World energy consumption

Dado el consumo energético del mundo y la produccion de energia proveniente de distintas fuentes. Vamos a predecir la tendencia del crecimiento de la produccion y el consumo de energía a nivel mundial o por país.. vamos a usar el dataset de kaggle esta competicion https://www.kaggle.com/datasets/pralabhpoudel/world-energy-consumption, que tiene 17433 muestras y las siguientes columnas representativas:

Datos

Columna	Descripcion
iso_code	ISO 3166-1 alpha-3 three-letter country codes
country	Geographic location
year	Year of observation
biofuel_consumption	Primary energy consumption from biofuels, measured in terawatt-hours
coal_consumption	Primary energy consumption from coal, measured in terawatt-hours
coal_production	Coal production, measured in terawatt-hours
electricity_generation	Electricity generation, measured in terawatt-hours
biofuel_electricity	Electricity generation from biofuels, measured in terawatt-hours
coal_electricity	Electricity generation from coal, measured in terawatt-hours
fossil_electricity	Electricity generation from fossil fuels, measured in terawatt-hours.
gas_electricity	Electricity generation from gas, measured in terawatt-hours
hydro_electricity	Electricity generation from hydropower, measured in terawatt-hours
nuclear_electricity	Electricity generation from nuclear power, measured in terawatt-hours

Columna	Descripcion
oil_electricity	Electricity generation from oil, measured in terawatt-hours
other_renewable_electricity	Electricity generation from other renewable sources, measured in terawatt-hour
renewables_electricity	Electricity generation from renewables, measured in terawatt-hours
solar_electricity	Electricity generation from solar, measured in terawatt-hours
wind_electricity	Electricity generation from wind, measured in terawatt-hours
gas_consumption	Primary energy consumption from gas, measured in terawatt-hours
gas_production	Gas production, measured in terawatt-hours
hydro_consumption	Primary energy consumption from hydropower, measured in terawatt-hours
low_carbon_electricity	Electricity generation from low-carbon sources, measured in terawatt-hours.
low_carbon_consumption	Primary energy consumption from low-carbon sources, measured in terawatt-hours
nuclear_consumption	Primary energy consumption from nuclear power, measured in terawatt-hours
oil_consumption	Primary energy consumption from oil, measured in terawatt-hours
oil_production	Oil production, measured in terawatt-hours
other_renewable_consumption	Primary energy consumption from other renewables, measured in terawatt-hours
population	Total population

Columna	Descripcion
renewables_consumption	Primary energy consumption from renewables, measured in terawatt-hours
gdp	Total real gross domestic product, inflation-adjusted

Objetivo

El objetivo de este proyecto es predecir si un país tiene una alta o baja proporción de energía renovable en su producción total de energía. Se utilizará un conjunto de datos sobre el consumo de energía en todo el mundo. El conjunto de datos contiene varias variables, incluyendo la producción y el consumo de energía renovable, así como la producción y el consumo de otras fuentes de energía. Se ha cambiado el problema al predecir si un país tiene o no un alto porcentaje de energía renovable en su producción total de energía. Por lo tanto, la métrica de desempeño que se utilizará ahora será la precisión, el recall, la F1-score y el área bajo la curva ROC (AUC), en lugar del error medio absoluto (MAE) utilizado anteriormente para predecir la tendencia del crecimiento de la producción y el consumo de energía a nivel mundial.