

Funding the Climate Fix: Smart Investments for a Sustainable Future

International Youth Nuclear Congress

The panel will explore how smart financing can accelerate real climate solutions — from nuclear energy to renewables, efficiency, and emerging technologies — and how better funding strategies can empower youth voices in shaping a sustainable future.

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3pm UTC, 5 pm CET



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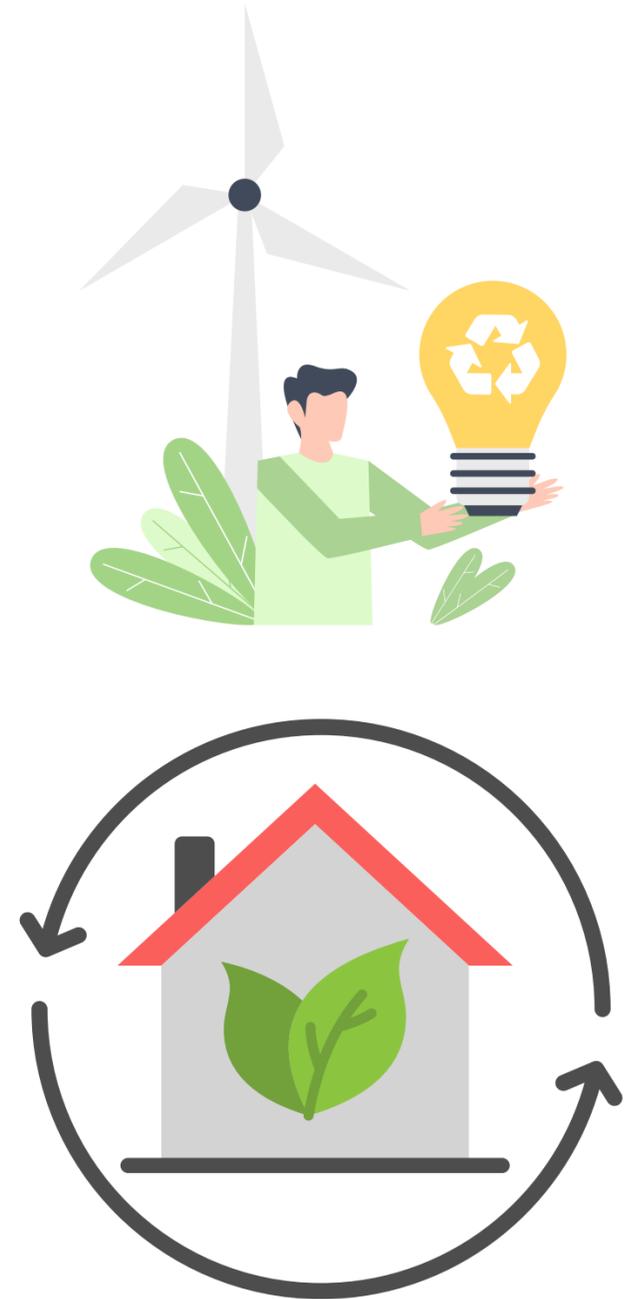
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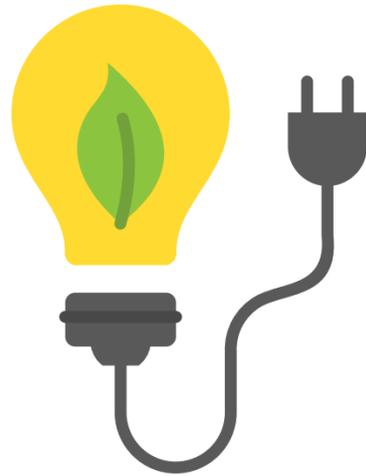
- 1 Technology transfer
- 2 Digital finance
- 3 Public-private partnerships



1

Technology Transfer to Support Clean Energy Deployment

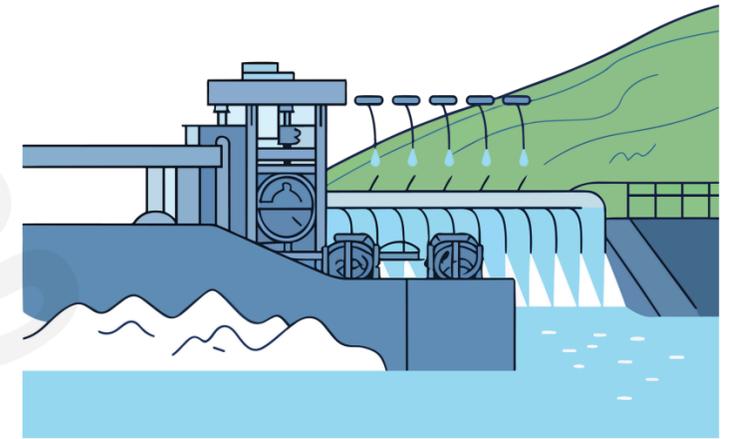
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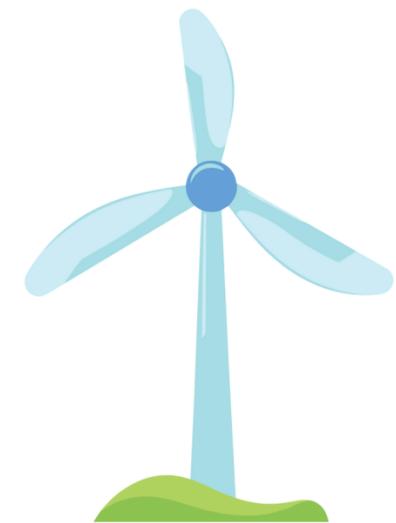
Solar Photovoltaic (PV)



Shaibu Ibrahim, PE, PMP, NABCEP PVIP



Hydropower



Wind

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What do we mean by technology transfer?

