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Contents

Preface

With a few exceptions Waste Statistics 2015 are based on data reported to the Waste Data System (Affaldsdatasystemet - ADS) in the period 2013 to 2015.

The statistics give a detailed description of the quantity of waste generated in Denmark in the period 2013-2015 broken down by waste types and treatment options. This information is supplemented by detailed information about the sources generating the waste. In addition, information about quantities of waste imported and exported is presented. Finally, at the end of Waste Statistics 2015 a section provides the status for compliance at the national and regional levels with the 2022 objectives in pursuance of "Denmark without waste - Resource plan for waste management 2013-2018" regarding recycling of seven selected fractions of waste from households (50% objective).

Waste data from the period 2013-2015 as reported to ADS form the basis of Waste Statistics 2015. Waste data are in some cases adapted and supplemented with external waste data sources. For example, this has been the case in connection with the statement for sewage sludge and some residues from coal and biomass firing.

The Danish Environmental Protection Agency and the Danish municipalities are jointly responsible for quality assurance of waste data reported to ADS. Data quality has improved significantly since the system was introduced in 2010; improvements will continue in the coming years.

Significant main results in Waste Statistics 2015:

- The overall rate of recycling[1] has increased from 66% to 68% in the period 2013 to 2015. (See section 2)
- The overall rate of recycling of waste from households has increased from 40% in 2013 to 46% in 2015. (See section 3)
- The rate of recycling in relation to the resource plan's 50% objective for seven selected waste fractions from households was 33% in 2015, which is a substantial increase from 27% in 2013. (See section 5)
- Imports of waste for incineration increased significantly in the period from 2013 to 2015; in 2015 they make up 11% of total incineration at the Danish incineration plants. (See section 4)
- Quantities of construction and demolition waste have increased by 13% from 2013 to 2015. (See section 3)
- 65% of sewage sludge from our wastewater treatment plants was recycled on agricultural land in 2015. (See section 3)
- Compared with Waste Statistics 2014 even more detailed data on waste from industry are presented. The total rate of recycling attained in the sector is 71% in 2015 and 69 % in 2013. (See section 3)
- Residues from incineration in the period 2013-2015 have decreased by 30%. (See section 3.5)

[1] Excluding soil, including other final material recovery

1. Introduction

Waste Statistics 2015 are based on data on primary waste generated in Denmark as reported to the Waste Data System (Affaldsdatasystemet - ADS) in the period 2013 to 2015, unless otherwise stated. Primary waste generated is waste not originating from waste actors[2].

The Danish Environmental Protection Agency and the Danish municipalities are jointly responsible for quality assurance of waste data reported to ADS. Quality assurance of 2015 waste data has also improved the quality of waste data reported to ADS before 2015; this means that Waste Statistics 2015 contain updated waste data for 2013 and 2014. Waste data are in some cases adapted and supplemented with external waste data sources. For example, this has been the case in connection with the statements for sewage sludge and residues from coal-fired power plants. Waste data for 2011 made up the first whole reporting year under ADS, and since then the quality and precision of reports have increased year by year. It should be noted in this context that when the composition of waste is presented at a more detailed level, the annual reports may show variations that would not appear if the waste composition was presented in more general categories. For that reason data are not presented at the moment at the municipal level; it is assessed that the data quality is not sufficiently high. More details on ADS, the difference between primary and secondary waste generated, collection, quality assurance and adaptation of waste data can be found in Appendix 1.

The statistics give a detailed description of the quantity of waste generated in Denmark in 2015 broken down by waste types and treatment options. The waste statistics contain detailed information about the sources generating the waste. Waste Statistics 2015 also present information about quantities of waste imported and exported.

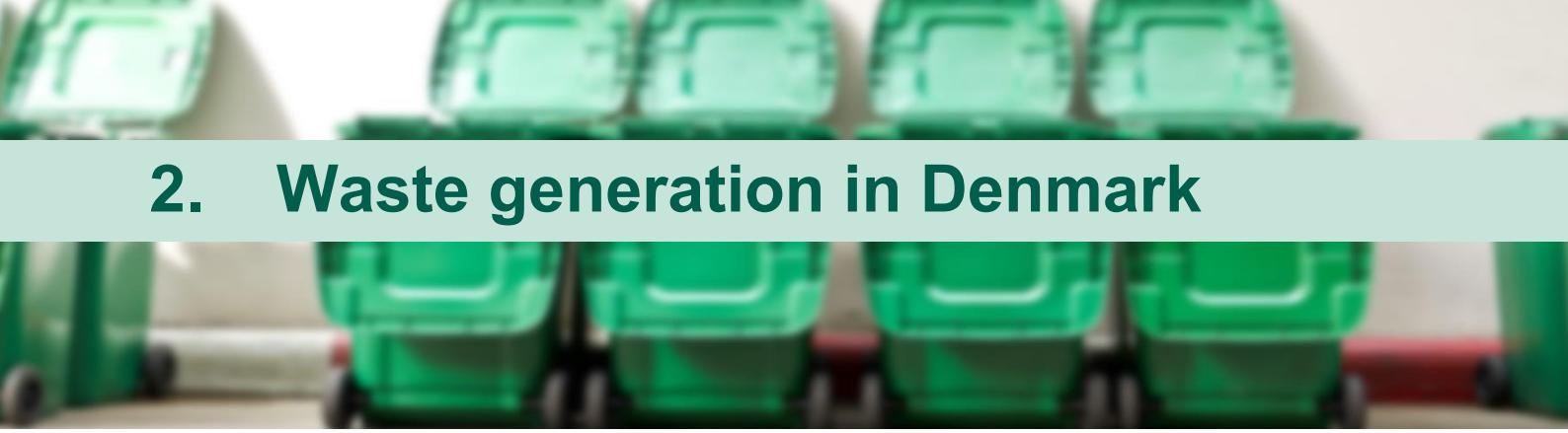
Finally, in section 5 Waste Statistics 2015 provide the status for compliance at the national and regional levels with the 2022 objectives in pursuance of “Denmark without waste - Resource plan for waste management 2013-2018” regarding a rate of recycling of 50% of waste from households.

In the appendices, the definition of primary waste sources forming the basis of these waste statistics is given.

In line with the previous waste statistics, Waste Statistics 2015 have a special section on batteries and a high degree of detail in the industry-related section. The purpose of this is to increase the level of information among readers.

Raw data adapted from ADS and used in the preparation of these waste statistics can be found on the website of the Danish Environmental Protection Agency under Waste Statistics 2015 (in Danish)[3].

[2] Read more about primary and secondary waste in Appendix 1.
[3] Waste Statistics 2015 data: www.mst.dk/media/135510/as2015_data.xlsx



2. Waste generation in Denmark

Total Danish waste arisings (excl. soil) corresponding to primary waste generated in Denmark were in 2015 stated at approximately 11.3 million tonnes. It appears from Table 2.1 that total waste arisings have increased since 2013. The main reason is an increase in quantities of construction and demolition waste caused primarily by higher activity within demolition. A decrease in waste quantities is seen, however, from 2014 to 2015. This is primarily due to a decrease in residues from incineration, which again is related to the fact that energy generation at coal-fired power plants is on a decrease and is replaced with less waste-generating types of energy generation such as natural gas.

Total	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling[4]	7,312	66%	7,784	67%	7,710	68%
Incineration	3,085	28%	3,081	27%	2,987	26%
Landfilling	474	4%	474	4%	423	4%
Temporary storage[5]	109	1%	96	1%	74	1%
Special treatment[6]	76	1%	102	1%	114	1%
Total	11,056	100%	11,536	100%	11,307	100%

Table 2.1. Primary waste generated (excl. soil) in Denmark broken down by treatment option.

Figure 2.1 Primary waste generated (excl. soi) in Denmark broken down by treatment option

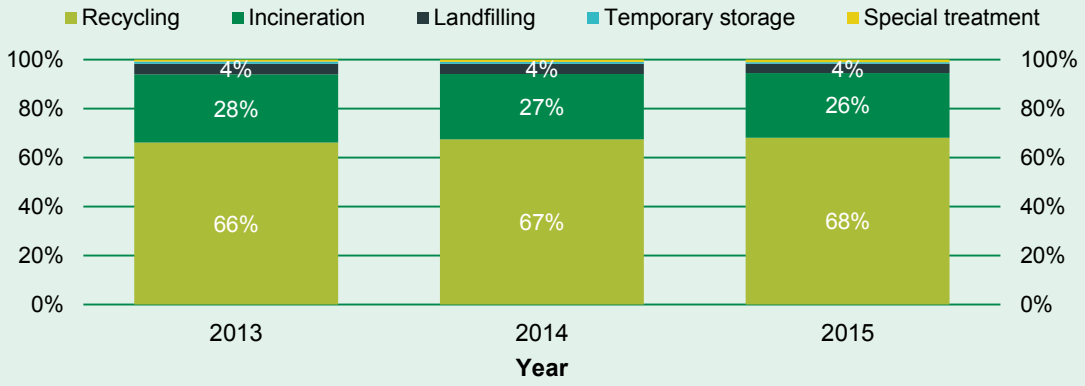


Figure 2.1. Primary waste generated (excl. soil) in Denmark broken down by treatment option.

[4] In the following, *recycling* means *quantities collected for recycling*. After sorting and reprocessing of this waste a minor part goes to incineration and/or landfilling in the form of so-called secondary waste. Read more about primary and secondary waste in Appendix 1. Recycling also covers other final material recovery; read more in section 3.4.1 concerning Building and construction.

[5] In Statutory Order on the Waste Data System (Order no. 1306 of 17 December 2012) temporary storage is defined as waste for incineration (including pretreatment), which is assigned for temporary storage. This treatment form exclusively covers waste that will go to incineration at a later stage.

[6] In Statutory Order on the Waste Data System (Order no. 1306 of 17 December 2012) special treatment is defined as waste treated separately in a special treatment form or as waste expected to be treated separately in a special treatment form. Special treatment exclusively covers hazardous waste, including health-care risk waste.

A simplification of Figure 2.1 can be seen in Table 2.1.B and Figure 2.1.B. In this statement, quantities from special treatment and temporary storage are assigned to the three major treatment options: *recycling, incineration,* and *landfilling*. Some quantities from special treatment have been added to recycling; the treatment option is therefore called *Recycling and other material recovery* in Table and Figure 2.1.B. Also, some other quantities from special treatment have been added to the treatment option *landfilling*, which is therefore called *Landfilling and other disposal* in Table and Figure 2.1.B. More information about this statement can be found in Appendix 8. In the following statistics all five treatment options are shown.

Total	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling and other material recovery	7,353	67%	7,831	68%	7,757	69%
Incineration	3,203	29%	3,185	28%	3,068	27%
Landfilling and other disposal	501	5%	520	5%	482	4%
Total	11,056	100%	11,536	100%	11,307	100%

Table 2.1.B Primary waste generated (excl. soil) distributed by treatment options: Recycling and other material recovery, incineration, and landfilling and other disposal.

Figure 2.1.B (app.8) Primary waste generated (excl. soil) in Denmark distributed according to treatment options groupings: Recycling and other material recovery; Incineration; Landfilling and other ways of disposal

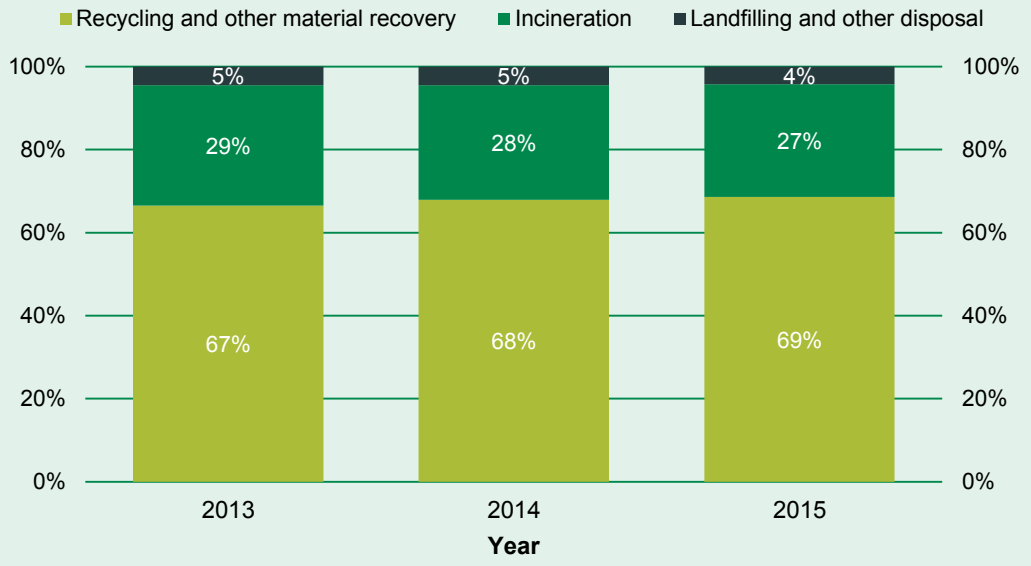


Figure 2.1.B Primary waste generated (excl. soil) distributed according to treatment option groupings: Recycling and other material recovery, incineration, and landfilling and other disposal.

The share of total Danish waste arisings (excl. soil) going to recycling has increased since 2013 by 2 percentage points; Among other things, this is due to an increase in recycling of household waste and waste from industry.

By contrast to the primary Danish waste generation (excl. soil) going to recycling the share of waste going to incineration has decreased since 2013; again, this is primarily explained by quantities of household waste diverted from incineration to recycling. The share going to landfill has also decreased since 2013. This is primarily due to a lower generation of waste going to landfill, such as drilling mud and soil from beet washing.

The primary Danish waste generation (excl. soil) going to incineration is not equal to total waste quantities incinerated at Danish incineration plants. The difference is found, among others, in the fact that waste quantities for incineration received at Danish incineration plants comprise imports of waste from abroad, waste in temporary storage, and waste that goes to incineration after various sorting processes[7]. In Table 2.2 the difference between primary waste generated in Denmark and total quantities of waste received for incineration at Danish incineration plants is shown. It should be noted that a number of the Danish incineration plants also receive biomass for incineration, but since this type of biomass, by contrast to biomass waste, is not regarded as waste, this quantity is not included in Table 2.2.

Incineration of waste	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Incineration - received[8]	3,654	3,844	3,892
Incineration - received without imports[9]	3,302	3,431	3,377
Incineration - received from imports[10]	352	413	515
Incineration of waste (excl. special plants) - Received[11]	3,355	3,540	3,605
Incineration of waste (excl. special plants) - Received without imports[12]	3,196	3,283	3,250
Incineration - Primary waste generated[13]	3,214	3,203	3,083

Table 2.2. Incineration of waste (excl. soil)

The above Table 2.2 shows an almost constant quantity of waste received for incineration at the Danish incineration plants including special plants along with an increase in imports of waste for incineration from 352,000 tonnes in 2013 to 515,000 tonnes in 2015.

As to primary Danish waste going to landfill (excl. soil) a decreasing trend in quantities is seen, as shown in Table 2.1. One of the main reasons for this decreasing trend is that beet soil[14] is being increasingly recovered at the expense of landfilling.

[7] Waste originating from a waste pretreatment plant will be secondary waste, since a waste pretreatment plant is a waste actor receiving waste. A detailed description of primary and secondary waste generated is given in Appendix 1.
[8] Waste received for incineration/temporary storage at Danish incineration plants that cover dedicated plants (24 plants), multi-fuel firing units (3 plants) and special plants (4 plants), respectively. Source: ADS.
[9] Waste received for incineration/temporary storage at Danish incineration plants that cover dedicated plants (24 plants), multi-fuel firing units (3 plants) and special plants (4 plants) without imports, respectively. Source: ADS.
[10] Imports: Imports of waste received for incineration/temporary storage at Danish incineration plants that cover dedicated (24 plants), multi-fuel firing units (3 plants) and special plants (4 plants). Source: ADS.
[11] Waste received for incineration/temporary storage at Danish incineration plants that cover dedicated plants (24 plants) and multi-fuel firing units (3 plants), respectively. Source: ADS.
[12] Imports: Imports of waste received for incineration/temporary storage at Danish incineration plants that cover dedicated plants (24 plants) and multi-fuel firing units (3 plants), respectively. Source: ADS.
[13] This quantity covers primary waste in Denmark going to incineration, temporary storage and special treatment (if used in combination with the European treatment operations of R1, R13 or D10, see Appendix 7).
[14] Beet soil in Waste Statistics 2011 and 2012 was categorised under waste fraction E20 uncontaminated soil. Since Waste Statistics 2013 this has been changed to E31 Other wastes, as it cannot be considered as similar to soil from construction activities.

Just as for incineration, it should be mentioned that there may be differences between the primary Danish waste generation (excl. soil) going to landfill and the actual quantities of waste received for landfilling at the Danish landfills. The difference is primarily found in the fact that waste quantities received at Danish landfills comprise waste that goes to landfill after various sorting processes[15]. This difference is shown in Table 2.3.

Landfilling of waste	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Landfilling - Received[16]	504	538	441
Landfilling - Primary waste generated	475	477	425

Table 2.3. Landfilling of waste (excl. soil)[17]

A decrease in quantities of waste received at landfills is seen from 2014 to 2015. One of the reasons may be that the rates of recycling and incineration are higher than they used to be.

Finally, Table 2.1 shows that the share of primary Danish waste generation (excl. soil) that goes to special treatment and temporary storage, respectively, each is one percent of waste treatment in Denmark. As to the treatment option special treatment, which can only be used in connection with hazardous waste, it should be noted that primary hazardous waste generated can also be categorised under other treatment options.

[15] Waste originating from a waste pretreatment plant will be secondary waste, since a waste pretreatment plant is a waste actor receiving waste. A detailed description of primary and secondary waste generated is given in Appendix 1.
[16] Waste received for landfilling at the 41 Danish landfills that have an environmental approval for receiving waste for landfilling. Source: ADS.
[17] Compared with Waste Statistics 2013 quantities going to landfill have decreased for 2013. This decrease is due to the fact that liquid waste in Waste Statistics 2014 and 2015 is stated in dry weight instead of wet weight, where possible.

2.1 Waste fractions

Table 2.4 shows total Danish waste arisings (excl. soil) corresponding to primary waste generated in Denmark for both households and businesses, and distributed by level of waste fraction[18].

Waste fractions	Tonnes (1,000)		
	2013	2014	2015
Mixed residual waste	1,478	1,486	1,448
Waste suitable for incineration	1,429	1,402	1,394
Organic waste	280	261	270
Paper incl. newsprint and packaging paper	330	349	339
Packaging cardboard and other cardboard	326	346	336
Packaging glass	128	134	134
Flat glass	37	45	46
Packaging wood	16	15	18
Wood	265	366	357
Packaging plastics	33	35	38
Plastics	43	51	50
Packaging metal	8	8	9
Ferrous and non-ferrous metals	965	892	897
Electronics	73	66	72
Refrigerators containing freon	18	18	14
Batteries	17	18	18
Garden waste	800	826	889
Sludge from wastewater treatment plants	129	132	131
Sludge - other	95	116	128
Tyres	31	33	35
Mixed construction and demolition waste	2,715	3,062	3,144
Impregnated wood	36	38	42
PVC	4	5	6
Plaster	264	214	153
Waste suitable for landfill	254	267	246
Residues from coal and biomass fired energy plants	781	769	551
Other wastes	501	579	543
Total	11,056	11,536	11,307

Table 2.4. Primary waste generated (excl. soil) in Denmark distributed by level of waste fraction.

