

CONTRIBUTION OF RENEWABLE ENERGY TO SOCIO-ECONOMIC DEVELOPMENT OF COMMUNITIES: KEY CHALLENGES AND POLICY IMPLICATIONS

**CSIR-SCIENCE AND TECHNOLOGY POLICY RESEARCH
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11th OCTOBER, 2017.

**3RD GHANA RENEWABLE ENERGY FAIR
*INTERNATIONAL CONFERENCE CENTRE, ACCRA***

OUTLINE

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CSIR MANDATE, VISION

Council for Scientific and Industrial Research (CSIR)

- Genesis of Council dates back to erstwhile National Research Council in 1958 & present by NLC Decree 293 of 1968 and re-established by CSIR Act 521 of 1996
- Established to coordinate scientific research in Ghana
- Core Mandate: S&T research of importance for development and for the service sectors to encourage close linkages with productive sectors of economy
- The Council's vision is using the transforming power of Science and Technology for wealth creation
- 13 institutes constitutes the CSIR

NATURE OF THE STUDY

- **Title:** *Socio-Economic and Environmental Transformation of African Communities through Renewable Energy: The case of Ghana*
- **Objective:** *Focusing on hydropower, solar, biofuels and wind as renewable energy source, this research examines the present and future potential forms, extent and impacts of deployment and adoption of renewable energy technologies as an alternative to fossil fuels on Ghana's socio-economic and environmental conditions.*
- **CSIR-STEPRI in collaboration with Human Sciences Research Council (HSRC)-South Africa.**

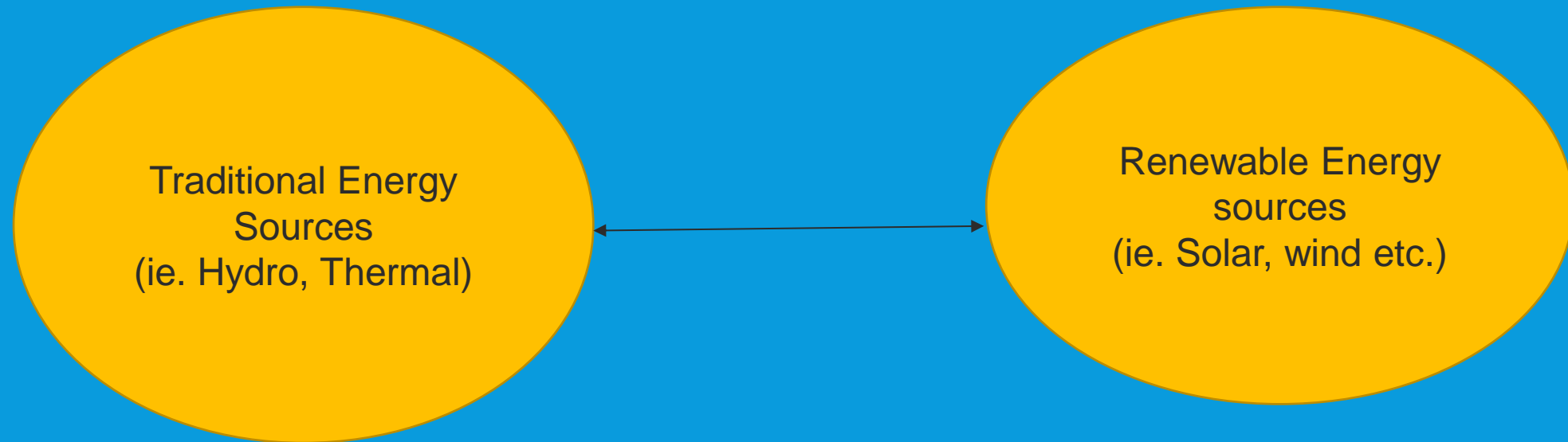
INTRODUCTION

Energy supports virtually all sectors of the Ghanaian economy.

- Africa (Ghana) is confronted with inadequate energy supply (particularly electricity). *i.e. Average 10-15 % electricity demand growth vs declining supply (Power et al.,2012).*
- Largely as a result of;
 - ✓ *Ageing production and distribution infrastructure of hydropower (Eshun and Amoako-Tuffour, 2016).*
 - ✓ *Climate change (i.e drought reducing water levels in reservoirs)*
 - ✓ *Growing and Urbanizing Population*

CONT'D

- Intensify diversification in energy production.



GOVERNMENT EFFORTS

- Ratification of Renewable Energy Act (Act 832)

Primary objective;

- *‘to provide for the development, management and utilization of renewable energy sources for the production of heat and power in an efficient and environmentally sustainable manner’.*

RE CONTRIBUTION IN GHANA

- **Economic-** *additional/new source of income*
- **Social-** *employment (RE value chain-local production ie. manufacturing and servicing)*
- **Environmental-** *climate change mitigation (SDG-7)*
- *What are the manifesting challenges?*

KEY CHALLENGES IN RE DEVELOPMENT

- **Land tenure system**
 - ✓ *Competition for land use (housing, other amenities vs RE installations)*
 - ✓ *Land use policy*
- **Bureaucracy** (*cumbersome licensing and permit*)
- **Certification regime weak-**(*open market, no certified installers ie. Installation of inferior RE technologies esp. solar*)
- **Unattractive guarantee-PPA**

POLICY IMPLICATIONS

Inability to attain targeted 10% RE in national energy mix by 2020 (SNEP 2006-2020)

- May hinder the National Climate Change Policy (2014) from realizing its vision of ensuring a climate-resilient and climate-compatible economy while achieving sustainable development through equitable low-carbon economic growth for Ghana
- Inability to meet SDG 7 (Affordable and Clean Energy) by 2030.
- Inability to meet the target of reducing demand on wood fuels from 72% to 50% by 2020
- May render the Industrial Policy (2011) that seeks to *provide adequate, efficient and cost effective electricity and water supplies* ineffective.
- Inability to meet energy(electricity) deficit.

CONCLUSION

- The Socio-economic and Environmental impacts from RE contribution are minimal.
- Most projects are at their infancy perhaps resulting in RE contributing barely 1% into the national energy mix.
- Fossil fuels still a dominant source of energy despite efforts made which are aimed at promoting RE in Ghana

RECOMMENDATION

- **Enforce Land use policy by making specific land designation for RE development/installations.**
- **Effective implementation of critical objectives of the Renewable Energy Act (ie. RE authority, RE Fund)**
- **Higher level of investment required to meet national target**
- **Strengthen collaboration with advance RE technology countries.**
- **Intensify education and promotion of RE Technologies**

THANK YOU

REFERENCES

- Eshun, M.E. and Amoako-Tuffour, J. (2016). A review of the trends in Ghana's power sector. *Energy, Sustainability and Society*, (5), pp-1-9.
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