

Powering Agriculture

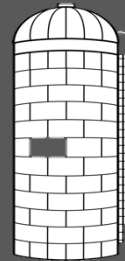
AN ENERGY GRAND CHALLENGE



BMZ



Energy in the Agricultural Value Chain



BEYOND POWERING AG



TRANSPORTATION & LOGISTICS



MARKETING & DISTRIBUTION



END USER

INPUTS

Seed
Water
Labor
Fodder
Fertilizer
Equipment

PRODUCTION

*Growers or
Cooperatives*
Horticulture
Livestock
Aquaculture
Dairy/meat

LOCAL TRANSPORT/ COLLECTION

Truck
Bicycle
Train
Boat
Animal
On foot

STORAGE & HANDLING

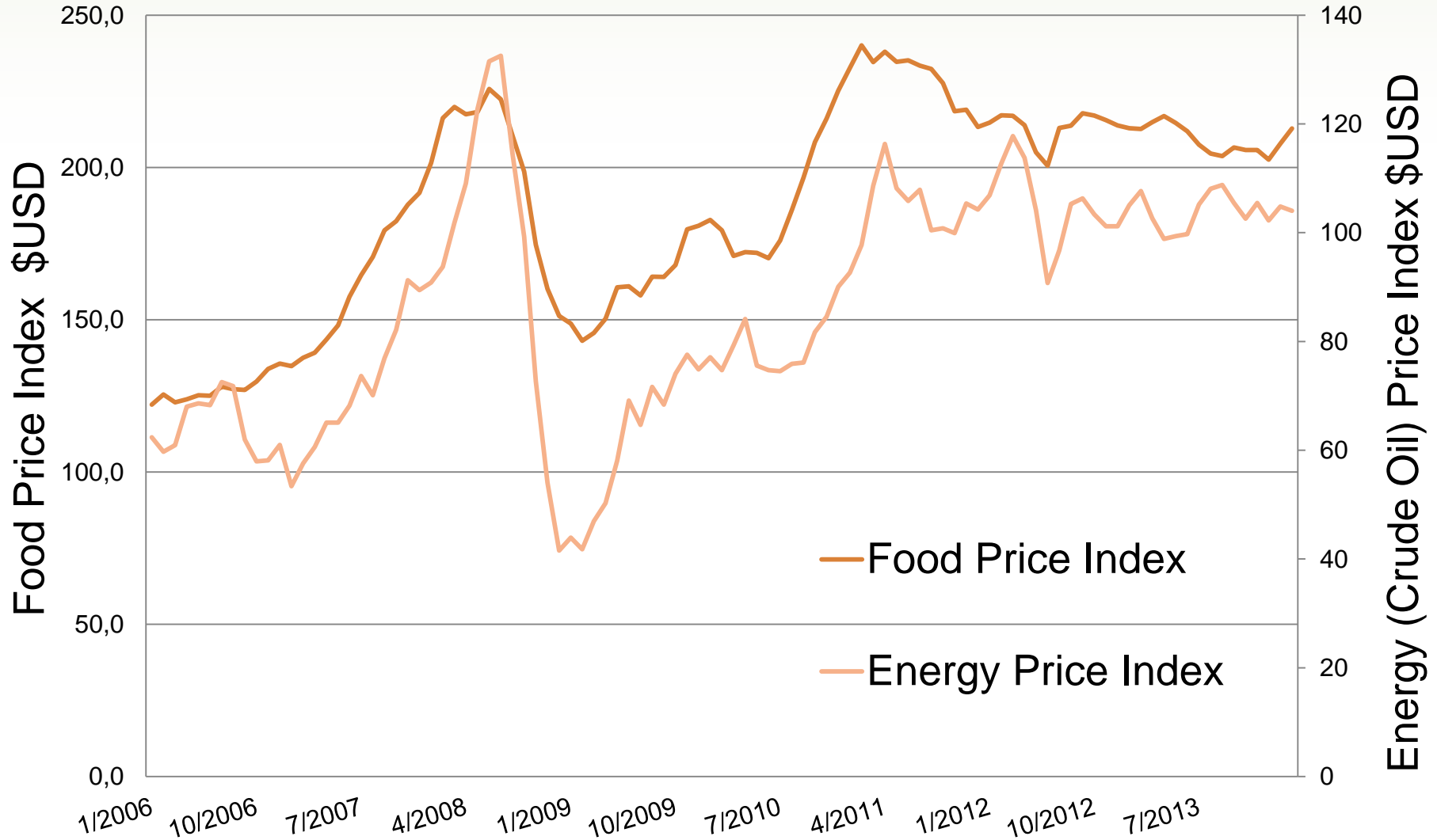
*Pre or post
processing*
Storage
Silos
Cooling
Brokers &
Traders


PROCESSING

Drying, grinding,
milling, etc.
Food & feed
ingredients


THE PRICE OF FOOD IS TIED TO ENERGY

January 2006 – March 2014





70% agricultural intensification is required to feed the world in 2050.