[18] Level of waste fraction in these waste statistics in some cases deviates from the waste fractions used in connection with ADS. This deviation is primarily caused by an aggregation of waste fractions for use in these statistics. For example, wood waste from households and industry, respectively, has been aggregated into one fraction *"wood"*.

Table 2.4 contains a number of broad waste fractions such as *waste suitable for incineration* and *mixed construction and demolition waste*, covering many different waste types. *Waste suitable for incineration*[19] and *mixed residual waste* are generally seen as waste going to incineration. In this connection, however, it should be mentioned that some waste quantities under the other waste fractions can also go to incineration; this is the case, e.g., for the waste fraction *sludge from wastewater treatment plants* that covers, among others, sewage sludge for incineration.

Compared with developments in quantities among the waste fractions the largest increase in 2015 is seen for construction and demolition waste; this is due to higher activity in the demolition sector[20].

The waste fraction *mixed construction and demolition waste* covers, among others, concrete, bricks and tiles and accounts for the largest proportion of construction and demolition waste in Denmark. Construction and demolition waste, however, may also be categorised under other waste fractions such as *waste suitable for landfill, waste suitable for incineration, wood, glass, plaster, impregnated wood, and PVC*. A more detailed discussion of construction and demolition waste and developments in this fraction is found in section 3.4.

A large increase is also seen in quantities of organic waste and garden waste. The increase in organic waste arisings is primarily due to more separation of organic waste from food production and in private households. The higher level of separation of organic waste from households is fine in line with the fact that more municipalities have started collection of organic waste from households in this period. The increase in garden waste arisings may be attributed to better reporting of garden waste for 2015, and the fact that the waste fraction *other wastes* has decreased.

The large increase in wood waste from 2013 to 2015 may be explained by increased separation of household waste and construction and demolition waste, as well as by higher quantities of forest trees for incineration. The latter was the case in 2014, but was not seen to the same extent in 2015.

The quantities of *mixed residual waste* have decreased from 2014 to 2015. This is fine in line with the fact that the recyclable waste fractions *organic waste, packaging wood, packaging plastics, garden waste,* and *electronics* have increased.

For mixed residual waste it should be noted that even if *mixed residual waste* is stated separately from *waste suitable for incineration* in Table 2.4, a minor share of that waste that is registered under *waste suitable for incineration* will consist of mixed residual waste. This type of incorrect registration is primarily seen in relation to waste from commercial and industrial activities from the service sector. This problem has been reduced over the years and is expected to continue decreasing in the future.

For packaging waste it is seen that quantities are at a relatively stable level for the fractions metal and glass, while plastic packaging has increased. Some of the packaging waste of metal and plastic, however, is found under the fractions *ferrous and non-ferrous metals* and *plastics*.

Primary generated WEEE, which is primarily found under the waste fractions *electronics* and *refrigerators containing freon*, is discussed in more detail in section 2.3. More details on primary generation of waste batteries are given in section 2.4.

Residues from incineration in connection with primary waste generated should only be seen as residues such as bottom ash and fly ash from coal or biomass fired power plants. Residues from waste incineration are considered secondary waste, which is not shown in Table 2.4, as this table only covers quantities of primary waste generated. In addition to the fraction *residues from coal and biomass fired energy plants,* in particular the waste fractions *waste suitable for landfill* and *plaster* will contain residues from coal, gas and biomass fired power plants. In section 3.5 developments for the most important waste arisings in the sector of power, gas and district heating supply are discussed.

[19] Small and large burnable items
[20] Statens nedrivningspulje (national demolition fund) is considered to be a significant reason for this higher demolition activity in 2014 and 2015.

The waste fraction *other wastes* generally covers waste types that cannot be categorised under other waste fractions. The largest share of *other wastes* consists of beet soil going to landfill and recycling, respectively. In addition to beet soil *other wastes* covers, among others, chemical waste and other hazardous wastes separated for *special treatment*

2.2 Hazardous waste

The treatment option for all primary generated hazardous waste in Denmark is shown in the below table.

Hazardous waste	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	167	37%	233	40%	250	42%
Incineration	103	23%	139	24%	129	21%
Landfilling	103	23%	119	20%	108	18%
Temporary storage	3	1%	2	0%	4	1%
Special treatment	76	17%	92	16%	110	18%
Total	453	100%	585	100%	602	100%

Table 2.5. Primary hazardous waste generated (excl. soil) in Denmark distributed by treatment option.

The statement covers primary quantities generated and registered either under the waste fraction *hazardous waste*[21], or under others fractions with an LoW code[22] indicating that the waste is hazardous. This means that it is the combination of the two sets of codes that makes up total quantities of primary hazardous waste generated.

It should be noted that hazardous waste from secondary waste generation is not contained in the statement of primary hazardous waste generated. Examples of secondary waste generation are residues from the incineration of waste or imported hazardous waste.

It appears from Table 2.5 that the generation of hazardous waste has increased in 2015. This increase in the quantities, which is primarily seen in combination with the treatment option of recycling, is particularly due to an increase in hazardous construction and demolition waste, as well as several minor increases relating to waste electronics and paints from households. For Table 2.5 it should also be mentioned that less than 20% of primarily hazardous waste generated is stated under the treatment option *special treatment.*

In Table 2.6 the primary generation of hazardous waste in Denmark is shown at a detailed waste type level. The clarification of the waste types may place high requirements for those who report to ADS, and small variations in the reports may lead to large variations in the quantities of the different waste types.

Table 2.6 shows that hazardous waste relating to construction and demolition waste accounts for up to 42% of total hazardous waste arisings in 2015. For example, *bituminous mixtures*[23], *coal tar or other hazardous substances* alone make up 12% of total quantities of hazardous waste, while *insulation materials and asbestos-containing materials* make up approximately 13%. Various forms of *oil wastes* make up approximately 16% of total quantities.

[21] Categorised under *other wastes*
[22] See description of waste codes in Appendix 4
[23] Asphalt

Hazardous waste	2013	2014	2015
	Tonnes	Tonnes	Tonnes
Wastes from mineral excavation and processing	95	97	22
Drilling muds and other drilling wastes	4,744	4,574	8,711
Sawdust, shavings etc. containing dangerous substances from wood processing and the production of panels and furniture	303	114	21
Wastes from petroleum refining	763	3,035	6,127
Wastes from the manufacture, formulation, supply and use of acids and bases	2,987	3,006	2,932
Wastes from the manufacture, formulation, supply and use of salts and their solutions and metallic oxides containing cyanides and heavy metals	66	125	349
Metal-containing wastes containing mercury	6	18	10
Metal-containing wastes containing others heavy metals	2,701	2,092	1,258
Organic halogenated wastes and other wastes from the manufacture of organic chemicals	39,813	33,178	24,353
Wastes from the manufacture of paint and varnish	9,100	10,854	12,938
Wastes from the photographic industry	1,781	1,584	1,740
Acids and bases from chemical surface treatment	3,978	3,164	2,620
Phosphatising sludges from chemical surface treatment	375	408	207
Sludges and filter cakes from chemical surface treatment	1,421	1,585	2,079
Other hazardous wastes from chemical surface treatment	997	1,761	1,783
Wastes containing cyanide and other wastes from tempering processes	132	206	190
Machining oils, emulsions and solutions free of halogens	4,999	5,147	6,725
Wastes from hydraulic oils	755	634	696
Waste engine, gear and lubricating oils	23,176	23,023	21,939
Bilge oils	17,610	26,683	20,927
Oil, sludges and other wastes from oil/water separators	12,982	51,474	16,949
Other oil wastes	21,416	26,356	22,762
Waste organic solvents and refrigerants	5,147	2,709	5,318
Oil filters, brake fluids, antifreeze fluids and other hazardous waste from end-of-life vehicles	2,520	2,098	3,130
Waste electronics containing PCBs	110	113	213
Waste electronics containing CFC, HCFC or HFC	16,439	5,433	7,522
Other waste electronics	17,766	22,624	38,238
Fluorescent tubes and other mercury-containing waste	990	735	860
Discarded chemicals	5,017	7,359	7,545
Lead accumulators, Ni-Cd batteries and mercury-containing batteries	15,460	16,160	16,570
Concrete, bricks, tiles and ceramics containing dangerous substances	11,487	16,835	25,441
Glass, plastic and wood containing or contaminated with dangerous substances	17,571	22,218	31,555
Bituminous mixtures, coal tar and tarred products	31,585	87,536	74,854
Cables containing oil, coal tar and other dangerous substances	584	188	122
Insulation materials and asbestos-containing materials	67,758	80,719	81,068
Construction and demolition wastes containing PCB	2,978	8,102	6,303
Other hazardous construction and demolition wastes	5,476	10,765	36,476
Wastes from hospitals, medicare, dental care and research	7,056	6,344	7,021
Solvents, acids, alkalines and photochemicals from households and the service sector	1,523	1,489	1,343
Pesticides from households and the service sector	239	237	344
Paint, inks, adhesives and resins from households and the service sector	10,502	7,214	12,802
Medicines from households and the service sector	1,433	1,551	1,437
Wood containing dangerous substances from households and the service sector	12,948	16,514	15,612
Other	68,325	69,377	73,357
Total	453,117	585,439	602,468

Table 2.6. Primary hazardous waste generated (excl. soil) distributed by waste type.

2.3 Waste electronics (WEEE)

Waste electronics (WEEE[24]) covers waste from electrical and electronic equipment. The primary quantities of WEEE generated in Denmark can be related directly to the waste fractions *electronics* and *refrigerators with freon*. However, these waste fractions are not the only ones containing waste that can be categorised as WEEE. Waste fractions such as *ferrous and non-ferrous metals*, *other wastes* (e.g. waste containing dangerous substances) and *mixed construction and demolition waste* (e.g. cables) can be related to WEEE thanks to the combination with LoW codes[25]. Total primary quantities of WEEE generated are stated in Table 2.7 below.

Waste electronics - waste fractions	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
WEEE	99	92	98

Table 2.7. Primary WEEE generated (Source: ADS)

As shown in Table 2.7 the quantity of waste electronics is relatively stable from 2013 to 2015; a minor decrease, however, is seen in quantities of waste electronics in 2014.

In Denmark we have different sources of data on WEEE. DPA-System (Danish Producer Responsibility System)[26], in addition to ADS is one of these sources. DPA-System registers quantities of electrical and electronic equipment placed on the market and collected. This information is used, among others, by the Danish Environmental Protection Agency in connection with the reporting to EUROSTAT, the statistical office of the European Union. Table 2.8 shows collected quantities of WEEE as stated by DPA-System.

Categories of electrical and electronic equipment.	Tonnes		
	2013	2014	2015
Large household appliances	32,343	32,732	33,964
Small household appliances	5,053	5,406	5,399
IT and telecommunications equipment	12,797	11,589	12,419
Consumer equipment and photovoltaic panels	19,251	17,194	16,008
Lighting equipment	707	1,661	1,993
Electrical and electronic tools[27]	1,031	2,057	2,014
Toys, leisure and sports equipment	215	535	492
Medical devices	59	38	7
Monitoring and control instruments[28]	624	169	186
Total	72,081	71,382	72,482

Table 2.8. Collection of WEEE from private households and businesses (Source: DPA-System)

There are two significant differences between the two sources of data on WEEE. DPA-System states WEEE at a more detailed level in a number of categories of waste in pursuance of EU rules. ADS shows a larger quantity of WEEE than DPA-System, since all primary waste producers must report to ADS. Primary waste producers in industry are not obliged to report to DPA-System.

[24] *Waste from Electrical and Electronic Equipment, EU directive 2012/19/EU*
[25] European List of Waste Code, read more in Appendix 1. Selected LoW codes: 16 02 **; 17 04 11; 20 01 21; 20 01 23; 20 01 35; 20 01 36. LoW 17 04 11 covers cables.
[26] DPA-System is in charge of the national producer register and administrative tasks associated with the rules on producer responsibility under Danish environmental law regarding, among others, waste from electrical and electronic equipment, batteries, and vehicles
[27] With the exception of large-scale stationary industrial tools
[28] With the exception of all implanted and infected products

2.4 Batteries

The primary quantities of batteries generated in Denmark can be related directly to the waste fractions *batteries*. Just as for WEEE this waste fraction is not the only one that can be related to batteries. Waste fractions such as *ferrous and non-ferrous metals* and *other wastes* (e.g. waste containing dangerous substances) can be related to waste batteries thanks to the combination with LoW codes[29]. Total primary quantities of batteries generated are stated in Table 2.9 below.

Batteries - Waste fractions	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Batteries	16	17	17

Table 2.9. Waste batteries generated (Source: ADS)

Just as for WEEE battery data are collected from various sources. DPA-System (Danish Producer Responsibility System)[30], in addition to ADS is one of these sources. DPA-System registers quantities of batteries placed on the market and collected. This information is used, among others, by the Danish Environmental Protection Agency in connection with the reporting to EUROSTAT, the statistical office of the European Union. Table 2.10 shows the quantities of waste batteries collected as stated by DPA-System.

Batteries collected	Tonnes		
	2013	2014	2015
Portable batteries	1,403	1,540	1,592
Automotive batteries	8,494	10,690	9,375
Industrial batteries	9,112	7,025	7,343
Total	19,009	19,255	18,310

Table 2.10. Waste batteries collected (Source: DPA-System)

DPA-System states waste batteries at a more detailed level in a number of categories of waste in pursuance of EU rules, while ADS states batteries at a more general level based on their constituents.

[29] European List of Waste Code, read more in Appendix 1. Selected LoW codes: 16 06 **; 20 01 33; 20 01 34.
[30] DPA-System is in charge of the national producer register and administrative tasks associated with the rules on producer responsibility under Danish environmental law regarding, among others, waste from electrical and electronic equipment, batteries, and vehicles

2.5 Soil

Just as in previous years' waste statistics it has been chosen to state quantities of soil waste separately from other primary waste generated. This is due to the fact that a few large construction works - such as the establishment of the Metro City Ring and the expansion of the Northern Harbour in Copenhagen - may lead to enormous variations in total waste arisings from one year to the next. Therefore, the variations in soil quantities risk overshadowing developments in quantities of other waste fractions, thus making it difficult to see trends and developments in quantities and treatment options of this waste.

Table 2.11 shows the treatment of the contaminated fraction of soil as well as that of uncontaminated[31] soil.

Contaminated soil	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recovery[32]	940	46%	1,035	47%	791	39%
Disposal[33]	1,114	54%	1,180	53%	1,244	61%
Total	2,054	100%	2,215	100%	2,035	100%

Uncontaminated soil	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recovery	2,239	64%	2,217	58%	1,626	57%
Disposal	1,285	36%	1,639	42%	1,242	43%
Total	3,525	100%	3,856	100%	2,868	100%

Soil, total	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recovery	3,180	57%	3,253	54%	2,417	49%
Disposal	2,399	43%	2,819	46%	2,486	51%
Total	5,579	100%	6,072	100%	4,903	100%

Table 2.11. Primary soil waste generated distributed by treatment option and soil waste type (Source: ADS)

In a given year there may be large variations in quantity and type of contaminated soil and uncontaminated soil. This is not only due to changes in economic activity, but even more so due to the type of construction activities. Construction projects such as the metro typically generate more soil waste than the construction of a bridge or residential buildings. In addition, some construction projects will be on sites that are contaminated, so soil must be removed before the construction can start.

The primary generation of contaminated soil was largest in 2014, as approximately 2.2 million out of total soil quantities of approximately 6 million was contaminated, while the relative share (42 %) was largest in 2015. Even if soil is contaminated it may be recovered in construction projects depending on the contamination degree and based on a concrete assessment.

The quantity of contaminated soil for disposal (landfilling) in the period 2013 to 2015 was on average approximately 1.18 million tonnes a year. This level is almost the same as the expected annual level of 1.2 million tonnes in the period 2013-2018 as seen in the Danish Environmental Protection Agency's projections of the need for landfilling of contaminated soil (Source: Guidelines from the Danish Environmental Protection Agency no. 4, 2014).

[31] Slightly contaminated soil
[32] Recovery covers all R codes in the R/D set of codes, see Appendix 7.
[33] Disposal covers all D codes in the R/D set of codes, see Appendix 7.

In the period 2013 - 2015 the quantity of uncontaminated soil was larger than the contaminated quantity, but still it was not possible to recover all this soil. Therefore, a relatively large proportion of the primary generation of soil was stated as landfilled/disposed.

It should be mentioned that there may be differences between the primary Danish soil waste generation going to landfill/disposal and the actual quantity of waste received for landfilling at the Danish landfills. The difference between 2013 and 2015 is primarily found in the fact that total waste quantities for landfilling received at Danish landfills comprise quantities that are first registered as recovery in soil separation processes and then subsequently go to landfill[34]. In 2014 and 2015 the difference is the opposite: a larger proportion of the primary generation of soil waste is registered as being subject to disposal, but has later been led to recovery. It is presumed that this challenge is primarily linked to the primary generation of uncontaminated soil that has first been stated as soil for disposal. These differences are shown in Table 2.12. It should be noted, however, that the difference in 2015 is modest.

Soil – Landfilling/disposal of soil waste	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Landfilling - Received[35]	2,900	2,389	2,464
Disposal - Primary soil waste generated	2,399	2,819	2,486

Table 2.12. Landfilling/disposal of soil waste

[34] Waste originating from a waste pretreatment plant will be secondary waste, since a waste pretreatment plant is a waste actor receiving waste. A detailed description of primary and secondary waste generated is given in Appendix 1.
[35] Soil waste received for landfilling at the 41 Danish landfills that have an environmental approval for receiving waste for landfilling. Source: BEATE Landfill report 2013, 2014 and 2015

3. Sources of waste in Denmark

Waste sources in this section are the primary waste producers in Denmark[36]. Generally, these waste producers are divided into eight main sources as presented in Figure 3.1 and Table 3.1. In the following sections waste arisings are presented along with, where possible, subsectors of the different main sources. In addition to the main sources Figure 3.1 and Table 3.1 show a waste source *Waste from commercial and industrial activities without sector*. This source is mainly waste from commercial and industrial activities that is not associated with a sector and therefore is a fraction of the seven main sources that are not *households*. The source *Waste from commercial and industrial activities without sector* is discussed in section 3.9.

Just as for Waste Statistics 2013 and 2014, Waste Statistics 2015 have been changed in relation to the waste contained in the different sources. The change is found in the statement of the main source *Building and construction*; in addition to waste generated in this sector it also covers construction and demolition waste[37] generated by the other waste sources. This is a significant change from earlier practice and must be borne in mind when comparing these waste statistics with statistics from before Waste Statistics 2013.

