



Green Mini-Grids Africa

Steven Hunt
Energy Advisor

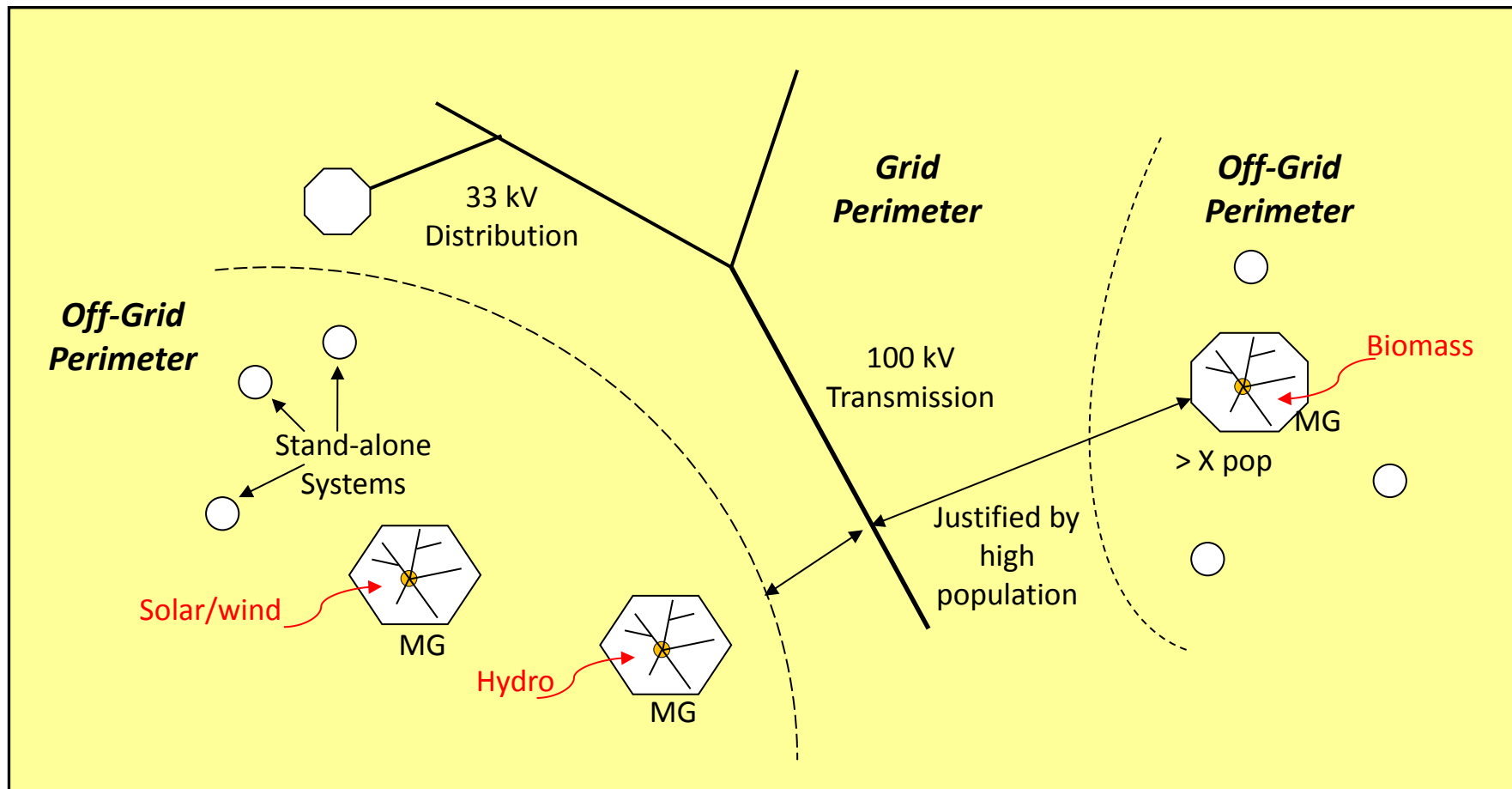
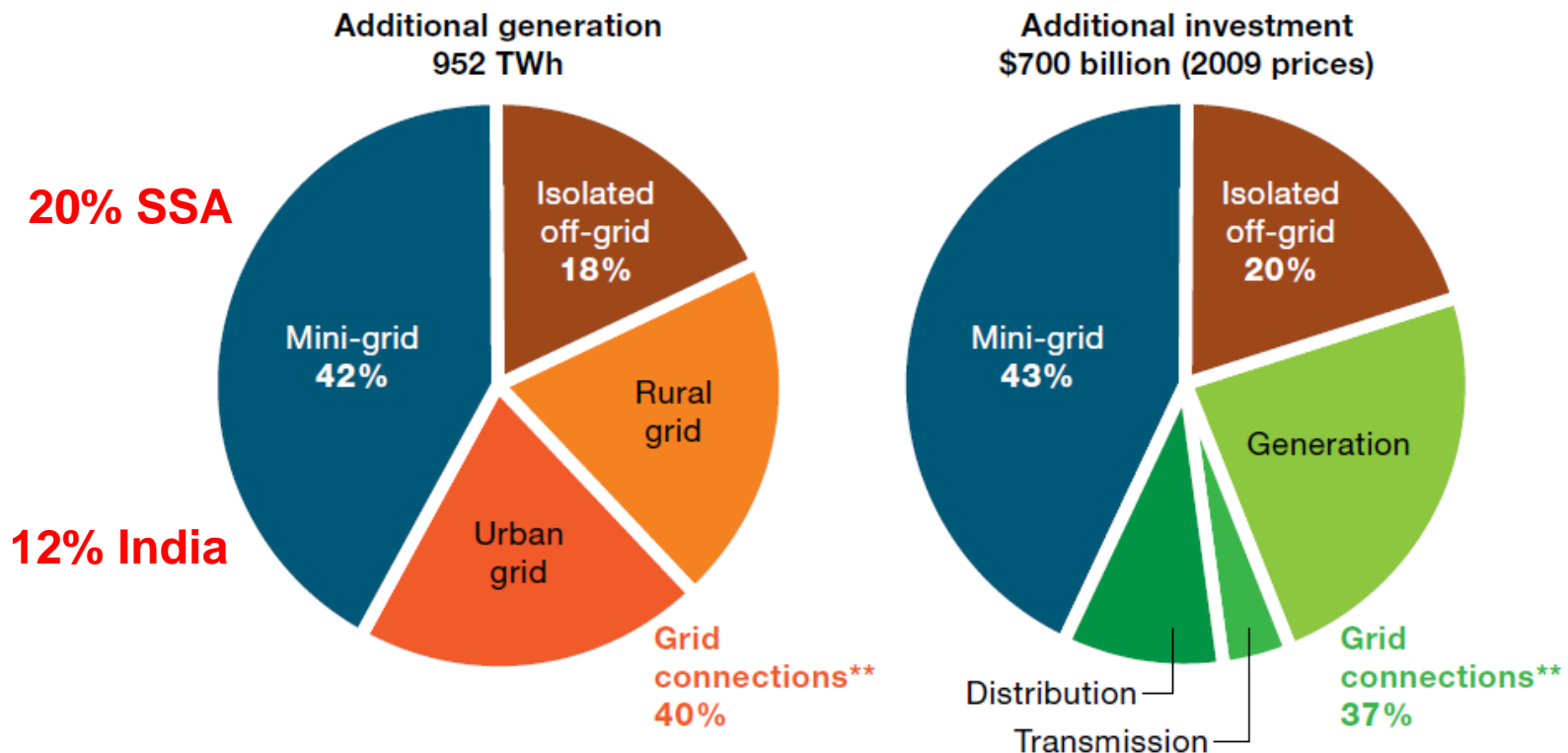


