



4TH INTERNATIONAL OFF-GRID RENEWABLE ENERGY CONFERENCE & EXHIBITION

31 October – 1 November 2018 | Singapore

Organised by



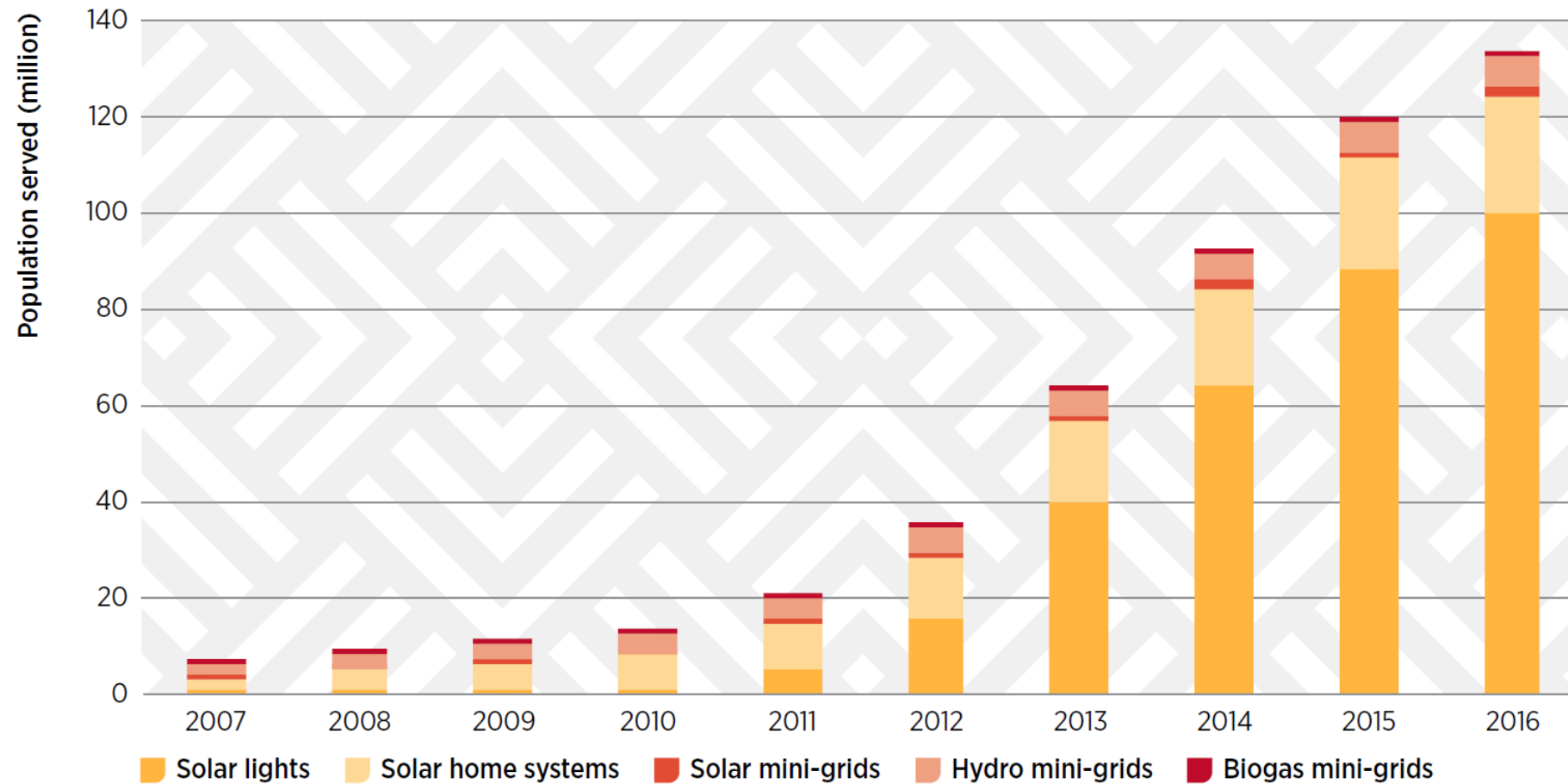


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Policies and regulations for renewable energy mini-grids