Primary waste generated (excl. soil) distributed by main sources and treatment option is shown in Figure 3.1 and Table 3.1 below.

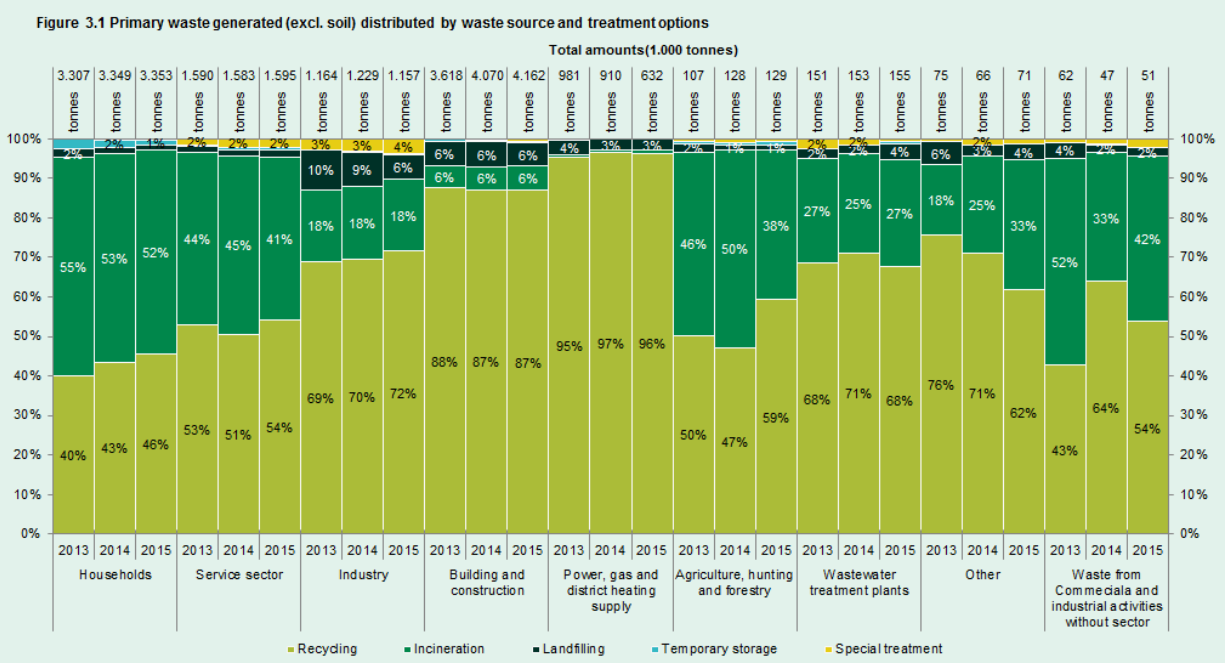


Figure 3.1. Primary waste generated (excl. soil) distributed by treatment option and waste source

[36] Read more about primary and secondary waste producers in Appendix 1.
[37] Construction and demolition waste in this context is waste registered in LoW group 17 and/or waste fractions *construction and demolition waste, stone* and *asphalt*.

Waste sources	Total			Recycling			Incineration			Landfilling			Temporary storage			Special treatment		
	Tonnes (1,000)			Percent			Percent			Percent			Percent			Percent		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
Households	3,307	3,352	3,353	40%	43%	46%	55%	53%	52%	2%	1%	1%	2%	2%	1%	0%	0%	0%
Service sector	1,590	1,591	1,595	53%	51%	54%	44%	45%	41%	2%	2%	2%	0%	1%	1%	2%	2%	2%
Industry	1,164	1,231	1,157	69%	70%	72%	18%	18%	18%	10%	9 %	6%	0%	0%	0%	3%	3%	4%
Building and construction	3,618	4,071	4,162	88%	87%	87%	6%	6%	6%	6%	6%	6%	1%	0%	0%	0%	0%	1%
Power, gas and district heating supply	981	910	632	95%	97%	96%	1%	0%	1%	4%	3%	3%	0%	0%	0%	0%	0%	0%
Agriculture, hunting and forestry	107	128	129	50%	47%	59%	46%	50%	38%	2%	1%	1%	1%	1%	1%	1%	1%	1%
Wastewater treatment plants	151	153	155	68%	71%	68%	27%	25%	27%	2%	2%	4%	0%	0%	0%	2%	2%	1%
Others source	75	66	71	76%	71%	62%	18%	25%	33%	6%	3%	4%	0%	0%	0%	1%	2%	1%
Waste from commercial and industrial activities without sector	62	47	51	43%	64%	54%	52%	33%	42%	4%	2%	2%	0%	0%	0%	1%	1%	2%
Total	11,056	11,536	11,307	66%	67%	68%	28%	27%	26%	4%	4%	4%	1%	1%	1%	1%	1%	1%

Table 3.1. Primary waste generated (excl. soil) distributed by treatment option and waste source

Total primary waste generated (excl. soil) has decreased from 2014 to 2015. This is primarily due to a smaller amount of waste in the main source *Power, gas and district heating supply* (see Table 3.1): due to closure of coal-fired power plants less waste was generated in 2015. In addition, it appears from Table 3.1 and Figure 3.1 that the main source *Power, gas and district heating supply* accounts for the largest proportion of waste for recycling in 2015 (96%). The second largest share for recycling is seen in the source *Building and construction* (87%); this is mainly due to the large quantity of crushed building waste and asphalt for other final material recovery in building and construction projects. At the other end of the scale the source *Households* is seen to have the lowest proportion of waste for recycling (46%); this is primarily due to the fact that *Households* also have the largest share of waste for incineration (52%). In this connection it should be mentioned that *Households* are moving in a positive direction in terms of increasing the quantity of waste for recycling, which has also meant a decrease by 3 percentage points in the share going to incineration in the period 2013 to 2015.

The overall rate of recycling has increased by 2 percent since 2013. The largest relative increase in waste for recycling is seen in the main source *Agriculture, hunting and forestry*, which happens in parallel to decreasing waste amounts from this source for incineration from 2014 to 2015. This can be explained by extensive incineration of biomass from forestry in 2014. The largest decrease in the share of waste for recycling is seen in the main source *Wastewater treatment plants*, which happens in parallel to increasing waste amounts from this source for incineration and landfilling by 4 percentage points. It is also seen, however, that total amounts from the source *Wastewater treatment plants* have increased. The larger quantities sent for incineration and landfilling are primarily found in these new quantities, and not in quantities previously recycled.

As to total waste arisings from all sources Figure 3.2 shows that the source *Building and construction* generates most waste; it accounts for 37% of total waste generation without soil in 2015. Next are the sources *Households, Service sector, Industry* and *Power, gas and district heating supply*, accounting for 30%, 14%, 10%, and 6%, respectively, of total primary waste generated in Denmark. The waste source *Waste from commercial and industrial activities without sector* accounts for less than 1% of total primary waste generated without soil.

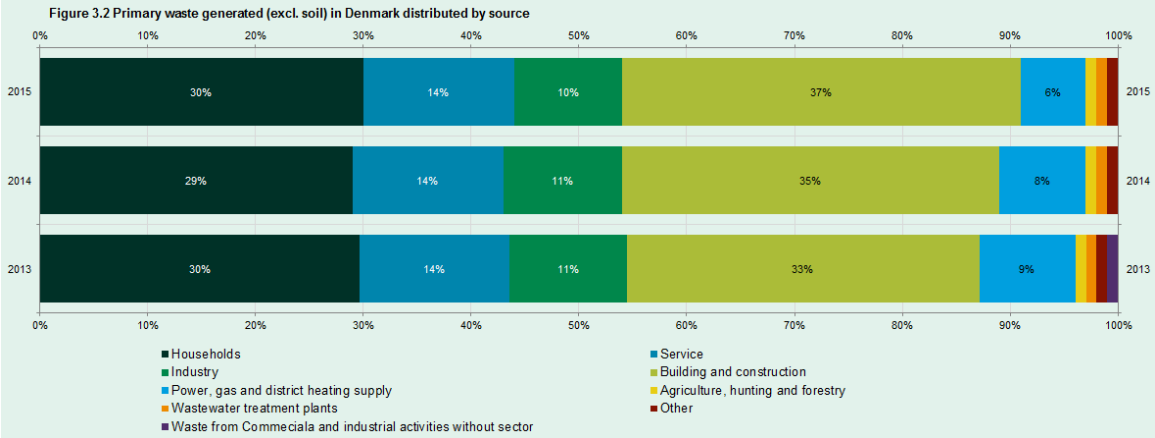


Figure 3.2. Primary waste generated (excl. soil) in Denmark in 2013-2015 distributed by source.

3.1 Waste from households

Primary waste (excl. soil) from *Households* is all waste generated in households, apart from construction and demolition waste. As described above, all construction and demolition waste is placed under the source *Building and construction*.

Households are defined as primary and secondary residences as well as residential institutions (e.g. single-family homes, attached houses, flats, summer houses, student homes, nursing homes and other institutions where the residents have their official address). In addition, the source *Households* covers all waste delivered at recycling centres[38]. The source *Households* does not cover houses and residential rooms intended for limited stays as part of a commercial activity or a public service (e.g. hotels, schools and conference centres).

Table 3.2 shows that the quantity of primary waste generated from *Households* is at a stable level over the years.

Households	2013	2014	2015
Total (1,000 tonnes)	3,307	3,349	3,353
Kg/cap.[39]	590	595	593
Kg/household[40]	1,268	1,278	1,272

Table 3.2. Annual primary waste quantity in households in kilograms per capita and kilograms per household (excl. soil).

As mentioned, the share of waste from *Households* for recycling is increasing whereas waste for incineration is decreasing as shown in Table 3.3. The positive development for recycling in the period 2013 to 2015 is seen for all waste from households. Therefore, this level cannot be compared directly with the 50% objective for certain waste fractions from households as stated in "Denmark without waste - Resource plan for waste management 2013-2018". Section 5 discusses the Resource Plan and its impact goals in more detail[41]. The distribution of primary waste generated in *Households* between the different treatment options of landfilling, temporary storage and special treatment is relatively constant.

Households	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	1,323	40%	1,456	43%	1,528	46%
Incineration	1,829	55%	1,771	53%	1,730	52%
Landfilling	68	2%	49	1%	44	1%
Temporary storage	81	2%	66	2%	44	1%
Special treatment	6	0%	7	0%	7	0%
Total	3,307	100%	3,349	100%	3,353	100%

Table 3.3. Primary waste generated (excl. soil) from households distributed by treatment option.

Developments in waste fractions from *Households* are shown in Table 3.4. Noticeable facts are, among others, the decrease in the fraction *Mixed residual waste* as well as the increase in *Wood,* and *Ferrous and non-ferrous metals*. The increase in the fraction *Garden waste* is believed to be primarily due to a clarification of the waste source *Households* for reports in 2014 and 2015.

[38] A minor share of waste delivered at recycling centres originates in commercial businesses. The share, which varies from one recycling centre to another, is assessed to be low; therefore, no adaptation has been made in Waste Statistics 2015.
[39] 2015: 5,659,715 inhabitants in Denmark (www.dst.dk)
[40] 2015: 2,636,586 households in Denmark (www.dst.dk)
[41] "Denmark without waste - Resource plan for waste management 2013-2018", Guidelines from the Danish Environmental Protection Agency no. 4, 2014

The primary reason for the decrease in the waste fraction *Mixed residual waste* should be seen in connection with the above-mentioned separation for recycling, which is also contributory to the increase in the waste fractions *Ferrous and non-ferrous metals, Wood, Organic waste*, and *Glass.*

Some of the *Mixed residual waste* stated in Table 3.5 as coming from households actually derives from the service sector; this is explained in more detail in section 3.2.

Households	Tonnes (1,000)		
	2013	2014	2015
Mixed residual waste	1,414	1,415	1,374
Waste suitable for incineration	471	412	399
Organic waste	37	36	39
Paper incl. newsprint and packaging paper	192	198	192
Packaging cardboard and other cardboard	43	55	55
Packaging glass	101	112	111
Glass	15	16	19
Packaging wood	5	4	7
Wood	103	137	165
Packaging plastics	17	16	18
Plastics	8	14	15
Packaging metal	7	8	9
Ferrous and non-ferrous metals	92	100	131
Electronics	55	52	42
Refrigerators containing freon	17	17	12
Batteries	3	4	4
Garden waste	601	652	668
Tyres	5	6	7
Impregnated wood	12	13	17
PVC	1	1	2
Plaster	2	2	1
Waste suitable for landfill	48	43	37
Other wastes	57	37	32
Total	3,307	3,349	3,353

Table 3.4. Primary waste generated (excl. soil) from households in Denmark broken down by waste fractions.

3.2 Waste from the service sector

Waste arisings in the service sector amounted to a total of approximately 1.6 million tonnes in 2015. The service sector covers both public and private service and it consists of different subgroups. ADS reporting makes it possible to break down the service sector sources on a very detailed level. In the past, it was not possible to have statistics at this detailed level. As a matter of clarity the subgroups are aggregated in some main groups as stated in Table 3.5.

It appears from the table that the sources of *retail trade, transporting and storage* and *communication, culture, financial services and private services* have by far the largest generation of waste. Each of these sources generated approximately 260,000 - 330,000 tonnes in 2015. Most of the subgroups have a relatively stable waste generation in the years 2013-2015; however, the group *communication, culture, financial services and private services* shows a relatively large increase. This increase is mainly due to an increase in the quantities of garden waste and organic waste.

Service sector	Tonnes (1,000)		
	2013	2014	2015
Retail trade	328	344	324
Wholesale and retail trade and repair of motor vehicles and motorcycles	86	89	86
Wholesale of waste and scrap	112	82	81
Wholesale trade	180	183	182
Transporting and storage	218	286	264
Hotels and restaurants	57	72	82
Communication, culture, financial services and private services	267	263	302
Public administration, education, human health and social work activities	165	174	187
Unspecified service sector waste	175	90	87
Total	1,590	1,583	1,595

Table 3.5. Primary waste generated (excl. soil) in the service sector distributed by main subgroups.

With ADS the service sector waste generation can be divided into types of waste at a very detailed level. Table 3.6 shows some of the most significant waste types generated in the service sector. The most important waste type is *waste suitable for incineration*, which amounted to 581,000 tonnes in 2015, corresponding to more than one third of total quantities. At a first glance, the reported quantity of *mixed residual waste* seems quite small; in 2015 it was at some 61,000 tonnes. This should be seen in conjunction with the fact that the quantity reported as *waste suitable for incineration* is large, but also that part of *mixed residual waste* from the service sector is collected together with waste from households and is therefore registered as coming from this source. In total, it is estimated that some 15%[42] of *mixed residual waste* from households actually derives from the *service sector*.

It is surprising that Table 3.6 does not show larger quantities of *packaging plastics* (10,000 tonnes) and *packaging metal* (150 tonnes). This may be due to imprecise reports from the waste collectors, but also to the fact that the service sector does not separate these packaging types for recycling to a sufficient degree. Quantities of *waste electronics* reported from the service sector have increased from 10,000 tonnes in 2014 to 22,000 tonnes in 2015. Some of these waste electronics may derive from households, as a corresponding decrease is seen here.
In addition, quantities of garden waste have gone up, which is primarily due to better reporting of this fraction.

[42]Estimated by the Environmental Protection Agency

Service sector	Tonnes (1,000)		
	2013	2014	2015
Mixed residual waste	50	58	61
Waste suitable for incineration	584	589	581
Organic waste	55	63	79
Paper incl. newsprint and packaging paper	64	60	64
Packaging cardboard and other cardboard	230	228	229
Packaging glass	17	9	16
Glass	4	4	3
Packaging wood	4	4	5
Wood	27	35	28
Packaging plastics	7	10	10
Plastics	14	9	9
Packaging metal	0.3	0.1	0.2
Ferrous and non-ferrous metals	235	190	178
Electronics	9	10	22
Refrigerators containing freon	1	0	2
Batteries	12	11	12
Garden waste	126	111	130
Sludge - other	15	11	16
Tyres	18	18	19
Impregnated wood	1	2	3
Waste suitable for landfill	19	22	23
Other wastes	96	137	102
Total	1,590	1,583	1,595

Table 3.6. Primary waste generated (excl. soil) in the service sector distributed by waste fractions.

3.2.1 Treatment of waste from the service sector

The rate of recycling of waste from the service sector shows an increase from 53% to 54% in the period 2013 to 2015. From 2013 to 2014 a decrease in the rate of recycling and an increase in waste for incineration was seen. The increase in the rate for incineration in 2014 is primarily due to a substantial increase in residual waste from pipeline cleaning for disposal[43], which is a waste that was not generated in 2013 and 2015. The rate of landfilling in the period 2013 to 2015 has remained relatively stable at 2%. Among the different main subgroups under the service sector relatively large variations in the treatment are observed.

Figure 3.3 shows how waste from the service sector is treated; it is shown for the main subgroups and the main treatment options. *Wholesale of waste and scrap* shows the highest rate of recycling, and this rate has increased from 85 to 99% from 2013 to 2015. *Wholesale and retail trade and repair of motor vehicles and motorcycles* (also covering repair shops and tyre service) has also a very high rate of recycling of approximately 73% of the generated waste. The high rates of recycling reflect that ferrous and non-ferrous metals in general have a positive value that has even increased for many years; in recent years, however, metal prices have decreased. Recycling in the sector *Wholesale and retail trade and repair of motor vehicles and motorcycles* has, however, been on a modest decrease in the period 2013-2015. This is primarily due to a

[43] Disposal operation: D10 - Incineration without energy recovery, see Appendix 7.

decreasing quantity of end-of-life vehicles reported in the sector, while businesses in the main group *Wholesale of waste and scrap* have reported a large number of end-of-life vehicles; this is seen in the higher rate of recycling in this sector.

Retail trade; Wholesale trade; Transporting and storage; Communication, culture, financial services and private services and *Unspecified service sector waste* all have a lower rate of recycling between 48% and 64% in 2015. *Public administration, education, human health and social work activities* and *Hotels and restaurants* have an even lower rate of recycling; it only attains between 35% and 40% in 2015. For all main subgroups it is noticeable that much of the waste goes to incineration (32% to 60%); there is evidently much scope for improvement of the rate of recycling.

