

Centron Energy SA

Centron Fuel Economy & Emissions Performance Report: M&R Marketing

Prepared for : M&R Marketing

---



---

## FUEL ECONOMY & EMISSIONS PERFORMANCE REPORT

---

Prepared for  
M&R Marketing

---



---

**Submitted by:**

Centron Energy South Africa (Centron SA)  
Head Office: Building 2, Country Club Estate,  
Woodlands Drive, Woodlands, Johannesburg  
Contact: 082 824 3690 or [mpho@centron.co.za](mailto:mpho@centron.co.za)

**Submitted to:**

M&R Fresh Fruit and Veg  
Cape Town Market  
Gunnars Circle  
Epping, Cape Town  
Contact: 082 460 1266

## **1 INTRODUCTION AND BACKGROUND**

Centron Diesel Fuel Enhancer is a patented multifunctional diesel fuel additive that performs as a hydrocarbon enhancer lowering the surface tension of fuel resulting in a more complete and powerful combustion. Combined with potent detergent and lubricating properties Centron keeps injector nozzles free of carbon build up and protects vital engine parts from excessive wear. Centron also increases cetane plus acts as a fuel stabilizer, diesel detergent, algacide & cold flow improver reducing the risk of fuel contamination and gelling. The end result is improved fuel economy and engine performance, reduced harmful exhaust emissions, lower maintenance costs & prolonged asset life.

In July of 2012 M&R Marketing agreed to conduct a performance test to verify improvements in fuel economy performance and reductions in and exhaust emissions produced by Centron. Three (3) M&R Marketing delivery trucks were selected and treated with Centron Diesel Fuel Enhancer from August 2012 thru October 2012. Historical fuel consumption data provided by M&R was used to establish baseline fuel economy for the 3 test trucks measured in KM/L. Baseline emission readings were recorded with EPA compliant emission test equipment, Autologic Gas analyser and Opacity Meter using the standard methodology for snap acceleration testing performed with the Autologic Opacity meter, SAE J1667. Upon conclusion of the two (2) month trial fuel economy performance results measure in KM/L were compared to the baseline KM/L to determine improvements in fuel economy performance and related fuel cost savings.

Logistical constraints and availability of the emission test equipment has delayed results phase emission testing to determine reductions in harmful exhaust emissions. Emission results phase testing will be scheduled for the 3<sup>rd</sup> quarter of 2013.

As a result this performance report summarizes the results of fuel economy testing only with emission test results to follow

## 2 PERFORMANCE RESULTS

The summary table below details the significant improvement in fuel economy performance achieved by the three (3) test trucks:

Vehicle	Before			After			Improvement
	KMs	litres	KM/L	KMs	litres	KM/L	
CA 155 524	5 750.00	5 037.00	1.14	4 009.00	2 230.00	1.80	57.48%
CA 198 923	4 228.00	3 218.00	1.31	3 459.00	1 901.00	1.82	38.49%
CA 796 901	5 507.00	3 488.70	1.58	4 463.00	2 162.00	2.06	30.77%

Vehicle: CA 155 524

Fleet :15

**BEFORE CENTRON** : 03/01/2012 – 08/03/2012 ( 56 DAYS )

TOTAL KM'S : 5750 KM

TOTAL LITERS : 5037 LITERS

AVE : 1L/1.14KM'S

**AFTER CENTRON** : 16/08/2012 – 10/10/2012 ( 56 DAYS )

TOTAL KM'S : 4009 KM

TOTAL LITERS : 2230 LITERS

AVE : 1L/1.79KM'S

Vehicle : CA 198 923

Fleet : 14

**BEFORE CENTRON** : 05/01/2012 – 17/02/2012 ( 44 DAYS )

TOTAL KM'S : 4228KM'S

TOTAL LITERS : 3218 LITERS

AVE : 1L/1.31KM'S

**AFTER CENTRON** : 20/08/2012 – 03/10/2012 ( 44 DAYS )

TOTAL KM'S : 3459 KM'S

TOTAL LITERS : 1901 LITERS

AVE : 1L/1.81KM'S

Vehicle : CA 796 901

Fleet : 6

**BEFORE CENTRON** : 03/01/2012 – 05/03/2012 ( 63 DAYS )

TOTAL KM'S : 5507KM'S

TOTAL LITERS : 3488.7 LITERS

AVE : 1L/1.59 KM'S

**AFTER CENTRON** : 24/08/2012 – 25/10/2012 ( 63 DAYS )

TOTAL KM'S : 4463 KM'S

TOTAL LITERS : 2162 LITERS

As a result of the significant fuel economy performance achieved during testing M&R agreed to treat their entire fleet of trucks with Centron. Since implementing Centron across their entire fleet it has been mutually concluded based on M&R fuel records that the entire M&R fleet is achieving 19% overall fuel savings.

The following fuel savings & CO2 reduction calculator details the fuel savings M&R is achieving on an annual basis as a result of implementing Centron:

<b>Centron Fuel Savings and CO2 Reduction Calculator: M&amp;R</b>		
<b>Estimated Annual Fuel Usage in Litres before Centron</b>		<b>360 000</b>
Fuel Savings %		19%
Annual Litres of Fuel Saved		68 400
Cost of Fuel per Litre	R	11
<b>Annual Fuel Cost Savings</b>	R	<b>752 400</b>
Annual Fuel Usage in Litres After Centron		291 600
Total Centron Required in Litres		911
Cost of Centron per litre (Rand)	R	100
<b>Annual Cost of Centron (Rand)</b>	<b>R</b>	<b>91 125</b>
<b>Transport costs</b>	R	30 000
Displacement Fuel Savings (centron litres X fuel price)	R	10 024
<b>Annual Net Cost of Centron</b>	<b>R</b>	<b>111 101</b>
<b>Annual Net Fuel Savings (Rand)</b>	<b>R</b>	<b>641 299</b>
Centron cost per litre of fuel	R	0.32
<b>Breakeven</b>		<b>2.91%</b>
<b>Financial &amp; Environmental Analysis</b>		
<b>Annual Cost of Fuel Before Centron</b>	R	<b>3 960 000</b>
<b>Annual Cost of Fuel After Centron</b>	R	<b>3 318 701</b>
<b>Total Net Fuel Cost Savings (Rand)</b>	R	<b>641 299</b>
<b>Annual CO2 Reduction in Tonnes (2.66kg per litre)</b>		<b>155</b>
<b>Projected Reduction in harmful exhaust gases</b>		<b>30% - 50%</b>
<b>ROI %</b>		<b>677%</b>
<b>M&amp;R Annual Net Fuel Savings</b>	R	<b>641 299</b>

### 3 CONCLUSION

In summary, Centron produced over 30% improvement in fuel economy performance during the test phase and has been achieving 19% overall fuel savings for M&R since Centron was implemented on the entire fleet. Actual reduction in harmful emissions will be recorded during the 3<sup>rd</sup> quarter 2013. M&R Marketing will also benefit from decreased maintenance costs, fewer fuel related issues, improved equipment performance & extended equipment life through the continued use of Centron.

DATE: 18 June 2013