CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

REPORT TO: THE EXECUTIVE MAYOR AND MEMBERS OF THE MAYORAL COMMITTEE [MAYCO] AND URBAN WASTE MANAGEMENT SECTION 79 COMMITTEE

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1. ITEM NUMBER

2. SUBJECT:

FEEDBACK ON THE INTERNATIONAL/OUTSIDE THE BORDERS OF THE RSA TRIP UNDERTAKEN FROM SECOND (2ND) TO FIFTH (5TH) MAY 2023 TO ATTEND THE NOVAMONT NORTHERN ITALY ORGANIC WASTE FACILITY TOUR

2. ONDERWERP:

TERUGVOERING OOR DIE REIS NA DIE BUITELAND/BUITE DIE GRENSE VAN DIE RSA ONDERNEEM VAN 2 TOT 5 MEI 2023 OM DIE ORGANIESEAFVALFASILITEITSTOER NA NOVAMONT, NOORD-ITALIË BY TE WOON

2 ISIHLOKO:

INGXELO ENGOHAMBO OLUYA PHESHEYA OKANYE NGAPHAYA KWEEBHODA ZOMZANTSI AFRIKA OLUTHATYATHWE UKUSUSELA NGOWE2 UKUYA KOWE5 KUCANZIBE 2023 LOKUTYELELA INOVAMONT NORTHERN ITALY ORGANIC WASTE FACILITY

Ref: P3736

3. EVENT SUMMARY

EVENT DETAILS:	
CONFERENCE/SEMINAR	Site visit to Novamont waste facilities in Italy
DATE	2 to 5 May 2023
VENUE	Various – Milan, Santhia, Asti, Este, Trevis
TOTAL COST TO CITY	R 54 000
CITY	Milan
COUNTRY	Italy

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ATTENDEE DETAILS	Alderman Grant Twigg – MMC: Urban Waste Management Margot Ladouce Manager: Disposal (UWM)
PROVIDE SUMMARY OF HOST ORGANISATION CITY	
Novamont is situated in Novara City, Novara Province in the north of Italy, approximately 52 km from the City of Milan in Italy. It is an Italian company, and they regard their organization as an international leader in the bioplastics sector and in the development of biochemicals. Their approach is to support a more circular economy system, through new sustainable development models and thereby transitioning to a system economy, redesigning the application sectors, reducing costs of environmental and social externalities. They coordinate collaboration with various countries through study tours in Italy to showcase best practice. In our case, the interest was in compostable bags, organic waste collection and diversion from landfill and then the treatment, in particular, anaerobic digestion (semi-dry) and in vessel composting of the organic waste stream.	

4. INTRODUCTION

South Africa is estimated to generate domestically a total of 12.7 million tonnes of waste per annum. In the country, municipalities are facing increasing pressures and challenges to provide waste management services due to the growing waste generation. South Africans dispose of enough municipal solid waste to fill an entire football field 10 metres deep, every day.

It is no different for the City of Cape Town. The waste generated in Cape Town by private citizens, tourists, visitors, commerce and industry has resulted in a net growth in the volume of waste. The City does not have unlimited landfill airspace. There is a need to divert waste from landfill so as to ensure that landfill airspace is not depleted sooner than necessary. Given the City's increasing population and ongoing increase in the volumes of waste disposed of, the City could in future face an environmental and health crisis.

The City is faced with the realities below that directly affects the increasing waste generation:

- Population growth of 1.4 % per annum.
- lack of drop-offs in low income and informal areas
- excessive illegal dumping
- lack of public awareness and education
- limited airspace of landfill sites
- increasing operational requirements and cost of waste management function
- misalignment with international innovation and trends related to waste management

Recent legislative amendments by National and Provincial Government confirms the need for a serious change in behaviour by all relevant stakeholders, public and private sector.

Whilst various initiatives such as Think Twice door to recycling, waste paper recycling in city buildings, home composting, landfill gas harvesting, builders waste recycling, the recycling app for greater waste minimisation stimulation, garden greens chipping and residential drop off facilities for recycling has been implemented we need to aggressively elevate our programmes towards minimising waste generation.

Solid Waste have identified twenty-one strategic deliverables that needs to occur in order to meet their vision, strategic intent, objectives and ensure alignment to the NDP, National and Provincial Government Waste strategies and targets,

The next step is to action the implementation thereof through new and innovative measures.

As a developing country, South Africa rely on developed countries for learning and growth for the following reasons:

- Advanced technological innovation
- Infrastructural capabilities
- Pre- incident strategies
- Improved access to services
- Best practices
- Economies of scale
- Defined standard business and operating procedures
- Skilled force
- Well-developed financial and education systems etc.

It is against this learning opportunity that the invitation to Novamont in Italy was accepted, as it provided for an opportunity to learn from industry leaders, public sector officials regarding policies and practices towards sustainable waste management in our City.