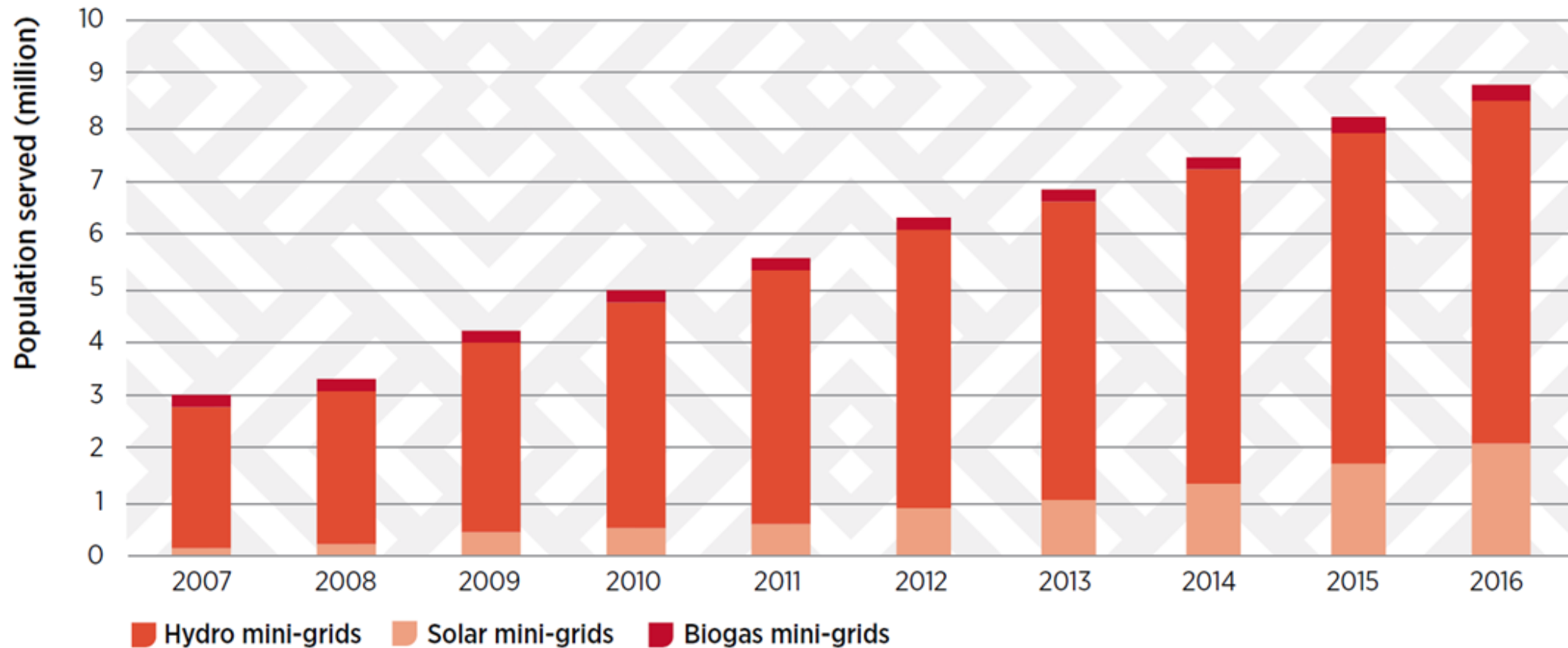
Rapid growth in off-grid renewable energy deployment: Global insights



Source: IRENA, 2018a.

Number of people served by off-grid renewables has expanded six-fold since 2011, reaching 133 million in 2016.

