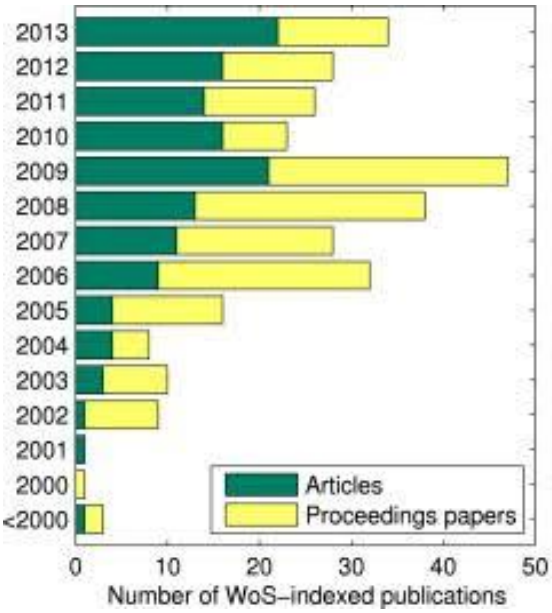
REVIEW OF ELECTRICITY PRICE PREDICTION

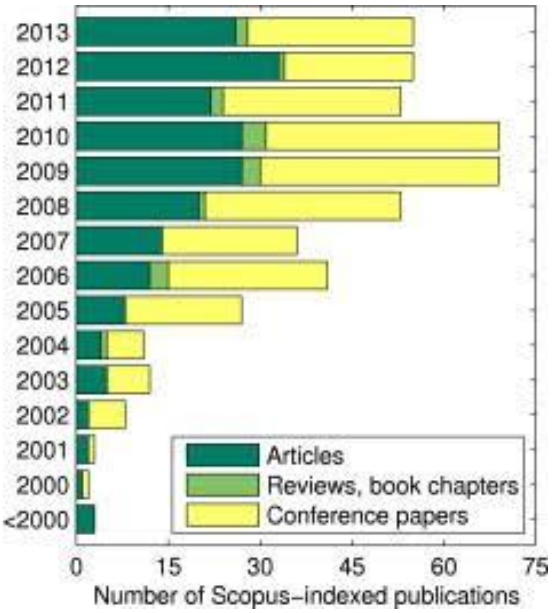
PROBLEM STATEMENT:

The problem is to developer a machine learning based system for a real time electricity price detection. The goal is to create a solution that can accurately involves in data collections,data preprocessing,feature selection engineering,data splitting,model selections,model training,model evaluation,forecasting

INTRODUCTION:

In the following sections we will delve into the essential steps of this predictive modeling endeavor,from data collection and prepration to model selection and evaluations. By the end you will have a coimprehensive understanding of the methodology and tools required to develop a reliable electricity price forecasting system.





METHODOLOGY:

1. DATA Collection and Preparation :**

- GATHER HISTORICAL ELECTRICITY PRICE DATA FROM RELIABLE SOURCES.

- Collect relevant factors such as weather data, demand trends, and supply information.

- Clean and preprocess the data, handling missing values and outliers.

2. *Feature Selection and Engineering:*

- Identify key features that influence electricity prices (e.g., demand, supply, weather conditions).

- Create new features or transform existing ones if needed (e.g., rolling averages, lag features).

3. *Model Selection:*

- Choose an appropriate predictive model for time-series data (e.g., ARIMA, LSTM, XGBoost).

- Split the data into training and testing sets for model evaluation.

4. *Model Training:*

- Train the selected model on the training dataset, using historical data to learn patterns.

- Optimize model hyperparameters through techniques like grid search or random search.

5. *Model Evaluation:*

- Assess the model's performance using metrics like Mean Absolute Error (MAE) or Root Mean Squared Error (RMSE) on the testing dataset.

- Validate the model's accuracy and adjust if necessary.

6. *Forecasting:*

- Use the trained model to make future electricity price predictions.

- Continuously update the model with new data to improve accuracy over time.

RESULTS:

In summary, a predictive model for electricity price forecasting can provide valuable insights for energy providers and consumers

C0NCLUSION:

In summary, electricity price detection is vital for both consumers and providers of electricity. It enables cost savings, efficient energy consumption, grid stability, renewable energy integration, and informed decision-making across various sectors, contributing to a more sustainable and reliable energy system.