# Renewable Energy Projects in Ethiopia

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# Introduction

- For  Ethiopia, green growth is a necessity as well as an opportunity to be seized.

- It is a necessity because it must arrest land degradation that threatens millions of our citizens with poverty. It is an opportunity because it motivates to use our country's huge renewable energy potential in the development of our economy.  That is why Ethiopia has developed its Climate Resilient Green Economy Strategy to transform it by 2025 from its present LDC status with agriculture as its main economic sector and annual per capita greenhouse gas emission of 1.8 tonnes to a lower middle income status with industry as its main economic sector and with zero net carbon emission.

- The renewable energy potential includes hydropower, geothermal power, wind power and solar power.

# Hydro Power

- The electricity in Ethiopia's grid is now derived entirely from renewable energy. Hydropower accounts for most of it with some wind power added. But the gird reaches now mainly the urban population, which adds up to less than 20% of the total. Our long-term plan is to for the gird to reach all rural homesteads as well in about 20 years. In the mean time, we are pushing for fuel wood efficient stoves and biogas, with solar panel to power telecommunication technologies in rural areas.

# Hydro Power

- **Gibe III** hydropower plant project is currently under construction, some 250 km south-west of Addis Ababa.
  The installed power will be 1,870 MW per year.
- The construction of two power generating plants downstream entitled the Gibe IV and Gibe V has now been planned.

# Hydro Power

- **The Great Renaissance Dam,** on the Blue Nile is planned to have a total capacity of generating 6000 MW when it is fully operational. The construction will be finalized in 2015.

- The Ethiopian government is funding the entire project from domestic sources, including by getting money through selling bonds to the public.

# Wind Farms

- **The Ashegoda Wind Farm**, about 700 kms North of Addis Ababa has started generating 120 MW of electricity per year. It helps to start diversifying electricity generation, which would otherwise remain entirely from hydropower and thus susceptible to extreme weather events. Its construction was funded from both domestic and international sources.
- **The Adama Wind Farm**, which is also now operational, is about 80kms South of Addis Ababa. It produces 51MW of electricity per year.

# Geothermal

- As part of its plans to mix renewable energy sources in generating electricity and thus attain resilience against extreme weather events, Ethiopia has started constructing a geothermal electric power generating capacity of 1,000 MW per year in the Rift Valley. The first phase, which will produce 500 MW per year, will be completed in 2018. The second phase, which will generate another 500 MW per year, will be completed in 2021.

# Renewable Energy Projects

**Fuel Subsidy Reform**

- The Government of Ethiopia stopped fossil fuel subsidy in 2008.

**Biofuels**

- Since 2008,  5% ethanol and 95 % petrol had been being blended.
- Since 2011, 10 % ethanol and 90 % petrol are being blended.
- Ethanol blending with petrol is planned to reach 25% in the year 2015.