

IST 737 – Visual Analytic Dashboards

Project Report

Project Title:

Empowering Future: Renewable Energy Insights

Explore how clean energy is shaping our future! This dashboard shows how renewable energy sources like wind and solar are driving job creation and transforming energy production worldwide.

Project Description:

This project explores the growing impact of clean energy on global economies, focusing on the role of renewable energy sources like wind and solar power in shaping a sustainable future.

Through a comprehensive analysis, the dashboards showcase how the transition to clean energy is driving job creation, fostering economic development, and transforming the energy production landscape worldwide.

By examining key metrics such as job growth in the renewable energy sector, investment trends, and production statistics, the project highlights the positive environmental and economic shifts resulting from the global shift towards renewable energy.

This dashboard serves as a visual tool for understanding the far-reaching implications of clean energy adoption, offering insights into how these advancements are not only addressing climate change but also stimulating new industries and opportunities.

Data Sources:

1. Jobs Created by the RE Sector in the year 2023:

<https://irena.sharepoint.com/:x:/s/statistics-public/Ee1nmh6YUX9Bk2ijCA4SYHABdSLwlHUyQe7khxlQyERUSw?rttime=BcjHqRU>

[b3Ug](#) (Part of International Renewable Energy Agency (IRENA) 2023 Annual Report)

2. Investment Data in each subcategory of RE:

https://irena.sharepoint.com/:x:/s/statistics-public/Eahsj-Vwd4RMstSSzyt4CzQBdoOUPFi8hTOc_CWHWIH_FA?e=RMldWJ (Part of International Renewable Energy Agency (IRENA) 2023 Annual Report)

Story from Dashboards:

Dashboards present the following insights:

- **Job Growth in Renewable Energy:** Illustrates how the renewable energy sector, particularly wind and solar, has become a significant driver of job creation, with notable growth in both developed and developing economies.
- **Investment Trends in Clean Energy:** Highlights the global investment trends in renewable energy, showing an upward trajectory in funding for wind, solar, and other sustainable technologies.
- **Energy Production Transformation:** Reveals how the shift towards renewable energy sources is transforming global energy production, with a marked increase in the contribution of wind and solar power to national grids.
Notice how China leads in both RE and Non-RE sectors.

Additional Details:

- **Key findings:** The project highlights that renewable energy sources like wind and solar are not only reducing global reliance on fossil fuels but also creating significant economic opportunities. The renewable energy sector is leading job creation, with impressive growth across regions. Certain developed economies do not show the same reliance on RE, (example: Russia), probably due to continued reliance on fossil fuels (Russia, for example has rich deposits of fossil fuels, and is thus, less reliant on RE).
- **Challenges faced:** One of the challenges was accessing consistent, reliable data across various countries, as renewable energy initiatives and job creation are at different stages in different regions. To overcome this, we relied on multiple data sources and ensured data validation at each step.
- **Impact:** This project demonstrates the potential of clean energy to reshape economies by generating jobs, reducing carbon emissions, and promoting sustainable development. By visualizing these trends, the dashboard can guide policy decision makers and help drive future investments in the clean energy sector.