Federal Ministry
for Economic Cooperation
and Development

Challenges to provide energy access – global perspective

Daniela Krahl, BMZ division 423 energy, urban develpment, mobility

Digital Development Dialog – Georg-August-Universität Göttingen
24. April, 15.00 bis 15.45 Uhr (virtuell)

Access to energy – a global sustainable development goal

- **Universal access to energy** is one core topic of the UN Charta 2030 for Sustainable Development – embedded in the Sustainable Development Goal (SDG) 7.
- **Development levers**: Access to affordable and clean energy is key to achieving the SDG 7 and other SDGs regarding, e.g. poverty, health, education or economy.
- Access to power is **predominantly a rural issue:** eight out of ten people without access to electricity live in rural, low-density areas.
- energy access includes access to electricity and access to clean cooking energy.
- **Centralised energy supply** refers to the existence of a centrally regulated electricity grid (often the case in densely populated areas) whereas **decentralised energy supply** refers to energy supply through offgrid solutions (like mini grids, solar appliances, etc.) which is often the case in rural and low-density areas.

Energy poverty and current developments (1)

Characteristics of energy poverty

- Loss of economic revenues: no electricity for machinery or digital services means businesses are impacted
- Civil society / household level: no lights affect education and household productivity in the evening and using traditional biomass causes unproductivity and health problems

Global developments

- In 2022, 685 mil. people (8.6 % of the world's population) are without access to electricity, 570 mil. of them live in sub-Saharan Africa, others in Asia, Northern Afrika and Latin America/Caribbean.
- After two decades with major achievements, access to electricity recently experienced a setback due to global shocks and increased extreme weather phenomenon's.
- Without additional efforts and measures by governments, financial and private sector, around 660 mil. people, would still live in the dark by 2030.

Current developments (2)

ECONOMICAL ASPECTS

- In many cases, decentralised energy is the most cost-effective solution.
- Public finances are burdened by state subsidies that are intended to make energy more affordable. This can contribute to rising public debt. At the same time, the subsidies contribute to a distortion of end consumer tariffs, which are decoupled from the true costs.
- Low per capita electricity consumption and low ability of potential consumers to pay, - not attractive for investments of the private sector.

TECHNICAL ASPECTS

- photovoltaics and storage solutions are opening up new technical possibilities and business models. But political and regulatory frameworks often fail to keep pace with this dynamic.
- off-grid systems play a key role in improving energy access, particularly in rural and peri-urban areas.

Challenges in achieving universal access to electricity

- Infrastructure deficits
- Political-economic barriers
- Financial constraints
- Technological requirements and issues
- Private sector limitations

Centralised vs. decentralised approach

- **Decentralised energy supply** (e.g. mini-grids or offgrid standalone systems like solar home systems) can often be the most cost-effective solution, particularly in less populated or off-grid regions, whereas **centralised solutions** (grid expansion) are often suitable in densely populated areas. Where technically feasible and economically viable, grid-based solutions should be favoured for reasons of security of supply and system resilience.
- From a climate perspective, a **decentralised energy supply based on renewable energies** is also an important pillar of a just energy transition that particularly supports the social dimension and which 'leaves no one behind'.
- **Integral approach needed:** To reach universal access to electricity, it is important that decentralised and centralised power supply are considered together. Societal, economic, technical and social aspects (including gender aspects) must be taken into account.

bmz.de

International programmes and initiatives

Group of Seven

G20

The Paris Agreement and the Nationally Determined Contributions

UN Sustainable development goals

AEGEI
(Africa-EU Green Energy Initiative)

African Union

European Commission

ESMAP / Worldbank

ESMAP
Energy Sector Management Assistance Program

PLUS: ASCENT (Accelerating Sustainable & Clean Energy Access Transformation Program)

