

This report summarizes the analytical outcomes of the project on classifying EU countries' sustainability performance according to the Sustainable Development Goals (SDGs) and presents concise policy recommendations.

The Random Forest machine learning model achieved exceptionally high accuracy (0.99), confirming the reliability of the findings and supporting evidence-based conclusions about national performance profiles.

The data analysis revealed three distinct performance levels. Sustainability Leaders demonstrate strong governance quality (CPI around 84), high investment in research and development (over 2.8% of GDP), and a significant share of renewable energy (over 45%). Good Performers maintain moderate levels across these indicators, while Needs Improvement countries show weak institutional performance, low innovation activity, and notable social inequalities, particularly in gender employment gaps.

The most influential predictive factors are internet usage (sdg9\_digital), corruption perception index (sdg16\_cpi), adult education level (sdg4\_adult), share of renewable energy (sdg7\_eurenew), and R&D expenditure (sdg9\_eurd). These variables highlight the primary policy levers that determine a country's sustainability trajectory.

To move from Needs Improvement to Good Performers, countries should prioritize structural governance reforms, strengthen transparency, reduce corruption risks (achieving CPI > 50), promote social equity, and raise R&D investment to at least 1% of GDP. Transitioning from Good Performers to Leaders requires focusing on innovation and environmental transformation - increasing renewable energy use to above 40%, expanding digital infrastructure, and boosting research funding to over 2% of GDP.

In conclusion, governance quality remains the foundation of sustainable development, while innovation and renewable energy act as its primary catalysts. The results confirm that strategic policy decisions emphasizing institutional strength, scientific advancement, and green transition are essential for enhancing the sustainability and competitiveness of EU countries in the long term.