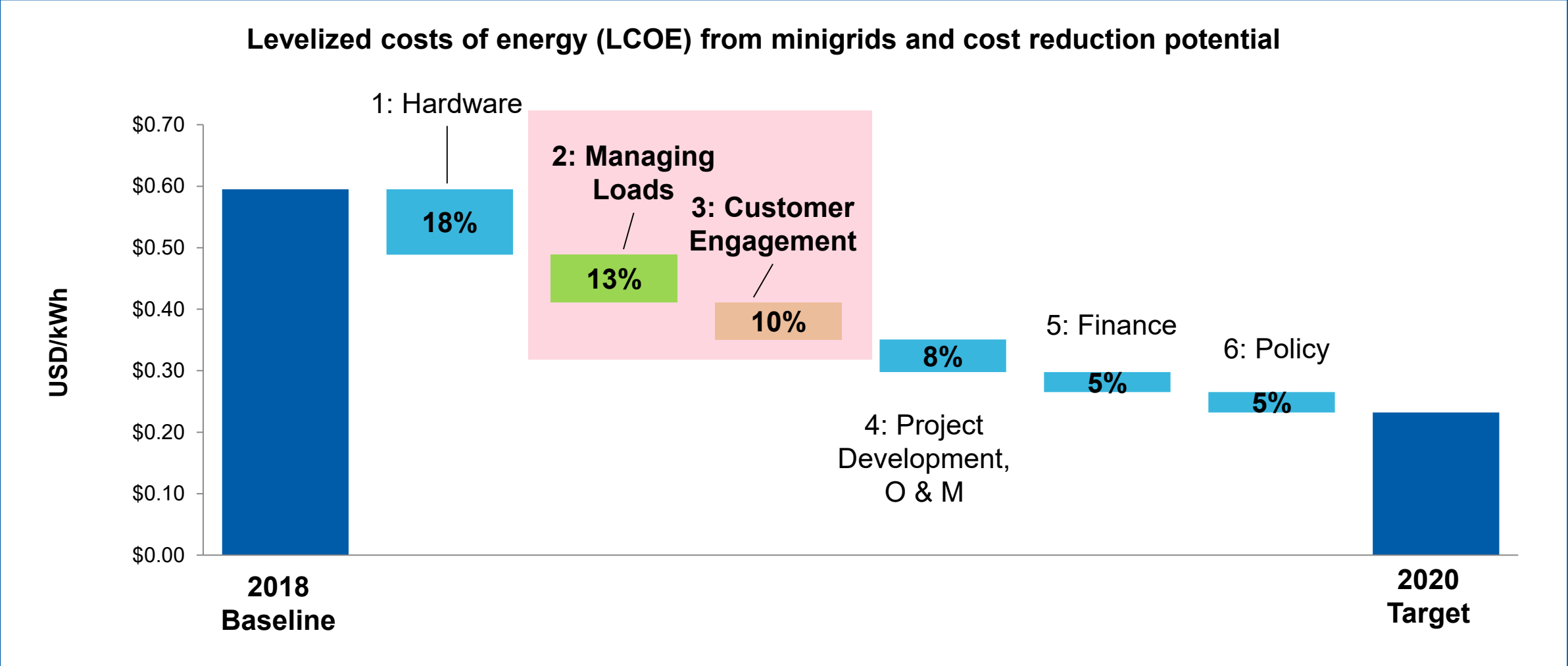


Productive uses of energy are essential for reducing the costs of energy from minigrids, helping reduce subsidy needs and make funding go further



The productive use sector in Ethiopia is centered on agricultural productivity, and overlaps with activity in this sector

Sector	Loads	Key references	Agricultural productivity
Smallholder irrigation	Pumps Standalone and grid connected systems	<ul style="list-style-type: none"> National strategy for irrigation NEP-II, ATA mapping & solar pilots 	
Mechanization	Grain mills Threshers and coffee washing stations	<ul style="list-style-type: none"> National strategy for mechanization Value chain analyses; AGP-II 	
Meat, dairy and poultry	Cold chain, milking and milk collection Incubators, heating and lighting	<ul style="list-style-type: none"> Value chain analyses in meat, dairy and poultry 	
Horticulture	Cold chain Lighting and heating	<ul style="list-style-type: none"> National strategy for horticulture Value chain analyses 	
Small businesses	Welding; woodworking; hair salons; tailoring; entertainment; food & drink	<ul style="list-style-type: none"> Existing business activities in electrified rural areas 	
Institutional loads	Schools: lighting, ICT Health: lighting, cooling, medical eqpt	<ul style="list-style-type: none"> Ministries of Health & Education NEP-II, Geospatial mapping 	

