

Presentation by the Government of Rwanda

Represented by

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**National Focal Point to the Montreal
Protocol/Rwanda**

October 31, 2022



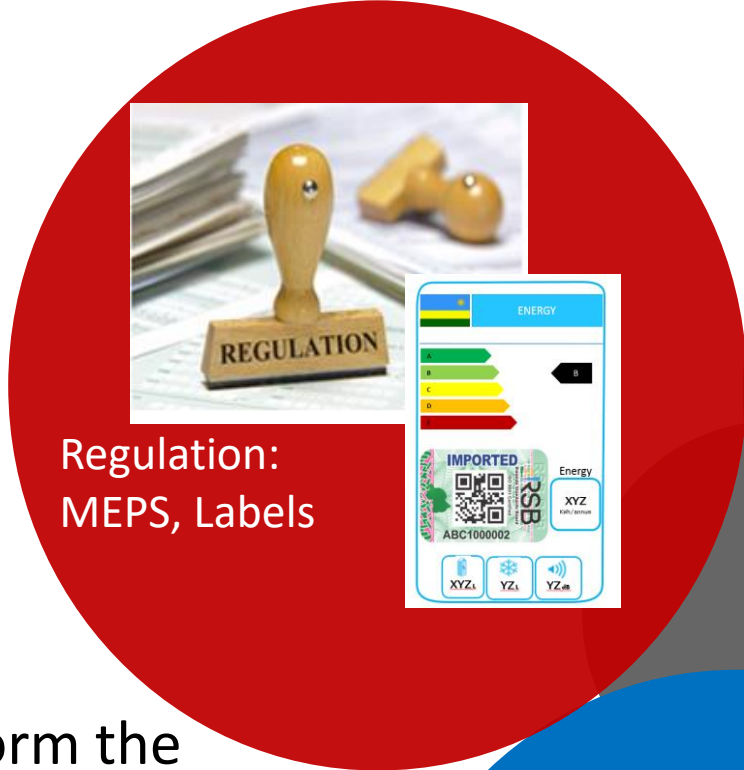
Content

- **Development of the National Cooling Strategy**
- **Implementation of the strategy**
- **African Centre of Excellence in Sustainable Cooling and Cold chain (ACES)**

1

Development of the National Cooling Strategy

Purpose of the NCS



Regulation:
MEPS, Labels



Information:
Awareness,
Capacity Building

- The purpose of the NCS is to transform the market towards **energy efficient** and **climate friendly** cooling across all application of cooling technologies.
- Respond to Rwanda's commitments to international treaties such as the Kigali Amendment to the Montreal protocol and Paris agreement



