



# Solid Waste Management City Profile

HO CHI MINH CITY, Vietnam

## City Information

**Population** - about 7.2 million according to census 2009

**Area (km<sup>2</sup>)** – about 2095 square kilometers

**Climate** – tropical

**Main Economic Activities** - commercial and industry

**City website** - [www.hochiminhcity.gov.vn](http://www.hochiminhcity.gov.vn)

## Country Information

**Population** - 85,846,997 according to census 2009

**Area (km<sup>2</sup>)** -

**Economy and GNI/Capita** - 3,250 PPP dollars (2011) and Gini coefficient 35.6

**Main Economic Activities** – agriculture, industry, and mining

**Website of National Government Agency responsible for guidance on waste legislation**

Only website for environmental management <http://www.monre.gov.vn>

## MSW Sector Overview: City Level

### Classification of MSW –

**Table 1:** daily solid waste generation in Ho Chi Minh City

No.	Type of waste	Amount of waste Tons/day	Note
1	Domestic waste	7200 – 7800	Collected
2	Construction waste	700 – 1100	
3	Medical waste	12– 17	
4	Industrial waste	1000 – 1100	Estimated
5	Industrial hazardous waste	250 – 300	
6	Solid waste from other provinces	200 -300	Estimated
7	Recycle material from other provinces	100-150	Estimated

### MSW Generation

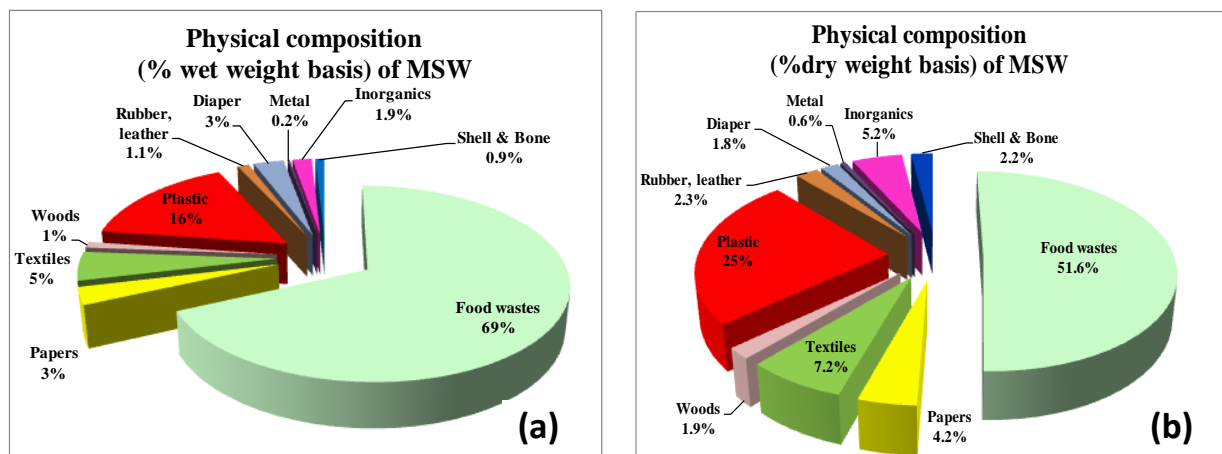
Currently, Quantity of waste generated per capita is about 0.81 kg/capita/day ranging from 0.7 to 1.3 kg/capita/day

### Collection Coverage and Type

It is estimated that every day, HCM city generates 9000 tons of domestic solid waste. However, daily solid waste dumps in landfills ranging from 7200 to 7800 tons

### Waste Composition

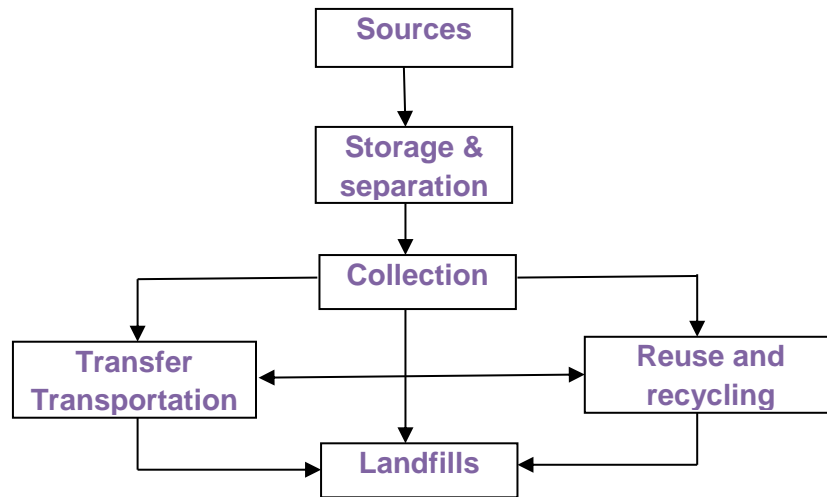
Composition of municipal solid waste shows in Fig. 1. It is noted that the samples was taken from Phuoc Hiep landfill in 2012. Organic waste averagely accounts for 69% by wet weight and 51.6% by dry weight. Plastic was responded for 16% by wet weight ranking in the second high position after food waste. High water content is usually found in solid waste samples ranging from 70 to 90 percents, sometime 95%, especially in rainy season. It should be highlighted that domestic hazardous solid waste is not separated, collected and treatment in HCM City. Therefore, it is easy to find the hazardous components such as battery, ink, paint, old electronic equipments... in waste samples.



