# EVALUATION OF COMPREHENSIVE WASTE MANAGEMENT SYSTEM WITHIN THE CITY OF PRAGUE IN THE YEARS 1998-2017

# WASTE PRODUCTION

The City of Prague as a waste originator has produced the following:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *year* | *waste \*) (kt)* | *disposed (kt)* | *recovered (kt)* | | | |
| *landfill* | *total* | *energy recovery* | *resource recovery* | |
| *- sorted* | *Fe – from cinders* |
| *1998* | *231.6* | *94.5* | *138.0* | *129.1* | *8.0* | *2.0* |
| *1999* | *240.9* | *31.3* | *209.6* | *193.6* | *16.0* | *3.1* |
| *2000* | *251.1* | *59.2* | *191.9* | *166.9* | *25.0* | *2.9* |
| *2001* | *257.2* | *31.9* | *225.3* | *196.3* | *29.0* | *2.9* |
| *2002* | *281.8* | *42.5* | *239.3* | *202.0* | *37.3* | *3.3* |
| *2003* | *292.9* | *43.4* | *249.5* | *205.4* | *44.1* | *3.6* |
| *2004* | *305.0* | *42.4* | *262.6* | *208.1* | *54.5* | *2.8* |
| *2005* | *319.1* | *54.0* | *265.1* | *201.2* | *63.9* | *3.4* |
| *2006* | *326.4* | *53.7* | *272.7* | *200.5* | *72.2* | *3.3* |
| *2007* | *340.5* | *62.9* | *277.6* | *197.3* | *80.3* | *3.1* |
| *2008* | *360.2* | *72.3* | *287.9* | *190.8* | *97.1* | *3.1* |
| *2009* | *382.7* | *78.6* | *304.1* | *191.2* | *112.9* | *3.1* |
| *2010* | *385.3* | *68.3* | *317.0* | *200.4* | *116.6* | *3.2* |
| *2011* | *395.9* | *53.4* | *342.5* | *220.6* | *121.9* | *2.1* |
| *2012* | *385.1* | *35.7* | *349.4* | *228.5* | *120.9* | *3.2* |

\*) the total amount of waste includes only the amount of waste whose collection and recovery/disposal is covered by the Prague City Hall Environment Department. The total amount of waste was thus higher, including e.g. street sweepings or scrap vehicles.

There was a change to the methodology of analysis starting in 2013. Currently the assessment is based on the values listed in the City of Prague annual report on production of waste and according to the individual codes for disposal listed in the annual reports of authorised entities. The total amount includes street sweepings. In 2013 it is necessary to also take into account the flood waste that was landfilled.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Total amount of waste \*) (kt)* |  | *disposed (kt)* | | | *recovered (kt)* | | |
| *Landfill* | | *Released into bodies of water* | *Incinerated* | *Energy* | *Resource* | *Total* |
| *2013* | *400.9* | *77.5* | |  | *1.8* | *226.6* | *95.0* | *321.4* |
| *2014* | *405.8* | *65.7* | |  | *0.5* | *241.9* | *97.8* | *339.7* |
| *2015* | *408.2* | *55.7* | |  | *0.1* | *251.7* | *100.0* | *351.9* |
| *2016* | *423.5\*\** | *50.8* | | *13.2* | *0.6* | *245.9* | *113.0* | *358.9* |
| *2017* | *430.3* | *54.8* | | *16.9* | *0.6* | *241.3* | *116.7* | *358.1* |

\*\* Since 2016, at the recommendation of the Czech Environmental Inspectorate, the total amount has also included waste production from the activity of natural persons within municipal districts where the waste was generated by services provided for its citizens by the district from its own budget above and beyond the services provided by Prague City Hall. Also included in the overall amount are street sweepings from road cleaning, the production of which totalled around 18 875 t in 2017

The increased efficiency of sorted waste collection is evidenced by the following table. If we consider waste recovery to include both resource recovery and *energy* recovery of waste at ZEVO Malešice, the result of recycling is even more pronounced (this corresponds to the wording of the new Act on Waste, which has been in effect since 1 January 2002):

|  |  |  |
| --- | --- | --- |
| ***year*** | ***efficiency of recycling***  *only resource recovery*  *(% of weight)* | ***percentage of waste utilised***  *material and resource recovery*  *(% of weight)* |
| *1997\** | *0.5* | *0.5* |
| *1998* | *4.3* | *43* |
| *1999* | *7.8* | *63* |
| *2000* | *11.0* | *57* |
| *2001* | *12.3* | *77* |
| *2002* | *14.3* | *73* |
| *2003* | *16.3* | *84* |
| *2004* | *18.6* | *86* |
| *2005* | *21.1* | *83* |
| *2006* | *23.1* | *83* |
| *2007* | *24.5* | *82* |
| *2008* | *27.8* | *81* |
| *2009* | *30.3* | *80* |
| *2010* | *31.1* | *83* |
| *2011* | *31.3* | *87* |
| *2012* | *32.2* | *91* |
| *2013\*\** | *23.7* | *80* |
| *2014* | *24.1* | *84* |
| *2015* | *24.6* | *86* |
| *2016* | *26.7* | *85* |
| *2017* | *27.1* | *83* |

\* before project was implemented

\*\* in 2013 the methodology was changed; see previous table

In 2017 only 13% of reported waste was placed in landfills and around 4% was destroyed.

Energy recovery means using waste in a manner similar to fuel in order to obtain its energy content or to produce energy in a different manner. For this method of use the condition must also be met that the used waste does not require other supplementary fuel to be incinerated after it is ignited and the heat created must be used for own needs or that of other entities. In the case of mixed waste incineration at ZEVO Malešice these conditions are met.

Since 2002 the **cinder and ash from the process of energy recovery** has been partially **utilised as a resource and in part placed in a landfill**. Energy recovery of mixed waste in the first years was adapted to the season. Pražská teplárenská, a.s. cost-favoured steam supply during the heating season. In 2011 a cogeneration unit was put into operation and waste recovery ceased being dependent exclusively on the consumption of heating steam.

**COMPREHENSIVE SORTED COLLECTION OF RECOVERABLE COMPONENTS OF MUNICIPAL WASTE**

The Waste Management Project is gradually being implemented within the City of Prague. In the years 1998–2001, Phase 1 took place and in 2002–2011 Phase 2 of project implementation took place. The principle of the project, approved by Prague City Assembly Resolution No. 47 of 16 January 1996, is a citywide comprehensive system of sorting municipal waste (hereinafter "MW"). In the years 2012–2016 the municipal waste system was implemented through contracts signed on the basis of what are called negotiated procedures without prior publication. Effective 1 August 2016, a contract was concluded with the Prague Waste Consortium 2016–2025 for "provision of a comprehensive system of waste management within the City of Prague for the period 2016–2025".