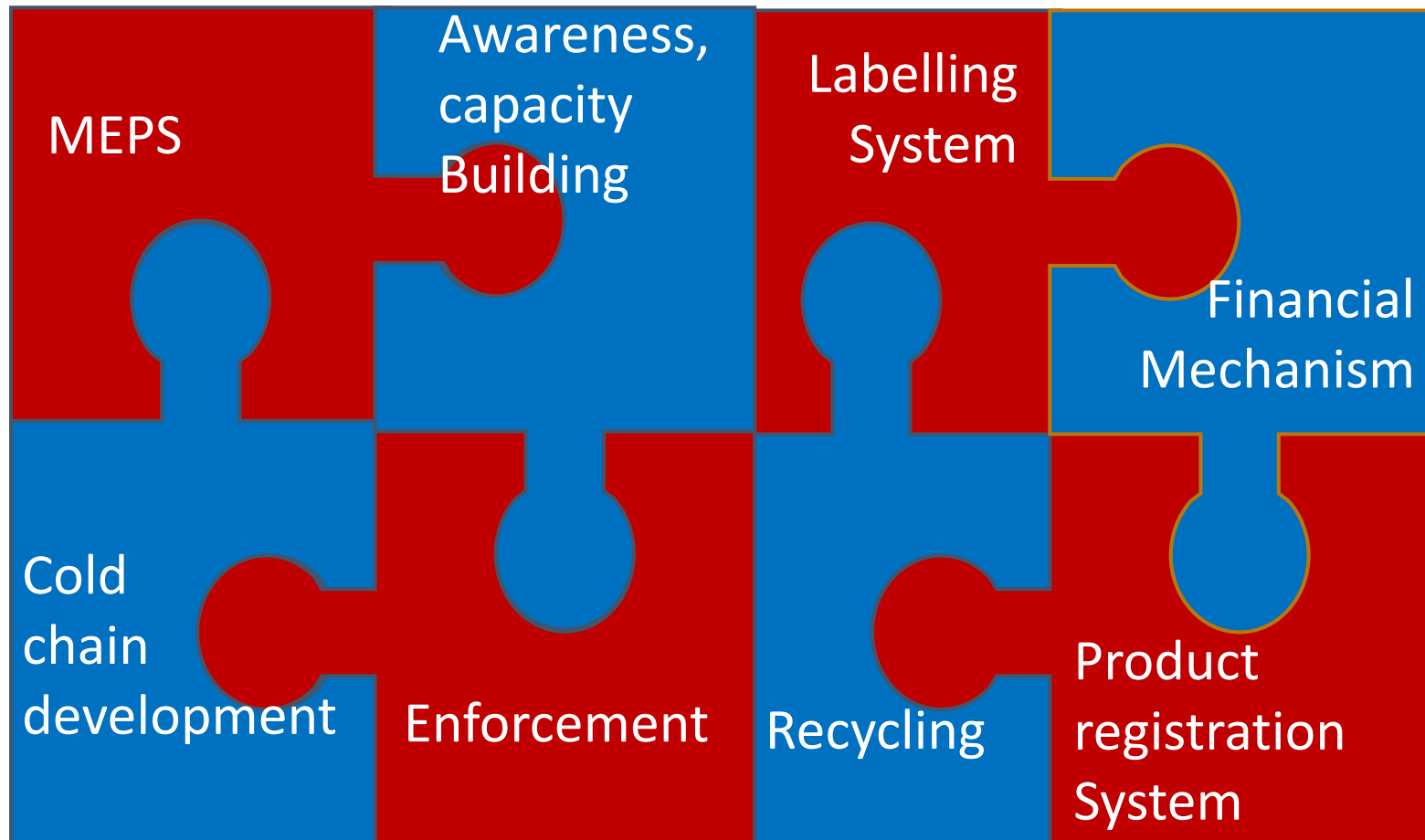
Incentives:
Financial,
Take back



Composition of the NCS

1. Minimum Energy Performance Standards (MEPS) and Labels
2. Financial mechanisms
3. Communication campaign
4. Product Registration System
5. Take back, recycling and disposal
6. Cold chain development

The NCS creates a framework to guide the development of each of these key components of the **cooling market**





2

Implementation of the strategy



MEPS for Refrigerators

General Requirements

Refrigerating Appliances	
Type of products:	Household refrigerators, refrigerator-freezers and stand-alone freezers.
Age:	Only new products.
Product size:	Between 200L to 600L ¹
Refrigerants	GWP limit of 20, maximum charge of 0.15kg. ODP limit of 0.
Foam Blowing Agents	GWP limit of 20. ODP limit of 0.
Safety certification	Conform to safety regulations of both the manufacturing country and Rwanda (e.g. IEC 60335-2-24:2010 /AMD:2017, or a subsequent revision)

Energy efficiency requirements depending of refrigerator type

Grade	Refrigerators	Refrigerator-Freezers	Freezers
A	$2.00 \leq R$	$2.00 \leq R$	$2.00 \leq R$
B	$1.75 \leq R < 2.00$	$1.75 \leq R < 2.00$	$1.75 \leq R < 2.00$
C	$1.50 \leq R < 1.75$	$1.50 \leq R < 1.75$	$1.50 \leq R < 1.75$
D	$1.25 \leq R < 1.50$	$1.25 \leq R < 1.50$	$1.25 \leq R < 1.50$
E	$1.00 \leq R < 1.25$	$1.00 \leq R < 1.25$	$1.00 \leq R < 1.25$

