



REPORT TO: URBAN WASTE MANAGEMENT PORTFOLIO COMMITTEE

1. ITEM NUMBER **UWM 14/09/24**

2. SUBJECT

URBAN WASTE MANAGEMENT – WASTE SERVICES CLEANSING BRANCH –
MOTION TO IMPLEMENT COMPOSTABLE BAGS FOR REFUSE REMOVAL IN THE
CITY OF CAPE TOWN

ONDERWERP

STEDELIKEAFVALBESTUUR – AFVALDIENSTE: TAK REINIGING: MOSIE OM
KOMPOSTEERBARE SAKKE VIR VULLISVERWYDERING IN DIE STAD KAAPSTAD
TE IMPLEMENTEER

ISIHLOKO

ULAWULO LWENKUNKUMA EDOLOPHINI – ISETYANA LEENKONZO ZOKUCOCA
INKUNKUMA: ISIPHAKAMISO SOKUMISELA IIBHEGI ZOKUVUNDISA UKUBA
ZITHATHWE NENKUNKUMA KWISIXEKO SASEKAPA.

3. DELEGATED AUTHORITY

In terms of delegation

This report is for NOTING BY

- Committee name** : Urban Waste Management
- The Executive Mayor together with the Mayoral Committee (MAYCO)
- Council

4. DISCUSSIONS

4.1. BACKGROUND

On the Monday, 4 March 2024, a motion to implement compostable bags for refuse removal in the City of Cape Town was tabled and adopted at the Urban Waste Management Portfolio Committee. The main proposal is that Urban Waste Management Directorate start with a cost-benefit-analysis for this new approach as well as initiate a pilot program in one of the departments within Urban Waste Management. It is envisaged that the pilot program will allow us to assess the feasibility and effectiveness of this environmentally friendly alternative.

4.2. DISCUSSION

In 2021 Cleansing Branch ran with some internal cost benefit analysis for the services including refuse storage in informal settlements the biggest user of refuse bags – see annexure A. Reusable containers proved to be a cheaper option for the exercise in the long run. Waste Services supports the direction given by the motion, only for appropriate applications in the City.

Preliminary studies shows that the maturity of the industry in producing compostable or suitably bio-degradable biodegradable bags in South Africa has not developed at all as there is no producer of this type of plastics in the South African market. As a result, either the bags or the compostable resin usually needs to be imported, significantly increasing the comparative cost per bag. Further exploration of the implementation of compostable or suitably bio-degradable Refuse bags have shown that the usage may indeed come at a higher cost though it will improve sustainability and increase environmental benefits in the long term, in selected applications, as described below. The City currently pays R1.37¹ excl VAT for non-biodegradable bags where as a quick search online shows that the City will need to pay R13.16² excluding VAT per compostable or biodegradable bag. The City uses more than 46 million bags per annum with an estimated cost of R63 020 000. A switch from the current bags to compostable or suitably biodegradable at the same quantity of bags will escalate the costs R605 360 000.

Compostable or suitably biodegradable bags are custom designed and recommended for particular applications, where both the bag and the contents are intended to biodegrade, such the separate collection of organic waste for treatment at a composting facility. In contrast, if compostable bags are used for general waste to landfill, neither the bags nor the (partially non-biodegradable) waste contents will completely biodegrade in a landfill. Biodegradable refuse bags for general waste will thus not produce the necessary environmental benefits expected or desired in the system of informal settlements, .

¹ City Deviation RFQ DP7932G/2022/23


² <https://www.sustainable.co.za/products/envirochange-biodegradable-plant-based-refuse-bags-100l-25-bag-roll>

Kundululwe ukuba makuqwalaselwe ingxelo yeSetyana leeNkonzo zokuCoca iNkunkuma engesiphakamiso sokumisela ukuba iibhegi zkuvundisa ukuba zithathwe nenkunkuma kwiSixeko saseKapa.

