

REF/REA . when and why?

**Africa Electrification Initiative (AEI)
Workshop: 'Assembling Practical
Knowledge on Access in Africa'**

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REF-REA Variations

1. Legal status & organisation

- . Project Management Unit
- . Agency reporting to Ministry
- . Independent Statutory Body with Board

2. Scope:

- . rural energy agency / rural electrification agency
- . total rural / isolated grids / SHS / grid connected RE

3. RE-planning and project selection

- . Identification of projects: methods + involved agents
- . Tender for projects or concessions / spontaneous projects

4. Electricity distribution: organisation & ownership

5. Project finance: loans & subsidy instruments

6. Regulation: responsibility and instruments

7. Regional equity: use of tools

REA/REF Definition

- “ Institution specialised in rural electrification which manages multi-year grant funds on a transparent and non-discriminatory basis to support the implementation of rural electrification (RE) projects by a multitude of actors+
- “ Follow-up to the concept of non-commercial rural electrification concession+

Rural Electrification Models

	Centralised RE	De-Centralised RE (REA/REF)
Initial stage electrification	Côte d'Ivoire, Ghana	<u>Total RE</u> : Burkina Faso, Mali, Uganda <u>Off-main grid RE</u> : Ethiopia, Guinea, Mozambique.
End-phase electrification	Morocco, Tunisia	Chile

Theoretical Underpinning for **Centralised RE Paradigm**

- “ Lower costs due to economies of scale and scope in rural electrification planning, finance, tendering, investment and O&M
- “ Single experienced utility makes use of scarce specialised resources
- “ Faster project implementation due to integration of planning and implementation
- “ Low costs of transactions for utility and for public administrations

Theoretical Underpinning for Decentralised RE

More annual connections due to:

- “ Entry of private developers brings in extra capital to RE (*capital deepening*).
- “ Higher efficiency of private investors allows more connections and km of MV/LV lines to be achieved for a given volume of annual finance for RE (*capital stretching*).
- “ Bringing in *new actors* to identify and develop *spontaneous projects* allows more projects to be initiated.

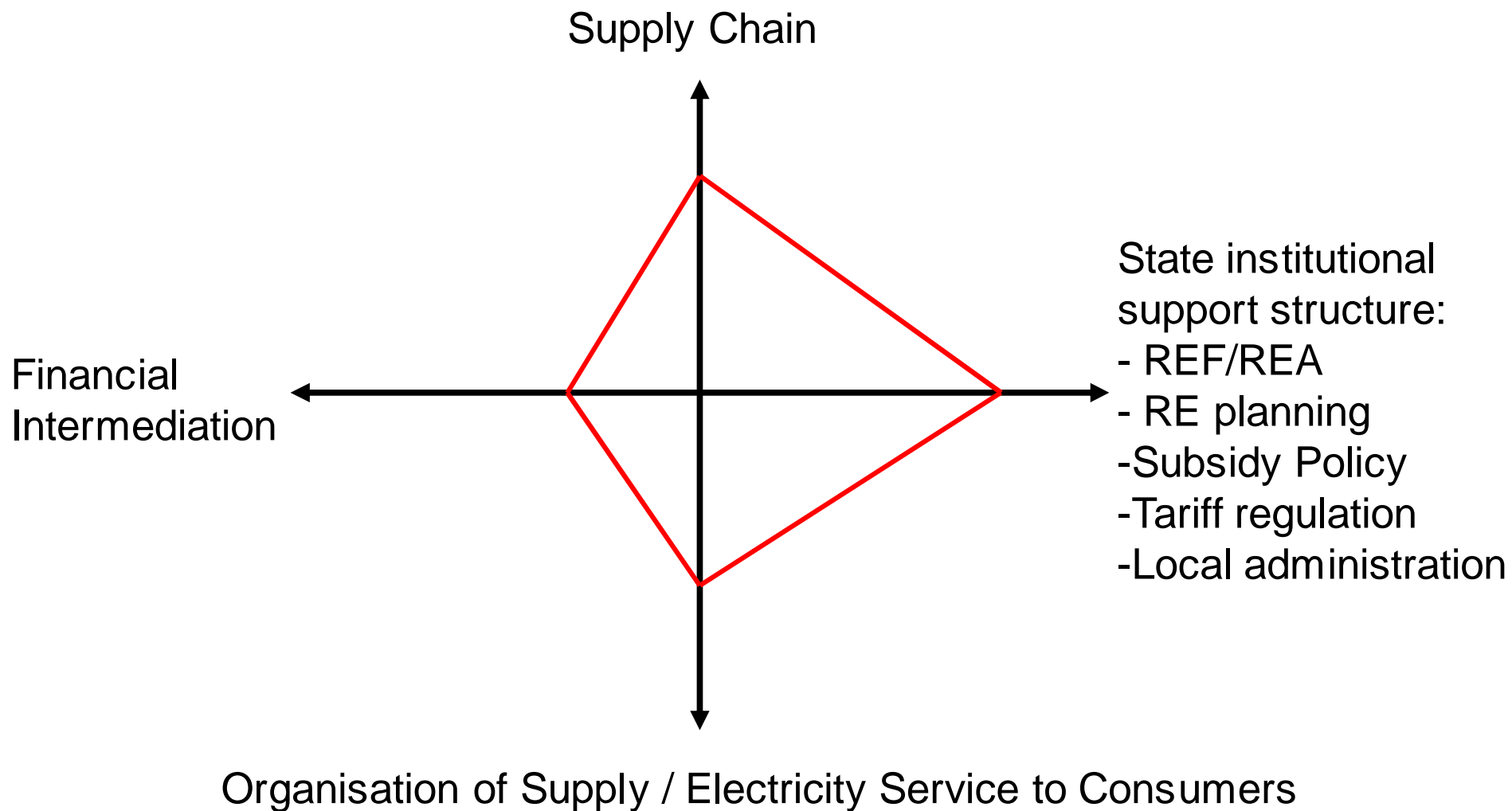
Additional advantages:

- “ The creation of a REF encourages *basket funding*: the pooling of individual donor contributions for RE.
- “ Positive rural transformation impacts: the investment volumes in decentralised RE will attract commercial banks into rural lending who previously found rural loans too small.
- “ The REA/REF approach of small, medium and larger RE concessions enables national private actors to enter the RE-utility business; only foreign-owned utilities have the resources to bid for larger concessions.

Decisive Questions for the Choice of the REA/REF Paradigm

1. Micro-economics: *Are economies of scale and of scope or entrepreneurial competition the most effective performance drivers in rural electrification?*
2. National context: What circumstances make it easier to install a new system of SME-based rural electrification than to improve an under-performing state owned utility and to introduce innovations in technology and in local organisation of distribution?

The Rural Electrification Diamond



Preliminary Results from Experience

- “ Superiority of *centralised RE* in *achieving connections*; when the power company in charge is reasonably efficient.
- “ The REA/REF approach, apart from ONE's bid in Senegal, has *attracted very little private equity capital into RE and the willingness and ability of commercial banks to cofinance RE-projects that are supported by REA/REF subsidies has been disappointingly low*
- “ REA/REFs have not served as *focal recipient/distributor of donor funding* for RE-projects.

Preliminary Recommendations

- “ Use *centralized RE approach for grid extensions* and a *REA/REF for off-grid electrification*;
- “ Reduce the planned number of national rural territory covering concessions to two or three in countries other than Nigeria.
- “ Dedicated RE-refinance lines and partial risk guarantees for commercial loans to RE investments and for firms working in the technical supply side must be part of the REA/REF package from the very beginning.
- “ Rural multi-energy agencies not RE agencies.