7. CZECH REPUBBLIC

7.1 Legal Framework – Waste Management Plans and Strategies

7.1.1 National Legislation concerning CDW

In Czech legislation, the official definition of CDW is, currently, non-existing. However, a regulation regulating the conditions of storing waste in landfills and their use on the ground surface (Decree 294/2005) defined in its §2, section v) recycled material from CDW as "material output from a device used for recovery and reuse of non-hazardous CDW other categories of waste and waste similar to CDW, consisting of crushing and separation to different fractions in facilities for that purpose" [68]. In the Czech Republic, packaging waste, municipal waste and electrical waste are not considered CDW.

In 2008, the Ministry of Environment (MoE) introduced the methodological guidance [69] on the CDW management. This guideline considers CDW as waste generated during construction, maintenance, refurbishment and demolition of buildings. The most frequently produced waste materials in the Czech Republic are soil, stones and construction products.

The key legislation piece developed by the EU is the WFD. The Directive's requirements are translated to the Waste Act no.185/2011. This law concerns and regulates three areas of actions [70]. First, it sets rules for waste prevention and waste management. Second, it regulates rights and obligation of actors involved in waste management. Third, the law coordinates the involvement of public administration bodies in the field of waste management. In addition to the Waste Management law, the Czech Republic developed WMP, which sets objectives concerning waste management – current one is in effect from 2015 and will be until 2024. Local and Regional authorities develop their WMPs, which are in compliance with national WMP.

The utilization of the treated waste is allowed in case it is within the framework of the Decree no. 383/2001[71] on details of waste management. It further sets requirements for facilities, which collect, eliminate, store and purchase waste. Landfilling and waste utilization on ground surface is regulated by the Decree no. 294/2005. In case a waste, including CDW, fulfils requirements set by the Regulation 163/2002 and Act no. 22/1997 on technical and safety requirements, it can be regarded as a product. Once a waste becomes a product, it is no longer covered by the Waste legislation.

City planning and building code law 183/2006 obliges regional and local authorities to authorize demolitions only their permissions, which includes undertaking pre-demolition audit and CDW management plan. To prevent waste, actions to promote prevention are in place – several measures can be found in the Czech WMP, Act no. 477/2001, on Packaging as well as in the Waste Act no. 185/2001. In addition to this legislation, WPP has been in place since 2014. The WPP offers guidelines for the CDW management, these are:

– Awareness raising campaigns
– Support the use of recycled or recovered CDW

– Enter voluntary agreements with construction materials producers
– Create a tool for registration of safe building materials generated from CDW.

Landfilling

Starting from 2024, it will be prohibited to landfill recyclable waste. Currently, Regulation 352/2014 prohibits landfilling of several waste materials. Waste, which is banned from landfilling is as follows:

– Material or a product, which has an obligation to be returned to the supplier after its lifespan
– Liquid waste or waste that generates liquid elements (metallic mercury as an exception)
– Dangerous waste (explosives, high oxidation properties, waste producing toxic gases)
– Waste which reacts aggressively in contact with water
– Waste generated during a research with not clearly identified properties
– Waste with strong odour
– Waste containers and equipment containing gas being held at a different pressure to the atmosphere.

7.1.2 Waste management plans (WMP) and Strategies

The Czech Republic has produced several plans on waste management – among those are WMP, and Waste Prevention Plan (WPP).

The WMP of Czech Republic for 2015-2024 sets both the quantitative and qualitative objectives concerning the waste management. The MoE publishes annual reviews of the WMPs implementation on their website. There are three types of WMP in the Czech Republic – national, regional and municipality level ones. These WMPs follow hierarchical structure – the regional and municipal ones are expected to adopt national WMP targets. Regional and municipal WMPs are being tailored specifically to their territory. Within the scope of the national WMP, the section 3.3.1.4 concerns with the CDW. The principles mentioned there revolve around the CDW generation and treatment while taking into account protection of environment and human health as well as maximization the recovery and reuse of CDW [72].

The first WPP was passed and adopted in 2014 and states that the CDW recovery targets have been met. The WPP offers guidelines for the CDW management, these are [73]:

– Awareness raising campaigns
– Support the use of recycled or recovered CDW
– Developing guidelines aimed at prevention of CDW
– Enter voluntary agreements with construction materials producers
– Create a tool for registration of safe building materials generated from CDW.

