

How to use the GCCA-2022 Interactive Spatial Map

A new interactive spatial map in PDF format has been created to accompany the GCCA-2022 document. This interactive PDF map contains a number of different layers of information, which can be toggled on and off on the map, to be displayed spatially. These layers include the existing transmission network, the planned transmission projects, the location of the successful IPP bidders for all the REIPPP rounds, the MTS substation supply areas, and the transmission supply areas, among others.

The list of available layers of information is shown in Figure A. On the left side of the PDF map, the **Show layers** button must be clicked to open up the available layers. In order to activate or disable a layer on the map, the cursor must be placed on the **Eye** button and clicked. When opened, the PDF map has all the layers activated. The PDF map contains an insert map of the greater Gauteng area to provide better clarity in the congested network diagram and the layers must be selected separately under the **Insert layer** option. The main map is under the **South Africa** layer option.

On the map, the MTS network information is indicated as follows:

Existing MTS substation	Black circle
Existing MTS substation with upgrade	Black circle with red outline
New MTS substation	Yellow circle with red outline
Transmission line voltages	765 kV purple, 400 kV green, 275 kV and 220 kV red
Existing transmission lines	Solid lines
New transmission lines	Dashed lines
Phasing of potential MTS upgrade projects	Phase 1 pink, Phase 2 maroon, Phase 3 dark purple, Phase 4 dark blue, Phase 5 light blue
Potential upgrade at existing MTS substation	Circle in colour of phase
Potential upgrade at new MTS substation	Square in colour of phase
Transmission power corridors	Colour-coded by name

The transmission supply areas are shaded in one colour with the internal borders of the MTS substation supply areas indicated.

The steady-state limit levels indicate the overall generation connection capacity of the transmission supply areas for 2016 and 2022, shaded in green relative to their connection capacity.

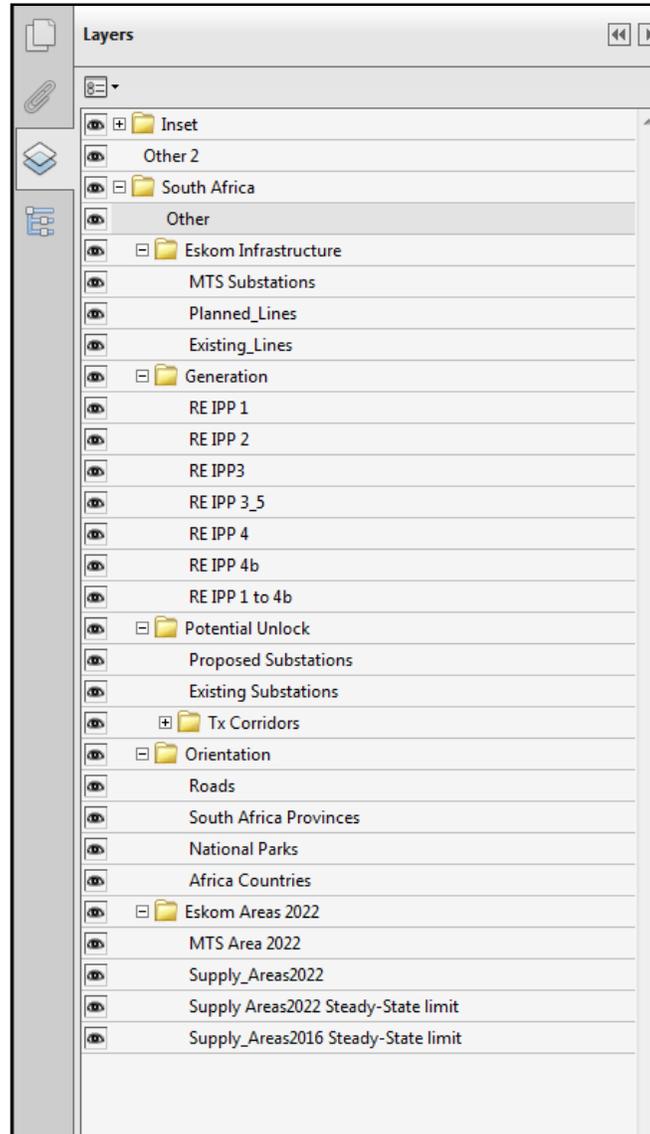


Figure A: The available layers of spatial information on the PDF map

Included in the PDF map document are the GCCA-2022 connection capacity values and other relevant information in tabular form, which can be accessed under the model tree function. This is activated by clicking on the button that looks like the letter %.

The level of the information available is shown in Figure B. The required level must be selected, and a drop-down list of the infrastructure will appear. The MYS substations are grouped into their respective provinces. Clicking on a particular MTS substation will display

the available information in tabular form in the window below the list. A red square will highlight the selected MTS substation on the map.

If the location of the MTS substation is not known then after highlighting the name and right clicking an option list will appear. Selecting the %Zoom to Selection+option will jump directly to the location on the map.

This interactive PDF map can be interrogated spatially as desired by potential developers and investors to address their own particular issues regarding their specific IPP projects under consideration.

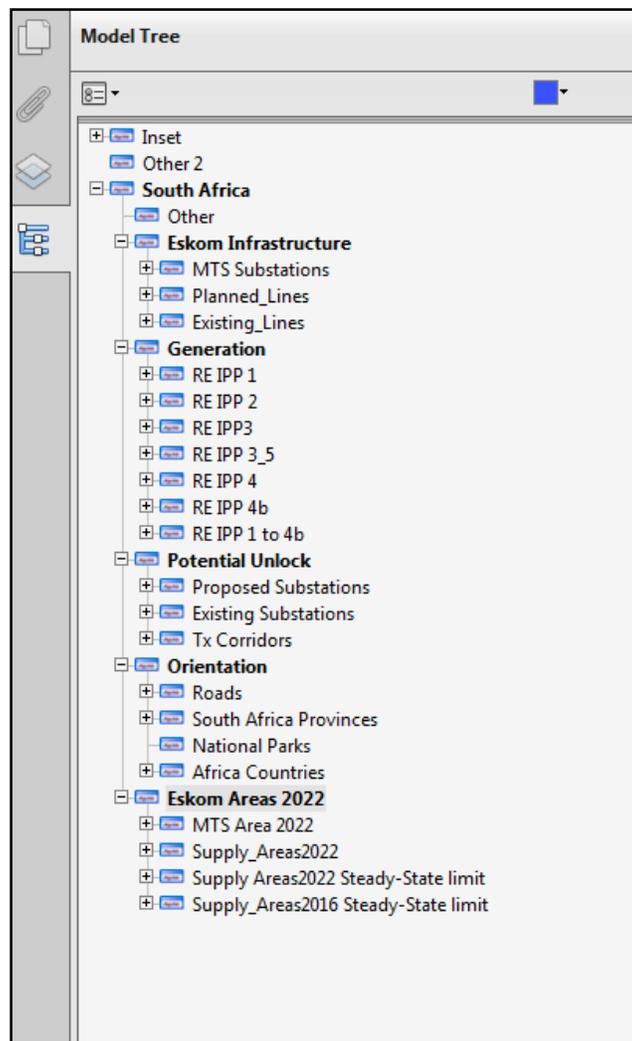


Figure B: The available levels of tabular information in the PDF map document