

PRINCE ALBERT MUNICIPALITY

UNSOLICITED BID ON WASTE TO ENERGY PROJECT

Prince Albert Municipality received an unsolicited bid in terms of Section 113 of the Municipal Finance Management Act, 2005 and Section 37 of the Municipality's Supply Chain Policy from Reuse Technologies South Africa to divert biomass from landfill through the manufacturing of renewable fuels and energy.

The project is innovative and aims to diversify energy production, while at the same time decreasing landfill use, and increasing revenue and employment. Reuse Technologies SA proposes to build a new waste to energy process plant located in Leeu Gamka. During phase 1 the project aims to rehabilitate the existing landfill site in Leeu Gamka by establishing a Materials Recovery Facility (MRF). During phase 2 the MRF will be upgraded. Approximately 500 job opportunities is envisioned during phases 1 and 2. The facility propose to use treated waste water in their operations. The proposed Reuse Technology SA Biomass Conversion Facility will use saccharides as the intermediate or platform chemical to make a variety of renewable fuels. The proposed project is carbon neutral and thus able to attract carbon credits from the UN in terms of the Kyoto Protocol and Paris agreement. The proposed project requires the availing of 5 hectares of land in Leeu Gamka by Prince Albert Municipality, with a possibility of establishing a partnership between Reuse Technologies South Africa, the Prince Albert Municipality and the community.

The proposed project is aligned to the Municipality's strategic IDP objective to minimize waste, better manage landfill sites and create job opportunities in the poverty pocket area of Leeu Gamka.

The documentation supporting the unsolicited bid on the Waste to Energy Project will be available for public inspection at our municipal offices in all towns, as well as our libraries and on our website: www.pamun.gov.za Public meetings will be held as follows:

Leeu Gamka community hall: 10h00 on 6 January 2021

Prince Albert Sydwell Williams Centre: 10h00 on 7 January 2021

Klaarstroom community hall: 10h00 on 8 January 2021

Any person or service provider wishing to comment or wanting to indicate that they have a similar product or service, can do so in writing by 13 January 2021 by directing their comments and input to scm@pamun.gov.za or SCM Unit Prince Albert Municipality Private Bag X53 Prince Albert 6930 or 33 Church Street Prince Albert 6930, clearly marked: Unsolicited Bid: Waste to Energy Project.

Queries in respect of the above may be directed to Ms Anneleen Vorster, tel (023) 5411320 or email: anneleen@pamun.gov.za

A Vorster
MUNICIPAL MANAGER
Private Bag X53, PRINCE ALBERT 6930
Tel 023 5411320

CONCISE ABSTRACT AND TITLE: WASTE TO ENERGY PROJECT: LEEU GAMKA

The project is innovative and aims to diversify energy production, while at the same time decreasing landfill use, and increasing revenue and employment. Reuse Technologies SA proposes to build a new waste to energy process plant located in Leeu Gamka. During phase 1 the project aims to rehabilitate the existing landfill site in Leeu Gamka by establishing a Materials Recovery Facility (MRF). During phase 2 the MRF will be upgraded. Approximately 500 job opportunities is envisioned during phases 1 and 2. The facility propose to use treated waste water in their operations. The proposed Reuse Technology SA Biomass Conversion Facility will use saccharides as the intermediate or platform chemical to make a variety of renewable fuels. The proposed project is carbon neutral and thus able to attract carbon credits from the UN in terms of the Kyota Protocol and Paris agreement. The proposed project requires the availing of 5 hectares of land in Leeu Gamka by Prince Albert Municipality, with a possibility of establishing a partnership between Reuse Technologies South Africa, the Prince Albert Municipality and the community.

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Prince Albert Municipality received an unsolicited bid in terms of Section 113 of the Municipal Finance Management Act, 2005 and Section 37 of the Municipality's Supply Chain Policy from Reuse Technologies South Africa to divert biomass from landfill through the manufacturing of renewable fuels and energy.

The objectives of the project is as follows:

- Development of a self-sustaining saccharides plant in Leeu Gamka that will act as a demonstration project
- Lowering costs associated with managing municipal solid waste
- Test the local and regional market for an integrated system of waste transfer and energy production sites.
- Diverting biomass from landfill
- Establishing of a Material Recovery Facility
- Conversion of biomass from landfill to bio-fuels by using wind to power the plant
- Reducing the carbon footprint
- Creating approximately 500 job opportunities in phases 1 and 2 of the project
- Create an income stream for partners in project
- The facility to be established in Leeu Gamka is targeted to produce an initial (name plate) 54.99 tonnes per day of the Renewable Fuel Bio-Methane over a 340 day operational year.
- The Methane is proposed to be compressed and liquefied for storage.
- The facility will produce a surplus of Renewable Electricity and Renewable Heat which will be available for sale / local use. This will be generated via a combined heat and power plant.
- Skills development of staff and local populace.
- Road to facility to be surfaced and funded by the Department of Trade and Industry in the amount of up to R50 million.
- Creation of a railroad highway to commoditize waste
- Land use agreement with Prince Albert Municipality

Reuse Technologies SA presented the Waste to Energy project to Prince Albert Municipality on 1 October 2020. Reuse Technologies SA proposes to build a WTE process plant in Leeu Gamka and to build Material Recovery Facilities in the Central Karoo District towns. A monetary requirement as per the project investor, the Rosenthal Group LLC is that Prince Albert Municipality pays R1 850 000 (One million eight hundred and fifty thousand South African Rand) towards a Feasibility and Carbon Credit Study. The Municipality should also avail 5 hectares of land towards the project for the duration of the project, estimated to be 15 years. Rosenthal Group LLC will pay Reuse Technologies SA the sum of R450 million (Four hundred and fifty million South African Rand), depending on the stages of the conversion process agreed upon, for the Leeu Gamka Waste to Energy process plant and its phases and according to the achievement of the milestones set forth herein after. The funding will be released within 45 days of completed feasibility and carbon credit study as agreed by The Rosenthal Group LLC. Prince Albert Municipality is expected to provide suitable strategies and agreements with Reuse Technologies SA for the implementation of a Waste to Energy process plant in Leeu Gamka in order for Reuse Technologies SA to provide an integrated waste beneficiation solution in the Central Karoo district in terms of existing legislation, including environmental authorisations for listed activities under section 24 of National Environmental Management Act.

The Project Owning Company (NEWCO) is Reuse Technologies SA, registered locally (South African) in an effort to have local representation to the formation of the Project Owning Entity. The proposed members to the NEWCO will be:

Reuse Technologies SA	40%
Prince Albert Municipality	25%
Project Finance Investor	30%
Local Investor	5%

The shareholding structure will be advised and structured by the appointed legal "Transaction Advisor" appointed by Reuse Technologies SA.

