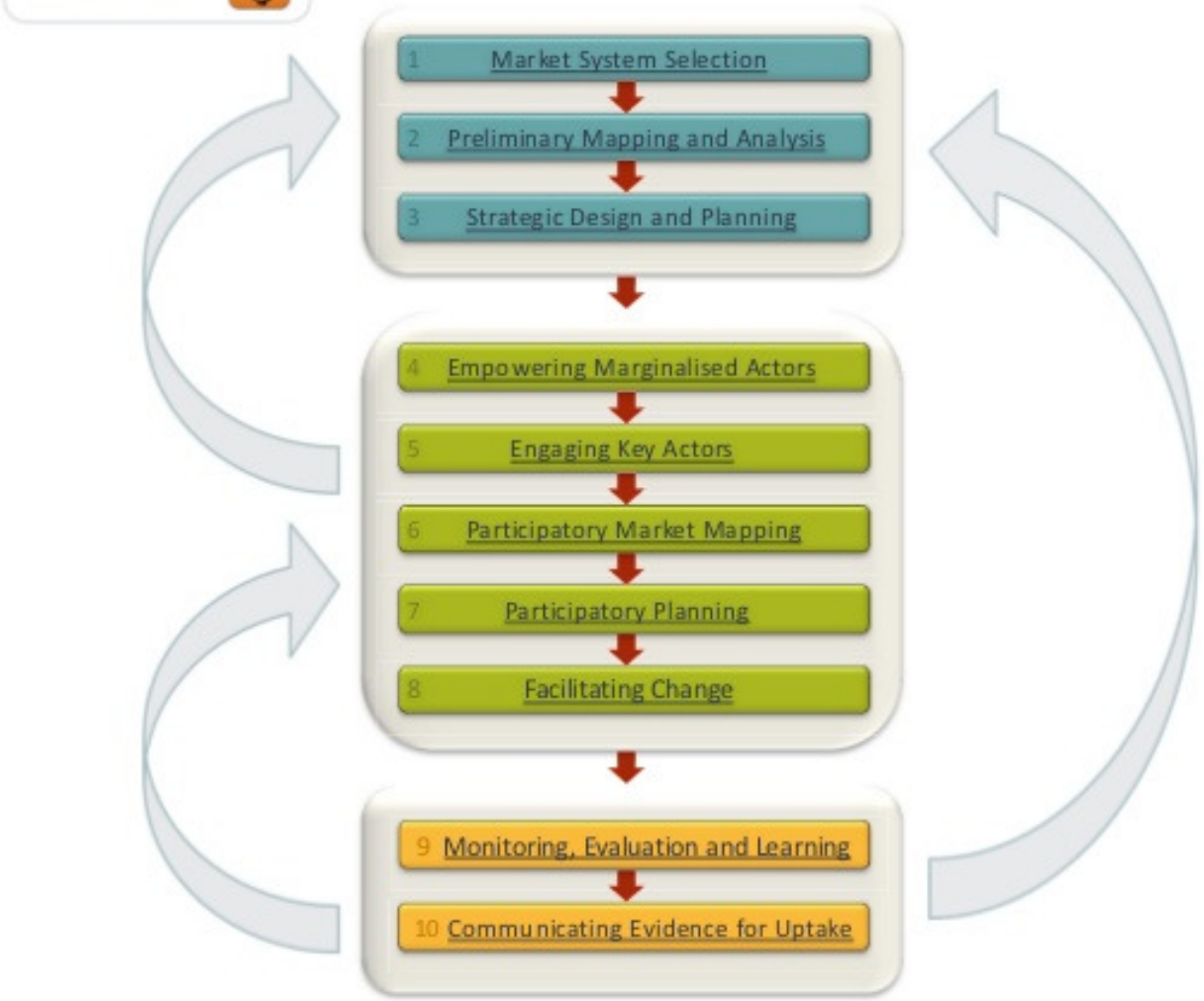
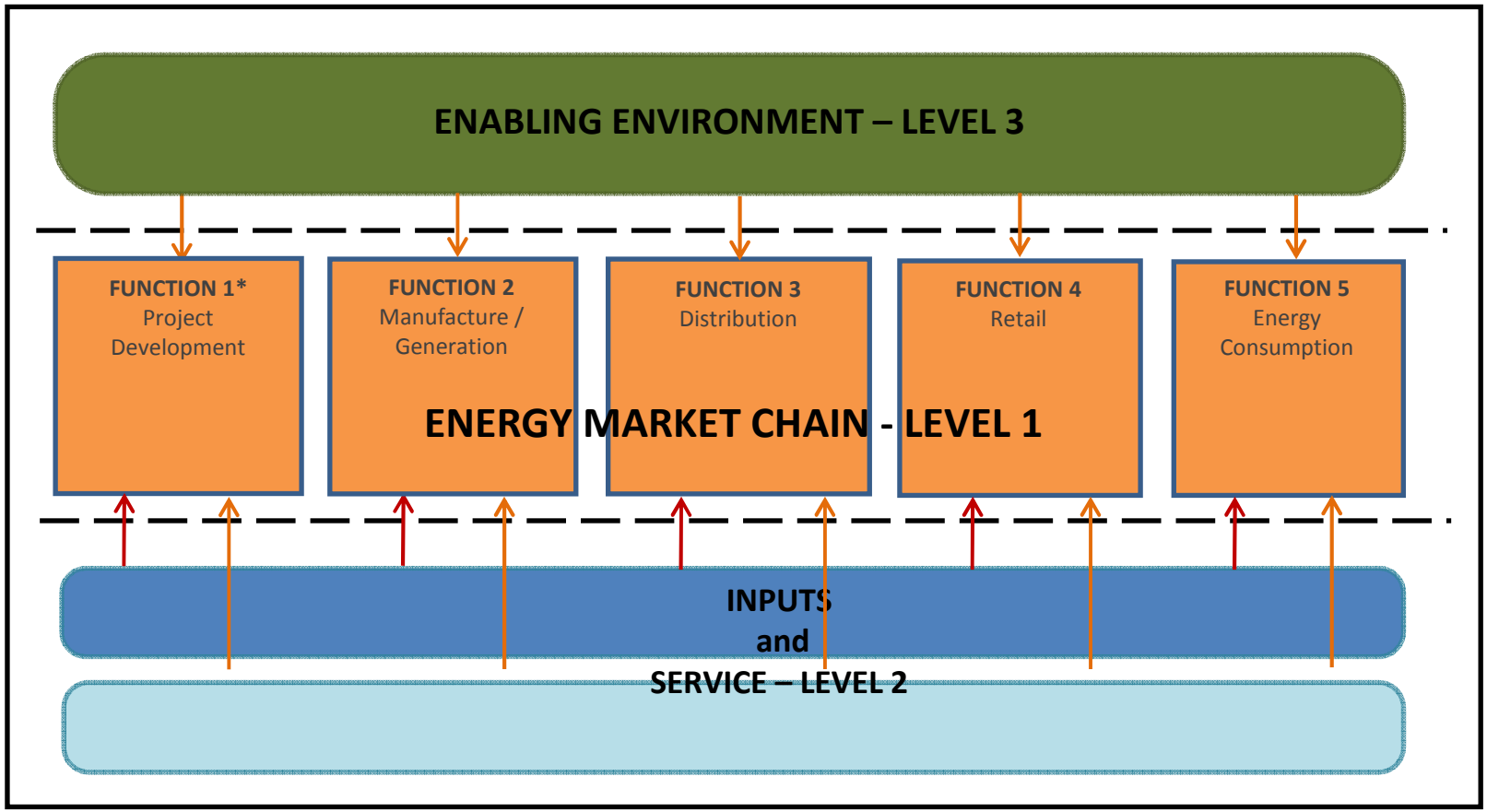
PMSD Roadmap

