

Energy and Sustainable Development

Miria Frances Agunyo(PhD)
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Introduction

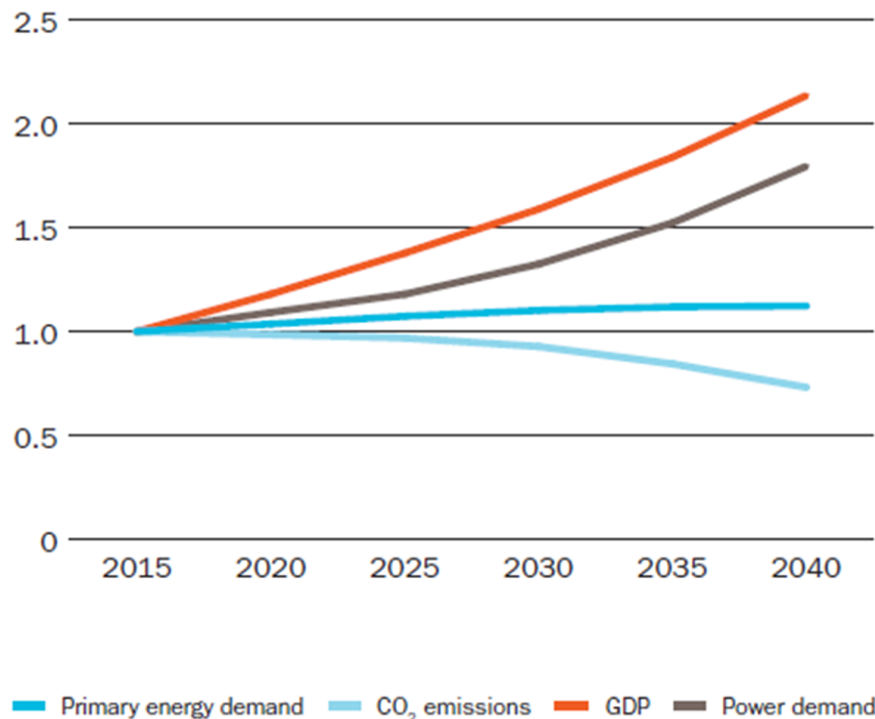
Energy has always played a key role in economic development through its role as **a production input**.

- We have also seen energy as a direct component in human wellbeing;
- Energy has been linked to economic growth, good governance, and global security.

Introduction

- Economic growth linked to Gross domestic product(GDP) – industries, agriculture, service industry etc.
- Global development increase since the Industrial revolution(WWII) can be partly attributed to energy.
- Energy sources demanded being fossil derived energy, oil, coal, natural gas.....

Annual average growth Per cent, indexed from 2015



But, we also saw
....increased
environmental
degradation, impact on
health, pollution.

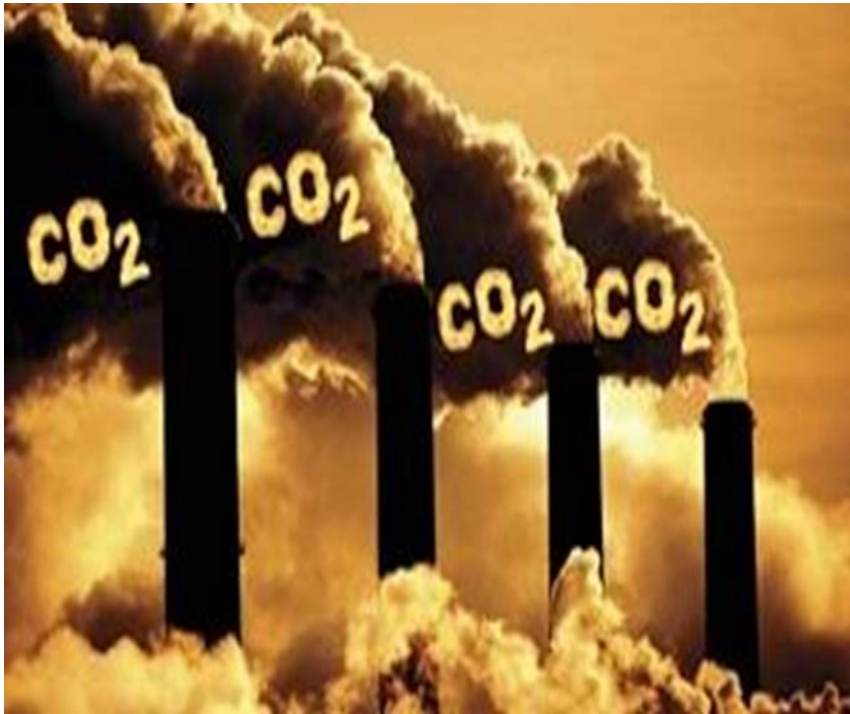
Source: Startkraft, 2018

Impacts



Co-funded by the
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Energy generation and use



<https://www.climatechangenews.com/2021>

Energy and sustainable development

Sustainable development; **‘meeting the needs of the present without compromising the ability of future generations to meet their own needs’.**

Role of Energy-

At the heart of most SDGs—expanding access to electricity, improving clean cooking fuels, reducing wasteful energy subsidies reducing deadly air pollution etc.

