



SHARING EXPERIENCES ON WATER- ENERGY NEXUS IN ACHIEVING THE SDGs IN GHANA

Doris Edem Agbevivi

Energy Analyst

Energy Commission

Water Energy



- **ALL SDGS ARE LINKED!!!**
- 90% power generation is water intensive
 - Electricity generation
 - Heat exchange through steam systems
 - Cooling etc.
 - Extraction
 - Production
- Water statistics indicate water needed for energy production was 16% in 2016 yet expected to rise to 35% by 2030
- Climate Variability
- Waste water as a potential source?
- Despite close linkages these two have independent sectors

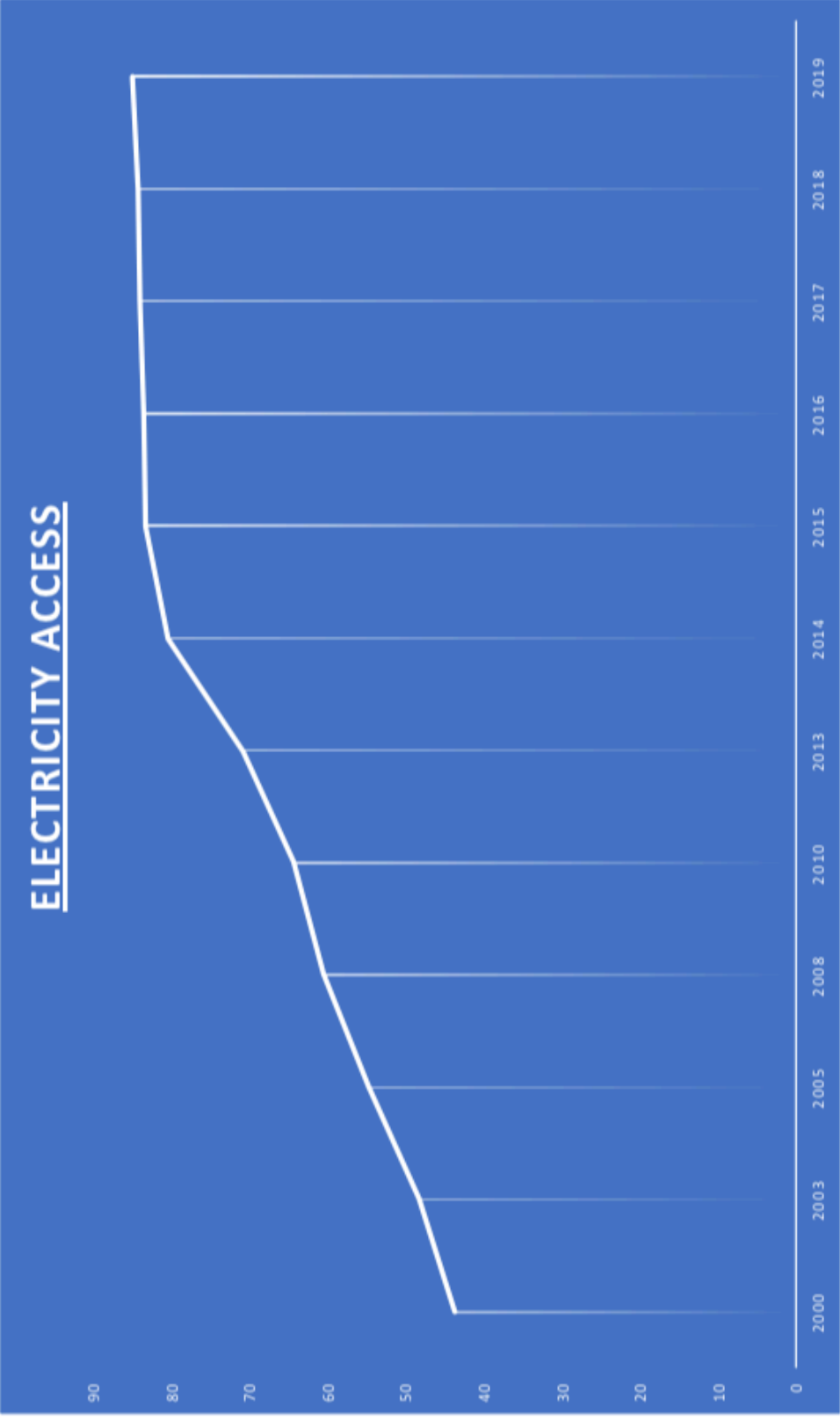
WHERE DO WE STAND?



•Ghana

• **Energy access 85% (2018)**

- Large-scale and small-scale grid connections
- Off-grid solar installations (*three solar powered mini-grid, capacity of 50kVA, would deliver green and sustainable electricity to about 300 households*)
- In 1988, the government collaborated with the utilities to connect all of the regions and districts in the country through the National Electrification Programme
- In 1989, the government established the National Electrification Fund and the Self-Help Electrification Programme (SHEP), which offered to connect communities within 20 km of the existing grid.