How to use it:

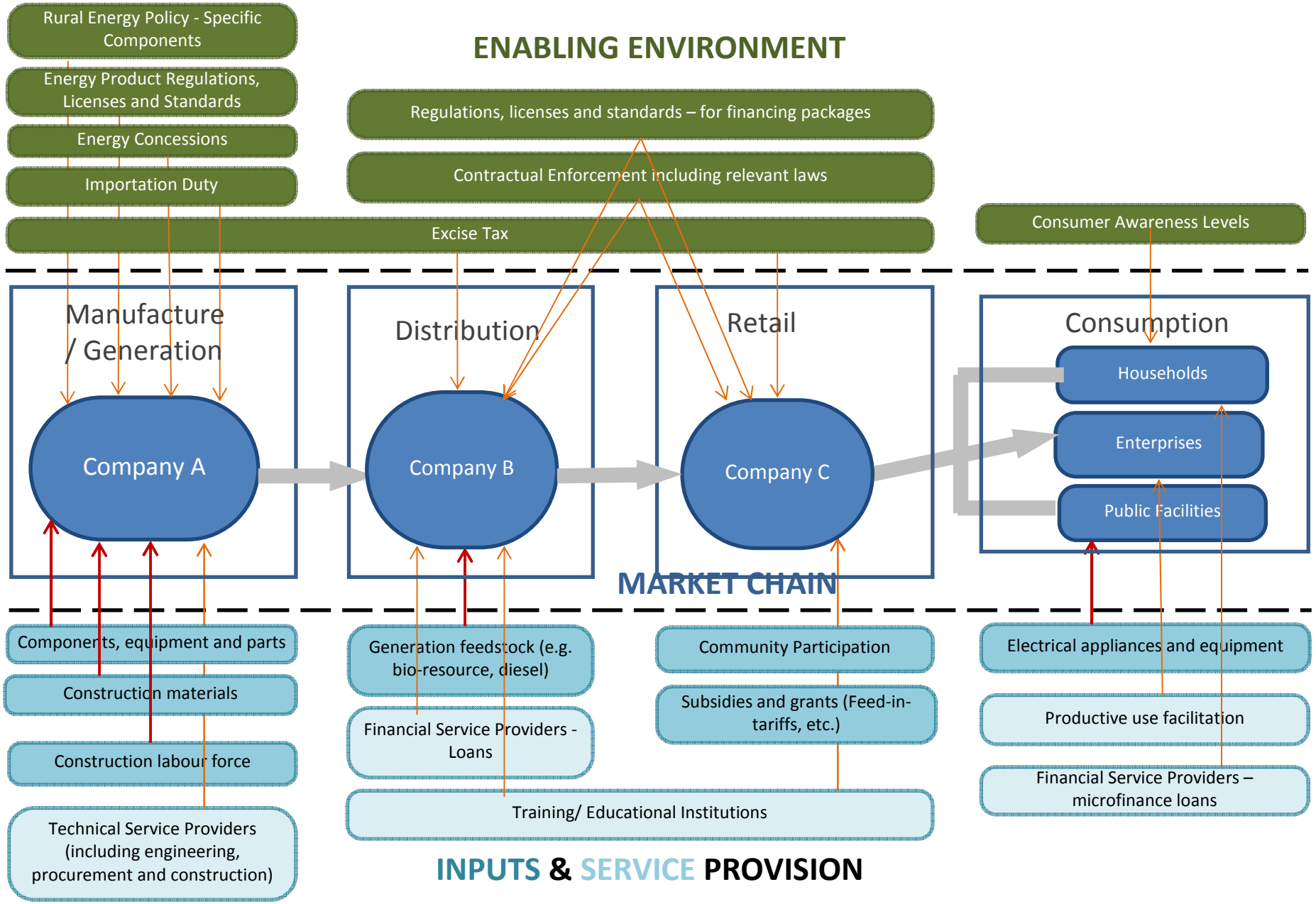


PRACTICAL ACTION

ENERGY MARKET SYSTEM



Generic Energy Market System Map



Categories of Energy Levels

Level 1 Energy Market Chain

•Number and quality of market actors
•Performance of market actors
•Level of connections/coordination between market actors

Level 2 Input and Services

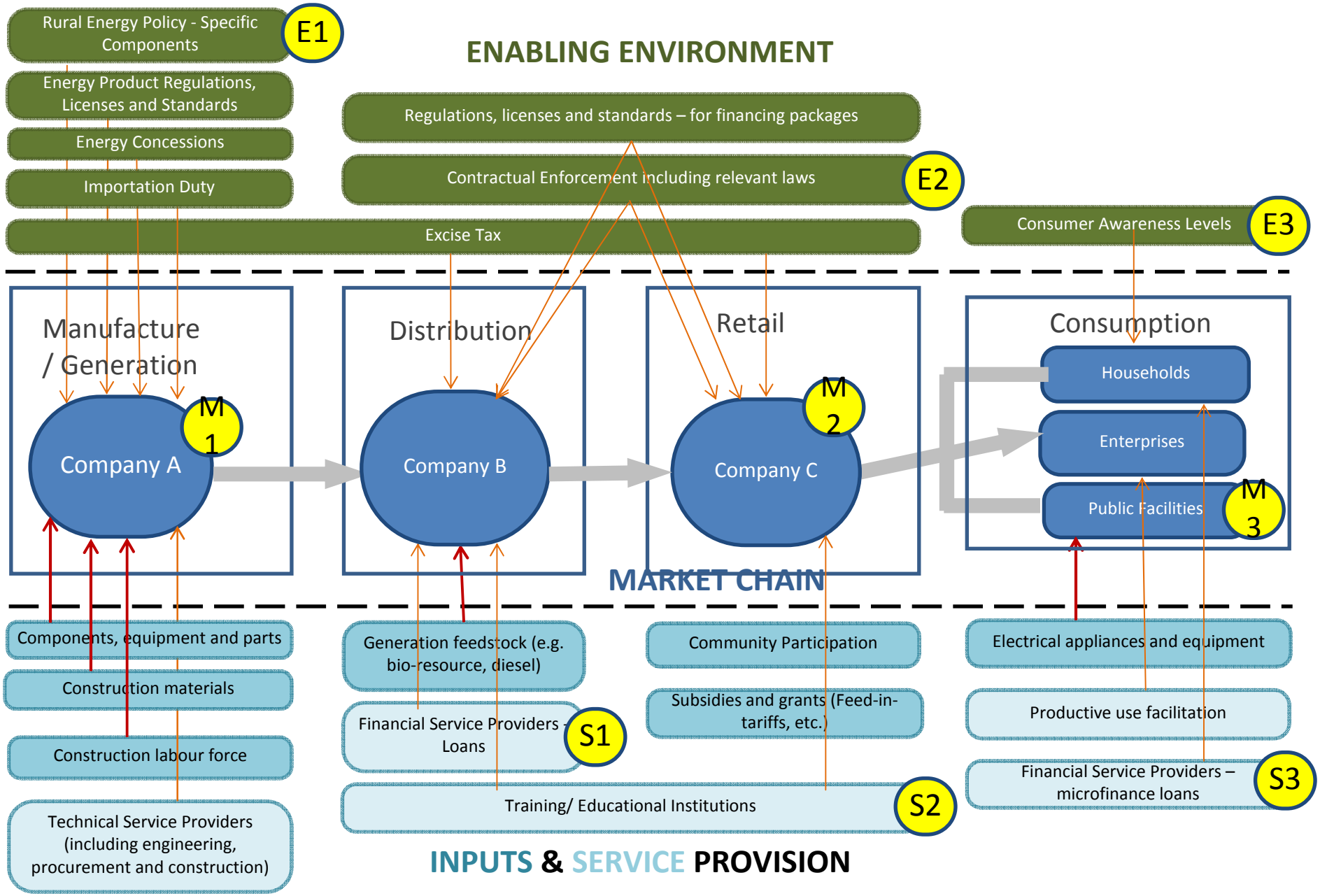
Inputs: supply of physical inputs (energy resources, labour etc.)

