Tableau Project

-Climate Change-

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*** for challenges faced during the project

DATA SOURCES

https://data.worldbank.org/indicator/EG.FEC.RNEW.ZS

https://data.worldbank.org/indicator/EN.ATM.CO2E.KT

https://data.worldbank.org/indicator/AG.LND.FRST.K2

https://datahub.io/core/global-temp-anomalies#readme

https://carbonpricingdashboard.worldbank.org/map_data

DATA PREPARATION

➢ Used Excel for data preparation

First selected data from 2000 to the latest year in the dataset for CO2 emission it was till 2019

For forest area 2020 and for renewable energy consumption was 2015

- Removed the regions and income groups in the countries column values like (the arab world, middle east , euro area ,low income , …etc)
- Unpivoted the tables using power query
- Some countries had null values for all years thus it being dropped
- The values of 0 for renewable energy wasn't dropped though as it was still an indication

The carbon pricing initiatives data used the data overall sheet from it and the columns of status of initiative and Jurisdiction covered

For the temperature anomaly it had very few null values and used the date and land columns

➢ In tableau
- Changed all the year data type in tableau to date for world data bank
- for forest area created group for regions for simplicity and reduce clutter in the stacked area chart
- for all indicators form world data bank joined the unpivoted table of the data with the meta data of the countries
- in the carbon pricing data created another column for implementation year as when converting year to date it consider TBC to be null so created a calculated field for year with TBC in it
- created a relationship between the co2 emission and forest area based on the country code and year (for using later in pages) for creating a parameter and calculated field to switch between co2 and forest
  it was needed for creating a parameter but it was needed for creating a calculated field

QUESTIONS

- what is the highest region / country in co2 emission?
- How does the co2 emission compare with its previous year?
- what is the largest region / county in forest area?
- The percentage of renewable energy consumption
- What is the percentage of renewable energy consumption for regions with the highest co2 emission?
- How does the co2 emission have affected the temperature?
- What is the actions taken to decrease the co2 emission?

CREATING CHARTS

➢ CO2 emission and forest area line chart:
The line itself represent the sum through the years
Used the parameter used to switch between the 2 indicators
Used quick table calculation to get percentage difference from last year and used it in color and label

➢ Carbon Pricing initiative
*** faced the challenge of the location of the initiative to be the city itself instead of the country thus tableau couldn't recognize it
To solve some of the issue created a field named city and specify location based on the jurisdiction covered column but it didn't solve the issue then decied to use fixed country U.S as most of the cities its countries already existed in the data for example in the jurisdiction covered column (Alberta, Ontario and Canada all existed) so as Canada was already covered it wasn't needed to get the 2 cities within it

*** wanted to use pages to convey how initiatives increased through the years but the old data kept fading
City was added as another layer in the map to get all the areas (cities and countries)

➢ Forest Area with region stacked area plot
Used the grouped Region to reduce clutter in chart

➢ CO2 emissions & forest Area by region bar chart
Applied the parameter for switching between the indicators and calculated field to embed it in the chart
And used total sum of indicator as color

➢ Co2 emission and Forest area (map)
First created chart using the calculated field for switching between indicators and the applied color of the sum of indicator

*** wanted to create pages using years field but it didn't work when switching between indicators it only worked with CO2 not forest area tried using year in forest_area table but also didn't work
Tried creating relationship between tables based on the year it also didn't work

*** created action when selecting a country it highlights the region and filters the indicators based on it
It conflicted with the story and didn't work but worked in the dashboard and sheet
When navigating in the story and returning the home page it seemed to work

- AVG renewable Energy Consumption lollipop diagram
  Used dual axis one as a circle and the other as a bar chart
  Added avg of renewable % as color

- Renewable Energy Consumption donut chart
  *** challenge faced here was depending on the data as it only had the renewable %
  So to create a donut chart a calculated field was created the has 100- % renewable

- Temperature anomalies in land line chart
  Used analytics to get the trend line and added the co2 emission to color to relate the effect of it to the temperature anomalies