The increasing role of mini-grids in achieving universal access



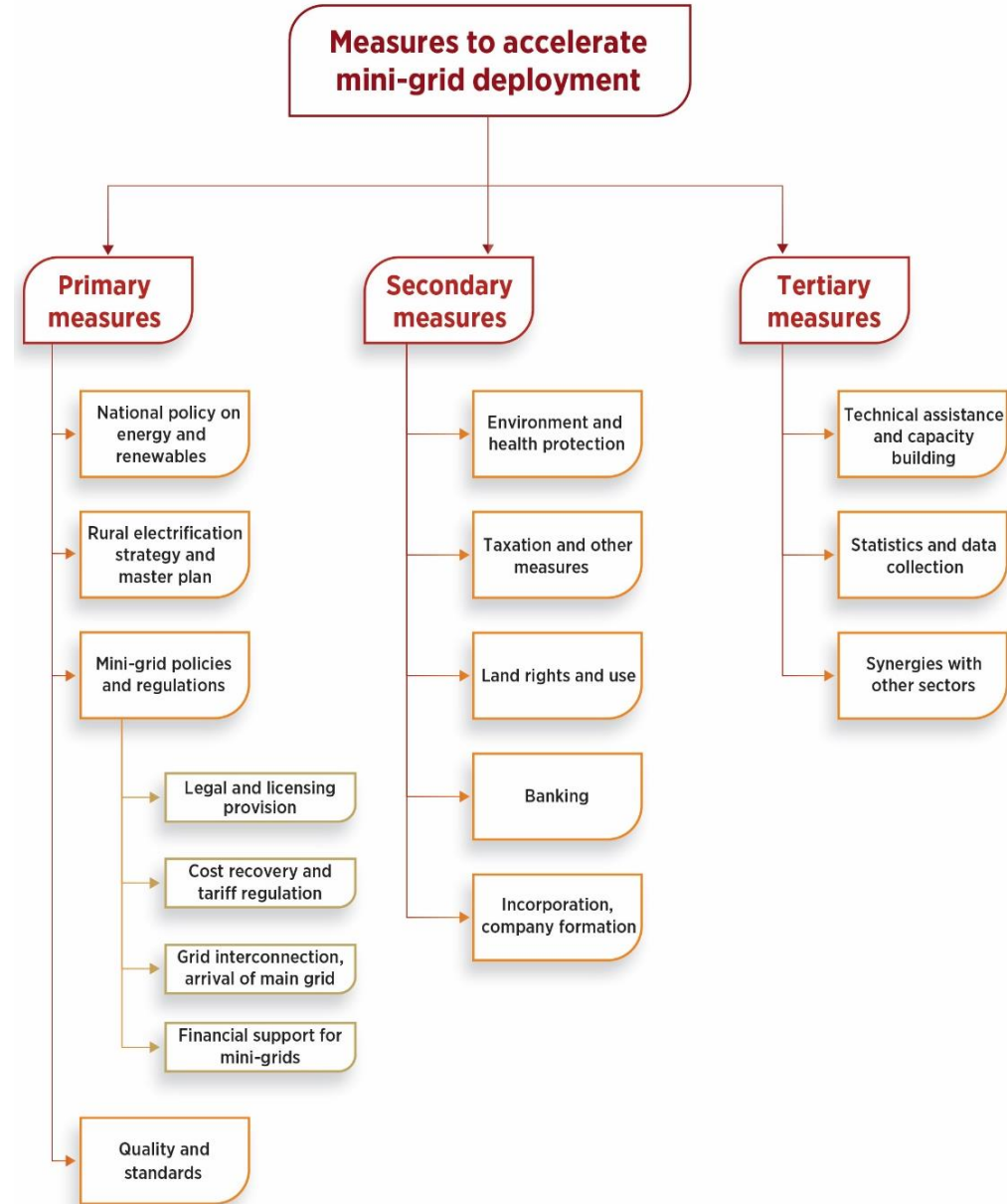
Source: IRENA, 2018a.

Small-hydro mini-grids are the most widely deployed and responsible for connecting majority of the end-users to mini-grids, followed by solar mini-grids.

