

Making renewable energy accessible in low-income countries

I. Background Information

The world is currently facing two energy problems: most of our energy production still produces greenhouse gas emissions, and hundreds of millions lack access to energy entirely. The human population lacks safe, low-carbon, and cheap large-scale energy alternatives to fossil fuels.

Despite the fact energy is the engine of civilization, nowadays access to adequate and affordable sources is not equally distributed on the planet. According to the 2018 IEA *World Energy Outlook*, there are currently 1 billion people in the world – 13% of the total population – with no access to electricity, mostly in Africa and South Asia.

Its presence is strongly and constantly intertwined with economic and social development: as a result, poorer countries are those usually equipped with the worst energy services, which contribute to malnourishment, unhealthy living conditions, and limited access to education and employment. Also, when people lack access to modern energy sources for cooking and heating, they rely on solid fuel sources – mostly firewood, but also dung and crop waste. This comes at a massive cost to their health: indoor air pollution, which the WHO calls “the world’s largest single environmental health risk.” For the poorest people in the world it is the largest risk factor for early death and global health research suggests that indoor air pollution is responsible for 1.6 million deaths each year.

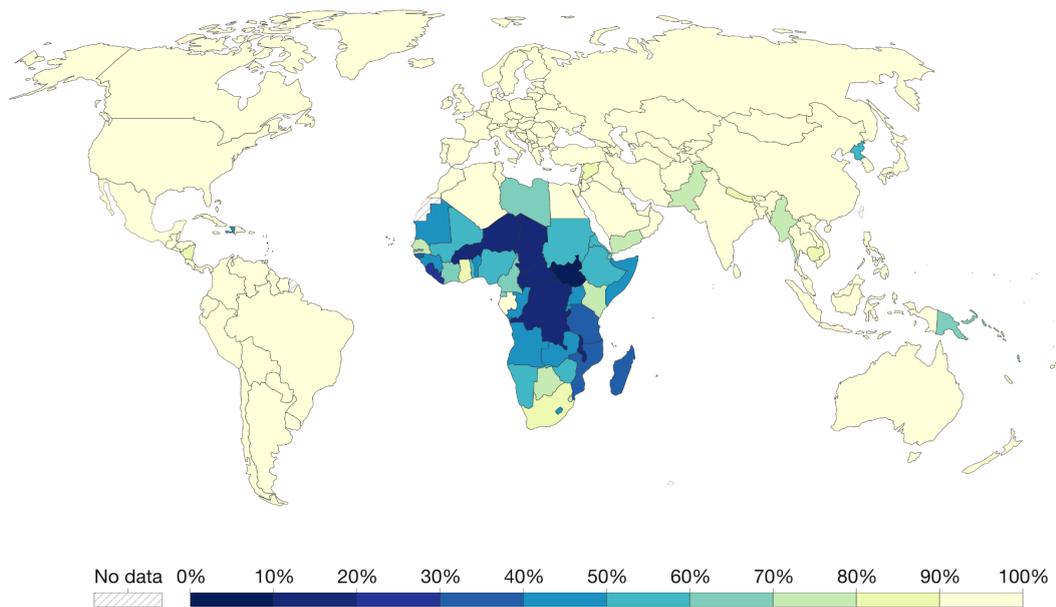
The second energy problem is the one that is more well known: fossil fuels and their impacts on the environment. Fossil fuels are formed from the decomposition of buried carbon-based organisms that died millions of years ago, which makes them non-renewable and they currently supply around 80% of the world’s energy. When fossil fuels - coal, oil, or gas - are burned, they release large amounts of carbon dioxide, a

greenhouse gas, into the air. In 2018, 89% of global CO2 emissions came from fossil fuels and industry. As greenhouse gas emissions blanket the Earth, they trap the sun's heat, causing climate change. The Intergovernmental Panel on Climate Change (IPCC) has found that emissions from fossil fuels are the dominant cause of global warming.

Renewable energy sources can be used to produce electricity with fewer environmental

Electricity access, 2020

Share of the population with access to electricity. The definition used in international statistics adopts a very low cutoff for what it means to 'have access to electricity'. It is defined as having an electricity source that can provide very basic lighting, and charge a phone or power a radio for 4 hours per day.