Services:
•Capacity Building Services
•Financial Services (loans and equity)

Level 3 Enabling Environment Factors/Forces

•Overarching Factors – beyond the reach of the any interventions (e.g. energy economics, infrastructure)
•General Factors –effect entire energy market chain (e.g. rural electrification policy)
•Specific Factors – effect only specific parts of market chain (e.g. quality control, VAT)

Generic Energy Market System Map – Identified Barriers



Types of Interventions

1] Technical Level Interventions:

Business development support
Technical support

2] Policy Level Interventions:

Policy support
Advocacy support
Awareness-raising support

3] Types of Financing Required:

Provision of grants
Provisions of loans (equity and debt financing)

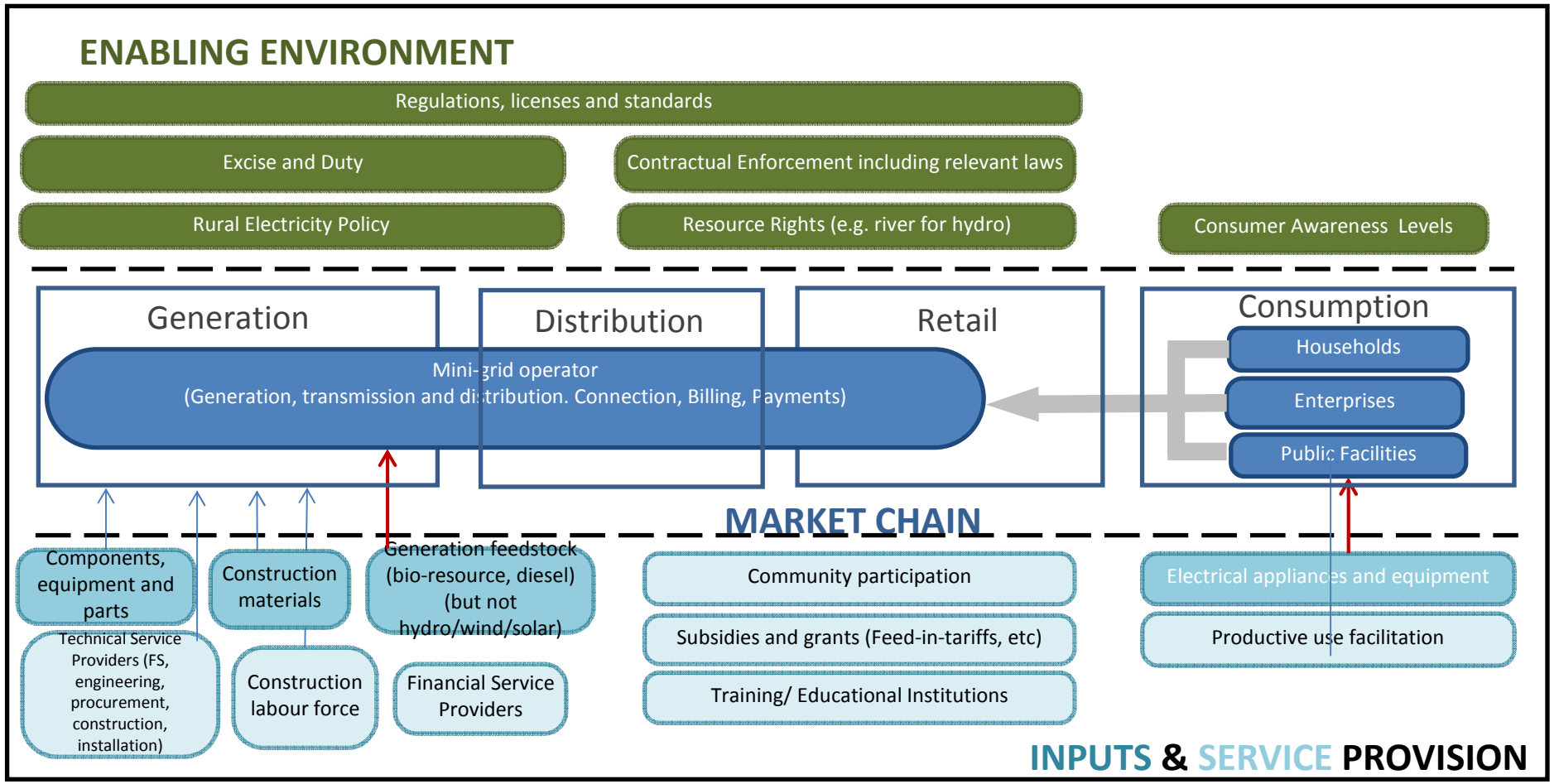
Main Energy Service Market Systems

The following is a list of the main energy service market systems that will form the case study assessment phase, to further test this framework and add important real-life experience of market system barriers and interventions.

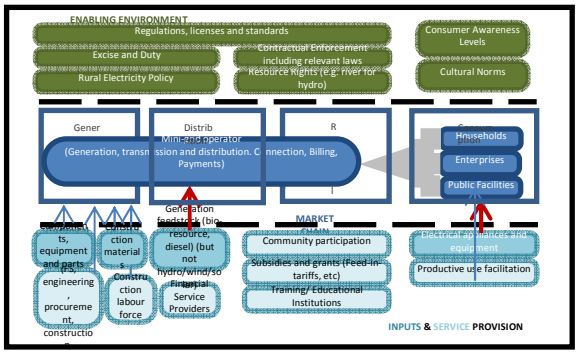
Initial energy framework maps have been developed for each of the main energy value chains, as well as their sub-value chains, which are summarised in the next pages, and detailed in the Annexes.

