

1. Hypothesis:

High-technology exports is related to Sustainable Energy - Electricity Access Score and Percentage of population age 25+ with at least completed upper secondary education (ISCED 3 or higher).

2. Regression Equation:

$$y = 5.5647 \times x_1 + 10.6950 \times x_2 + 2055.8206$$

y : High-technology exports

x_1 : The Sustainable Energy - Electricity Access Score

x_2 : Percentage of population age 25 and over that has attained at least upper secondary education (ISCED level 3 or higher)

2. Results and Shortlisting:

Countries	X ₁	X ₂	Y _E	Y _A	Y _E > Y _A (y/n)	Shortlist(y/n)	Reason
Bangladesh	78.75	35.01	2868.47	1770.00	y	✓	Indicating potential undervaluation and growth potential in high-technology exports.
Cote d'Ivoire	76.71	13.75	2629.71	2380.00	y	✓	Relatively high electricity access (X ₁) suggests good infrastructure for technology development.
Honduras	45.68	29.15	2621.79	2105.00	y	✓	Though X ₁ is low, the education level(X ₂) is moderate, indicating some potential.

Indonesia	73.52	40.58	2898.96	4030.00	n	x	Actual exports are already much higher than predicted, suggesting a mature market.
Sri Lanka	82.39	64.46	3203.75	3000.00	y	✓	Very high education level (X ₂) indicates strong human capital advantage.
India	70.39	31.57	2785.14	4385.00	n	x	Actual exports are already large, and the market may be in a stable phase.
Mongolia	43.54	77.41	3126.05	1120.00	y	✓	Extremely high education level (X ₂) suggests strong human capital, though infrastructure (X ₁) is weak.
Pakistan	69.26	32.02	2783.74	2780.00	y	✓	The market performance is in line with model prediction, making it a stable candidate.
Rwanda	90.20	11.10	2676.42	2330.00	y	✓	Very high electricity access (X ₁) indicates excellent infrastructure conditions.
Senegal	69.88	8.26	2532.99	1780.00	y	✓	Low education level (X ₂) may require attention to long-term human capital investment.
South Africa	64.59	45.67	2903.66	4450.00	n	x	Actual exports far exceed predictions, indicating a highly developed market with limited growth space.
Zimbabwe	46.03	65.13	3008.53	2050.00	y	✓	Very high education level (X ₂) indicates strong human capital, despite relatively low infrastructure (X ₁).

Based on our regression model and the latest data analysis, Mongolia has emerged as the most suitable country for investment in high-technology exports. Our model predicts a significantly higher level of high-technology exports (Y_E) than the current actual output (Y_A), indicating strong untapped market potential. Furthermore, Mongolia possesses the highest rate of higher education attainment (X_2) among the evaluated countries, providing a solid foundation of human capital essential for technology-driven growth.