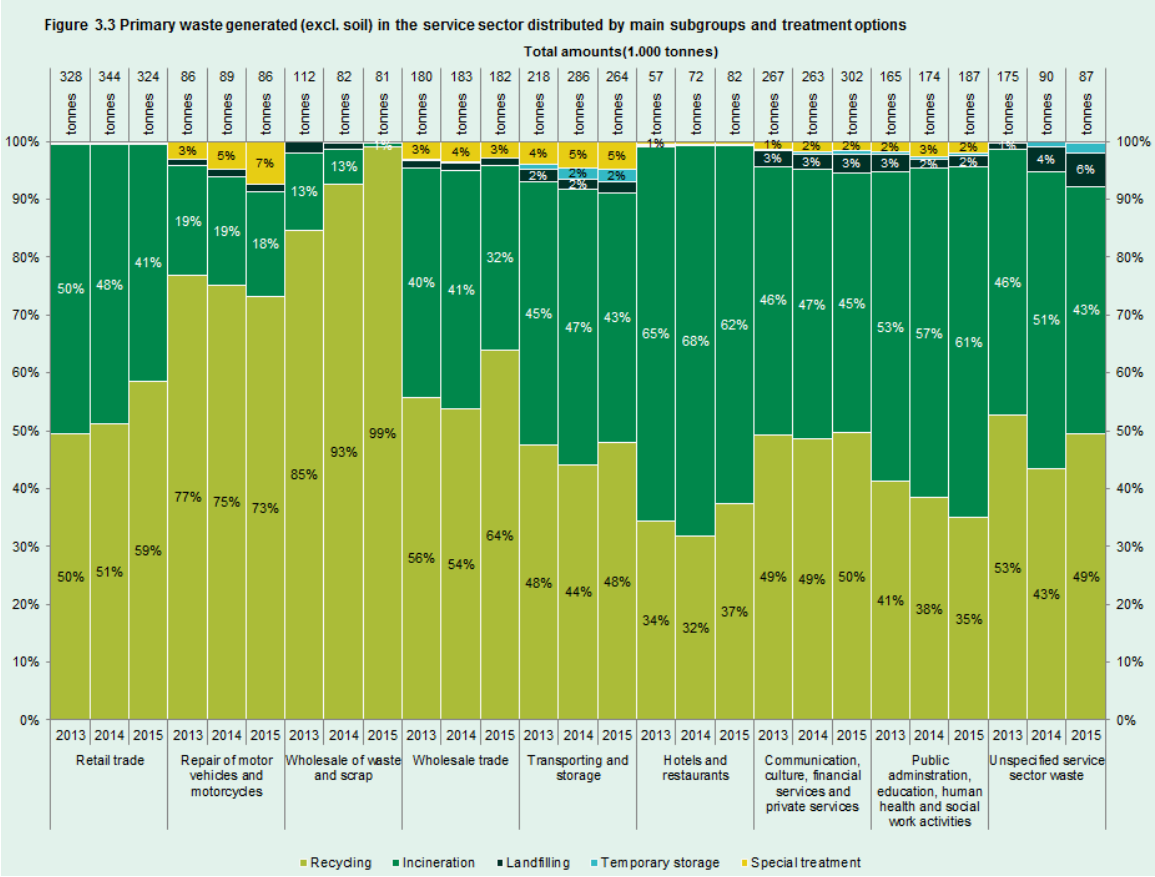


Figure 3.3. Primary waste generated (excl. soil) in the service sector distributed by main subgroups and main treatment options.

Service	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	841	53%	800	51%	865	54%
Incineration	695	44%	716	45%	658	41%
Landfilling	25	2%	24	2%	27	2%
Temporary storage	4	0%	9	1%	11	1%
Special treatment	25	2%	34	2%	34	2%
Total	1,590	100%	1,583	100%	1,595	100%

Table 3.7. Primary waste generated (excl. soil) from service sector distributed by treatment option

3.3 Waste from industry

Generally, waste generation in industry has been on a decrease over the last 15 years. In 2000 waste generation attained approximately 3 million tonnes, in 2006 approximately 2 million tonnes, in 2009 approximately 1.5 million tonnes, and in 2015 it was at just above 1.1 million tonnes.

This general decrease in industry's waste generation since 2000 should be seen in connection with the development of industry's general importance for the Danish economy and the negative effect of the crisis from 2008. Thus, the number of full-time employed in industry and raw material extraction in the same period has decreased from 420,000 in 2000 to 334,000 in 2008, and 259,000 in 2013. After 2013, employment in industry has increased slightly to 265,000 in 2015[44]. The waste generation trend should, however, also be seen in connection with developments in the type of industrial production in Denmark and a higher focus in industry on the highest possible resource utilisation and the lowest possible waste generation.

With ADS it is possible to state precisely the sources of waste in industry. Table 3.8 shows waste generation distributed by selected main sectors. It appears that *Manufacture of food products* is the largest waste producer within the manufacturing industry, accounting for one third of total industrial waste quantities in 2015. In this main sector, primarily soil from washing of sugar beets stands for a large waste quantity. Also, the decrease in the sector from 2014 to 2015 is due to a lower production of sugar beets in 2015. Other major waste sources are *Manufacture of basic metals, fabricated metal products, except machinery and equipment* and *Manufacture of machinery and equipment.* Waste from *Manufacture of wood and of products of wood, cork and straw, except furniture* decreased by 50% in the period 2013 to 2015. One of the reasons is that the manufacture through shredding of wood for fuel was particularly high in 2013 and 2014.

Industry		Tonnes (1,000)		
		2013	2014	2015
I-1	Raw material extraction	12	12	15
I-2	Manufacture of food products	411	429	348
I-3	Manufacture of beverages and tobacco products	12	18	9
I-4	Manufacture of textiles, clothing and leather products	5	6	7
I-5	Manufacture of wood and of products of wood, cork and straw, except furniture	36	34	18
I-6	Manufacture of paper and paper products	29	35	37
I-7	Printing and reproduction of recorded media	63	82	73
I-8	Manufacture of coke and refined petroleum products	15	32	27
I-9	Manufacture of chemical products	56	51	54
I-10	Manufacture of basic pharmaceutical products and pharmaceutical preparations	39	37	49
I-11	Manufacture of rubber and plastic products	31	38	39
I-12	Manufacture of other non-metallic mineral products	81	87	89
I-13	Manufacture of metals	54	44	55
I-14	Fabricated metal products, except machinery and equipment	118	106	114
I-15	Manufacture of electrical and electronic equipment	18	20	21
I-16	Manufacture of machinery and equipment n.e.c.	98	108	112
I-17	Manufacture of motor vehicles, trailers and semi-trailers	20	13	21
I-18	Manufacture of furniture	44	54	46
I-19	Other manufacturing industry	6	5	5
I-20	Repair and installation of machinery and equipment	15	17	17
	Total	1,164	1,229	1,157

Table 3.8. Primary waste generated (excl. soil) in industry distributed by main sectors.

[44] Source: StatBank Denmark (full-time employed), Statistics Denmark, Table: ERHV1

Table 3.9 shows which waste types are generated in industry; the table uses Danish waste fraction codes. An even more detailed statement of industry's waste generation can be produced using the European List of Waste codes (LoW codes). Statements of raw data for these statistics at the LoW level are available[45].

Table 3.9 shows that the largest single fractions are *organic waste* and *ferrous and non-ferrous metals*, amounting to 175,000 tonnes and 227,000 tonnes, respectively, in 2015. Other major waste fractions are *sludge* (stated in dry matter, where possible)*, paper, packaging cardboard and other cardboard, plaster* and *wood*. The fractions *waste suitable for incineration* and *waste suitable for landfill* are also large. Quantities of *other wastes* are also very high and a large variation is seen from 2013 to 2015. More than half of *other wastes* is soil from cleaning and washing of sugar beets, which explains the large variation in the fraction, since quantities of soil from sugar production depend on the duration of the harvest and the prevailing weather conditions.

Industry	Tonnes (1,000)		
	2013	2014	2015
Mixed residual waste	7	7	7
Waste suitable for incineration	112	131	132
Organic waste	179	151	142
Paper incl. newsprint and packaging paper	65	81	79
Packaging cardboard and other cardboard	42	49	43
Packaging glass	7	12	4
Glass	9	8	7
Packaging wood	6	6	5
Wood	51	62	43
Packaging plastics	8	8	8
Plastics	16	19	20
Packaging metal	0	0	0
Ferrous and non-ferrous metals	242	206	227
Electronics	3	2	3
Refrigerators containing freon	1	0	0
Batteries	0	1	1
Garden waste	14	6	8
Sludge from wastewater treatment plants	0	0	0
Sludge - other	55	81	75
Tyres	3	3	2
Mixed construction and demolition waste	0	0	0
Impregnated wood	0	0	0
PVC	0	1	0
Plaster	30	28	28
Waste suitable for landfill	38	27	25
Residues from incineration	24	30	38
Other wastes	254	309	259
Total	1,166	1,231	1,139

Table 3.9. Primary waste generated (excl. soil) in industry distributed by waste fractions.

[45]Waste Statistics 2015 - Raw data

3.3.1 Treatment of waste from industry

Traditionally, industry has had a high rate of recycling of the waste generated. During the 1990s the rate of recycling attained between 50% and 60%. During the '00s the rate of recycling attained between 60% and 65%. Table 3.10 shows the treatment of waste from industry in the period 2013 - 2015.

Table 3.10 shows that in the period 2013 to 2015 the rate of recycling of waste from industry increased from 69% to 72%. The total quantity of waste for incineration has been stable at 18%, while waste for landfilling has decreased from 10% to 6% in the period 2013 to 2015.

Service	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	802	69%	855	70%	829	72%
Incineration	212	18%	227	18%	209	18%
Landfilling	116	10%	105	9 %	73	6%
Temporary storage	1	0%	3	0%	2	0%
Special treatment	32	3%	39	3%	43	4%
Total	1,164	100%	1,229	100%	1,157	100%

Table 3.10. Primary waste generated (excl. soil) in industry distributed by treatment option.

As to the distribution of treatment options in the main sectors of industry it is seen in Figure 3.4 that in particular *manufacture of food products, beverages and tobacco products (I-3)*; *printing and reproduction of recorded media (I-7); manufacture of other non-metallic mineral products (I-12); manufacture of metals (I-13); manufacture of basic metals (I-14); manufacture of machinery and equipment (I-16)* and *manufacture of furniture (I-18)* have a high rate of recycling, attaining a level of more than 70%. *Other manufacturing industry (I-19)* also has a high recycling level while *manufacture of wood and of products of wood, cork and straw, except furniture (I-5); manufacture of coke and refined petroleum products (I-8); manufacture of chemicals and chemical products (I-9)* and *basic pharmaceutical products and pharmaceutical preparations (I-10)* attain a relatively low rate of recycling. *Manufacture of textiles, clothing and leather products (I-4); manufacture of wood and of products of wood, cork and straw, except furniture (I-5); manufacture of paper and paper products (I-6); manufacture of coke and refined petroleum products (I-8)*; *manufacture of chemicals and chemical products (I-9); basic pharmaceutical products and pharmaceutical preparations (I-10); manufacture of rubber and plastic products (I-11); manufacture of electrical and electronic equipment (I-15)* and *other manufacturing industry (I-19)* all have a high rate going to incineration (higher than 30%). The share for incineration from *manufacture of paper and paper products (I-6)* and *manufacture of electrical and electronic equipment (I-15),* however, has decreased to 29% in 2015. *Raw material extraction* (I-1) and *repair and installation of machinery and equipment (I-20)* have a high rate of waste for special treatment (higher than 30%). It should be noted that the high increase and decrease, respectively, in the rate of recycling within *raw material extraction (I-1)* and *manufacture of textiles, clothing and leather products (I-4)* from 2013 to 2015 is primarily due to the fact that these sectors generate small quantities of waste so the changes only represent a quantity of 1,000 - 2,000 tonnes.

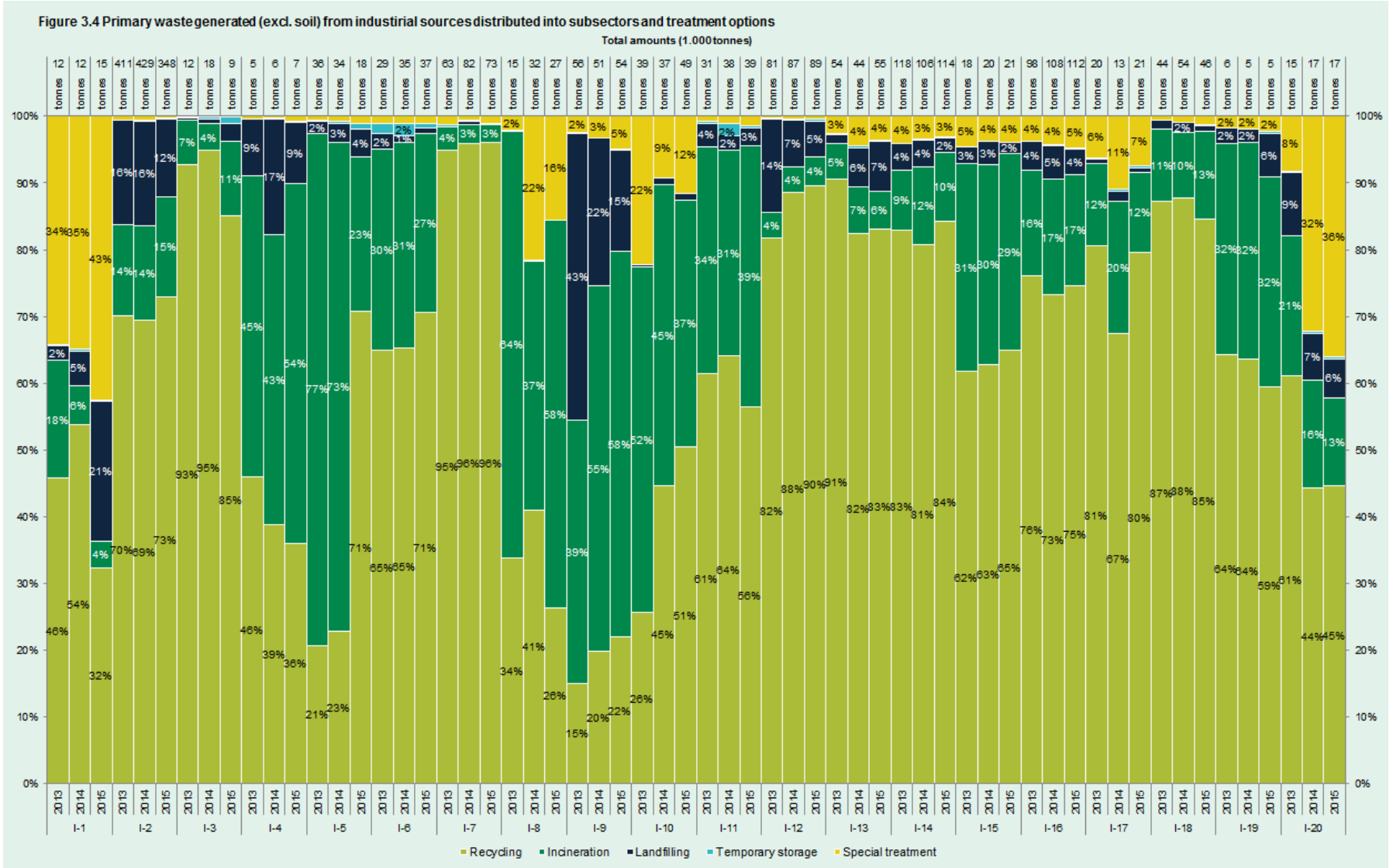


Figure 3.4. Primary waste generated (excl. soil) in industry's main subsectors distributed by treatment option.

3.4 Construction and demolition waste

The building and construction sector accounts for more than one third of waste generated in Denmark; this sector generated in 2015 just above 4.2 million tonnes (excluding soil). If soil (see section 2.5) is included the quantity is even higher: approximately 9 million tonnes in 2015.

Waste generation from building and construction activities is traditionally very closely related to the economy. This is also seen in Figure 3.5, in which developments in construction and demolition waste arisings excluding soil are shown as an index in relation to the economic developments within the building and construction sector. There was a substantial decrease in waste amounts from 2008 to 2011 due to the financial crises that started in 2008. In the years 2011-2014 there was a certain increase in waste quantities, despite the fact that the economic activity remained relatively unchanged in the period 2010 to 2014. From 2014 to 2015 quantities increase by a good 100,000 tonnes corresponding to 2 percentage points, compared with an increase in economic activity of 4 percentage points. This increase is in particular seen for *mixtures of, or separate fractions of concrete, bricks, tiles and ceramics* and *track ballast.* This increase can be explained in part by the fact that in each of the years 2014 and 2015 the Danish Parliament has earmarked a good DKK 200 million for the demolition and refurbishment of desolate buildings located in rural areas and in towns with a population of less than 3,000 inhabitants. It is assessed that the demolition fund will lead to the demolition of a total of 3632 properties, of which 1050 properties were demolished in the first six months of 2015[46].

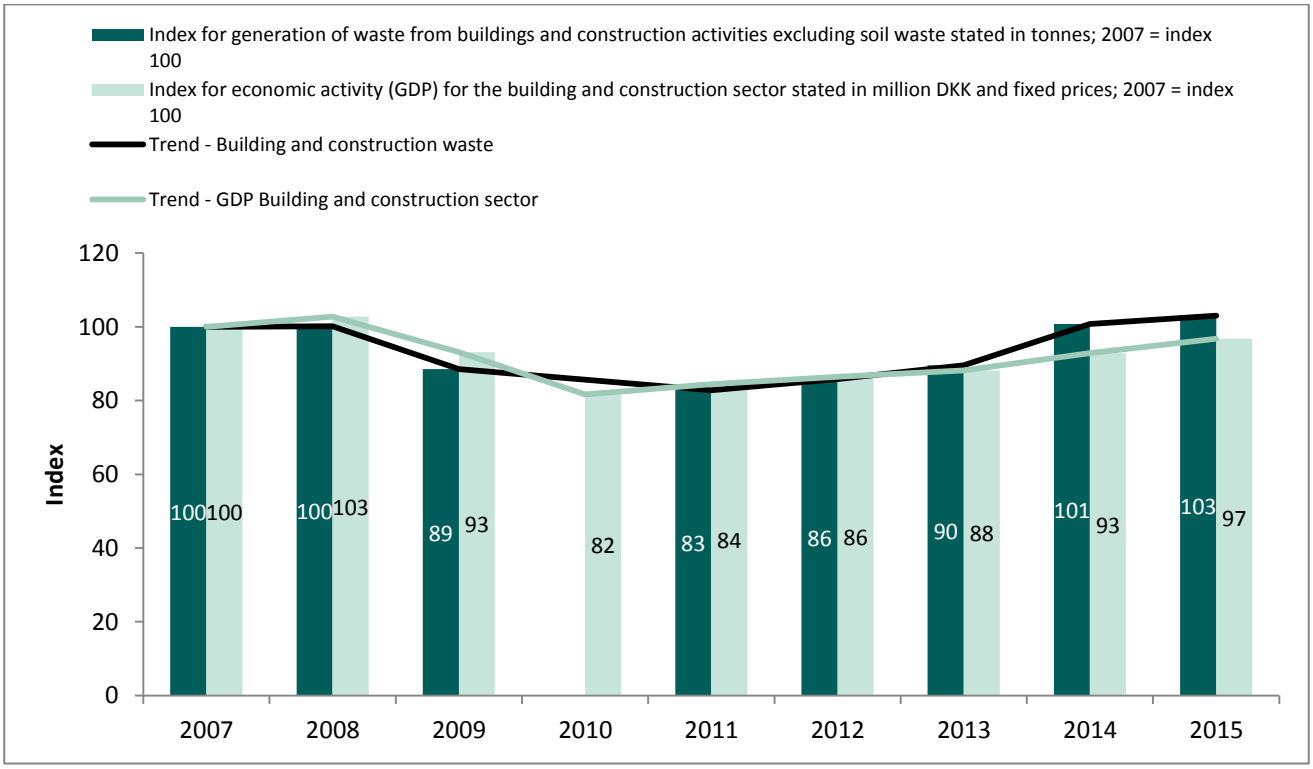


Figure 3.5. Generation of waste from building and construction activities (excl. soil) and gross accumulation (GBP) for the building and construction sector in the period 2007-2015. Stated as an index where 2007=100[47].

