MAKERERE UNIVERSITY

Environmental influences on Electricity Reliability: A case of Uganda's Grid System

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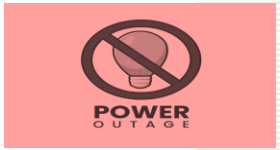
Presentation Layout

- Research Background
- Results and Discussion
- Conclusion
- Policy Recommendations

Research Background



- SDG 7, which addresses access to clean, **reliable**, affordable and modern energy for all, by 2030, leaving no one behind (UNDP, 2017).

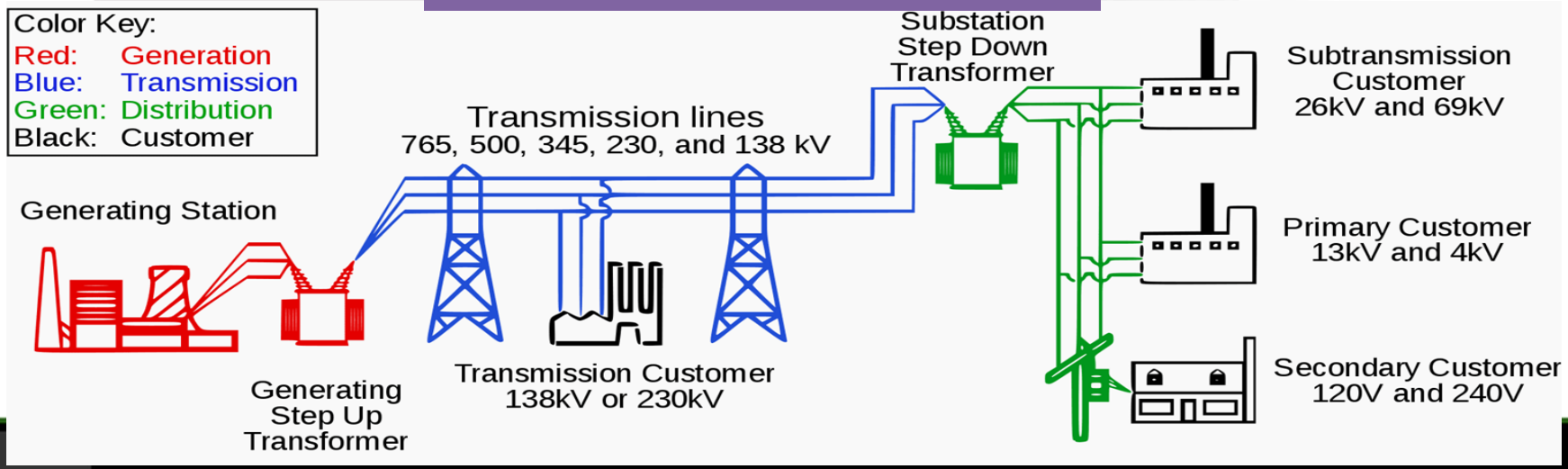
- Reliable electricity supply implies lack of **power outages** (World Bank, 2017) .
- **Grid Reliability in Uganda;** -Power Outage Frequency of 84 times per month

  -Power Outage Duration of 189.6 hours per month (ERA,2019)
- Power outages lead to direct and indirect **socio-economic** consequences (World bank, 2017).
- **Who is affected?** Households, Industries, Schools, Hospitals, Internet, Businesses.

Research Question

What effect do environmental factors have on the reliability of the electricity grid in Uganda?

Electricity Grid System Layout



Results and Discussion

Generation

Lake Victoria water levels

Transmission

Tree characteristics

Distribution

1.Tree characteristics

2.Rainfall

Conclusion

- The effect of the environment on grid electricity reliability is significant.
- Energy resources are part of our environment and if utilized sustainably can meet our grid reliability needs.
- Nurturing our natural resources leads to a reliable grid electricity.

Policy Recommendations

- Strengthen policy in line with climate related action(s).
- Regional cooperation, towards the management of Lake Victoria.
- Diversification of the energy mix e.g. solar, biogas.
- Investing in robust power grid infrastructure to adapt to climate change.
- Respect the electricity corridor

Thank you for listening....