

State of the Off-Grid Appliance Market 2019

Efficiency for Cooling: Technology and Market Trends



What impact do cooling appliances have on off-grid households?

1 NO
POVERTY



Affordable access to new technology is an important part of SDG1: No Poverty, ensuring that all men and women have equal rights to basic services – such as cooling technologies.

2 ZERO
HUNGER



Access to **refrigerators allow families to store food, safely, for longer periods of time**, reducing food waste and incentivizing cheaper in bulk food purchases.

3 GOOD HEALTH
AND WELL-BEING



The **safe storage of food in refrigerators** can reduce the risk of food-related infections and diseases.

5 GENDER
EQUALITY



Appliances such as refrigerators have the potential to improve gender equality by **reducing the amount of time women must spend on domestic tasks**.

What is the current state of the market today for off-grid refrigerators?

Approximately 70% of current GOGLA sales are primarily in Sub-Saharan Africa...



In 2018 5,900 off-grid refrigerator sales were reported, of which around 4,000 were in sub-Saharan Africa

...However, there are three major challenges to increase penetration



High **price** relative to the off-grid population's purchasing power



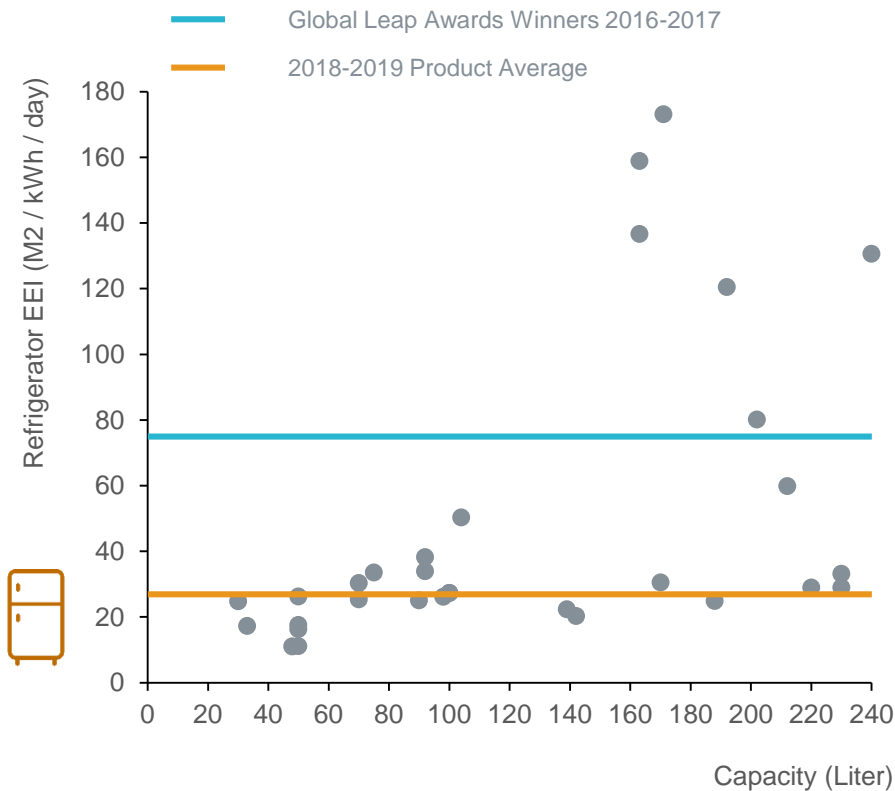
Low **demand at the household level**, due to limited need for storage



High **energy consumption** of current refrigerators

How have efficiency and performance of off-grid refrigerators evolved?

