



Blantyre is Malawi's centre of industry and commerce, and its second largest city, with 994,517 inhabitants as of 2018. It is sometimes referred to as the commercial and industrial capital of Malawi as opposed to the political capital, which is Lilongwe. Blantyre is the capital of the country's Southern Region and of the Blantyre District.

SWM services in the Blantyre City are managed by the Department of Health and Social Services of the Blantyre City Council (BCC). The centre of the city is kept clean, but the sanitary environment of low income and poor residential areas is in particularly poor condition due to the dumping of garbage on open spaces, streams, roadsides, and in drains. The final disposal site is open dumping, and the surrounding environment is deteriorating.

Information

Population	994,517 (2018, National Statistical Office)
Population growth (annual %)	4.1 (2008-2018)
Area (km ²)*	228
Climate*	Tropical savanna climate
Topography*	Varied topography with altitude ranging from an elevation of 780 to 1,612 metres above sea level comprised of hills, plateau and ridge, and a natural drainage system
Main industries	Finance, banking, retail trade, construction, transport, food and textile manufacturing, motor vehicles sales and maintenance
Currency**	USD 1: MWK 719 (Malawi kwacha) (February 2019)

Sources: * Wikipedia, Blantyre, accessed 21 February 2019, <<https://en.wikipedia.org/wiki/Blantyre>>

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Current SWM Situation

Item	Outline
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Institutional System

Legal system	<ul style="list-style-type: none"> ● The related laws and regulations for SWM are as follows: <ul style="list-style-type: none"> » General Cleanliness, Refuse and Rubble By-Law 2003: prescribes the duties and responsibilities for waste generators in the City of Blantyre and standards for waste containers, types of waste to be deposited in containers for collection, and the various offences. » The Local Government Act 1998. » The Environmental Management Act 1996, amended in 2017.
Policy/Plan	<ul style="list-style-type: none"> ● There is no specific SWM policy or plan in the city. ● The Decentralization Policy 1996. ● The Blantyre City Council Strategic Plan (2013-2018): covers general plan for most sectors and includes SWM as part of sanitation and public nuisance.
Implementation system	<ul style="list-style-type: none"> ● Constitutionally, SWM is the responsibility of local councils in Malawi. ● Department of Health and Social Services (DHSS) of the Blantyre City Council (BCC): responsible for SWM in the city (street sweeping, collection and transportation, final disposal site operation). There are four administration staff, 423 operations staff (including both permanent and temporary) and 13 collection drivers. ● Environmental Affairs Department in the Ministry of Natural Resources, Energy and Mining of the Government of Malawi: responsible for preparation of the Environmental Management Bill and for enforcement of the Environmental Management Act and Regulations, including environmental pollution control and regulation of waste management facilities. ● Ministry of Health: responsible for medical waste. ● Pharmacy, Medicines and Poisons Board (Regulatory Authority): responsible for drugs and medicinal substances. ● Sanitation Department in the Ministry of Agriculture, Irrigation and Water Development: responsible for preparation of sanitation policy which prescribes roles and responsibilities for institutions in relation to implementation of sanitation activities. ● Pesticides Control Board: responsible for regulating the handling and disposal of pesticides.

