
				Inland	Abroad
1000 tonnes					
17	Construction and demolition waste (including excavation of contaminated sites)	22 162.3	1 483.7	20 509.1	169.5
170101	Concrete	294.8	49.8	245.0	-
170102	Bricks	218.6	32.8	185.8	-
170103	Tiles, bricks and ceramics	39.0	11.6	27.3	-
170106	Mixtures of or separated fractions of concrete, bricks, tiles and ceramics, including dangerous materials	458.1	80.6	377.5	-
170107	Mixtures of concrete, bricks, tiles and ceramics, excluding those listed in 17 01 06	3 487.2	209.5	3 277.7	-
170201	Wood	4.0	-	4.0	-
170202	Glass	9.9	0.2	9.7	-
170203	Plastics	2.4	0.0	2.3	-
170204	Glass, Plastics, wood, including dangerous materials or contaminated by dangerous materials	2.0	0.1	1.9	-
170301	Carbonaceous bitumen mixtures	474.6	5.7	468.9	-
170302	Bitumen mixtures excluded those listed in 17 03 01	3749	235.2	139.8	-
170303	Carbonaceous-tarry and tarry products	75.7	1.5	74.1	0.1
170407	Mixed metals	0.1	-	0.1	-

170409	Metal waste, contaminated by dangerous materials	0.2	-	0.2	0.0
170503	Earth and rocks, including dangerous materials	1 097.8	118.0	913.8	66.0
170504	Earth and rocks, excluding those listed in 17 05 03	14 416.4	682.5	13 698.0	35.9
170505	Excavated material, including dangerous materials	18.1	0.1	18.0	-
170506	Excavated material, excluding those listed in 17 05 05	167.1	0.6	166.5	-
170507	Track ballast, including dangerous materials	24.2	0.8	21.7	1.8
170508	Track ballast, excluding those listed in 17 05 07	38.1	21.4	16.7	-
170601	Insulating material, including asbestos	14.8	0.2	4.8	9.8
170603	Other insulating material, existing of dangerous materials or including such materials	68.9	1.9	65.9	1.1
170604	Insulating materials, excluding those listed in 17 06 01 and 17 06 03	33.7	2.2	31.5	-
170605	Asbestos construction materials	354.5	3.7	304.4	46.4
170801	Construction materials of cement, contaminated by dangerous materials	0.8	-	0.8	-
170802	Construction materials of cement, excluding those listed in 17 08 01	117.8	0.1	113.4	4.3
170901	Construction and demolition waste, including quicksilver	0.1	-	0.1	-
170902	Construction and demolition waste, including PCB (e.g. sealing compound, flooring, insulating glazing, condenser with PBC, flooring with resin	3.6	0.0	3.0	0.6
170903	Other construction and demolition waste (including mixed waste), including dangerous materials	22.0	12.2	6.4	3.4
170904	Mixed construction and demolition waste, excluding those listed in 17 09 01, 17 09 02 and 17 09 03	342.9	12.9	329.9	0.0

The table below lists the total construction and demolition waste production and the amount of recycled waste in 2000 and 2004.

Waste type	Total construction and demolition waste production		Total construction and demolition waste production	Amount of waste recycled
	[million tonnes]		[%]	[million tonnes]
Year	2000	2004	(2004)	(2004)
Demolition waste	52.1	50.5	25.2%	31.1
Road scarification	16.6	19.7	9.8%	18.4
Construction waste	4.3	1.9	0.9%	0.1
Cement	-	0.3	0.2%	-
Total (without excavation)	73.0	72.4	36.1%	49.6
Waste from excavation	?	128.3	63.9%	9.1
Total	?	200.7	100%	58.7

2. Policies, strategies and legislation

Negotiated Agreement of the ARGE KWTB

Regarding the treatment of construction and demolition (C&D) waste the ARGE KWTB (Arbeitsgemeinschaft Kreislaufwirtschaftsträger Bau – Construction Recycling and Waste Management Industry Working Group), a consortium of construction industry trade associations, e.g. The Central Association of the German Construction Industry (ZFB Zentralverband des deutschen Baugewerbes – ZFB) and Confederation of Recycling Construction Materials (‘Bundesvereinigung Recycling-Baustoffe – BRB’), entered into a voluntary commitment with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, to achieve a 50% reduction in the amount of landfilled C&D waste in Germany. In 2005 the construction industry achieved their 10-year voluntary commitment for the 5th time with a long term recycling quota of 70.1% and a long term recovery quota of 88.7%.

