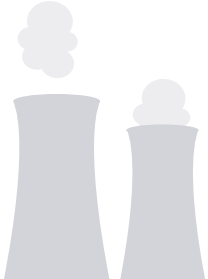
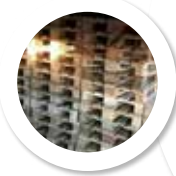




NCPC

INDUSTRIAL EFFICIENCY IN SOUTH AFRICA

Industrial Symbiosis Programme Limpopo Province: 2019 – 2022 Highlights



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the dtic

Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA



CSIR

Touching lives through innovation



OVERVIEW

The National Cleaner Production Centre South Africa (NCPC-SA) established the Limpopo Industrial Symbiosis Programme (LIM-ISP) in April 2019. LIM-ISP is one of the four provincial IS Programmes that are implemented in the country.

The IS Programme is a free facilitation service that promotes the exchange of residual resources (material, energy, water, waste, assets, logistics, expertise, etc.) of one company with another that can use it.

Companies that enter into an industrial symbiotic partnership decrease CO₂ emissions, landfill costs, use of virgin resources, industrial water usage, hazardous waste, pollution and transportation costs.

LIMPOPO INDUSTRIAL SYMBIOSIS PROGRAMME

LIM-ISP has hosted a business opportunity workshop in each of the five district municipalities, resulting in 1267 potential synergies. Forty synergies were completed after the successful exchange of resources.



Waste diverted from landfill:

49 518 tonnes



Synergies completed:

40



GHG emissions savings (CO₂e):

181 370 tonnes



Virgin resources saved:

41 000 tonnes



Jobs created:

8 permanent, 12 temporary



Monetary savings:

R782 395



CASE STUDIES



COMPANY WITH WASTE MATERIAL

Niravkumar Motor Spares



COMPANY THAT NEEDS WASTE MATERIAL

Metja Pallet Supply



YEAR OF INTERVENTION: **2019**

WASTE STREAM: **Wooden pallets**

SUMMARY OF INTERVENTION

After attending a LIM-ISP business opportunity workshop in 2019, Metja Pallet Supply approached Niravkumar Motor Spares and proposed a waste management solution for the wooden pallets that the latter accumulates when transporting and storing spares. Metja Pallet Supply collects the wooden pallets, fixes broken ones, and sells the fixed pallets back to Niravkumar Motor Spares at a cheaper rate.



Waste diverted from landfill **12 tonnes**



GHG emissions reduction **4 tonnes**



Virgin resource reduction **12 tonnes**



Monetary savings **R9 000**



COMPANY WITH WASTE MATERIAL

Polokwane Municipality
(Weltevreden landfill site)



COMPANY THAT NEEDS WASTE MATERIAL

EcoPave (Pty) Ltd



YEAR OF INTERVENTION: **2019-2021**

WASTE STREAM: **Plastic waste (LDPE)**

SUMMARY OF INTERVENTION

LIM-ISP facilitated for the Polokwane Municipality to grant EcoPave with access to the Weltevreden landfill site to collect waste material that they manufacture into plastic recycled products such as steppingstones etc. EcoPave and the Municipality have entered a mutually beneficial relationship where EcoPave collects PET from the landfill at no cost, thus contributing toward landfill diversion and airspace saving.



Waste diverted from landfill **2.5 tonnes**



GHG emissions reduction **25.5 tonnes**



Jobs created **2 temporary**





COMPANY WITH WASTE MATERIAL

GreenZa Environment and Recycling



COMPANY THAT NEEDS WASTE MATERIAL

Ramzy Bottle Store



YEAR OF INTERVENTION: **2021**

WASTE STREAM: **Glass (Beer bottles)**



SUMMARY OF INTERVENTION

In 2021, GreenZa Environment and Recycling approached LIM-ISP to assist them identify companies interested in purchasing waste recyclables they had collected and stockpiled. LIM-ISP linked GreenZa Environment and Recycling with Ramzy Bottle Store, who purchased their empty bottles that they then traded for a discount when purchasing beer from manufactures.



