Accelerating Off-grid renewable energy deployment

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IRENA

IRENA Legislators Forum

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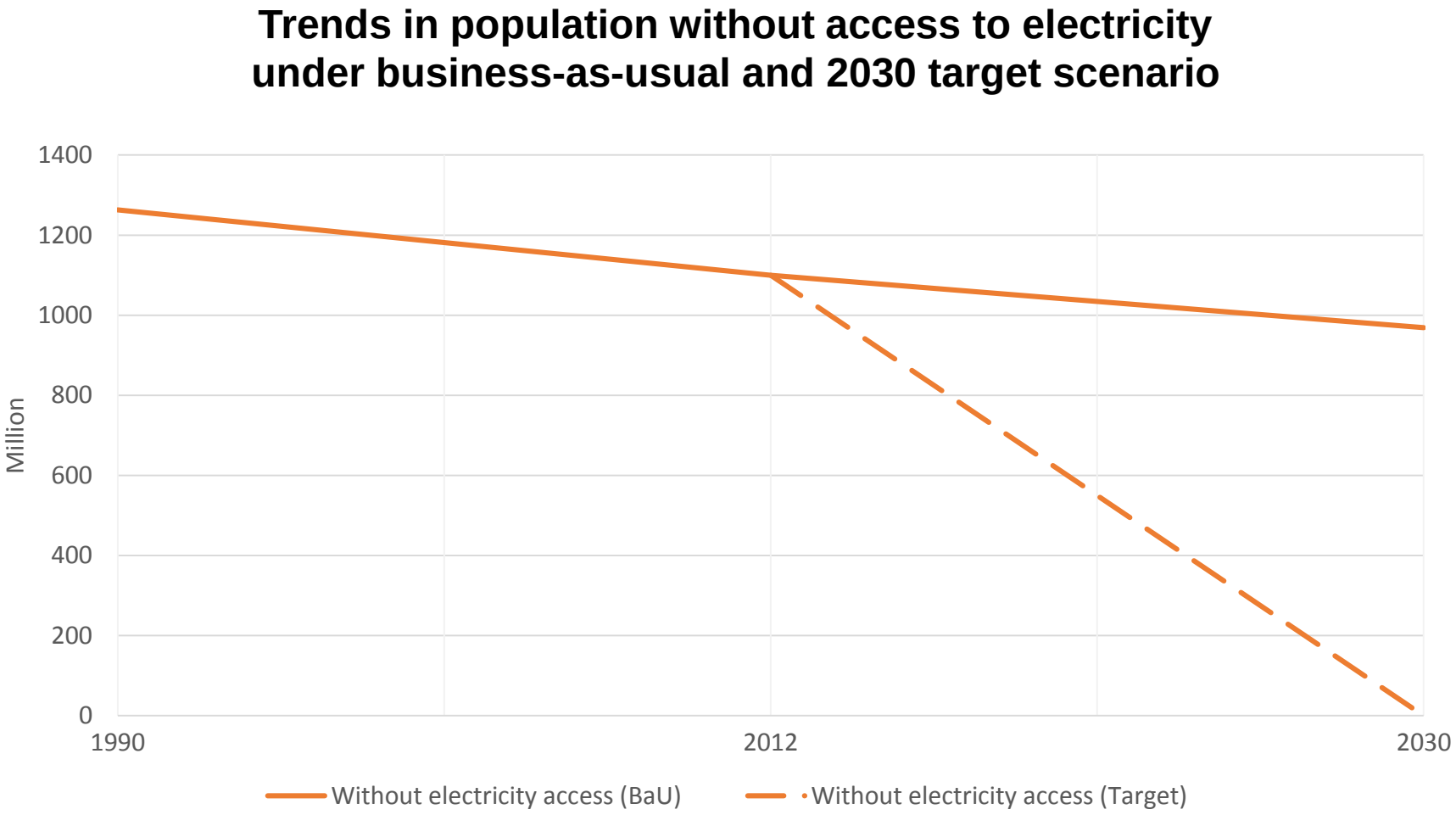
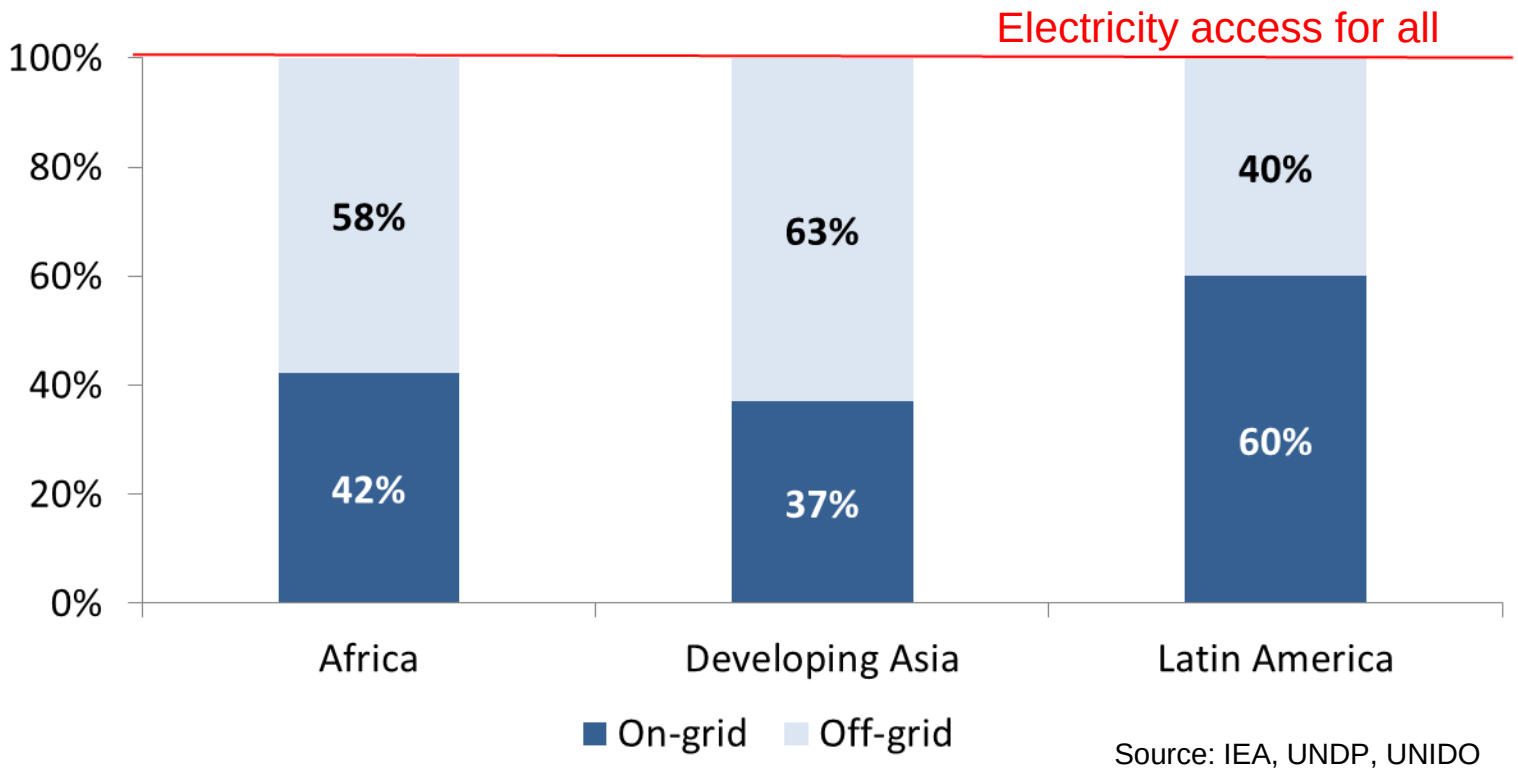
Extending electricity access: Business as Usual