In sub-Saharan Africa up to **50%** of the food that is grown does not make it to the table.

India could save **\$10 billion** per year with sufficient refrigeration/cold storage for food.

Currently, just **4%** of African cropland is irrigated.

Electrifying the unserved is a **\$700 billion** market

THE CHALLENGE

Millions of farmers and agribusinesses in developing countries lack access to the clean energy services necessary for increasing agricultural productivity and value.



Powering Agriculture Helps Overcome Market Barriers

Limited Demand

Inappropriate Technology Design & Cost

Limited Access to Financing

Few Commercially Replicable Business Models



Providing support for the entire development of an enterprise

Technology Lifecycle



Powering Ag Mechanisms

Innovation Calls

Innovation Prizes

Global Financing Facility

Public Private Partnerships

Knowledge Management and Sharing

INNOVATION DRIVES IMPACT



Innovative & Appropriate Tech

Post-harvest Processing,

Decentralized Power,

Cold Storage,

Irrigation

Impact

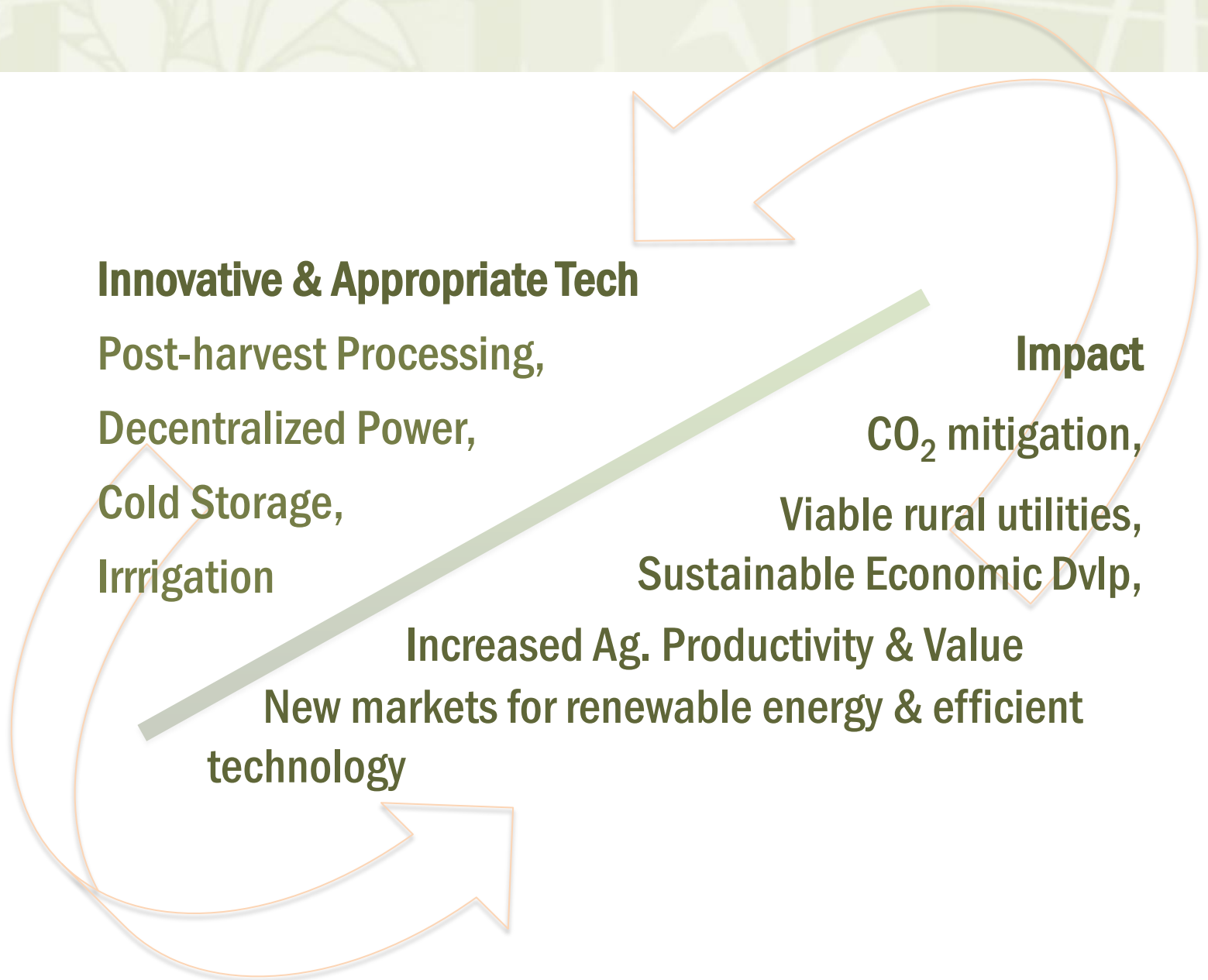
CO₂ mitigation,

Viable rural utilities,

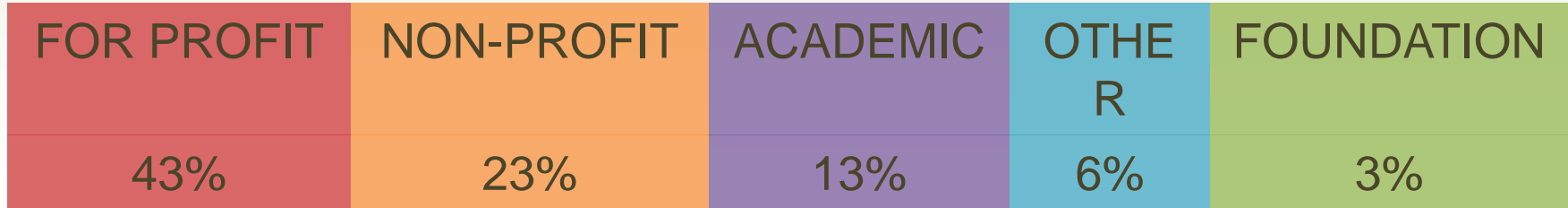
Sustainable Economic Dvlp,

Increased Ag. Productivity & Value

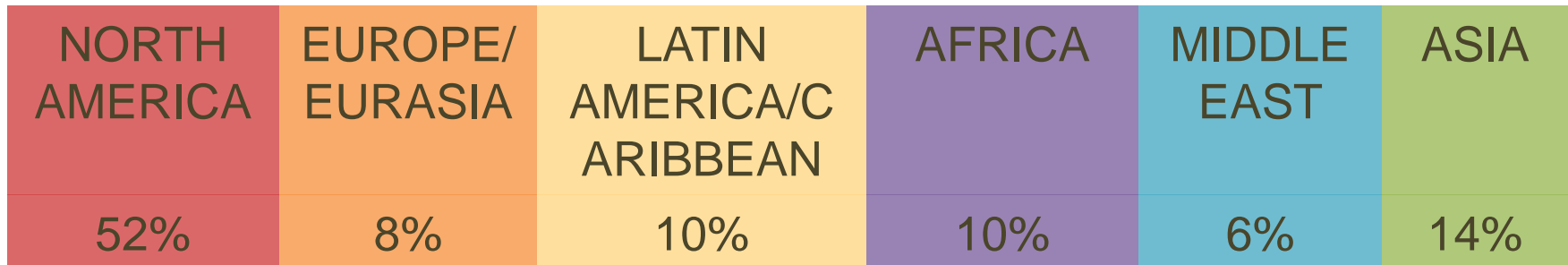
New markets for renewable energy & efficient
technology