With ADS the generation of construction and demolition waste can be divided into types of waste at a very detailed level. All in all the reports are stated with 40 different European List of Waste codes (LoW codes, see Appendix 5) directly specifying construction and demolition waste. In addition, the building and construction sector also generates other types of waste than construction and demolition waste, for instance waste similar to household waste such as mixed residual waste. Table 3.11 shows some of the most significant waste types generated in the building and construction sector.

[46] Source: Danish Building Research Institute "Midtvejsevaluering af pulje til landsbyfornyelse" (Mid-term evaluation of funds for town and rural renewal), p. 6, and personal correspondence with this Institute.

[47] Source: ADS; Guidelines from the Danish Environmental Protection Agency no. 4, 2011; StatBank Denmark.

It appears from Table 3.11 that waste in the form of *bituminous mixtures, coal tar and tarred products* as well as *concrete* by far make up the largest quantities, each accounting for 20% of total quantities. But also *iron and steel waste*, *bricks*, *track ballast* and *wood waste* carry weight in the statement. Construction and demolition waste quantities vary much depending on major construction projects. This is seen, for instance, in the increasing amounts of the waste type track ballast - which is primarily due to the construction of a new railway track from Copenhagen to Ringsted. Finally large quantities of *mixed construction and demolition wastes* are generated in the form of approximately 444,000 tonnes of *mixtures of concrete, bricks, tiles and ceramics* and 400,000 to 452,000 tonnes of *mixed construction and demolition wastes* in the period 2013-2015.

Building and construction	Tonnes (1,000)		
	2013	2014	2015
Concrete	797	1,045	1,061
Bricks	106	170	170
Tiles and ceramics	47	61	77
Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics	336	404	444
Wood	78	118	107
Glass	8	15	15
Plastics	5	7	5
Bituminous mixtures, coal tar and tarred products	977	1,027	889
Copper, bronze, brass, aluminium	16	16	16
Iron and steel	274	276	263
Lead, zinc, tin, mixed metals and other metals	35	49	36
Cables	9	6	9
Track ballast	86	36	169
Insulation materials	12	13	14
Construction materials containing asbestos	68	81	81
Gypsum-based construction materials contaminated with dangerous substances	54	53	57
Construction and demolition wastes containing PCB	3	8	6
Mixed construction and demolition wastes	400	439	452
Domestic waste and waste similar to domestic waste	28	28	37
Other wastes from building and construction activities	281	221	255
Total	3,618	4,070	4,162

Table 3.11. Primary waste generated (excl. soil) in the building and construction sector distributed by waste fractions[48].

3.4.1 Treatment of construction and demolition waste

Traditionally, Denmark has had a high rate of recycling of construction and demolition waste, since this figure also covers other final material recovery in structures such as roads and noise barriers. In the 1990s this rate attained up to 90% and increased further after 2000 to more than 95%. However, construction and demolition waste often contains contaminants that must be removed from the waste stream before recycling. Therefore, during the last 15 years different governments

[48] With ADS it is possible to have more detailed information on the type of construction and demolition waste, including the sectors generating the waste. In other words, does the construction waste, for instance, originate from building activity in the food manufacturing industry or from the metal manufacturing industry. However, if these quantities of construction waste were attributed to the waste generation in the food manufacturing industry it would not give a true and fair picture of the quantities of manufacturing waste actually generated in this sector. It has therefore been decided to attribute all construction and demolition waste to the building and construction sector, regardless of the source. This also applies to construction and demolition waste from households and recycling centres.

have had more focus on removing such substances of concern from the construction waste; these substances are, for instance, PCB and other contaminants contained in concrete. One of the consequences of this higher focus on environmental contaminants in the construction and demolition waste is that a certain decrease of the rate of recycling is to be expected. In other words, the objective is first and foremost to increase the quality of recycling instead of having focus only on quantities. Therefore, the present objective is that the rate of recycling of construction and demolition waste excluding soil must only attain at least 70%.

Table 3.12 shows that the rate of recycling of construction and demolition waste excluding soil in the years 2014 and 2015 attained 87%, which is as expected somewhat lower than in the 2000s. Incineration and landfilling each account for approximately 6%.

Building and construction	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	3,169	88%	3,548	87%	3,626	87%
Incineration	208	6%	229	6%	248	6%
Landfilling	214	6%	262	6%	249	6%
Temporary storage	22	1%	17	0%	16	0%
Special treatment	5	0%	14	0%	24	1%
Total	3,618	100%	4,070	100%	4,162	100%

Table 3.12. Primary waste generated (excl. soil) in building and construction activities distributed by treatment option.

3.5 Power, gas and district heating supply

Energy plants generate waste in connection with the generation of heat and power. Waste comes in the form of slag and fly ash, but also waste - in particular gypsum waste - from the treatment of flue gas emitted from the energy plants. In addition, energy plants also generate other types of production waste such as oil waste and organic solvents. Furthermore, in the administrative part of the plants ordinary household waste is generated.

In the early 1990s the energy supply in Denmark was almost exclusively based on fossil fuels, in particular oil and coal. Fossil fuels accounted for 93% of the energy supply[49] while renewable energy (wind and biomass) and waste only accounted for 7%. Since the early 1990s a substantial change in the Danish energy supply has taken place. First of all, the share of fossil fuels has decreased to 69%, while renewable energy and waste have increased up to 31%. Also, the share made up by coal within the fossil fuels has decreased. In 1990 coal accounted for 40% of the energy supply, and this share was only 14% in 2015. The share of gas was 10% in 1990 and 16% in 2015.

Coal-based energy generation causes relatively large waste arisings; approximately 1/6 of the fuel consumption measured in tonnes ends up as waste. Therefore, waste generation from coal-fired power plants in the early 1990s was approximately 2 million tonnes a year. So in addition to reduced CO2 emissions a lower consumption of coal as a fuel also means lower waste generation. The use of natural gas as a fuel does not cause much waste, and even if biomass-based fuels also generate waste, this type of fuel is less waste intensive than coal.
The change in the fuel composition over the last 25 years has therefore meant that waste arisings from our energy plants have decreased to less than half of what it used to be. Total waste quantities from energy plants (excl. waste incineration plants) in 2015 amounted to a total of 633,000 tonnes. This quantity covers all waste from energy plants as reported to ADS, i.e. waste from power, gas and district heating supply.

Table 3.13 shows that the major part of waste from energy plants is fly ash from coal-fired plants[50] and gypsum waste from flue gas treatment at the energy plants[51]. The total reported quantity is assessed to be slightly below actual quantities, since there are outstanding reports on waste from some plants that exclusively use biomass fuels. The table shows a low

[49] Energistatistik *(Energy Statistics)* 2015 - http://www.ens.dk/sites/ens.dk/files/energistyrelsen/Nyheder/2015/hovedtabel2015_foreloebig_stat.pdf
[50] European List of Waste code (LoW) 10 01 02, see Appendix 6.
[51] European List of Waste codes (LoW) 10 01 05 and 10 01 07, see Appendix 6.

level of waste arisings in 2015; this can be explained with lower fuel consumption in 2015 compared with 2013 and 2014. The reason for the decline is that less coal was used in 2015, among others due to closure of coal-fired plants. The Danish Energy Agency states that the coal-based energy generation decreased by 30% in 2015.

Power, gas and district heating supply	Tonnes (1,000)		
	2013	2014	2015
Bottom ash, slag and boiler dust	143	176	89
Coal fly ash	548	462	360
Calcium-based reaction wastes from flue gas desulphurisation	206	185	89
Fly ash from co-incineration	2	2	2
Other wastes from gas cleaning	19	19	19
Other wastes	62	66	74
Total	981	910	632

Table 3.13. Primary waste generated (excl. soil) at Danish energy plants distributed by waste type and based on the European List of Waste code (LoW)

The major part of waste generated at the energy plants is recycled. Table 3.14 shows that the rate of recycling attains 95-96% in the years 2013-2015. Coal fly ash is recycled in connection with the production of concrete and cement as well as in asphalt. Gypsum waste is used for the production of new plasterboard and is thereby a fine example of industrial symbiosis. This means that waste generated in one company can be used by another company as a secondary raw material in products, thus substituting virgin materials.

Power, gas and district heating supply	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	936	95%	879	97%	609	96%
Incineration	5	1%	4	0%	6	1%
Landfilling	38	4%	26	3%	16	3%
Temporary storage	0	0%	0	0%	0	0%
Special treatment	2	0%	1	0%	1	0%
Total	981	100%	910	100%	632	100%

Table 3.14. Primary waste generated (excl. soil) at Danish energy plants distributed by treatment option.

3.6 Agriculture, hunting and forestry

Waste from agriculture, hunting and forestry activities amounts to around 129,000 tonnes in total. This figure does not comprise slurry for centralised biogas plants, since this is not counted as waste.

In 2015, the major part of generated waste was (Table 3.15): *Waste suitable for incineration* with 34,000 tonnes, *wood* with 18,000 tonnes, *garden waste* with 29,000 tonnes, *sludge* with 17,000 tonnes, and *ferrous and non-ferrous metals* with 6,000 tonnes. The increase in garden waste arisings is partly due to better reporting and large clearance works conducted by major actors. The lower quantity of waste suitable for incineration in 2015 is due to a lower biomass generation among several actors. Table 3.16 shows that between 47% and 59% of waste from agriculture, hunting and forestry activities was recycled in the period 2013-2015. The lower biomass generation in 2015 also results in a smaller share for incineration in Table 3.16.

Agriculture, hunting and forestry	Tonnes (1,000)		
	2013	2014	2015
Mixed residual waste	1	2	2
Waste suitable for incineration	32	52	34
Organic waste	4	4	5
Packaging cardboard and other card-board	1	1	1
Wood	5	15	18
Plastics (incl. packaging)	3	5	5
Ferrous and non-ferrous metals	17	8	6
Garden waste	21	18	29
Sludge - other	14	11	17
Tyres	4	6	6
Waste suitable for landfill	1	1	1
Other wastes	2	3	3
Total	107	128	129

Table 3.15. Primary waste generated (excl. soil) in agriculture, hunting and forestry distributed by waste fractions.

Agriculture, hunting and forestry	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	54	50%	60	47%	76	59%
Incineration	50	46%	64	50%	49	38%
Landfilling	2	2%	2	1%	2	1%
Temporary storage	1	1%	1	1%	1	1%
Special treatment	1	1%	1	1%	1	1%
Total	107	100%	128	100%	129	100%

Table 3.16. Primary waste generated (excl. soil) in agriculture, hunting and forestry distributed by treatment option.

3.7 Wastewater treatment plants

The wastewater treatment plants of Danish sewage companies generate sludge in connection with the treatment; in addition, sand and screenings are generated. Furthermore, the wastewater treatment plants also generate other types of production waste such as oil waste, and in the administrative part of the plants ordinary mixed residual waste is generated.

Total quantities of waste from wastewater treatment plants – not only sludge, but also screenings and other waste were seen in Table 3.1 to amount to 155,000 tonnes in 2015. Thereby, this quantity contains all waste generated at wastewater treatment plants; i.e. companies collecting and treating wastewater. The major part of this waste is sludge, and in the following discussion focus is only on this fraction, attaining 131,000 tonnes cf. Table 3.17.

Before sludge can be recovered or disposed it must normally be dewatered and pretreated; this is done in dewatering, biogasification, and sludge mineralisation processes. Depending on the concentration of heavy metals and organic xenobiotic substances in the sludge it can go to final treatment or disposal. This takes place either by spreading sludge on agricultural land as a fertiliser; it is composted, incinerated with energy recovery or, rarely, taken to a landfill facility.

Sludge will have different rates of total solids depending on the pretreatment before final treatment. Therefore, to make figures for sludge comparable, quantities are stated in total solids. In the reports to ADS it is voluntary to state precisely the total solids rate of the sludge. Therefore, in the reporting of figures for 2015 the Danish Environmental Protection Agency has contacted specific facilities incinerating or composting sludge in view of getting information on the total solids rate. At the moment wastewater treatment plants do not report to ADS quantities of sludge spread on agricultural land. However, this information can be found in wet weight through reports to the supplier register of the Danish Agrifish Agency.

All sewage companies report every year to the Utility Secretariat of the Danish Competition and Consumer Authority on quantities of treated sludge stated in total solids, but the treatment information does not follow the one used in ADS. Therefore, the figures are only used for the year 2013.

The latest study conducted by the Danish Environmental Protection Agency about final treatment of sludge from wastewater treatment plants covers the years 2008 and 2009. Table 3.17 shows sludge treatment in the period 2008-2009 and 2013-2015.

Sludge - wastewater treatment plants[52]	2008		2009		2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling on agricultural land	80	60%	75	58%	80	63%	87	66%	85	65%
Composting and other recycling	22	17%	22	17%	12	10%	11	8%	8	6%
Incineration	29	22%	31	24%	35	27%	33	25%	37	28%
Landfilling	1	1%	1	1%	1	0%	1	0%	1	1%
Total	133	100%	130	100%	129	100%	132	100%	131	100%

Table 3.17. Treatment of sludge from wastewater treatment plants 2008-2009 and 2013-2015 stated in tonnes of total solids.[53]

The total quantity of sludge varies slightly over the years.

Table 3.17 shows that sludge is widely recycled on agricultural land as a fertiliser. The rate varies between 63 and 66%. The level is somewhat lower than in the 1990s when up to 80% was recycled on agricultural land. This decrease is due to the fact that in 1997 and 2000 more stringent requirements were introduced for the content in sludge of xenobiotic sub-

[52] Sources: Sewage sludge from municipal and private treatment plants 2008-2009 corrected for sludge for sludge mineralisation, Danish Environmental Protection Agency 2013; figures from the Utility Secretariat of the Danish Competition and Consumer Authority for the year 2013 regarding landfilling, incineration, composting and spreading on agricultural land, however with some corrections based on contacts to the wastewater treatment plants; The supplier register of the Danish Agrifish Agency for 2015 for sludge from wastewater treatment plants spread on agricultural land and a total solids rate of 25.4%, as well as ADS for 2015 for incineration, composting and landfilling, where a total solids rate has been used for landfilling of 5%, 15% and 100%, respectively, for waste fractions E26, E27 and E28.

[53] 2008 and 2009 figures are calculated from Table 2.3 on page 12 and Table 4.1 on page 15 in "Sewage sludge from municipal and private treatment plants 2008-2009". 2008 and 2009 figures for composting and other recycling are calculated as the difference between total solids and the other treatment options.

stances when used on agricultural land. The enhancement concerned a number of tar compounds called PAHs, the detergent LAS, nonylphenols NPE and the plasticiser DEHP. Incineration of sludge with energy recovery is the second most important treatment option and accounts for 25-28% in the period 2013-2015.

3.8 Waste from others sources

The source *waste from others sources* consists of two subsectors: *water collection, treatment and supply* and *waste collection, treatment and disposal activities*.

Others sources	Waste collection, treatment and disposal activities					
	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	51	76%	41	69%	36	59%
Incineration	12	18%	16	27%	23	37%
Landfilling	4	5%	1	2%	1	2%
Temporary storage	0	0%	0	0%	0	0%
Special treatment	1	1%	1	2%	1	2%
Total	68	100%	59	100%	61	100%

Others sources	Water collection, treatment and supply					
	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	5	71%	7	84%	8	75%
Incineration	1	16%	0	5%	0	6%
Landfilling	1	12%	1	10%	1	18%
Total	7	100%	8	100%	9	100%

Table 3.18. Primary waste generated (excl. soil) from the source ”Others sources” distributed by treatment option.

In addition to waste from ship dismantlers and scrap dealers, the subgroup of *waste collection, treatment and disposal activities* covers waste originating from primary waste sources such as *the service sector*, *households* or *industry*. The reason why *waste collection, treatment and disposal activities* is stated as the producer of primary waste generated is mainly lack of reporting from waste treatment companies regarding original waste producers. It is expected in the future that this primary waste quantity will be registered under the correct sources to a higher extent.

The distribution of treatment options under the two subsectors shows a clear majority of primary waste generated going to recycling. This is particularly the case for *water collection, treatment and supply*.

As it appears from Table 3.19 *waste suitable for incineration*, *ferrous and non-ferrous metals* and *other wastes* are the largest waste fractions in quantitative terms under the source *other sources.* A significant share of quantities placed under *ferrous and non-ferrous metals* originates from ship dismantlers and scrap dealers, while *other wastes* are primarily made up by hazardous waste.

Others sources	Tonnes (1,000)		
	2013	2014	2015
Mixed residual waste	1	1	1
Waste suitable for incineration	7	9	10
Organic waste	1	0	2
Paper incl. newsprint and packaging paper	4	3	1
Packaging cardboard and other cardboard	2	3	2
Packaging glass	2	0	1
Glass	0	1	0
Wood	10	14	3
Packaging plastics	0	0	1
Plastics	0	1	1
Packaging metal	0	0	0
Ferrous and non-ferrous metals	31	20	20
Garden waste	4	1	5
Sludge - other	4	7	10
Tyres	0	0	1
Impregnated wood	0	0	2
Waste suitable for landfill	1	1	2
Residues from incineration	1	0	0
Other wastes	7	5	10
Total	75	66	71

Table 3.19. Primary waste generated (excl. soil) by "Others sources" distributed by waste fractions.

3.9 Waste from commercial and industrial activities without sector

The waste source *waste from commercial and industrial activities without sector* comprises those commercial and industrial wastes for which it has not been possible to identify the sector due to lack of P number of the producer[54] in the reports; this means that waste from this source should be attributed to the other main sectors. In cooperation with the reporting companies the Danish Environmental Protection Agency has had focus on minimising the quantities under *waste from commercial and industrial activities without sector* as far as possible by finding P numbers for companies having been stated without such a number. Since the publication of Waste Statistics 2013 this quantity has been reduced by approximately 50%. It is expected that the waste source *waste from commercial and industrial activities without sector*, which accounts for less than 1% of total primary waste generation in Denmark today (excl. soil), will be minimised in the future.

The quantities of the different waste fractions under the source *waste from commercial and industrial activities without sector* can be seen in Table 3.20.

Waste from commercial and industrial activities without sector	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)

[54] A P number shows the geographical location of the commercial activity. A company with a CVR number may have more than one P unit if it carries out commercial activities at several locations. In addition to the address the P number indicates the commercial sector of the activity. More information can be found in Appendix 1.

