Detailed Project Report (DPR)

Global Energy Trade Analysis (1990-2014)

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Version: 1.0

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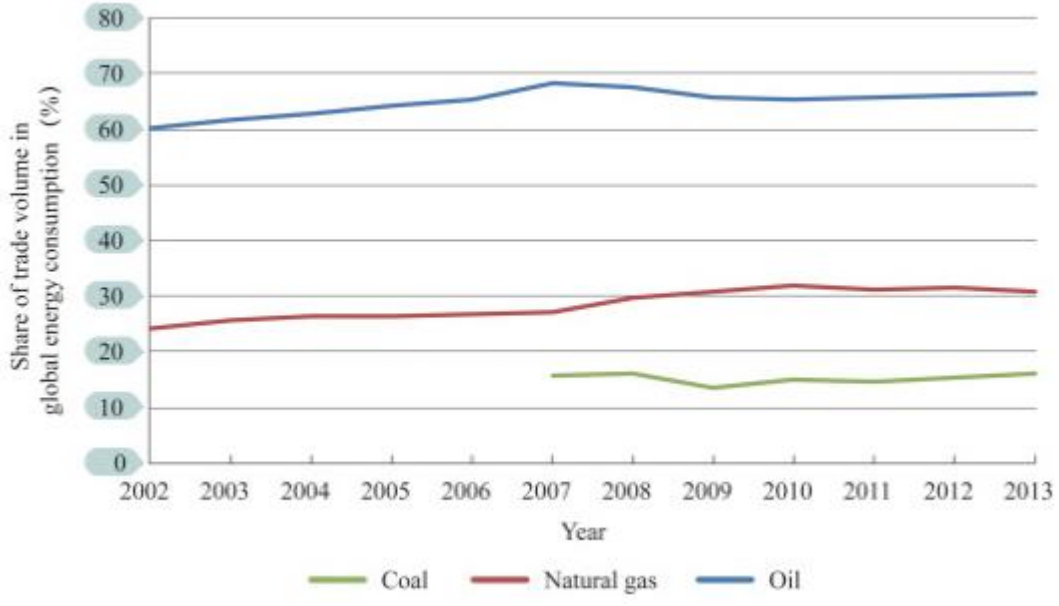
Introduction

Taking place primarily in the fossil fuels sector, global energy trading is rising steadily on a total volume basis. The distribution of fossil energy production and consumption is highly imbalanced, requiring the capability to optimize allocations of energy resources across the world. Transnational and intercontinental energy trade flows have been expanding increasingly along with the development and improvement of energy transport networks, including ocean transport, railway, and oil/gas transmission networks. In 2013, transcontinental fossil energy trade flows globally amounted to 6.3 billion tons of standard coal, with oil, gas, and coal accounting for 63, 22, and 15%, respectively. Fig. 1.1 shows the change in the trade volume of different fossil energies as a percentage of global consumption between 2002 and 2013.



As shown, the trade volumes of oil, gas, and coal accounted for 66.4, 31.9, and 17.1% of global consumption, respectively. Due to grid transmission capacity constraints, electric power is geared mainly toward achieving a balance at the local and regional levels, while transnational and transcontinental trade operates on a small scale. In terms of calorific value equivalents, transnational and transcontinental electricity trade accounted for only 1.3% of global fossil energy trade.

Objective

In the world rising and developing new technology and infrastructure, the demanding of energy is rising rapidly. In this scenario Data Analysis can help them to understand their (energy sectors) business in a quite different manner, like- helps to improve the quality of services (import, export, etc.) and helps to reduce/minimize the uses of coal & oil, helps to protect the environment, helps to more focus on solar & wind energy etc.

This study demonstrates how different analysis help to make better business decisions and help to end user and help to produce less carbon in our environment. Different analysis performed such as Exploratory Data Analysis & Descriptive Analysis on variety of use cases to get the key insights from this data and based on data business decisions will take.

Data Descriptions

As we have seen data earlier, in our Global Energy Trade dataset, we have approx. 1.25 million of records with 7 features. Features are distributed as 3 continuous feature and 4 categorical features. The dataset is given in the form of comma separated values (.csv) format.

country_or_area: showing all the country in the world.

commodity_transaction: showing the commodity or products with transaction means imports, exports, production, consumptions, etc.

year: showing the year from 1990 to 2014.

unit: showing the unit (e.g., terajoules, kilowatt, etc.)