Municipal waste is sorted into the following categories:

1. paper
2. mixed glass
3. mixed plastics
4. bulky waste
5. mixed waste
6. hazardous waste
7. ferrous and non-ferrous metals – taking place since 1 August 2016 in the form of containers placed at approx. 585 recycling stations for collection of "metal packaging"
8. building rubble
9. take-back products
10. wood waste
11. tyres
12. organic waste
13. drink cartons – containers are located at approx. 2 875 stations
14. clear glass – placed at approx. 1 710 stations
15. worn soft goods, clothing and footwear
16. used food oil and fat

The number of stations and containers listed for the individual commodities are as of 31 December 2017.

Citizens can discard the various components of MW in the following manner:

* **paper, drink cartons, glass, plastic and metal packaging** –in the collection receptacles designated for these components of MW right on the street or in homes (within the Prague Heritage Reserve); such waste can also be left at city collection yards
* **bulky waste** – in large-scale containers placed in the street at regular intervals; this waste can also be left at city collection yards and mobile collection yards
* **organic waste** – in large-scale containers intended for the collection of organic waste placed in the street at regular intervals; this waste can also be left at city collection yards and mobile collection yards, as well as at the stable collection point in Prague 10 – Malešice, and most recently at the City of Prague Composting Plant in Slivenec
* **mixed waste** – in collection receptacles found on every property or by the road

**- hazardous waste** (solvents, acids, bases, photographic chemicals, pesticides, fluorescent lamps and other waste containing mercury, oil and fat (excluding edible ones), paint, printing ink, adhesives, resins, detergents and degreasing agents, unusable cytostatics and pharmaceuticals, batteries and accumulators) – during mobile collection, at city collection yards and stable collection points, at pharmacies (unusable pharmaceuticals); collection of syringes takes place in cooperation with the Municipal Police

**- ferrous and non-ferrous metals** – this waste can be placed in city collection yards

* **wood waste** – this waste can be placed in city collection yards and in mobile collection yards
* **building rubble, take-back products, tyres** – at city collection yards; starting 23 July 2015 building rubble was also collected as part of mobile collection yards
* **worn soft goods, clothing and footwear** – can be left at city collection yards
* **used food oil and fat** – can be left at city collection yards
* **supplementary collection** –under supplementary collection children can leave paper at schools taking part in the competition for collection of old paper organised by České sběrné suroviny under the patronage of Prague City Hall, or by the companies Pražské služby, a.s., FCC Česká republika, s.r.o, or LeoCzech s.r.o.

**mixed waste**

A sufficient volume of collection receptacles for mixed waste is ensured by the owners or managers of properties. The number of collection receptacles at individual properties has gradually increased. Currently, the number of collection receptacles for mixed municipal waste is 119 353. Over recent years, due to changes in the Waste Act, there have several times been changes associated with the placement of collection receptacles for mixed waste. Building owners have attempted to optimise their orders in procuring a sufficient volume of collection receptacles in order to make the costs associated with trash collection for individual buildings as low as possible.

Despite this, the average volume per inhabitant and week based on the current number of receptacles with the given frequency increased slightly from 36.4 litres in 1998 to 37.3 litres in 2001. After capacity payments were introduced in 2002, this average volume based on the demands of inhabitants increased significantly more quickly, totalling 42.6 litres per person and week halfway through the year and having risen to 43.8 litres per person and week by the end of 2002. In 2003, property owners again adjusted the volume of collection receptacles. At the end of 2003 an average of 42.3 litres per person and week was serviced. Currently the average has held at this level.

Production of mixed waste from receptacles placed in homes or on the city streets (in thousands of tonnes):

|  |  |  |
| --- | --- | --- |
| year | amount of waste in thousands of t | year-on-year growth |
| 1998 | 210.5 | - |
| 1999 | 208.6 | -0.85% |
| 2000 | 209.9 | 0.57% |
| 2001 | 211.8 | 0.95% |
| 2002 | 226.7 | 6.99% |
| 2003 | 230.2 | 1.54% |
| 2004 | 231 | 0.35% |
| 2005 | 234.7 | 1.02% |
| 2006 | 237.7 | 1.29% |
| 2007 | 240.3 | 1.11% |
| 2008 | 243.1 | 1.16% |
| 2009 | 244.6 | 0.62% |
| 2010 | 245.1 | 0.20% |
| 2011 | 246.8 | 0.69% |
| 2012 | 247.3 | 0.20% |
| 2013 | 246.3 | - 0.41% |
| 2014 | 246.2 | -0.04% |
| 2015 | 247.2 | 0.40% |
| 2016 | 249.2 | 0.80% |
| 2017 | 250.2 | 0.40% |

Aside from mixed municipal waste coming from receptacles for citizens, the City of Prague as a waste originator also reported in 2017 for municipal waste coming from seniors' homes (34.3 t), from Municipal District Authorities (1527.7 t), from Prague's waterfront promenades (4.7 t), from Prague City Hall buildings (104 t), from the Technical Administration of Roads (6 151.7) and from the Aquacentre Šutka (33.4 t).

**Collection of Christmas trees as part of mixed waste**

Inhabitants have the opportunity to place Christmas trees by the collection receptacles for mixed waste during the Christmas period and start of the new year (December – January). Collection companies provide for their collection as part of the collection and haulage of mixed waste.

The costs for collection and disposal of Christmas trees have been calculated since 2015 in the price for collection and energy recovery of mixed municipal waste. In 2017, 195.5 t of Christmas trees were collected during Christmas and the new year as part of this.

**SORTED COLLECTION OF PAPER, GLASS, PLASTICS, DRINK CARTONS AND METAL PACKAGING**

Currently 4 733 collection sites have been established within the city as part of the citywide system of sorting recyclables (including receptacles in buildings within the Prague Heritage Reserve) for paper, glass, plastic, drink cartons and metal packaging. In order to achieve the target state – 1 collection site for around 500 inhabitants in areas with apartment buildings and 1 collection site for around 200 inhabitants in areas with family homes – there is currently a slight increase in the number of collection sites underway (only in areas where the collection receptacles are constantly overfilled and areas with new residential development). Expansion of the system is dealt with primarily by increasing the frequency with which individual receptacles are emptied.

In the streetside system, collection receptacles (containers) are used with a volume of 1 100 – 4000 litres, emptied from the top or bottom, and in the case of drink cartons and metal also containers with a volume of 240 litres. **Currently there are** approximately **3 370 collection sites in the city streets, of those 112 have underground containers**. The collection receptacles in the streetside system are placed so that 1 collection site serves an average of 375 residents. Aside from this, since 1998 the Prague Heritage Reserve has used a combination of the streetside system with a pick-up system of sorted collection, where the plastic collection receptacles of 120 or 240 litres are placed directly in residential buildings. Recycling receptacles are **located in 1362 buildings**. This type of collection could in the future be expanded beyond the PHR, primarily in the densely populated municipal districts, where there is a problem with a lack of space and mess around the recycling stations.

In 2017 a pilot project also took place to monitor the cleanliness of collection by placing receptacles inside buildings in Municipal District Prague 8 in the cadastre of Karlín. This project proved expedient and in cooperation with Prague 8, further home stations are being established at selected locations.