AfDB / SEFA

Sustainable Energy Fund for Africa

SEforALL

SUSTAINABLE ENERGY FOR ALL

GEAPP

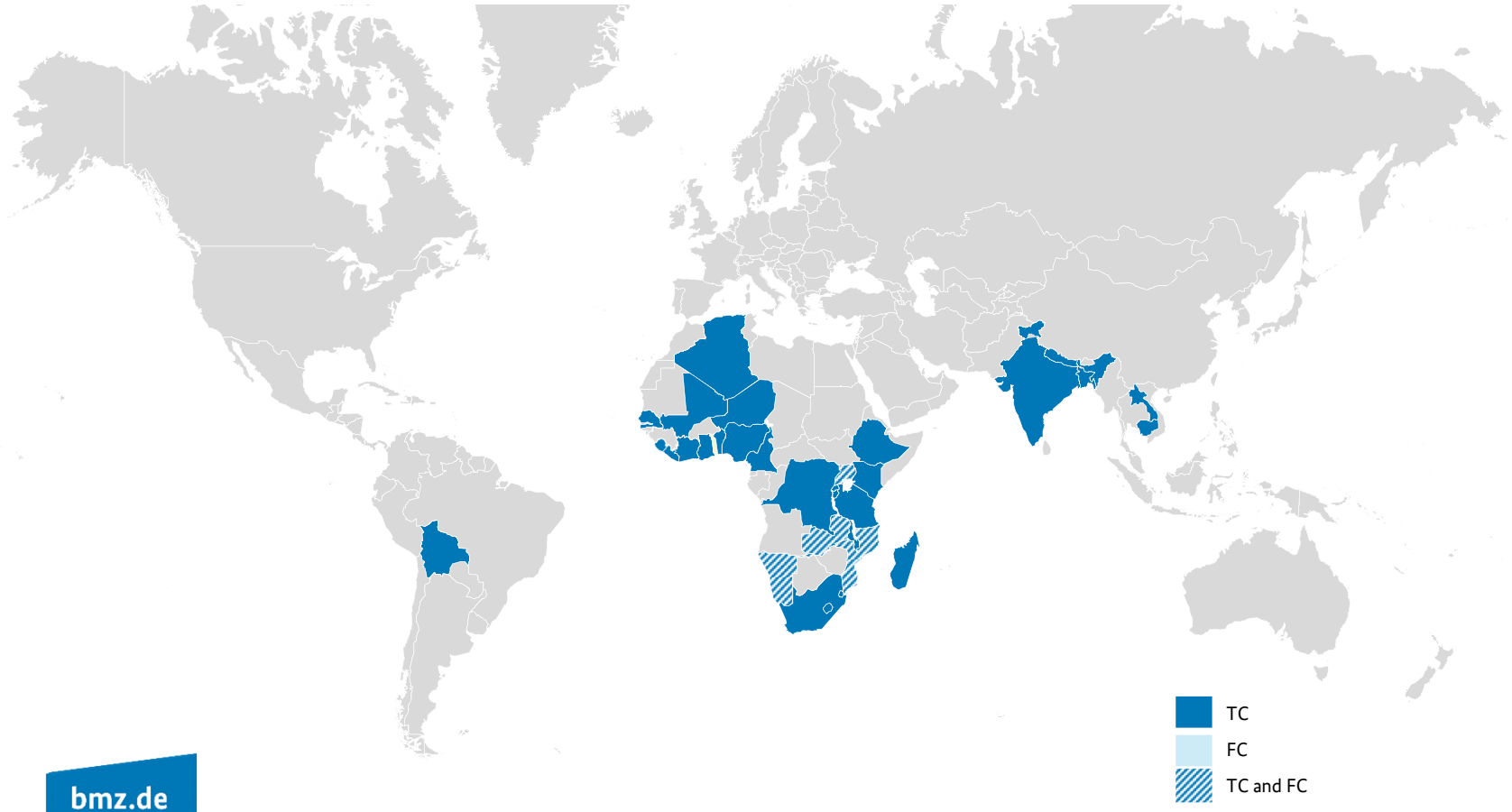
Global Energy Alliance for People and Planet
GEAPP

CCA

CLEAN COOKING ALLIANCE

bmz.de

Access to energy - BMZ portfolio



bmz.de

Summary and outlook: challenges

Political and regulatory framework conditions: Insufficient national energy planning and electrification strategies

Project preparation:

- Poor data availability, resulting in a high effort for data collection. This has led to inadequate preliminary studies and overly optimistic calculations of electricity demand.
- Lengthy project preparation, due to slow bureaucratic processes or a lack of reliability in decisions and missing planning security.

Involvement of the private sector: Inadequate engagement and limited capacities

Financing

- Low creditworthiness of many local actors resulting in a lack of access to capital
- Pre-financing of infrastructure construction by local firms (but also somewhat difficult for international firms).
- Lack of access to suitable financing mechanisms, both for facility operators and for customers

Business models

- Low purchasing power and low electricity consumption of rural customers
- Unsustainable operating models for facilities, for example, because operation, maintenance, and spare parts procurement are not adequately considered for long-term operations

Skilled workforce and training: Lack of training programs

Summary and outlook: the way forward

- Focus on integrated energy planning to enable a cost efficient and demand oriented electrification.
- Consider dynamic development, allowing new business cases
- Consider leverage effecto of energy as pre-condition for economic and social development, especially via productive use and sector cupling.
- Focus on access to finance to mobilize private sector
- Consider capacities of private sector and direct development via grants
- Engage in new cooperations with multilateral partners
- Closely connect TC and FC
- Consider fragility as increasing risk during set up of project.
- Support development of capacities in the regions for implementation

bmz.de

Summary and outlook

- Target: universal energy access until 2030 (SDG 7)

Contact

Daniela Krahl

Federal ministry for economic development and cooperation
Dahlmannstr. 4
53175 Bonn

Daniela.Krahl@bmz.bund.de
www.bundesregierung.de

Tel. +49 228 99 535 3433

Federal Ministry
for Economic Cooperation
and Development