7.1.3 Legal framework for sustainable management of CDW

There are five main topics in regards to CDW. Five of them are dealt with through legislation. The first is the national and regional obligation for selective demolition - the law is Waste Act

No.185/2011. In that law, paragraph 12 deals with prohibition of mixing hazardous waste. The same Act also deals with the second topic: national and regional sorting obligation. In the Act, paragraph 16 establishes the obligation to the waste producer to collect waste sorted by types and categories. Though it is not mentioned whether the obligation applies to on-site soring or a sorting facility, it binds both cases and can be applied to the CDW. The third topic of separation, collection a management of hazardous waste from construction and demolition operations can also fall under paragraph 12 of the same Act related to the prohibition of mixing hazardous waste. Topic 4 is the national and regional separate collection obligation for different material such as iron, steel, plastic, glass, etc. There are two acts of legislation dealing with this topic, the first was the government regulation No. 312/352/2014 about the WMP for Czech Republic 2015-2024. This regulation from 2014 does not support landfilling or energy recovery of recyclable waste and bans recyclable waste from landfilling from 2024. The second act is the amendment of the Waste Act 229/2014. This amendment though put together in 2014, applied from January 2015. It says that municipalities in the Czech Republic will have to ensure separate collection of metal and biodegradable waste as well as hazardous waste, paper, plastic and glass. The fifth topic dealt with is a topic of conditions of landfill and use of the ground surface. The topic is dealt with by Decree No.294/2005 of the MoE. It amends Decree No.383/2001. The new Decree sets conditions for landfilling/management/use on the ground surface of hazardous and non-hazardous waste [74].

7.1.4 Targets

The previous targets set for the Czech Republic revolved around the rate of recycling. The first target was set to recover/recycle 50% of CWD produced by December 31, 2005. The next target raised the percentage to 75% for waste produced by December 31, 2012. Both targets were met. The Table 17 shows the production of CDW waste, percentage of CDW from the total waste production and the percentage of waste utilization in given years. It is important to note that these statistics differ from data submitted to the EUROSTAT.

Table 17. Waste production and utilization in CZ in years 2002-2012, MoE [75]

Year	CWD Production (thousand tons)	Percentage of CDW from total waste production (%)	Percentage of waste utilization (%)
2002	8.802.5	23.2	55.9
2003	9.748.5	26.9	76.9
2004	14.489.8	37.4	77.9
2005	11.893.1	39.9	85.1
2006	11.983.1	42.7	100
2007	14.441.4	47.5	93.8
2008	15.421.3	50.1	100

2009	15.279.7	47.4	93.8
2010	15.643.1	49.2	84.8
2011	13.701.5	44.7	92.3
2012	13.888	46.3	95.1

Currently, the WFD regulates that the Member States must adopt all necessary measures to achieve the recovering/recycling minimum target of 70% by the end of 2020. In the Czech Republic, this Directive was adopted and translated to the regulation 352/2014. Nevertheless, as this number was a standards years ago, many argue that 70% is insufficient. To conclude, the Czech Republic implements European directive more than satisfactory. On the other hand, the amount of recovered CDW used as construction material is only approximately 23% [76].

7.1.5 End of Waste (EoW) status

The concept defines when certain waste ceases to be waste and obtains a status of a product or of a secondary raw material. The WFD states that certain waste shall cease to be waste when it has undergone a recovery operation and is in compliance with EoW criteria. These criteria have been translated to the Waste Act 185/2001 [77]. The criteria are as follows:

– The substance or object is commonly used for specific purposes
– There is an existing market or demand for the substance or object
– The use is legal – meets technical and legal requirements
– The use of it will have no negative environmental or human health impact
– The waste meets requirements defined by EU legislation.

At the moment, the Czech Republic did not specify the criteria used particularly for CDW. A final decision whether or not a material is waste can be made by local or regional authority on request of the material producer.

7.2 Non legislative instruments (best practices, guidelines, recommendations…)

The non-legislative instruments that are dealt with in the Czech Republic can be divided into four main topics that together include all the various instruments. The first main topic relates to the two key sustainability initiatives. Those initiatives serve as an instrument by putting together certain standards that must be met in order to earn the initiatives certification. They are BREEAM and LEED. Both are widely used in the Czech Republic and both create incentives to attract international customers with the use of certified buildings.