INTEREST IN POWERING AG FUNDING



473 PROPOSALS FROM NEARLY 80 COUNTRIES 41% DEVELOPING COUNTRIES

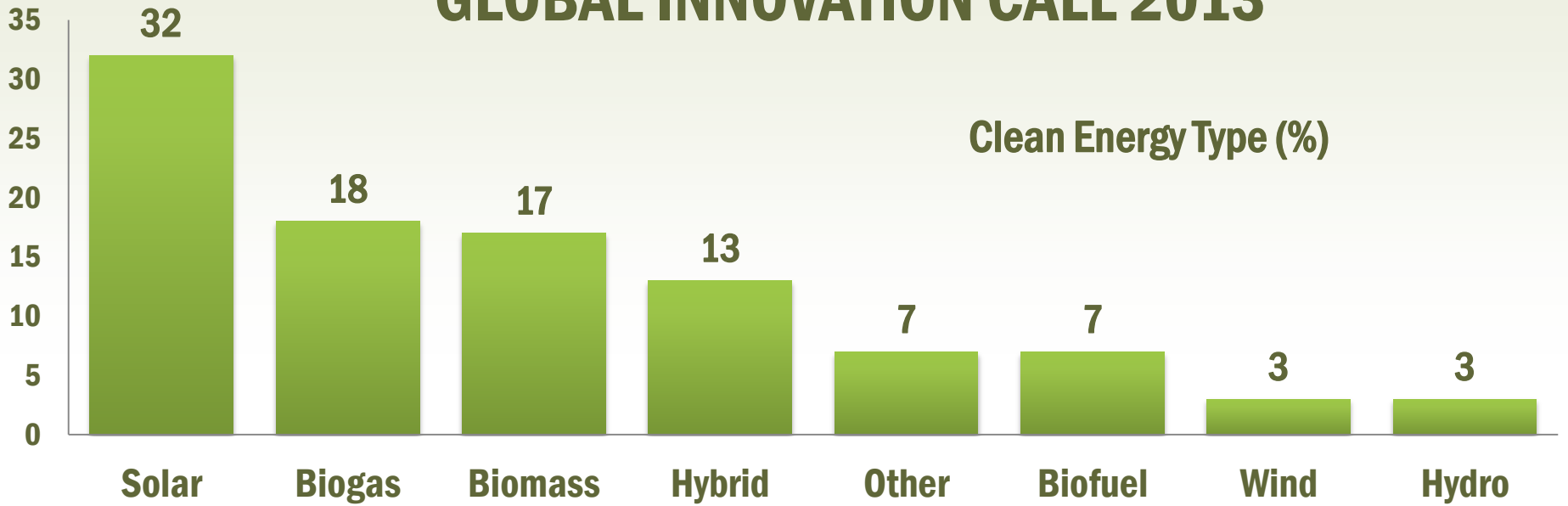


11 AWARDS TOTALING \$12 MILLION USD

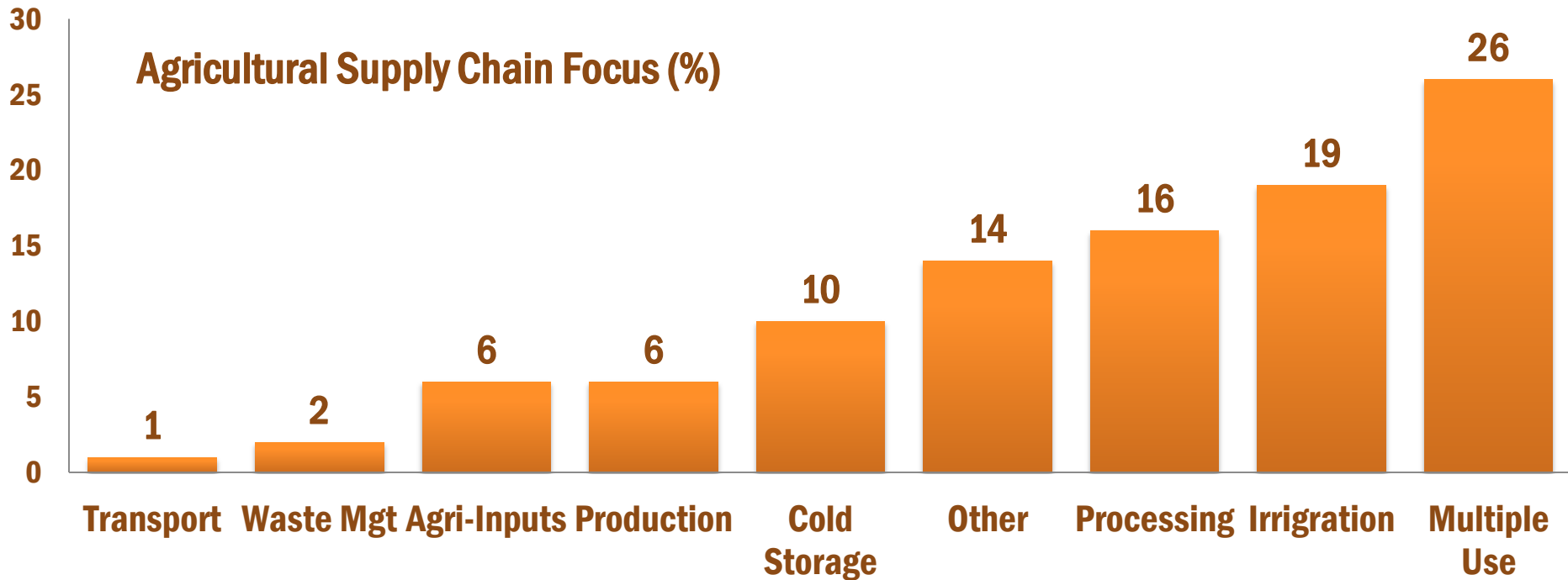


GLOBAL INNOVATION CALL 2013

Clean Energy Type (%)