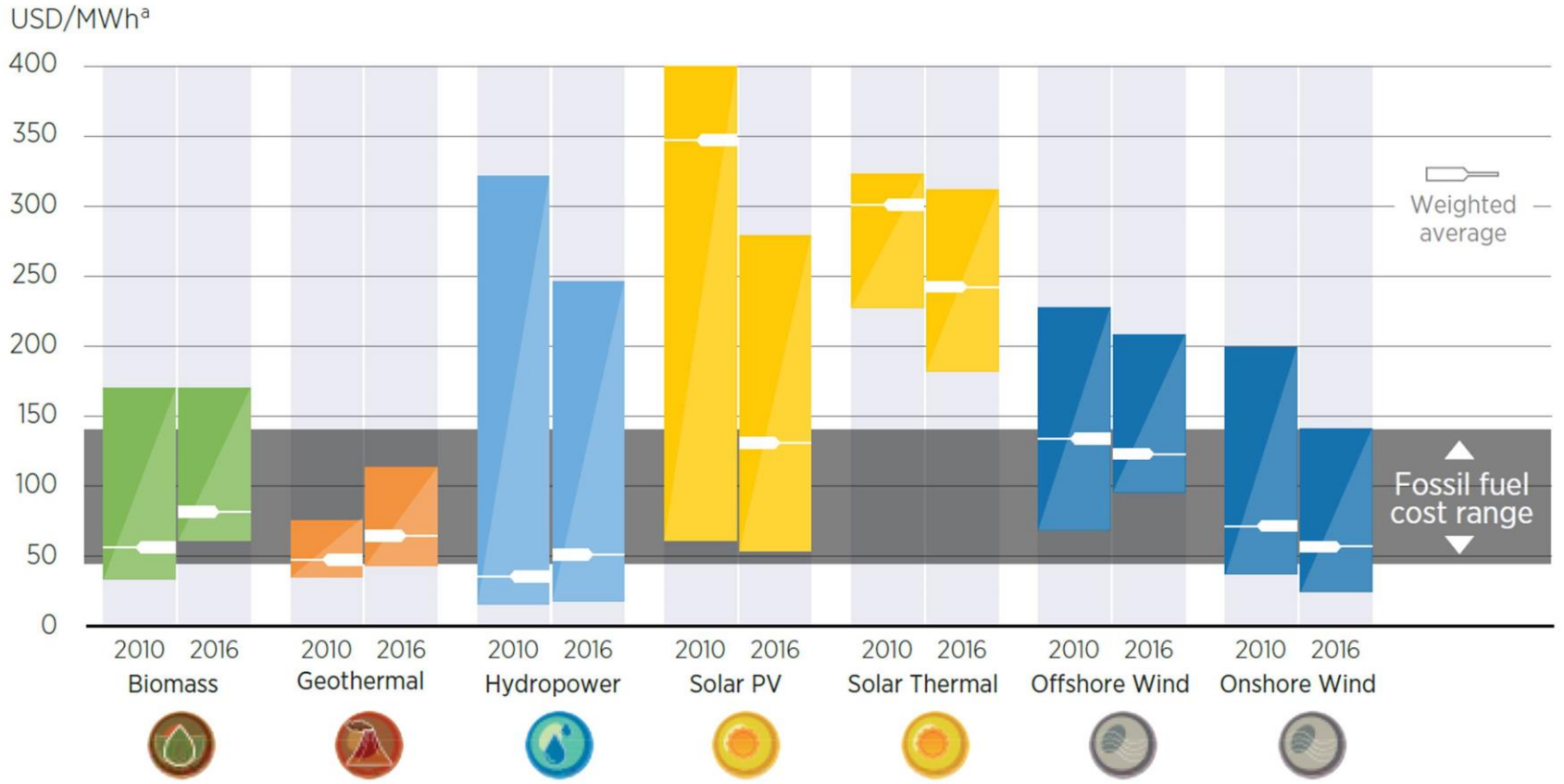
Diversifying approaches: Off-grid technology

