

Economic and Social Council (ECOSOC)

TOPIC B:

The question of improving rural electrification while aligning with the sustainable development goal



I. Introduction of the Topic:

Electricity is crucial for modern life serving as the foundation for economic activities, technological advancements, and overall services that enhance our quality of life. However, according to the annual energy progress report, more than 675 million people still do not have access to electricity. The majority of these people live in sparsely populated and remote areas where it is expensive and difficult to bring power lines. Bridging this energy gap closely coincides with the United Nations' Sustainable Development Goal number 7 which emphasizes the need for: “access to affordable, reliable, sustainable, and modern energy for all”.

One of the key challenges in this problem is striking a balance between expanding on pre-existing electricity networks and ensuring they align with sustainable energy practices. Moreover, we need to alleviate the initial costs of installations and secure a stable and efficient source of renewable energy.

As we work towards this objective, we need to acknowledge that rural electrification is crucial in reducing poverty, boosting health and education, and supporting economic growth in developing countries. By expanding electricity to rural areas, we can enable individuals and communities to break free from the cycle of poverty and realize their full potential.

II. Definition of Key Terms:

- **Rural Area:** a population with a density of less than 150 inhabitants per square kilometer (UNESCWA)
- **Electrification:** is the process of replacing sources of power coming from fossil fuels with electrically powered equivalents coming from renewable sources (IEA)
- **Sustainable Development:** is the process of achieving social and economic progress in ways that will not exhaust the Earth's finite resources (United Nations)
- **Renewable Energy:** energy derived from natural sources that are replenished at a higher rate than they are consumed (United Nations)

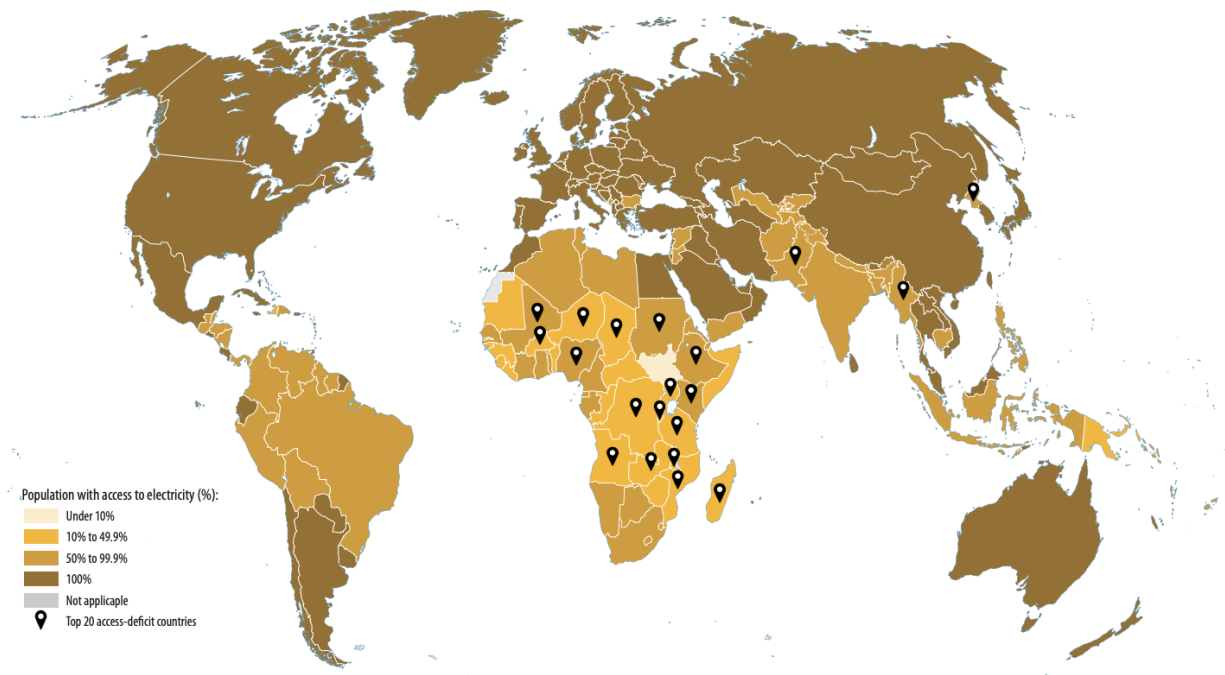
- **Poverty:** the state or condition in which people lack the financial resources to reach a minimum standard of living. The effects of poverty range from hunger, malnutrition, limited access to education and healthcare, social exclusion, and lack of participation in decision-making. (United Nations)

- **Infrastructure finance:** when government entities call upon private lenders to help finance the construction of essential infrastructure. (“Infrastructure Finance”)