The Reuse Technologies SA Waste to Energy Project, which will be designed and constructed to provide Renewable Energy and heat, to be provided to Prince Albert Municipality, in the format of a Service Level Agreement entered into with Reuse Technologies SA, or other suitable similar agreement, under the auspices of Reuse Technologies SA as the Project Owning Company (NEWCO), which will entail, amongst other things:

- One facility specially designed and operated for MSW valued at R450 million. This facility will produce a surplus of Renewable Electricity and Renewable Heat which will be available for use within the plant as well as for community use / onward sales. The facility is targeted to produce an initial (name plate) 99 tonnes per day of the Renewable Fuel Bio-Methane over a 340 day operational year. The Methane is proposed to be compressed and liquefied for storage. The output of Methane will be enhanced within a few years of setting to work.
- Additional products made in the process includes Carbon Dioxide (which will be compressed and liquefied and then dry ice for storage), furfural (a solvent) and Struvite (a fertilizer).
- The processes used by Reuse Technologies SA in Converting Biomass to Valuable Products uses both a super heated water and dilute-acid hydrolysis of Celluloses and Starch to the Saccharides and other complex organical chemicals.
- Reuse Technologies SA processes do not burn or bury waste.
- The Hydrostatic Pressure Vessel Process Plant converts organic waste to Saccharides. This is achieved by an innovative technology application based on weak acid hydrolysis. The plant process is continuous and economic.
- The proposed Service Level Agreement for this project spans a 15 year period.

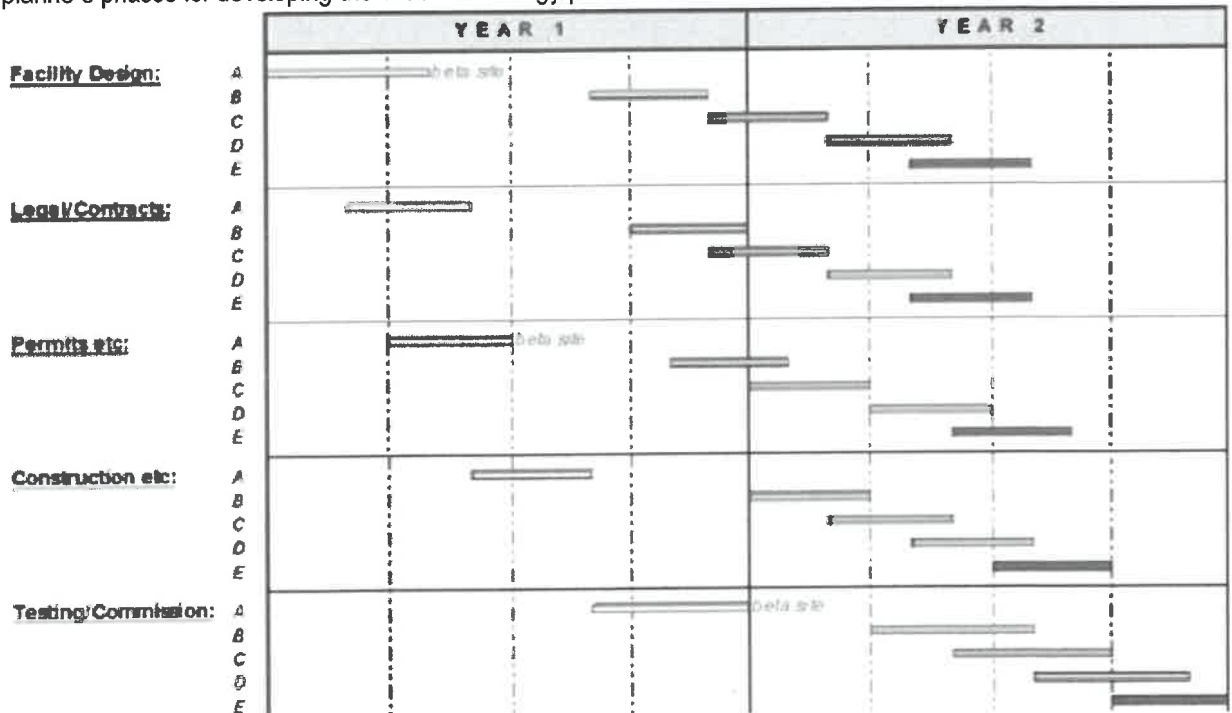
It should be noted that Reuse Technologies SA requires Prince Albert Municipality to contribute R1 850 000.00 (One Million Eight Hundred and Fifty Thousand South African Rand) for a Carbon Credit Study to be completed in the Central Karoo District to determine the organic fraction of the Municipal Solid Waste collected in the general catchment area through the manufacture of Renewable Fuels and Energy, and to further investigate the region.

It is expected that a period of three months will be required to deliver the completed detailed study; where upon the investor will relapse the investment of R450 million for the design and construction of the Leeu Gamka Waste to Energy process plant. It is anticipated that from project commencement to facility operation, the development period will last up to two years. The project is planned to be implemented in five phases, in addition to two other phases that will be conducted continuously throughout the duration of the project as indicated below:

Stage	From Finance
<p>Stage I – Project kick-off and preparatory work</p> <ul style="list-style-type: none"> • Identification and engagement of relevant stakeholders • Shortlisting of towns best suited for the pilot project 	<p>On Going Leeu Gamka</p>
<p>Stage II – Project definition and establishment of partnership arrangements</p> <ul style="list-style-type: none"> • Conducting of baseline surveys and fact finding missions to shortlisted cities • Selection of towns to host the project • Pre-feasibility study • Completed feasibility study • Carbon credits • Obtaining of permits, legal contracts and preparation of necessary studies to implement the project • Plant design, procurement and assignment of contract for construction 	<p>As Stage 1</p> <p>Completed 1 – 2 months (M) Up to 3M</p> <p>3 – 9M</p> <p>6 – 12 M</p>

Stage III – Construction of the Plant <ul style="list-style-type: none"> The plant is constructed on time and within budget (Both MSW and Plastic Plants) Testing of the plant Designing of the Railway network Designing of the Waste Truck modifications to existing Waste Trucks as per the Feasibility Study 	6 – 24M 18 – 30M 6 – 24M 12 – 30M ongoing
Stage IV – Operation of the Plant <ul style="list-style-type: none"> The plant is commissioned and operated on a daily basis Implementation of a programme for the separation of waste at source 	24M ongoing 12 – 30M
<ul style="list-style-type: none"> Implementation of a MRF at the designated area as stipulated in the Feasibility Study 	6 – 24M
Stage V – Full operation of the Plant <ul style="list-style-type: none"> Preparation of the Biomass/Organic material Extracting Saccharides/Breakdown of Cellulose Conversion of Saccharides into End Products 	18M ongoing 24M ongoing 24M ongoing
Documentation and Distribution Strategy	Ongoing
Project Monitoring and Oversight <ul style="list-style-type: none"> Establishment and operation of a project management board 	Ongoing

The planned phases for developing the Waste to Energy plant are as follows:



STATEMENT OF BENEFITS

- Carbon exhibition reduction
- Reduced landfill space
- Creation of between 250 to 500 job opportunities
- Stimulation of local economy
- Improved energy supply

A cash flow projection supplied by Reuse Technologies SA is attached.