Nearly 60% of additional generation required to achieve universal electricity access by 2030 is estimated to come from off-grid installations (stand-alone and mini-grids)



Source: IEA, UNDP, UNIDO (2010)

Off-grid renewable energy technologies: An opportunity



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Off-grid renewable energy systems: The strengthening case

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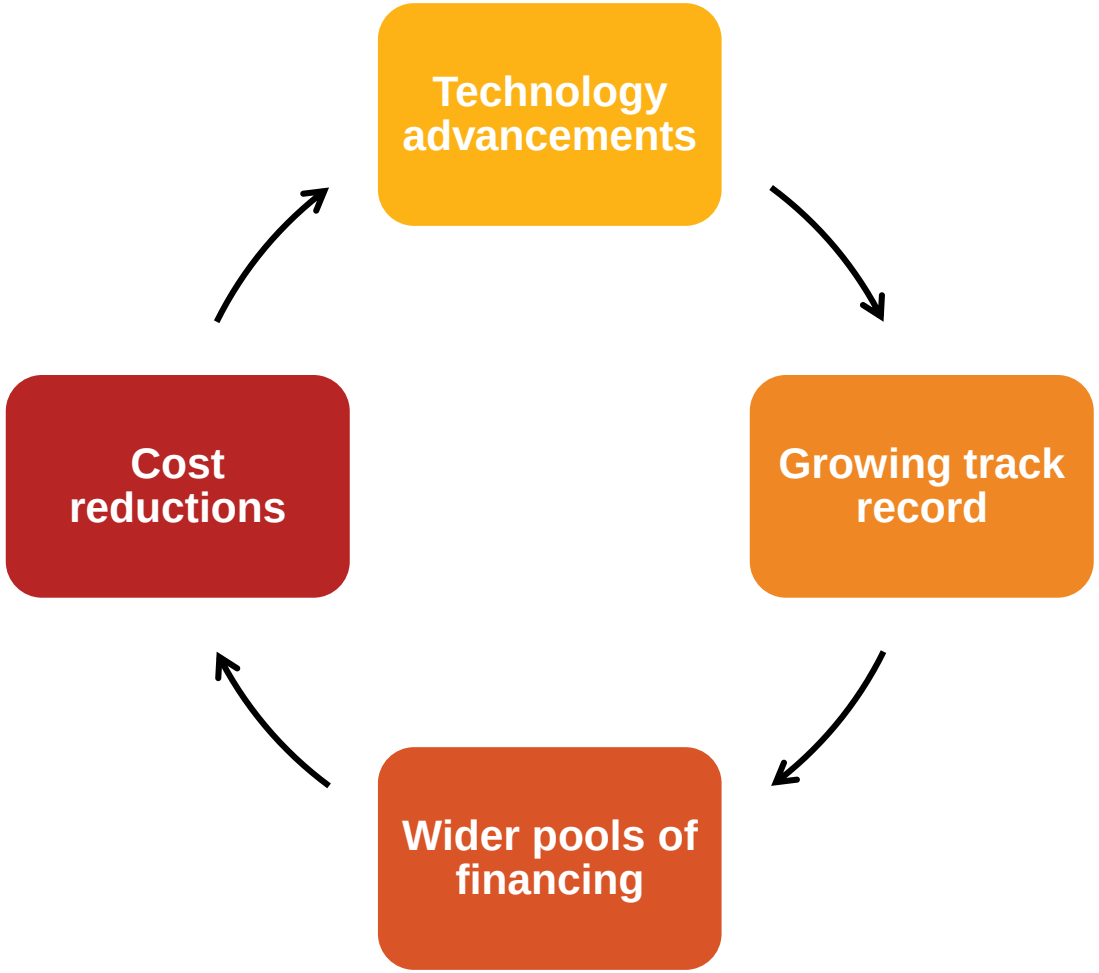

How do we accelerate the deployment of off-grid renewable energy systems?