Mixed residual waste	3	1	1
Waste suitable for incineration	29	15	22
Organic waste	1	0	1
Paper incl. newsprint and packaging paper	3	5	2
Packaging cardboard and other cardboard	7	7	4
Packaging glass	2	0	0
Wood	0	0	1
Ferrous and non-ferrous metals	8	10	12
Garden waste	4	3	3
Waste suitable for landfill	2	1	1
Other wastes	3	3	4
Total	63	47	51

Table 3.20. Primary waste generated in commercial and industrial activities without sector (excl. soil) distributed by waste fractions.

It is assumed that much of the waste under the fraction *waste suitable for incineration* is attributable to the main sector *the service sector*. The same applies to the waste fraction *cardboard*.

As mentioned above, most of the waste under the source *waste from commercial and industrial activities without sector* goes to recycling; logically, this is due to the high proportion of separated waste in the waste fractions *ferrous and non-ferrous metals, cardboard*, *paper* and *garden waste.* In Table 3.21 the treatment options for primary waste generated in the source *waste from commercial and industrial activities without sector* are shown.

Waste from commercial and industrial activities without sector	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Recycling	28	44%	30	64%	28	54%
Incineration	33	53%	15	33%	22	42%
Landfilling	2	2%	1	2%	1	2%
Temporary storage	0	0%	0	0%	0	0%
Special treatment	1	1%	1	1%	1	2%
Total	64	100%	47	100%	52	100%

Table 3.21. Primary waste generated (excl. soil) in commercial and industrial activities without sector distributed by treatment option.

4. Imports and exports of waste

Figures for imports and exports of waste in this section are based exclusively on the Waste Data System (ADS)[55]. General developments in imports and exports of waste are presented in Figure 4.1 and Table 4.1. The trend of increasing imports has stagnated in 2015.

Figure 4.1 Imports and exports of waste

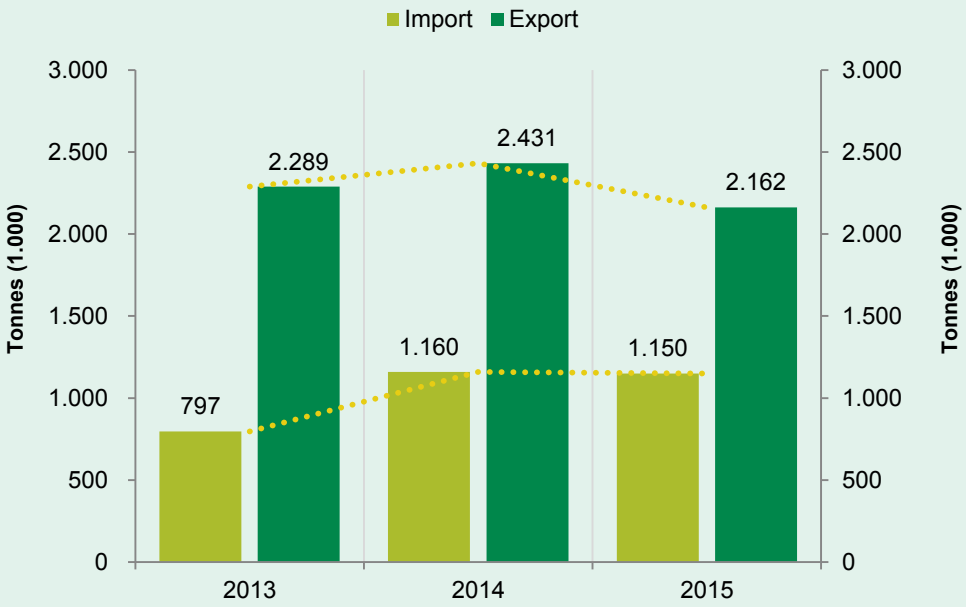


Figure 4.1. Imports and exports of waste

Imports and exports	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Imports	797	1,160	1,150
Exports	2,289	2,431	2,162

Table 4.1. Imports and exports of waste.

The main reasons for the increase in imports since 2013 are found in an increase in imports of waste suitable for incineration. In the following, the trends in this field are discussed in more detail regarding waste fractions, countries and treatment options. In addition, focus will be on imports of waste to the ordinary incineration plants.

[55] Data cover both notifiable waste (amber list wastes, unlisted and certain green list wastes) and non-notifiable waste (green list wastes). The Danish Environmental Protection Agency has made a random comparison of data from ADS and the Danish Environmental Protection Agency's waste shipment database on notifiable waste, cf. the EU waste shipment regulation. This comparison shows as expected that in total there are larger quantities in ADS than in the waste shipment database, since the latter does not contain information on green list wastes. Furthermore, for by far the most waste types quantities are larger in ADS than in the waste shipment database. In a few cases, however, it seems that reporters do not include all green list wastes that are exported; this is expected to improve in the future.

4.1 Imports of waste

Imports of waste are presented at the level of waste fractions in Table 4.2.

Imports - waste fractions	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Waste suitable for incineration	234	342	492
Organic waste	47	42	46
Paper incl. newsprint and packaging paper	13	13	14
Packaging cardboard and other card-board	16	19	25
Packaging glass	34	38	31
Glass	21	20	21
Wood	0	2	4
Packaging plastics	9	4	3
Plastics	1	6	9
Packaging metal	0	0	0
Ferrous and non-ferrous metals	93	247	101
Electronics	2	3	4
Batteries	0	0	2
Sludge - other	3	2	2
Tyres	1	24	19
Mixed construction and demolition waste	0	0	4
Plaster	18	36	53
Residues from incineration	147	140	179
Other wastes	157	220	142
Total	797	1,160	1,150

Table 4.2. Imports of waste by waste fraction

As described above, quantities of waste imported in the period 2013 to 2015 are increasing. In the above table it is seen that the increase in 2015 is primarily due to an increase in imports of waste suitable for incineration and residues from coal and biomass fired energy facilities. Imported waste in the form of residues from coal-fired energy plants consists of fly ash that is recovered in Denmark. The decrease in imports of ferrous and non-ferrous metals is partly due to a decrease in trade with one major actor on the market due to large price fluctuations.

As to the increases in 2015, the increase in imports of waste suitable for incineration to the Danish waste incineration plants[56] can be related, among others, to the Danish increase in recycling, in particular for waste from households; this results in a decrease in national waste quantities going to incineration. This trend is seen in Table 4.2 and has meant that the Danish incineration plants have seen an increase in their excess capacity. Table 4.3 presents imports of waste suitable for incineration received at the Danish incineration plants and broken down by country of export.

[56] Danish incineration plants cover dedicated plants (24 plants) and multi-fuel firing units (3 plants), respectively. Plants handling either special waste by incineration (e.g. Fortum (former EcoKem)), or using waste as a fuel in their production (e.g. Aalborg Portland), are not included. This waste consists of RDF waste, cf. also note 58.

Imports of waste suitable for incineration	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Germany	9	13	24
Great Britain	98	231	307
Ireland	33	11	6
Norway	20	11	14
Total	160	266	351
Rate of total waste incineration[57]	5%	8%	11%

Table 4.3. Imports of waste for incineration by country of export.

Developments show that in particular Great Britain is exporting waste for incineration in Denmark[58]. This reflects the fact that at the moment Great Britain has a lack of treatment capacity for household waste and that as a consequence gate fees are on the increase.

In addition to the presentation of countries of export of waste suitable for incineration to Denmark, Table 4.4 shows the most frequent countries of export from where waste is generally imported to Denmark.

Imports	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Germany	129	16%	133	11%	168	15%
Great Britain	164	21%	312	27%	459	40%
Italy	159	20%	151	13%	189	16%
Norway	106	13%	189	16%	97	8%
Sweden	82	10%	227	20%	120	10%
Netherlands	33	4%	29	3%	36	3%
Other	123	15%	118	10%	81	7%
Total	797	100%	1,160	100%	1,150	100%

Table 4.4. Imports of waste to Denmark by country of export.

It is seen above that in 2015 a substantial increase took place regarding waste from Great Britain; this is primarily due to a larger import of waste suitable for incineration for Danish incineration plants. Waste imported from Norway is primarily aqueous liquid waste containing dangerous substances.

As to treatment of imported waste it is seen in Table 4.5 that in the period 2013 to 2015 waste imported for disposal has decreased from 15% to 7%. Correspondingly, recovery of imported waste has increased from 85% to 93%. The decrease in the quantity of waste imported for disposal is primarily due to lower imports of hazardous waste. Hazardous waste is categorised in the fraction *other wastes,* cf. Appendix 3.

[57] Danish incineration plants cover dedicated plants (24 plants) and multi-fuel firing units (3 plants), respectively. Plants handling either special waste by incineration (e.g. Fortum (former EcoKem)), or using waste as a fuel in their production (e.g. Aalborg Portland), are not included. Total waste incineration in this context covers waste for incineration and temporary storage (2013; 3,355,000 tonnes; 2014: 3,540,000 tonnes; 2015: 3,605,000 tonnes.). Source: ADS.

[58] RDF waste (refuse derived fuel); where mixed waste from industry, the service sector, construction, and households is coarsely separated for recyclables, in particular metal and glass, and waste is dewatered.

Imports	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Disposal	122	15%	160	14%	76	7%
Recovery	675	85%	1,000	86%	1,074	93%
Total	797	100%	1,160	100%	1,150	100%

Table 4.5. Imports of waste to Denmark by treatment option

Waste imported for disposal is presented in more detail in the below Table 4.6. As it is seen in the table, imported waste is primarily disposed under D10 Incineration without energy recovery, as it is disposal of hazardous waste.

Imports - Disposal	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
D8 – Biological treatment	2	1%	2	1%	1	2%
D10 - Incineration without energy recovery	118	97%	80	50%	66	87%
Other	2	1%	79	49%	8	11%
Total	122	100%	160	100%	76	100%

Table 4.6. Imports of waste to Denmark by disposal option

Table 4.7 shows imports of waste for recovery. The increase in quantities of waste for recovery is due to higher imports of waste for R1 incineration with energy recovery, i.e. imports to Danish incineration plants of waste suitable for incineration.

Imports - recovery	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
R1 – Energy recovery	238	35%	325	33%	495	46%
R3 - Recycling/reclamation of organic substances	74	11%	86	9 %	96	9 %
R4 - Recycling/reclamation of metals and metal compounds	90	13%	250	25%	101	9 %
R5 - Recycling/reclamation of other inorganic materials	225	33%	260	26%	306	29%
R9 - Oil re-refining or other reuses of oil	21	3%	39	4%	44	4%
R10 - Land treatment resulting in benefit to agriculture	7	1%	4	0%	11	1%
R12 - Exchange of waste	8	1%	14	1%	8	1%
R13 - Storage of waste	12	2%	22	2%	13	1%
Total	675	100%	1,000	100%	1,074	100%

Table 4.7. Imports of waste to Denmark by recovery option

4.2 Exports of waste

Exports of waste are presented at the level of waste fractions in Table 4.8.

Exports - waste fractions	2013	2014	2015
	Tonnes (1,000)	Tonnes (1,000)	Tonnes (1,000)
Organic waste	0	0	5[59]
Paper incl. newsprint and packaging paper	207	190	225
Packaging cardboard and other cardboard	262	279	265
Packaging glass	41	36	42
Glass	14	25	18
Wood	71	84	112
Packaging plastics	17	21	24
Plastics	15	19	28
Packaging metal	8	10	11
Ferrous and non-ferrous metals	1,028	1,175	998
Electronics	38	32	37
Refrigerators containing freon	3	2	3
Batteries	18	22	24
Sludge - other	9	10	7
Tyres	4	2	2
Mixed construction and demolition waste	0	3	2
Impregnated wood	40	47	45
PVC	1	2	1
Plaster	0	0	2
Waste suitable for landfill	30	4	5
Residues from incineration	461	353	251
Other wastes	20	53	27
Contaminated soil	0	64	28
Total	2,289	2,431	2,162

Table 4.8. Exports of waste by waste fraction.

Exports are dominated by waste types that are used as recyclable materials in the manufacturing industry, particularly paper and cardboard as well as ferrous and non-ferrous metals. Exports of these waste types also reflect that Denmark has no steelworks using scrap just as we have only few and relatively small paper and cardboard mills.

The decrease in exports in 2015 covers a number of different movements, including a decrease in *Residues from incineration* and *Ferrous and non-ferrous metals.* The large decrease in *Residues from incineration* reflects a corresponding decrease in residues from coal-fired plants, see also Table 3.13.

In Table 4.9 exports of waste from Denmark are shown by country of import. In addition to a general decrease in exports of waste in 2015 it should be noted that the largest quantities are exported to Germany. Quantities to Turkey make up the second largest export and consist primarily of waste metals.

[59] Organic waste for biogasification in Sweden and the Netherlands.

Exports	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Germany	859	38%	909	37%	960	39%
Netherlands	170	7%	209	9 %	217	9 %
Norway	256	11%	211	9%	205	8%
Sweden	235	10%	313	13%	237	10%
Turkey	410	18%	404	17%	328	13%
Estonia	41	2%	41	2%	24	1%
Other and EU[60]	319	14%	345	14%	192	8%
Total	2,289	100%	2,431	100%	2,162	100%

Table 4.9. Exports of waste from Denmark by country of import

As to treatment of exported waste it is seen in Table 4.10 that in the period 2013 to 2015 waste for disposal decreases from 6 to 3%, and correspondingly waste for recovery increases from 94 to 97%. It should be noted that quantities for disposal have dropped steeply after 2013; this is primarily due to a decrease in exports of residues from coal-fired power plants for disposal.

Exports	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
Disposal	145	6%	78	3%	61	3%
Recovery	2,144	94%	2,353	97%	2,101	97%
Total	2,289	100%	2,431	100%	2,162	100%

Table 4.10. Exports of waste to Denmark by treatment form.

Waste exported for disposal is presented in more detail in the below Table 4.11. The large increases and decreases in D 5 Landfilling in specially engineered landfill and D12 Permanent storage are primarily due to a change in the use of the codes for reporting. Fractions in question are primarily hazardous waste and slag from mainly power plants and incineration; these fractions are exported to Germany and Norway[61].

Exports - Disposal	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
D3 - Deep injection	1	0%	1	1%	1	1%
D5 - Landfilling in specially engineered landfill	110	76%	32	41%	21	33%
D9 - Physico-chemical treatment	24	17%	18	23%	15	24%
D10 - Incineration without energy recovery	0	0%	7	10%	1	1%
D12 – Permanent storage	10	7%	19	25%	23	38%
D15 - Storage pending any of the operations numbered D 1 to D 14	0	0%	1	1%	1	2%
Total	145	100%	78	100%	62	100

Table 4.11. Exports of waste from Denmark by disposal options.

[60] EU means a broad range of countries within the EU. This means that Germany, the Netherlands etc. may also be found in this quantity.
[61] In its communication of 7 July 2015 the Danish Environmental Protection Agency has noted that alkaline waste used by NOAH at Langøya in Norway for the neutralisation of waste acid in the future may be classified as recovery instead of disposal.

Waste exported for recovery is presented in more detail in the below Table 4.12. It is seen in the table that the primary treatment options used are *R3 Recycling/reclamation of organic substances, R4 Recycling/reclamation of metals and metal compounds* and *R5 Recycling/reclamation of other inorganic materials*; this is well in line with the large export of cardboard, paper, ferrous and non-ferrous metals and residues from, primarily, coal-fired power plants. The largest increase in 2015 is seen in the treatment option *R3 Recycling/reclamation of organic substances*, which is again linked to the increase in the exports of paper that is seen in Table 4.8.

Exports - recovery	2013		2014		2015	
	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent	Tonnes (1,000)	Percent
R1 – Energy recovery	41	2%	47	2%	46	2%
R2 - Solvent reclamation/regeneration	0	0%	3	0%	3	0%
R3 - Recycling/reclamation of organic substances	490	23%	329	14%	507	24%
R4 - Recycling/reclamation of metals and metal compounds	1,014	47%	1,234	52%	1,026	49%
R5 - Recycling/reclamation of other inorganic materials	371	17%	558	24%	249	12%
R9 - Oil re-refining or other reuses of oil	10	0%	15	1%	3	0%
R11 - Uses of residual materials	5	0%	9	0%	7	0%
R12 - Exchange of waste	138	6%	86	4%	146	7%
R13 - Storage of waste	74	3%	71	3%	113	5%
Total	2,144	100%	2,353	100%	2,100	100%

Table 4.12. Exports of waste to Denmark by recovery option.

5. Resource strategy for waste management: Denmark without waste

The primary purpose of "Denmark without waste - Resource Strategy for waste management 2013 - 2018" is to increase the rate of recycling. Waste must be considered as a resource and it should be avoided that valuable materials are lost.

This section has as its only focus the Resource Strategy's national objective of 50% recycling of waste from households (RS 50% objective). This objective must be met in 2022. The objective covers seven selected waste fractions: Organic waste (food waste), paper, cardboard, glass, wood, plastics and metal waste from households; thus, it does not cover all waste from households. Appendix 5 to the Danish Environmental Protection Agency's Guidelines no. 4 from 2014 (Denmark without waste) defines in more detail how to calculate the 50% recycling rate. In the following, this calculation is clarified and detailed. The selected waste fractions included in the calculation are presented in Table 5.1 below:

Selected waste fractions[62]		
Waste fraction code	Waste fraction name	LoW combination[63]
H01	Mixed residual waste	-
H02	Organic waste	-
H03	Suitable for incineration	-
H05	Paper incl. newsprint	-
H06	Cardboard	-
H07	Glass	-
H08	Plastics	-
H09	Packaging paper	-
H10	Packaging cardboard	-
H11	Packaging glass	-
H12	Packaging metal	-
H13	Packaging plastics	-
H15	Wood	-
H19	Ferrous and non-ferrous metals	-
H27	Bulky waste	-
H30	Packaging wood	-
H29	Other wastes	15 01 06 Mixed packaging[64]

Table 5.1. Selected waste fractions contained in the RS 50% objective for households[65]

Since the publication of the guidelines the Danish Environmental Protection Agency has decided to include the waste fraction H29 *other wastes* in a locked combination with the European List of Waste code (LoW) 15 01 06 *mixed packaging*[66] in addition to the originally selected waste fractions in Appendix 5 of the Danish Environmental Protection Agency's guide-

[62] "Seven focus materials" (paper, cardboard, metal, glass, plastics, wood and food waste).
[63] More information on LoW codes can be found in Appendix 1.
[64] Co-mingled waste, where several different waste fractions are collected mixed in the same container.
[65] Primary waste generated under the LoW group 16 01 ** *End-of-life vehicles* has been excluded despite the fact that these quantities may be combined with the waste fraction codes from Table 5.1.
[66] Only waste for recycling

lines no. 4, 2014. This addition covers different types of packaging, e.g. packaging of metal and plastic, that are collected commingled in the households. It has also been decided in this context to exclude waste quantities under the LoW group 16 01 ** *End-of-life vehicles*, if the quantity is combined with the selected waste fraction codes. Finally it should be mentioned that waste from recycling centres in the relevant waste fractions is calculated as coming 100% from households and that single-use packaging under the deposit-refund system collected from households is also part of the calculation.