Waste Avoidance, Recovery and Avoidance Act

On October 7th, 1996 the Waste Avoidance, Recovery and Disposal Act (Kreislaufwirtschafts- und Abfallgesetz - KrW-/AbfG) came into force. The Act is strongly connected to the European guidelines 75/442/EWG. It contains the basic principles of German waste management and closed-loop recycling strategies. The Act assigns a hierarchy for waste prevention:

- avoidance of waste is better than the recycling of waste,
- waste that cannot be prevented should be recovered, and
- landfill disposal of waste is only allowed when neither prevention nor recovery is feasible or economically reasonable.

Organic waste

Since the Disposal Act in 2004, landfilling of organic, active waste is prohibited.

Recycling of mineral waste

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the representatives of the federal states are developing a regulation of alternative construction material for the recycling of mineral waste.

Integration of European guidelines into German law

Since 1999 the German government has developed a ‘strategy for the future of disposal of waste from human settlements’ (‘Ziel 2020’), with a goal to recover all municipal waste completely by 2020, so that landfilling of municipal waste is no longer necessary. In relation to this, the federal environment agency is considering if this concept can be transferred to other waste materials, such as mineral waste and biological waste treatment residuals, as an essential contribution to the European strategy regarding waste recycling and avoidance. The European directives on waste and repealing certain directives (2008/98/EG) are not yet transferred into the national German law, but the transposition expected soon. For example, national legal changes are planned regarding the waste hierarchy.

The Certification of the German Sustainable Building Council (DGNB-Sealing)

The DGNB (Deutsche Gesellschaft für Nachhaltiges Bauen) was formed in Germany to support and implement sustainable building & construction. The association plans together with the Federal Ministry of Transport, Building and Urban Affairs (Bundesministerium für Verkehr, Bau und Stadtentwicklung - BMVBS) the provision of a German certification system for buildings having special environmental properties and qualities. As the whole life cycle of a building is relevant for the award with this certification, minimal waste production is one important aspect that needs to be considered.

3. Guidance documents

Guideline for Sustainable Construction

The Guideline for Sustainable Construction (‘Leitfaden Nachhaltiges Bauen’) addresses sustainable construction throughout the whole life cycle of buildings; i.e. the minimisation of energy and resource consumption as well as the reduction of negative environmental impacts. <http://www.bmvbs.de/cae/servlet/contentblob/46918/publicationFile/10715/leitfaden-nachhaltiges-bauen-nicht-barrierefrei.pdf>

DIN Standards

In November 2006, the ATV DIN 19459 (‘Allgemeine Technische Vertragsbedingungen’), setting general standards for “demolition and deconstruction work”, came into force.

Other relevant German guidelines, relevant to the reduction of waste, are listed:

1. Demolition of residential and administrative buildings – guideline (Abbruch von Wohn- und Verwaltungsgebäuden – Handlungsanleitung)

Regional office for ecology in Baden-Württemberg

2. Guideline for sustainable construction of public buildings
(Leitfaden nachhaltiges Bauen bei Bundesbauten)
Federal Ministry of Transport, Buildings and Urban Affairs
3. Development of methodologies for the assessment of contamination of building materials before deconstruction
(Entwicklung von Verfahren zur Beurteilung der Kontaminierung der Baustoffe vor dem Abbruch)
German committee for reinforced concrete
4. Guideline for measurement and recycling planning of buildings to be demolished
(Leitfaden für die Erfassung und Verwertung der Materialien eines Abbruchobjektes)
German committee for reinforced concrete
5. Recycling guideline
(Arbeitshilfen Recycling)
Federal Ministry of Transport, Buildings and Urban Affairs
6. Environmentally advantageous and low cost treatment of demolition waste
(Umweltgerechter und kostensparender Umgang mit Bauabfällen)
Central association of the German construction industry

Related links:

Federal Ministry of Transport, Buildings and Urban Affairs
www.bmybs.de/

Regional office for ecology in Baden-Württemberg
www.um.baden-wuerttemberg.de/servlet/is/1538/

German committee for reinforced concrete
www.dafstb.de/

Central association of the German construction industry:
www.zdb.de/

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
www.bmu.de/