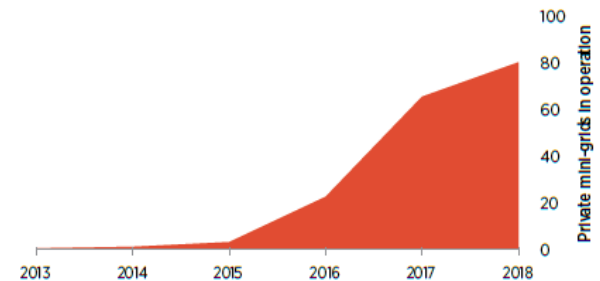
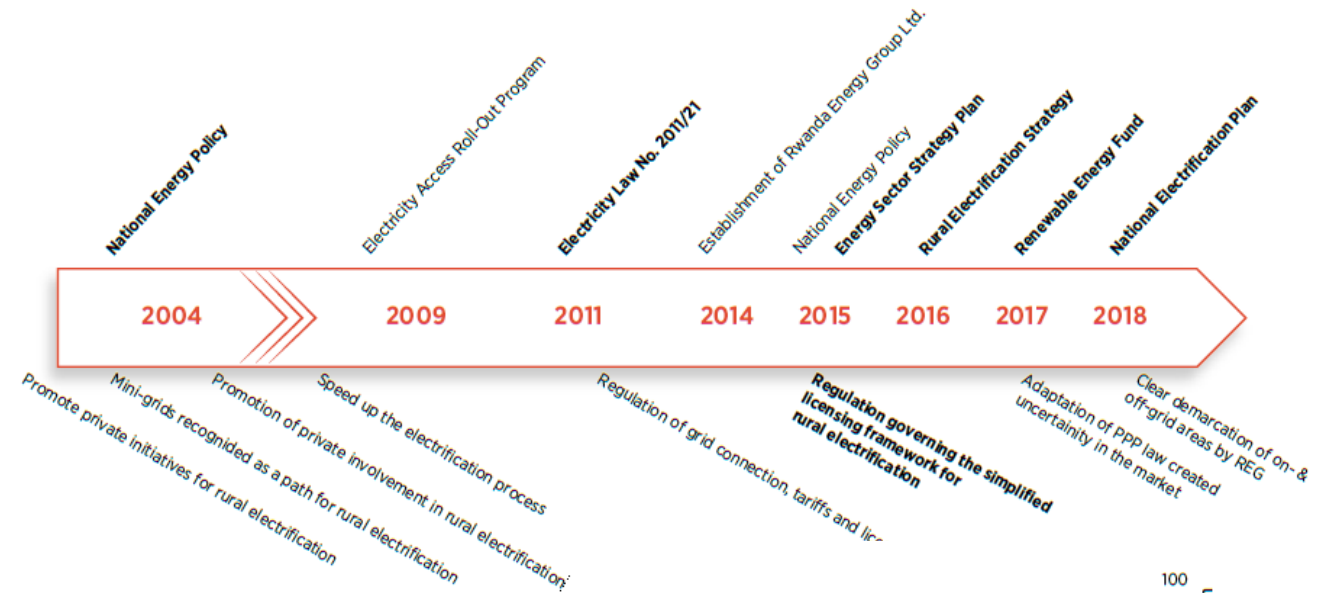
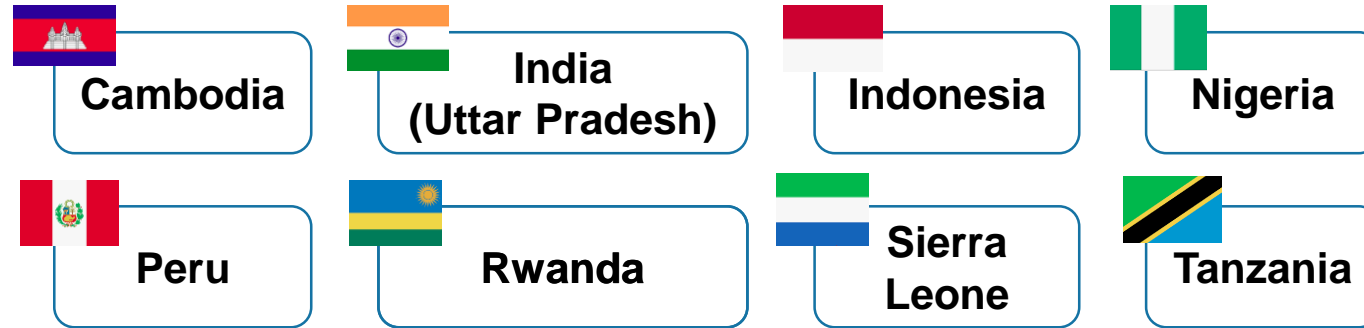