Refrigerator Energy Efficiency: Global Leap Awards Winners compared to market average



New product innovations in the refrigerator market



Sundancer 50-liter DCR50 refrigerator



Fosera Cool Sun 54-liter refrigerator

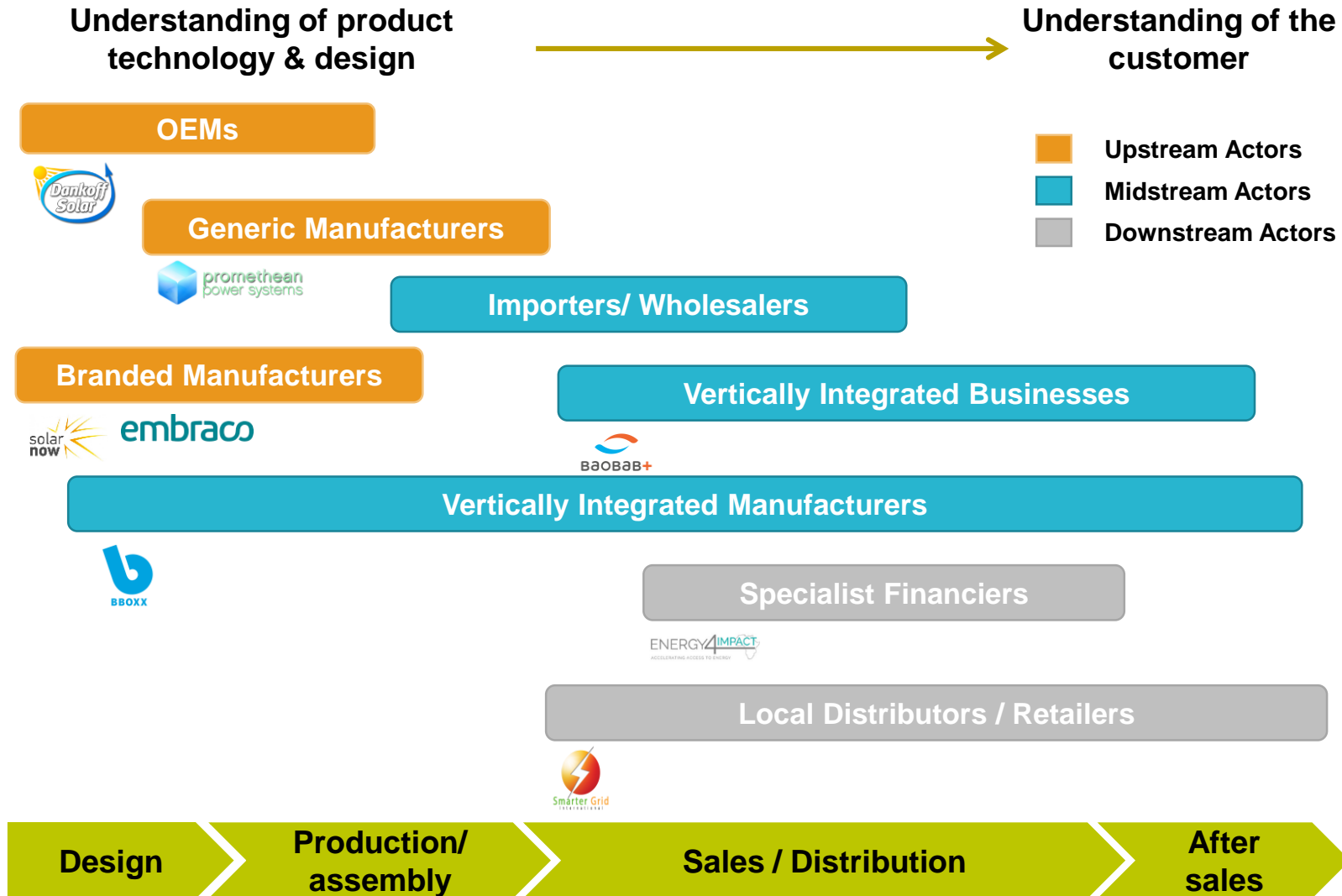


Youmma (Embraco)