Scaling-up renewable energy mini-grid deployment : IOREC Platform

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IOREC
International Off-Grid Renewable Energy Conference & Exhibition

Objective

- Identify key barriers and drivers for stand-alone and mini-grid RE system deployment
- Platform to share experiences, lessons learned and best practices

IOREC 2012
Accra, Ghana

IOREC 2014
Manila, Philippines

IOREC 2016
Nairobi, Kenya

Conference info and outcome papers available at: www.iorec.irena.org

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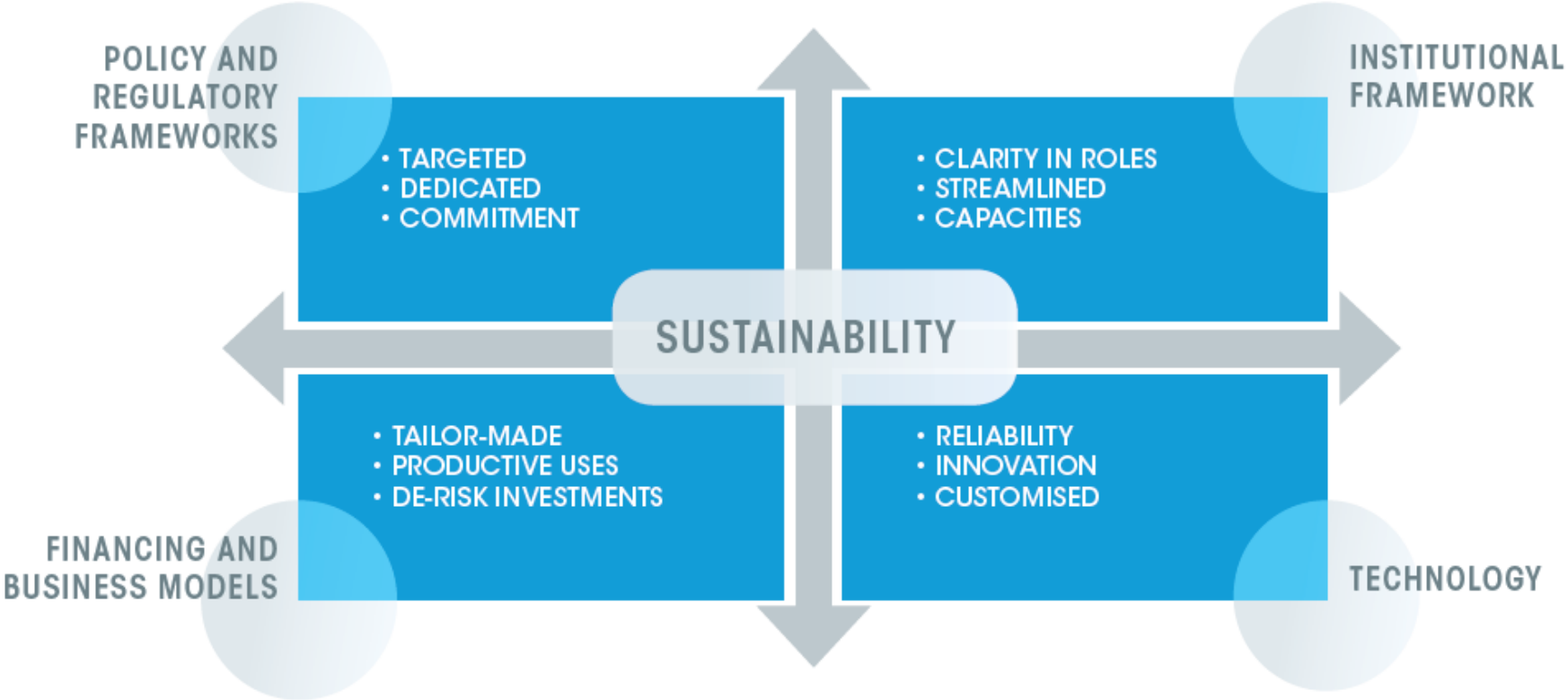
Key Elements of an Enabling Environment



