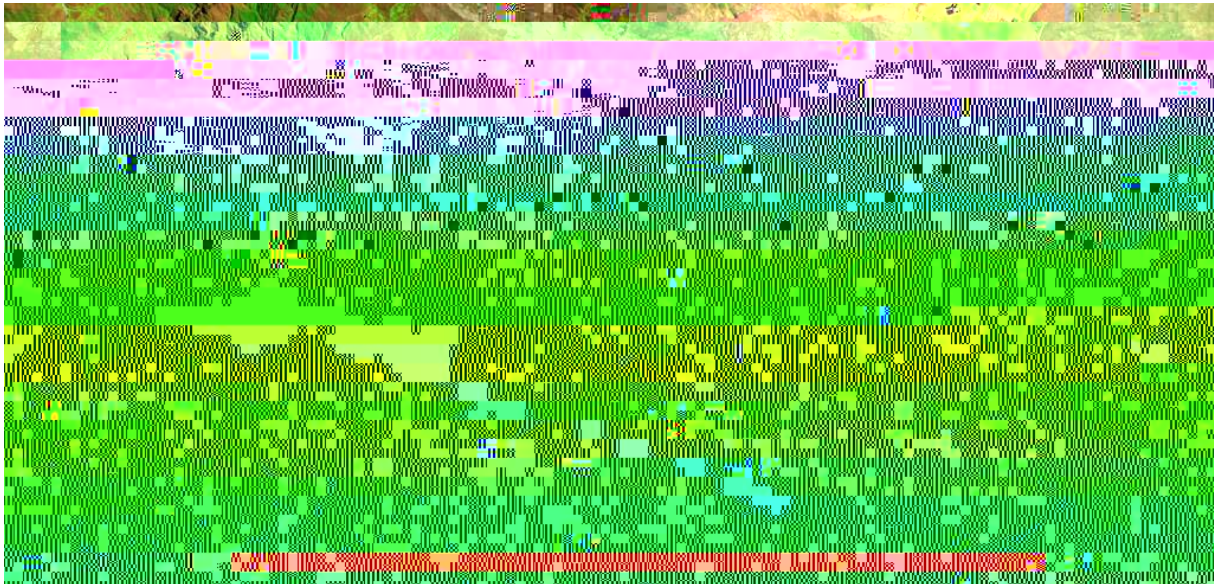
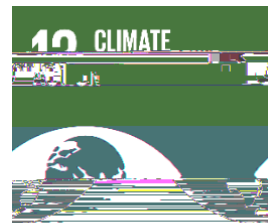
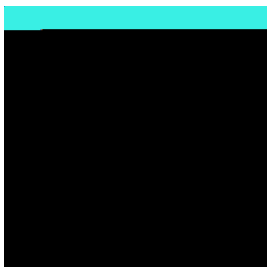




Climate, Land, Energy and Water Strategies in the City of Cape Town



Sustainable Development Goals Addressed



Organization, Institution or Company
Energy Research Centre, University of Cape Town, South Africa and International Atomic Energy Agency (IAEA)
Location of project site, Country
Cape Town, South Africa
Brief narrative description of objective/project/activity/initiative

Owing to population growth, water demand in Cape Town is already threatening to outstrip supply. This is expected to be exacerbated by further declines in water inflows from reduced precipitation and increased evaporation due to climate change.

With support from the IAEA, researchers in South Africa applied an integrated CLEW (Climate, Land, Energy and Water) framework to analyse future options for water supply and demand in Cape Town, tracking energy water interactions arising from changing needs for water treatment and pumping, along with possible future desalination demands. The experts utilized an integrated energy water software model – the Cape Town Water Energy System Analysis Tool – as well as a model of crop water demand from the South Africa Water Research Commission to represent agricultural areas within the city boundaries. Several scenarios were developed based on variations in future water demand, supply, treatment requirements and dam operations, and several policy and technology

IAEA (2019). The IAEA Framework for Integrated Assessment of Climate, Land, Energy and Water, IAEA Factsheet, Vienna, Austria, <https://www.iaea.org/sites/default/files/19/06/iaea-framework-for-integrate-assessment-of-climate-energy-and-water.pdf>

IAEA (2018). IAEA Methodologies and Models for Sustainable Energy Planning, IAEA Brief, Vienna, Austria, <https://www.iaea.org/sites/default/files/19/02/iaea-methodologies-and-models-for-sustainable-energy-planning.pdf>

See also, <https://www.iaea.org/topics/energy-planning/capacity-building>



Water supply energy intensity, reliability and system storage, 2030, Cape Town. The figure and recycling, and recycling,

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