A range of promising Productive Use appliances in Ethiopia but limited supply capacity

- **Agricultural value chains**

(wheat, teff, coffee, oily seeds, soybeans)

- Irrigation pumps
- Threshers
- Hullers and pulpers
- Mills
- Oil presses

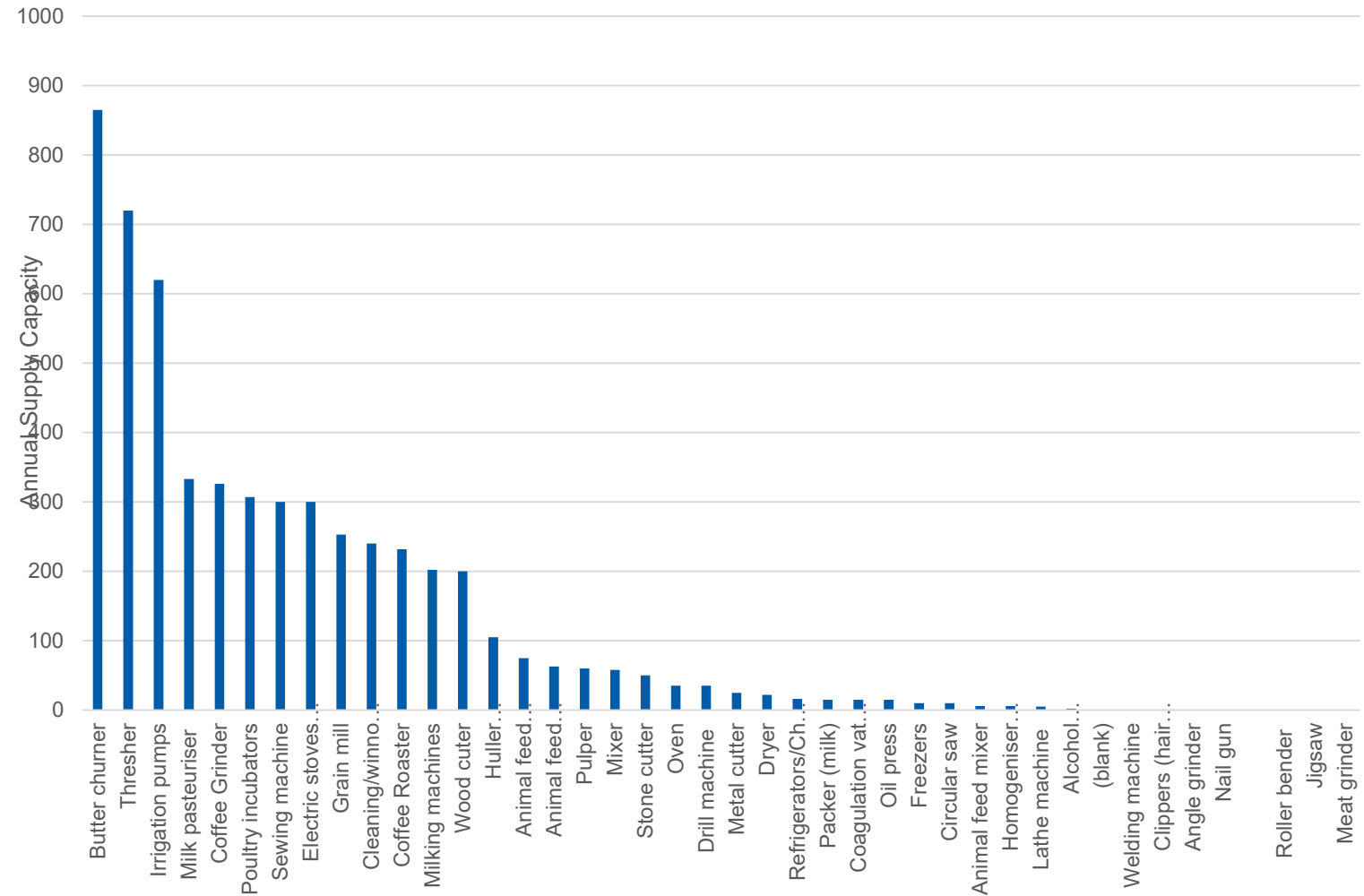
- **Dairy and poultry value chains**

- Milking machines
- Dairy cold storage
- Pasteurization units
- Egg incubators

- **Commercial value chains** (carpentry, metal works, restaurants, hair saloons)

- Ovens
- Dough mixers
- Welding machines
- Hair dryers (hood)