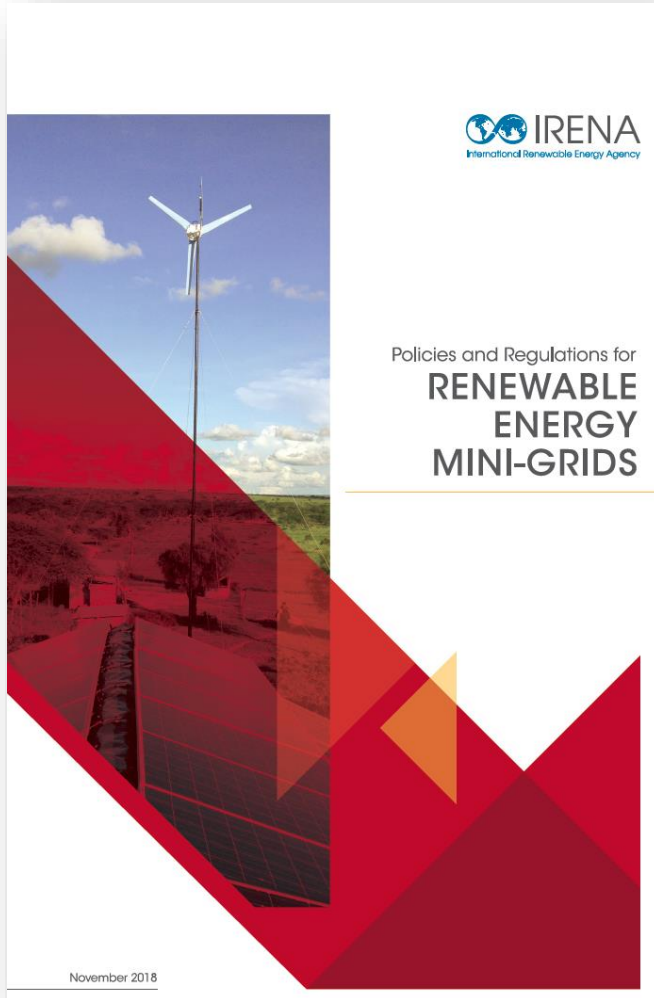
Measures to accelerate renewable energy mini-grid deployment



