# Project Initialization and Planning Phase

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| Date | 07 July 2024 |
| Team ID | SWTID1720098339 |
| Project Title | Machine learning approach for predicting the price of natural gas |
| Maximum Marks | 3 Marks |

| **Project Overview** | |
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| Objective | To develop a machine learning model to accurately predict natural gas prices. |
| Scope | Machine learning for predicting natural gas prices using historical data, focusing on accuracy and ethical considerations. |
| **Problem Statement** | |
| Description | Predicting natural gas prices using machine learning to improve accuracy in forecasting, addressing volatility and market fluctuations |
| Impact | Improved natural gas price prediction enhances market stability, informs strategic decisions, and fosters economic efficiency. |
| **Proposed Solution** | |
| Approach | Utilizing machine learning algorithms such as regression, Train The Model With Descision Tree Algorithm on historical price data, incorporating weather patterns and economic indicators for accurate natural gas price prediction. |
| Key Features | Unique for integrating diverse economic data with advanced machine learning for robust natural gas price forecasting. |

**Resource Requirements**

| Resource Type | Description | Specification/Allocation |
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| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | Intel i5 |
| Memory | RAM specifications | 8 GB |
| Storage | Disk space for data, models, and logs | 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | Flask |
| Libraries | Additional libraries | scikit-learn, pandas, numpy,joblib mathplotlib |
| Development Environment | IDE, version control | Jupyter Notebook, Git |
| **Data** | | |
| Data | Source, size, format | Kaggle dataset, 10,000 images |