**Figure 1.** Composition of municipal solid waste in Ho Chi Minh City by  
(a) wet weight and (b) dry weight

### ***Waste Management Practice***

As diagram of domestic waste management was presenting in Fig. 2, The dustbins usually are empty every one or two days; solid waste commonly covers in large plastic bags laying down on pavement, sidewalk, and street corners in front of their houses or in big waste containers in apartments. Door to door collection system operate by 24 district publish service companies and numerous private groups. They employ 5400 workers, and use 200 small trucks, 1000 three-wheelers, and 2500 handcarts to collect the solid waste from door-to-door to 380 meeting points and 32 transfer stations, where the waste transfer to heavy trucks before going to landfills. In door-to-door collection system, 60% of waste collects by private groups. Frequency of door-to-door collection depends on areas; daily in center districts, 2 or 3 days in outskirts districts, and up to one week in rural districts. In order to transport waste from meeting points and transfer stations to landfills, 570 heavy trucks are used. Citenco and 22 district publish service companies respond to 53 and 30% of waste transportation to landfills, respectively. Cong Nong Co-operation transports the rest of waste.



**Figure 2.** Diagram of domestic waste management

### ***Formal Waste Sector***

Currently, municipal solid waste from HCMC equally dumps in two active landfills. Phuoc Hiep landfill (660 ha) is operation by Citenco, a state owned company. On the other hand, Da Phuoc landfill (640 ha) is constructed and operated by Vietnam Waste Solution, Inc. (VWS), a private company. Because of lack of available land in HCMC, VWS also plants to open new landfill with 1760 ha in Long An province. Three active and future landfills locate near canal, in wet land with muddy foundation and strongly effect by tide. VWS also has compost and waste separation facility, but it is not operated at present. Viet star is only company using solid waste for composting. The company daily receives 450 tons of domestic waste. However, during waste processing, 45% (about 200 tons) of waste return to landfill.

### ***Informal Waste Sector***

In general, most of activities in collection recyclable materials in HCMC is informal. Except 1200 street junk traders who directly buying recycle materials from household, the city also has 16000 waste pickers. They pick up the recycling material such as plastic, paper, metals... in streets and waste transfer stations during door-to-door collection and transfer and transport. Moreover, most of the workers in

district publish service companies and private groups also pick up recyclable materials during door-to-door collection. All recyclable materials from the workers, waste pickers, and street junk traders are sold to 1200 recycling shops, in there the material will be detail separated before directly selling to manufacture. The shops also sell some recycle materials to 224 small-scale recycle material processors.

### ***Financing of MSW***

HCMC government subsidize for domestic waste transportation and landfill disposal. In door-to-door collection, the government pays 30% of fee for waste collection from households. The fees range from 0.3 to 0.7 \$ per household per month. The collection free for buildings, offices, and service companies are between 7.5 and 22.5\$ per unit per month. The fees are lower for government offices and schools, about 5.0 to 7.5 \$ per month.

## ***Current Projects or activities aimed at reducing SLCP Emissions***

### **City Level**

Domestic waste separation at source, a demonstration project, Target community: households in district 6

Sustainable system for organic waste utilization in wholesale market in Ho Chi Minh city

## ***Key Stakeholders***

Ho Chi Minh DONRE [www.donre.hochiminhcity.gov.vn](http://www.donre.hochiminhcity.gov.vn)

Citenco [www.citenco.com.vn](http://www.citenco.com.vn)

Enda Vietnam [www.endavn.org.vn](http://www.endavn.org.vn)

VWS [www.vnwaste.com](http://www.vnwaste.com)