Agricultural Supply Chain Focus (%)



IRRIGATION: iDE



**Solar PV & solar steam
powered piston pump for drip
irrigation.**

**Working to implement diesel
cost competitive pumps,
increasing crop yields, harvest
yields & reducing gender
disparities in ag.**

MICRO GRIDS: EARTH SPARK

Smart meter & solar micro-grid for electricity service to milling facilities & surrounding communities.

Aim to supply 24 hour, cost competitive electricity service to agribusiness & residents, reduce post-harvest losses, & increase value-added processing

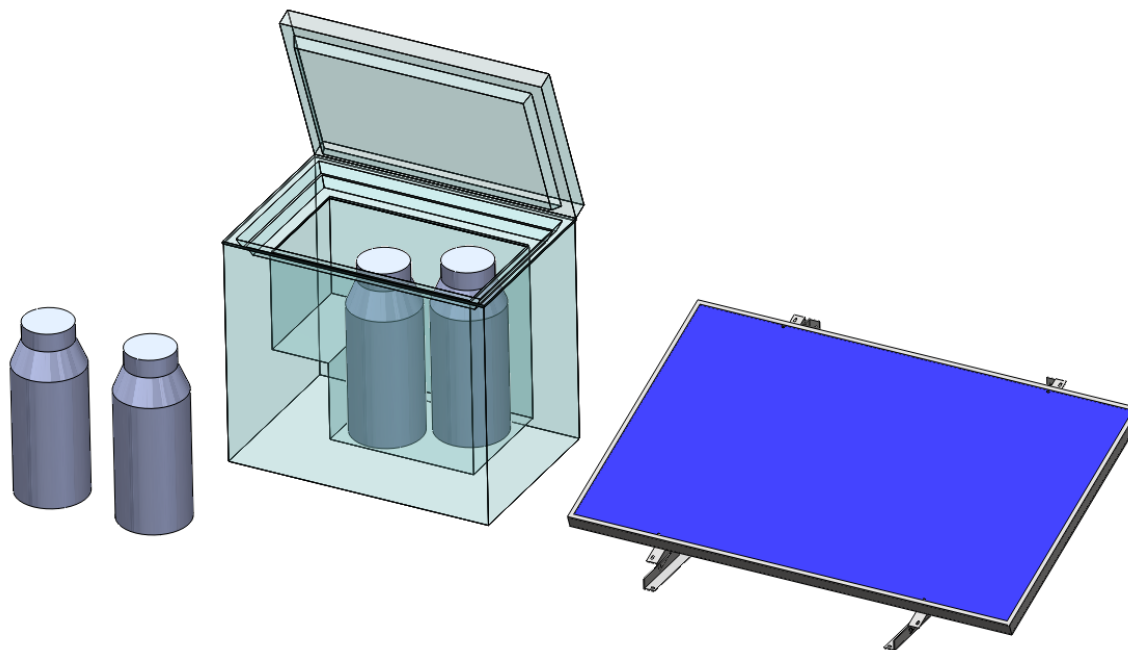


COLD STORAGE: SunDancer

Efficient DC Solar Refrigeration – Freezers and large-scale cold storage units that run on solar power

