

# SOLAR ENERGY POTENTIALS IN NIGERIA

**Opportunities and Outlook**

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# Bloomfield & Ayodele Oni

Testing some of the new regulations



Supporting the Rural Electrification Agency



Ranked Amongst the Leading Energy Firms by  
Legal500, Who'sWhoLegal & Chambers



Advised the UK DfID as Senior Legal Consultant



Clients feedback is 'excellent quality of work and  
prompt delivery'

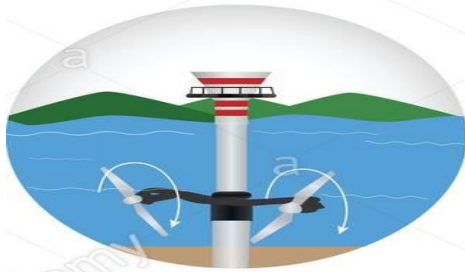
# Our Clients



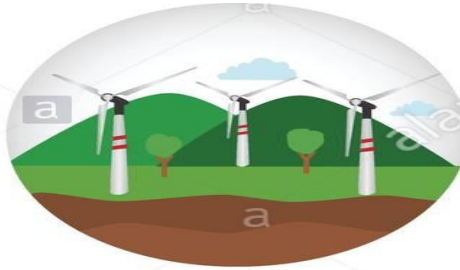
# Our Clients



# Nigeria's Renewable Energy Potential



Tidal Energy



Wind Energy



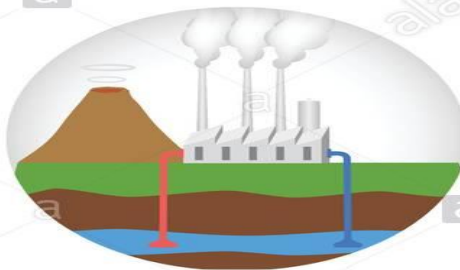
Solar Energy



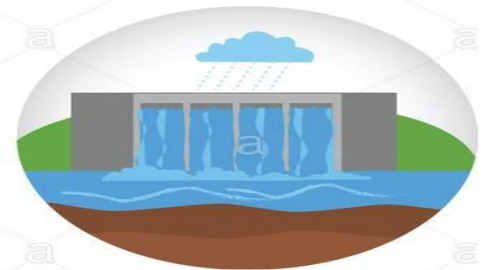
Renewable energy



Biomass Energy



Geothermal Energy



Hydroelectricity

# Nigeria's Renewable Energy Potential (Cont'd)



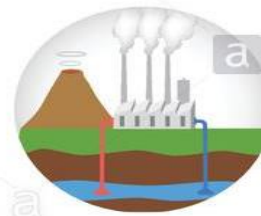
Solar Energy



Wind Energy



Tidal Energy



Geothermal Energy



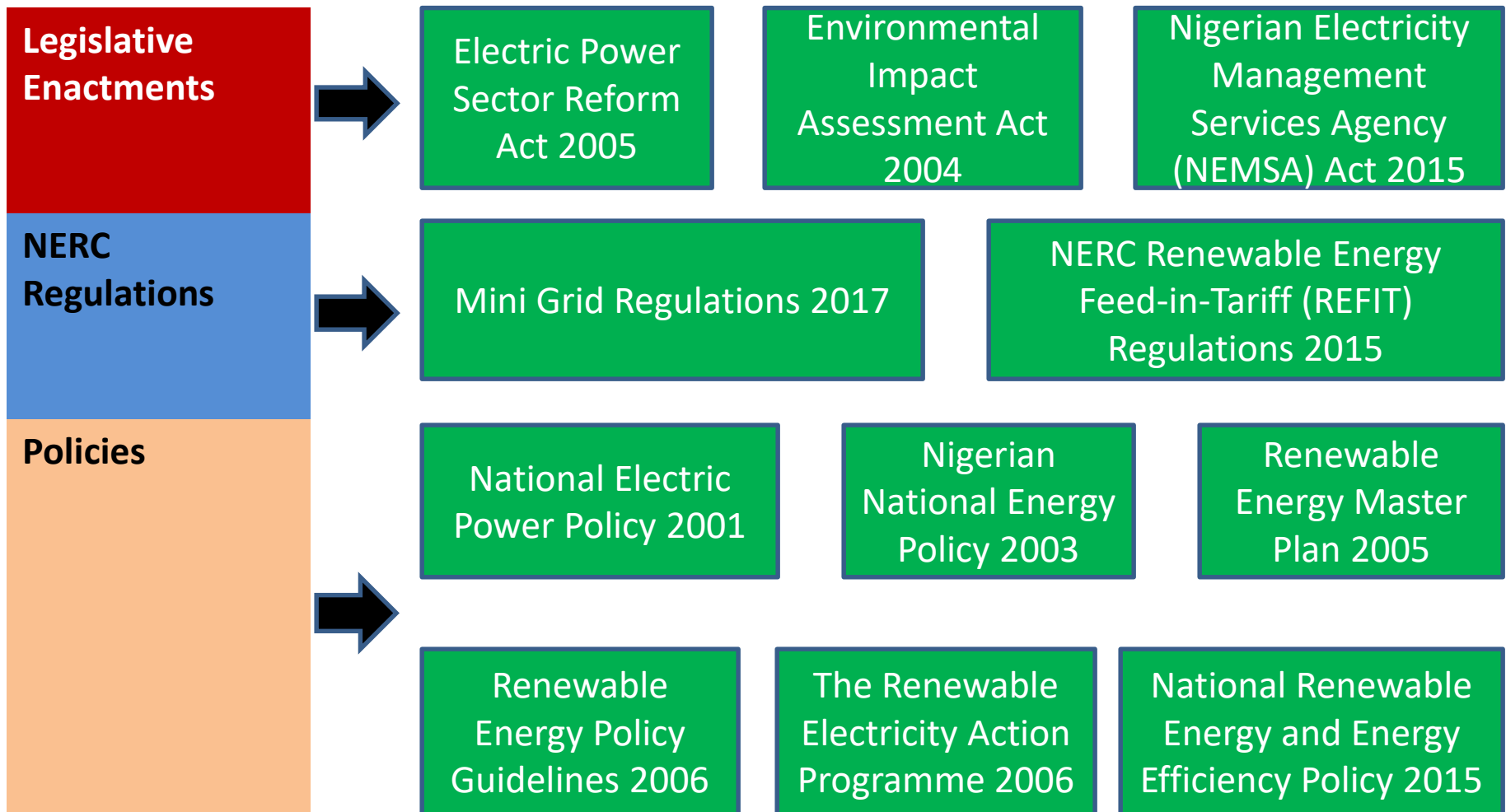
Hydroelectricity



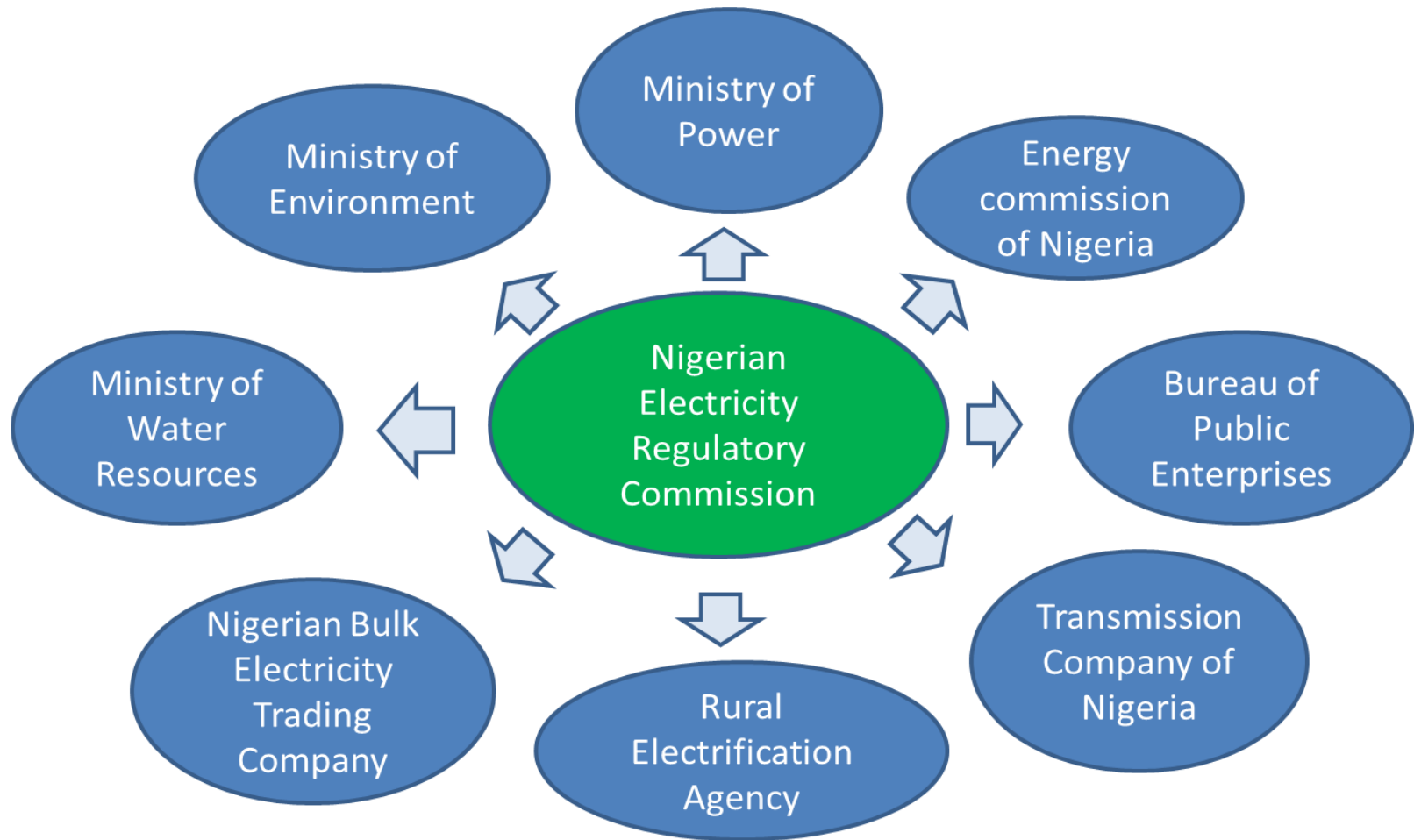
Biomass Energy

- Sun through photovoltaic cells or solar thermal concentrators. It is estimated that the technical potential of solar energy in Nigeria with a 5% device conversion efficiency is about  $1.50 \times 10^{18}$  J of useful energy annually which equates to about **258.62 million barrels** of oil equivalent annually, or  $4.11 \times 10^{10}$  liters of crude oil - which corresponds to the current national annual fossil fuel production in the country.