The second topic is a set of non-legislative instruments of the extended procedure responsibility schemes. The scheme of "take back" (the idea that companies which make/sell the product containing bulky or toxic elements are responsible for taking the product back after consumers are done with it) derives from Decree No. 325/2008 and is mandatory in the

Czech Republic. There is also a "take-back" requirement for End of Life vehicles, electric and electronic equipment and accumulators. Act 477/2001 sets packaging requirements. It says that packaging must be minimal in volume and mass and must be in compliance with Czech technical requirements.

The methodological guidance on CDW management recommends performing an inspection of the buildings and its surroundings before demolitions. The aim of this inspection is to identify parts of the buildings that may contain hazardous materials and such part should be removed separately to avoid mixing of hazardous and non-hazardous materials. Nevertheless, is it not a legislation and thus is not mandatory. When it comes to recycling, the same rules apply to CDW as to primary products.

In the Czech Republic, there are two existing CDW initiatives – raw material policy and value added tax for certain types of recycled materials. The Raw Material Policy describes the progress in waste material utilisation as compared to raw materials. Such policy will result in the development of the Action plan which aims to promote the reuse of waste – including CDW. The government lowered VAT for certain types of recycled materials, for certain services, and for green public procurement to promote recycling [78].

7.3 CDW management performance – CDW data

7.3.1 CDW generation data

This chapter aims to present the data on CDW in the Czech Republic collected by the ISOH – the database of the MoE. The Table 18 summarizes the production of CDW in the Czech Republic in years 2009-2014. The table does not include neither dangerous waste nor waste with insignificant production amounts. It is possible to note that the waste production is gradually increasing in all CDW areas with the exception of waste 17 05 06. The data is adopted from the Association for recycling of building materials in the Czech Republic [79].

Table 18. Production of particular CDW in the Czech Republic, 2009-2014

Code	Waste	2009 (kt)	2010 (kt)	2011 (kt)	2012(kt)	2013 (kt)	2014 (kt)
1701	**Concrete, bricks, tiles and ceramics**	**2998**	**3167**	**3033**	**3445**	**3249**	**3688**
17 01 01	Concrete	1132	1163	1127	1385	1292	1422
17 01 02	Bricks	919	834	776	735	757	745
17 01 03	Tiles and ceramics	15	18	11	14	12	16
17 01 07	Mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	886	1130	1092	1250	1172	1473
17 03	**Bituminous mixtures, coal tar and tarred products**	**516**	**466**	**443**	**531**	**510**	**573**

17 03 02	Bituminous mixtures containing other than those mentioned in 17 03 01	513	456	439	526	508	568
17 05	**Soil (including excavated soil from contaminated sites), stones and dredging spoil**	**10708**	**10845**	**9053**	**8908**	**9966**	**11128**
17 05 04	Soil and stones other than those mentioned in 17 05 03	9116	8825	8420	7832	9442	10619
17 05 06	Dredging spoil other than those mentioned in 17 05 05	1003	1687	306	622	130	102
17 05 08	Track ballast other than those mentioned in 17 05 07	54	47	60	64	80	112
17 06	**Insulation materials and asbestos-containing construction materials**	**74**	**111**	**71**	**59**	**61**	**66**
17 08	**Gypsum-based construction material**	**7**	**7**	**8**	**7**	**9**	**11**
17 09	**Other construction demolition waste**	**580**	**614**	**630**	**496**	**609**	**451**
17 09 04	Mixed construction demolition wastes other than those mentioned in 17 09 01, 17 09 02, and 17 09 03	485	555	585	473	590	441
	Total	**14883**	**15210**	**13239**	**13447**	**14404**	**15916**

Looking at the Table 18 from the perspective of prospect recycling or recovering, the most suitable CDW materials are those, which can be further used as recycled gravel, namely, concrete, tar, brickwork and its mixtures. Their production is monitored in Table 20.

Such materials have to be used further within the framework of circular economy. It is possible to note that these materials represent approximately 30% of CDW in the Czech Republic.

Table 19. The most suitable CDW for recovery in the Czech Republic, 2009-2014 [79]

Code	2009 (kt)	2010 (kt)	2011 (kt)	2012 (kt)	2013 (kt)	2014 (kt)
1701	2.998	3.167	3.033	3.445	3.249	3.688
17 03 02	513	456	439	526	508	568
17 09 04	485	555	585	473	590	441
Total	3.996	4.178	4.057	4.444	4.347	4.697

% from total CDW	26,8%	27,3%	30,6%	33%	30,2%	29,5%

7.3.2 CDW treatment data

CDW treatments data have been released by the Czech Statistical Office since 2013. The Table 20 summarizes CDW treatment in the Czech Republic in 2013 [78].

