

Electricity Survey Report

Background and Objective

In **Q1 2023**, the Manufacturing Circle hosted an Energy Roundtable for its members. At this session, we undertook to better understand member companies' footprint by factory location and power demand.

This, in turn, would inform the Manufacturing Circle's Energy Strategic Project focus areas including:

- Industrial energy efficiency interventions;
- Demand-side management opportunities; and
- Alternative power procurement opportunities.

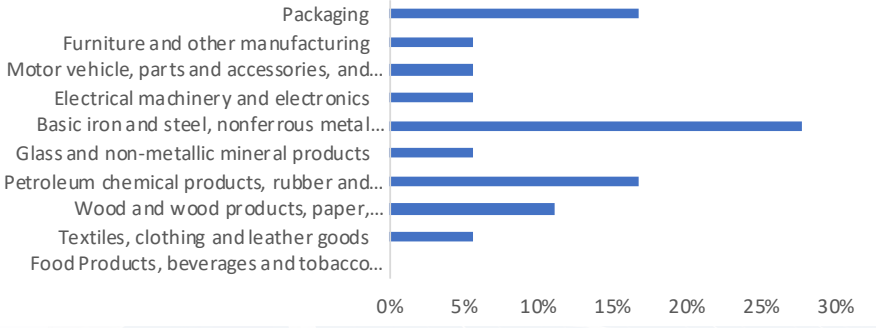
Responses

A total of 13 responses were received, representing a quarter of the Manufacturing Circle's membership base.

1. Ussher Inventions (Pty) Ltd t/a Lasher Tools
2. KSB Pumps and Valves (Pty) Ltd
3. Nampak Ltd
4. Actom (Pty) Ltd
5. Columbus Stainless (Pty) Ltd
6. Safripol (div of KAP Industrial Holdings Ltd)
7. Restonic (div of KAP Industrial Holdings Ltd)
8. PG Bison (div of KAP Industrial Holdings Ltd)
9. PG Group Ltd
10. Multotec (Pty) Ltd
11. Macsteel Service Centres SA (Pty) Ltd
12. Sappi Southern Africa Ltd
13. Vesco Plastics (Pty) Ltd

The responding organisations represent over **28 000 full time employees** within South Africa.

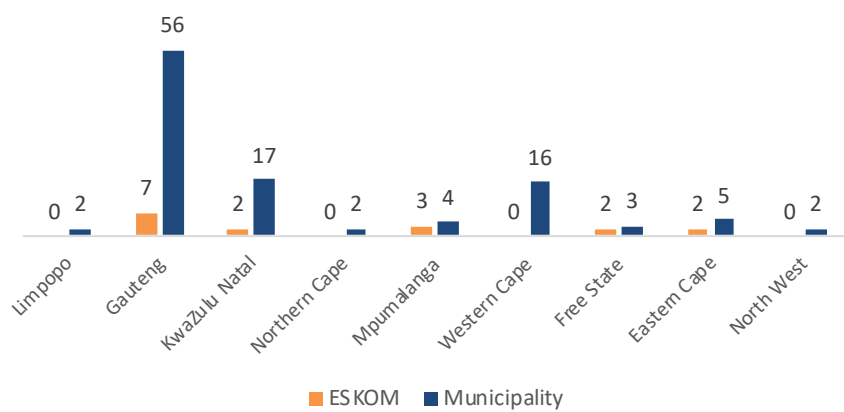
A range of manufacturing **sub-sectors** are represented.



Presence in **32 municipalities** is noted.

Province	Municipality	Count
Limpopo	Ba-Phalaborwa Municipality	2
	Lephalale Local Municipality	2
	Midvaal Local Municipality	2
	Tshwane Metro Municipality	2
Gauteng	City of Ekurhuleni	7
	Emfuleni	2
	City of Johannesburg	2
	City of Johannesburg	2
KwaZulu Natal	eThekweni Metro Municipality	2
	Isithebe	2
	Umkhathuzwe Municipality	2
	Alfred Duma Local Municipality	2
Northern Cape	Gamagara Municipality	2
	Nama-Khoi Municipality	2
	Ilembe District Municipality	2
	Kwadukuza Municipality	2
Mpumalanga	Ehlanzeni District Munic	2
	Mbombela Local Munic	2
	Govan Mbeki Municipality	2
	Emalahleni Municipality	2
Western Cape	City of Cape Town	2
	Drakenstein Local Municipality	2
	Sedgefield Municipality	2
	George Municipality	2
Free State	Metimaholo Local Municipality	2
	Mangaung Municipality	2
	Matjhabeng Local Municipality	2
	Greatbrak river Municipality	2
Eastern Cape	Joe Gqabi District Municipality	2
	Nelson Mandela Bay Municipality	2
	Joe Gqabi District Municipality	2
	Nelson Mandela Bay Municipality	2
North West	City of Matlosana	2
	City of Matlosana	2
	City of Matlosana	2
	City of Matlosana	2

Only **16 of the 123 factories** are directly supplied by Eskom according to province as follows:



Energy Demand

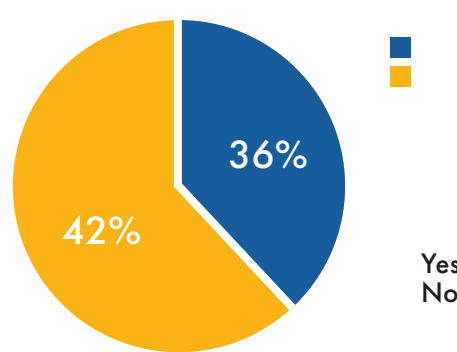
The survey reveals that the annual aggregate demand for the 13 organisations is approximately **5 041,45 GWh**.