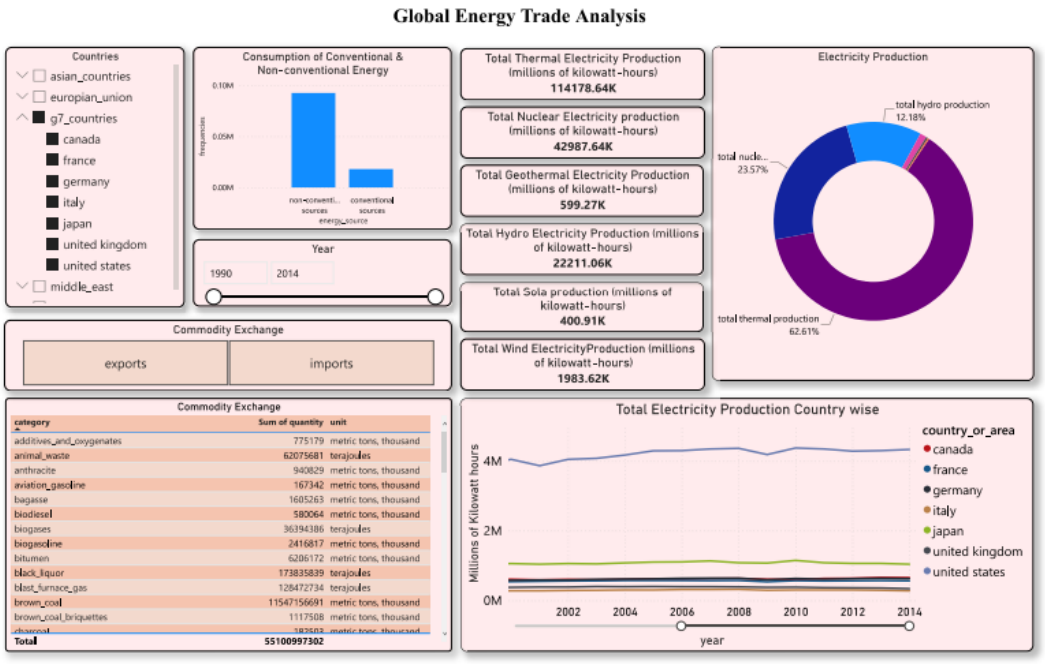
quantity: showing the quantity.

quantity_footnotes: nothing here, blanks values are there.

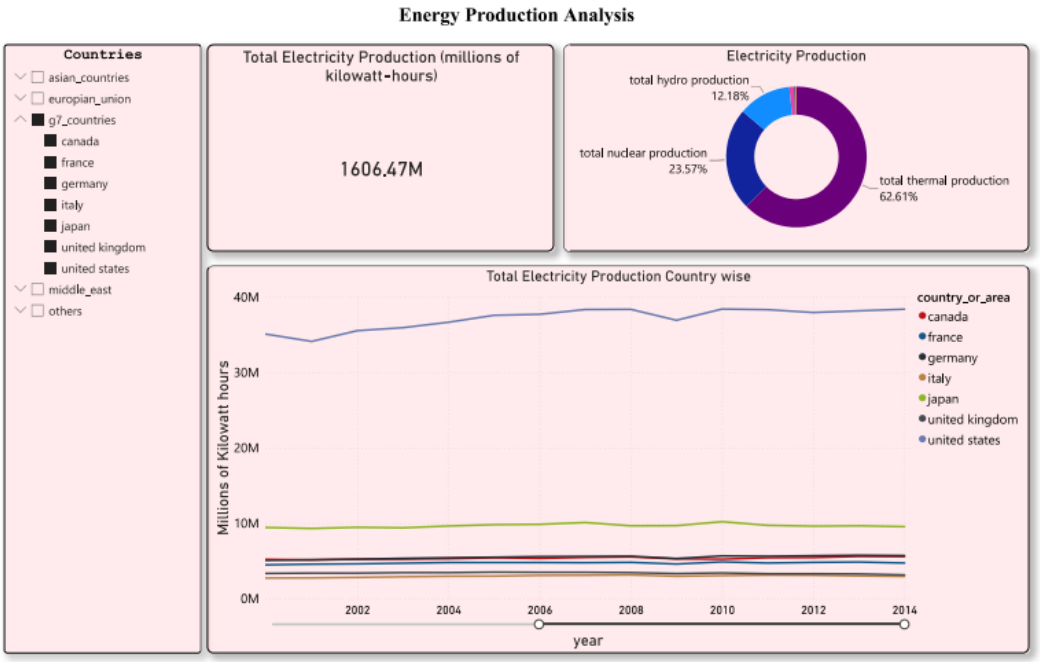
category: showing the product category.