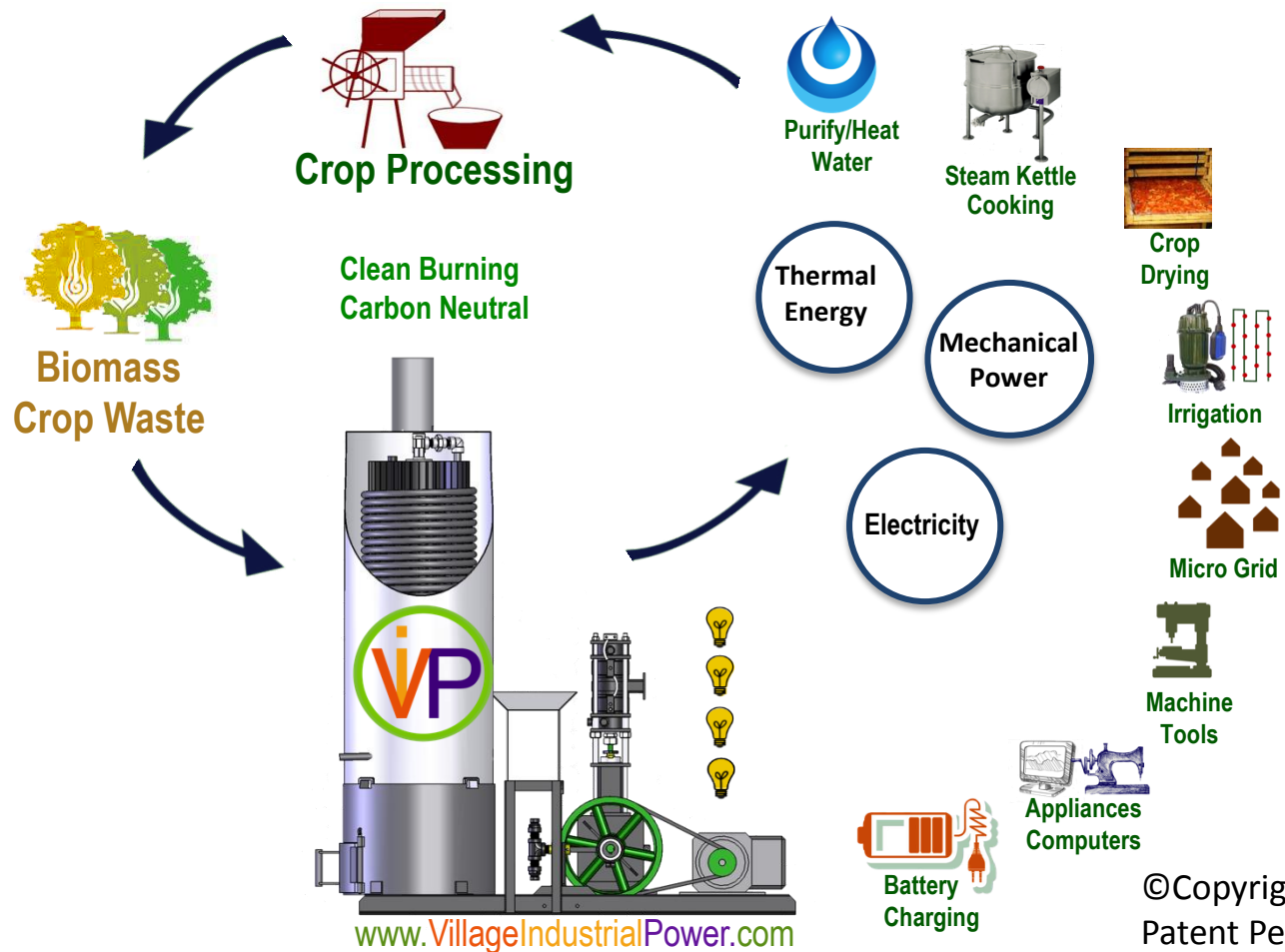
Off-grid cooling solutions for people that lack access to reliable, affordable energy

Can be used to enhance food security/value through reduced spoilage, and/or keeping vaccines cool to prevent diseases. .