MEPS for ACs

General Requirements

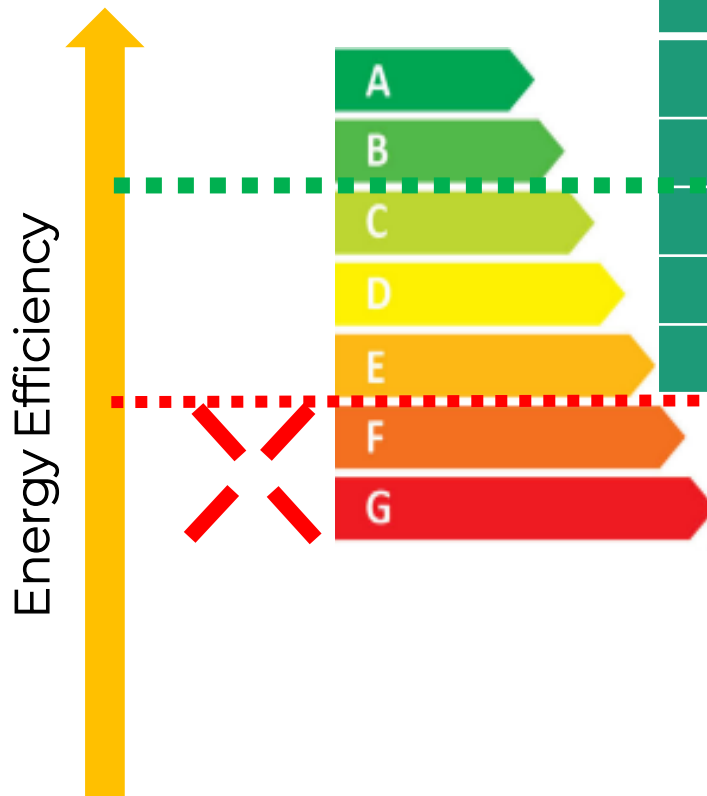
Energy efficiency requirements depending of Acs type

Product Class	GWP	ODP
Self-Contained system	150	0
Split system	750	0

Grade	Rated Cooling Capacity ≤ 4.5 kW	4.5 kW < Rated Cooling Capacity ≤ 9.5 kW	9.5 kW < Rated Cooling Capacity \leq 16.0 kW
A	$6.90 \leq \text{RSEER}$	$6.40 \leq \text{RSEER}$	$5.90 \leq \text{RSEER}$
B	$6.33 \leq \text{RSEER} < 6.90$	$5.91 \leq \text{RSEER} < 6.40$	$5.36 \leq \text{RSEER} < 5.90$
C	$5.75 \leq \text{RSEER} < 6.33$	$5.38 \leq \text{RSEER} < 5.91$	$4.88 \leq \text{RSEER} < 5.36$
D	$5.18 \leq \text{RSEER} < 5.75$	$4.84 \leq \text{RSEER} < 5.38$	$4.39 \leq \text{RSEER} < 4.88$

Labels

- The label provides a graphical representation of different efficiency levels within the MEPS
- They guide consumers on the choice within the allowed products on the market



Labels help to set incentives or other support to raise the performance ceiling

Grade	Refrigerators	Refrigerator-Freezers	Freezers
A	$2.00 \leq R$	$2.00 \leq R$	$2.00 \leq R$
B	$1.75 \leq R < 2.00$	$1.75 \leq R < 2.00$	$1.75 \leq R < 2.00$
C	$1.50 \leq R < 1.75$	$1.50 \leq R < 1.75$	$1.50 \leq R < 1.75$
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Help consumers make informed purchasing decisions