Technical System

Waste generation amount & characteristics	<ul style="list-style-type: none"> ● Waste generation amount: 472 tons/day (estimated by multiplying population and waste generation rate, 2014). ● Waste generation rate in residential area (household MSW): 0.37 kg/person/day (study conducted by National Commission for Science and Technology in 2014). ● Waste collection amount: 89 tons/day from residential area, 24 tons/day from business industries (estimated by multiplying collection truck capacity in tonnage and number of trips made per day to the disposal site). ● Waste collection coverage rate: 45% (calculation based on the collection area map and the population distribution, between formal residential areas and squatter/informal residential areas). ● Waste characteristics in residential area: <ul style="list-style-type: none"> » Organic (putrescible) 70%, plastics 6%, papers 4%, metals 1%, glass 2%, cardboard 5%, rubber, wood and textile 4%, ceramics, soil, rubble, ash, diapers 3%, biomedical, oil filters, and batteries 1.5%, others 3.5% (study conducted by NCST, 2014). ● According to the SWM by-law, garden waste, grass, and hedge trimmings are not collected.
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Item	Outline
Storage and discharge/ Collection and transportation/ Road sweeping	<ul style="list-style-type: none"> ● The private sector participates in provision of waste collection services (especially for industries) and recycling activities. ● There are about 100 waste pickers collecting recyclable materials on the street and at disposal site. They form the major suppliers of recyclable materials to the private recycling companies. ● The community is informed how to discharge waste such as collection day and time through neighbourhood information sharing and direct public inquiry at the City Council by the residents. ● Self-disposal at generation source (open burning, waste pit disposal in the backyard and open dumping) exists. ● Waste separation at source is not practiced in the city. ● A road sweeping service is provided by the city in the city centre and major public roads. ● Waste is collected every day in the city centre and once a week in residential areas. ● Hauling distance from the city centre to the disposal site is between 5 and 20 km from the nearest to farthest collection area respectively. ● The BCC has six compactor trucks (two seven-ton compactor trucks, one three-ton compactor truck and three two-ton compactor trucks), of which five are functional but three are now experiencing frequent breakdown due to old fleet and high cost of maintenance. ● The BCC also has seven waste collection trucks (three seven-ton skip handler trucks, two seven-ton non-compactor container trucks and two three-ton trailer tractors), of which five are functional. The non-functionality of the vehicles is due to old fleet and high cost of maintenance. ● There is no transfer station in the city but there are 50 skip points, mainly for the market areas. In addition, there are 19 skip points owned by private collection providers.
Intermediate treatment/ Recycling	<ul style="list-style-type: none"> ● There are nine Materials Recovery Facilities (MRFs). Additionally, there are small-scale composting activities being piloted utilising waste from selected markets and residential areas. ● MRF 1 (Plastic recycling): <ul style="list-style-type: none"> » Location: S 15°46'17" E 34°59'11". » Capacity: 2 tons/day. » Operation hours: 24 hours. » Waste amount: 2 tons/day (estimated from weighing scale). ● MRF 2 (Plastic recycling): <ul style="list-style-type: none"> » Location: S 15°47'01" E 35°04'33". » Capacity: 3 tons/day. » Operation hours: 12 hours. » Waste amount: 0.3 tons/day (estimated from weighing scale). ● MRF 3 (Steel recycling): <ul style="list-style-type: none"> » Location: S 15°47'02" E 35°04'23". » Capacity: 7 tons/day. » Operation hours: 12 hours. » Waste amount: 4 tons/day (estimated from weighing scale). ● MRF 4 (Plastic recycling): <ul style="list-style-type: none"> » Location: S 15°47'26" E 35°01'03". » Capacity: 1.5 tons/day. » Operation hours: 24 hours. » Waste amount: 1 tons/day (estimated from weighing scale). ● MRF 5 (Rubber recycling): <ul style="list-style-type: none"> » Location: S 15°49'20" E 35°03'43". » Capacity: 2 tons/day. » Operation hours: 24 hours. » Waste amount: 30 kg/day (estimated from weighing scale). » Mostly operate in-house factory reject waste material and virgin products. ● MRF 6 (Plastic recycling): <ul style="list-style-type: none"> » Location: S 15°47'30" E 35°04'41". » Capacity: 4 tons/day. » Operation hours: 13 hours. » Waste amount: 2.6 tons/day (estimated from weighing scale). » Recycles factory rejects. ● MRF 7 (Plastic recycling): <ul style="list-style-type: none"> » Location: S 15°46'00" E 35°05'37". » Capacity: 2.7 tons/day. » Operation hours: 24 hours. » Waste amount: 950 kg/day (estimated from weighing scale and production capacity). ● MRF 8 (Steel Recycling): <ul style="list-style-type: none"> » Location: S 15°47'20" E 35°01'54". » Capacity: 30 tons/day. » Operation hours: 9.5 hours. » Waste amount: 2 tons/day (estimated from weighing bridge). ● MRF 9 (Plastic recycling): <ul style="list-style-type: none"> » Location: S 15°47'45.3" E 35°01'08". » Capacity: 7 tons/day. » Operation hours: 10 hours. » Waste amount: 0.8 tons/day (estimated from weighing scale). ● Composting facility: <ul style="list-style-type: none"> » Location: S 15°49'36" E 35°00'33.0". » Capacity: 4 tons/day from market waste. » Operation hours: 10 hours. » Waste amount: 0.5 tons/day (estimated from weighing scale).
Final disposal	<ul style="list-style-type: none"> ● There is one dump site managed by the BCC: <ul style="list-style-type: none"> » Location: S 15°46'52.45" E 35°5'49.89". » Area: 20 hectares (currently only 5 hectares used since 1995). » Operation hours: 10 hours. » Waste disposal amount: 113 tons/day. » Facility: embankment only. » Operation: intermediate soil cover for area which is not used for several months.

