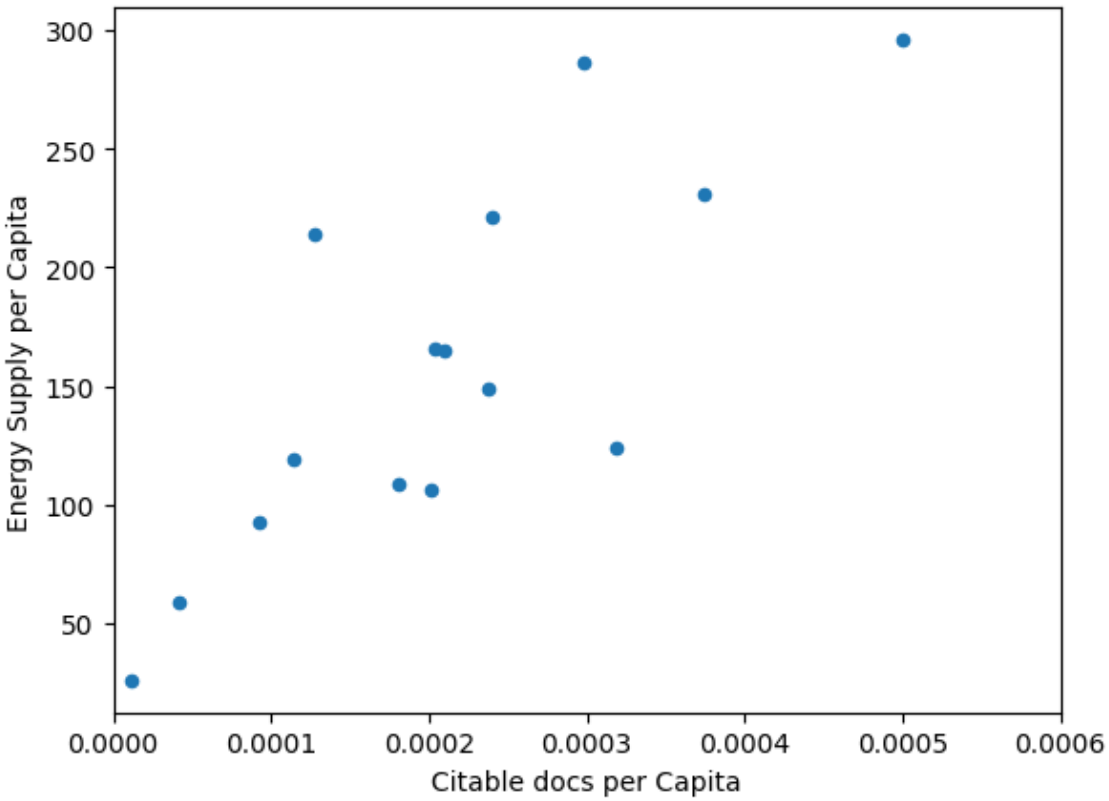
Insights from the Energy and Economic Analysis

Visualizations and Data-Driven Insights

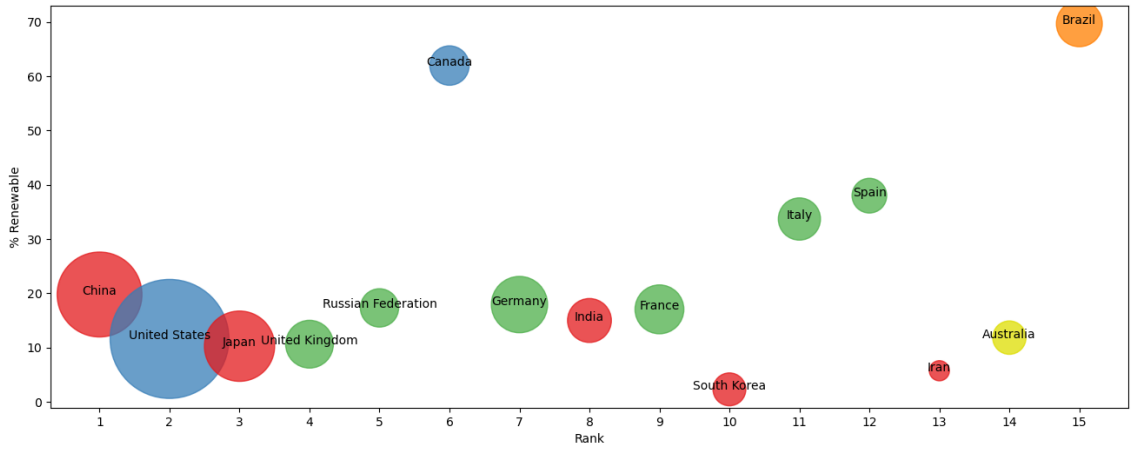
1. Correlation Between Energy Supply and Citable Documents Per Capita

- **Observation**: The scatterplot indicates a positive correlation between "Citable Documents Per Capita" and "Energy Supply Per Capita".
    - Countries like the United States, Germany, and Japan show high values for both metrics.
    - This correlation demonstrates that energy availability fosters academic outputs, highlighting the critical role of energy in research and innovation.
- **Key Numbers**:
    - Countries with over **200 Energy Supply per Capita** also tends to produce more than **0.0004 Citable Documents per Capita**, reinforcing a direct relationship between energy resources and intellectual contributions.



2. Renewable Energy Adoption and Rankings

- **Observation**: The bubble chart reveals that Brazil and Canada are standout leaders in renewable energy adoption.
    - Brazil boasts the highest percentage of renewable energy production, exceeding **70%**, while also ranking highly in overall energy metrics.
    - The size of the bubbles emphasizes the population size, showing that populous countries like China and India face unique challenges in balancing energy and sustainability.
- **Key Numbers**:
    - Brazil: **% Renewable** - 70%; **Rank** - 15th
    - Canada: **% Renewable** - Over 60%; **Rank** - 6th



Population Insights Through Energy Metrics

- **Observation**: By estimating population using "Energy Supply" and "Energy Supply Per Capita", populous nations like China and India emerge as clear leaders.
    - These countries have estimated populations of over **1 billion**, underscoring the immense energy demands they face.
- **Key Numbers**:
    - China: Estimated Population - **1.37 billion**
    - India: Estimated Population - **1.28 billion**
    - Brazil: Estimated Population - **200 million**

Implication: These figures highlight the need for tailored energy policies in high-population countries to ensure sustainable development.

Recommendations Based on Insights

❖ **Policy Implications**

- **Investment in Renewable Energy**: Countries with lower renewable energy percentages, such as the United States, could prioritize policies to enhance their green energy adoption.
- **Global Collaboration**: Leaders like Brazil and Canada can act as role models by sharing their expertise in renewable technologies.

❖ **Research and Development**

- **Energy-Efficient Technologies**: Further investments in academic research focusing on energy efficiency can bridge the gap between energy consumption and economic growth.

❖ **Economic Strategy**

- **Balancing Population and Resources**: For populous nations, aligning energy policies with sustainability goals is critical for long-term growth.

Conclusion

This analysis showcases the intricate relationships between energy, economy, and academic contributions. The key takeaway is the undeniable importance of renewable energy and its role in fostering sustainable development globally. By leveraging data and insights, nations can align their strategies with sustainability objectives while addressing economic challenges effectively.

References

1. United Nations. (2013). Energy Indicators.
2. World Bank. (2015). World Development Indicators.
3. Sciamgo Journal & Country Rank. (2015). Energy Engineering and Power Technology Rankings.