The placement of collection sites is determined by municipal districts following consultation with the collection companies. The number of collection sites corresponds to the number of inhabitants and the type of buildings. Each collection site must have approval for special use of a roadway (if placed on a roadway – in the street, on the sidewalk, etc.).

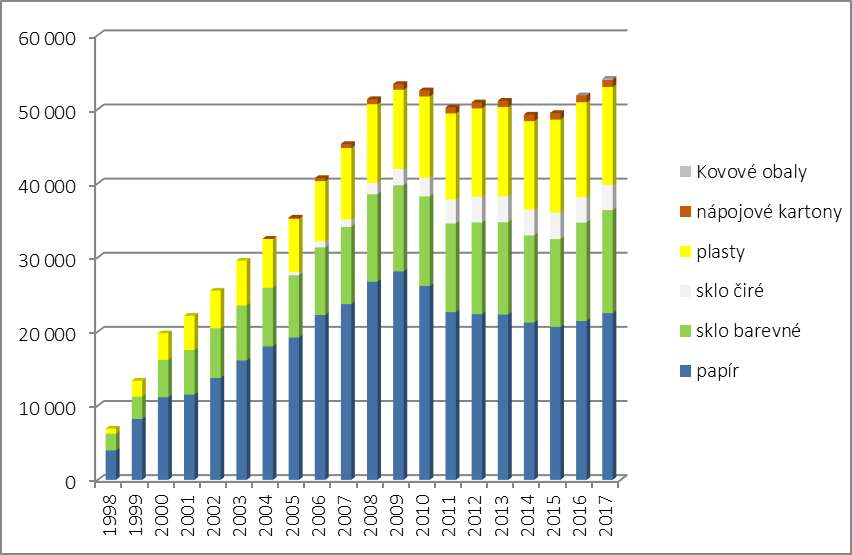
For several years now a competition among primary schools in collecting old paper has been taking place under the patronage of Prague City Hall. In this manner it acquires further sorted paper, with the advantage being that the City of Prague needn't cover any costs. The proceeds from the sorted paper are revenue of the school in question. The winning schools (based on maximum amount and average per student) receive prizes from the collection operator. Aside from České sběrné suroviny, paper collection has also been operated since 2008 by FCC Česká republika, s.r.o., LeoCzech, s.r.o. and Pražské služby, a.s. The total amount of paper collected at schools in 2017 was 1 202.03 t. In addition to paper collection, plastic (5.60 t) and aluminium (2.41 t) is also collected at primary schools.

Beyond the public sorted waste stations placed in the city streets and buildings, the City of Prague also reports as a waste originator the sorted waste collected as part of services organised by Municipal District Authorities (21.83 t) as well as at City of Prague collection yards (754.015 t) in City of Prague buildings (2.162 t) and in the Aquacentre Šutka (2.949 t). In 2017 this amount totalled approximately 781 t.

Results of sorted collection of paper, glass, plastic and drink cartons (tonnes) from streetside receptacles and home bins (primarily in PHR):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| year | paper | coloured glass | clear glass | plastic | drink cartons | metal packaging | total |
| 1998 | 3 983 | 2 248 |  | 684 |  |  | 6 915 |
| 1999 | 8 205 | 3 018 |  | 2 172 |  |  | 13 395 |
| 2000 | 11 152 | 5 039 |  | 3 586 |  |  | 19 777 |
| 2001 | 11 501 | 6 016 |  | 4 623 |  |  | 22 140 |
| 2002 | 13 738 | 6 711 |  | 5 081 |  |  | 25 530 |
| 2003 | 16 097 | 7 436 |  | 6 040 |  |  | 29 573 |
| 2004 | 18 003 | 7 909 | 2 | 6 596 | 9 |  | 32 519 |
| 2005 | 19 214 | 8 399 | 432 | 7 164 | 171 |  | 35 380 |
| 2006 | 22 244 | 9 119 | 828 | 8 114 | 424 |  | 40 729 |
| 2007 | 23 711 | 10 425 | 996 | 9 643 | 536 |  | 45 312 |
| 2008 | 26 732 | 11 805 | 1 529 | 10 609 | 701 |  | 51 376 |
| 2009 | 28 128 | 11 615 | 2 206 | 10 675 | 794 |  | 53 418 |
| 2010 | 26 162 | 12 090 | 2 509 | 10 956 | 835 |  | 52 552 |
| 2011 | 22 636 | 11 955 | 3 235 | 11 594 | 828 |  | 50 248 |
| 2012 | 22 360 | 12 367 | 3 490 | 11 904 | 814 |  | 50 935 |
| 2013 | 22 299 | 12 451 | 3 490 | 12 042 | 870 |  | 51 977 |
| 2014 | 21 207 | 11 771 | 3 464 | 11 950 | 897 |  | 49 289 |
| 2015 | 20 633 | 11 851 | 3 572 | 12 546 | 895 |  | 49 497 |
| 2016 | 21 426 | 13 282 | 3 402 | 12 827 | 937 | 21 | 51 895 |
| 2017 | 22 488 | 13 897 | 3 436 | 13 181 | 981 | 144 | 54 127 |

Amount of recyclable collection in years 1998-2017



metal packaging

drink cartons

plastic

clear glass

coloured glass

paper

**collection yards**

One of the outputs of the City of Prague Waste Management Project was "**Sorted Collection of Waste Through Collection Yards**". The project stipulated that around 20 collection yards ("CY") should be set up and operated within the city and since 2015 this goal has been met. At 20 collection yards citizens can place the following types of waste (bulky waste, greenery waste – organic waste, wood, construction waste, metal waste, electronic waste, paper, glass, plastic and also hazardous components of MW) into individual containers under the supervision of staff.