Energy Value Chain	Sub Value Chain	Case Study	Country	Region in Africa
Electricity Mini-Grids	Combined Generation / Distribution	MEGA	Malawi	Southern
	Combined Distribution / Retail	GIZ/EnDev	Rwanda	Eastern
	Separated Mini-Grid	Inensus	Senegal	Western
Solar Lantern	Integrated supply chain (proprietary distribution channels)			
	Distribution-Dealer	Solar Aid	Malawi	Southern
	Franchise & Rental / Leasing	mkopa	Kenya	Eastern
Solar Home Systems				
Biomass Cook Stoves	Imported stoves	Stovetec	South Africa	Southern
	Centralised locally produced stoves	Toyola	Ghana	Western
	Decentralised locally produced stoves	Canamake	Rwanda	Eastern
Alternative Fuels	LPG Stoves and Fuels		Senegal	Western
	Biogas Stoves and Fuels		Tanzania	Eastern

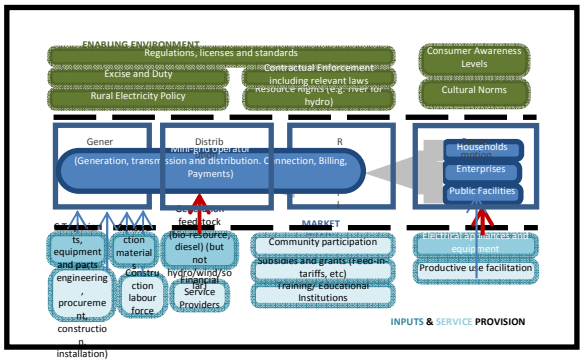
Model 1. Generic Electricity Mini-Grid (including 3 sub-models)



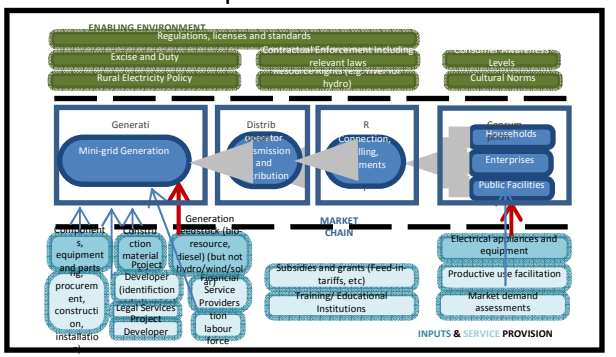
Model 1a. Combined Generation/Distribution Model



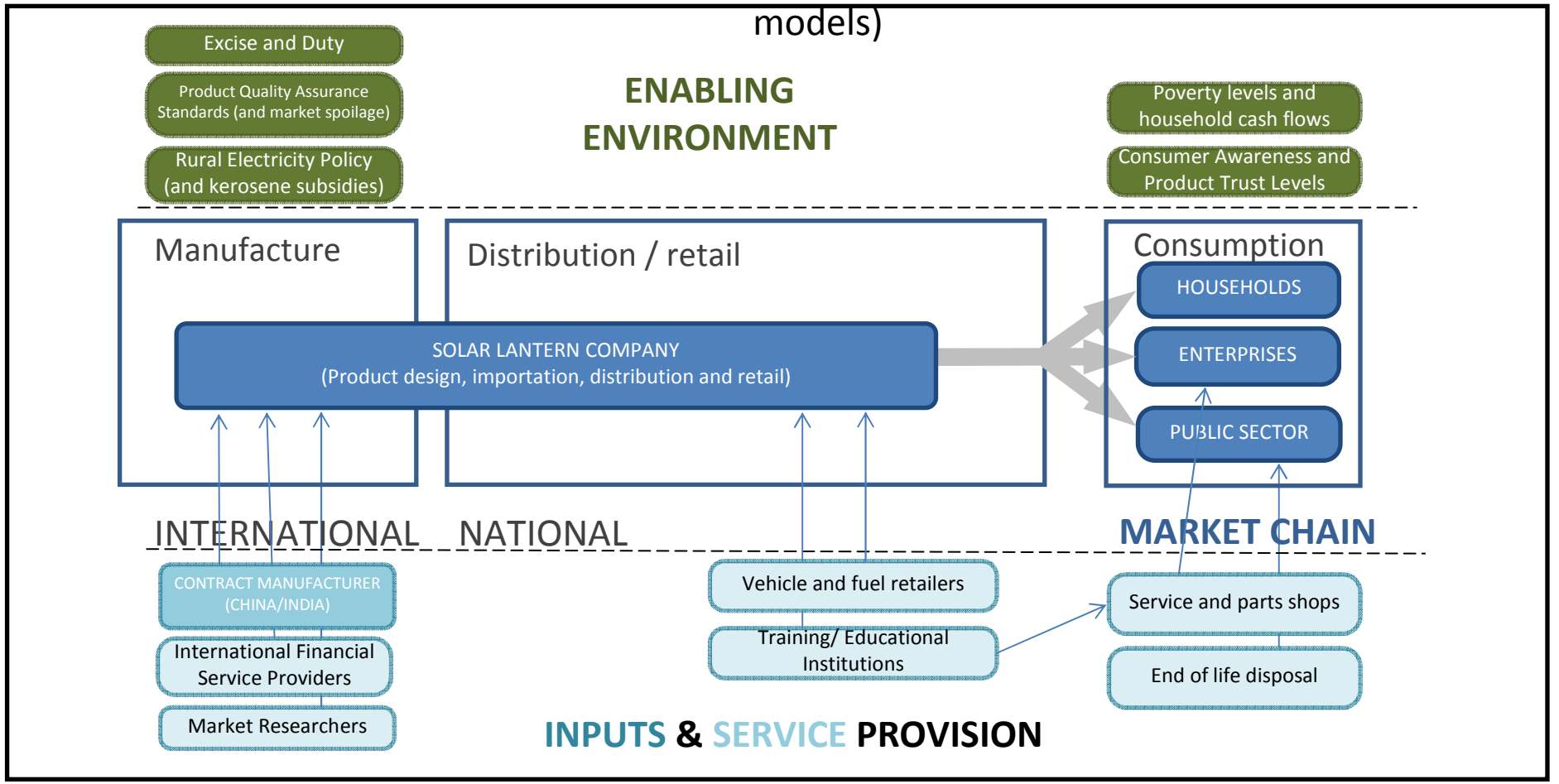
Model 1b. Combined Distribution/Retail Model