Waste diverted from landfill **96 tonnes**



GHG emissions reduction **136 tonnes**



Jobs created
2 permanent
2 temporary



Virgin resource reduction
96 tonnes



COMPANY WITH WASTE MATERIAL

PWK Waste Management Recycling



COMPANY THAT NEEDS WASTE MATERIAL

Dziphathutshedzo Green Surfacing



YEAR OF INTERVENTION: **2021 - 2022**

WASTE STREAM: **Plastic (HDPE/LDPE)**

SUMMARY OF INTERVENTION

A year after attending a business opportunity workshop hosted by LIM-ISP, Dziphathutshedzo Green Surfacing and PWK Waste Management Recycling agreed to implement a plastic brick manufacturing project. Using HDPE plastic collected and stockpiled by PWK Waste Management, Dziphathutshedzo Green Surfacing recycled the plastic into paving bricks and steppingstones.



Waste diverted from landfill **11 tonnes**



GHG emissions reduction **140.56 tonnes**



Jobs created
1 permanent
3 temporary



Monetary savings
R2 000





COMPANY WITH WASTE MATERIAL

Buneez Creations and Projects



COMPANY THAT NEEDS WASTE MATERIAL

Circular Green (Pty) Ltd



YEAR OF INTERVENTION: **2022**

WASTE STREAM: **Paper (Cardboard)**

SUMMARY OF INTERVENTION

Buneez Creations and Projects, a small buy-back centre that collects and stockpiles waste recyclables such as cardboard etc., attended a business opportunity workshop in Limpopo and requested LIM-ISP's assistance. LIM-ISP facilitated an engagement between Buneez Creations and Projects and Circular Green (Pty) Ltd for the successful exchange of cardboard.



Waste diverted from landfill **3.2 tonnes**



GHG emissions reduction **8.30 tonnes**



Virgin resource reduction **3.2 tonnes**



Jobs created **1 permanent**



COMPANY WITH WASTE MATERIAL

Two Rivers Platinum Mine



COMPANY THAT NEEDS WASTE MATERIAL

Ngwaabe Waste Management and Projects (Pty) Ltd



YEAR OF INTERVENTION: **2022**

WASTE STREAM: **Scrap steel**

SUMMARY OF INTERVENTION

After attending a LIM-ISP information and sharing workshop in November 2021, Ngwaabe Waste Management and Projects expressed an interest in collecting waste from a nearby mine that predominately used Gauteng-based service providers. To position local service providers as local solution providers so they can benefit from local waste streams, LIM-ISP facilitated the successful exchange of scrap steel from Two Rivers Platinum Mine with Ngwaabe Waste Management and Projects.



Waste diverted from landfill **88 tonnes**



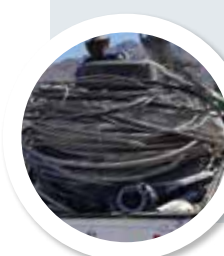
GHG emissions reduction **168.69 tonnes**



