ENERGY

Here are eight main graphs that would be most useful to depict renewable energy and CO2 emissions for the Lapsset Corridor project in Kenya, aiming for Net Zero:

1. Energy Source Mix:

- This graph would be a stacked bar chart showing the total energy consumption of the Lapsset Corridor project over time (e.g., years) broken down by source.
- The breakdown should highlight the percentage contribution of renewable energy sources (e.g., solar farms, solar PV, wind, geothermal, green hydrogen, HD pumped hydro, hydro, Waste-to-Energy (WtE), nuclear, clean coal,) compared to non-renewable sources (e.g., fossil fuels).
- Y-Axis: Total Energy Consumption (e.g., MWh upto 500,000 MWh)
- X-Axis: Time (Years)
- Legend: Different colours representing Renewable Energy sources stacked on top of a bar for Non-Renewable Energy sources.

This graph would visually depict the project's progress towards a renewable energy mix and its transition away from fossil fuels.

2. CO2 Emissions Trend:

- This graph would be a line chart showing the total CO2 emissions generated by the Lapsset Corridor project over time (e.g., years).
- Y-Axis: Total CO2 Emissions (e.g., Tons upto 50,000 tons)
- X-Axis: Time (Years)

This graph would illustrate the project's CO2 footprint and its reduction over time as it implements renewable energy sources and energy efficiency measures.

3. Renewable Energy Capacity Growth:

- This graph would be a bar chart showing the installed capacity upto 10,000 MW of renewable energy sources (e.g., solar PV capacity, wind turbine capacity etc) within the Lapsset Corridor project at specific points in time (e.g., yearly or quarterly).
- Y-Axis: Installed Renewable Energy Capacity (e.g., MW)
- X-Axis: Time (Years/Quarters)

This graph would demonstrate the project's increasing reliance on renewable energy sources by showcasing the growth in installed capacity.

4. Energy Consumption vs. CO2 Emissions:

- This graph would be a scatter plot comparing the Lapsset Corridor project's total energy consumption (e.g., MWh) on the X-axis with its total CO2 emissions (e.g., Tons) on the Y-axis. Ideally, the data points would show a downward trend in CO2 emissions even as energy consumption increases, indicating a shift towards cleaner energy sources.
- Y-Axis: Total CO2 Emissions (e.g., Tons)
- X-Axis: Total Energy Consumption (e.g., MWh)

This graph would highlight the effectiveness of the Lapsset Corridor project's energy efficiency measures in reducing CO2 emissions per unit of energy consumed.

These four graphs above, along with clear labels, units, and a legend, would provide a comprehensive visual representation of the Lapsset Corridor project's progress towards Net Zero by showcasing its increasing reliance on renewable energy sources and the resulting reduction in CO2 emissions.

CO2 Emission

Here are four main graphs below that would be most useful to depict the Lapsset Corridor project's Net Zero aspirations regarding CO2 emissions:

5. Pathway to Net Zero Emissions:

- This would be a line graph illustrating the project's projected CO2 emissions trajectory over time (e.g., years) with a clear target of reaching Net Zero by a specific date.
- Y-Axis: Total CO2 Emissions (e.g., Tons)
- X-Axis: Time (Years)
- Line with Markers: A line showing the projected decline in CO2 emissions over time, with markers indicating key milestones towards Net Zero.

This graph would visually represent the project's commitment to Net Zero and its planned emission reduction pathway.

6. Emissions Breakdown by Source:

- This would be a stacked bar chart or a pie chart depicting the project's total CO2 emissions at a specific point in time (e.g., current year) broken down by source category (e.g., construction, transportation, energy generation).
- Labels: Each slice or bar segment labelled with the emission source category.
- Values: Each slice or bar segment displaying the percentage or total tonnage of CO2 emissions from that category.

This graph would highlight the major contributors to the project's carbon footprint, allowing for targeted emission reduction strategies.

7. Carbon Sequestration Initiatives:

- This would be a bar chart showing the implementation timeline of various carbon sequestration initiatives undertaken by the Lapsset Corridor project (e.g., year of implementation).
- Y-Axis: Carbon Sequestration Initiatives (e.g., tree planting programs, investments in carbon capture technologies)
- X-Axis: Time (Years)

This graph would showcase the project's efforts to offset residual emissions through carbon sequestration activities.

8. Avoided Emissions:

- This could be a line chart or a bar chart showing the estimated CO2 emissions avoided by the Lapsset Corridor project due to implemented green initiatives (e.g., compared to a traditional construction or transportation scenario).
- Y-Axis: Avoided CO2 Emissions (e.g., Tons)
- X-Axis: Time (Years) (Optional) or Initiatives Implemented (if comparing multiple initiatives)

This graph would quantify the positive impact of the project's sustainability efforts in reducing overall CO2 emissions.

These four graphs, along with clear labels, units, and a legend, would effectively communicate the Lapsset Corridor project's commitment to achieving Net Zero and the multi-pronged approach it's taking to get there, including emissions reduction strategies, carbon sequestration initiatives, and highlighting the positive environmental impact of its green efforts