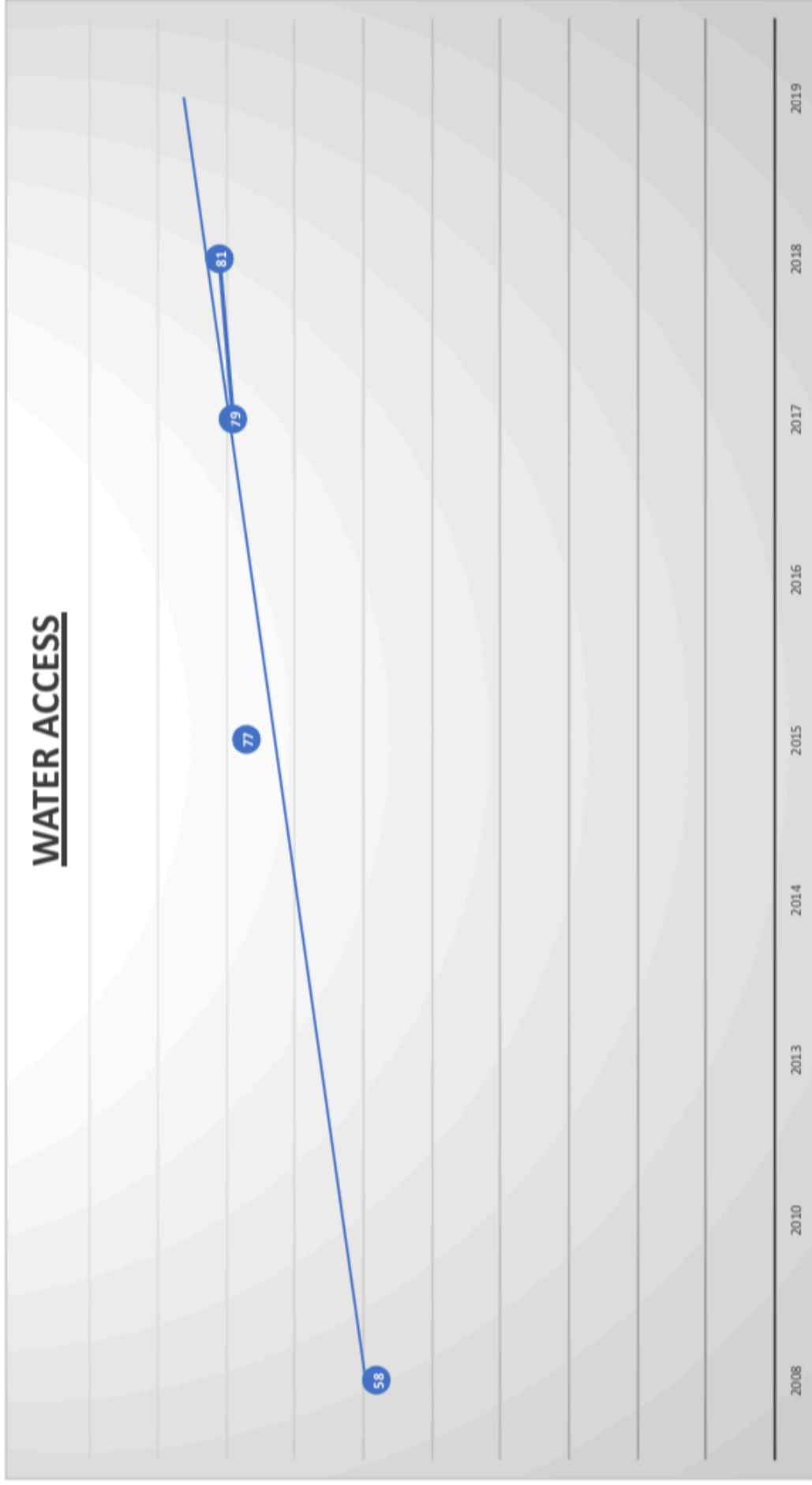


WHERE DO WE STAND?

- **Access to 81% (2017)**
- significant improvement in water coverage since 1990
- MDG target of 77% drinking water coverage was achieved in 2008
- groundwater technologies
- boreholes,
- hand-dug wells
- community pipe systems

Through separate initiatives

WATER ACCESS



Interlinkages between Goals 6 and 7



- The need to produce water as well as treat it depends on renewable energy in water production and treatment to bring down cost
- Achieving safe treatment of waste water and energy preferably renewable energy options

Safi Sana is a Dutch business that builds systems for generating energy from biological waste

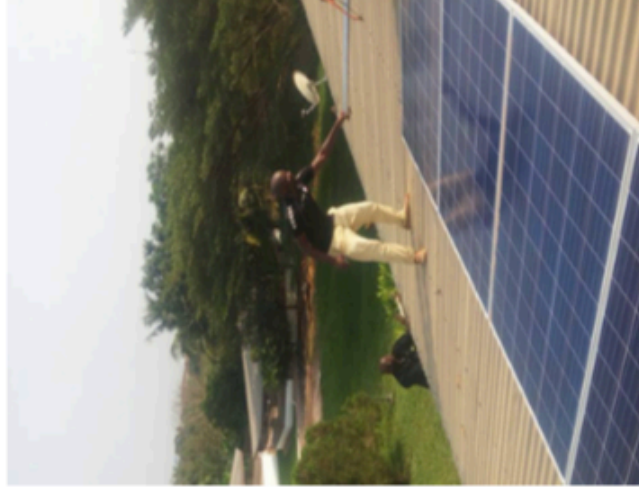
Success Stories

- VRA built solar powered water facility for the people of Volo in the North Tongu District of Ghana