Impact of Loadshedding on investment or expansion plans

Loadshedding has impacted on investment or expansion plans of approximately R375m in aggregate value, according to 36% of the responses.

Notwithstanding the impact on of loadshedding on investment or expansion plans, industry response to implement energy efficiency measures, alternative power solutions and participation in load curtailment programmes is evident.

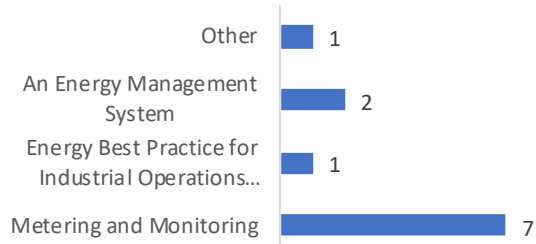
Investment/ expansion plans cancelled/ deferred due to Loadshedding?



Industrial Energy Efficiency Measures

Eleven of the thirteen organisations have already implemented, or are in the process of implementing industrial energy efficiency measures at factory site(s). These include metering and monitoring (7), energy management systems (1), and energy best practice for industrial operations (1).

Given the range of measures available, scope for additional interventions is evident.



Investment in Alternative Power Solutions

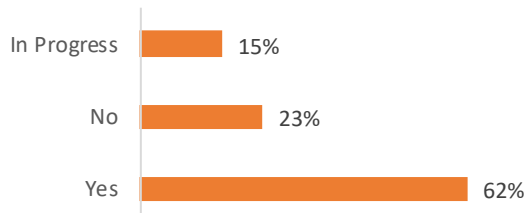
Over three quarters of the respondents have installed (or are in the process of installing) some form of alternate power solution, with the remainder planning to do so in the next 5 years. Four of the eight organisations that already have implemented alternate power solutions intend to expand their power solution capacity.

Generators, solar PV and BESS are the most common alternative power solution choice, with offerings via independent power producers comprising the balance.

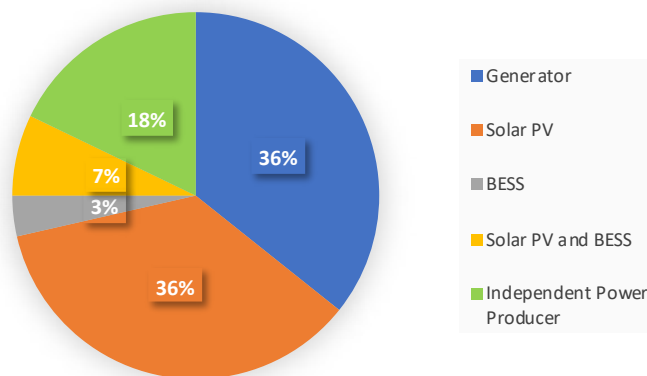
The survey indicates investment in **multiple power solutions per organisation**, driven by a range of operations and processing requirements across different factory sites.

Respondents indicate almost **R2 billion aggregate investment** in alternative power solutions by 11 of the 13 organisations has been made.

Investment in alternative power solutions?



Types of power solutions invested in



Load Curtailment

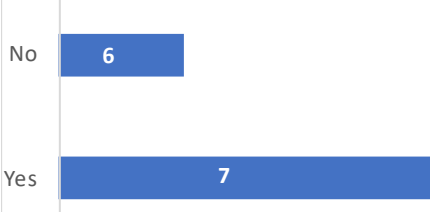
Just over half of the respondents indicate participation in load curtailment programmes at factory sites.

Load curtailment programme participation is indicated by factories located in the following municipalities:

City of Ekurhuleni, City of Johannesburg, City of Cape Town, Nelson Mandela Bay, City of Tshwane, eThekweni Metro Municipality, Kwadukuza Municipality, Ilembe District Municipality, Ehlanzeni District Municipality and Mbombela Local Municipality.

Four of the 6 organisations that currently do not participate in a load curtailment programme, indicated interest in doing so.

Organisations that participate in Load Curtailment Programmes



Conclusion

The 13 organisations surveyed employ just over 28 000 full time personnel, and operate 123 factories in 32 municipalities across 9 provinces. Annual aggregate power demand is approximately 5041,45GWh. Only 6 of the 123 factories are supplied directly by Eskom, with the remainder serviced by municipalities.

To address power supply challenges, most of the respondents have implemented, or are in the process of implementing, industrial energy efficiency measures. Investment in alternative power solutions is also clearly evidenced. Participation in load curtailment programmes is currently taking place by factories located in 10 different municipalities.

These findings indicate the extensive factory footprint of a quarter of the Manufacturing Circle member companies surveyed and the extent to which electricity is currently supplied by municipalities.

Purpose

The Electricity Survey was conducted in **Q2 2023** to understand member company:

- Factory locations;
- Energy demand requirements;
- Impact of load shedding and production;
- Curtailment strategies; and
- Alternative power procurement solutions.

Method

The survey was open to all 51 member companies.

Data collection methods comprised a questionnaire distributed via SurveyMonkey over a three week period in April, with follow up one-on-one telecons and email communications.



Factory Location

The 13 organisations surveyed operate **123 factories** across **9 provinces**.



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