Cooperation between public and private sector is essential

Policies and Regulations for Private Sector Renewable Energy Mini-grids

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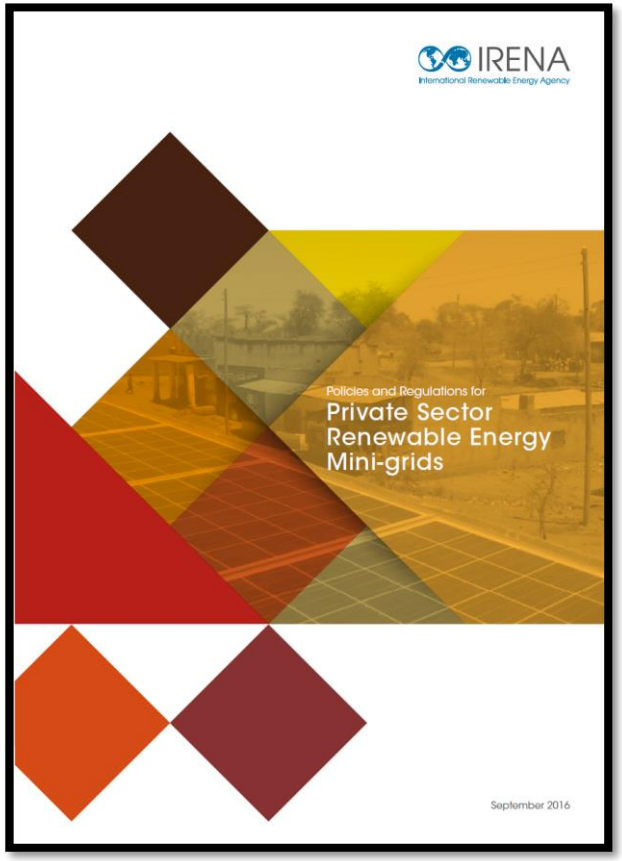

Download at
www.irena.org

Key policy and regulatory conditions: Legal and licensing provisions

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LEGAL AND LICENSING PROVISIONS

Legal provisions

- The generation, distribution, and sale of electricity by private firms must be legal

Clear roles, processes and procedures

- Processes and procedures should be clear and information available
- Single-window clearance facility hosted at a rural electrification agency or similar body

Streamlined regulatory requirements

- Segmented approach to designing mini-grid regulatory requirements helps limit licensing/permitting costs
- Non-energy requirements (e.g., ESIAs) simplified and standardized

Key policy and regulatory conditions: Cost recovery and tariff regulation

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Regulations need to allow viability and sustainability

- Private operators should be allowed to recover costs within a reasonable time and at margins commensurate with risks

Tariff regulation approaches

- Uniform tariffs (+ financial support)
- Cost-covering tariffs
- Mini-grid tariffs high enough to cover costs and structured to reflect current spending on energy

Tailored approach

- Exemptions from tariff regulation under specific thresholds
- Operators can test flexible tariff structures in a light-handed regulatory space

Standardized calculation methodologies

- Tariff determination through standardised methodologies (e.g., a costplus approach) allows for systematic assessment, and provides the basis for brief negotiations

Key policy and regulatory conditions: Risk of main-grid arrival

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Mitigating main grid arrival risk