FOR FURTHER DETAILS CONTACT

NAME	Eugene Hlongwane	CONTACT NUMBER	0845201975
E-MAIL ADDRESS	Eugene.hlongwane@capetown.gov.za		
DIRECTORATE	Urban Waste Management	FILE REF NO	
SIGNATURE : DIRECTOR		Redrick Eugene Hlongwane	Digitally signed by Redrick Eugene Hlongwane Date: 2024.08.27 16:36:34 +02'00'


EXECUTIVE DIRECTOR

NAME	Phila Mayisela	COMMENT:	
DATE			
SIGNATURE	 Phila Mayisela	Digitally signed by Phila Mayisela Date: 2024.08.28 17:13:40 +02'00'	

The ED's signature represents support for report content and confirms POPIA compliance.

LEGAL COMPLIANCE

- REPORT COMPLIANT WITH THE PROVISIONS OF COUNCIL'S DELEGATIONS, POLICIES, BY-LAWS AND ALL LEGISLATION RELATING TO THE MATTER UNDER CONSIDERATION.
- NON-COMPLIANT

NAME		COMMENT:	
DATE		For information.	
SIGNATURE	 Jason Sam Liebenberg		



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

**URBAN WASTE MANAGEMENT
CLEANSING BRANCH**

Eugene Hlongwane
Manager: Cleansing Branch

T: 021 400 2423

E: eugene.hlongwane@capetown.gov.za

MEMORANDUM

Date **29 MARCH 2022**

To **Rustim Keraan (Acting Executive Director – Urban Waste Management)**

Subject **Cost Benefit Analysis – Blue Refuse Bags**

1. Background

As the City seeks to establish ways of economic recovery as well as to seek ways to environmental sustainability, the SWM Cleansing Branch is exploring the processes of cost benefit analysis for the Blue Refuse Bag usage for the past 2 Financial Years.

2. Purpose

The purpose of the analysis is to investigate differences between the costs and usage of Blue refuse bags and investigating the potential use of Bio-Degradable Bags as well as 130L and 240L refuse bins.

3. The Analysis

Actual figures were obtained using the latest invoices submitted to Contract Management for Blue Refuse Bags used in the various Cleansing activities.

Overall Findings

Blue Refuse Bags Comparison (AS PER CM)								
AREA/BUSINESS UNIT	FY 2019/2020		FY 2020/2021		DIFFERENCE IN BAGS RECEIVED FY19/20 & FY20/21	DIFFERENCE IN BAG COST FY19/20 & FY20/21	FY 2021/2022 First & Second Quarter	
	Quantity Bags Received	Annual Cost @ R1.03 per Bag	Quantity Bags Received	Annual Cost @ R1.07 per Bag			Quantity Bags Received	Current Annual Cost @ R0.96 per Bag
AREA NORTH	2 990 000.00	R3 079 700.00	2 080 000.00	R2 225 600.00	- 910 000.00	-R854 100.00	2 375 625.00	R2 280 600.00
AREA SOUTH	1 710 000.00	R1 761 300.00	2 072 000.00	R2 217 040.00	362 000.00	R455 740.00	2 018 867.00	R1 938 112.32
AREA EAST	2 611 000.00	R2 689 330.00	1 580 000.00	R1 690 600.00	- 1 031 000.00	-R998 730.00	1 108 125.00	R1 063 800.00
AREA CENTRAL	1 890 000.00	R1 946 700.00	3 003 800.00	R3 214 066.00	1 113 800.00	R1 267 366.00	1 424 115.00	R1 367 150.40
CM INFO.SETTLE	23 113 670.00	R23 807 080.10	26 307 862.00	R28 149 412.34	3 194 192.00	R4 342 332.24	19 963 646.00	R19 165 100.16
CM SANDY AREAS	9 258 466.00	R9 536 219.98	11 660 703.00	R12 476 952.21	2 402 237.00	R2 940 732.23	7 842 417.00	R7 528 720.32
CM SES	85 874.00	R88 450.22	120 454.00	R128 885.78	34 580.00	R40 435.56	0	0
TOTALS	41 659 010.00	R 42 908 780.30	46 824 819.00	R50 102 556.33	+5 165 809.00	+R7 193 776.03	34 732 795.00	R33 343 483.20