- Maps out the role of renewable energy mini-grids in rural electrification strategies
- Analyses the landscape of policy and regulations for the mini-grid sector
- Identifies key policy and regulatory conditions for attracting private sector
- Defines technology-specific policy and regulatory requirements



Policies and regulations for renewable energy mini-grids



Current (and proposed) landscape of supporting measures



	Primary measures						Secondary measures					Tertiary measures		
	National policy on renewable energy	Rural electrification strategy and master plan	Mini-grid policies and regulations			Financial support	Environment and health protection	Taxation and fiscal incentives	Land rights and use	Banking	Incorporation, company formation	Technical assistance and capacity building	Statistics and data collection	Synergies with other sectors
			Arrival of main-grid	Legal and licensing provision	Cost recovery and tariff regulation									
Cambodia														
India														
Indonesia				X		X								
Nigeria														
Peru														
Rwanda						X								
Sierra Leone														
United Republic of Tanzania														

Current (and proposed) landscape of primary measures



	Primary measures					
	National policy on renewable energy	Rural electrification strategy and master plan	Mini-grid policies and regulations			Financial support
			Arrival of main-grid	Legal and licensing provision	Cost recovery and tariff regulation	
Cambodia						
India						
Indonesia				X		X
Nigeria						
Peru						
Rwanda						X
Sierra Leone						
United Republic of Tanzania						

■ Proposed measures but yet to be approved
 ■ Implemented measures

X Specific measures to support local industry and entrepreneurs

National policies, targets and plans, and measures for financial support

National policy and rural electrification strategy

- Several countries have all incorporated mini-grid solutions in their energy plans and strategies to provide the basis for the expansion of electricity services
 - Peru - Rural electrification master plan (Plan Nacional de Electrificación Rural, PNER),
 - Rwanda – National Electrification Plan

Financial support

- Innovative public-private partnerships to de-risk investment
- Local commercial banks are being engaged to make available low-cost, local-currency loans.

Current (and proposed) landscape of primary measures



	Primary measures						
	National policy on renewable energy	Rural electrification strategy and master plan	Mini-grid policies and regulations				Financial support
			Arrival of main-grid	Legal and licensing provision	Cost recovery and tariff regulation	Quality standards	
Cambodia							
India							
Indonesia				X		X	
Nigeria							
Peru							
Rwanda						X	
Sierra Leone							
United Republic of Tanzania							

■ Proposed measures but yet to be approved
 ■ Implemented measures

X Specific measures to support local industry and entrepreneurs

Mini-grid policies and regulations

Legal and licensing provisions

- Provision for segmented licensing
- Setting clear processes and procedures for project licensing, and also streamlining requirements

Cost recovery and tariff regulation

- Exemptions under specific threshold – Operators can test flexible tariff structures in a light-handed regulatory space.
- Standardised tariff calculation tools to encourage private sector participation

Current (and proposed) landscape of primary measures



	Primary measures						
	National policy on renewable energy	Rural electrification strategy and master plan	Mini-grid policies and regulations				Financial support
			Arrival of main-grid	Legal and licensing provision	Cost recovery and tariff regulation	Quality standards	
Cambodia							
India							
Indonesia				X		X	
Nigeria							
Peru							
Rwanda						X	
Sierra Leone							
United Republic of Tanzania							

■ Proposed measures but yet to be approved
 ■ Implemented measures

X Specific measures to support local industry and entrepreneurs

Mini-grid policies and regulations

Arrival of main grid

- Support to transition to small power producer, distributor, tail-end support.
- Interconnection or compensation, full information about tariffs and depreciation scenario should be available in early stage.

Quality standards

- Compliance with a recognised set of standards
- Dedicated quality standards and regulations for the mini-grid sector

Current (and proposed) landscape of Secondary and Tertiary Measures



	Secondary measures					Tertiary measures		
	Environment and health protection	Taxation and fiscal incentives	Land rights and use	Banking	Incorporation, company formation	Technical assistance and capacity building	Statistics and data collection	Synergies with other sectors
Cambodia				X				
India	■	■		■				■
Indonesia	■	■	■	■	■	■	■	■
Nigeria	■	■		■		■		
Peru								
Rwanda	■	■	■	■	■	■	■	
Sierra Leone		■				■		■
United Republic of Tanzania	■	■	■	■	■	■	■	

Secondary measures

- Introduction of fiscal incentives such as value added tax and import duty exemptions on renewable energy equipment
- Streamlined Environment and Social Impact Assessments (ESIA) to reduce transaction costs and speed up project implementation

Tertiary measures

- Programmes to build capacity across the value chain (e.g., government, financiers, communities)
- Identification of cross-sector linkages (e.g., health) to further enhance the sustainability of interventions

■ Proposed measures but yet to be approved ■ Implemented measures

X Specific measures to support local industry and entrepreneurs

Conclusions and lessons learnt



- Mainstreaming mini-grid technologies into the rural electrification strategies.
- Dedicating policy, regulatory and financing measures to support mini-grids.
- Creating an ecosystem for accelerated deployment.
- Encouraging mechanisms to capture lessons learned and formally integrate into the policy review and design processes.