In 2015 the service was expanded to include the possibility of disposing of worn soft goods, footwear and clothing (on the basis of a contract with Diakonie Broumov) and from 2016 also used food oil and fat on the basis of a contract with the company Viking group, s.r.o.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| number of CY | 4 | 4 | 6 | 7 | 9 | 11 |
| number of visits | 23 234 | 34 073 | 56 547 | 84 286 | 107 239 | 144 938 |
| **amount of waste in t** | | | | | | |
| construction waste | 2 602 | 4 587 | 5 387 | 7 606 | 10 171 | 11 550 |
| bulky waste | 1 417 | 2 212 | 3 150 | 6 891 | 9 923 | 13 900 |
| wood | 398 | 528 | 860 | 1 319 | 1 350 | 2 347 |
| metal waste | 195 | 227 | 339 | 344 | 360 | 433 |
| electronic waste | 76 | 113 | 175 | 249 | 543 | 1078 |
| greenery waste | 552 | 1 665 | 2 173 | 3 106 | 4 642 | 4 447 |
| tyres | 8 | 18 | 33 | 55 | 59 | 45 |
| paper \* | - | - | - | 89 | 100 | 95 |
| Total | 5 248 | 9 350 | 12 117 | 19 659 | 27 148 | 33 895 |
| supplementary collection (provided by collection company serving the given pick-up area) | | | | | | |
| paper | 65 | 101 | 155 | 116 | 161 | 172 |
| glass | 51 | 97 | 110 | 111 | 166 | 163 |
| plastic | 20 | 29 | 61 | 72 | 90 | 80 |
| collection of hazardous waste left at CY | | | | | | |
| hazardous waste | 137 | 195 | 295 | 525 | 677 | 367 |
| Total | 5 521 | 9 772 | 12 738 | 20 483 | 28 242 | 34677 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| number of CY | 10 | 12 | 12 | 13 | 14 | 17 |
| number of visits | 150 881 | 252 307 | 295 021 | 307 358 | 348 938 | 345 560 |
| **amount of waste in t** | | | | | | |
| construction waste | 11 595 | 16 363 | 17 948 | 20 504 | 25 315 | 27 292 |
| bulky waste | 12 259 | 17 767 | 25 107 | 26 042 | 26 144 | 23 753 |
| wood | 2 913 | 3 792 | 5 992 | 6 239 | 7 882 | 9 723 |
| metal waste | 453 | 563 | 1 110 | 989 | 980 | 835 |
| electronic waste | 1 617 |  |  |  |  |  |
| greenery waste | 5 464 | 5 964 | 6 268 | 7 535 | 8 085 | 5 782 |
| tyres | 130 | 232 | 216 | 235 | 316 | 334 |
| paper \*\* | 104 | 162 | 192 | 243 | 253 | 262 |
| glass \*\*\* |  |  |  | 12 | 2 | 18 |
| plastic \*\* |  |  |  |  |  | 36 |
| drink cartons \*\* |  |  |  | 103 | 5 | 3 |
| hazardous waste\*\*\* | 261 | 301 | 301 | 298 | 353 | 364 |
| Total | 34 796 | 45 144 | 57 134 | 62 200 | 69 335 | 68 402 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 2013 | 2014 | 2015 | 2016 | 2017 |  |
| number of CY | 16 | 17 | 20 | 20 | 20 |  |
| number of visits CY | 297 935 | 335 959 | 350 556 | 375 218 | 388 602 |  |
| Number of visits TB +HW\* | 44 995 | 40 541 | 38 880 | 49 583 | 48 846 |  |
| **amount of waste in t** | | | | | | |
| construction waste | 25 730 | 29 097 | 27 398 | 28 684 | 26 855 |  |
| bulky waste | 18 741 | 22 023 | 23 665 | 25 180 | 26 562 |  |
| wood | 9 539 | 10 431 | 11 512 | 12 192 | 12 774 |  |
| metal waste | 818 | 763 | 1 154 | 1 783 | 1 816 |  |
| greenery waste | 4 520 | 5 267 | 5 503 | 7 651 | 6 976 |  |
| tyres | 285 | 279 | 275 | 260 | 285 |  |
| paper \*\* | 571 | 408 | 405 | 467 | 452 |  |
| glass \*\*\* | 319 | 299 | 197 | 184 | 189 |  |
| plastic \*\* | 59 | 65 | 120 | 131 | 112 |  |
| drink cartons \*\* | 0,4 | 1 | 1 | 2 | 1 |  |
| hazardous waste\*\*\* | 355 | 388 | 408.5 | 490 | 532 |  |
| oils and fats | 0 | 0 | 0 | 0,16 | 5 |  |
| Total | 60 937 | 68 650 | 70 638 | 77 024 | 76 561 |  |

Note: \* also includes visits as part of take-back scheme and hazardous waste

\*\* paper, plastic, glass and drink cartons passed along for use outside the system

\*\*\* listed amount of hazardous waste is solely for CY

In cooperation with Diakonie Broumov, there has been collection of worn soft goods, clothing and footwear at City of Prague collection yards since 2015. In 2017 a total of 38.2 t of old textiles was collected outside the waste system. 98% of all textiles is meaningfully used for material assistance. Of the material not suitable for humanitarian purposes, cleaning cloths are made for industrial processing and 5% is used as alternative fuel in cement plants. In November 2016 the collection of used food oils and fats was also introduced. This new service is rising in popularity, as evidenced by the records of the amount taken in. In 2017 a total of 4.975 t of used food oils and fats was brought in, which otherwise would have primarily ended up in the sewer system.

Limitations on the construction of collection yards in certain municipal districts are presented by the historical buildings and layout possibilities (e.g. Prague 1, Prague 7). In these areas a possible alternative to stable collection yards that can continue to be used is what are called "**mobile collection yards**" – meaning several large-capacity containers are brought in with professional oversight of waste sorting (for a short period – one day at repeated regular intervals).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2002  (run 5 times) | 2003  (run 13 times) | 2004  (run 17 times) | 2005  (run 17 times) |
| number of visits | 198 | 523 | 572 | 423 |
| **total waste** | 30.4 t | 73.3 t | 75.3 t | 28.4 t |

Starting 1 July 2012, operation of mobile collection yards was launched. This service is intended primarily for municipal districts which do not have a stable collection yard within their territory or vicinity. Mobile collection yards (hereinafter "MCY") are realised on large suitable areas (e.g. a parking lot) where multiple containers for various (designated) types of waste can be placed. MCYs are realised for a duration of 6 hours (on weekdays in the afternoon, on weekends in mornings and afternoons) at the sites selected by the District Authorities in cooperation with the collection company and approved by Prague City Hall. As part of MCYs, containers are placed for the following types of waste: bulky waste, wood waste, organic waste and, since 2015, instead of metal a limited amount of construction waste (free up to 1 m3).

Production of waste left as part of MCYs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| MCY | 2012 (run 52 times) | 2013 (run 91 times) | 2014 (run 89 times) | 2015 (run 95 times) | 2016 (run 95 times) | 2017  (run 66 times) |
| bulky | 25.95 t | 836.67 t | 60.28 t | 59.41 | 55.17 | 45.82 |
| wood | 14.53 t | 288.05 t | 28.05 t | 33.07 | 29.39 | 29.2 |
| organic | 29.15 t | 15.59 t | 56.22 t | 85.54 | 57.38 | 34.86 |
| metals | 1.47 t | 17.65 t | 3.33 t | 3.89\* |  |  |
| building rubble | \*\* | \*\* | \*\* | 44.18 | 78.05 | 53.34 |
| **total waste** | 71.1 t | 1157.96 t | 147.88 t | 226.09 | 219.99 | 163.22 |

Aside from City of Prague stable and mobile collection yards (listed in the tables), District Authorities also provide for collection yards intended for citizens of the given municipal district. These are the collections yards for Prague 4 (Durychova), Prague 5 (Klikatá) and Prague 6 (Jednořadá). For citizens of Prague 2 and Prague 6 the Municipal District Authorities also organise mobile collection yards.