Table 8. Above gives an overall comparison between the past 2 FY where it indicates that there has been an increase in Blue Refuse Bags and the Annual Costs

038

Annual Bags % Usage Per Area for 2 FY

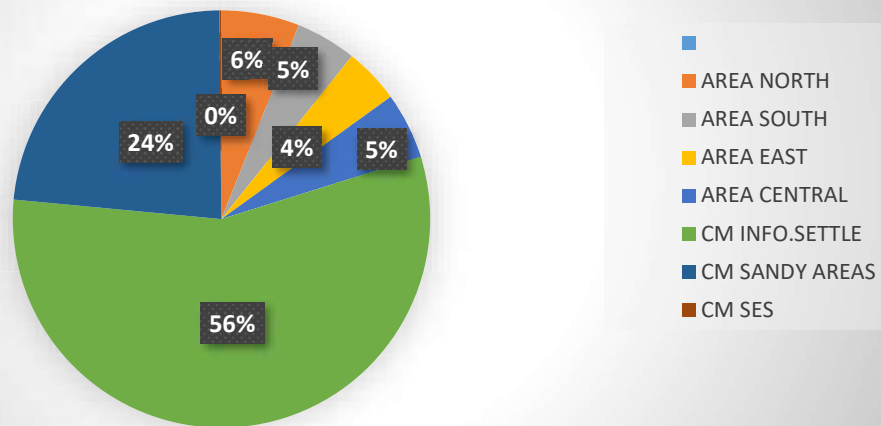


Figure 2. Overall Blue Refuse Bags illustrated above With Contract Management using a high percentage of the bags.

INFORMAL SETTLEMENT WASTE REMOVALS

Potential Usage of 130L and 240L Bin costing

PROPOSAL				CURRENT		
130L BIN RATE (EX VAT.) @ R 648.20			240L BIN RATE (EX VAT.) @ R706.40	BLUE REFUSE BAG RATE @R0.96		
AREA	DWELLING S	TOTAL COST	TOTAL COST	80L BAGS PER DWELLING/MTH	TOTAL COST/MONTH	
1	12453	R8 072 034.60	R8 796 799.20	8	R95 639.04	
2	14423	R9 348 988.60	R10 188 407.20	8	R110 768.64	
3	21128	R13 695 169.60	R14 924 819.20	8	R162 263.04	
4	34750	R22 524 950.00	R24 547 400.00	8	R266 880.00	
5	29205	R18 930 681.00	R20 630 412.00	8	R224 294.40	
6	24743	R16 038 412.60	R29 148 889.60	8	R190 026.24	
7	46423	R30 091 388.60	R64 701 295.20	8	R356 528.64	
8	35858	R23 243 155.60	R16 796 072.80	8	R275 389.44	
ESTIMATED TOTAL ONCE OF COST		218983	R141 944 780.60	R189 734 095.20	ESTIMATED TOTAL COST/MONTH	R1 681 789.44
				ESTIMATED TOTAL COST/ANNUM	R20 181 473.28	

Table 6.

Blue Refuse Bags Costs over 15 year period Informal Settlement Dwellings			
Year	Bag Cost @ 4.5%/year	Blue Refuse Bag Cost per Month for 218983 Dwellings	Blue Refuse Bag Cost per Annum for 218983 Dwellings
1	R0.96	R1 681 789.44	R20 181 473.28
2	R1.00	R1 757 469.96	R21 089 639.58
3	R1.05	R1 836 556.11	R22 038 673.36
4	R1.10	R1 919 201.14	R23 030 413.66
5	R1.14	R2 005 565.19	R24 066 782.27
6	R1.20	R2 095 815.62	R25 149 787.48
7	R1.25	R2 190 127.33	R26 281 527.91
8	R1.31	R2 288 683.06	R27 464 196.67
9	R1.37	R2 391 673.79	R28 700 085.52
10	R1.43	R2 499 299.11	R29 991 589.37
11	R1.49	R2 611 767.57	R31 341 210.89
12	R1.56	R2 729 297.11	R32 751 565.38
13	R1.63	R2 852 115.49	R34 225 385.82
14	R1.70	R2 980 460.68	R35 765 528.18
15	R1.78	R3 114 581.41	R37 374 976.95
Estimated Average Total Cost per Annum for 15 Year Period			R27 963 522.42
Estimated Total Cost for 15 Year Period			R419 452 836.32

