

Freight – Efficiency Improvement

Description

According to the detailed transport study conducted by ERC (2012), 9% of rail fleet runs on diesel and 91% on electricity. This share is not assumed to change into the future. According to Transnet¹ Electric fleet fuel efficiency has improved from 71 GJ/ mton-km in 1995 to 56 GJ/ mton-km in 2012.

Transnet figures for the efficiency of the diesel locomotive fleet on GJ/tkm basis show a marked year to year variation, probably reflecting the effects of varying business conditions on load factor, but the data indicate an overall trend of significant improvement of around 6% per annum over the last 6 years.”

Level 1

Level I assumes that there is no vehicle efficiency improvements for both road vehicles and rail system.

Level 2

This level assumes that there is a 0.1% vehicle efficiency for road vehicles, while electric and diesel rail are assumed to have an annual efficiency improvement of 0.1%.

Level 3

Level 3 assumes that there is 0.5% improvement on vehicle efficiency for road vehicles, while rail system is assumed to have an efficiency improvement of 0.2% for rail running on diesel and 0.3% improvements for rail running on electricity.

Level 4

Level 4 assumes that there is 1% vehicle efficiency for road vehicles, while electric rail and diesel rail are assumed to have an energy efficiency improvements of 0.3% for rail system running on diesel and 0.5% for rail system running on electricity.

Efficiency Improvement	1	2	3	4
Road Vehicles	0%	0.1%	0.5%	1%
Rail - Electric	0%	0.1%	0.3%	0.5%
Rail- Diesel	0%	0.1%	0.2%	0.3%

Table 1. Efficiency improvement for freight vehicles

¹Data supplied by Cecil Musisinyani