The calculation of the rate of recycling is made by dividing primary waste generated going to recycling from the selected waste fractions with total quantities of primary waste generated from the selected waste fractions.

$$\frac{\textbf{Primary waste generated going to recycling}}{\textbf{Primary waste generated in total}} = \textbf{Rate of recycling}$$

For the calculation of the rate of recycling raw data[67] from the Waste Data System (ADS) are used. The waste data are in some cases adapted and supplemented with external sources[68]. More details on data adaptations can be found in Appendix 1. The rate of recycling calculated for all of Denmark can be seen in Figure 5.1 and Table 5.2.

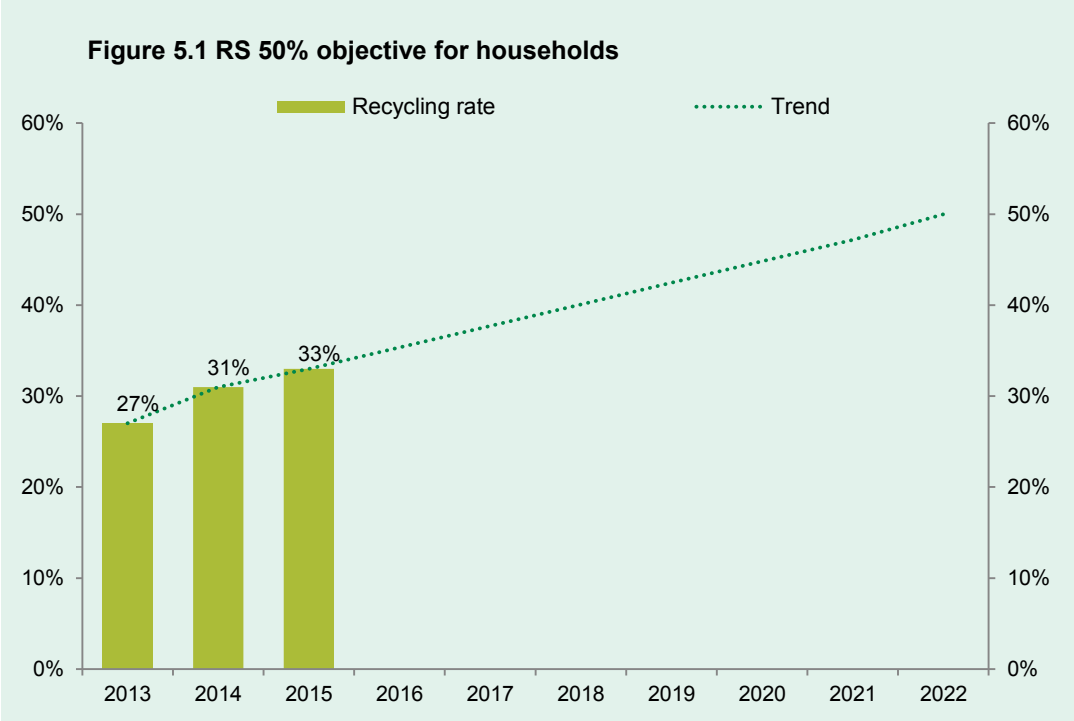


Figure 5.1. RS 50% objective for households

It appears from Figure 5.1 that the national rate of recycling for waste from households (RS 50%) has increased by 6 percentage points in the period 2013 to 2015. With the resource plan further recycling initiatives are expected in the future in the municipalities of Denmark; this will enhance the positive development in the period 2016-2022. Figure 5.1 also shows that the present rate of increase in the period 2013 to 2015 should continue if the 50% recycling rate is to be met in 2022.

[67] Compared with section 3 of the statistics on waste sources, waste from households related to codes on building and construction activities (LoW group 17 ** **) in the calculation of the objective has not been moved from the source *households* to the source *building and construction*, where waste from households belongs to the selected waste fractions that are included in the RS 50% objective. For example, this applies to ferrous metals that may be combined with LoW group 17 ** ** and that are therefore included in the calculation of the 50%.

[68] Waste collected from mixed residential and commercial areas and industrial and commercial waste similar to domestic waste collected in a municipal collection scheme is in practice registered mainly as waste from households. Therefore, this waste will be included in the RS 50% objective if the waste has been reported under the selected waste fractions. It is assessed that an adaptation of the calculation in the form of an exclusion of that part of the waste that originates from companies in mixed residential and commercial areas and companies covered by a municipal collection scheme for industrial and commercial waste similar to domestic waste will have a minor positive effect on the rate of recycling since this waste is expected to consist primarily of waste going to incineration, such as domestic waste or waste suitable for incineration.

Table 5.2 and Figure 5.2 present the rate of recycling in the different Danish regions[69]. The highest rates of recycling are found in the Region of Southern Denmark and the Region of Central Denmark. The largest relative increase from 2014 to 2015 is seen in Region Zealand. This increase is primarily due to a higher rate of separation of wood for recycling in many of the municipalities in the region.

RS 50% objective	2013			2014			2015		
	Waste, total:	Recycling		Waste, total:	Recycling		Waste, total:	Recycling	
	Tonnes (1,000)	Tonnes (1,000)	Percent	Tonnes (1,000)	Tonnes (1,000)	Percent	Tonnes (1,000)	Tonnes (1,000)	Percent
Denmark	2,634	720	27%	2,686	842	31%	2,686	897	33%
Capital Region	744	173	23%	801	247	31%	781	254	32%
Region of Central Denmark	552	172	31%	592	215	36%	587	211	36%
Region of North Denmark	305	73	24%	306	78	25%	311	81	26%
Region Zealand	413	100	24%	402	104	26%	415	136	33%
Region of Southern Denmark	580	161	28%	585	198	34%	593	216	36%
Without regional division	41	41	100%	1	1	100%	0	0	0%

Table 5.2. RS 50% objective for households

Figure 5.2 RS 50% objective for households, organized by region

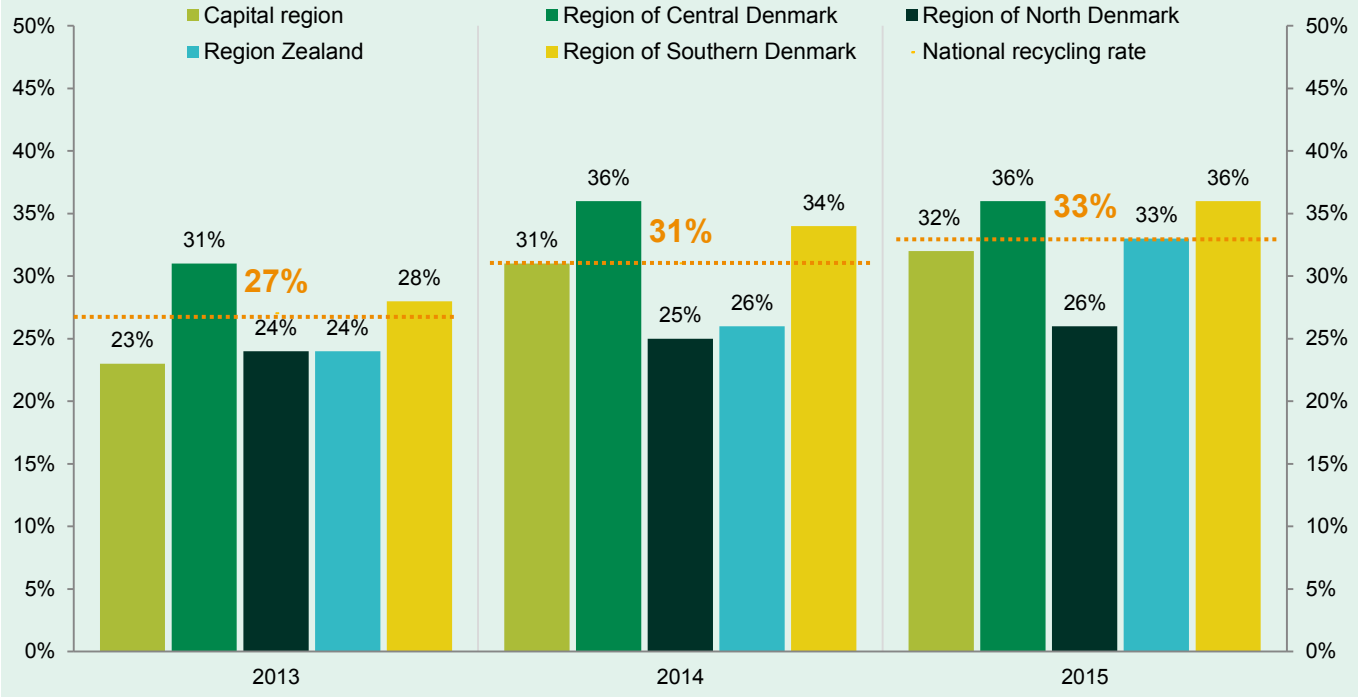


Figure 5.2. RS 50% objective for households

[69] The results for the regions have been stated without the quantities of household waste in the form of single-use packaging under the deposit-return system. This quantity has been included in total quantities for Denmark.

Table 5.3 shows the quantities listed in Table 5.2 in kilograms of waste per capita. It is seen that the Region of North Denmark generates the largest quantity of waste[70] per capita, while in the Capital Region the lowest quantity per capita is seen. Summer house communities may contribute to this difference among regions in quantities of waste per capita, since the number of inhabitants covers permanent residents.

It is also seen from Table 5.2 that the Region of North Denmark generates the smallest quantity of waste in total terms, while the Capital Region has the highest generation.

50% objective	2013		2014		2015	
	Waste, total (kg/cap)	Recycling (kg/cap)	Waste, total (kg/cap)	Recycling (kg/cap)	Waste, total (kg/cap)	Recycling (kg/cap)
Denmark	470	128	477	150	477	159
Capital Region	429	100	458	141	446	143
Region of Central Denmark	434	135	463	169	459	164
Region of North Denmark	525	126	527	134	535	139
Region Zealand	506	122	492	127	508	166
Region of Southern Denmark	482	134	486	165	493	179

Table 5.3 RS quantities stated in kilograms per inhabitant

[70] Waste cf. Table 5.1

Appendix 1 Waste Data System

Data behind this publication have been collected through the Waste Data System of the Danish Environmental Protection Agency. In the following a description is given of the design of the Waste Data System and the data collected in it.

Reporters
All waste collectors, receivers, exporters and importers of waste must report to the system. All reports must state information about the source of the waste and the receiver of the waste. For waste from businesses and public institutions the CVR and P numbers of that business/institution[71] must identify the producer. Also, the CVR and P numbers of the receiver must be stated.

Data Model Principle
In the following figure the principle of reporting to the Waste Data System is illustrated. Waste producers must not report to the system unless they export waste or if a business treats its own waste. Waste collectors must always state the source of the waste and the receiver of the waste. Reception facilities must state from where they receive waste. If a reception facility receives waste from a waste collector the reception facility must state the waste collector as being the waste producer. If the reception facility receives waste directly from the original waste producer this reception facility must state this producer as the waste producer.

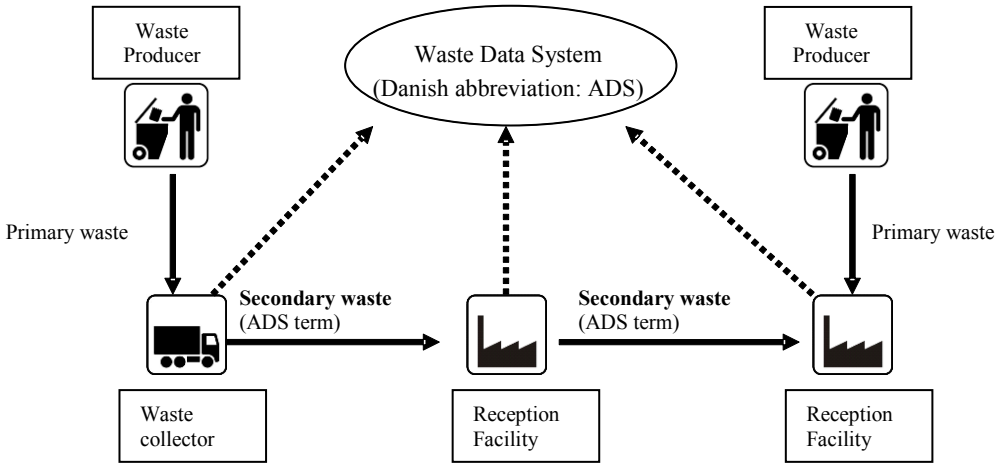


Figure B1. Diagram of waste flow (black arrows) and reporting to the Waste Data System (broken line arrows).

Primary and secondary quantities
Potentially, the same load of waste can be reported several times to the system; this happens, for instance, when the waste collector registers to have collected a load of waste and the reception facility registers to have received the same load of waste from the waste collector. Naturally, this has to be taken into consideration when the primary quantity (net waste generation) is stated. Therefore, all P numbers of the businesses having reported to the system are labelled as "waste actor". The P numbers of businesses stated as waste receivers are also labelled as "waste actors". Waste stated as generated by a "waste actor" is automatically calculated as secondary waste and does not count in the statement of primary waste generated. However, waste from businesses exclusively exporting waste and not collecting or receiving waste is included in the primary quantity.

[71] Each business in the Central Business Register (CVR) has a CVR number and one or more P numbers. For instance, a supermarket chain may have one CVR number and several underlying P numbers - i.e. one P number for each store. A P number is sometimes referred to as a P unit.

Data reported
A report must contain the following information:

- Quantity
- Waste fraction (made up by 31 household waste codes and 35 industrial waste codes)[72] as well as an LoW code[73]
- Treatment (6 Danish treatment codes, 13 recovery codes (R codes) and 15 disposal codes (D codes))[74]. For actors not treating waste themselves, e.g., only collecting or exporting waste the expected treatment to which waste is subjected is stated.
- Final treatment. The actors must state whether they subject the waste to a final treatment. Final treatment means that waste is taken out of the waste flow. This may happen, among others, by incineration, landfilling, recycling or export.

How
Information in the CVR register is used to decide to which sector the waste producer belongs according to the categories of the Danish Sector Code 07[75] and his geographical location. In view of creating a clear overview the Danish Environmental Protection Agency has aggregated the different sectors in a number of general classes[76].

Supervision of reporting
The rules on the Waste Data System were described in a stand-alone Statutory Order in 2012[77]. It is stated in the Order that businesses not reporting in due time or form may be subject to a fine. With the Order the duty of supervision was moved from the local authorities to the Danish Environmental Protection Agency.

Quality assurance of waste data
Waste data reported to the Danish Environmental Protection Agency are subject to quality assurance both before and after reporting. Reporting templates and automatic validity control of, among others, P numbers contribute to ensuring validated and standardised waste data prior to reporting. The quality assurance after reporting has focus on deviations in waste data and general errors in the reports. Each individual reporter is contacted when problems are found in the reports and a solution is agreed on. This individual contact minimises the risk of repetition of the same problem.

To ensure even higher data quality guidance primarily in the selection of codes is given, and information meetings are organised in cooperation with reporters and local authorities. The purpose is to improve the knowledge about correct and streamlined reporting.

In addition to improving 2015 waste data, this year's quality assurance has resulted in improvements of 2013 and 2014 waste data. Thereby, the quality assurance also has repercussions on previous reporting years.

[72] Statutory Order on the Waste Data System (Order no. 1306 of 17/12/2012) - https://www.retsinformation.dk/Forms/R0710.aspx?id=144615
[73] Statutory Order on Waste (Order no. 1309 of 18/12/2012) - https://www.retsinformation.dk/Forms/R0710.aspx?id=144826
[74] Statutory Order on Waste (Order no. 1309 of 18/12/2012) - https://www.retsinformation.dk/Forms/R0710.aspx?id=144826
[75] Read more on the website of Statistics Denmark: http://www.dst.dk/da/Statistik/dokumentation/Nomenklaturer/DB.aspx
[76] See Appendix 2
[77] Statutory Order on the Waste Data System (Order no. 1306 of 17/12/2012)

Meta data and adaptations

To form the data basis for Waste Statistics 2015 raw data extracts have been made from the Waste Data System (ADS). For all sections of the statistics, with the exception of the sections on soil, imports and exports, data have been extracted on primary quantities without import and soil. Waste quantities imported do not reflect waste generation in Denmark, which is why these quantities are only included in the section on imports. Waste soil quantities are too volatile to really give a picture of developments in total waste arisings. Therefore, also waste soil is discussed in a separate section.

The distinction between primary waste and secondary waste generated is exclusively based on whether the producer is a waste actor, i.e. makes his own reporting to ADS from that P number. If the waste producer himself does not report to ADS the quantities in question are considered as primary waste; vice versa, if the producer reports himself the quantities in question are considered as secondary waste. To avoid double counting only primary quantities are included in the statistics with the exception of the section on imports and exports.

The very foundation of the statistics is the raw data from ADS; it is, however, assessed to be necessary to make certain adaptations in order that data at a more detailed level reflect reality as far as possible[78]. Quality assurance of waste data has high priority in the Danish Environmental Protection Agency and it is therefore expected that in the future the major part of adaptations will have been integrated in the ADS database.

In the statistics some of the waste fractions have been aggregated in view of making it easier for the reader to get an overview; also, some of the fractions make up a very small quantitative proportion of total waste arisings, see also Appendix 4. Furthermore, the treatment options of landfilling and tax-exempt landfilling have been aggregated. The same applies to the treatment options of incineration and tax-exempt incineration.

In addition to the aggregation of waste fractions the NACE codes[79] have also been aggregated both at the general and the more detailed levels. The division into NACE codes at the general and detailed levels has been carried out by the Danish Environmental Protection Agency based on the division that is found most expedient in relation to waste generation, see also Appendix 3. In addition, adaptations of data have been made in a way that in a few cases the original NACE code has been changed to provide a more true and fair picture of the waste sources.

In cases where no P number of the producer has been stated and the waste in question is from commercial and industrial activities no NACE code has been stated; therefore this waste will not automatically be categorised in a sector. This has been taken into consideration in the statistics and waste from commercial and industrial activities is therefore related to a relevant sector, if possible.

Some actors report waste from a landfill and a recycling centre under the same P number. In this case, waste from the recycling centre will appear as secondary quantities and will therefore not directly be included in the extract for primary quantities. For this reason, adaptations have been made to make these quantities primary waste - and vice versa in the opposite case.

In the reporting of imports/exports it is possible to state more than one LoW code per line. In view of creating correlation to the rest of the report, the section on imports and exports has been adapted to only select one LoW code.
Due to outstanding or incorrect reports, the Danish Environmental Protection Agency has obtained conformation of lacking quantities under specific waste fractions and sectors or has in a few cases made a concrete assessment.

All construction and demolition waste has been assigned to the building and construction sector; this also applies to construction and demolition waste from households.