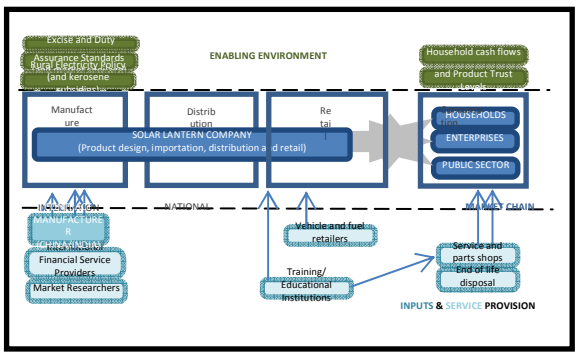
Model 1c. Separated Mini-Grid Model



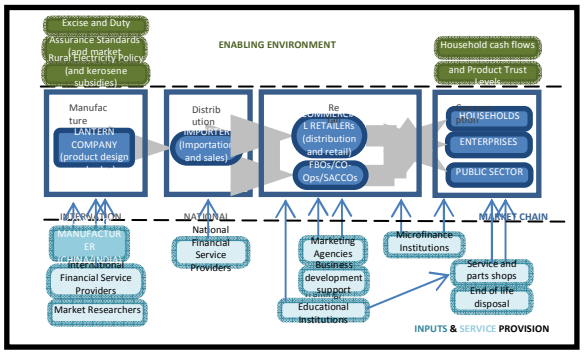
Model 2. Generic Solar PV Lanterns and Home Systems (including 3 sub-models)