- This also amounts to about  $4.2 \times 10^5$  GWh of electricity production annually, or about 26 times the recent annual electricity production of 16,000 GWh in the country.
- According to Forbes magazine, by the year 2020, the cost of renewable energy will be cheaper globally than fossil fuels. According to the report published in 2017, the cost of solar PV electricity has fallen by 73% due to technological advancements in terms of durability of solar panels and batteries.
- Flowing from the above, it is pertinent that the country takes advantage of its natural resources and diversify our sources of electricity generation using solar and other renewables to boost economic growth.

# Key Policies & Regulations



# Key Regulatory Enablers For Renewable Energy





# Incentives

The NREEEP provides for free customs duties for two (2) years on the importation of equipment and materials used in renewable energy projects

The NREEEP provides for a five-year tax holiday on dividend incomes from investments on domestic renewable energy source



INCENTIVES

The NREEEP provides for up to a five-year tax holiday for manufacturers of equipment used in renewable projects from date of commencement of manufacturing

The NREEEP provides for grant of soft loans and special low interest loans from the power sector development fund for renewable energy supply

Plan is 30% of generation by 2030

# Where are we now



- In July 2016, 14 solar developers with a total capacity of 1125 mw executed PPA with NBET.
- Majority of the developers have posted their development security which is to act as security to ensure that the project developers reach financial close.
- It was expected that financial closure on these 14 PPA would have been achieved by the end of 2017. However this did not happen due to issues related to the Put Call Option Agreement.
- The Energizing Economies Initiative of the REA which seeks to increase energy access and economic growth by assisting private sector developers provide clean, reliable and affordable power to economic clusters across Nigeria.
- The Energizing Education Programme of the REA is a rural electrification initiative that seeks to develop off-grid independent power plant for generation of 89Mw to 37 universities and 7 teaching hospitals across Nigeria.
- These initiatives focus on the utilization of renewable energy (particularly solar) to achieve these objectives.

# Target Opportunities



Solar Energy has the potential to reduce the cost of electricity in Nigeria



Potential to improve rural electrification and overall output



Spurs economic growth through the creation of jobs



Solar Energy is environmentally friendly cutting our reliance on fossil fuels



Due to the huge power demand in Nigeria, solar developers would cash out due to very low opex involved

# Challenges & Solutions

Payment (Security, DFIs, internationalization)

Currency Fluctuations  
(hedges, structure, local partnerships)



INCENTIVES

The Grid (off-grids, solar homes systems)

Politics (long-term, engagement, right partner)

Policy volatility (experience, right advisors, long term planning)

**Thank you for listening**