Table 7.

Table 6. Above indicates the once off potential cost for the 130L Bins for the Informal Settlement Dwellings would sit around 140 million rand with a lifespan ranging between 5 to 15 years.

Table 7. Shows the monthly and annual estimated costs of the current Blue Refuse Bags with an average inflation rate of 4.5% being taken into account. Cleansing could see itself spending over 400 million rand on Blue Refuse bags over the next 15 years for Informal Settlement Dwellings.

The usage of 130L bins will have environmental benefits as they have potential to reduce illegal dumping in the informal settlements areas because of the capability of closed storage containers as opposed to blue refuse bags which tear apart easily and result in bad smells as well as increase in rodents' infestation

Additionally, Cleansing could potentially save around 280 million rand with the implementation of the 130L bins. Savings can be used to replace 130L bins damaged or stolen in the area.

Conclusion and Recommendations

- The usage of Blue refuse bags has seen a rapid increase over the past 2 Financial Years. Reducing or discontinuation of the Blue Refuse Bag usage in Informal Settlements Dwellings will have positive outcomes allowing bags to only be utilized in the remaining areas which include street sweeping, litter picking, green litter bins and for Special events in the interim.
- The consideration of the procurement of the 130L or 240L Bins for the informal settlements will also reduce the current losses of Blue Refuse Bags as a result of theft and illegal sales of the bags by informal traders.
- The usage of 130L or 240L bins will have environmental benefits as they have potential to reduce illegal dumping in the informal settlements areas. This is mainly because the bins are able to close, unlike the Blue Refuse Bags which tear apart easily when filled with heavy material; and result in bad smells as well as increase in rodents' infestation.
- In fact, the introduction of the Bins at the informal settlements will have many benefits for the City as it will also assist in reducing the rodents' infestation as it is believed that illegally dumped waste may have direct negative impact on the formation of rodents.
- Additionally, the City could potentially save over R280million or more with the implementation of the 130L or 240L Bins waste temporary waste storage system at the informal settlements dwellings.
- Further exploration of the implementation of Bio-degradable Refuse bags have shown that the usage may come at a higher cost but will improve sustainability and environment in the long term. This method may only be recommended for the other Cleansing operations at a later stage.

- It is also recommended that a technical operational model study for waste collection at informal settlements be undertaken should the usage of the 130L or 240L Bins be considered and approved.
- This will enable the City to have proper plans around the type of fleet to be utilised as well as the informal settlement vehicle access system design and waste removal model.
- It should however be noted that there will be a need to first allow the current waste management contracts in place at the informal settlements to lapse before the actual implementation of the proposed solutions.

Submitted by:

**Redrick Eugene
Hlongwane**

Digitally signed by Redrick
Eugene Hlongwane
Date: 2022.04.08 11:02:30 +02'00'

Mr. Eugene Hlongwane
Manager: UWM, Cleansing Branch

**Mahlatse
Maebana** Digitally signed by
Mahlatse Maebana
Date: 2022.03.29
22:18:43 +02'00'

Supported/Not Supported

Mr. Rustim Keraan

~~Acting~~: Director, UWM – Solid Waste Management

Suhail
Fortuin

Digitally signed
by Suhail Fortuin
Date: 2022.04.25
18:54:25 +02'00'

Approved/Not Approved

Mr. Rustim Keraan

Acting: Executive Director, UWM