III. Background information:

In 2021, the 20 countries with the largest access deficits accounted for 75 percent of the world’s people lacking electricity access (Energy Progress Report). As seen from the figure below, the countries are found in Sub-Saharan regions, Southern Asia, and Central Southern America. The reason for this lack of electricity can be attributed to the following reasons:

1. Geographical challenges
 - a. Many of these countries have challenging geographical conditions including deserts, mountains, and dense forests. Creating electrical infrastructure whilst overcoming these barriers is very costly and logistically challenging.
2. Economic Factors
 - a. In many of these countries, poverty is a major issue. This lack of financial resources makes it difficult for individuals to pay for electricity and for the government to invest in large-scale projects.
3. Political Issues
 - a. Corruption in government organizations has the potential to siphon funding away from vital infrastructure projects. Transparent and responsible governance is critical for ensuring that resources are used efficiently.
4. Technological Challenges
 - a. Inefficient power generation and distribution systems can result in frequent outages and increased maintenance expenses. Modern and efficient technologies must be upgraded to ensure dependable and inexpensive power availability.
5. Population Growth
 - a. Urbanization tendencies may put pressure on cities' current energy infrastructure. Many of these countries do not have the resources to adjust to the increased demand for electricity.



IV. Previous attempts at solving the problem:

Timeline of Events

- **1927:** Wind Turbines go commercial: This was the first sale of a commercial wind turbine. This was also the first time renewable energy was commercially available.
- **1956:** Solar energy goes commercial: the first commercially available solar cell is produced and sold for commercial usage.
- **1972:** First Conference on the Human Environment: This year was the first conference to make the environment and its health a central issue. This conference resulted in a declaration that set out principles for the preservation of the environment and spawned the United Nations Environment Programme. The UNEP was conceived to "monitor the state of the environment, inform policy-making with science, and coordinate responses to the world's environmental challenges." (UNEP)
- **1992:** Earth Summit: In Rio de Janeiro, world leaders debated and accepted the Rio Declaration on Environment and Development and the Agenda 21 action plan, laying the basis for global environmental governance and sustainable development.
- **2000:** Millennium Summit: The campaign's goals were to solidify the international community's commitment and deepen collaborations with governments and civil society to establish a future where no one is left behind. (United Nations)

- **2015:** Adoption of Sustainable Development Goals (SDGs): The sustainable development goals are agreed upon by world leaders. Out of these goals, SDG 7 promises “access to affordable, reliable, sustainable, and modern energy for all”
- **2016:** Launch of “Sustainable Energy for All” initiative: this organization works with the United Nations to accelerate action towards achieving SGD 7. The program has three key goals: to ensure universal access to modern energy services, to double the worldwide rate of progress in energy efficiency, and to double the amount of renewable energy in the global energy mix.

Possible Solutions

Improving rural electrification while complying with the SDGs requires a comprehensive strategy that addresses both energy availability and sustainability. Here are some potential solutions:

- Solar power systems installed in rural locations can provide a sustainable and decentralized source of electricity.
- Wind Power: In areas with adequate wind resources, small-scale wind turbines can help with rural electricity.
- Micro-hydro projects can be constructed where viable to produce energy from local water resources.
- Off-Grid Solutions: Using off-grid solutions such as solar home systems and freestanding microgrids, power may be delivered to rural locations without relying on centralized infrastructure.
- Mini-Grids: Creating mini-grids powered by renewable sources can better serve communities than individual house systems.
- Battery Storage: By incorporating battery storage systems, the extra energy generated during peak hours may be stored, guaranteeing a more stable power supply for rural populations.
- Energy-Efficient Appliances: Encouraging the adoption of energy-efficient appliances and lights in rural households reduces total energy consumption and improves the effectiveness of electrification initiatives.

V. Agencies involved:

Several international organizations and agencies are working hard to improve rural electrification and promote sustainable energy access. Amongst the most important agencies are:

1. International Renewable Energy Agency

IRENA is an intergovernmental organization that promotes the global adoption and usage of renewable energy. It offers expertise, advice, and encourages information exchange to help nations transition to a more sustainable energy future.

2. United Nations Development Programme

UNDP aims to reduce poverty and promote long-term development. It promotes rural electrification efforts by offering technical assistance, capacity building, and encouraging collaborations among governments, the commercial sector, and local communities.

3. World Bank

The World Bank funds various rural electrification and sustainable energy development programs. It provides money, technical experience, and policy assistance to governments to help them implement energy access projects.

4. United Nations Industrial Development Organization

UNIDO promotes sustainable industrial growth and frequently works on programs that improve energy availability, such as rural electrification. It offers technical help as well as capacity-building assistance.

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