



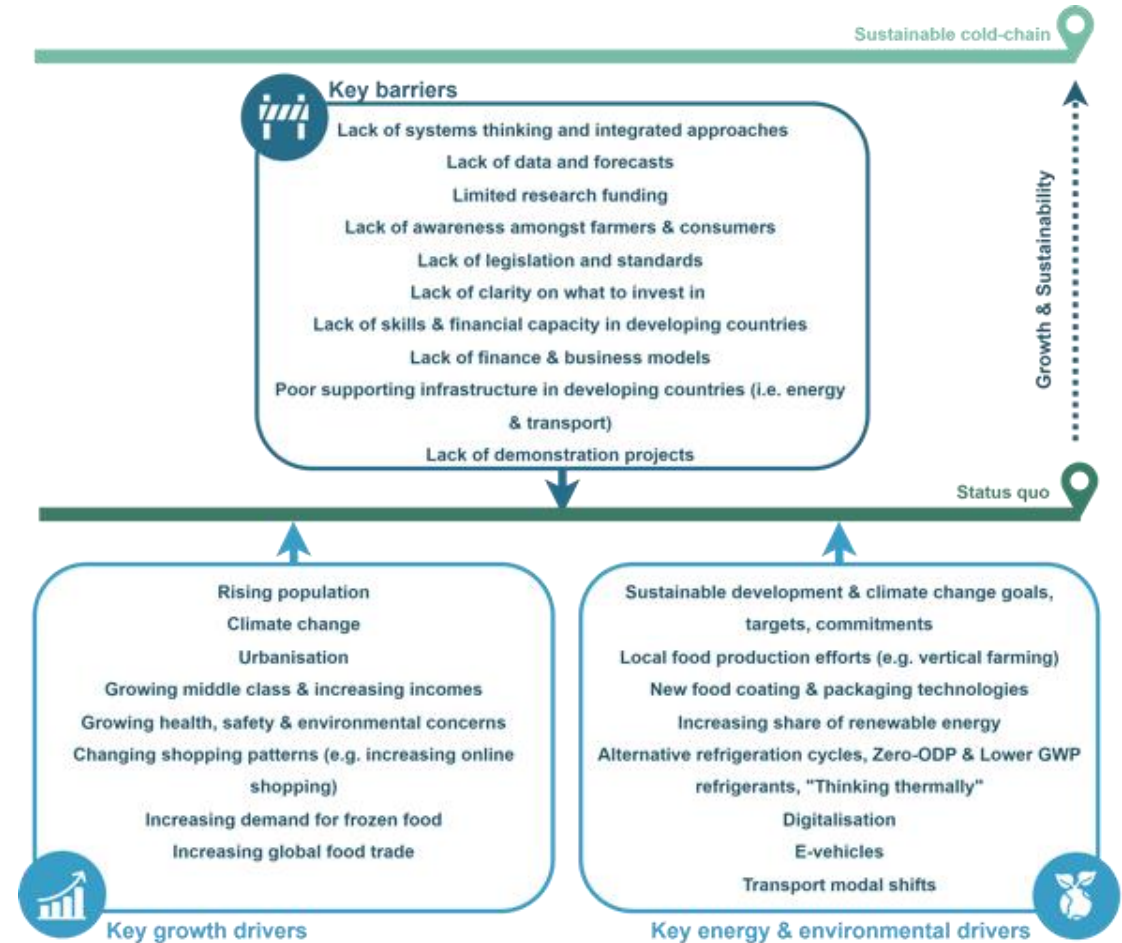
Clean Cooling
Network

Designing holistic approaches and a roadmap for cold chain in Rwanda -
Understanding the role of Centres of Excellence.

Opportunity for action

- We know that cooling and cold-chains are complex networks that include multiple stakeholders who are not always properly connected.
- There is lack of focus on pursuing comprehensive, system-scale sustainable solutions rather than targeting individual equipment opportunities.
- Developing an integrated systems approach to cooling and cold-chain provision starts with a comprehensive understanding of the need across the system.

