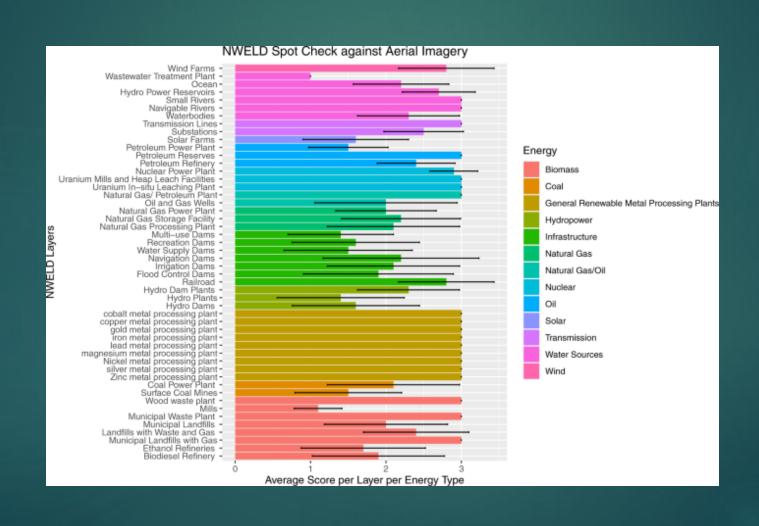
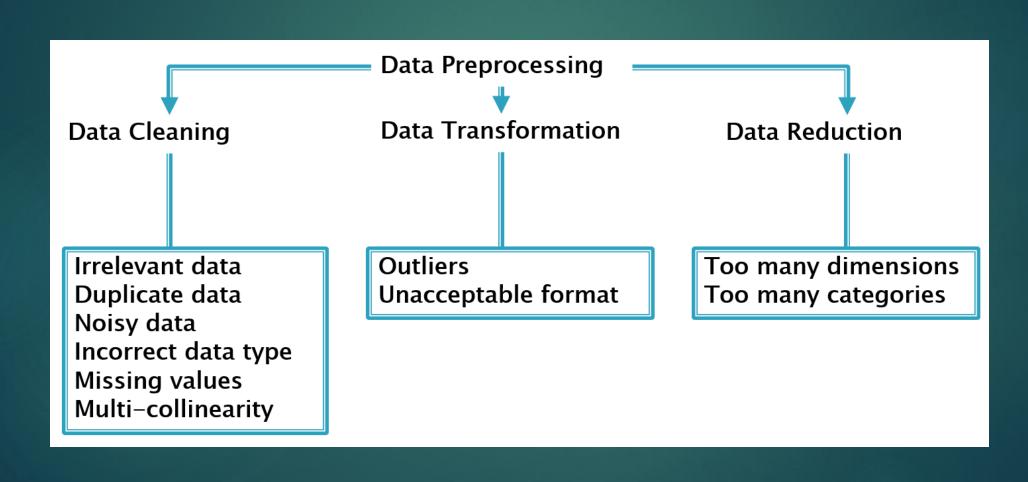


### 1.Data Source: Identify an available dataset containing energy consumption measurements.



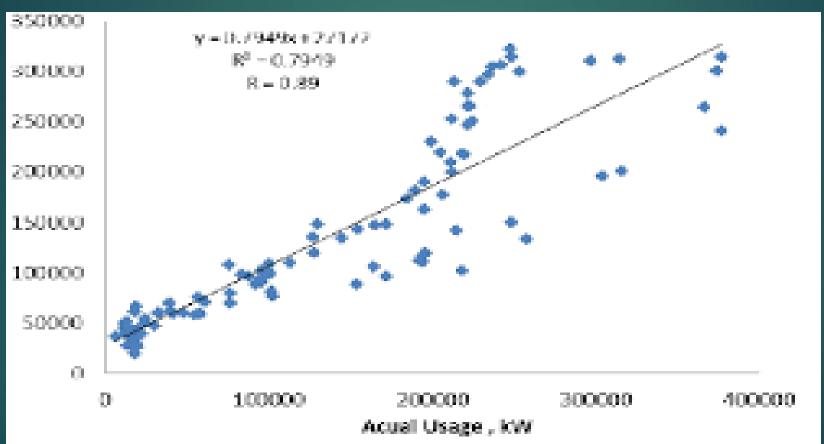
### Data Preprocessing: Clean, transform, and prepare the dataset for analysis.



### Feature Extraction: Extract relevant features and metrics from the energy consumption data.

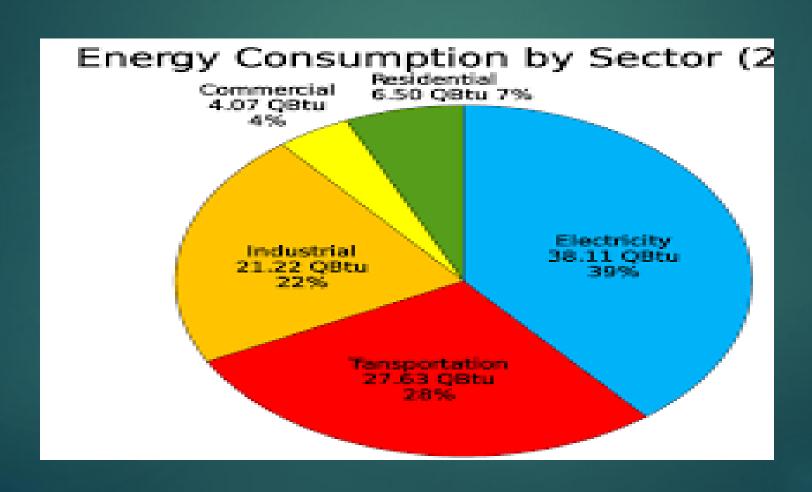
- ► Energy consumption feature extraction is a powerful tool that can be used in a variety of applications, such as:
- Smart homes and buildings
- Energy management systems
- Industrial energy efficiency
- Renewable energy integration
- Utility grid management

## Model Development: Utilize statistical analysis to uncover trends, patterns, and anomalies in the data.



are 2 Relationships between observed and predicted energy usage fromthe multiple linear regression model

Visualization: Develop visualizations (graphs, charts) to present the energy consumption trends and insights



# Automation: Build a script that automates data collection, analysis, and visualization processes.

To automate the data collection, analysis, and visualization processes for energy consumption, you can build a script using the following steps:

### Data collection:

- Identify the sources of your energy consumption data. This could include smart meters, utility bills, or other data sources.
- Develop a script to collect the data from these sources on a regular basis.
- Store the collected data in a central location, such as a database or data warehouse.

### Data analysis:

- Develop a script to analyze the energy consumption data. This could involve calculating features and metrics, identifying trends and patterns, and detecting anomalies.
- Store the results of the analysis in a database or data warehouse.

### Data visualization:

• Develop a script to visualize the energy consumption data and insights. This