



United Nations Development Programme

**Ministry of Environment, Climate, Tourism and Hospitality Industry
and
United Nations Development Programme**

Project Title: Conversion from HFC-134a to Isobutane in the manufacture of domestic refrigerators at Capri

ATLAS Award ID: 00118906 **Project ID:** 00115360

Implementing Partner: Ministry of Environment, Climate, Tourism and Hospitality Industry- Climate Change Management Department, National Ozone Unit

Start Date: 1st of May 2019 **End Date:** 31st of May 2021 **LPAC Meeting date:** 6 May 2019

Brief Description

The objective of the project is to eliminate the use of the Greenhouse Gas, HFC-134a in the domestic manufacturing of refrigerators and freezers in Zimbabwe by the adoption of Isobutane (HC-600a) as refrigerant. HC-600a is non-ODS, low-GWP alternative to HFC-134a and adoption of HC-600a in Zimbabwe will contribute to reducing the environmental impact of refrigeration and freezer production on global warming both in terms of the manufacturing process and the operating life of the appliances.

The total HFC refrigerant consumption in Zimbabwe in 2017 was estimated to be 190 MT, of this, it is estimated that 90% or around 171 MT was consumed, as refrigerant. The refrigerator and freezer producer Capri is one of the largest current consumers of HFC-134a in the manufacturing of domestic refrigerators and chest freezers. This project aims to phase out the use of HFC-134a in the manufacture of domestic refrigerators and freezers by the adoption of HC-600a, isobutane, as a refrigerant, at Capri; Harare, Zimbabwe. The project will modify the two existing lines, one each for refrigerators and freezers. This will require a new refrigerant storage facility and the implementation of various modifications to the production lines to make them suitable for the use of HC-600a. This project would result in annual emission reduction of about 14.5 MT of HFC-134a.

CPD outcome: Outcome 3: Vulnerable Communities are equipped to cope with climate change and build resilience for household and food and nutrition security

Result area 2: Accelerate structural transformations for sustainable development.

Output 2.1.1: Low emission and climate resilient objectives addressed in national sub-national and sectoral development plans and policies to promote economic diversification and green growth.

SDG 13: Take urgent action to combat climate change and its impacts

Total resources required:	US\$ 726,954	
Total resources allocated:	US\$ 726,954	
	Capri	US\$ 300,000
	Multilateral fund incl. Government of France contribution	US \$ 462,841
Unfunded:	0	



Government of Zimbabwe



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Project Title : Conversion from HFC-134a to Isobutane in the manufacture of domestic refrigerators at Capri.

Annual Work Plan 2022

Output 1. Elimination of the use of HFC-134a in the manufacture of Domestic refrigerators and freezers at Capri, Zimbabwe

Expected Outputs	Planned Activities	Time-Frame			Responsible	Implementing partner	Budget		
		T1	T2	T3			Source of Funds	Budget Description	Amount
<p>By December 2023, the production lines for refrigerators and freezers have been fully converted to HC-600a</p> <p>By end of 2022 adequate safety measures are in place and CAPRI complies with relevant international regulations and certification</p> <p>By end of 2022 new refrigerator and freezer products comply with</p>	1.1 Selection of International consultant (Redesign, safety certificate, technical assistance and training)	X			UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	26,000
	1.2 Procurement of Refrigerant storage, distribution and safety system	X	X	X	UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	58,000
	1.3 Procurement of (4) Helium leak-detection system including helium storage and recovery	X	X	X	UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	90,000
	1.4 Procurement of Refrigerant charging system including pumps and accessories	X	X	X	UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	110,000



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<p>quality and performance standards.</p> <p>By end of 2022 all production personnel are trained on the operation of the new equipment, safety aspects, and concepts related to the use of HC-based refrigerants.</p> <p>By December 2023 a GHG emission reduction of over 300 kT CO₂e has been realised due to direct and indirect emissions reduction (based on the minimum operating capacity of the plant).</p>	1.5 Procurement of Leak detection for R600a in refrigerant charging area	X	X	X	UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	26,000
	1.6 Procurement of Ultrasonic welding machine	X	X	X	UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	50,000
	1.7 Procurement and installation of Gas evacuation system for repair area	X	X	X	UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	4,000
	1.8 Procurement of Contingent equipment			X	UNDP	MECTHI, CAPRI	UNDP R TFD	Procurement	48,866
Sub-total 1									
Output 2 : Project managed effectively									
Expected Outputs	Planned Activities	Time-Frame			Responsible	Implementing partner	Budget		
		T1	T2	T3			Source of Funds	Budget Description	Amount