Figure 1 : Illustrative view of Grid and Off-Grid perimeters (DFID-IED, 2013)

Figure 1. Incremental Electricity Generation and Investment in the Universal Modern Access Case*, 2010-2030



*Compared with the New Policies Scenario

**includes generation, transmission and distribution for both urban and rural grids

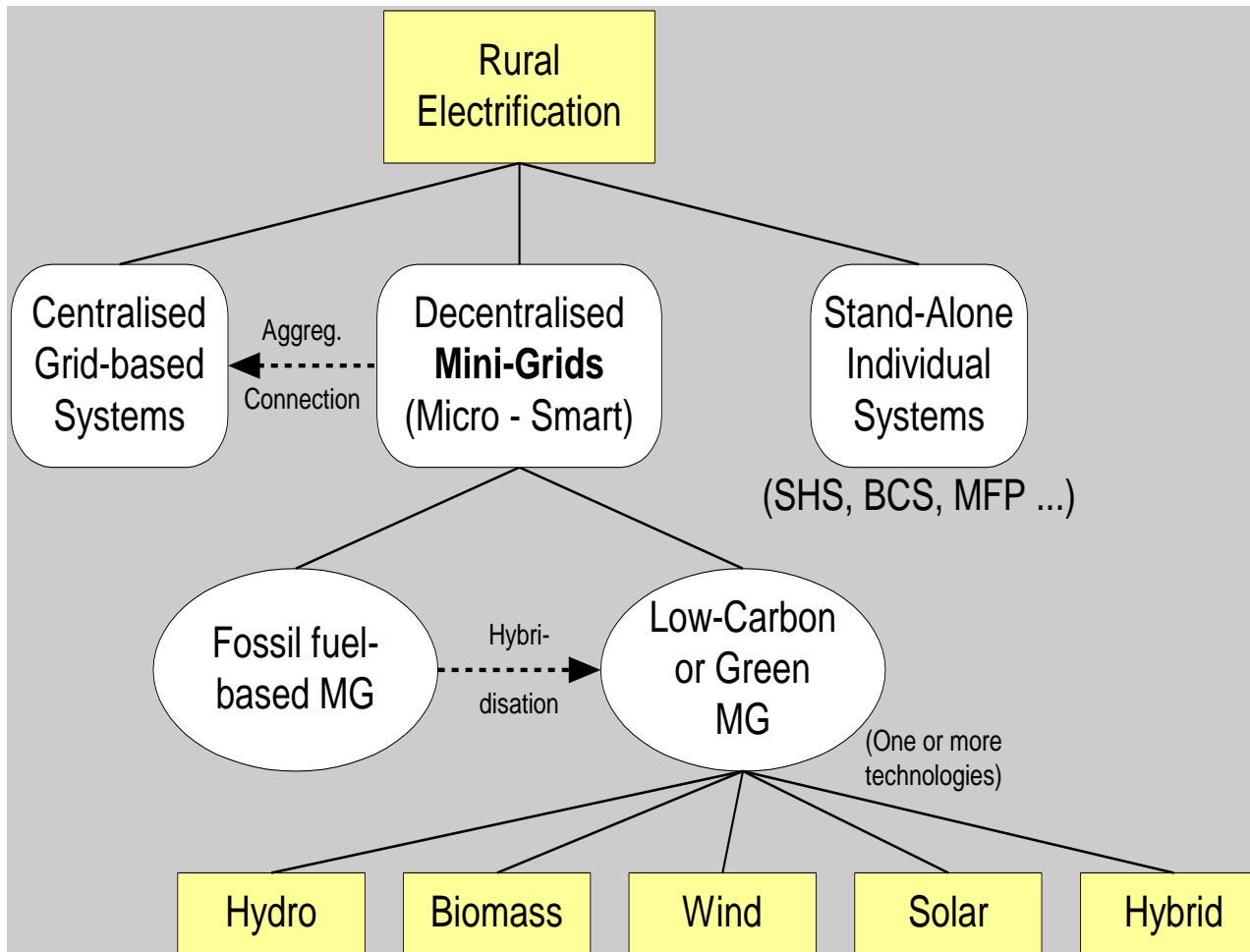
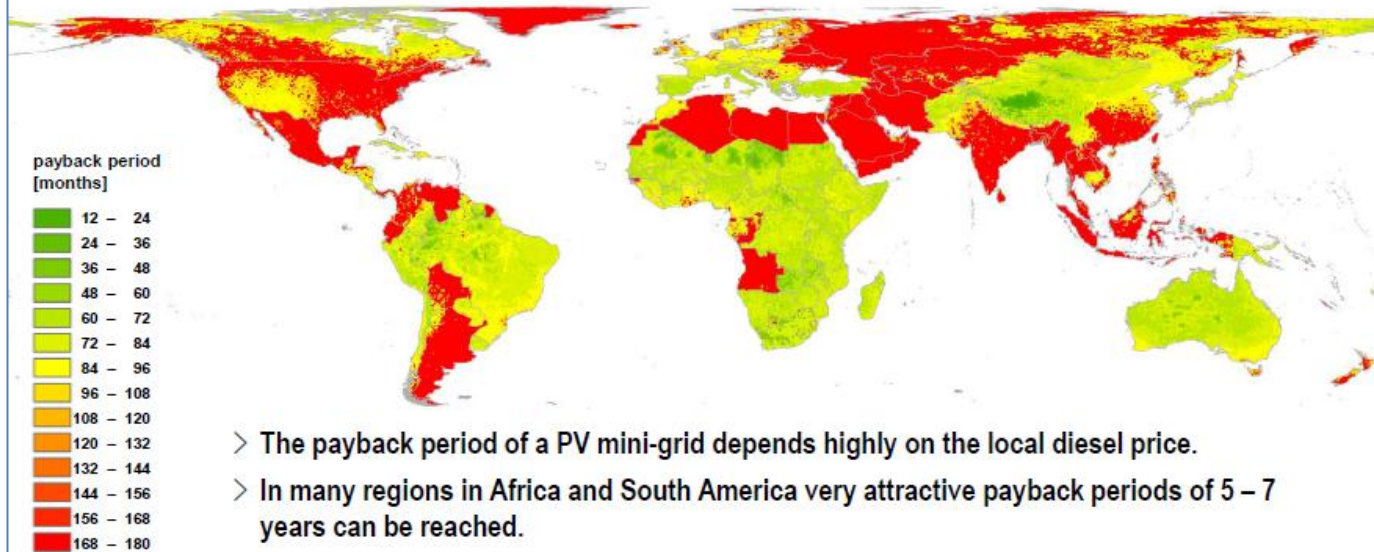