**bulky waste**

Citizens can leave bulky waste in large-capacity containers (LCC) with a minimum volume of 10 m3. In recent years the City of Prague paid for the placement of around 9 000 LCCs a year. With the growing number of collection yards, the City of Prague has reduced the number of LCCs – in 2017, 5 356 containers were put out. LCCs are allocated to municipal districts based on the number of inhabitants, with each municipal district having at least 10 LCCs at its disposal per year as prevention for illegal dumping. The municipal districts decide themselves on the places and times for putting out the LCCs according to their needs. Some municipal districts add further LCCs at their own cost and discretion. Other manners for collection of bulky waste are provided for via the city's stable collection yards and mobile collection yards on the streets. With the new contract taking effect (from 23 July 2015, contract no. INO/54//11/009063/2015) the vast majority of bulky waste from LCCs and MYCs was utilised as a material resource.

Aside from the above manners of handling bulky waste, the City of Prague also provides for additional clean-up around the collection receptacles for recyclable waste. In 2017 a further 6 165 t of bulky waste was accumulated from this clean-up. In addition, the table does not include bulky waste collected under District Authorities and Technical Administration of Roads, which in 2017 totalled 2 742.19 t and 140.64 t respectively.

Production of bulky waste (in tonnes):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| year | LCCs on streets | city CYs | MCYs | Total |
| 1998 | 13 128 | 129 | - | 13 257 |
| 1999 | 16 095 | 673 | - | 16 768 |
| 2000 | 16 150 | 916 | - | 17 066 |
| 2001 | 16 282 | 1 417 | - | 17 699 |
| 2002 | 16 525 | 2 212 | - | 18 737 |
| 2003 | 16 902 | 3 149 | - | 20 051 |
| 2004 | 17 601 | 6 891 | - | 24 492 |
| 2005 | 20 527 | 9 923 | - | 30 450 |
| 2006 | 17 991 | 13 900 | - | 31 891 |
| 2007 | 19 892 | 12 259 | - | 32 151 |
| 2008 | 20 003 | 17 769 | - | 37 771 |
| 2009 | 20 193 | 25 107 | - | 45 300 |
| 2010 | 18 500 | 26 042 | - | 44 542 |
| 2011 | 18 355 | 26 125 | - | 44 480 |
| 2012 | 11 273 | 23 753 | 26 | 35 026 |
| 2013 | 6899 | 18 741 | 837 | 26 477 |
| 2014 | 6 387 | 22 023 | 60 | 28 740 |
| 2015 | 5 122 | 24 039 | 59 | 29 220 |
| 2016 | 4 258 | 25 019 | 55 | 29 658 |
| 2017 | 4 238 | 26 562 | 46 | 30 846 |

**Organic Waste**

Reduction of the number of containers put out for bulky waste was made possible by the separate collection of organic waste using labelled LCCs. In 2017 a total of 1735 of these were put out for collection of organic waste and a total of 1201.87 tonnes of organic waste was acquired. Further manners of getting rid of organic waste are city collection yards, as well as the stable collection point in Prague 10 – Malešice, mobile collection yards and also now the City of Prague Composting Plant in Prague – Slivenec.

On 3 July 2017, the first City of Prague composting plant was opened in Prague-Slivenec. Organic waste from City of Prague residents is accepted here for free to a maximum amount of 250 kg per person and month.

Production of organic waste (in tonnes):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| year | Org. LCCs in streets | city CYs | Composting plant - Slivenec | Stable site – Malešice | MCYs | Total |
| 2001 | - | 552 |  | - | - | 552 |
| 2002 | - | 1 665 |  | - | - | 1 665 |
| 2003 | - | 2 173 |  | - | - | 2 173 |
| 2004 | - | 3 106 |  | - | - | 3 106 |
| 2005 | - | 4 642 |  | 166 | - | 4 808 |
| 2006 | - | 4 447 |  | 300 | - | 4 747 |
| 2007 | - | 5 464 |  | 254 | - | 5 718 |
| 2008 | - | 5 964 |  | 306 | - | 6 270 |
| 2009 | - | 6 268 |  | 501 | - | 6 769 |
| 2010 | 331\* | 7 535 |  | 527 | - | 8 393 |
| 2011 | 660 | 8 085 |  | 669 | - | 9 414 |
| 2012 | 830 | 5 782 |  | 626 | 29 | 7 267 |
| 2013 | 949 | 4 520 |  | 779 | 16 | 6 264 |
| 2014 | 576 | 5 256 |  | 872 | 56 | 6 760 |
| 2015 | 578 | 5 503 |  | 865 | 86 | 7 032 |
| 2016 | 1 008 | 7 651 |  | 959 | 57 | 9 815 |
| 2017 | 1 202 | 6 976 | 140 | 1016 | 35 | 9 368 |

\* in 2010 the service of putting out organic waste LCCs only took place from 1 Sep – 30 Nov 2010

Also in 2017, two pilot projects were launched to test the possibility of collecting organic waste (primarily kitchen waste) in the conditions of Prague. One of the projects took place in Prague 13 in an area of apartment buildings, where brown receptacles of 120 or 240 l were put out for plant-based biodegradable waste. The total amount collected under the project in 2017 totalled 22.8 t. The other pilot project in Prague 15 is focused on a housing development. At the end of November, primarily 240 l brown receptacles were put out in the area, with a total number of 83 containers. From 5 collections the yield was 4.39 tonnes of organic waste. The results and experiences from the project will serve as input for introducing citywide collection of biodegradable municipal waste within the City of Prague.

The table does not include organic waste collected under TSK. In 2017, this organic waste totalled 1458.3 t. As part of the obligations as a waste originator, Prague City Hall also recorded the 2017 organic waste collected by services organised by District Authorities (1683.7 for the catalogue number 20 02 01 and 2.02 t for the catalogue number 20 02 03), organic waste from the Holešovice Market 4.3 t, from City Hall buildings 0.72 t and from the Šutka Aquacentre 0.45 t.

**SORTED COLLECTION OF HAZARDOUS WASTE**

**Collection of hazardous waste** (hereinafter "HW") –solvents, acids, bases, photographic chemicals, pesticides, fluorescent lamps and other waste containing mercury, oil and fat (excluding edible ones), paint, printing ink, adhesives, resins, detergents and degreasing agents, unusable cytostatics and pharmaceuticals, batteries and accumulators – takes place within the City of Prague in several levels:

1. **mobile collection** – a total of 299 routes with an average of 8 stops
2. **stable collection** – a total of 27 stable HW collection points
3. **collection of unused pharmaceuticals** – as of 31 December 2017 there were 320 pharmacies involved in the city system

**Mobile collection** is run from February to November of the calendar year. HW collection takes place primarily from 1500 to 1900; at the request of municipal districts it is also conducted from 800 to 1200. In this manner citizens can drop off selected types of HW. Collection is conducted at least three times a year in individual municipal districts based on a firmly set schedule. The number of collection routes and stops corresponds to the number of residents in the municipal district in question. At designated stops at designated times the vehicle crew takes in HW from citizens.