Financing Mechanism

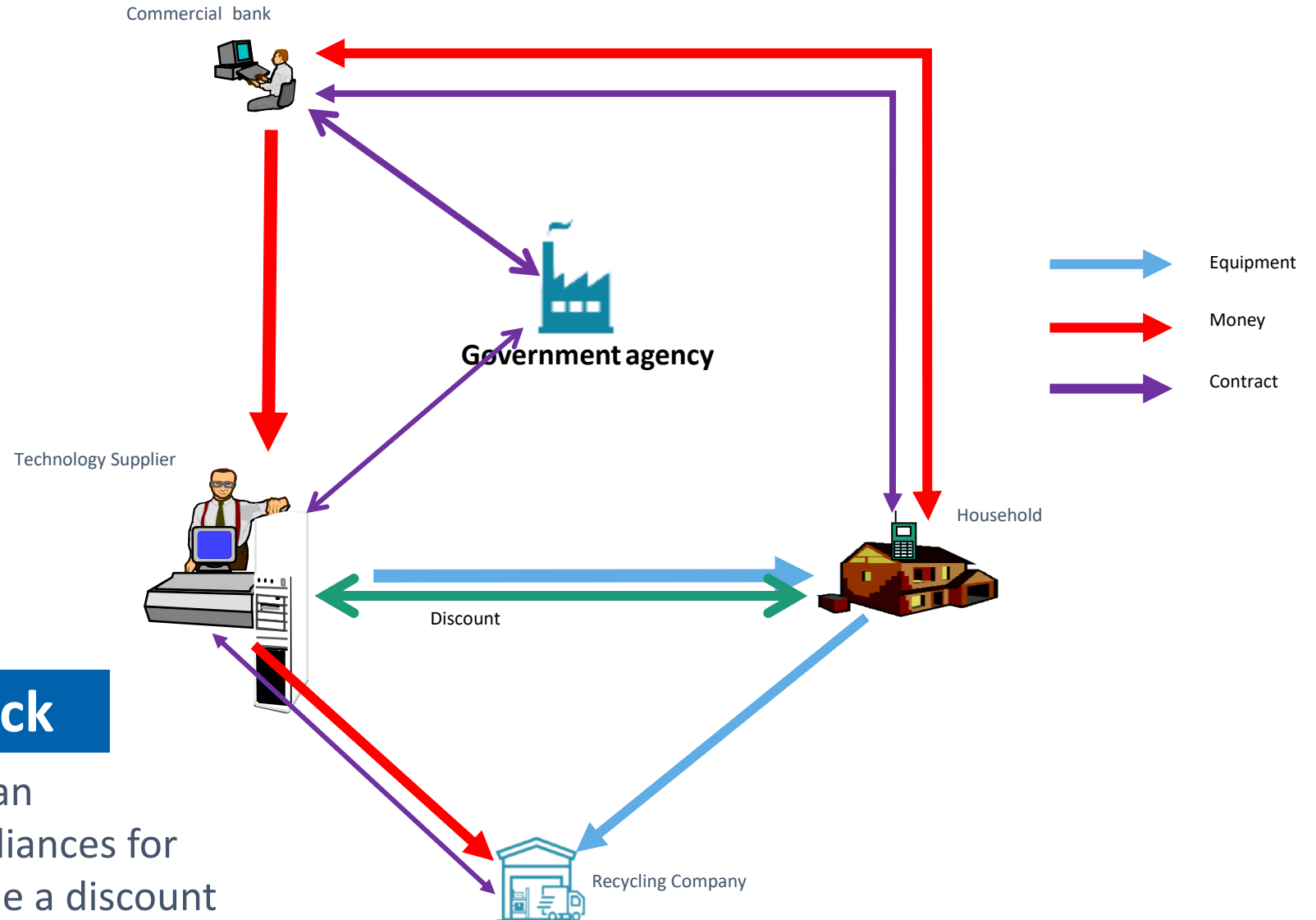
Provision of consumer loans to acquire energy efficient appliances with no collateral

2 mechanisms have been developed:

1. Coolease for large consumers and
2. Green on wage for households

Disposal and Take back

The financing mechanism offers an opportunity to take back old appliances for recycling and disposal and provide a discount for new ones



Awareness campaign

- Targeted awareness campaign
- Visual content
- Written content
- Social media influence

Impact monitoring and reporting



100

Total Tweets



32

Total Users



147811

Total Reach



167532

Total Impression



3

Total HashTags



5

Total Links



193

Favorite



10

Total Images



3

African Centre of Excellence in Sustainable Cooling and Cold chain (ACES)

ACES UR Rubirizi campus pictures



ACES entrance and reception



ACES office



ACES classroom

Whole System Approach

ACES will provide the applied research and dissemination, learning and teaching, and industrial collaboration to advance the widespread adoption of energy-efficient and climate-friendly cold-chain solutions in agriculture and health sectors

Cold storage, alone, is not cold-chain



Demonstrate best available technologies

Technologies proven at ACES can then be adapted to local needs and demonstrated at Living Laboratories



Increase market connectivity and investment

- Develop sustainable business models to attract uptake and investment
- Create added value to farmers by turning food loss into sales, and new product opportunities
- Standards and certifications



Comprehensive food and vaccine cold-chain design

- Research future-proof, localised solutions for food loss reduction and supply chain resilience
- Sustainable low-carbon, pack-house and logistics design and best practices
- Generation of design data and design of retail, professional and domestic refrigeration
- Integrate renewable energy, e-logistics and other advanced solutions
- Data acquisition and use



Enhance capacity and raise awareness of rural communities

- Capacity building in the field
- Skills development and innovation support
- Chilling/freezing advice

ACES UR Rubirizi campus draft design renderings



ACES Rubirizi Campus



ACES Demonstration Hall



ACES Innovation and Enterprise Hub