ALIGNMENT OF STRATEGIC GROWTH OF PRINCE ALBERT MUNICIPALITY

The proposed benefits of the project are aligned with the Prince Albert Municipality's strategic objectives as incorporated within their Integrated Development Plan (IDP).

ALIGNMENT OF SUSTAINABLE DEVELOPMENT GOALS, NDP, PSG, CENTRAL KAROO AND PRINCE ALBERT STRATEGIC OBJECTIVES

2016 Sustainable Development Goals	NDP 2030	Medium Term Strategic Framework	Back to Basics Revised Chapter 9 Outcomes	WC Strategic Plan (2019-2024) Provincial Strategic Goals	2017 -2022 Central Karoo Strategic Objectives	2017 - 2022 Prince Albert Municipality's Strategic Objectives
SDG 1: No Poverty SDG 2: No Hunger SDG 3: Good Health SDG 6: Clean Water and Sanitation	Chapter 10: Health Care for all Chapter 11: Social Protection	Priority 3: Consolidating the social wage through reliable and quality basic services	B2B 1: Members of society have sustainable and reliable access to basic services	PSG 1: Safe and cohesive communities	SG 1: Promote Safe, Healthy and Socially stable communities through the provision of a sustainable environmental health service	SO 3: To promote the general standard of living
SDG 4: Quality Education SDG 5: Gender Equality SDG 8: Good jobs and Economic Growth SDG 10: Reduced Inequalities	Chapter 9: Improving Education, training and innovation Chapter 15: Nation building and Social Cohesion	Priority 2: Education, skills and health Priority 6: A capable, ethical and developmental state	B2B 3: Democratic, well governed and effective municipal institutions capable of carrying out their developmental mandate as per the constitution.	PSG 3: Empowering people	SG 2: Build a well capacitated workforce, skilled youth and communities	SO 6: To commit to the continuous improvement of human skills and resources to deliver effective services
SDG 7: Clean Energy SDG 9: Innovation and Infrastructure SDG 11: Sustainable Cities and Communities	Chapter 4: Economic Infrastructure Chapter 5: Inclusive rural Economy	Priority 1: Economic transformation and job creation	B2B 3: Democratic, well governed and effective municipal institutions capable of carrying out their developmental mandate as per the constitution.	PSG 2: Growth and jobs PSG 3: Empowering people	SG 3: Improve and maintain district roads and promote safe road transport	SO 2: To stimulate, strengthen and improve the economy for sustainable growth.

SDG 7: Clean Energy	Chapter 5: Environmental Sustainability and resilience	Priority 3: Consolidating the social wage through reliable and quality basic services	B2B 3: Democratic, well governed and effective municipal institutions capable of carrying out their developmental mandate as per the constitution.	PSG 4: Mobility and Spatial Transformation	SG 4: Prevent and minimise the impact of possible disasters and improve public safety in the region	SO 3: To promote the general standards of living SO 4: To provide quality, affordable and sustainable services on an equitable basis.
SDG 12: Responsible Consumption						
SDG 13: Protect the Planet						
SDG 14: Life below water						
SDG 15: Life on Land						
	Chapter 13: Building a capable and developmental state	Priority 6: A capable, ethical and developmental state	B2B: 4 Sound Financial Management	PSG 5: Innovation and culture	SG 5: Deliver a sound and effective administrative and financial to achieve sustainability and viability in the region.	SO 7: To enhance participatory democracy
	Chapter 14: Fighting corruption					
SDG 17: Partnerships for the Goals	Chapter 13 Building a capable and developmental state	Priority 6: A capable, ethical and developmental state	B2B 2: Strengthened inter-governmental arrangements for a functional system of cooperative governance for local government	PSG 5: Innovation and culture	G6: Facilitate Good Governance principles and effective stakeholder participation	SO 7: To enhance participatory democracy SO 5: To maintain financial viability & sustainability through prudent expenditure, and sound financial systems.
SDG 16: Peace and Justice						
SDG 10: Reduced Inequalities						
SDG 12: Responsible Consumption						
SDG 12: Responsible Consumption	Chapter 14: Fighting corruption					
SDG 12: Responsible Consumption	Chapter 15: Nation building and social cohesion					
SDG 8: Good jobs and economic growth	Chapter 3: Economy and Employment	Priority 4: Spatial integration, human settlements and local government	B2B: 5 Local public employment programmes expanded through the Community	PSG 4: Mobility and Spatial Transformation	G7: Promote regional economic development, tourism and growth opportunities	SO 1: To promote sustainable integrated development through social and spatial integration that
	Chapter 6: Inclusive rural economy					

			Work Programme (EPWP)			eradicates the apartheid legacy SO 2: To stimulate, strengthen and improve the economy for sustainable growth.
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STATEMENT ON INNOVATION

Reuse Technologies envisions a Partnership that takes our market-ready technologies and develops a self-sustaining plant and in turn, produces a return on investment and lowers the costs associated with managing municipal solid waste (MSW). Facilities will quantify a city's MSW and turn it into revenue. Currently cities experience the financial burdens of sustaining a multi-stream recycling and solid waste program. In many cases recycling programs COST cities money - long after institutional subsidies are no longer available. Our approach could turn municipal waste to energy at the transfer station, thus drastically reducing transportation costs, tipping fees, and the need to pay for landfills

Technology

Improved energy yield and profitability of traditional anaerobic digester system The project makes use of integrated technologies in the conversion process and is approved by the European Union, is 100% compliant with the terms of the Kyoto Protocol and the Paris agreement on climate change signed by South Africa in 2016. All waste will be converted to energy. Our Process is clean and we do not burn or bury (no waste diverted back to landfill). We hugely improve energy yield and profitability of a traditional anaerobic digester system, doubling, even tripling cash flow and profits. The technology is unique and disruptive but not new. We change the landscape for cellulose to energy production. Technology Background Anaerobic Digestion-Reaction is speeded up from 20/30 days to 2 days or less which enables all the Biomass to be converted. A commercial cellulosic sewer sludge processing plant operated in Apeldoorn, Netherlands from 1992 to 2008. The facility used wet oxidation and was the initial Project from which the Reuse Intellectual property (IP) was developed. Our Engineers and company Advisors were a large part of the Apeldoorn hydrolysis / wet oxidation process where tremendous success was achieved in the processing of sludge waste in an environmentally safe manner. It is vital to note that every Anaerobic Digester (AD) Plant (of which there are hundreds), have the same process of breaking down Biomass to produce Methane/Carbon Dioxide/by-products. However the IP we have inserted at the front end to break down the Lignin bond and release the Cellulose so that the Reaction is speeded up from 20/30 days to 2 days or less which enables all the Biomass to be converted to more Methane/Carbon dioxide/By-Products but leaving no Residue/Digestate unlike other AD Plants. This is a basic Hydrolysis programme which pre-treats Biomass (Ligno-Cellulose) and breaks it down into its component parts Lignin C6-Saccharides (the Cellulose) and C5-Saccharides (the Hemi-Cellulose) components all covered by IP which other AD Plants do not do. Please go to the link below to view the Apeldoorn underground plant in question. https://drive.google.com/open?id=19y448Z_vNuxekFdpRaL7k7nd8DV0yr44

PLEASE NOTE THAT SOLE OWNERSHIP OF THIS TECHNOLOGY WILL BE TESTED DURING THE UNSOLICITED BID PROCESS

The proponent's name, address, identification or registration number (if a corporation), VAT registration number and the contact details of its authorised representative

Name: Reuse Technologies SA,

Address: Unit 10/11 Kendal Mews, 1 Ruchill Road, Diep River, Cape Town, South Africa, 7945,

Company Registration Number: 2018/474682/07,

Contact Details of Authorised Representative: Shirly Paulse, Cell: 0728417481, Work number: 0217120291.