Source: World Bank

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impacts. It is energy derived from natural resources that replenish themselves over some time without depleting the Earth's resources. These resources also have the benefit of being abundant, available in some capacity nearly everywhere, and they cause little, if any, environmental damage. Sustainable sources of energy can help countries mitigate climate change, build resilience to volatile prices, and lower energy costs. In addition to reducing carbon emissions, large-scale renewable power projects also provide demonstrable economic benefits for investors, governments, and especially consumers who need reliable, low-cost electricity. This is especially critical now as spiking fossil fuel costs, triggered by the war in Ukraine, are debilitating poor energy-importing countries.

There are a few reasons why sustainable development is not feasible for some nations, especially developing nations. Sustainable development depends on natural resources

and the ability to source them properly, efficiently, and affordably. Developing nations may struggle to be able to afford sustainable innovations when they have been so dependent on other forms of energy for quite some time. Another setback is that some nations' major resources and socioeconomic dependencies are on their extractive industries. It may not be in their best economic interest to shift into sustainable development due to the resources provided within the nation itself. This topic encompasses political, social, economic, and environmental factors that all need to be considered to reach an agreement that can be followed and respected by most nations.

II. United Nations Involvement

The United Nations Framework Convention on Climate Change (UNFCCC) states that the environment is a resource utilized by all nations and it is the responsibility of each nation to protect it. The convention was introduced in 1992 and came into effect on March 21, 1994, when it was ratified by a majority of member states. The convention specified that governments should work together to minimize the environmental damage caused by fossil fuels and look for alternative energy sources. Importantly, the convention also pressured developed nations to reduce their emissions, as developed countries cause the majority of greenhouse gas emissions. Although many member states ratified (UNFCCC) the convention was not being upheld to the fullest and air pollution continues.

On December 11, 1997, Another mechanism of the UN - Kyoto's Clean Development Mechanism (CDM) - was introduced. CDM allows higher funds and new high-technology to flow to the affected countries, The United Nations Environment Programme has implemented a project that has brought solar energy to many households in India which not only reduced emissions but also an immediate help to the local community. Rapidly growing economies promised to use renewable resources which, according to Intergovernmental Panel on Climate Change (IPCC), has reduced emissions by 500 million tons over the past three years.

In 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), which include a dedicated and stand-alone goal on energy, Sustainable Development Goal 7, calling to "ensure access to affordable, reliable, sustainable and modern energy for all". Energy lies at the heart of both the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change. Ensuring access to affordable, reliable, sustainable, and modern energy for all will open a new world of opportunities for millions of people through new economic opportunities and jobs, empowered women, children, and youth, better education and health, more sustainable, equitable and inclusive communities, and greater protections from, and resilience to, climate change.

III. Questions to Consider

- What is your country's position according to this problem?
- How can the world come together to create a global solution?
- What technologies should nations be investing in?
- What kind of support will developing nations need to keep up with bigger countries' new technology?
- What incentives can we use to promote the use of renewable energy?
- How can we best implement these forms of renewable energy?
- How can we make renewable energy more affordable and practical?
- What is the timeline for when member states should begin the switch from fossil fuels to renewable energy?

IV. Useful Links and Sources

- [Developing countries and renewable energy for a sustainable future](#)
- [Renewable energy and energy efficiency in developing countries can support Paris Agreement, and benefit people](#)
- [The Problem Of Renewable Energy In Developing Countries - Renewables - Vietnam](#)

- [5 Ways to Boost Renewable Energy Investment in Developing Nations](#)
- [The Good, Bad, and Ugly about Renewable Energy in Developing Countries](#)
- [Sweco Group - Report: The limits to renewable energy](#)
- [Scaling Up Renewables in Landlocked Developing Countries](#)
- [How Rich Countries Must Help Developing Economies Afford The Clean Energy Transition](#)
- <https://www.forbes.com/sites/bernardmarr/2022/02/11/the-3-biggest-future-trends-and-challenges-in-the-energy-sector/?sh=59635fd27b7e>
- [About Energy Programme](#)
- [Energy poverty](#)
- <https://www.buycleanenergy.org/why#:~:text=Renewable>