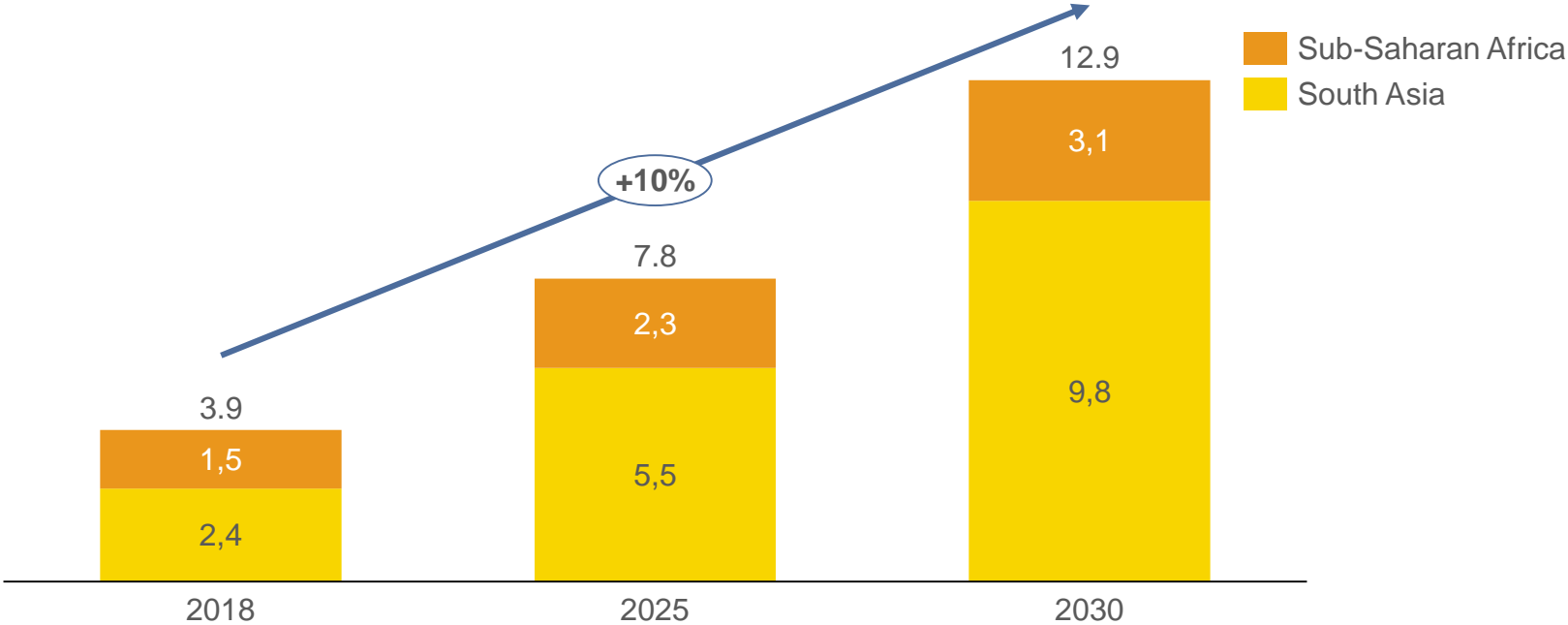
*EEI: Energy Efficiency Index
Sources: Global LEAP Appliance database, 2019; Dalberg analysis

How are existing business models adapting to off-grid refrigerators?



What is the potential serviceable household market for off-grid refrigerators?

Cumulative market potential, globally (Bn USD)



# of households (million)	Côte d'Ivoire	Ethiopia	India	Kenya	Myanmar	Nigeria	Sierra Leone	Uganda	Global
2018	0.04	0.05	4.93	0.07	0.07	0.74	-	-	11
2030	0.16	0.37	15.46	0.33	0.47	1.00	-	-	41

Source: GOGLA sales data, H2 2018; Dalberg analysis (market sizing)

What needs to happen to accelerate growth in sales and uptake of off-grid refrigerators?

Technology	Continued investment in R&D to improve energy efficiency and performance of cooling technologies
Market Players	Incentivizing entrance of global white goods players into off-grid cooling market would accelerate technology developments
Customers	Greater insights into household demand and productive use cases
Financing	More dedicated financing for off-grid appliance players <u>Examples:</u> results based finance, working capital loans
Policy	Integrating appliances into national electrification programs; policies around tax exemptions, quality assurance, etc.



End of Presentation

Logic of the household appliances market sizing model

