



# ENERGY SECTOR ELECTRICITY UNIT

CLIMATE CHANGE WORKSHOP  
30 JUNE 2023




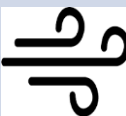


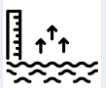
# 01

## IMPACT OF CLIMATE CHANGE ON THE ELECTRICITY SECTOR



# IMPACT ON ELECTRICAL NETWORKS

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Climate Hazard	Specific risk	Network Component						Impact
		Substations	Transformers	Cct Breakers	OH lines	Poles	UG Cables	
	Heatwaves and extreme temperatures							<ul style="list-style-type: none"> <li>Increased demand</li> <li>Reduced network capacity</li> <li>Increased operational costs</li> <li>Accelerated asset damage</li> <li>Increased losses in lines and transformers</li> </ul>
	Extreme wind							<ul style="list-style-type: none"> <li>Increased flashovers</li> <li>Disrupted supply</li> <li>Damaged assets</li> </ul>
	Extreme rainfall							<ul style="list-style-type: none"> <li>Flooding</li> <li>Damaged assets due to erosion</li> <li>Submerged assets</li> <li>Maintenance and repair disruptions</li> </ul>
	Thunderstorms, lightning and hailstorms							<ul style="list-style-type: none"> <li>Disrupted supply</li> <li>Damaged assets</li> <li>Sudden and lengthy outages</li> </ul>
	Sea-level rise							<ul style="list-style-type: none"> <li>Increased outages</li> <li>Increased maintenance costs</li> <li>Flooding/damage to coastal/low-lying infrastructure</li> </ul>



# EXAMPLES OF IMPACT

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BY 2030 ETHEKWINI WILL BE AFRICA'S MOST LIVEABLE CITY



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# 02 | ADAPTATION and/or MITIGATION MEASURES including CHALLENGES

# ADAPTATION & MITIGATION



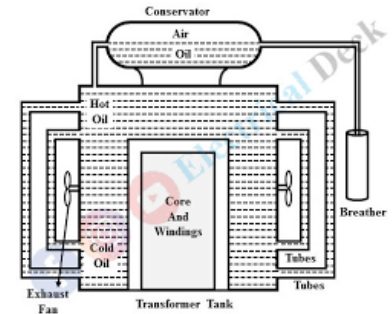
Landfill gas to electricity



Insulated conductors



Surge protection



Effective cooling for transformers



Heat-resistant materials

# ADAPTATION & MITIGATION

Raise  
structure  
levels

Construction of duplicate  
Control Centre at higher  
altitude

Build in and/or relocate to  
less exposed locations

Improved drainage  
systems

Change routes of overhead lines along  
roads away from trees, rigorously prune  
trees, and use covered and/or insulated  
conductors and more underground  
cables, especially in wooded areas

Require higher design standards  
for distribution poles (usually  
wood) and towers (steel)

# 03 |

# BUDGETARY COMMITMENTS

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# BUDGET

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# THANK YOU

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