PRINCE ALBERT MUNICIPALITY

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Per hand: SCM Unit Prince Albert Municipality, Private Bag X53, Prince Albert 6930 or 33 Church Street, Prince Albert 6930, clearly marked: Unsolicited Bid: Waste to Energy Project.

Queries in respect of the above may be directed to the Municipal Manager (Ms. Anneleen Vorster), tel [\(023\) 5411320](tel:0235411320) or email: anneleen@pamun.gov.za.

A Vorster
MUNICIPAL MANAGER
Private Bag X53, PRINCE ALBERT 6930
Tel 023 5411320

**MUNISIPALITEIT
VAN
PRINS ALBERT**

Rig alle korrespondensie aan:
DIE MUNISIPALE BESTUURDER
Privaatsak X53, Prins Albert, 6930



**MUNICIPALITY
OF
PRINCE ALBERT**

Address all correspondence to:
THE MUNICIPAL MANAGER
Private Bag X53, Prince Albert, 6930

E-pos / Email: george@pamun.gov.za • Tel.: 023 541 1320 • Fax: 023 541 1321

ONGEVRAAGDE TENDER OP AFVAL-TOT-ENERGIE-PROJEK

Prins Albert-munisipaliteit het 'n ongevraagde tender ingevolge Artikel 113 van die Wet op Munisipale Finansiële Bestuur, 2005 en Artikel 37 van die Munisipaliteit se Aanbodketteringbeleid ontvang vanaf Reuse Technologies South Africa om biomassa van vullisafval te omskep deur die vervaardiging van hernubare brandstowwe en energie.

Die projek is innoverend en strewe daarna om energieproduksie se diversifiseer, terwyl dit terselfdertyd vullisafval verminder en inkomste en indiensneming verhoog. Reuse Technologies SA stel die bou van 'n nuwe afval-tot-energieprosesseringsaanleg in Leeu-Gamka voor. Tydens fase 1 beoog die projek om die bestaande vullisafvalperseel in Leeu-Gamka te rehabiliteer deur die vestiging van 'n Materiaal-herwinningsfasiliteit (MRF). In fase 2 sal die MRF opgegradeer word. Ongeveer 500 werksgeleenthede word tydens fases 1 en 2 voorsien. Die fasiliteit stel voor dat afvalwater in hul bedrywighede gebruik word. Die voorgestelde Reuse Technology SA Biomassa-omskakelingsfasiliteit sal sakkariede as die tussentydse of platform-chemikalie gebruik om 'n verskeidenheid hernubare brandstowwe te vervaardig. Die voorgestelde projek is koolstof-neutraal en kan dus koolstofkrediete van die VN kry ingevolge die Kyota-protokol en die Parys-ooreenkoms. Die voorgestelde projek vereis die beskikbaarstelling van 5 hektaar grond in Leeu-Gamka deur die Prins Albert-munisipaliteit, met 'n moontlikheid van die vestiging van 'n vennootskap tussen Reuse Technologies South Africa, die Prins Albert-munisipaliteit en die gemeenskap.

Die voorgestelde projek is in lyn met die munisipaliteit se strategiese GOP-doelwit om afval te minimiseer, vullisafvalpersele beter te bestuur en om werksgeleenthede in die armoede-geteisterde gebied in Leeu-Gamka te skep.

Die dokumentasie van die ongevraagde tender vir die Afval-tot-energie-projek sal vir openbare insae beskikbaar wees by ons munisipale kantore in al ons dorpe, sowel as by ons biblioteke en op ons webblad: www.pamun.gov.za. Openbare vergaderings sal as volg gehou word:

Leeu-Gamka-gemeenskapsaal: 10:00 op 6 Januarie 2021
Prins Albert Sydwell Williams-sentrum: 10:00 op 7 Januarie 2021
Klaarstroom-gemeenskapsaal: 10:00 op 8 Januarie 2021

Enige persoon of diensverskaffer wat kommentaar wil lewer of wil aandui dat hulle 'n soortgelyke produk of diens het of lewer, kan dit teen 13 Januarie 2021 skriftelik lewer deur hul kommentare en insette as volg te stuur:

E-pos: scm@pamun.gov.za
Per hand: SCM-eenheid, Prins Albert-munisipaliteit, Privaatsak X53, Prins Albert 6930 of by Kerkstraat 33, Prins Albert 6930, duidelik gemerk: "Unsolicited Tender: Waste to Energy Project".

Navrae ten opsigte van bogenoemde kan gerig word aan die munisipale bestuurder (Me. Anneleen Vorster), tel. 023 541 1320 of e-pos: anneleen@pamun.gov.za

**A Vorster
MUNISIPALE BESTUURDER
Privaatsak X53, PRINS ALBERT 6930
Tel. 023 541 1320**

MEMORANDUM OF AGREEMENT

between

THE PRINCE ALBERT MUNICIPALITY
("PRINCE ALBERT MUNICIPALITY")

and

REUSE TECHNOLOGIES SA (PROPRIETARY) LTD
("REUSE TECHNOLOGIES SA")

1 DEFINITIONS

- 1.1 **"DTI"** – means the Department of Trade and Industry;
- 1.2 **"Effective date"** – means the Signature Date;
- 1.3 **"Rosenthal Group"** – is the Project funder;
- 1.4 **"REUSE TECHNOLOGIES SA"** – means REUSE TECHNOLOGIES SA (Pty) Limited, registration number 2018/474682/07 of Unit 10-11 Kendal Mew, 1 Ruchill Road, Diep River, Cape Town, 7945;
- 1.5 **"PRINCE ALBERT MUNICIPALITY"** – means the PRINCE ALBERT MUNICIPALITY in the WESTERN CAPE, Republic of South Africa;
- 1.6 **"Municipal Systems Act"** – means the regulations governing the process of assigning powers and functions to local government to ensure that the three spheres of government work in a co-ordinated manner.
- 1.7 **Unsolicited Bid Process** – means that the product or services offered in terms of the bid is demonstrably or proven to be a unique and innovative concept or that the product or service offered is exceptionally cost advantages for the municipality or municipal entity; or that the person who made the bid is the sole provider of the product or service.
- 1.8 **"RSA"** – means the Republic of South Africa;
- 1.9 **"SLA"** – means the final "Service Level Agreement" which is entered into between the PRINCE ALBERT MUNICIPALITY and REUSE TECHNOLOGIES SA for the provision of Waste to Energy process plant and Waste Management and Waste treatment solutions and Renewable Energies;
- 1.10 **"Signature Date"** – means the date when the Agreement is signed by the last person signing;
- 1.11 **"HPV"** – means high-pressure vessels;
- 1.12 **"Anaerobic Digestion"** – means a sequence of processes by which microorganisms break down biodegradable material in the absence of oxygen. The process is used for industrial or domestic purposes to manage waste or to produce fuels;
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Reuse Technologies SA/Prince Albert Municipality Waste-to-Energy Leeu-Gamka 2020 | MOA