The section below will unpack the site visit proceedings and the associated lessons learnt related to converting Waste to Energy, Leachate treatment, Waste Diversion and Recycling, Waste Collection and Behavioural change. This in essence is the focus areas of the upcoming Urban Waste Management Innovation Expo to be held on 18 and 19 May 2023, where prototypes, designs, processes and demonstrations will be features alongside presentations from subject matter experts from around the globe and locally.

Following the expo, the design will be reviewed and viability assessed, towards sustainable waste management to achieve our waste minimisation strategies.

5. OBJECTIVES

The site visit aimed to achieve the following:

Exchange information on best practices related to sustainable waste management through:

- ✓ Review of policies
- ✓ Business processes
- ✓ Financial models
- ✓ Sustainable practices
- ✓ Relationship building with private sector and partnerships
- ✓ Pre- incident strategies
- ✓ Training and development
- ✓ Innovation on waste
- ✓ Community involvement

The following stakeholders were consulted:

Noamont S.p.A
IREN Ambiente S.p.A
Amsa S.p.A
A2A Ambiente S.p.A
Contarina S.p.A
SESA S.p.A

The discussion below will detail the initiatives related to minimise waste which were most impressive and value adding for consideration in the City of Cape Town.

6. OUTCOMES

i. Circular Economy in the North East of Italy

Here, four Composting and Anaerobic Digestion plants are run. These plants deal with the leachate challenges and is run through a Public Private Partnership between the municipality and the private sector.

Through the processing of the Bio and Green waste, useful and value adding by-products such as electricity, thermal energy, biomethane, CO2, compost and water is created. These in turn are used for own consumption, or sold for private use and commercial production.

The infrastructure design layout and functionality of these treatment and digestion plants with the composting tunnel is advanced and together with the circular economy approach allows for the reduction of operating costs, revenue generation, directly impacting sustainability and has a positive impact on the environment.

The advanced infrastructure can be seen in the pictures below:

Anaerobic Digestion Plants

VENTILATION PLENUM

INSIDE OF A COMPOSTING TUNNEL

ii.Bio-Waste Management in Milan

Milan runs a circular waste economy and is consider to be a best practice in food waste management across all major European cities. Only certified compostable bags are allowed for collecting organics.

Their process is described below which includes separation at source, door-to-door separate waste collection (food garden and organic), transport and treatment.

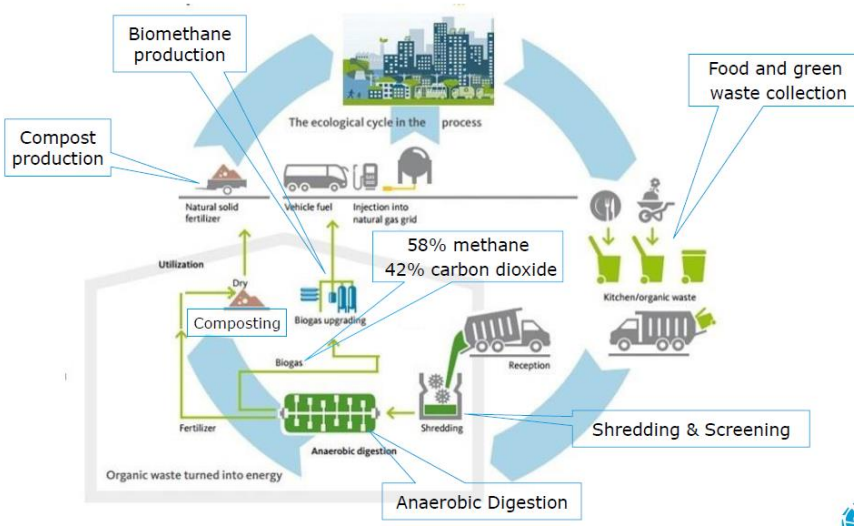
A rigorous campaign was started to secure community, business and schools involvement that focused on how to recognize compostable materials, schools project centred on waste separation; Guided tours of organic waste treatment plants; involvement of companies like McDonald's. This secured a high participation rate from stakeholders.

The approach and impact of collaboration between spheres of governments and private sector in the development of projects aimed at introducing and implementing integrated waste management strategies are seen here.

Some of the legislative changes included the ban of non-compostable plastic shopping bags and the introduction of single-use plastics.

The stand out process is where organic waste is converted to bio methane as a green fuel for transport.

The process is depicted in the diagram below.



The advanced biomethane can be used in transport, returning a significant sustainable energy to the city and will be able to fuel the collection vehicles for a virtuous circular economy. In turn the compost produced through the process allows the soil to be kept at the levels of organic carbon typical of natural soil.

The factors leading to the success can be attributed to information campaigns, distribution and promotion of large compostable bags during the start-up phase and subsequent continuous monitoring.

Another success factor is that the different waste are collected on separate days giving effect to separation at source and improves transporting sorting and processing at the plants.

