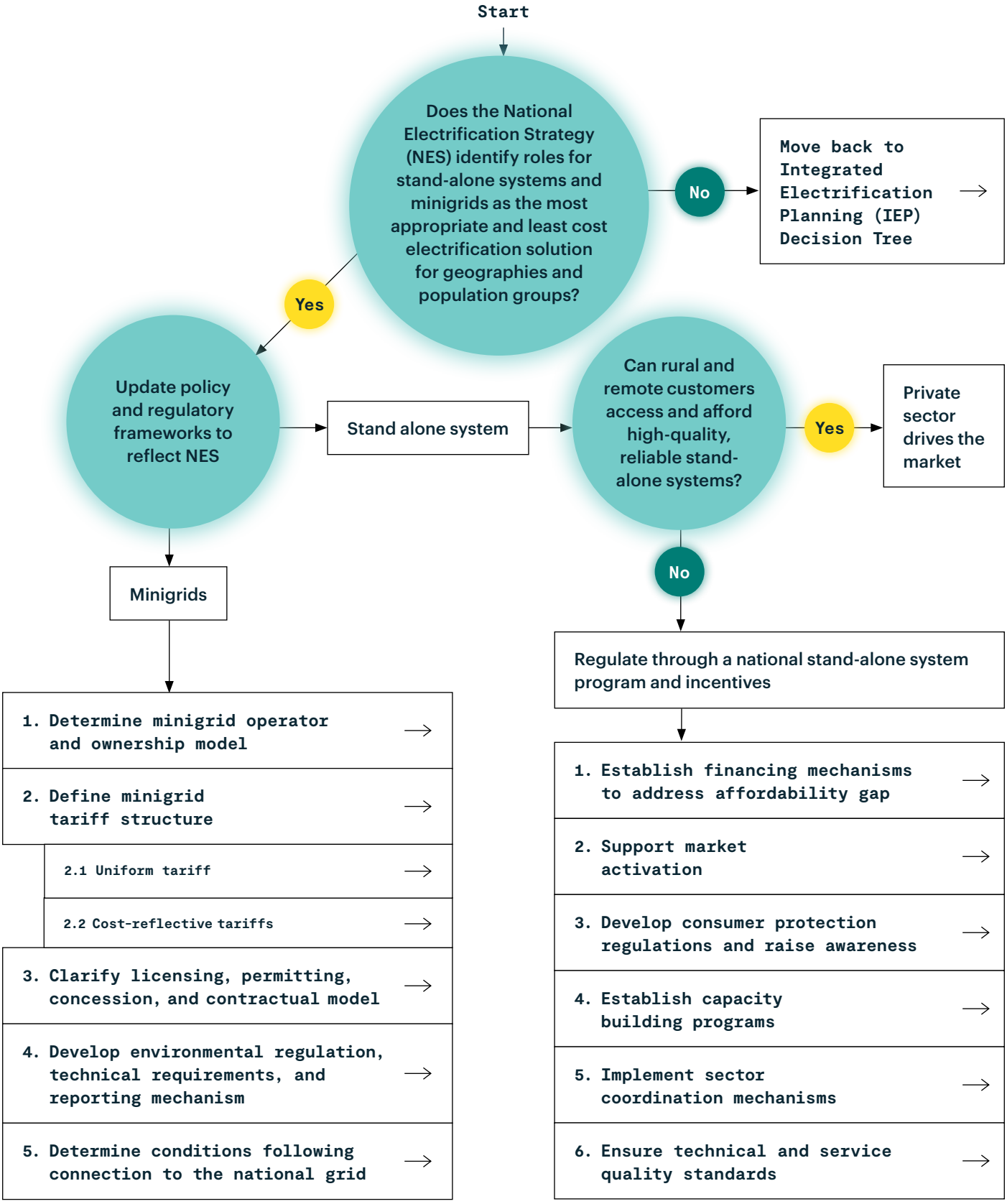
POLICY & REGULATORY FRAMEWORK (PRF) DECISION TREE



Country example:
Sierra Leone (UNOPS)

Country example:
Bangladesh (World Bank)

