Commercial sector: building code energy efficiency

Buildings account for 10% of emissions in the country[1], and energy efficiency has been identified as a key strategy in reducing energy demand and emissions in the country[2]. This includes building new buildings with better materials, construction design and orientation.

This lever adjusts the energy efficiency of buildings built after 2011 (Sans204 which regulates energy usage in buildings).

In these scenarios, the period 2011 to 2050 is split into 3 building codes. The first is from 2011 to 2019, the second is 2020 to 2029 and the last is 2030 to 2050. In each subsequent building code the building energy efficiency is improved relative to the previous code. This lever adjusts the degree to which new codes are more strict in energy efficiency relative to the prior code – making.

Level 1

In this level, there is a 15% energy intensity reduction as per the SANS 204 and energy efficiency target set out by the Department of Minerals and Energy.

Level 2

Level 2 assumes that the building codes improve the energy efficiency by 15% up to 2020. Buildings built after 2020 require 20% less energy than existing buildings. And those built after 2030 use 25% less than existing buildings.

Level 3

Level 3 assumes that SANS 204 improves the energy efficiency of the building by 15% for buildings built by 2020. Buildings built after 2020 have a 25% energy efficiency improvement. Buildings built after 2030 have a 35% improvement over the existing buildings (prior to 2006).

Level 4

Level 4 assumes that SANS 204 improves the energy efficiency of buildings built by 2020 by 15%. Buildings built after 2020 are 35% more energy efficient than the existing (2006) buildings. Buildings built after 2030 are 55% more energy efficient than existing buildings.

	Level			
Buildings built after	1	2	3	4
2011 (sans 204)	15%	15%	15%	15%
2020	+0% =15%	+5 = 20%	+10= 25%	+20% =35%
2030	+0% =15%	+5 = 25%	+10 = 35%	+20% = 55%

[1] Greenhouse Gas Emission Baselines and reduction potentials from Buildings in South Africa, UNEP 2009
[2] Energy Efficiency made simple vol. 2, Crown Publications 2009