**Model Development Phase Template**

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| Date | 15 June 2025 |
| Team ID | SWTID1749709340 |
| Project Title | Predicting Co2 Emission by countries Using Machine Learning |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

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| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| **CountryName** | Name of the country where CO₂ emissions data is recorded | **Yes** | Crucial for capturing country-specific emission patterns; encoded for model use. |
| **Year** | Year of the CO₂ emission observation | **Yes** | Temporal feature reflecting global/regional emission trends over time. |
| **IndicatorName** | Name of the metric (e.g., CO₂ emissions in kt) | **No** | Constant after filtering; provides no additional variation for prediction. |
| **IndicatorCode** | Unique code for the indicator (e.g., EN.ATM.CO2E.KT) | **No** | Redundant and constant; not useful once IndicatorName is filtered. |
| **CountryCode** | ISO 3-letter code for the country | **No** | Contains the same information as CountryName; unnecessary duplication. |
| **Value** | CO₂ emissions value in kilotonnes (kt) – target variable | **No (Target)** | This is the output variable the model predicts; not used as an input feature. |