SEforALL Policy and Regulatory Frameworks

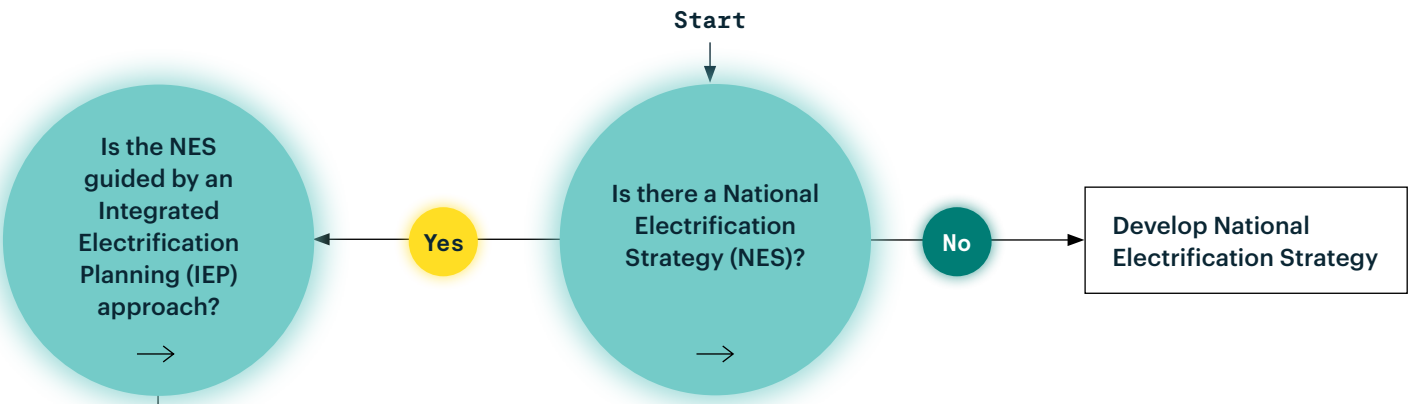
PRF STEPS
Minigrids

1. Determine minigrid operator and ownership model	There are four main minigrid operator models: 1) utility, 2) private sector, 3) community, and 4) hybrid models, contrasting in power generation and distribution assets ownership, system operation & maintenance, and operation-customer relationships.
2. Define minigrid tariff structure	Agreement on minigrid tariff structures is a critical component to the commercial viability and ability of consumers to pay. If policy does not allow for cost-reflective tariffs, concessions or subsidies must be considered in order to maintain a viable market.
2.1 Uniform national electricity tariff	The government sets a tariff for all energy service providers. Often, a uniform tariff seeks to equalize minigrid with national grid tariffs. Due to the high investment and operating costs of delivering energy to rural regions, this approach generally requires cross-subsidization for rural electricity customers.
2.2 Cost-reflective tariffs	There are three types of cost-reflective tariff structure: 1) negotiated tariffs which are government-led minigrids with prices resulting from negotiations among stakeholders, 2) approved tariffs with prices are negotiated between consumers and providers dependent on regulator approval, and 3) calculated tariffs which are based on standard formulae and basic cost parameters to achieve a fair power price.
3. Clarify licensing, permitting, concession, and contractual requirements	Clarification on policy decisions based on regulation or concession agreement, and operator model, including licensing, permitting, concession, and contractual requirements, may be needed depending on local circumstances and size of regulated minigrid.
4. Develop environmental regulation, technical requirements, and reporting mechanism	Outline an environmental review process for projects, decide whether to require or incentivize certain generation technologies, and determine whether to require minigrid operators to submit regular reports on technical and business operations.
5. Determine conditions following connection to the national grid (grid Integration)	Define how minigrids will be treated in the event of arrival of the national grid. This could entail integration or a transfer of asset ownership.

PRF STEPS
Stand-alone systems

1. Establish financing mechanism to address affordability gap	1) tax exemptions, 2) subsidies, and 3) blended finance models - a) pay as you go, b) credit line, c) revolving energy fund, and d) result based finance (RBF)
2. Support market activation	Government support to private sector for distribution network expansion, such as sales outlets and partnerships, to reach remote areas.
3. Develop consumer protection regulations and raise awareness	Government should create a consumer protection framework that includes the introduction of greater transparency and awareness about the goods and services, promotion of competition in the marketplace, prevention of fraud, education of customers, and elimination of unfair practices.
4. Establish capacity building programs	Provision of technical and institutional capacity for local governments and mobilization of resources for private sector and civil society capacity building programs, aiming to equip stakeholders with technical and business skills to promote off-grid solutions.
5. Implement sector coordination mechanisms	Government coordination by: a) implementing interministerial and multi-stakeholder dialogues towards joint actions, cooperation, and sharing lessons and experiences among players, b) monitoring and evaluation to collect key statistics and data amongst stakeholders and the wider public, and c) reporting through a database to serve as reliable source of data and inform best policies and practices on renewable energy access via solar.
6. Ensure technical and service quality standard	In order to participate in the government's stand-alone system program and leverage established financing mechanism, the government should set standards for quality, warranty, and performance targets, establish non-compliance clause to prevent in case of systems without accreditation and regulated certificates, and define disposal procedures after stand-alone system parts served their purpose.

INTEGRATED ELECTRIFICATION PLANNING (IEP) DECISION TREE



Carry out IEP processes →

1. Establish a coordinating body empowered with high-level political buy-in
2. Engage experts and relevant stakeholders
3. Obtain data and use tools (e.g. GIS) to identify optimal mix of technology and required investment
4. Disseminate results to influence policy and decision making

Country example: Togo →

Country example: Ethiopia →

Country example: Nepal →

9 PRINCIPLES OF IEP

1. Needs-driven
2. Data-driven
3. Integrated across energy uses
4. Optimized
5. Inclusive
6. Dynamic and flexible
7. Accessible and open source
8. Standard analytical framework
9. Customized to individual countries

SEforALL Universal Integrated Energy Plans →

INTEGRATED ELECTRIFICATION PLANNING (IEP) DECISION TREE

National Electrification Strategy (NES)

A blueprint for how a country intends to achieve its electrification goals. The strategy should have: (i) clear targets for achieving universal electricity access; (ii) a plan for how the targets will be achieved cost-effectively and in the fastest possible manner, using different electrification technologies/approaches (e.g. grid, minigrid, off-grid); and (iii) an investment plan that articulates the amount and type of investment required to achieve the plan.

Integrated Electrification Planning (IEP)

A set of data-driven planning measures that consider all electrification solutions, including the centralized grid, minigrid and off-grid solutions, to identify the least-cost and fastest way of providing electricity and the associated energy services necessary to meet human needs and contribute to sustainable development.

ELECTRIFYING ECONOMIES

The Electrifying Economies project demonstrates the role distributed energy will play in ending energy poverty and catalyzing a green and equitable recovery from the Covid-19 crisis. It draws on the latest data and research from around the world to show how distributed renewables can provide sustainable, affordable, and reliable power for all. The project provides information to support policy makers and investors in taking action today, to realize this potential.

 # ElectrifyingEconomies
ElectrifyingEconomies.org