2 RECORDAL

2.1 REUSE TECHNOLOGIES SA is a South African registered private company (registration number 2018/474682/07).

2.2 Reuse Technologies SA is a proudly South African company that specializes in waste treatment facilities and provides an innovative solution to divert all biomass fraction from landfill, converting it to bio-fuels and other usable products with no residue thus providing a zero-waste community. The company has been established to build Waste-to-Energy Facilities, to produce Renewable energy products and decrease/irradicate the need for landfill use through integrated waste technologies. Waste to Energy Process Facilities will provide opportunities for development and growth within Municipalities through the utilization of Service Level Agreements modeled on an Unsolicited Bid process with public awareness the Municipality will own equity in the Waste to Energy Plant.

2.2.1 The Reuse Technologies SA holistic approach will highlight the pivotal role the Waste economy plays in addressing poverty and job creation. From the sale of the Waste to Energy Process Plant's end products as well as from the increased employment of community members, development will begin and the economy will increase. Economic transformation in Leeu Gamka will be achieved by converting what were once liabilities into assets waste and providing home-grown electricity, fuel, landfill reduction and employment to the people of the Central Karoo District. All of these will bring the change needed to place the Prince Albert Municipality at the forefront of climate change in South Africa. The Reuse Technologies SA modular process facilities can be adapted to different Waste-to-Energy problems and offer a range of metro solutions for the environment.

2.2.2 Our proprietary methodologies include tried and proven technologies for the future. These solutions provide an opportunity to integrate current modalities for municipal waste management with a sustainable fuel production infrastructure, and distributed energy production opportunities that form the basis for waste-to-revenue processing.

2.2.3 The core technology uses a high pressure vessel (HPV) to convert biomass to energy. The processing is contained in water, thus ensuring no

odors, no release to the air or ground of toxic emissions or particulates (no greenhouse gases and land contamination), and all of the input materials are converted to valuable products. Saccharides (sugars) are extracted and cleaned & concentrated in water and is then converted into the chosen revenue products. Reuse Technologies SA can consider a variety of end products, ranging from methane to butanol, aviation fuels to hydrogen, and electricity and heat. The process of first converting the biomass to Saccharides before the conversion to energy products an increased energy yield and reduces the final conversion process from 30 days to up to 2 days.

- 2.3 A typical Reuse Technologies SA Waste-to-Energy Process Plant will be self-sufficient in power and have a surplus that can be transferred into the grid or locally if the infrastructure is available. The company's process facilities will be designed to meet a basic requirement of "affordability" while adhering to acceptable environmental criteria. During the conversion process, no toxic emissions or particulates will be released into the air or ground. Raw materials will be diverted away from landfill and other toxic processes, preventing the degradation of organic waste material into greenhouse gases and land contamination. Landfills in the Prince Albert Municipality will be rehabilitated and able to be repurposed into usable land for recreational purposes.
- 2.4 Reuse Technologies SA has completed Feasibility Studies to analyse environmental, institutional, technical, socio-economic, and economic aspects of implementing a Waste-to-Energy Process Plant. While abiding by South African and United Nations Environmental requirements through the proprietary methodologies and technologies have met all terms thus ensuring the products developed from the Process Plants ready for development in the Prince Albert Municipality.
- 2.5 The advisory board at Reuse Technologies SA has been specifically selected from a team of specialists to operate across the following sectors; renewable energy technology, structural and civil engineering, pipeline design & installation, geotechnical and environmental science, commercial and development management, finance structures, and, the investment community. Reuse Technologies SA continues to improve access to leading-edge thinking for future Waste-to-Energy strategies and has assembled a

Consultant team drawing upon the knowledge of internationally recognized experts to lead the establishment of viable delivery models.

2.6 Reuse Technologies SA has secured the required funding and technological underwriting from its collaborators, service providers, and suppliers to enable it to construct and manage the Leeu Gamka Waste-to-Energy Process Plant while also making provisions for the review and possible upgrading of the Railway system for the entire area involved to cope with the change in emphasis to a central hub for waste treatment and in so doing allowing for the provision of a more efficient and environmentally friendly flow and management of waste in the Central Karoo District.

2.6.1 The Reuse Technologies SA Project is Carbon neutral so able to attract carbon credits from the UN over a period. The intension of Carbon Credits is to benefit the Local Economy (to be clearly defined after the carbon credits study has been completed).

2.6.2 It is anticipated that that the green product output of the proposed Leeu Gamka Process Plant will assist in maintaining the carbon negative issue.

2.7 The financial requirement of the Reuse Technologies SA Waste-to-Energy Plant is determined by the accumulated cost of all its components, the capital expenditure to develop the Process Plant, and the working capital to allow it to become operational. The Reuse Technologies SA projected CAPEX requirement for the Waste-to-Energy Process Plant for Municipal Solid Waste is R450 Million. The amount includes a 20% contingency. This will fund the implementation of its Waste-to-Energy Process Plant, develop, and commercialize its Intellectual Property Licensed technology. The company has secured the full investment of the Process Plant by mean of the Rosenthal Group with the only conditions of the Prince Albert Municipality funding the Feasibility Study and Carbon Credits Report. The Rosenthal Group will fund the implementation of the Leeu Gamka Waste-to-Energy Process Plant and payments for the process plant will be made to Reuse Technologies SA in tranches prior to each phase of development/construction. The development of the Leeu Gamka Waste to Energy Process Plant and training facility will start as soon as the Feasibility Study and Carbon Credits report is in place. On completion of the Feasibility Study, quantities and classes of waste streams

will be confirmed and the designs for the Process Plan will start. This will determine the type of products and services to be produced. Based on extensive research completed in the Beaufort West Municipality as part of a feasibility study during the course of the year 2020, it is extrapolated that due to the close proximity of Leeu Gamka to the railway system, that it could be the most economical and financially viable option for Leeu Gamka to become a regional waste landfill site and central point for waste management for the Central Karoo District's Waste as well as surrounding towns. Towards the end of the second year of operation, the Company forecasts a possible return on investment for the equity partners of the Leeu Gamka Process Plant.