SDG 7 – aims to ensure access to affordable, reliable, sustainable and modern energy for all by the end of the next decade.

Continuation



- Renewable energy



<https://impakter.com/solar-empowerment>

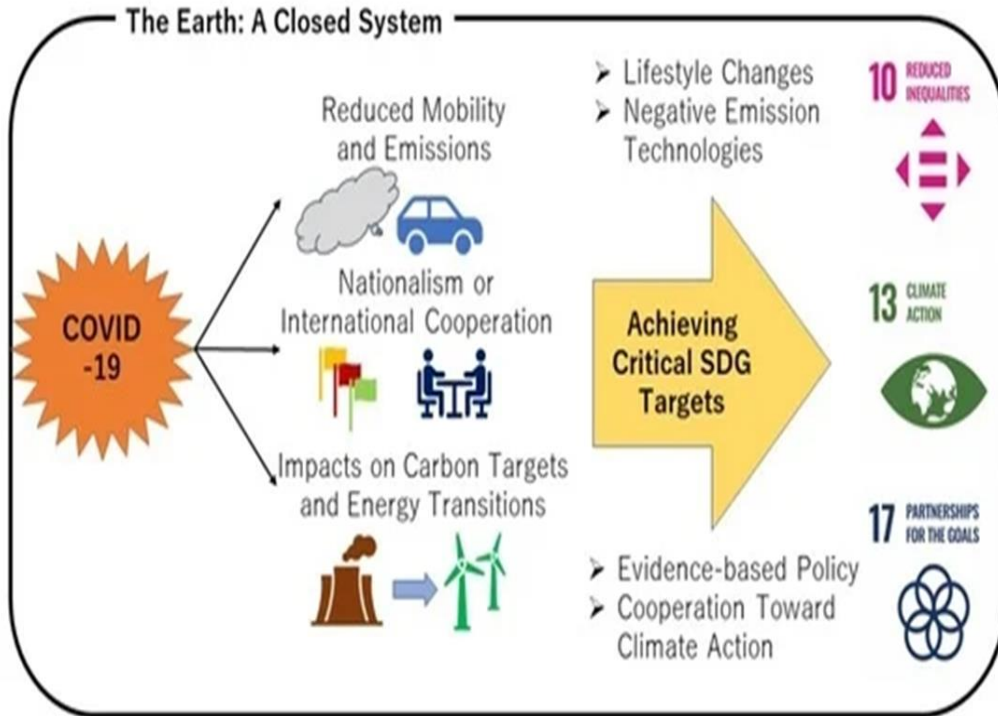


Source; Nguyen Mina, 2020



<https://www.independent.co.ug>

Transition



What has the impact been in terms of energy..... Locally and globally?

Uganda



- Population of about 45 million people
- **25.7 %** of the population is located in **urban** areas
- Projected economic growth of 4.5% 2021
- **GDP still dependent on agriculture, 70%** employed in agriculture, mainly on subsistence basis

Uganda

Uganda's power generation

- Hydro - 1,023.59 MW
- Thermal - 100 MW
- Cogeneration - 63.9 MW
- Grid-connected Solar - 60 MW

% of population with access to electricity : **at least 48%**

National direction

Energy policy 2019-Uganda

- Promote the sustainable development and utilization of all **renewable energy resources** in a socially and environmentally responsible manner.

NDP III 2020/21 – 2024/25 - ENERGY DEVELOPMENT PROGRAMME

Access to reliable clean energy is still low ---Why

- (i) Reliance on biomass sources in the energy mix;
- (ii) Constrained electricity transmission and distribution infrastructure;
- (iii) limited productive use of energy;
- (iv) low levels of energy efficiency;

Direction



The goal of the programme is therefore, to increase access and consumption of clean energy –How?

- Construct 200 off-grid min-grids based on renewable energies
- Develop medium and small power plants(hydro, biogas);
- Promote use of new renewable energy solutions(solar water heating, wind solutions)
- Adopt the use of electric transport solutions e.g. solar powered motor cycles, bicycles and tricycles.

The course

Clearly Energy and Sustainable Development is crucial.

- Boost training/learning renewable energy and sustainability-(**practice**).
- **Problem based approach** to solving problems.
- The target group; **versatile**(finalists, entrepreneurs, private sector interested in attaining skills/knowledge, networking) and innovative approach.
- Platform for collaboration amongst the 6 institutions, private sector players-examples from global village.

The Course

- Contextualizing sustainable developments.
- Assessing our energy sources
- Looking at environmental impacts therein.
- Informing on developments towards energy balance-looking at the various sectors.

Learning outputs

- Knowledge and understanding
- Apply the knowledge
- Be able to make clear judgement-linking existing conditions in sector.
- That students are skilled, and can clearly communicate – holistic and sustainable manner.



End

Thankyou