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According to the UNFCCC

1992

when countries established the
Convention:

Tech. transfer was a critical part of
achieving their goal of reducing
emissions from GHGs

Especially developed countries, should take
all practicable steps to transfer climate
technologies to developing countries



transfer of or access

to ...

climate technologies

How can we transfer technology to support clean energy deployment?



Transferring technical know-how or intellectual property from labs or research institutions to developers



Building local capacity is more sustainable



Key Financing mechanism

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Grants or competitive awards



This can provide upfront capital to developers

Reducing early financial burden and technical risk

Finance with Debt/equity

This can help structure cash flows and risk

Prove technology and establish project

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Challenges of financial technology transfer

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Technology risk, especially new deployments, may fail or underperform



Lack of skilled workforce, especially in developing countries



Intellectual property or licensing is not easily shared



Regulatory or policy risk - clean energy suffers if supportive policies like incentives are taken away



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Digital Finance in Accelerating Smart Energy Solutions

Mobile payments

User friendly and quick payment solutions



Blockchain

Easy for consumers to sell securely and automatically. Eg. net-metering



Digital Finance in Accelerating Smart Energy Solutions

Digital wallets and pay-as-you-go (PAYGo):

Allow households to afford clean energy in small installments



Tokenized energy credits:

Reward consumers for reducing energy usage during peak hours

Benefits of Digital Finance

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According to the World Bank's Energy Sector Management Assistance Program (ESMAP, 2023),

 digital financial services have already accelerated clean-energy adoption in over 40 developing markets by

 reducing payment friction and enabling micro-investments.



International Renewable Energy Agency (IRENA, 2022) highlights that

 blockchain and digital tokens could unlock \$1.1 trillion in distributed renewable energy investments by 2030.

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Benefits of Digital Finance

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World Bank (2024) reports that



digital payments have reduced the cost of energy access



by 30–50% compared to traditional financing channels.

Deloitte (2023) emphasizes that integrating fintech with IoT-based grid management can



reduce utility operational costs by up to 20% while enhancing customer engagement.

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OECD (2023) and UNDP (2024) highlight that digital financial ecosystems can

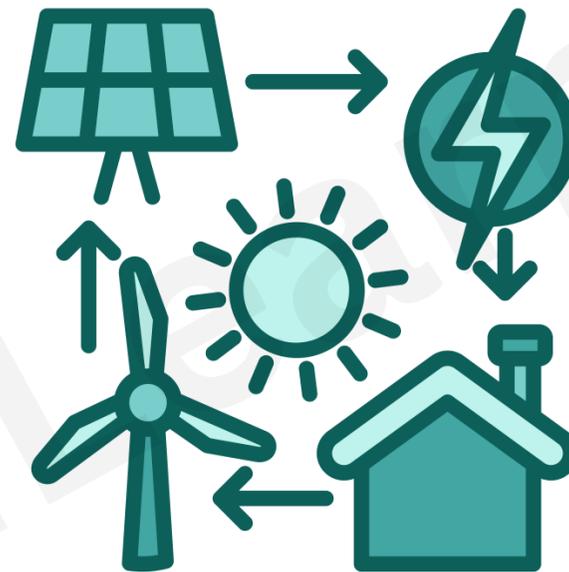
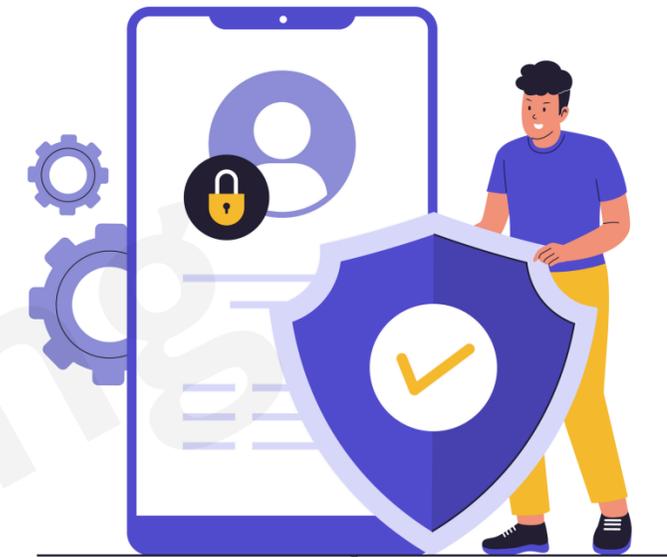


mobilize \$2.5 trillion annually toward climate and energy goals by 2030.