**Stable collection** was provided for in 2017 at 27 stable collection points with year-round operations, where citizens could leave HW. Of those, 20 stable sites were part of collection yards whose operation is covered by the City of Prague.

**Collection of unused pharmaceuticals** takes place at over 320 pharmacies involved in the system organised by the city. Inhabitants can drop off unused pharmaceuticals at all pharmacies within the City of Prague, i.e. including those that do not use the city's system.

**Collection of syringes** in 2017 was provided for by the City of Prague in cooperation with the Municipal Police – via a collection company there is a system for handling infectious waste and sharp objects left behind by drug addicts, and from city shelters for abandoned animals.

In total the following amounts of HW were collected in the years 1998 - 2017:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Manner of collection** | **Amount of hazardous waste in tonnes** | | | | |
| **1998** | **1999** | **2000** | **2001** | **2002** |
| Stable collection | - | 63 | 85 | 81 | 131 |
| Mobile collection | 117 | 112 | 93 | 83 | 107 |
| **Total**  **stable and mobile collection** | **117** | **175** | **178** | **164** | **238** |
| Refrigeration devices | - | 25 | 57 | 123 | 348 |
| TV and PC monitors | - | - | - | - | - |
| Pharmaceuticals and mercury thermometers | - | 22 | 32 | 31 | 34 |
| Single-cell batteries | - | - | - | 1 | 7 |
| **Total** | **117** | **222** | **267** | **319** | **627** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Manner of collection** | **Amount of hazardous waste in tonnes** | | | | |
| **2003** | **2004** | **2005** | **2006** | **2007** |
| Stable collection | 196 | 236 | 271 | 391 | 288 |
| Mobile collection | 92 | 82 | 46 | 32 | 34 |
| **Total**  **stable and mobile collection** | **308** | **318** | **317** | **423** | **322** |
| Refrigeration devices | 467 | 491 | 409 | TB\* | TB |
| TV and PC monitors | - | - | 100 | TB | TB |
| Pharmaceuticals and mercury thermometers | 36 | 33 | 48 | 45 | 47 |
| Single-cell batteries | 8 | 8 | - | TB | TB |
| **Total** | **799** | **850** | **874** | **468** | **369** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Manner of collection** | **Amount of hazardous waste in tonnes** | | | | |
| **2008** | **2009** | **2010** | **2011** | **2012** |
| Stable collection | 322 | 322 | 311 | 366 | 378 |
| Mobile collection\*\*) | 80 | 123 | 101 | 64 | 14 |
| **Total**  **stable and mobile collection** | **402** | **445** | **412** | **430** | **392** |
| Refrigeration devices | TB | TB | TB | TB | TB |
| TV and PC monitors | TB | TB | TB | TB | TB |
| Pharmaceuticals and mercury thermometers | 68 | 57 | 57 | 56 | 61 |
| Single-cell batteries | TB | TB | TB | TB | TB |
| **Total** | **470** | **502** | **469** | **486** | **453** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Manner of collection** | **Amount of hazardous waste in tonnes** | | | | |
| **2013** | **2014** | **2015** | **2016** | **2017** |
| Stable collection | 367 | 413 | 424 | 512 | 532 |
| Mobile collection\*\*) | 39 | 27 | 29 | 34 | 30 |
| **Total** | **406** | **440** | **453** | **546** | **562** |
| **stable and mobile collection** |
| Refrigeration devices | TB | TB | TB | TB |  |
| TV and PC monitors | TB | TB | TB | TB |  |
| Unused pharmaceuticals | 69 | 79 | 87 | 95 | 107 |
| Syringes |  |  |  |  | 0.3 |
| Single-cell batteries | TB | TB | TB | TB |  |
| **Total** | **474** | **519** | **540** | **641** | **669.3** |

\*) TB – collection and records under take-back scheme

\*\*) only took place in months February, March, October and November in 2012

**PRODUCT TAKE-BACK**

On the basis of **Act No. 185/2001 Coll., on waste and amending certain acts,** as amended (hereinafter the "Waste Act"), entities that import or manufacture certain products are obliged to provide for **free take-back** thereof from consumers. This take-back obligation was in place by law for all the products below except refrigeration devices starting 23 February 2002. The obligation for take-back of electronic devices was established separately – starting 13 August 2005.

The following products are subject to the take-back scheme:

1. Mineral oils and oils from bituminous materials
2. Accumulators and **batteries**
3. **Discharge tubes and fluorescent lamps**
4. Tyres (not hazardous waste but is waste with a specific regime)
5. **End-of-life electronic devices from households**

In light of the fact that these products already currently have the status of a product in the take-back scheme, this amount reduces the production of hazardous waste within the City of Prague.

**The following was brought in by citizens under the take-back scheme:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |  |
| portable batteries (t) | 6 | 7 | 9.6 | 6.3 | 11.5 | 5.7 | unknown | 10.5 |
| TVs and monitors (t) | 83 | 442 | 776 | 1 346 | 1 735 | 1 525 | 1 486 | 1 660 |
| refrigerators (t) | 171 | 635 | 837 | 1 021 | 1 170 | 1 032 | 1 799 | 1 574 |
| light sources (t) |  | 0.8 | 3.8 | 7.2 | 10.0 | 10.4 | 11.5 | 13.7 |
| total (t) | 260 | 1 085 | 1 626 | 2 380 | 2 926 | 2 573 | 3 297 | 3 258 |

As part of the comprehensive system of municipal waste management within the City of Prague, there is the option of returning take-back products at City of Prague collection yards, and since 2012 also putting them in stationary containers placed in the city's streets. In 2017 there were 293 containers for small electronic devices placed in the streets.

In 2013 the information concerning the amount of take-back products collected was expanded, thus the data are presented in a new form. The following amount of devices and products in (t) collected under the take-back scheme at City of Prague collection yards in 2017:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Type of device, product | 2013 | 2014 | 2015 | 2016 | 2017 |
| TVs and monitors | 925 | 1 584.4 | 923.9 | 891.7 | 819.6 |
| other electronic devices - Asekol | 407.5 | 769 | 563.5 | 325.5 | 415.6 |
| light sources | 14.9 | 15.7 | 19.7 | 21.9 | 22.8 |
| refrigerators | 933 | 822.7 | 855.7 | 889.2 | 882.4 |
| large and small appliances – Elektrowin | 668.4 | 659.1 | 798.1 | 999.4 | 1 228.4 |
| batteries | 6.4 | 18.4 | 20.4 | 34.7 | 37.6 |
| Total | 1353.8 | 3 869.3 | 3 181.3 | 3 162.4 | 3406.6 |

The amount of small electronic devices collected in stationary containers placed in the streets in (t):

|  |  |
| --- | --- |
| year | amount (t) |
| 2012 | 94.5 |
| 2013 | 108.0 |
| 2014 | 143.1 |
| 2015 | 178.9 |
| 2016 | 243.1 |
| 2017 | 224.9 |

