

# Key industry and technology trends to foster the integration of remote communities

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Alliance for  
Rural  
Electrification

*Shining a Light for Progress*

# Who we are



The [Alliance for Rural Electrification \(ARE\)](#) is an international business association with the aim to promote a sustainable decentralised renewable energy industry for the 21st century, activating markets for affordable energy services, and creating local jobs and inclusive economies.

ARE currently unites 130+ committed and passionate companies active worldwide. Find out more about which ARE Members are active where with the [ARE Off-grid Matchmaking Platform](#).

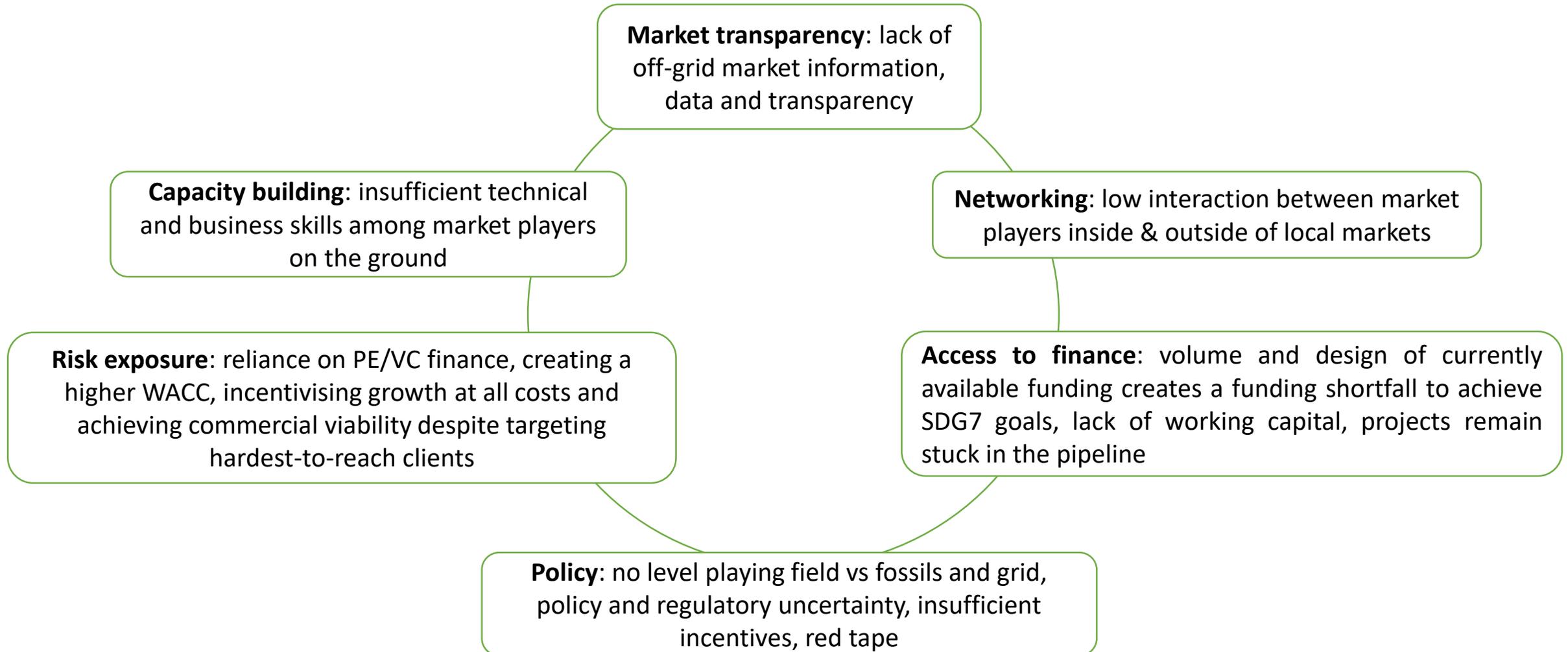
It is the vision of ARE that by 2030, everyone in the world and in particular all rural populations in low- and medium-income countries should have **access to affordable, secure and clean energy and energy services**.

[ARE Factsheet](#)

# ARE Members



# Key challenges faced by islands and remote areas



# ARE Case Studies

# Ensol - 50 kW Solar Hybrid Electrification (Tanzania)

## Challenge:

To shift the energy production practices from Kerosene-based to RE in Mpale village, Korogwe, Tanga (Tanzania).