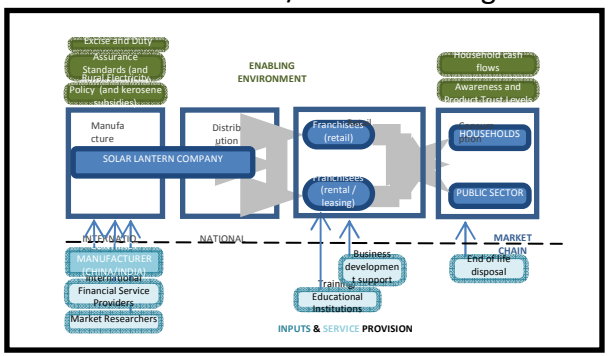
Model 2a. Integrated Supply Chain Model



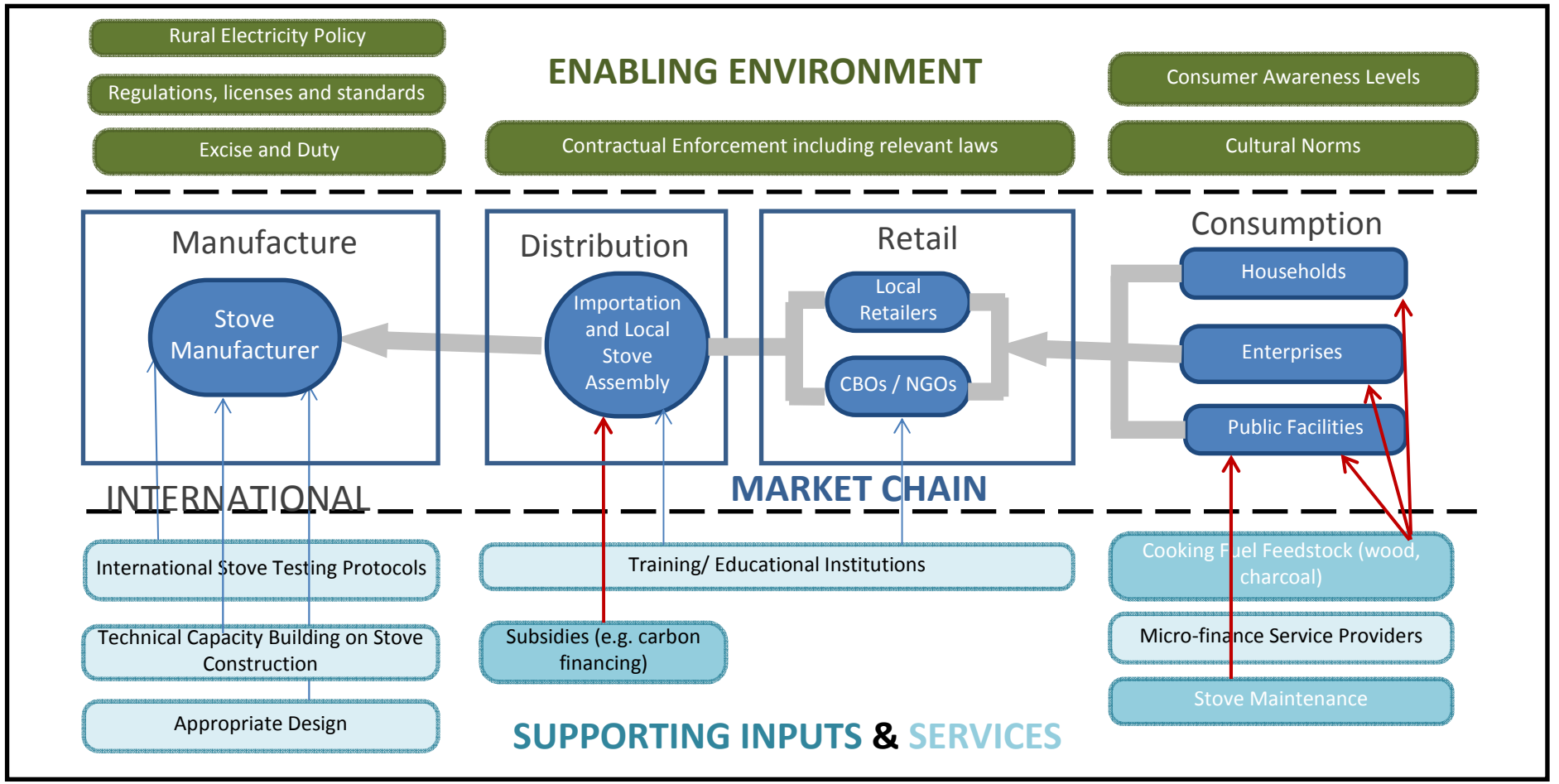
Model 2b. Distribution-Dealer Model



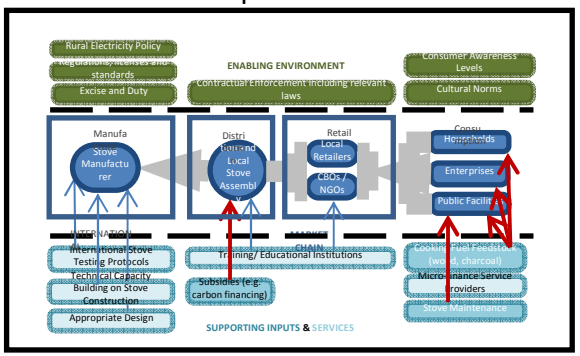
Model 2c. Franchise / Rental-Leasing Model