Multiple barriers and drivers

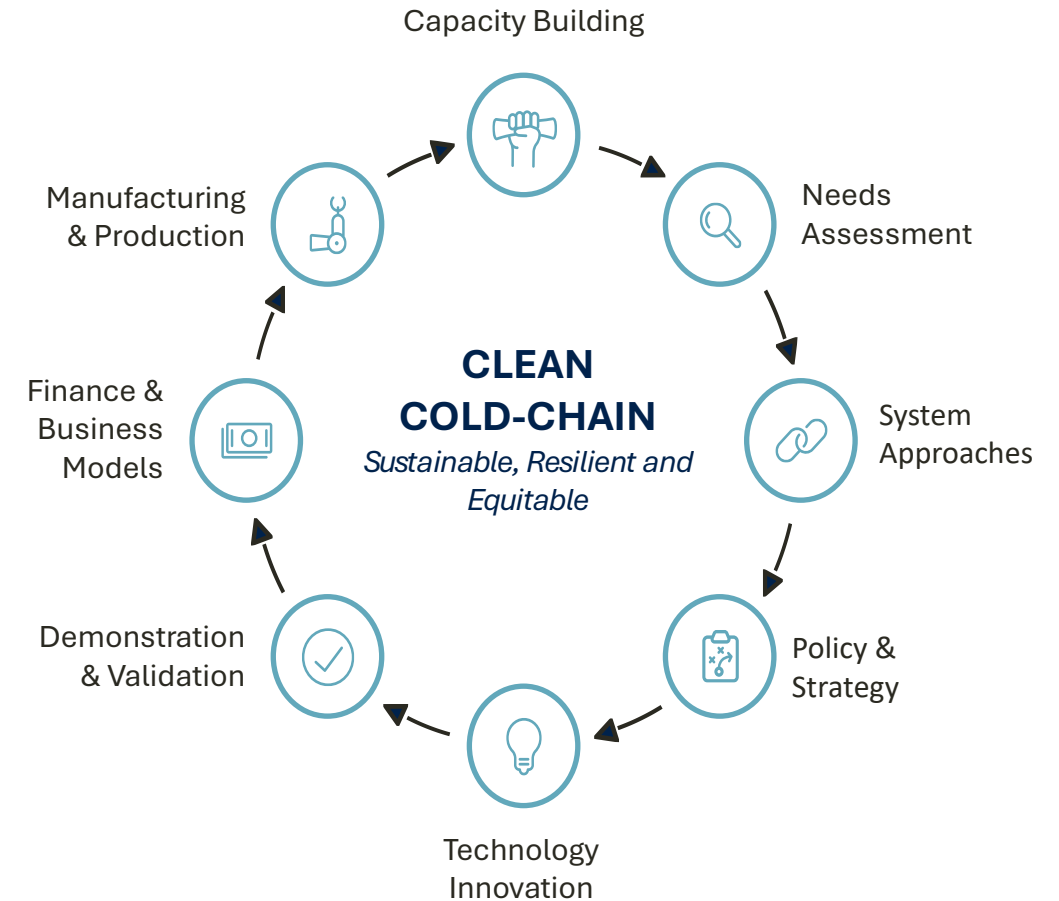


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Six key pillars

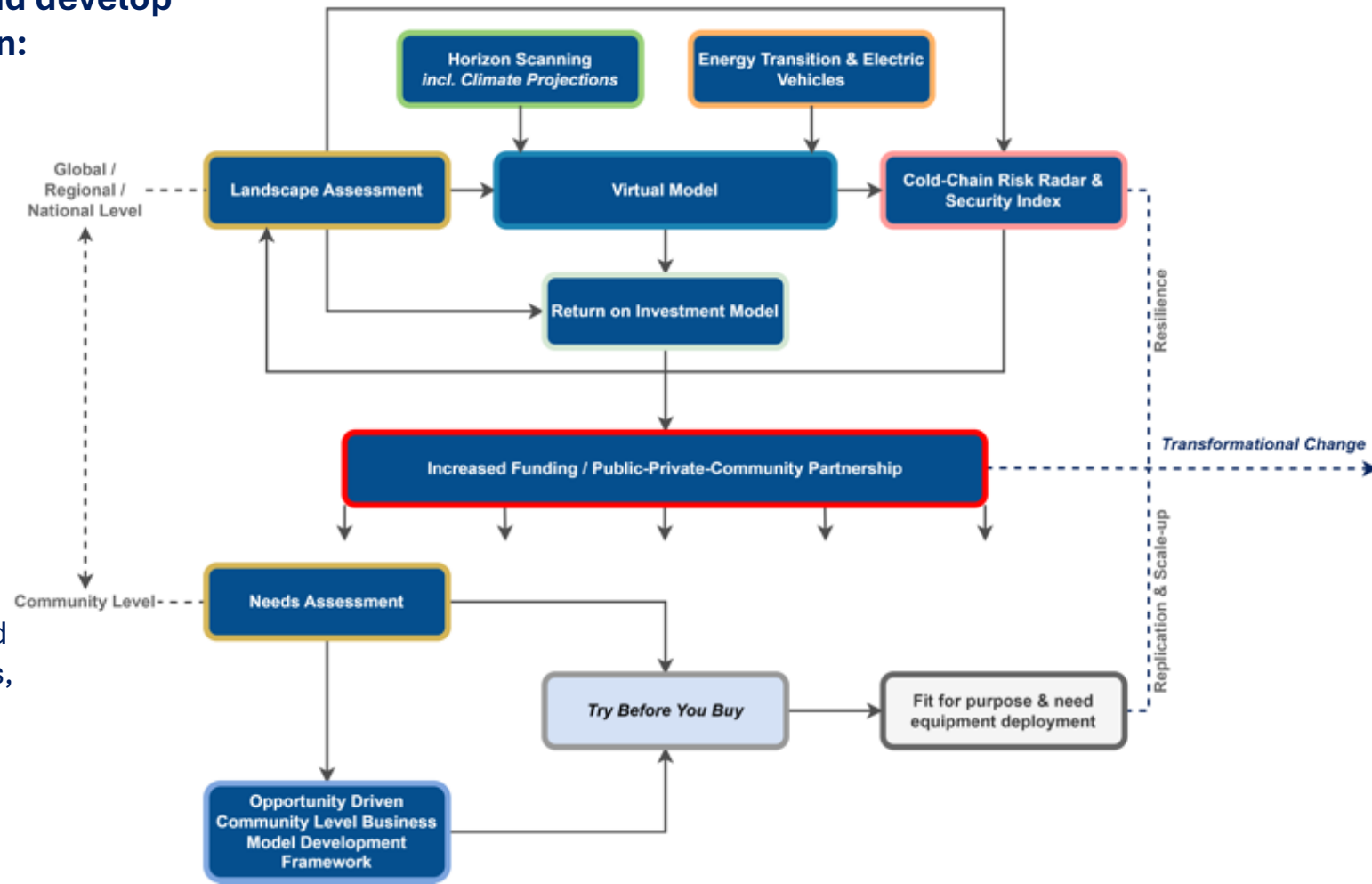
Underpinned by a **hybrid physical and online** delivery approach:

- **Centres of Excellence** -the Africa Centre of Excellence for Sustainable Cooling and Cold-chain, Kigali, Rwanda; 2nd in Haryana, India;
- **SPOKEs** –reference SPOKE in Kenya, three further in development in Senegal Lesotho and Rwanda;
- **Clean Cooling Network and Online Knowledge Platform** – launched this year to underpin a “reference and replicate” approach. Further facilities are in development in Africa and India.



We are building a series of tools around a sophisticated, self-organising complex virtual model to understand and develop optimised cold-chain for food and health which can:

- prioritise facilities (e.g. if funding is only available for x% of capacity where is best place to start);
- test the impact of policies or other external decisions (new export points) on the supply chain - do they create overcapacity in one part of the chain but have a dampening effect on a different region;
- consider how to transition to renewables and non-diesel transport;
- consider modal or infrastructure shifts;
- consider how to build resilience against future shocks and disturbances
- understand the optimum mix of assets and the capital investment requirements as well as human resource and skill requirements including number of trained engineers, etc- and indeed where to locate training hubs.
- help governments- and development agencies- develop holistic, robust and resilient, sequenced and budgeted evidence driven cold-chain delivery roadmaps and continuously test strategies or external impact (positive or negative).



We believe these specialised CoE have a key role to play for helping optimised implementation of KIPs and the transition to climate friendly, efficient cooling through:

- Upgrading training content and infrastructure and capacity building to include EE (including a cross-sharing network of physical centres and SPOKES).
- Driving technology change - in-market technology testing and demonstration through the hub and SPOKES
- Technical consultancy for SMEs for adopting EE technologies including product design, manufacturing and assembly, related training support and after sales.
- Developing the local skills and training to provide and develop equipment that is specifically designed for the local markets and can be manufactured or assembled, operated and maintained by local people to a high standard. e.g. for ACES, “developed and tested in Africa for Africa”.
- National system design tools, modelling and data approaches.

ACES has created the designs, toolkits and business models for specialised CoE and are continuing to test and validating through approach.

Through the MLF, CoE could play a bigger role in the transition to climate friendly, efficient cooling and the next phase of development.