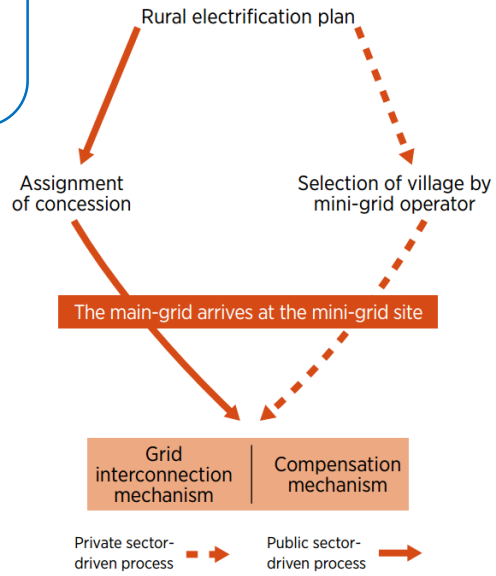
- Regulations should address the risk to mini-grids created by the arrival of the main grid.

Rural electrification plans provide valuable guidance

- Information on location and timeframe for grid extension, as well as population density, productive loads and existence of other licensees.
- Benefits for developers (in a bottom-up, market-driven approach), public authorities (in a top-down concession scheme) and consumers.

Interconnection/compensation mechanisms allay risks

- Several interconnection options exist – Transition to small power producer, distributor, tail-end support.
- The most suitable approach largely depends on technology and generation costs.
- Interconnection or compensation: full information about tariffs and depreciation scenario should be available in early stage.



Key policy and regulatory conditions: Measures for access to finance

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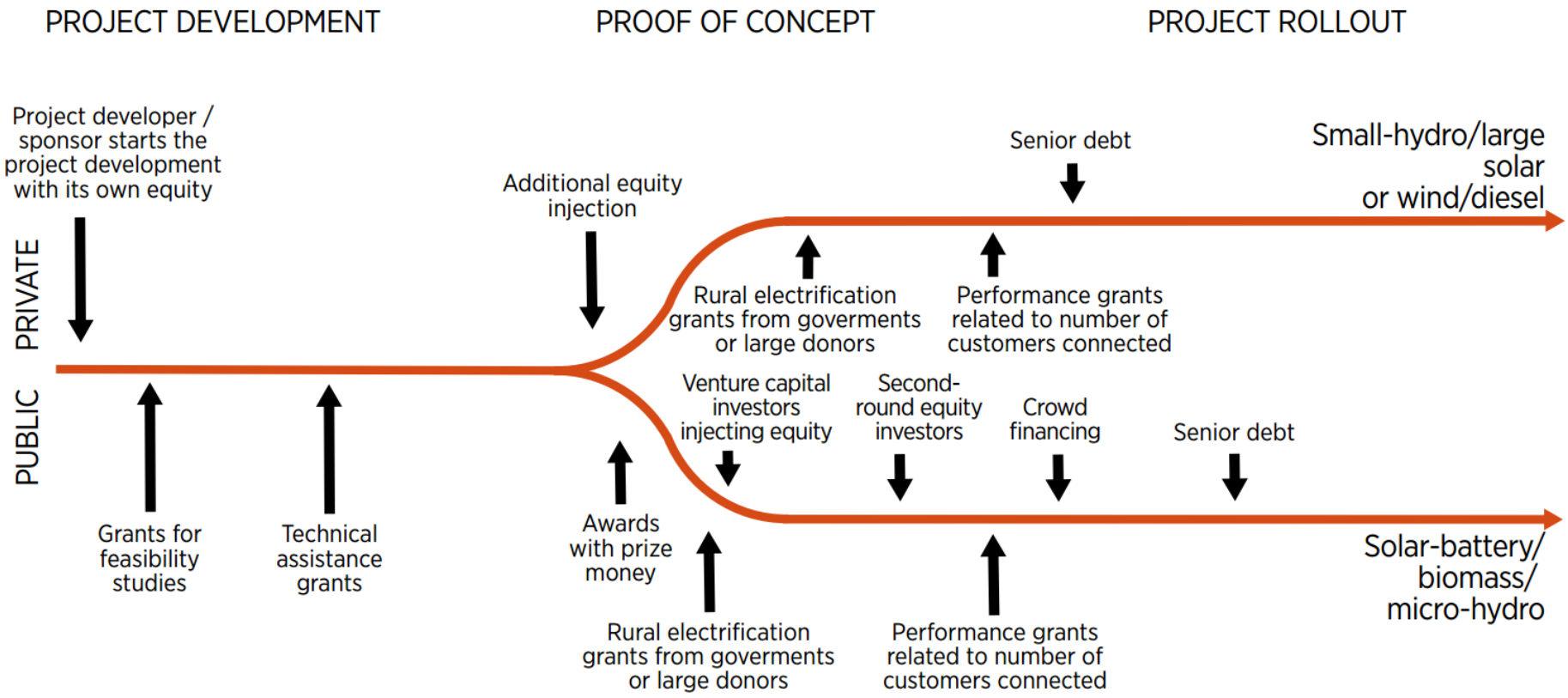