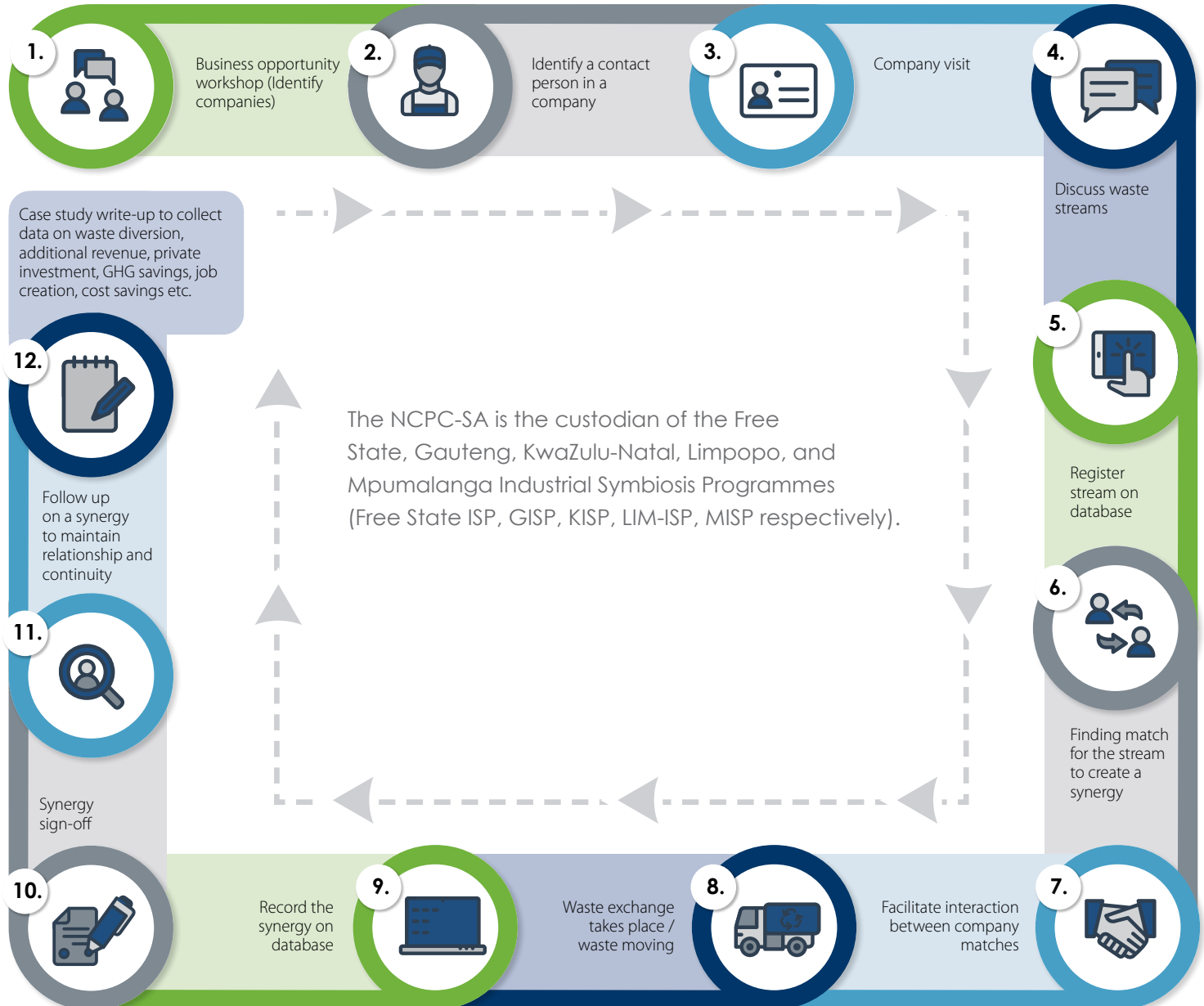
Jobs created **1 permanent**
2 temporary




Monetary savings **R205 500**




IMPLEMENTING INDUSTRIAL SYMBIOSIS






This can create and build local economies and alleviate poverty and unemployment.

Ntuthu Zingithwa, BBH Industrial and Specialty Chemicals



Great work in promoting innovation, job creation, and encouraging organisations to promote environmental and social benefits.

Nathashia Khosa, VBR



Encourages thinking out of the box (Innovation is the name of the game).

Kerileng Netshishive, Mr.Bin Cleaner & waste Management



Informative, innovative and a solution for current and future enviro-risk solutions.

Nemakonde N.J, Tshikoni Technologies (Pty) Ltd

INVITATION

Small, medium and large companies from any sector interested in entering into symbiotic partnerships that will divert waste from landfills and yield mutual benefits for all participating companies are invited to contact the NCPC-SA on www.ncpc.co.za or email ncpc@csir.co.za.



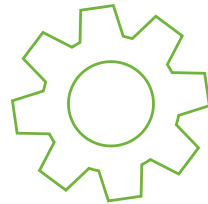
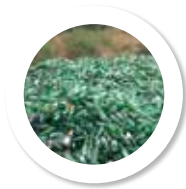


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