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Visualizing Socioeconomic Development and Environmental Impact
Pre-reading and Reflection

A) How fast is the global access to electricity growing?
- In the grand scheme of history, global access to electricity is growing rapidly! However, it has not existed as a concept for nearly that long, so the growth is relatively slow, yet consistent. The World Bank's presentation claims that "Progress towards achieving universal access to electricity has been slow over the last 20 years".

B) Which regions saw the largest growth in access to electricity?
- The presentation also says that South Asia has grown from 58% in 2000 to 99% in 2021, while in Sub-Saharan Africa there was great improvement, (up about 25%) the number is still at 51%.

C) How does living in the urban versus rural areas correlate to access to electricity?
- According to the World Bank's data, 80% of the world's population living without access to electricity lives in rural areas. This makes sense, because urban centers are more developed than rural areas, and that frequently involves electricity. Most of the urban population without electricity live in Sub-Saharan Africa.

D) Which data is used to gain insights on where people without access to electricity live?
- Data regarding night-time lights is used to gain valuable insights as to where people without access to electricity live. It can be contrasted with population density maps to find the locations with the lowest ratio of lights to people. (World Bank presentation)

E) How does MTF assess the quality of access to electricity in a household?
- The presentation says that MTF assesses the quality of electricity access on a 6-tier system based on what the electricity can power (and how many) (and for how long), whether it be essential lighting, a charging port for a cell phone, or a household appliance.

F) What is the environmental trade-off for higher tier access to electricity?
- Having higher tier access to electricity "may come at a higher cost and generate more greenhouse gases unless growth comes from renewable sources". The presentation talks about how electricity access worldwide has historically been connected to greenhouse gas emissions.

G) Which regions had the most environmentally sustainable efforts to increase access to electricity? Which regions had it the worst?
- The efforts to increase electricity in Latin America & The Caribbean and in South Asia have both been environmentally sustainable, mostly due to reliance on renewable energy such as hydropower. Europe & Central Asia, and North America have been decreasing their emissions though they still remain some of the highest. (They don't struggle with electricity access) East Asia & the Pacific, as well as Middle East & North Africa have been increasing their electricity access, though also increasing emissions. (World Bank presentation)

H) Which is the fastest-growing renewable source of electrical energy in low-income countries? What should be considered when planning for this method of power generation?
 - According to the World Bank data, Hydropower is by far the fastest growing renewable energy source for low-income countries. With hydropower, you need to be wary of the river or other body of water which is powering your generators, because they are vulnerable to change with pollution, evaporation, and/or snowmelt. This is harder in countries that don't have as many ready sources of water.

I) Was this presentation an effective storytelling with data? Why, or why not?
  - I found this to be very effective storytelling with data. The way we had to scroll through the page ensured that there was never more than one graphic on screen at once. It used blank space very well, directing our attention to the most important parts. The thematic elements flowed well together, and there were many callbacks which helped reinforce the points they were trying to make.

J) Which data visualization from the presentation was most appealing to you? Insert a screenshot and explain why.
 - I liked the graph titled "Uneven gains in access to electricity", which mapped out the percentage of population in specific regions (and a global average) with access to electricity between the years 2000 and 2021.

Uneven gains in access to electricity
Proportion of population with access to electricity
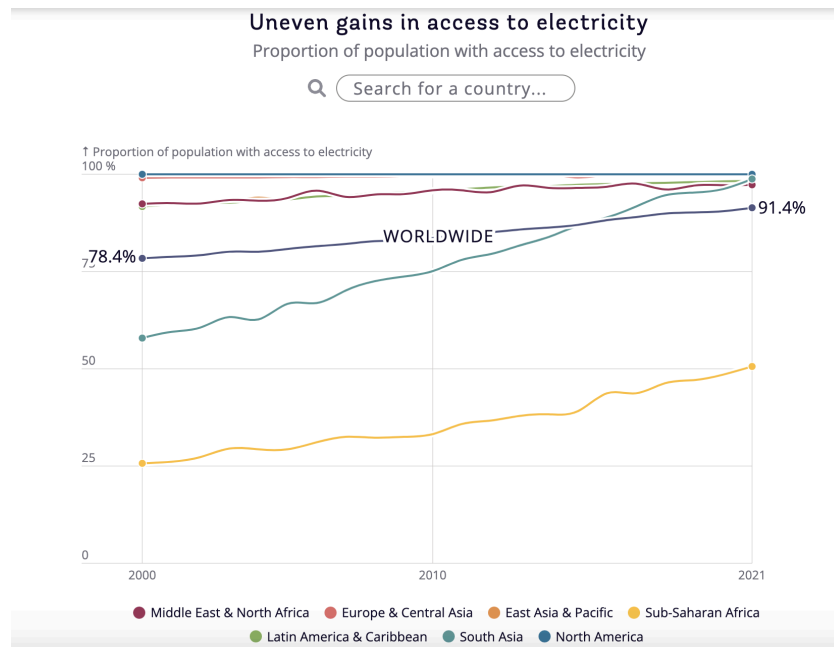
This line graph is practically a slope graph, with the most important numbers being the percentage recorded in 2000 and 2021. It did a great job of highlighting where exactly the electricity access issue is the greatest, as well as the change that has happened, and I believe it would serve as a great summary of this article.

K) Which data visualization from the presentation was least appealing to you? Insert a screenshot and explain why.

- The globe visualization of night lights was very nice, but the way that the text boxes scrolled in front of it while also asking us to look at the map was a little distracting/intrusive at times:
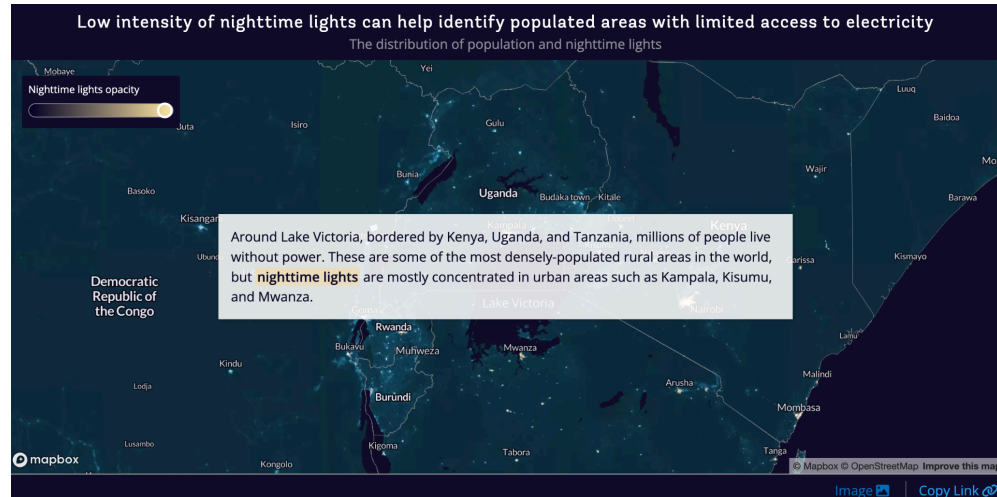
How am I supposed to see the lights or population clusters when they are blocked with a (barely) translucent rectangle? Thankfully after all the text was over we were given free reign to explore the map as much as we'd like, and that was the best part.

Source:

World Bank "Affordable and clean energy" presentation