- 2.8 South Africa's Department of Trade and Industry, through its Infrastructure division, has indicated support for the Reuse Technologies SA integrated waste to energy project and will provide assistance with infrastructure development (up to an amount of R50 million) for the Leeu Gamka Waste to Energy Plant, benefitting the Prince Albert Municipality and RSA as a whole.

3 SUSPENSIVE CONDITION

- 3.1 This agreement is subject to the suspensive condition ("**Suspensive Condition**") that:
- 3.1.1 REUSE TECHNOLOGIES SA; and
- 3.1.2 a suitable Transaction Advisor/s for the project, will provide Technical and Legal Advice.
- 3.2 The PRINCE ALBERT MUNICIPALITY proceeds to immediately raise Public awareness of the REUSE TECHNOLOGIES SA Waste-to-Energy Process Plant Project that it intends to implement as an UNSOLICITED BID, following the required procedure therefore and utilising the correct documentation therefore as according to the applicable Regulations.
- 3.3 REUSE TECHNOLOGIES SA and the PRINCE ALBERT MUNICIPALITY hereby each respectively undertake/s to give its / their full co-operation for purposes of the Unsolicited Bid Public Awareness process and provide all parties with full and unrestricted access to all relevant information and all relevant

documentation in their possession or under their control that they may reasonably require regarding the REUSE TECHNOLOGIES SA Waste-to-Energy Process Plant Project, inclusive of all technical and legal information.

4 REUSE TECHNOLOGIES SA AND THE PRINCE ALBERT MUNICIPALITY

4.1 The PRINCE ALBERT MUNICIPALITY will be entering into a Service Level Agreement with REUSE TECHNOLOGIES SA and as such has agreed to partner with REUSE TECHNOLOGIES SA in such an arrangement.

4.1.1 The Municipal Council have chosen to approve the project in writing in terms of the Financial, Technical, and Legal aspects thereof;

4.1.2 REUSE TECHNOLOGIES SA procures the provision of the requisite monetary support for the project/s.

5 THE ROSENTHALL GROUP OR OTHER FINANCE INSTITUTE

5.1 Subject to fulfillment of the suspensive condition in 3 above, REUSE TECHNOLOGIES SA shall solicit that the ROSENTHALL GROUP, confirms its support of the various initiatives mentioned above and more specifically its support of the proposed REUSE TECHNOLOGIES SA Waste-to-Energy Process Plant Project at Leeu Gamka within the PRINCE ALBERT MUNICIPALITY.

5.2 It is recorded that:

5.2.1 REUSE TECHNOLOGIES SA has confirmed that the ROSENTHALL GROUP will act as the Reuse Technologies SA's Mandated investor for the Leeu Gamka Waste-to-Energy Process Plant under the PRINCE ALBERT MUNICIPALITY, as participants in a proposed future Service Level Agreement arrangement,;

6 ANNEXURE

6.1 Annexed to this agreement is:

6.1.1 a Draft Resolution (marked Annexure "A1") that is required for the PRINCE ALBERT MUNICIPALITY to adopt as part of its procedures concerning the proposed Service Level Agreement.

6.2 This Annexure shall be initialed by the parties for identification purposes and finalised and signed by the relevant parties for discussion in due course.

7 COMPREHENSIVE AGREEMENT TO FOLLOW

This MOA is to be superseded by a comprehensive fully-fledged Service Level Agreement (or other similar suitable agreement) between the parties hereto in due course. The Parties agree to take all required steps in good faith and enter into the various agreements that may be required to augment or amplify this MOA with the appropriate detailed Service Level Agreement that will govern the immediate implementation, maintenance, and expansion of the relationship established by this MOA.

8 DOMICILIUM AND NOTICES

8.1 The Parties choose *domicilium citandi et executandi* ("**Domicilium**") for all purposes relating to this Agreement, including the giving of any notice and the serving of any process, the following physical addresses:

8.1.1 The PRINCE ALBERT MUNICIPALITY:

Email: _____

8.1.2 REUSE TECHNOLOGIES SA: 1 Ruchill Road, Units 10-11 Kendal Mews
Diep River, Cape Town, Western Cape, 7945. Email:
shirls@reusetechologies.net

8.2 This clause 8 shall not operate to invalidate the giving or receipt of any written notice which is received by the addressee otherwise than to the addresses in 8.1.

8.3 Any notice in terms of or in connection with this Agreement shall be valid and effective only if in writing and if received or deemed to be received by the Party receiving such notice.

8.4 The Parties record that whilst they may correspond via email during the currency of this Agreement for operational reasons, no formal notice, legal processes nor any amendment or variation to this Agreement may be given or concluded via email.

8.5 The Parties may change their chosen domicilia recorded above by giving 10 (Ten) days written notice to the other parties of another physical address, not being a post box or poste restante, in the RSA.

SIGNED AT _____ ON THIS _____ DAY OF _____ 2020

As witness:

1 _____

THE PRINCE ALBERT MUNICIPALITY

herein represented by

_____ : Municipal Manager

duly authorised thereto by Council Resolution

SIGNED AT _____ ON THIS _____ DAY OF _____ 2020

As witness:

1 _____

REUSE TECHNOLOGIES SA (Pty) Ltd

herein represented by

Shirly Paulse: CEO

duly authorised thereto by Resolution

Resolution by the Municipal Council of Prince Albert Municipality For the Partnership between

THE PRINCE ALBERT MUNICIPALITY
(“Prince Albert Municipality”)

WESTERN CAPE
and

REUSE TECHNOLOGIES SA (PTY) LTD
(“Reuse Technologies SA”)

Purpose

Reuse Technologies SA requires Prince Albert Municipality to resolve through a council resolution the following in order to conclude a partnership with the Prince Albert Local Municipality and Reuse Technologies SA under the auspices of a Service Level Agreement through an Unsolicited Bid Process to design construct and maintain a Waste-to-Energy [WTE] process plant in Leeu-Gamka [LG] and to note and accept the report and recommendation for the WTE project by Reuse Technologies SA.

Background

Reuse Technologies SA presented the WTE project to Prince Albert Municipality Councillors, Municipal Manager [MM], Chief Financial Officer [CFO] and Mayor on the 1 October 2020 at the EMS Building in Lee Gamka. Reuse Technologies SA outlined the proposition to build a WTE process plant in Lee Gamka and to build Materials Recovery Facility [MRF] in the Central Karoo District [CKD] towns. It was discussed in the meeting that the only monetary requirement as per the project investor, the Rosenthal Group LLC is that Prince Albert Municipality pays R1, 850,000 Million (One Million Eight Hundred and Fifty Thousand South African Rand) towards the Feasibility and Carbon Credits Study.

R1, 850,000 Million will be the only financial obligation/requirement from Prince Albert Municipality, to be paid immediately after Council Approval.