3

Leverage Public-Private Partnership to Fund Smart Grid Projects

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The public sector provides:

policy support

regulatory stability

The private sector contributes

capital

innovation

productivity

efficiency

Utilities & academia

technical performance
grid reliability

Why is PPPs important to Smart Grid Projects



According to the International Energy Agency (IEA, 2024),

over \$500 billion in new investment is needed annually to modernize transmission and distribution infrastructure

an amount only achievable through blended financing models like PPPs.



huge financial burden

Models for PPP-based Smart Grid Projects

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Build-Operate-Transfer (BOT)

A private entity builds and operates the smart grid or substation for a defined period before transferring it to the government.

India's Green Energy Corridor projects use BOT-style models for transmission modernization.

Design-Build-Finance-Operate (DBFO)

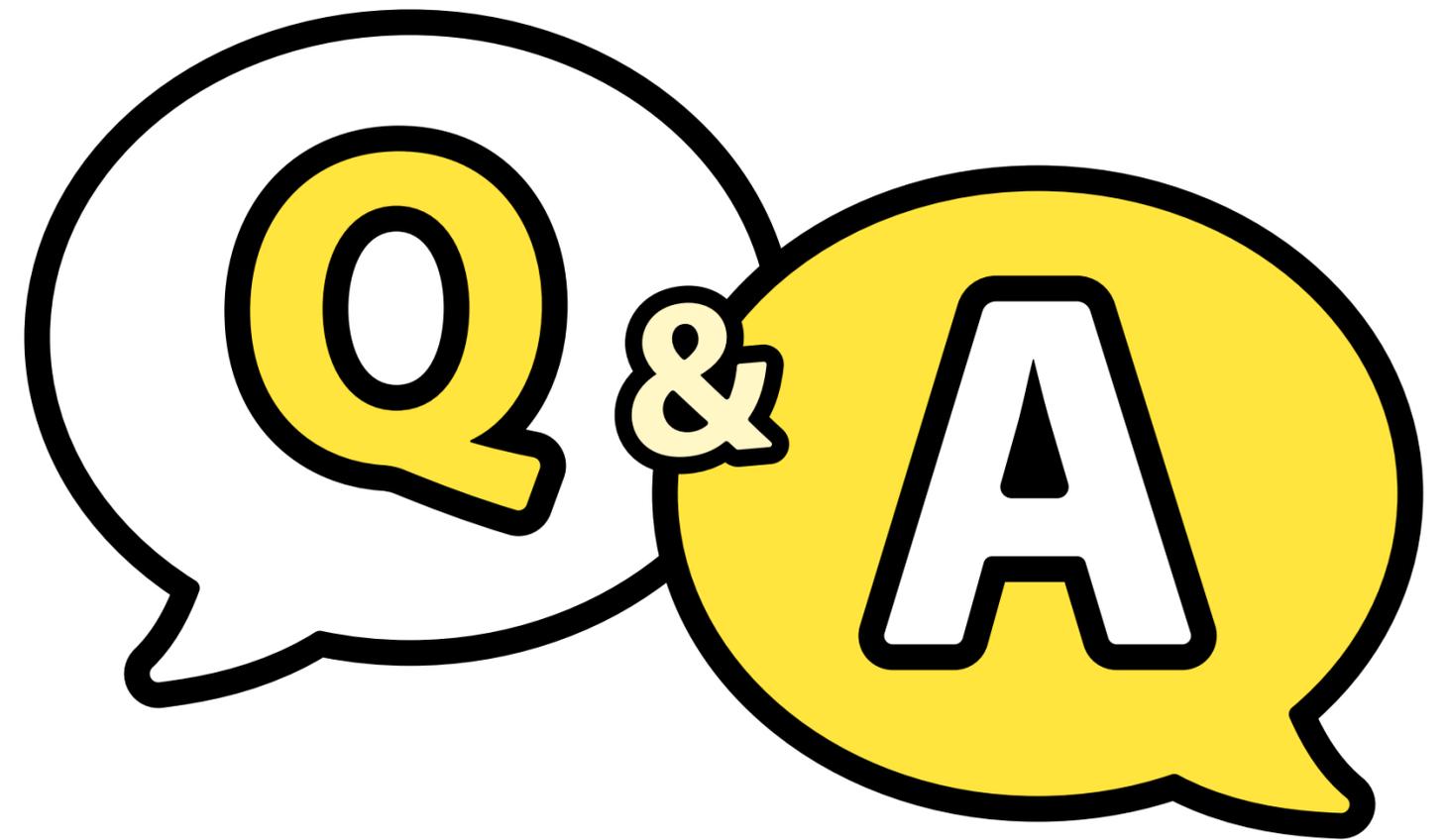
Private partners design, finance, and run the system while revenue is shared with the public entity.

U.K.'s electricity distribution networks used DBFO models for smart meter rollouts.

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THANK
YOU!

Feel free to ask a question, or
your suggestions are
appreciated



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