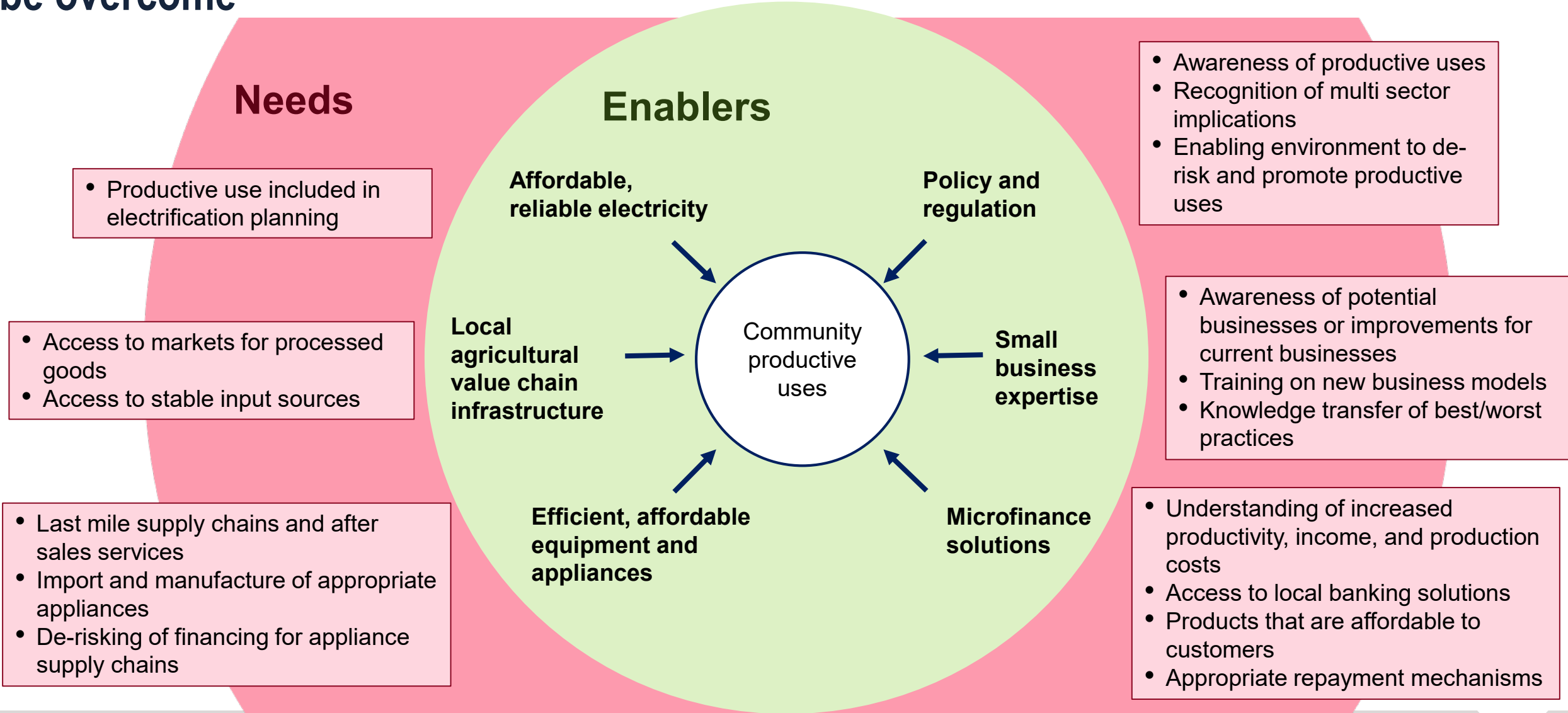
Productive Use appliances supply capacity in Ethiopia



In the Ethiopian context, the availability and financing of Productive Use appliances faces several bottlenecks

- Detailed market assessment (accurate evaluation of number and scale of appliances needed)
- Development and enforcement of standards applicable to productive use appliances
- Gaps in supply chain and limited capacity from both local manufacturing and import perspective
- Policy challenges
 - FOREX
 - VAT exemption/ application scheme to
- Access to finance (loans and FOREX) is a major challenge for supply chain
- Stakeholder alignment and coordination
 - Development agencies – alignment of electrification and economic development goals
 - Communities – electrification systems, PU and payments (ability and will)
 - Government – “Task force” co-ordination key
- Tailored community engagement mechanisms
- Capacity building needs
 - Fostering awareness of MFI and banks on business models for PU appliances
 - ESA - standards development and implementation
 - Appliance suppliers – quality assurance and business management

For communities to effectively develop productive uses, a range of barriers need to be overcome



A successful productive use program must intervene across supply, demand and capacity building