[78] An adaptation of raw data from ADS may be, for instance, the addition of an outstanding report from a bankrupt company
[79] Sector codes - See Appendix 2 (Danish Sector Code 07)

Appendix 2 Sector division

General division of sectors	Two digit NACE-code
Households	–
Service sector	45-99
Industry	5-33
Building and construction	41-43
Power, gas and district heating supply	35
Agriculture, hunting and forestry	1-3
Waste water treatment plants	37
Other	36 og 38-39
Waste from commercial and industrial activities without sector	–

Service sector - main subgroups	Two digit NACE-code
Wholesale and retail trade and repair of motor vehicles and motorcycles	45
Wholesale of waste and scrap (four digit NACE-code)	46.77
Wholesale trade	46
Retail trade	47
Transporting and storage	49, 50, 51, 52 og 53
Hotels and restaurants	55-56
Communication, culture, financial services and private services	58, 59, 60, 61,62, 63, 64, 65, 66, 68, 69, 70, 71,72, 73, 74, 75, 77, 78, 79, 80, 81, 82, 90,91, 92, 93, 94, 95, 96 og 99
Public administration, education, human health and social work activities	84, 85, 86, 87 og 88
Unspecified service sector waste	Other NACE-codes (45-98)

Industry sector - main subgroups		Two digit NACE-code
I-1	Mining and quarrying	5,6,7,8,9
I-2	Manufacture of food products	10
I-3	Manufacture of beverages and tobacco products	11 og 12
I-4	Manufacture of textiles, wearing apparel, leather and related products	13-15
I-5	Manufacture of wood and of products of wood, cork and straw, except furniture	16
I-6	Manufacture of paper and paper products	17
I-7	Printing and reproduction of recorded media	18
I-8	Manufacture of coke and refined petroleum products	19
I-9	Manufacture of chemical products	20
I-10	Manufacture of pharmaceutical products	21
I-11	Manufacture of rubber and plastic products	22
I-12	Manufacture of other non-metallic mineral products	23
I-13	Manufacture of basic metals	24
I-14	Manufacture of fabricated metal products, except machinery and equipment	25
I-15	Manufacture of computer, electronic and optical products and of electrical equipment	26 og 27
I-16	Manufacture of machinery and equipment n.e.c.	28
I-17	Manufacture of other transport equipment	29 og 30
I-18	Manufacture of furniture	31
I-19	Other manufacturing	32
I-20	Repair and installation of machinery and equipment	33

Waste from other sources	Two digit NACE-code
Water collection, treatment and supply	36
Waste collection, treatment and disposal activities	38-39

Appendix 3 Translation of fraction codes

Waste fractions for Waste Statistics 2015	Fraction code
Batteries	H22 and E22
Mixed construction and demolition waste	H24, E24, H25, E25 and E34
Mixed residual waste	H01 and E01
Waste suitable for landfill	H04 and E04
Tyres	H31 and E33
Electronics	H23 and E23
Packaging glass	H11 and E11
Packaging metal	H12 and E12
Packaging cardboard and other cardboard	H06, E06, H10 and E10
Packaging plastics	H13 and E13
Packaging wood	H30 and E32
Waste suitable for incineration	H03, E03 and H27
Plaster	H28 and E30
Glass	H07 and E07
Garden waste	H17 and E17
Impregnated wood	H16 and E16
Ferrous and non-ferrous metals	H19 and E19
Refrigerators containing Freon	H18 and E18
Organic waste	H02 and E02
Paper incl. newsprint and packaging paper	H05, E05, H09 and E09
Plastics	H08 and E08
PVC	H14 and E14
Residues from incineration	E35
Sludge - other	E26, E27 and E28
Wood	H15 and E15
Other wastes	H26, E29, H29 and E31
Sludge from wastewater treatment plants	–
Uncontaminated soil	H20 and E20
Contaminated soil	H21 and E21

Appendix 4 Hazardous waste – LoW codes

Hazardous waste	European List of Waste code
Wastes from mineral excavation and processing	All codes starting with 01 01xx, 01 03xx and 01 04 xx
Drilling muds and other drilling wastes	All codes starting with 01 05 xx
Sawdust, shavings etc. containing dangerous substances from wood processing and the production of panels and furniture	03 01 04
Wastes from petroleum refining	All codes starting with 05 01 xx
Wastes from the manufacture, formulation, supply and use of acids and bases	All codes starting with 06 01 xx and 06 02 xx
Wastes from the manufacture, formulation, supply and use of salts and their solutions and metallic oxides containing cyanides and heavy metals	06 03 11, 06 03 13 and 06 03 15
Metal-containing wastes containing mercury	06 04 04
Metal-containing wastes containing others heavy metals	06 04 05
Organic halogenated wastes and other wastes from organic chemical processes	All codes starting with 07 01 xx, 07 04 xx, 07 05 xx, 07 06 xx and 07 07 xx
Wastes from the manufacture of paint and varnish	All codes starting with 08 01 xx, 08 03 xx and 08 04 xx
Wastes from the photographic industry	All codes starting with 09 01 xx
Acids and bases from chemical surface treatment	11 01 05, 11 01 06 and 11 01 07
Phosphatising sludges from chemical surface treatment	11 01 08
Sludges and filter cakes from chemical surface treatment	11 01 09 and 11 01 10
Other hazardous wastes from chemical surface treatment	11 01 11, 11 01 12, 11 01 13, 11 01 15, 11 01 16, 11 01 98 and 11 01 99
Wastes containing cyanide and other wastes from tempering processes	11 03 01 and 11 03 02
Machining oils, emulsions and solutions free of halogens	12 01 07 and 12 01 09
Wastes from hydraulic oils	All codes starting with 13 01 xx
Waste engine, gear and lubricating oils	All codes starting with 13 02 xx
Bilge oils	All codes starting with 13 04 xx
Oil, sludges and other wastes from oil/water separators	All codes starting with 13 05 xx
Other oil wastes	All codes starting with 13 03 xx, 13 07 xx and 13 08 xx
Waste organic solvents and refrigerants	All codes starting with 14 06 xx
Oil filters, brake fluids, antifreeze fluids and other hazardous waste from end-of-life vehicles	All codes starting with 16 01 xx except 16 01 04
Waste electronics containing PCBs	16 02 09 and 16 02 10
Waste electronics containing CFC, HCFC or HFC	16 02 11 and 20 01 23
Other waste electronics	16 02 13, 16 02 14, 16 02 15, 16 02 16 , 20 01 35 and 20 01 36
Fluorescent tubes and other mercury-containing waste	20 01 21
Discarded chemicals	16 05 06, 16 05 07, 16 05 08 and 16 05 09
Lead accumulators, Ni-Cd batteries and mercury-containing batteries	16 06 01, 16 06 02 and 16 06 03
Lead accumulators, Ni-Cd batteries and mercury-containing batteries from households	20 01 33
Other batteries	16 06 04 and 20 01 34
Concrete, bricks, tiles and ceramics containing dangerous substances	17 01 06
Glass, plastic and wood containing or contaminated with dangerous substances	17 02 04
Bituminous mixtures, coal tar and tarred products	17 03 01, 17 03 02, 17 03 03
Cables containing oil, coal tar and other dangerous substances	17 04 10
Insulation materials and asbestos-containing materials	All codes starting with 17 06 xx
Construction and demolition wastes containing PCB	17 09 02
Other hazardous construction and demolition wastes	All codes starting with 17 yy xx except 17 01 06, 17 02 04, 17 03 01, 17 03 02, 17 03 03, 17 04 10, 17 06 xx and 17 09 02

Hazardous waste	European List of Waste code
Wastes from hospitals, medicare, dental care and research	All codes starting with 18 01 xx and 18 02 xx
Solvents, acids, alkalines and photochemicals from households and the service sector	20 01 13, 20 01 14, 20 01 15 and 20 01 17
Pesticides from households and the service sector	20 01 19
Paint, inks, adhesives and resins from households and the service sector	20 01 27 and 20 01 28
Medicines from households and the service sector	20 01 31 and 20 01 32
Wood containing dangerous substances from households and the service sector	20 01 37
Other	Other European List of Waste codes

Appendix 5 Construction and demolition waste - LoW codes

Building and construction waste	European List of Waste codes
Concrete	17 01 01
Bricks	17 01 02
Tiles and ceramics	17 01 03
Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics	17 01 06 and 17 01 07
Wood	17 02 01, 19 12 06, 19 12 07, 20 01 37 and 20 01 38
Glass	17 02 02 and 20 01 02
Plastics	17 02 03 and 20 01 39
Bituminous mixtures, coal tar and tarred products	17 03 01, 17 03 02 and 17 03 03
Copper, bronze, brass, aluminium	17 04 01 and 17 04 02
Iron and steel	17 04 05, 19 10 01, 19 12 02 and 20 01 40
Lead, zinc, tin, mixed metals and other metals	17 04 03, 17 04 04, 17 04 06, 17 04 07, 17 04 09 and 19 12 03
Cables	17 04 10 and 17 04 11
Track ballast	17 05 07 and 17 05 08
Insulation materials	17 06 01, 17 06 03 and 17 06 04
Construction materials containing asbestos	17 06 05 and 17 06 06
Gypsum-based construction materials	17 08 01 and 17 08 02
Construction and demolition wastes containing PCB	17 09 02
Mixed construction and demolition wastes	17 09 04
Mixed residual waste	20 03 01
Other wastes from building and construction activities	Other European List of Waste codes

Appendix 6 Power, gas and district heating supply - LoW codes

Waste from power, gas and district heating supply	European List of Waste codes
Bottom ash, slag and boiler dust	10 01 01
Coal fly ash	10 01 02
Calcium-based reaction wastes from flue gas desulphurisation (gypsum waste)	10 01 05 og 10 01 07
Fly ash from co-incineration	10 01 16 og 10 01 17
Other wastes from gas cleaning	10 01 18 og 10 01 19
Other wastes	Other European List of Waste codes

Appendix 7 Disposal and recovery codes

Forms and methods of disposal, cf. section 3(14) of the Danish Statutory Order on Waste	
D code	**D code description**
D 1	Deposit into or on to land (e.g. landfill, etc.)
D 2	Land treatment (e.g. biodegradation of liquid or sludgy discards in soils, etc.)
D 3	Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.)
D 4	Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.)
D 5	Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)
D 6	Release into a water body except seas/oceans
D 7	Release to seas/oceans including sea-bed insertion
D 8	Biological treatment not specified elsewhere in this Annex, which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12
D 9	Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
D 10	Incineration on land
D 11	Incineration at sea *
D 12	Permanent storage (e.g. emplacement of containers in a mine, etc.)
D 13	Blending or mixing prior to submission to any of the operations numbered D 1 to D 12 **
D 14	Repackaging prior to submission to any of the operations numbered D 1 to D 13
D 15	Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced) ***

* This operation is prohibited by EU legislation and international conventions.

** If there is no other D code appropriate, this can include preliminary operations prior to disposal including pre-processing such as, inter alia, sorting, crushing, compacting, pelletising, drying, shredding, conditioning or separating prior to submission to any of the operations numbered D1 to D12.

*** Temporary storage means preliminary storage according to point (10) of Article 3.

Forms and methods of recovery, cf. section 3(40) of the Danish Statutory Order on Waste	
R code	**R code description**
R 1	Use principally as a fuel or other means to generate energy *
R 2	Solvent reclamation/regeneration
R 3	Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) **
R 4	Recycling/reclamation of metals and metal compounds
R 5	Recycling/reclamation of other inorganic materials ***
R 6	Regeneration of acids or bases
R 7	Recovery of components used for pollution abatement
R 8	Recovery of components from catalysts
R 9	Oil re-refining or other reuses of oil
R 10	Land treatment resulting in benefit to agriculture or ecological improvement
R 11	Use of waste obtained from any of the operations numbered R 1 to R 10
R 12	Exchange of waste for submission to any of the operations numbered R 1 to R 11 ****
R 13	Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced) *****

* This includes incineration facilities dedicated to the processing of municipal solid waste only where their energy efficiency is equal to or above:

– 0,60 for installations in operation and permitted in accordance with applicable Community legislation before 1 January 2009,

– 0,65 for installations permitted after 31 December 2008,

The R1 factor is calculated using the following formula:
Energy efficiency = (Ep - (Ef + Ei))/(0,97 × (Ew + Ef)), in which

– Ep means annual energy produced as heat or electricity. It is calculated with energy in the form of electricity being multiplied by 2,6 and heat produced for commercial use multiplied by 1,1 (GJ/year)

– Ef means annual energy input to the system from fuels contributing to the production of steam (GJ/year)

– Ew means annual energy contained in the treated waste calculated using the net calorific value of the waste (GJ/year)

– Ei means annual energy imported excluding Ew and Ef (GJ/year)

0,97 is a factor accounting for energy losses due to bottom ash and radiation. This formula shall be applied in accordance with the reference document on Best Available Techniques for waste incineration.

The R1 factor is calculated using the directions of the EU Commission's "Guidelines on the interpretation of the R1 energy efficiency formula for incineration facilities dedicated to the processing of municipal solid waste according to Annex II of Directive 2008/98/EC on waste.

** This includes gasification and pyrolisis using the components as chemicals.

*** This includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.

**** If there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, inter alia, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11.

***** Temporary storage means preliminary storage according to point (10) of Article 3 of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste.

Appendix 8 Additional figure on treatment options

Figure 8 is a simplification of Figure 2.1 of these Statistics, in which the primary waste generated (excl. soil) is distributed by the following five treatment options; *recycling, incineration, landfilling, temporary storage* and *special treatment*. In Figure 8, waste from *temporary storage* has been added to incineration, since *temporary storage* is a code exclusively used in cases where waste is subsequently incinerated, cf. Statutory Order on the Waste Data System. *Special treatment* is treatment of hazardous waste, and quantities under this treatment option have been assigned to *recycling, incineration* and *landfilling* using the R and D codes (see Appendix 7) selected in connection with *special treatment*. In cases where R1 and D10 have been selected, quantities have been added to incineration; when a D code (with the exception of D10) has been used, the quantities have been added to *landfilling* and the quantity has been labelled *landfilling and other disposal* in Figure 8. In cases when an R code (with the exception of R1) has been used in combination with *special treatment*, the quantities have been added to *recycling* and the quantity has been labelled *recycling and other material recovery* in Figure 8.

Figure 8 shows the same overall development as Figure 2.1; recycling and other material recovery increases, while incineration and landfilling and other disposal show a decrease.

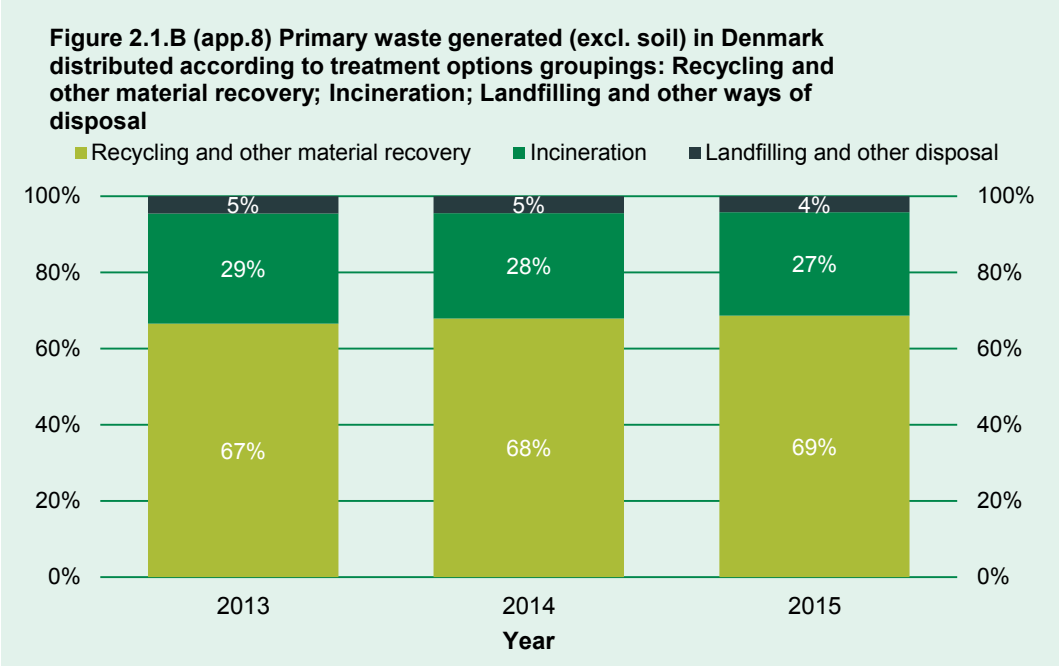


Figure 8. Primary waste generated (excl. soil) in Denmark distributed by treatment options: Recycling and other material recovery, incineration, and landfilling and other disposal.

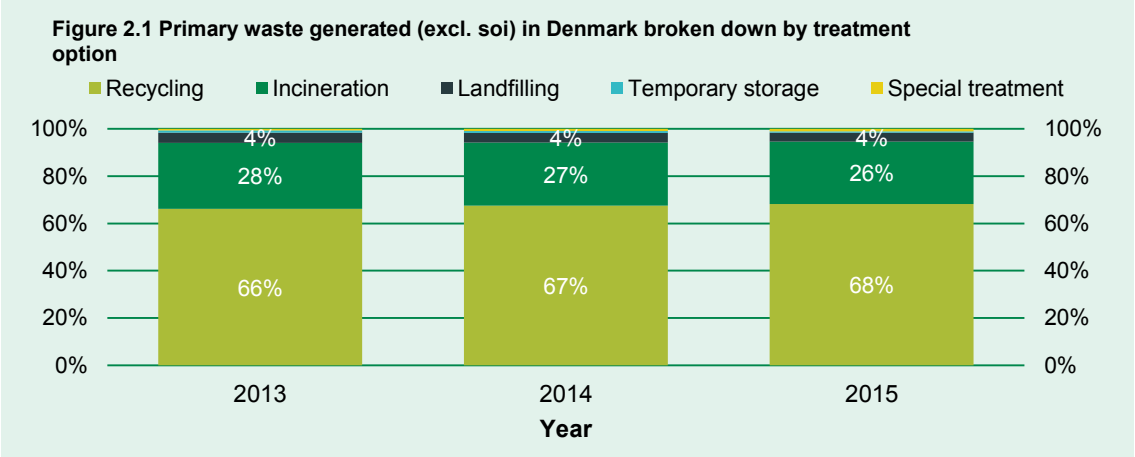


Figure 2.1. Primary waste generated (excl. soil) in Denmark broken down by treatment option.

Water Statistics 2015

The statistics give a detailed description of the quantity of waste generated in Denmark in the period 2013-2015 broken down on waste types and treatment options. This information is supplemented by detailed information about the sources generating the waste. In addition, information about quantities of waste imported and exported is presented. Finally, at the end of Waste Statistics 2015 a section provides the status for compliance at the national and regional levels with the 2022 objectives in pursuance of “Denmark without waste - Resource plan for waste management 2013-2018” regarding recycling of waste from households (50% objective).

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