Figure 2 : Rural electrification approaches (IED, 2012)

PV Mini-Grids: Payback Period

Amortisation of hybrid PV-battery-diesel systems vs. diesel



- The payback period of a PV mini-grid depends highly on the local diesel price.
- In many regions in Africa and South America very attractive payback periods of 5 – 7 years can be reached.
- In very remote areas very lucrative payback periods of less than 4 years arise for PV mini-grids.

Figure 12: Payback period of hybrid PV/Diesel in Africa (RLI, Ch. Breyer, 2012)



Progress to date

- Consultation started and IED study started (Nov 12)
- Concept Note approved (Mar 13)
- IED study missions in Ke and Moz (Apr-May)
- Presentation at Vienna Energy Forum (May)
- DFID scoping meetings in Ke and Tz (Jun)
- Detailed Options Assessment Ke + Tz (Oct)
- IED study complete (Nov)
- Business Case development – ongoing

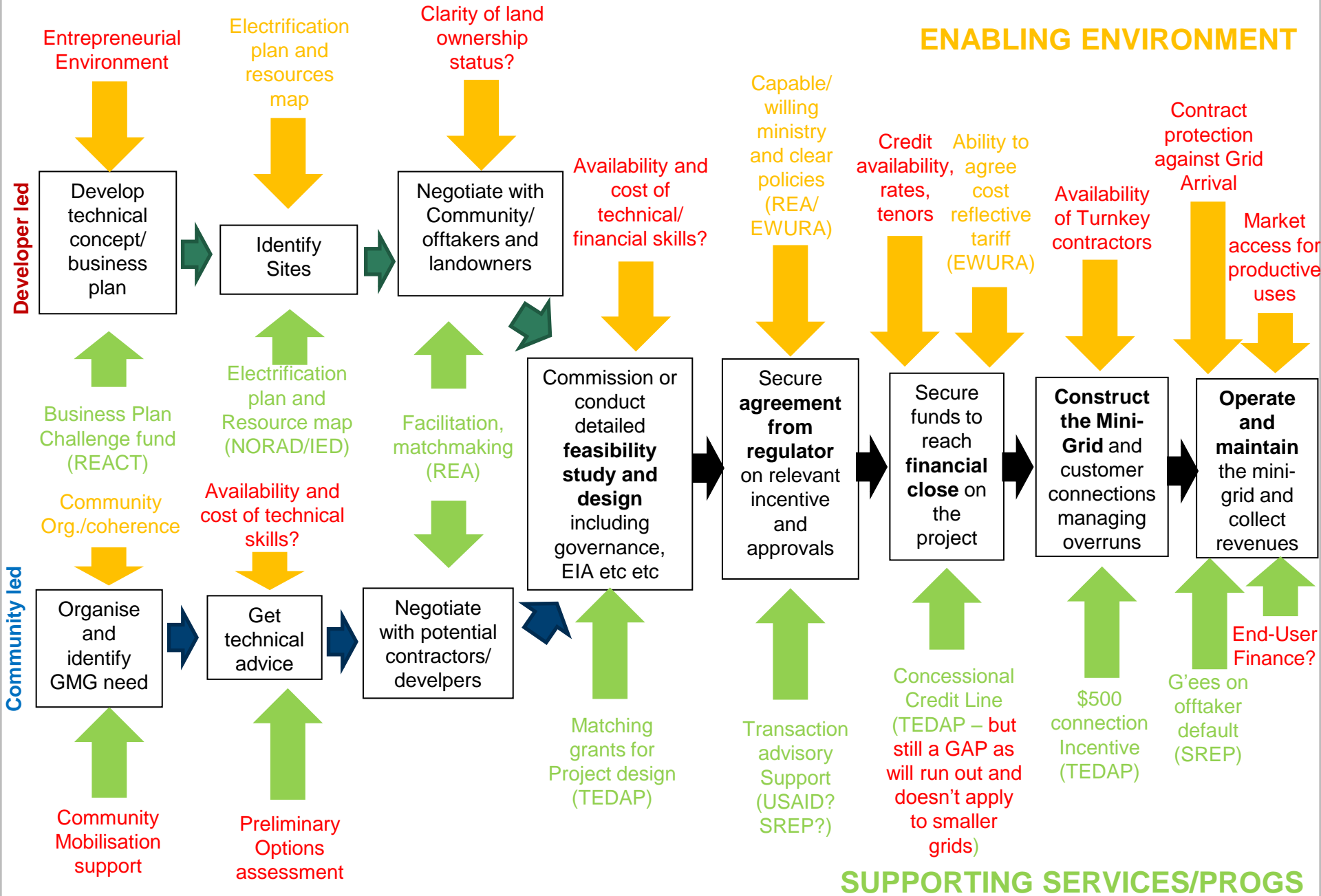


Key issues encountered

- Multiple and context-specific barriers
 - By project development stage
 - By country
 - By technology
 - By mini-grid segment:
 - 100kW – 10MW Grid-Connect or Grid Proximate GMG
 - 100kW – 1MW Isolated Mini-Grids
 - Less than 100 kW Isolated Micro-Grids
 - Less than 5 kW DC-based Pico-Grids