**costs of the comprehensive system for sorting municipal waste**

**Costs for mixed municipal waste**

Evident in the table and the graph is the impact of the ratio of landfilling and energy recovery on the total price for managing mixed municipal waste, including VAT. Also provided is the development of the price without VAT, and for comparison also the hypothetical case that there would have been zero inflation since 1998 (the average annual inflation rate for the individual years was used, source: CSO).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *year* | *Amount of mixed waste and manner of recovery or disposal* | | | *Costs for collection and further handling of mixed waste* | | |
| *mixed waste total* | *landfilling* | *incineration* | *including DPH* | *without DPH* | *without DPH and without inflation* |
| *(kt)* | | | *(mil. CZK)* | | |
| **1998** | 210.5 | 81.4 | 129.1 | 396.7 | 376.9 | 336.5 |
| **1999** | 208.6 | 15 | 193.6 | 501.6 | 476.5 | 415.5 |
| **2000** | 209.9 | 43.1 | 166.8 | 505 | 479.8 | 399.7 |
| **2001** | 211.8 | 15.5 | 196.3 | 532.4 | 505.8 | 397.6 |
| **2002** | 226.7 | 25.6 | 201.1 | 563.7 | 535.5 | 411.2 |
| **2003** | 230.2 | 26.6 | 203.6 | 583.8 | 554.6 | 420.4 |
| **2004** | 231 | 24.8 | 206.2 | 644.7 | 531.2 | 387.8 |
| **2005** | 234.7 | 33.5 | 201.2 | 697.8 | 586.3 | 417.2 |
| **2006** | 236.2 | 35.7 | 200.5 | 717.8 | 603.2 | 421.3 |
| **2007** | 240.3 | 43 | 197.3 | 740.9 | 622.6 | 424.3 |
| **2008** | 243.1 | 52.3 | 190.8 | 767.4 | 644.9 | 427.6 |
| **2009** | 244.6 | 53.4 | 191.2 | 735 | 667.7 | 415.8 |
| **2010** | 245.1 | 44.7 | 200.4 | 747.3 | 679.3 | 418.9 |
| **2011** | 246.8 | 26.2 | 220.6 | 760 | 690.9 | 419.7 |
| **2012** | 247.3 | 21 | 226.3 | 804.6 | 705.8 | 420.8 |
| **2013** | 246.3 | 24.2 | 222.1 | 809.1 | 703.6 | 405.6 |
| **2014** | 246.2 | 11.4 | 234.8 | 817.9 | 711.3 | 404.9 |
| **2015** | 247.2 | 3.6 | 243.6 | 808.7 | 703.2 | 403.7 |
| **2016** | 249.3 | 12.5 | 236.8 | 850.5 | 740.3 | 406.6 |
| **2017** | 250.2 | 230.6 | 19.6 | 938 | 816.8 | 416.8 |

Development of costs for mixed municipal waste in 1998-2017

actual price price w/o VAT price w/o VAT and w/o inflation

**Total costs**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total costs in thousands of CZK** | | | | | | | | |
|  | sorted collection in total | LCC + MCY | mixed | hazardous waste | organic | collection | metal packaging | **TOTAL** |
|  | waste\* | (LCC – Malešice) | yards |
| 2013 | 321 842[[1]](#footnote-1) | 20 644 | 808 534 | 7 523 | 2 151 | 59 900 | 134 | **1 220 727** |
| 2014 | 334 967 | 18 993 | 818 006 | 5 796 | 1 396 | 64 393 | 187 | **1 243 739** |
| 2015 | 321 227 | 16 616 | 808 704 | 5 469 | 1 360 | 65 139 |  | **1 218 515** |
| 2016 | 365 076 | 15 718 | 864 581 | 5 541 | 3 617 | 66 536 | - | **1 321 069** |
| 2017 | 430 459 | 15 464 | 958 884 | 5 329 | 4 669 | 72 376 |  | **1 487 181** |
|  |  |  |  |  |  |  |  |  |
| **Total revenue in thousands of CZK** | | | | | | | | |
|  | sorted collection in total\* | LCC + MCY | mixed | hazardous waste | organic | collection | metal packaging | **TOTAL** |
|  | waste (fee) | (LCC - Malešice) | yards |
| 2013 | 162 444[[2]](#footnote-2) | - | 705 297[[3]](#footnote-3) | 1 345[[4]](#footnote-4) | - | - | - | **869 086** |
| 2014 | 128 714 | - | 699 670 | 1 055 | - | - | - | **829 439** |
| 2015 | 133 656 | - | 701 763 | 981 | - | - | - | **836 399** |
| 2016 | 140 847 | - | 700 079 | 1 096 | - | - | - | **842 022** |
| 2017 | 150 176 |  | 710 935 | 908 |  |  |  | **862 019** |

\*) total value of costs for mixed waste includes costs for operating call centre and contact points

\*\*) Aside from the contribution from EKO-KOM, up until 2016 the revenue for sorted waste also included the annual income from businesses involved in the city system, which made use of certain outdoor recycling stations in a contractual share

The difference of approx. CZK 625 million for 2017 is paid by Prague City Hall from its budget.

**Contribution from EKO-KOM, a.s.**

One of the obligations of a municipality as a waste originator is to collect waste separately, among other things also ensuring separated collection of the recoverable components of municipal waste. The sorted recoverable components of municipal waste also include used packaging, and for some commodities packaging predominates (e.g. paper, plastic, glass, drink cartons).

A municipality that runs sorted collection of municipal waste can join the EKO-KOM system on the basis of an Agreement on Provision of Take-Back and Recovery of Packaging Waste. On the basis of this contract, a municipality earns the right to compensation for providing for take-back and subsequent recovery of packaging waste. This compensation is calculated on the basis of a regular quarterly report on the amount, type and method of treatment of recoverable components of municipal waste. The amount of the compensation is dependent in particular on the amount of sorted waste, the amount of which grows with the efficiency of the collection system. The compensation helps lower the costs associated with running the system for collection of recoverable components of municipal waste.

|  |  |
| --- | --- |
|  | compensation from EKO-KOM a.s. (in CZK thousands) |
| 2001 | 22 899 |
| 2002 | 39 531 |
| 2003 | 70 788 |
| 2004 | 71 093 |
| 2005 | 81 887 |
| 2006 | 90 575 |
| 2007 | 100 857 |
| 2008 | 119 742 |
| 2009 | 136 456 |
| 2010 | 159 368 |
| 2011 | 156 410 |
| 2012 | 143 698 |
| 2013 | 160 677 |
| 2014 | 126 925 |
| 2015 | 131 799 |
| 2016 | 140 009 |
| 2017 | 150 176 |

**Reimbursement of costs associated with collection, transport and disposal of pharmaceuticals by from Ministry of Finance**

On the basis of an amendment to the Act on Pharmaceuticals, since January 2003 the Ministry of Finance has reimbursed the costs associated with the collection, transport and disposal of pharmaceuticals from pharmacies.

