



**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: 30th June 2023

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	
	UNDP CO	US\$ 300,000
	Multilateral fund incl. Government of France contribution	US \$ 462,841
Unfunded:	0	



Government of Zimbabwe



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Annual Work Plan 2023

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 account & 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 all production personnel are trained on the operation of the new equipment, safety aspects, and concepts related to the</p>	1.1 Redesign, safety certificate, technical assistance and training		X	X	UNDP	MECTHI, CAPRI	UNDP/ FRANCE/ MLF	71200/71300 International Consultants/National Consultants	26,000
	1.2. Installation, inspection visit, spare parts and start-up	X	X	X	UNDP	MECTHI, CAPRI	UNDP/ FRANCE/ MLF	72100 Subcontracts	30,660



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<p>use of HC-based refrigerants.</p> <p>By December 2023 a GHG emission reduction of over 300 kT CO₂e_q has been realised due to direct and indirect emissions reduction (based on the minimum operating capacity of the plant).</p>	1.3 Test and trial		X	X	UNDP	MECTHI, CAPRI	UNDP/ FRANCE/ MLF	71300 /75700 Consultancy/Travel	20,000
	1.4 Incremental operating costs	x	x				UNDP/ FRANCE/ MLF	72100 Consultancy	163,428
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 account & Description	Amount
	2.1 Project Review Meeting(s) (Quaterly, Annually)	X	X	X	MECTHI	MECTHI	UNDP/ FRANCE/ MLF	Meeting	
	2.2 UNV Project Officer salary	X	X	X	UNDP	MECTHI	UNDP/	71500 UN Volunteers	13,000



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							FRANCE/ MLF		
Sub-total 2									
Project grand total – activity costing									
Direct project costing and contribution to UNDP support services									
Project grand total									253,088

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

DocuSigned by:
Tatenda Mutasa 27-Jul-2023
051152C58BC441A

Signature Date

Agreed by United Nations Development Programme:
RESIDENT REPRESENTATIVE

DocuSigned by:
[Signature] 28-Jul-2023
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Signature Date