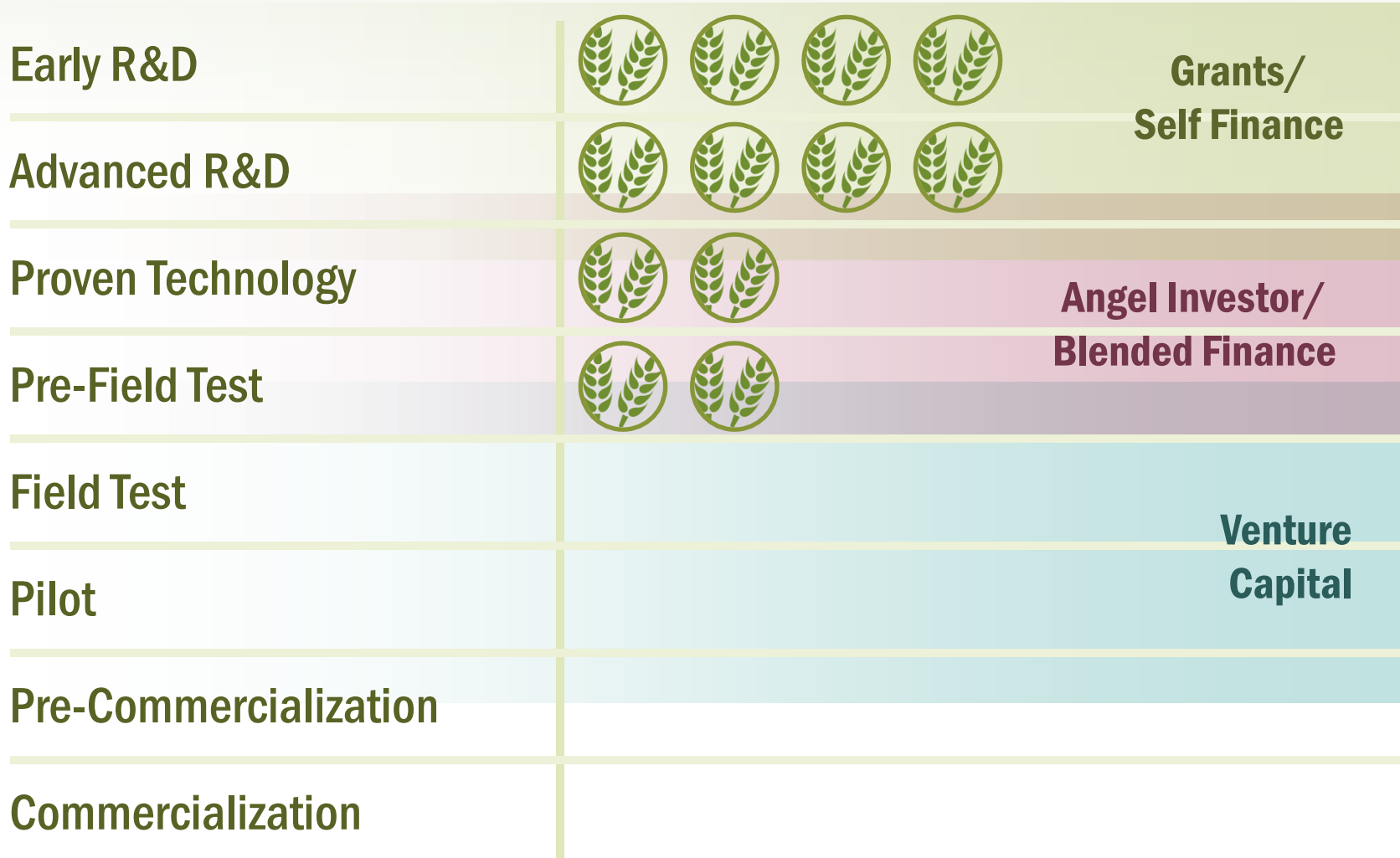
POST HARVEST PROCESSING: CAMCO

Biomass Fueled Steam Powered Generators
Local Energy ♦ Low Cost Fuel ♦ Portable



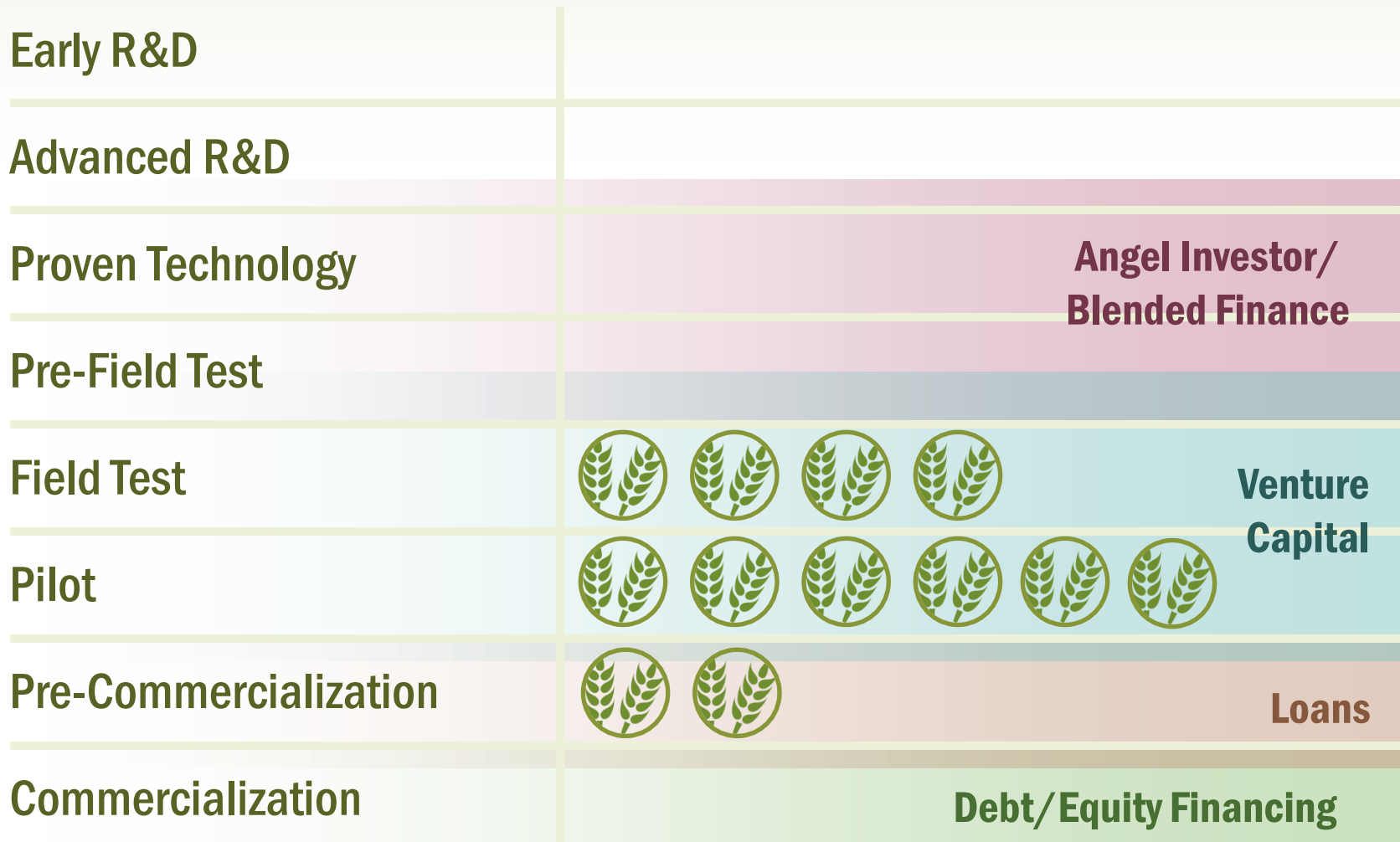
Powering Agriculture Energy Grand Challenge

Portfolio Position Year 1



Powering Agriculture Energy Grand Challenge

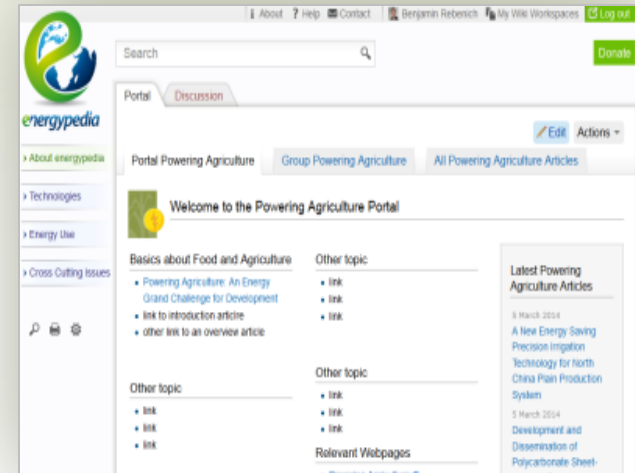
Expected Portfolio Position Year 3



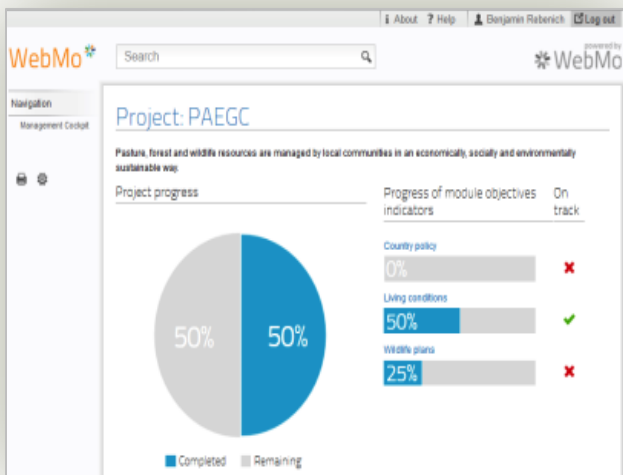
KNOWLEDGE MANAGEMENT



Communications



Knowledge Hub



Monitoring Platform



Project Management Platform

Where are we going?

- Second Innovation call (October 2014)
- Public Private Partnerships
- Financing facility
- Wiki site





Thank you

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www.PoweringAg.org