Analysis Report

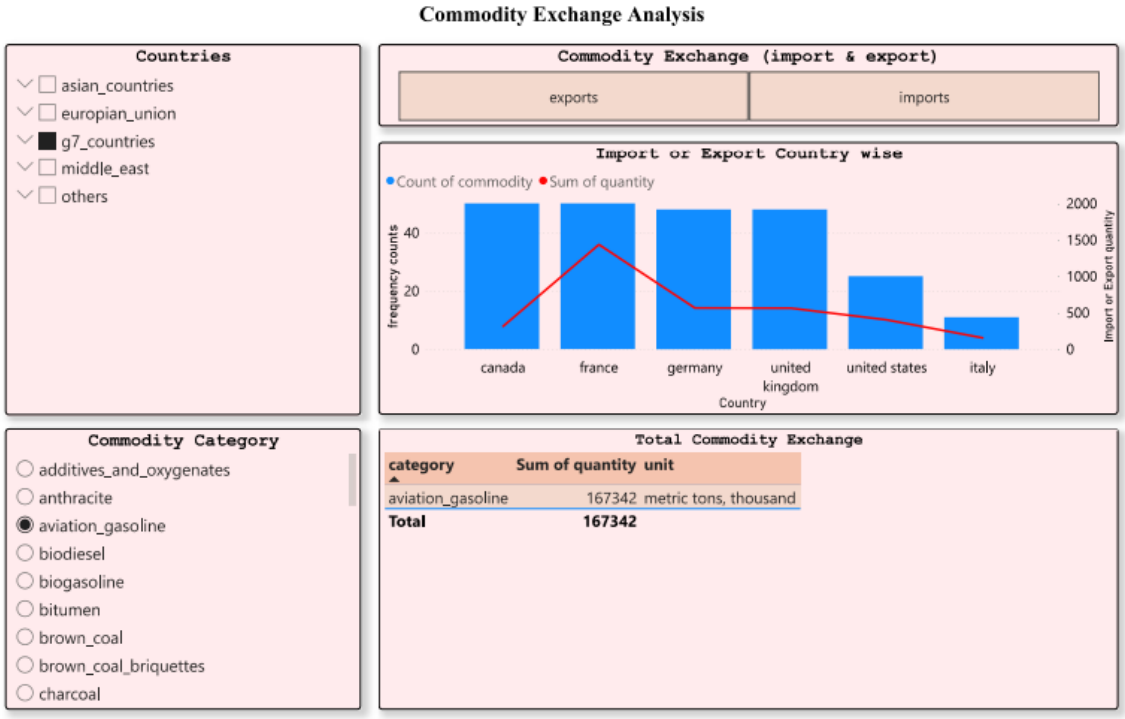
➢ Dashboard



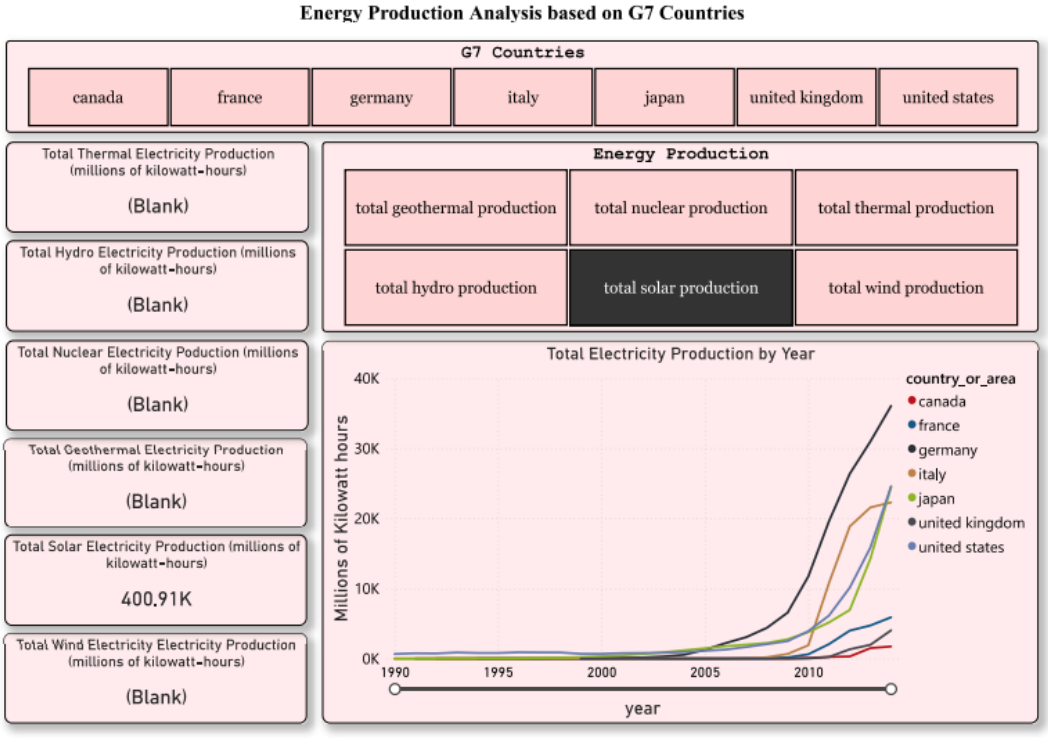
➢ Energy Production



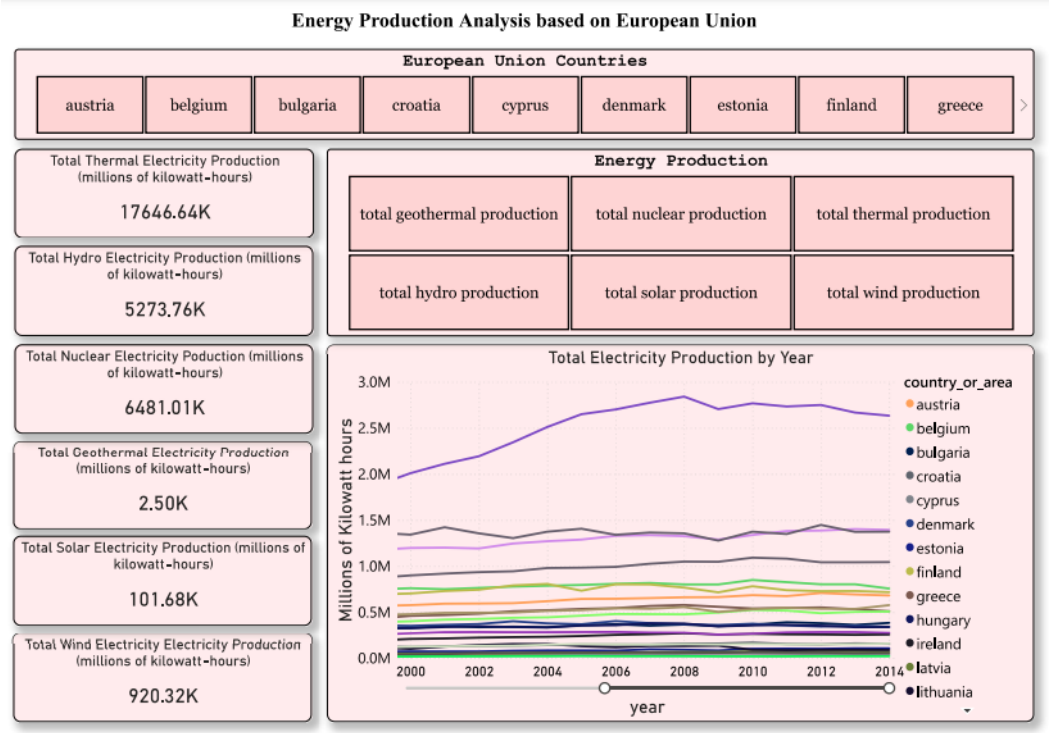