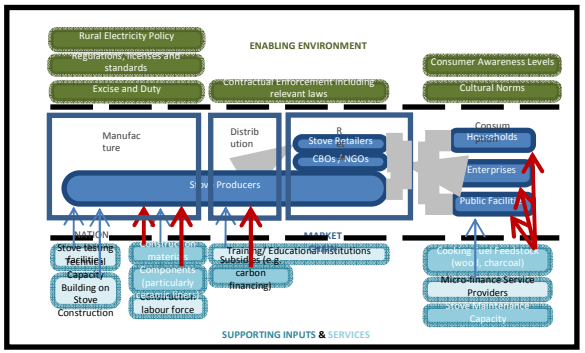
Model 3. Generic Biomass Stoves (including 3 sub-models)



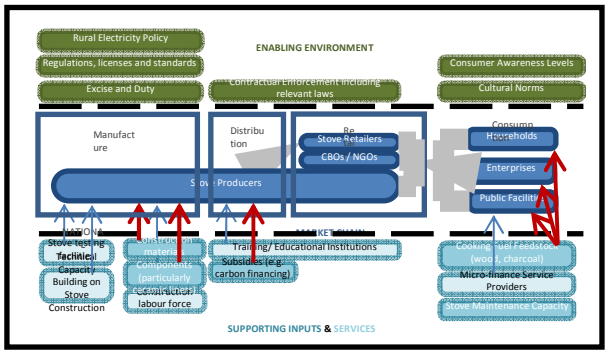
Model 3a. Imported Stoves Model



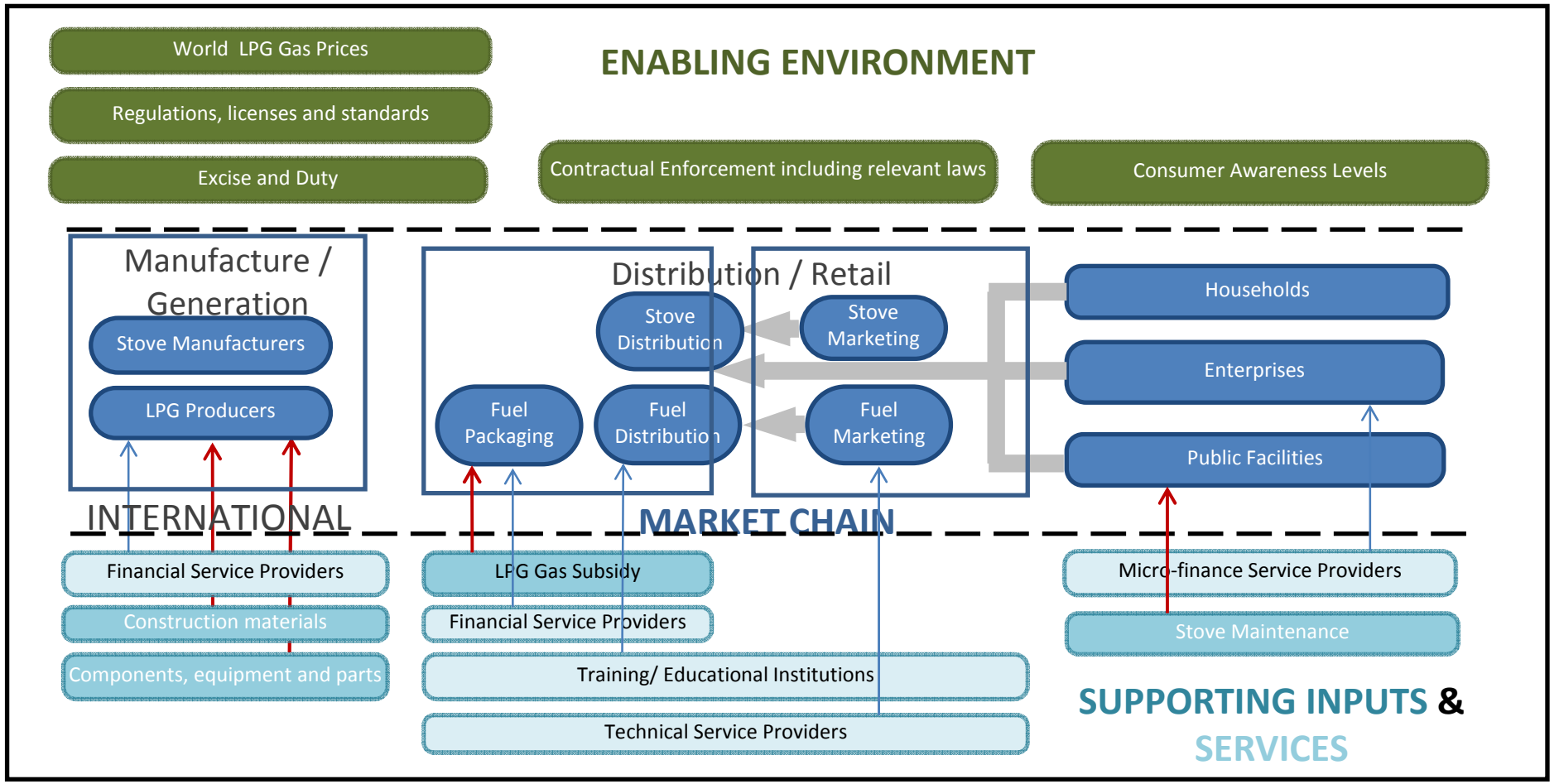
Model 3b. Locally-Centrally Produced Stove Model