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	2.2 Project Review Meeting(s) (Quaterly, Annually)	X	X	X	UNDP	MECTHI	UNDP R TFD	Meeting	
	4.4 Project equipment and office supplies (stationery and consumables)	X			MECTHI	MECTHI	UNDP R TFD	Equipment	
Sub-total 2									
Project grand total – activity costing									
Direct project costing and contribution to UNDP support services									
Project grand total									

Agreed by Ministry of Environment, Climate, Tourism and Hospitality Industry:

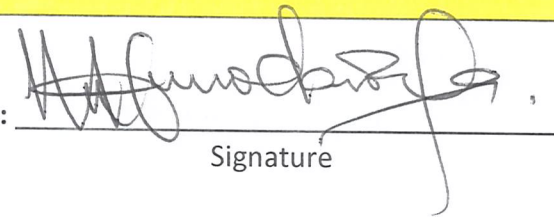
FOR SECRETARY

Date

MINISTRY OF ENVIRONMENT,
TOURISM & HOSPITALITY INDUSTRY
11 TH FL, KAGUVI BUILDING

23 FEB 2022

CNR, CENTRAL AVENUE & FOURTH ST
P. O. BAG 7753, CAUSEWAY, HARARE, ZIMBABWE
PERMANENT SECRETARY


Signature

Agreed by United Nations Development Programme:
RESIDENT REPRESENTATIVE.

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Mia Seppo

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Signature

07-Mar-2022

Date



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and
United Nations Development Programme**

Project Title: Conversion from HFC-134a to Isobutane in the manufacture of domestic refrigerators at Capri

ATLAS Award ID: 00118906 **Project ID:** 00115360

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Result area 2: Accelerate structural transformations for sustainable development.

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Government of Zimbabwe

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Term 1 Work Plan 2022

Output 1.

Expected Outcomes	Planned Activities	Time-Frame				Implementing partner	Budget		
		Jan	Feb	Mar	Apr		Source of Funds	Budget Description	Amount
<p>By May 2023, the production lines for refrigerators and freezers have been fully converted to HC-600a</p> <p>By end of 2022 adequate safety measures are in place and CAPRI complies with relevant international regulations and certification</p> <p>By end of 2023 new refrigerator and freezer products comply with quality and performance standards.</p> <p>By end of 2023 all production personnel are trained on the operation of the new</p>	1.1 Selection of International consultant (Redesign, safety certificate, technical assistance and training)	X	X			MECTHI, CAPRI	UNDP R TFD	Procurement	26,000
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	1.3 Procurement of (4) Helium leak-detection system including helium storage and recovery	X	X	X	X	MECTHI, CAPRI	UNDP R TFD	Procurement	90,000
	1.4 Procurement of Refrigerant charging system including pumps and accessories	X	X	X	X	MECTHI, CAPRI	UNDP R TFD	Procurement	110,000



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	1.7 Procurement and installation of Gas evacuation system for repair area	X	X	X	X	X	MECTHI, CAPRI	UNDP R TFD	Procurement	4,000	
	1.8 Procurement of Contingent equipment	X	X	X	X	X	MECTHI, CAPRI	UNDP R TFD	Procurement	48,866	
Subtotal											
Output 2 : Project managed effectively											
Expected Outputs	Planned Activities	Time-Frame				Implementing partner	Budget Source of Funds	Budget Description	Amount		
		Jan	Feb	Mar	Apr						
	2.1 Quarterly Review Meeting				X	MECTHI, CAPRI	UNDP R TFD	Procurement			
	2.2 Project equipment and office supplies (stationery and consumables).	X	X			MECTHI, CAPRI	UNDP R TFD	Procurement			



Subtotal 2	
Project grand total – activity costing	
Direct project costing and contribution to UNDP support services	
Project grand total	

Agreed by Ministry of Environment, Climate, Tourism and Hospitality Industry:
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