Success Stories

- 2018 rollout of a national rooftop solar program aiming to install 200 MW of rooftop solar across the country.
- A total of **613** confirmed installations in the urban areas and **56** installations in rural off-grid households



Success Stories

- Some local Ghanaian projects that leverage energy-water include solar-powered water pumps as an alternative to piped water

Agriculture accounted for 80% of withdrawals in SSA



INFORMATION

Remember, you saw it on Reapp Ghana!

Success Stories

- Volta River Authority (VRA) 's 6.5MW Lawra solar power plant commissioned on 10th Oct, 2020



Completed 6.8MWp solar installation at Lawra in the Upper West Region of Ghana due for commissioning by HE the President on 10th October 2020.

Success Stories



- Like Korea, Government of Ghana gave approval to 1 MWp floating solar power plant on the reservoir of the Bui Dam
- ENI signed an MOU with the VRA aimed at developing solar energy projects on the Volta Lake through the deployment of floating solar energy technologies
- Construction of the Pwualugu Multipurpose power plant comprising 60MW hydro power hybridized with a 50MW solar plant by the VRA has also commenced.
- 45Kw micro-hydropower plant known as Tsatsadu Generating Station (TGS)
- Recent amendment bill to the Renewable Energy Act was passed in parliament in November



Leaving No One Behind

Access vs Affordability

- Basic services of energy, water and sanitation
- Access? How about affordability?
- Innovative water-energy services resulting from integrated approaches provide effective ways to expand water access while using clean sources of energy.
- Sustainable water and energy solutions are needed to support nations in their fights against health crises such as COVID-19?

In Ghana:

- The government in April this year announced the reduction of electricity tariffs by half and provision of potable water for free to all Ghanaians for the months of April, May and June to make up for lost income as a result of the COVID-19 pandemic.

Way Forward



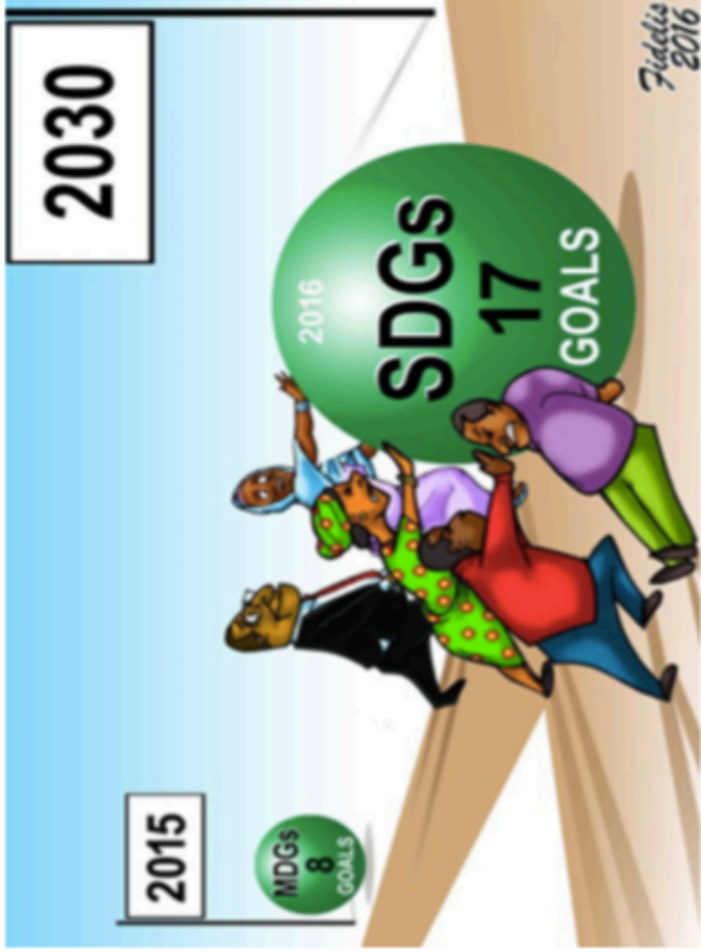
- Priority in investments that promote the two sectors e.g Solar powered irrigation
- An integrated approach to these two sectors both in policy and investment decisions
- Inter-ministerial/sectoral representation on projects and involving local assemblies
- Addressing data gaps and encouraging data use in a harmonized water-energy ecosystem
- Local initiatives require national frameworks to support them, national policies can benefit from supportive global goals such as the SDGs and forums like like and more

Water and energy Nexus is very strong (Fatima Denton, UNECA)



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Thank
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