➢ Commodity Exchange



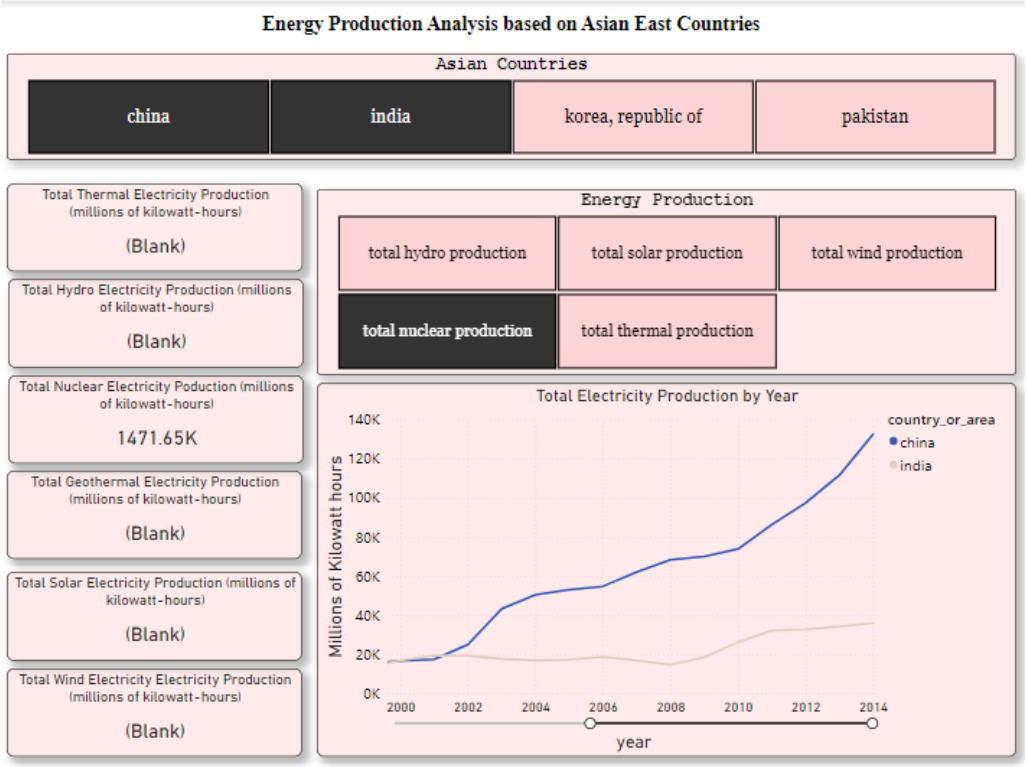
➢ Energy Production based on G7 Countries



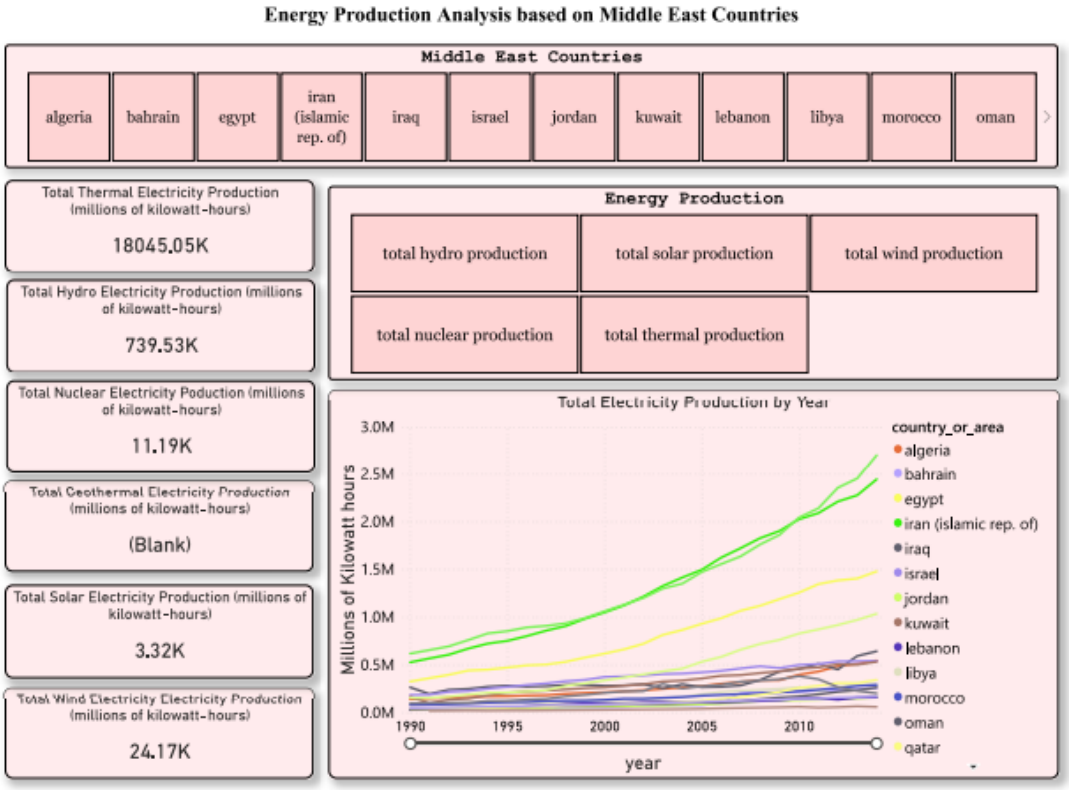
➢ Energy Production based on European Countries



➢ Energy Production based on Asian Countries



- Energy Production based on Middle East Countries



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