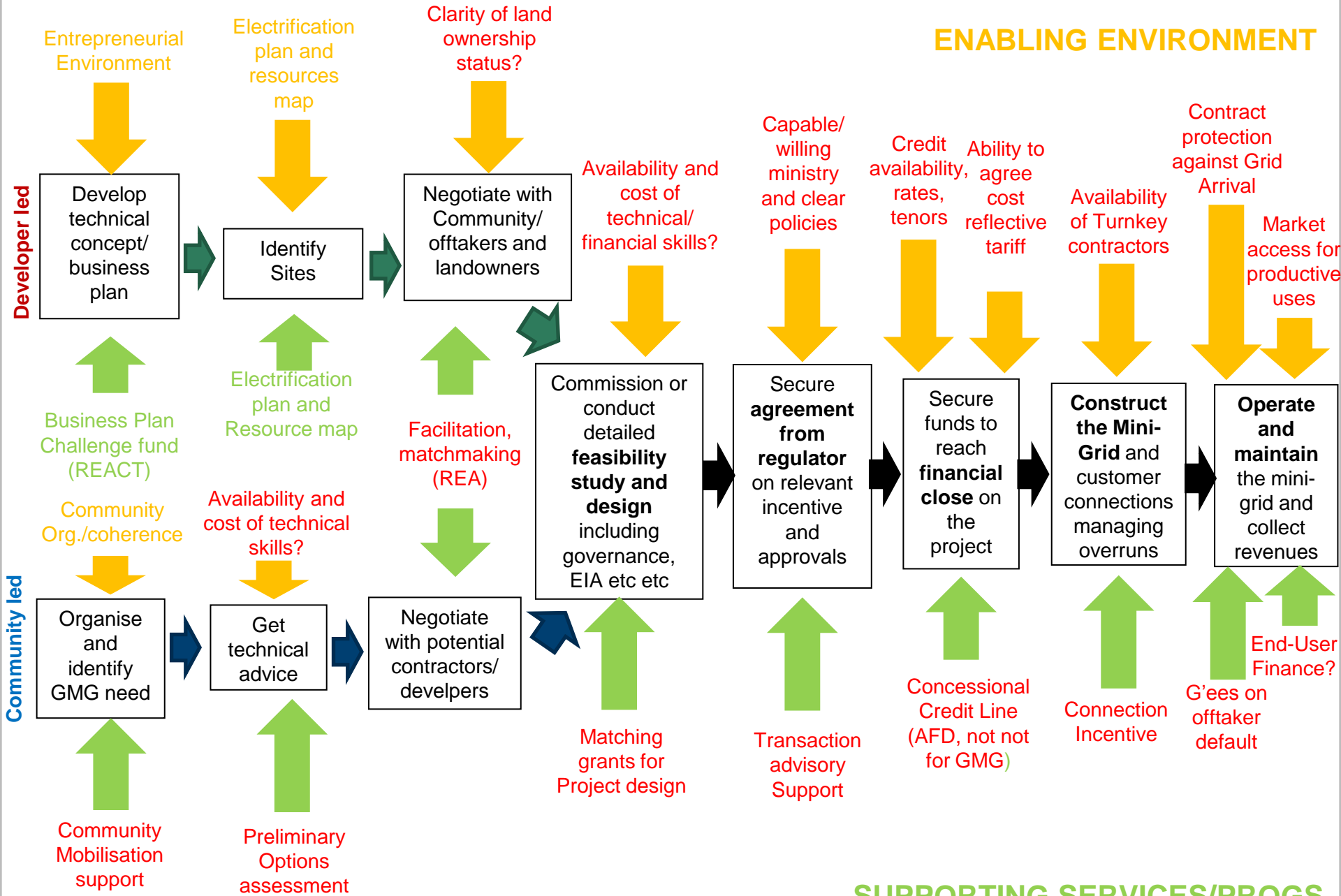
TANZANIA

ENABLING ENVIRONMENT



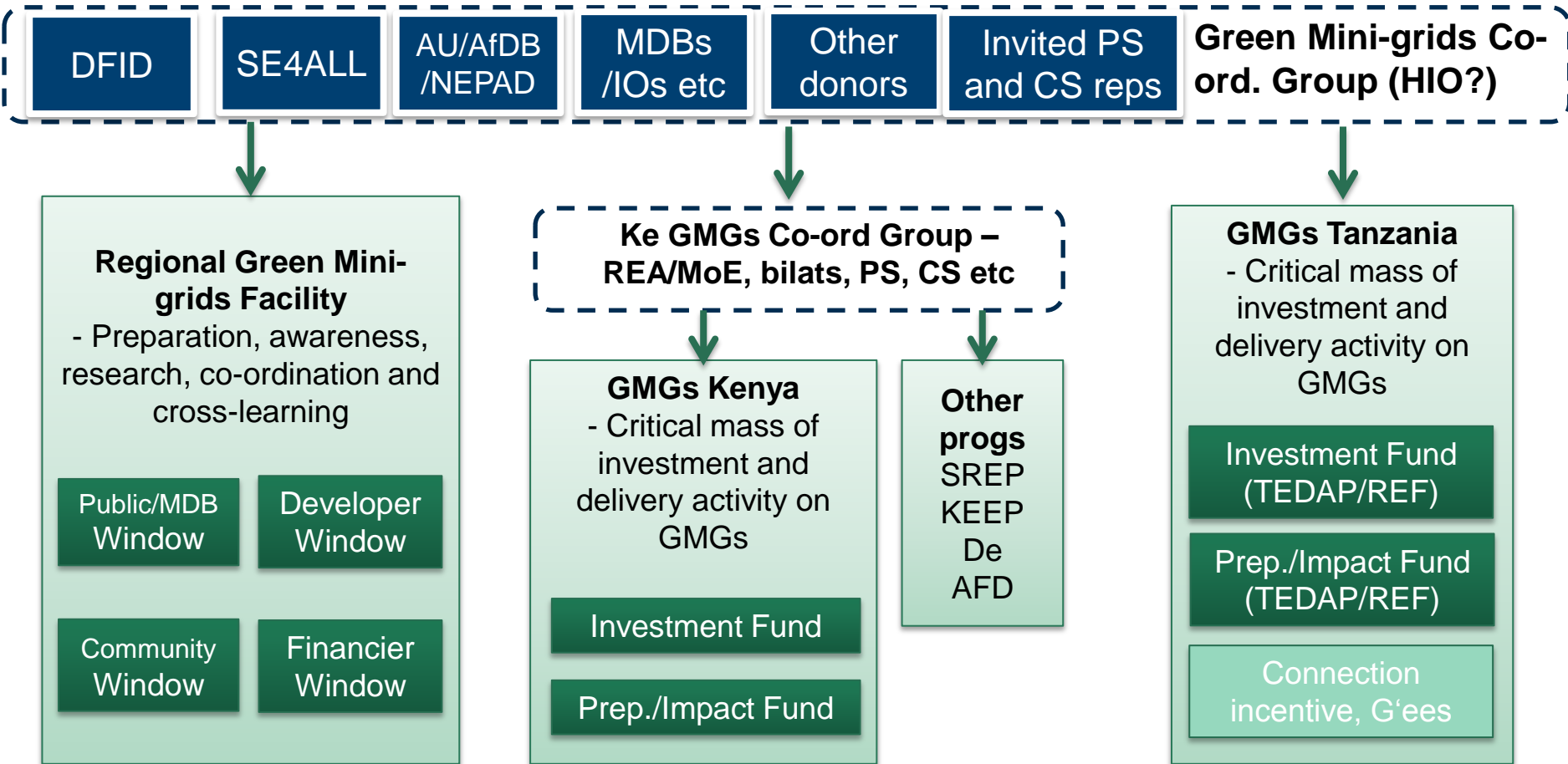
KENYA

ENABLING ENVIRONMENT



SUPPORTING SERVICES/PROGS

Key Programme Elements





Next Steps

- Finalisation of country detailed options assessment
- Country fund agreements
- Regional Fund design and agreements
- HIO exploration
- Completion of Economic Appraisal
- Finalisation and submission of Business Case
- Approval and announcement (TBC - April 2014?)