**municipal waste fee**

The municipal waste fee (hereinafter "fee") is governed by Act No. 185/2001 Coll., on waste and amending certain acts, as amended, Act No. 280/2009 Coll., the Tax Code, as amended, and City of Prague Generally Binding Decree No. 2/2005 Coll., setting down the fee for municipal waste. The taxable person of the fee is the property owner. This person has a reporting and registration obligation, which they fulfil by delivering the fee administrator a "Fee Payer Declaration", filled out with the collection company providing for pick-up of municipal waste in the given collection area.

Over the course of 1998–2017, the following systems for payment from residents have been used in the City of Prague on the basis of changes to the waste management legislation:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of payment | actual payer | taxable person | collected by | number of taxable persons |
| 1 Jan 1998 – 29 Feb 2000  **contractual price** (set according to number, volume and frequency of service of collection receptacles) divided among individual flat users by the owner (manager) of the residential building | Natural person using the flat | Owner/manager of residential building | Pražské služby (based on a contract with the city) | 85 000 |
| 1 Mar 2000 – 31 Dec 2001  **waste fee** (set according to number, volume and frequency of service of collection receptacles) divided among individual flat users by the owner (manager) of the residential building | Natural person using the flat | Owner/manager of residential building | City of Prague – City Hall Infrastructure Dept. | 85 000 |
| 1 Jan 2002 – 31 Dec 2002  **local fee** (set per inhabitant – capacity fee) | Natural person with permanent residence |  | City of Prague – City Hall Infrastructure Dept. | 1 200 000 |
| Since 1 Jan 2003  **municipal waste fee** (according to number, volume and frequency of service of collection receptacles) divided among individual flat users by the owner (manager) of the residential building | Natural person using the flat | Owner/manager of residential building | City of Prague – City Hall Tax and Fee Dept. | 85 000 |

The following table and graph show the amount of prescribed payments and minimum city subsidy (i.e. with 0% balance owed) to fully cover the actual costs for collection, transport, recovery and disposal of mixed waste whose originator is the City of Prague. The maximum city subsidy cannot be precisely established for individual years as administrative proceedings are currently underway to extract payment for balance due for the period being evaluated. The year 2002 is not comparable as a capacity payment was enacted (single amount fee per person).

The amount of payment for mixed waste (with the exception of 2002) corresponds to the set amount of the "fee"'; in a specific case the fee amount for a given building depended on the number and volume of collection receptacles and the frequency of pick-up.

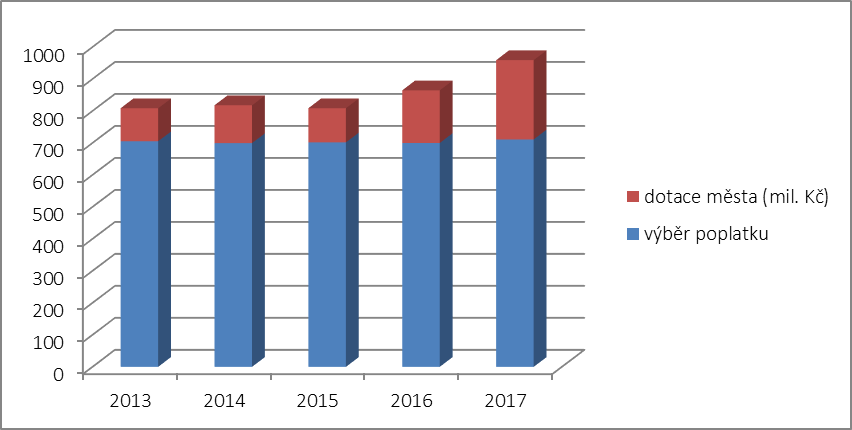
|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| prescribed fees (CZK mil.) | 321.8 | 385 | 392.1 | 543 | 537.5 | 567.1 | 650.3 |
| city subsidy (CZK mil.) | 74.9 | 120 | 140.3 | 20.6 | 46.3 | 77.6 | 36.4 |
| % subsidy of costs | 18.9 | 23.8 | 26.4 | 3.7 | 7.9 | 12.0 | 5.2 |
| actual costs (CZK mil.) | 396.7 | 505 | 532.4 | 563.6 | 583.8 | 644.7 | 697.8 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| prescribed fees (CZK mil.) | 654.0 | 674.2 | 686.2 | 690.0 | 697.8 | 699.6 | 697.2 |
| city subsidy (CZK mil.) | 56.3 | 66.6 | 81.2 | 45.0 | 49.4 | 60.4 | 107.4 |
| % subsidy of costs | 7.8 | 9.0 | 10.6 | 6.1 | 6.6 | 7.9 | 13.3 |
| actual costs (CZK mil.) | 717.8 | 740.9 | 767.4 | 735.0 | 747.2 | 760.0 | 804.6 |

Since 2013 the presentation of values and form of the graph has been changed, having had information on the actual fee collection added, which differs from the prescribed fee and better expresses the subsidy on the part of the city, thus more accurately displaying the overall financing of mixed municipal waste.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 2013 | 2014 | 2015 | 2016 | 2017 |  |  |
| prescribed fees (CZK mil.) | 696.8 | 696.9 | 699.1 | 703.7 | 707 |  |  |
| actual fee collection | 705.3 | 699.7 | 701.8 | 700.1 | 710.9 |  |  |
| city subsidy (CZK mil.) | 103.3 | 118.2 | 106.9 | 164.5 | 248 |  |  |
| % subsidy of costs | 13 | 14 | 13 | 19 | 26 |  |  |
| actual costs (CZK mil.) | 808.6 | 817.9 | 808.7 | 864.6 | 958.9 |  |  |

financing of MMW in the years 2013-2017



city subsidy (CZK mil.)

fee collection

Types of waste collected under the comprehensive waste management system within the City of Prague



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | Prague City Hall Environment Dept. |  |  |  |  |
|  |  |  |  | municipal waste |  |  |  |  |
| mixed municipal waste | sorted collection of paper, plastic, glass, drink cartons and metal packaging | bulky waste | organic waste | hazardous waste | wood | metal | tyres, building rubble | take-back products (batteries and accumulators, fluorescent lamps, refrigeration devices, small and large electronic devices) |
| receptacles placed in buildings or on city streets | receptacles placed in city streets or inside buildings | LCC, CY, MCY | LCC, CY, MCY, stable collection point | mobile collection, stable collection points, unused pharmaceuticals | CY, MCY | CY, metal packaging in streetside receptacles, see sorted collection | CY, building rubble at MCY | CY, small electronics and batteries in red containers placed by recycling stations |

1. Costs for paper, glass, plastic and drink cartons are after deducting any revenue from selling sorted commodities [↑](#footnote-ref-1)
2. Contribution from the company EKO-KOM, a.s. and fees for legal entities involved in the city system [↑](#footnote-ref-2)
3. Revenue from the municipal waste fee [↑](#footnote-ref-3)
4. Ministry of Finance subsidy for collection from pharmacies [↑](#footnote-ref-4)