## Solution:

The project deployed a 48 kW solar hybrid mini-grid that generates AC 3-phase electricity via a 5 km low voltage distribution line. High quality deep cycle batteries provide 265 kWh storage capacity, together with a 50 kVA back-up genset to guarantee 24/7 uninterrupted service to customers.

## Project Outcome:

102 out of the 250 customers have electricity connections. 30 new businesses established due to availability of electricity. 24/7 healthcare facility was made possible, direct and indirect employment created. Further 15 villages are identified for project replication.



# Mlinda - Solar mini-grids for off-grid rural markets (India)

## **Challenge:**

To shift from polluting diesel gensets with inflating oil prices and kerosene-based practices for energy access to RE in the local markets sizing 20 – 300 shops in the Sundarbans West Bengal, India.

## **Solution:**

Mlinda designed and developed the solar mini-grids for the market space by completely giving up diesel and switch over to a solar facility. Mlinda conducted in-depth assessment on load profiling, existing diesel tariffs and paying capacities of the shop owners.

## **Project Outcome:**

The systems now are owned, run and managed by the local rural entrepreneurs. Mlinda acts as the overall integrator of the ecosystem, building the capacities of the local entrepreneur as well as taking care of the local repair and maintenance. This switch to a solar-based mini-grid results in minimum savings of INR 1,000 (EUR 12.50) per month.

MLINDA



Source: MLINDA

# acciona.org Foundation - A New Electricity Delivery Model for the Isolated Communities of the Rainforest

## Challenge:

To provide power to the remote communities where the low power demand (about 3.6 kWh monthly per household) makes the grid extension not economically viable in Amazonia, Brazil.

## Solution:

The acciona.org Foundation implemented “Luz en Casa Amazonia” on site to supply third generation solar home systems (3GSHS) with a pay-as-you go system (PAYG), including one 50 W panel, one integrated Lithium-battery & controller with a pay-as-yougo system (PAYG), two LED lamps, one torch and connections for high-efficient 12 VDC devices, in order to give an affordable, basic electricity service to remote, low-income communities.

## Project Outcome:

The beneficiary of the pilot project in the Napo basin, use the electric lighting provided with the 3GSHS of “Luz en Casa Amazonia” for an average of six hours daily. The main uses for that lighting are study (67%), work (43%) and preparation of meals (21%). Replication with 3GSHS strategies is being negotiated to be included in the Peruvian regulatory framework.



Source: Acciona

# Ankur Scientific - Biomass gasifier for rural electrification in Thakurwadi, Maharashtra (India)

## Challenge:

To provide electricity to around 100 houses in Thakurwadi (Tribal area) in Maharashtra, India.

## Solution:

Ankur Scientific supplied, installed and commissioned the Biomass Gasification System with suitable 100% producer gas genset of 10 kW rating and provided training to the local villagers for them to operate and maintain the plant smoothly.

The biomass solution was chosen because of local availability of woody biomass, power demand, and ease of operation.

## Project Outcome:

Energy access in the Thakurwadi area realised and it helped introduce small scale economic activities and offer them better standard to living. Wealth generation from the biomass waste, CO<sub>2</sub> emission reduction achieved as the waste biomass is being used for electricity production, with rural entrepreneurship activities being developed.