Following the meeting in Lee Gamka, Prince Albert Municipality agreed in principal that they would proceed to Council with the proposed partnership structure with Reuse Technologies SA within the proposed timeframes indicated by Reuse Technologies SA, while providing;

1. Council Resolution accepting the WTE plant proposed by Reuse Technologies SA;
2. Council Land Resolution-Lease agreement for the land allocation of 5 acres for use where the WTE Process Plant and MRF/Transfer Station would be built. A new WTE Process Plant could be a stand-alone Facility. It could also be located near to a Process Input Plant (e.g. Water Recycling plant), or an Output Facility Plant (e.g. Bio-Methane production facility);
3. Council Resolution to approve funding of R1,850,000.00 for the Feasibility and Carbon Credit Study in preparation for the WTE process plant;
4. Council Resolution approval for the use of the waste/Landfills in the proposed project;
5. Council Resolution for MM/Mayor to sign of non-binding Term Sheet and Memorandum of Agreement with intention to enter into facilitated discussions for a License Agreement on the waste to energy process plant;
6. Council to approve a Working Committee to collaborate with Reuse Technologies SA regarding environmental matters and landfill matters;
7. Council Approval for Public Awareness processes to be undertaken;
8. Council Approval to commence with an unsolicited Bid.

Funding Source (Investor to project) for Leeu Gamka WTE Process Plant

The Rosenthal Group LLC agrees to pay Reuse Technologies SA the SUM of R450 Million [Four Hundred Fifty Million South African Rand] (depending on the stages of the conversion process agreed upon) for the LG WTE Process Plant and its phases and according to the achievement of the Milestones set forth herein after (the "Project Timeline"). The Funding will be released within 45 days of completed Feasibility and Carbon Credit Study as agreed by The Rosenthal Group LLC.

The Rosenthal Group LLC (Project Investor) expects that Prince Albert Municipality provides the funding to the amount of R1,850,000.00 Million to cover the costs associated with the completion of the detailed Feasibility Study and Carbon Credit Report for the Leeu Gamka WTE Process Plant with the purpose and goal of delivering the bankable package of documentation.

The R1,850,000.00 will be the only financial obligation/requirement from Prince Albert Municipality, to be paid immediately after Council Approval.

1. That Prince Albert Municipality is tasked with implementing suitable strategies and agreements with Reuse Technologies SA for the implementation of a WTE process plant in the town of Leeu Gamka in order for Reuse Technologies SA to provide an Integrated Waste Beneficiation solution in the CKD in terms of existing Legislation, including environmental authorisations for listed activities under section 24 of NEMA.

2. Reuse Technologies SA is at an advanced stage in its proposed process with its proposed partnership with Prince Albert Municipality so much so that the preliminary agreement as the Private company partner, Reuse Technologies SA, have secured the funding to the Prince Albert Municipality for a WTE process plant valued at R450 million on conditions, and to be undertaken at in Leeu-Gamka, as a Service Level Agreement which is modeled on the precepts of an Unsolicited Bid arrangement, with Reuse Technologies SA, under the auspices of Reuse Technologies SA as the holder of the investment, in respect of the proposed waste to energy project implementations;

3. **The Proposed Partnership:** The Project Owning Company (NEWCO) is Reuse Technologies SA, registered locally (South African) in an effort to have local representation to the formation of the Project Owning Entity. The proposed members to the **NEWCO** will be:

Reuse Technologies SA	(40%)
Prince Albert Municipality	(25%)
Project Finance Investor	(30%)
Local Investor	5%

The shareholding structure will be advised and structured by the appointed legal **“Transaction Advisor” appointed by Reuse Technologies SA.**

4. That Reuse Technologies SA WTE Project, which will be designed and constructed to provide Renewable Energy and heat, to be provided to Prince Albert Municipality, in the format of a Service Level Agreement (SLA) entered into with Reuse Technologies SA, or other suitable similar agreement, under the auspices of Reuse Technologies SA as the Project Owning Company (NEWCO) , which will entail, amongst other things:
 - 1) One facility specifically designed and operated for MSW valued at R450 Million. This facility will produce a surplus of Renewable Electricity and Renewable Heat which will be available for use within the plant as well as for community use/onward sales. The facility is targeted to produce an initial (name-plate) 99 tonnes per day of the Renewable Fuel Bio-Methane over a 340 day operational year. The Methane is proposed to be compressed and liquefied for storage. The output of Methane will be enhanced within a few years of setting to work.
 - 2) Additional products made in the process includes Carbon Dioxide (which will be compressed and liquefied and then dry ice for storage,) Furfural (a solvent,) and Struvite (a fertilizer.)
 - 3) The processes used by Reuse Technologies SA in Converting Biomass to Valuable Products uses both (a) Super-heated Water, and (b) Dilute-Acid Hydrolysis of Celluloses and Starch to the Saccharides and other Complex Organic Chemicals.
 - 4) Reuse Technologies SA processes do not burn or bury waste
 - 5) The Hydrostatic Pressure Vessel Process Plant converts Organic Waste to Saccharides. This is achieved by an innovative technology application based on Weak Acid Hydrolysis. The plant process is continuous and economic.
5. That the Resolution empowers the Prince Albert Local Municipality, represented by the MM and Mayor, to enter into a Memorandum of Agreement (MOA), to which a Resolution, when taken and signed by the MM and Mayor, shall be affixed, allowing for the MM and Mayor to be specifically mandated and tasked to carry out the terms

of the MOA and, in writing, request the services of suitable Transaction Advisors, as approved of by the Prince Albert Municipality Council and Reuse Technologies SA, to investigate and adjudicate the Legal, Technical aspects of the proposed SLA with Reuse Technologies SA for the implementation of the WTE Process Plant, as well as the feasibility and carbon credit study to be undertaken, in Leeu Gamka situated within the Prince Albert Municipality as advised by the Transaction Advisors on the basis of a future SLA, or other similar suitable agreement, over a 15 year period, Refer Term Sheet;

6. That the Resolution empowers the Prince Albert Municipality, represented by the MM and Mayor, to pay Reuse Technologies SA, the sum of R1,850,000.00 (One Million Eight Hundred and Fifty Thousand South African Rand) for the Feasibility and Carbon Credit Study to be completed in the CKD to determine the Organic Fraction of the MSW collected in the general catchment area through the manufacture of Renewable Fuels and Energy, and to further investigate the region.
 - 1) The facility will be designed and constructed to all Applicable Regulations applicable to Noise, Odour, Chemical Storage and Use, Fuel Storage and Use, as well as any reasonable environmental practices.
 - 2) In general, it is expected that a period of 3 months will be required to deliver The completed detailed study; whereupon investor will release the investment of R450 million for the design and construction of the Leeu Gamka WTE process plant.
7. That the Resolution mandates the MM and Mayor to approach and raise public awareness of the project to the people of Leeu Gamka as an Unsolicited Bid and to proceed to carry out the process therefore immediately after conclusion of this Resolution as according to the documentation provided by the Prince Albert Municipality.
8. That the Resolution mandates the MM and Mayor to conclude the referenced letter/s of appointment with the Transaction Advisor referred to in item 4 above, as and when required;
9. That, should the referenced Transaction Advisor proceed and draft the Service Level Agreement (SLA) (or similar suitable agreement based on the principles of a

Unsolicited bid and provide the Legal advice to the proposed transaction, as well as arrange to provide the Technical adjudication services requested, based on the relevant Feasibility Studies, these reports and agreements be provided to the relevant key stakeholder/s for final consideration, views and recommendations, following which the Prince Albert Municipality shall be in a position to conclude the Service Level Agreement so produced and approved, or not, as the case may be.