Private mini-grids pass through different phases with varying financing needs until they are finally installed and commissioned

Key policy and regulatory conditions: Measures for access to finance

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Address the 'Mismatch' and facilitate transactions

- Identify finance products and mechanisms to meet the needs of mini-grids developers and end consumers
- Address the bottlenecks in the flow of finance and facilitate transactions

Fill financing gaps in mini-grid phases

- Cooperation with regional/global funding facilities to attract financing. Dedicated funds to bridge financing gaps
- Local commercial banks can be engaged to make available low-cost, local-currency loans

Efficient design and delivery of public financial support

- Ongoing support perceived as risky by several developers. CAPEX grants preferred
- Capacity building is essential for private sector and financing institutions
- Financial support should be designed to leverage capital from commercial sources

Financing instruments to catalyse investments

- Guarantees can make it easier to attract private investors
- Innovative PPP models to de-risk investments (e.g. split of assets)

Energy access and other SDGs

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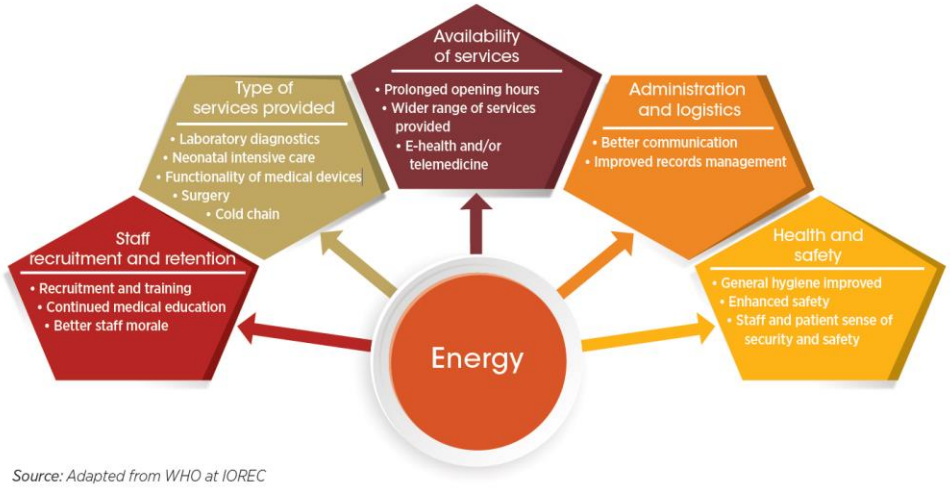
Energy and Health Centers



Source: Adapted from WHO at IOREC

- More than 1 billion people served by health facilities without reliable access to electricity
- Increase cooperation between institutions working on health and energy
- Include electrification of health centers among the priorities of electrifications strategies

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Thank you