Source: Ankur

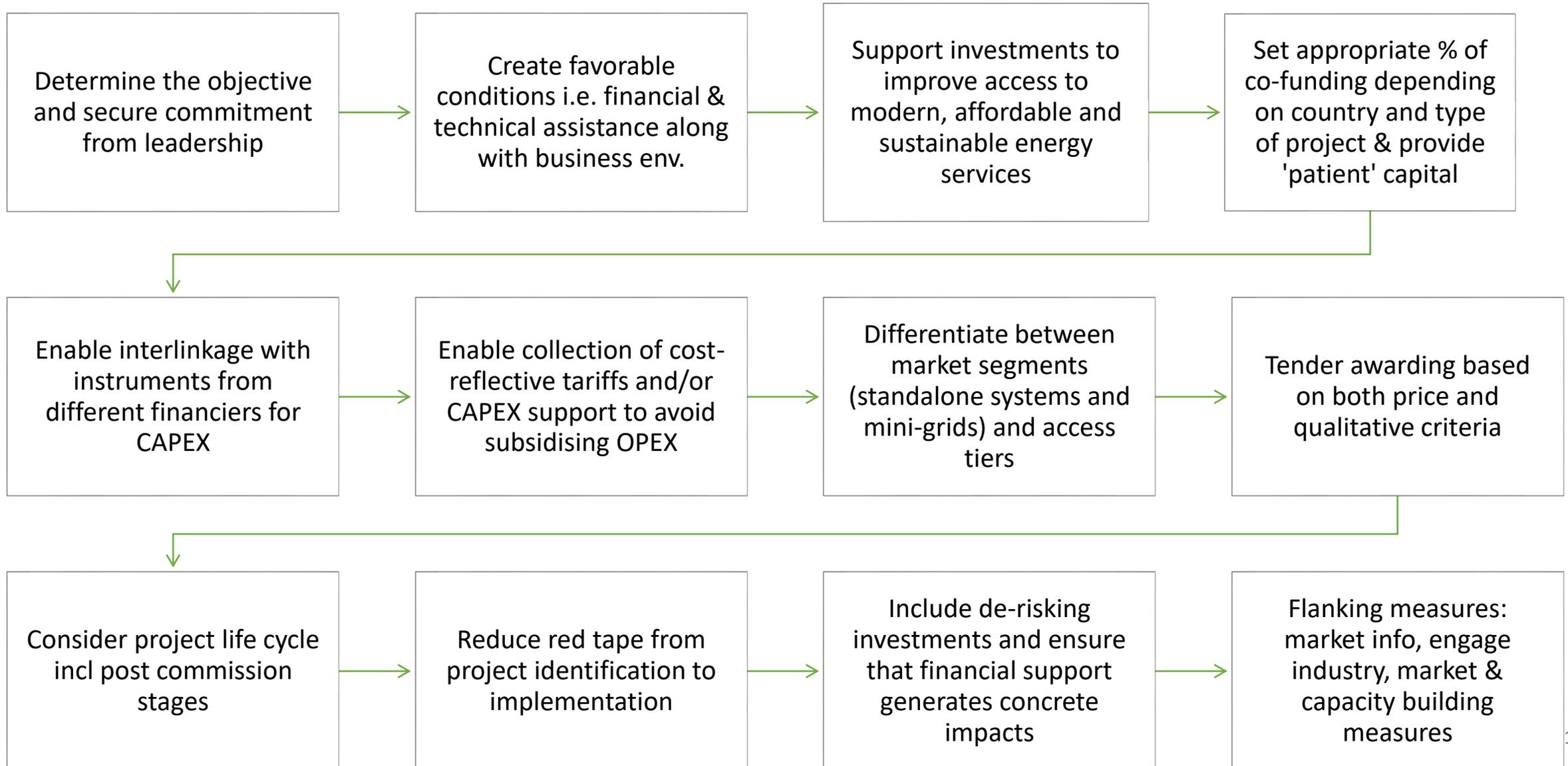
## Sustainable Business Models - characteristics

- Commercial, scalable and replicable model
- Addresses affordability levels of the end user (pay-as-you-go, fee for service...)
- Integrated capacity building (training and development)
- Manages risks and governance structure
- Financial sustainability within mid and long term
- Local management and maintenance
- High socio-economic impact at the local level
- Anchored within the communities
- Operational excellence
- Flexibility to adapt to evolving regulatory framework



Source: FRES

# Recommendations for policymakers



Looking forward to meeting you at:

- [ECOWAS Sustainable Energy Forum 2019](#) (Accra, Ghana, 22-24 Oct 2019)
- [ARE Energy Access Investment Forum 2020](#) (Lusaka, Zambia, 18-19 Mar 2020)

## Alliance for Rural Electrification

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ARE offsets its travel-related CO<sub>2</sub> emissions



## Get involved, the time is now

### Why should you get engaged?

- Huge market and demand
- Huge renewable energy potential
- Huge relevance of independent solutions based on decentralised renewable energy («off-grid»)
- Just makes sense from a business and CSR point of view

### How can you get engaged? Get in touch with ARE!

- Find partners to implement your project
- Linking financiers with project developers
- Realise your CSR objectives and showcase your green efforts
- Help us advocate decentralised RE generation in developing countries