Table 20. CDW treatment in Czech Republic in 2013

	EWC 17 01 (tonnes)	EWC 17 03 (tonnes)	EWC 17 05 (tonnes)	EWC 17 09 (tonnes)	Total (tonnes)
Recycling/reclamation of other inorganic materials	1.470.154	360.966	1.035.937	93.996	2.961.053
Deposit into or onto land	193.402	21.832	306.504	129.296	651.034
Use of wastes for landscaping	458.556	5.252	1.913.950	26.767	2.404.525
Use of waste for the deposit reclamation	31.956	N/A	393.635	4.893	430.484
Deposit of wastes as technological material to make landfills safe	205.038	8.889	204.807	106.154	542.888
Total	**2.993.080**	**615.839**	**6.934.469**	**500.953**	**11.044.341**

7.3.3 CDW exports/imports data

The shipment of waste requirements are defined in the Waste Act 185/2001 and Decree 381/2001. It ensures that the amount of international hazardous waste is kept to a minimum. The Table 21 illustrates import and export data in Czech Republic in period 2009-2013.

Table 21. Import and Export of CDW in CZ in period 2009-2013 [78]

			Imports			Exports		
Waste Category	year	unit	HAZ	NHAZ	TOTAL	HAZ	NHAZ	TOTAL
TOTAL CDW	2013	T	9.614	658672	658682	3653	1161974	1165628
TOTAL CDW	2012	T	1.4	594215	594216	2743	1418613	1421356
TOTAL CDW	2011	T	99.45	635498	635597	3224	1472715	1475940
TOTAL CDW	2010	T	39	510801	510840	549	1242924	1243474
TOTAL CDW	2009	T	7.	413305	413312	227	724152	724380

7.3.4 CDW treatment facilities data

In the Czech Republic, there are close to 300 functional landfills and over 7.000 permissions for treatment facilities dealing with CDW. Treatment facilities are responsible for collection, sorting, recycling, waste recovery, storage, landfill, composting, use of waste for reclamation and waste utilization for landscaping. Landfills are operated by both public and private entities and are divided into three types: landfill for hazardous waste, landfill for inert waste and landfill for other waste. According to the MoE, landfills capacity is sufficient.

7.3.5 Future projections of CDW generation and treatment

According to contemporary estimations, experts believe that in a near future we will be able to see a growing number in CDW generation. By the year 2020, the estimations point towards increase of 10%. There are plans in motion for the creation of measures to reduce mentioned waste – those plans are in effect since 2014 and are expected to be completed by 2019. The period during which the CDW reduction is expected to be visible is 2020 to 2025 [75]. The two main activities from the prevention approach are the reduction of the production of construction waste and the reduction of the levels of non-environment friendly substances.

7.3.6 Methodology for CDW statistics

Economic entities must report on their impact of their economic activities on the environment. The national methodology of data collection on CDW treatment is in line with EUROSTAT instructions.

7.4 C&D waste management in practice

7.4.1 CDW management initiatives

Environmental product declaration which quantifies the environmental impact of a building materials and products is a part of the waste prevention program. The Czech Republic is a member of the European Quality Association for Recycling which promotes international cooperation and shares best practices concerning recycling. The association for recycling of construction materials deals with issues related to the recycling of CDW. They hold conferences linked to CDW management practices. Similarly, Green Building Council organizes seminars to spread knowledge on the latest legislation regarding the CDW management. The environmental technology verification offers an option to certify innovative processes such as reprocessing of bricks. Moreover, there are several opportunities for waste exchange. The Czech Republic was involved (in 2011) in a project ACT CLEAN which enabled SMEs to participate in training and to access technology to undertake eco-efficient production. Last but not least, there are many researches examining the improvement in waste management and in the use of waste [78].

7.4.2 Drivers / barriers to increase CDW recycling

The Czech Republic has been showing above-standard results concerning the utilization of waste. One of the reasons might be an increasing interest in the field of circular economy. The EU has been pushing for the circular economy in Member States and consequently both governmental bodies and non-governmental ones are promoting the principles of circular economy. For instance, the Institute of Circular Economy aims to spread the ideas of circular economy to the public – the institute organizes educational programs, coordinates project and provides expertise in this field. The re-use of CDW is slowly becoming an acceptable option. The educational programs do not take into consideration only circular economy per se, but also CDW management in general. ARSM organizes annual conferences on CDW, including addressing the necessity to raise an awareness to the waste recycling. Furthermore, the MoE will in a near future present a new waste management legislation, which will, in the framework of "end of waste", re-consider the classification of waste and what is now referred to as waste, might become secondary raw material [75]. Nevertheless, the most significant driver behind the motivation to re-use the CDW are financial incentives. The Czech governmental bodies are aware of it and try to discourage landfilling. At the moment, the landfill fee ranges from 4 euro per ton of concrete to 46 euro per ton of plastics; the fees are expected to be continuously increasing [80].