The separation at source for households can be seen below:

RESOLUTIONS FROM THE SITE VISITS

ii. Financial information and structure of consortia will be provided to the City by the hosts.

iii. Further information on the compostable bags, production and specification to be provided by the hosts.

7. ACTIONS REQUIRED

It is recommended that the following be investigated and considered:

i. A detailed review and costing of waste management function be done by UWM which incorporates innovative approaches aligned to international standards and best practices.

ii. That the City of Cape Town consider the circular waste economy model as a prototype towards waste minimisation.

iii. Discussions be facilitated by UWM with Policy unit to review the legal landscape and related policies to consider the processes linked to Bio and green Waste Management in the circular waste economy and what the requirements are with regards to authorisation for wet digestion processes.

iv. A pilot programme be costed and implemented for the separate collection of waste in the City of Cape Town to trigger a change in behaviour and seperation at source.

v. An engagement framework in collaboration with Communications be drafted by UWM which will be aimed at solidifying partnerships and collaboration with the private sector and individuals on waste management initiatives.

vi. The draft organic waste treatment plan which was submitted to DEADP to be reviewed and consideration be given to learnings from the tour. In particular the possible pre-treatment options which can possibly be carried out at the decentralised facilities within the metro.

vii. Incentives programme be reviewed or developed by UWM to encourage participation by individuals and private sector on waste management initiatives.

viii. A review of current SMME programme be considered for waste minimisation

ix. An Energy incentive programme be considered and aligned to the energy recovery and beneficiation given the current energy crisis. Similarly with the production of potable water and wet AD – possible collaboration and incentivizing to be considered and discussed with environmental provincial office

8. IMPLICATIONS

.1	**Constitutional and Policy Implications**	No	☒	Yes	☐
.2	**Environmental implications**	No	☒	Yes	☐
.3	**Financial Implications**	No	☒	Yes	☐
.4	**Legal Implications**	No	☒	Yes	☐
.5	**Staff Implications**	No	☒	Yes	☐
.6	**Risk Implications**	No	☒	Yes	☐

.7 <u>POPIA Compliance</u>

☒ It is confirmed that this report has been checked and considered for POPIA Compliance.

NOTE: POPIA Section <u>MUST</u> be completed otherwise the report will be returned to the author for revision.

Contact your Directorate POPIA Stewards should you require assistance.

The City has a contract in place with XL Embassy Travel for the safekeeping of Traveller's personal information as required by the POPI Act.

9. RECOMMENDATIONS

It is recommended that the feedback report on the trip to Northern Italy on organic waste undertaken by Mayco member for Urban Waste Management, Alderman Grant Twigg and Manager: UWM Disposal Branch, Margot Ladouce on 2 to 5 May 2023 **be considered and noted.**

9. AANBEVELINGS

Daar word aanbeveel dat die terugvoeringsverslag oor die reis na organieseafvalfasiliteite in Noord-Italië onderneem deur die burgemeesterslid vir stedelikeafvalbestuur, raadsheer Grant Twigg, en die bestuurder:

stedelikeafvalbestuur: tak wegdoening, Margo Ladouce, van 2 tot 5 Mei 2023 **oorweeg en daarvan kennis geneem word**.

9. IZINDULULO

Kundululwe ukuba **makuthathelwe ingqalelo kwaye kuqwalaselwe** ingxelo engohambo oluya eMantla weItaly olungenkunkuma ephilayo oluthatyathwe lilungu leMayco kuLawulo leNkunkuma eziDolophini, uCebakhulu Grant Twigg noMlawuli kwiSebe lokuLahlwa lweNkunkuma kuLawulo lweNkunkuma eziDolophini, uMargot Ladouce ngowe2 ukuya kowe5 kuCanzibe 2023.

FOR FURTHER DETAILS, CONTACT:

DATE	01 June 2023	
NAME	Alderman Grant Twigg	Contact number 021 400 1218
E-MAIL ADDRESS	Grant.twigg@capetown.gov.za	
DIRECTORATE	UWM	FILE REF NO
SIGNATURE :	Grant Twigg Digitally signed by Grant Twigg Date: 2023.06.01 13:16:23 +02'00'	

Joan-Mari Holt Digitally signed by Joan-Mari Holt Date: 2023.06.02 09:22:17 +02'00'

MANAGER: INTERNATIONAL RELATIONS COMMENT:

DR. DENVER VAN SCHALKWYK

SIGNATURE: Dr Denver van Schalkwyk Digitally signed by Dr Denver van Schalkwyk Date: 2023.06.01 15:23:39 +02'00'

DATE

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

☐ NON-COMPLIANT

Joan-Mari Holt Digitally signed by Joan-Mari Holt Date: 2023.06.02 09:22:34 +02'00'

LEGAL COMPLIANCE

COMMENT:

NAME

Certified as legally compliant based on the contents of the report.

TEL

DATE