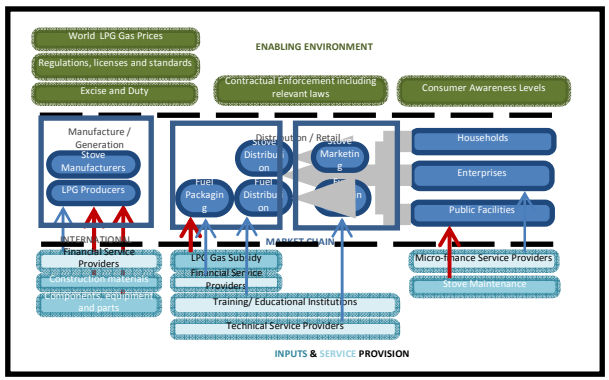
Model 3c. Locally-Decentralised Produced Stoves



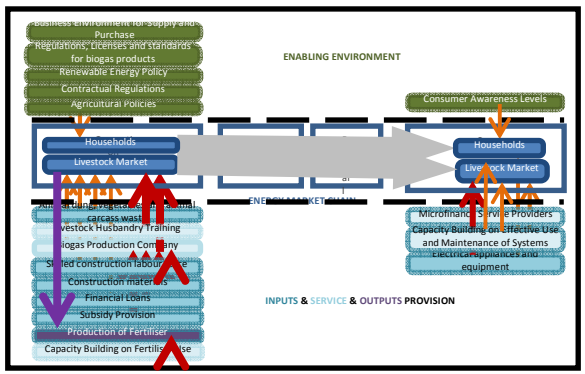
Model 4. Generic Alternative Fuels and Stoves (including 2 sub-models)



Model 4a. LPG Stoves and Fuel Model



Model 4b. Biogas Stoves and Fuel



Energy Market System – Potential Supporting Interventions

Identification	Market System Level Issue	Responsible Actor	Potential Support Intervention
Level 1 - Market Chain			
	Capacity Building Intervention		
M1	Low Quality of Equipment The equipment for the energy production is of a low quality and often leads to breakdown of the production systems.	Bureau of Standards	Development and enforcement of quality regulations and standards.
M2	Lack of Effective Business Models For Distribution and Retail: Energy companies within each energy value chain are not able to develop effective business models for selling and distributing their products.	Research or training institutions	Development of business models for companies operating within the generation, distribution and retail of energy services.
M3	Low Demand for Energy Services from Public Facilities: The public facilities that use the energy services are unable to afford it on a regular basis.		Awareness-raising.
Level 2 - Inputs and Services			
	Financial Interventions		
S1	Low Access to Company Loans: Energy companies are not able to access adequate financial services for supporting their businesses.	Banks and MFIs	
S2	Lack of Access to Households Microfinance Loans: Microfinance institutions need to develop specific loan packages to allow households to overcome the relatively high upfront costs of energy appliances (e.g. improved cook stoves) or conversion equipment.	Banks, MFIs, SACCOs	
	Capacity Building Interventions		
S3	Lack of Capacity of Energy Retailers: Training needs to be supplied to energy companies to enable them to develop better business models for more effectively delivering energy.	Research or training institution	
Level 3 - Enabling Environment			
E1	Rural Electricity Policy – Specific Components Specific components of the Rural Electrification Policy have not been specifically developed to fully		Responsible actor: e.g. Ministry of Energy/REA Target Group: e.g. project developer or technology producer Description of Type of intervention (to be based on case studies):
E2	Contractual Enforcement including Laws It is very difficult to ensure that contracts are enforced when they are drawn up and so organisations are not accountable to deliver what they have been contracted to do.		
E3	Community Awareness Levels The levels of awareness of the energy services are low and therefore the demand for the energy technology systems, appliances are not developed.		