Even though the previous chapter suggested that the potential for CDW management is rather large in the Czech Republic, there are still several obstacles to the CDW management. First, the recently developed WPP is focused on the theoretical application; practical guidelines are lacking. Though the circular economy seems to be progressing in the Czech Republic, industries tent to have hesitant stances towards it. It is linked to the second barrier – in many cases, to landfill CDW is cheaper in comparison to recovering/recycling it. Due to limited amount of CDW treatment facilities, the distance from the site to the facility might be long and consequently costly and time-consuming. Third, since the CDW recycling is rather recent phenomenon, the awareness and information about the recyclability of CDW

and its benefits are lacking. Next, the opinion that the Waste regulations are an administrative burned without any benefit, prevails. Lastly, to re-classify some CDW as secondary raw materials might be challenging as they are often viewed as having pollutant potential [78].

7.5 CDW sector characterization

7.5.1 CDW materials (CONCRETE, BRICKS, TILES AND CERAMIC, ASPHALT, WOOD, GYPSUM)

Product description and applications

Concrete is a composite material composed of coarse aggregate bonded together with a fluid cement that hardens over time. Most used concretes used are lime-based concretes such as Portland cement concrete or concretes made with other hydraulic cements. It is used for construction of buildings, roads and infrastructure.

A brick is building material used to make walls, pavements and other elements in masonry construction. Traditionally, the term brick referred to a unit composed of clay, but it is now used to denote any rectangular units laid in mortar. A brick can be composed of clay-bearing soil, sand, and lime, or concrete materials. Bricks are produced in numerous classes, types, materials, and sizes.

A tile is a manufactured piece of hard-wearing material such as ceramic, stone, metal, or even glass, generally used for covering roofs, floors, walls, showers, or other objects such as table tops. Tiles are often used to form wall and floor coverings, and can range from simple square tiles to complex mosaics. Tiles are most often made of ceramic, typically glazed for internal uses and unglazed for roofing.

Asphalt is a sticky, black and highly viscous liquid or semi-solid form of petroleum. It may be found in natural deposits or may be a refined product; it is a substance classed as a pitch. The primary use (70%) of asphalt/bitumen is in road construction, where it is used as the glue or binder mixed with aggregate particles to create asphalt concrete.

Wood is a porous and fibrous structural tissue found in the stems and roots of trees, and other woody plants. It is an organic material, a natural composite of cellulose fibres which are strong in tension embedded in a matrix of lignin which resists compression. Wood has been used for thousands of years for fuel, as a construction material, for making tools and weapons, furniture and paper, and as a feedstock for the production of purified cellulose and its derivatives, such as cellophane and cellulose acetate.

Gypsum is a soft sulphate mineral composed of calcium sulphate dehydrate. It is widely mined and is used as a fertilizer, and as the main constituent in many forms of plaster, blackboard chalk and wallboard. Among other uses, gypsum is used in buildings construction.

Quantitative analysis

The quantitative data concerning the production in Czech Republic are available only for concrete, gypsum, and asphalt [81]. The tables Table 22, Table 23 and Table 24 illustrate this production.

Table 22. Concrete production in the Czech Republic

	Concrete production (million m^3)		Growth rate 2006/2008	Population (million inhabitants)		Production per capita		Cement consumption (million tonnes)		Growth rate 2006/2008
	2006	2008		2006	2008	2006	2008	2006	2008	
CZ	8.0	9.6	20%	10.2	10.38	0.78	0.92	4.8	5.1	6.25%

Table 23. Gypsum production in the Czech Republic

	2005 (tonnes)	2008 (tonnes)	Population in 2008	Production per capita	Share to the EU production	Growth rate 2005/2008
CZ	24.000	35.000	10.381.130	0.0034	0.1%	45.8%