10. That the Prince Albert Municipality shall provide all assistance required (and that it is able to provide in terms of its status as an organ of State) to REUSE Technologies SA, and any other relevant stakeholder, in order to facilitate the adjudication and finalisation of the LEEU GAMKA Waste to energy process plant project , such as, but not limited to, publishing the proposed project and Service Level Agreement/s to key stakeholders, in the format of an Unsolicited Bid (or any other suitable process).
11. That the Resolution authorized and mandates the MM and Mayor, should the referenced Transaction Advisors produce the Leeu-Gamka Waste to Energy Process Plant Service Level Agreement (or any other similar suitable agreement), and find the proposed project to be feasible and in the best interests of the Prince Albert Municipality and to its benefit in terms of its Legal, and Technical aspects, and should it receive the views and recommendations from the relevant key stakeholders, the Service Level Agreement so approved of, and the Project Feasibility and Carbon Credit reports so approved, to likewise present the said Service Level Agreement for the proposed Leeu-Gamka Waste to Energy Project to the Municipal Council for final approval and thereafter to proceed to sign the said Service Level Agreement as the Council's authorised representative/s.

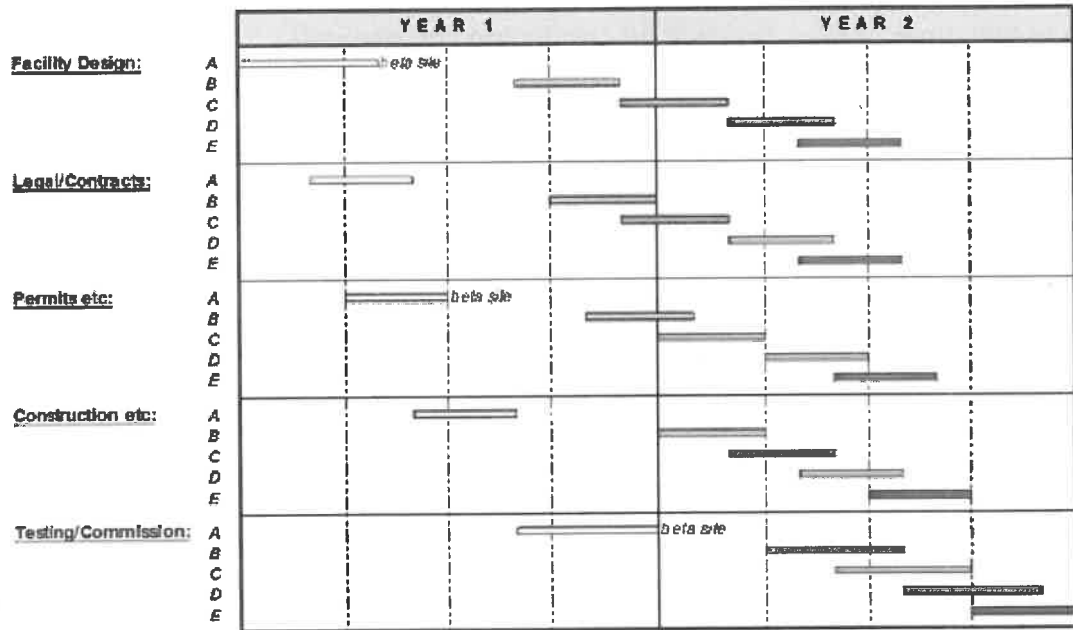
Reuse Technologies SA timelines for the Leeu Gamka Waste to Energy Plant

It is anticipated that from Project commencement to facility operation, the development period will last up to two years.

The project is planned to be implemented in five phases, in addition to two other phases that will be conducted continuously throughout the duration of the project, as indicated below:

Stage	From Finance
Stage I – Project kick-off and preparatory work <ul style="list-style-type: none"> <input type="checkbox"/> Identification and engagement with the Prince Albert Municipality and relevant stakeholders regarding the process plant in LG and <input type="checkbox"/> Shortlisting of towns best suited for MRF/Transfer Station 	On Going LG
Stage II – Project definition and establishment of partnership arrangements <ul style="list-style-type: none"> • Conducting of baseline surveys and fact finding missions to shortlisted cities • Selection of towns to host the project • Pre-feasibility study (Beaufort West) • Completed feasibility study • Carbon credits • Obtaining of permits, legal contracts and preparation of necessary studies to implement the project • Plant design, procurement and assignment of contract for construction 	As Stage 1 Completed 1 – 2 months (M) Up to 3M 3 – 9M 6 – 12 M
Stage III – Construction of the Plant <ul style="list-style-type: none"> • The plant is constructed on time and within budget (Both Municipal Solid Waste [MSW] and Plastic Plants) • Testing of the plant • Designing of the Railwaynetwork • Designing of the Waste Truck modifications to existing Waste Trucks as per the Feasibility Study 	6 – 24M 18 – 30M 6 – 24M. 12 – 30M ongoing
Stage IV – Operation of the Plant <ul style="list-style-type: none"> • The plant is commissioned and operated on a daily basis • Implementation of a programme for the separation of waste atsource 	24M ongoing 12 – 30M
<ul style="list-style-type: none"> • Implementation of a MRF at the designated area as stipulated in the Feasibility Study 	6 – 24M
Stage V – Full operation of the Plant <ul style="list-style-type: none"> • Preparation of the Biomass/Organic material • Extracting Saccharides/Breakdown of Cellulose • Conversion of Saccharides into End Products 	18M ongoing 24M ongoing 24M ongoing
Documentation and Distribution Strategy	Ongoing
Project Monitoring and Oversight <ul style="list-style-type: none"> • Establishment and operation of a project management board 	Ongoing

Planned phases for developing the WTE plant:



**Reuse Technologies SA
Presentation for Service
Level Agreement
("SLA") with Prince Albert
Municipality**

26 October 2020

**ITEM:
PRESENTATION TO THE MUNICIPALITY
MAYORAL COMMITTEE AND/OR
MUNICIPAL COUNCIL:**

**REUSE TECHNOLOGIES SA
PROVIDING:**

**A SOLUTION TO DIVERT BIOMASS FROM LANDFILL THROUGH THE
MANUFACTURE OF RENEWABLE FUELS AND ENERGY BY USING WIND TO
CONTINUOUSLY POWER THE INNOVATIVE PLANT.**

**AWASTETOENERGYPROCESSPLANTINLEEUGAMKATHROUGHHA THROUGH AN
UNSOLICITED BID WITH SHAREHOLDING OFFERINGS; AS
WELL AS**

UNDER THE AUSPICES OF A SERVICE LEVEL AGREEMENT

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