Item	Outline
Financial system	<ul style="list-style-type: none"> ● Total revenue for waste service: MWK 37,217,800. ● Total expenditure for waste service: MWK 593,658,395. <ul style="list-style-type: none"> » MWK 182,219,304 for collection and transportation. » MWK 12,849,094 for sweeping. » MWK 15,088,118 for final disposal. » MWK 401,589,997 for salaries and wages. ● Waste collection fees are not charged for household waste and institutional waste, but industrial waste is charged MWK 70,000/vehicle of 7 tons. ● Commercial and industrial waste is charged a tipping fee of MWK 40,000/truck of 7 tons.
Environmental and social considerations	<ul style="list-style-type: none"> ● There is no policy or law for supporting the informal sector.
Donor support	<ul style="list-style-type: none"> ● Grant Aid by Government of Japan: donation of three compactors.
Areas for improvement (in order of priority)	<ul style="list-style-type: none"> ● Financial issues: procurement of basic waste collection vehicles and containers (for squatter area) and improvement/rehabilitation of final disposal site. ● Legal issues: enforcement of waste generator responsibility to finance waste management through charging system for commercial/industrial waste. ● Technical issues: development of the recycling industry, including technology transfer and development of waste separation system. ● Social issues: need a robust public awareness system and commitment of waste producers to take their responsibilities and pay for the collection of their waste.

Waste Amount at Each Stage of Waste Flow*

Waste flow	Amount** (ton/day)	Remarks
❶ Waste generation	472	Waste generated at houses, offices, shops, restaurants, etc.
❷ Discharge to collection	N/A	Waste discharged for collection services.
❸ Self disposal	N/A	Disposal at generation sources, such as burning and burying.
❹ Recycling at source	N/A	Reuse of materials, composting, sold to recyclers.
❺ Collection and transport	113	Waste amount collected and transported.
❻ Clandestine dumping	N/A	Waste illegally disposed of in unknown location.
❼ Treatment	N/A	Material recycling, composting, incineration, etc.
❽ Recycling/Reduction	N/A	Recycled and/or reduced waste amount by material recycling, composting, incineration, etc.
❾ Residue	N/A	Residue from treatment facilities.
❿ Final disposal site	113	Waste amount brought into disposal sites.
⓫ Recycling	N/A	Recycled at disposal sites.
⓬ Final disposal	N/A	Waste amount finally disposed of at disposal sites.

* Based on the waste flow chart on page.

** Figures include estimated value.

Location of Waste Management Facility and Related Photographs:



Skip point



Waste pickers in the disposal site



Final Disposal Site (coordinates: S 15°46'52.45" E 35°5'49.89")