Table 24. Asphalt production in the Czech Republic

	2005 (million tonnes)	2008 (million tonnes)	Population in 2008	Production per capita	Share to the EU production	Growth rate 2005/2008
CZ	5.6	7.3	10.381.130	0.7	2.5%	30.4%

Recovery techniques

- **Concrete**: Landfill, recycling into aggregates for read construction or backfilling, recycling into aggregates for concrete production, re-use of precast elements
- **Brick**: Landfill, recycling, re-use
- **Tile**: Landfill, recycling, re-use
- **Asphalt**: Landfill, recycling in a stationary plant, in-site recycling, material recovery
- **Wood**: Landfill, recycling into derived timber products, energy recovery
- **Gypsum**: Landfill, recycling into new plasterboards (in substitution of natural or synthetic gypsum)

Environmental and economic impacts of CDW waste management

Despite the fact that landfilled concrete does not significantly increase groundwater pollution, it still proves problematic on the account of space that is filled and not used otherwise. The treatment of concrete before its re-use is problematic as the dust might cause serious health problems for workers. The benefit of re-use is that there is no need for virgin aggregates to be extracted from quarries and be processed. The most negative environmental impacts of concrete production derive from cement production. The direct

re-use of concrete blocks avoids the production of concrete, and therefore the associated impacts of cement production.

Similar to concrete, landfilling of bricks and tiles does not cause serious environmental issues. The recycling would prevent extraction of raw materials; however, the use of raw material is not the issue as it is largely available locally in Europe and the extraction of clay for construction products represents only 5% of the total mineral extraction. Recycled coarse and fine aggregates are supposed to save the cost of transportation; however, as clay brick and tile plants are frequently located near clay deposits and sand quarries, the cost of transportation is minimal. On the other hand, the re-use of recovered bricks and tiles avoids the manufacturing processes which are associated with high energy consumption and emissions. The low cost of bricks and tiles produced from virgin materials does not make recycling feasible option.

Concerning the landfill of asphalt, one must be cautious whether the asphalt consists of tar. In case it does, it is classified as hazardous waste and must be handled accordingly. If asphalt does not contain tar, then there are no major environmental impacts of landfilling it. The carbon footprint for recycled asphalt is lower than for asphalt made of raw materials. The production costs of both asphalt made of reclaimed aggregates and asphalt made of virgin materials are assumed to be identical and thus do not encourage recycling.

Landfilling of construction and demolition wood waste is associated with release of methane emission. As the surface of wood used in construction is often treated with chemicals, there is a possibility of ground water pollution. To ensure good quality wood products made from secondary wood, the requirements limits for toxic particles in recycled wood are the same as for raw materials. The most noticeable benefit is that re-use of wood saves natural resources that are becoming scarce. Due to limited supplies of natural resources, the price of recycled wood is gradually increasing.

Landfilling of gypsum poses a threat to environment due to the fact that it releases dangerous hydrogen sulphide gas if in contact with organic waste or exposed to rain. The production of plasterboards from both recycled gypsum and one from virgin materials has similar environmental impacts. On the other hand, the gypsum is estimated to be scarce in future and thus the recycling might become more popular. Also, due to a limited amount of raw gypsum, the price of raw gypsum increased more than 50% in the last 3 years [81].

Drivers / barriers to increase recycling

Provided in section 7.4.2

7.5.2 Recycled materials from CDW

Under the Act 22/1997, it is possible to use specific CDW as aggregates for railway construction, as backfilling material for disposal of mines, construction fill, rehabilitation of mine dumps and as railway ballast and service roads for mining operations.

It is allowed to use recycled materials in construction under the condition that the material meets the requirements of primary materials. In the Czech Republic, recycled materials include recycled bricks and recycled concrete aggregates. Recycled construction materials are further divided into six categories – recycled concrete, recycled road material, recycled masonry, mixed recycled CDW, recycled asphalt and R-material which is to be used in the hot asphalt mixtures.

7.5.3 Market conditions / costs and benefits

Construction materials must meet the technical requirements set for the Czech Republic in the Act 22/1997. Building products which are to enter the market must have CE label.

The prices for landfill range between 6 € and 225€. This fee is then used as a compensation to the municipality in which territory the landfill is located. The charge is being increased annually to encourage environmentally friendly methods of waste disposal by financially disadvantage the waste landfilling. Nevertheless, in rural areas, CDW treatment facilities are often lacking and the cost of transportation often exceeds the price of landfill. To provide more treatment facilities of CDW might be a driver for improving the recycling situation in the Czech Republic.