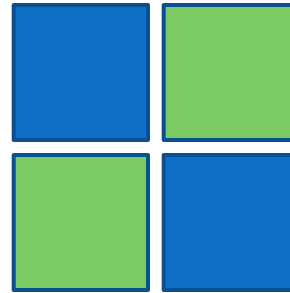




Sustainable  
Solutions  
for the  
Environment



# Nepal ODS Destruction

# Refrigeration Systems & Climate Change

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- ▶ Refrigeration systems use ODS which also have high green house potential (GWP) and hence are a major contributors towards climate change.
  - ▶ CFC & HCFC are covered under Montreal Protocol whereas HFCs are covered under Kyoto Protocol, hence only HFCs destruction/avoidance results in carbon credits generation under CDM
  - ▶ CFC/HCFC destruction related emission reduction credits could find demand in voluntary carbon market
- ▶ Many of the old systems already in use also use energy inefficiently leading towards GHG emissions
  - ▶ Life cycle emissions related to energy consumption are approx 70-80% of total emissions, remaining emissions are contributed by refrigerant gases
  - ▶ New energy efficiency systems based on non-ODS and low GWP gases could result in approx 30-40% savings in energy consumption

# Carbon Market: Background

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## International Carbon Market

Compliance/  
Regulatory structure  
CER prices ~0.4 Euros

Voluntary Structure  
VER/CRT prices ~0.1 -  
4 Euros

# Why Voluntary Market?

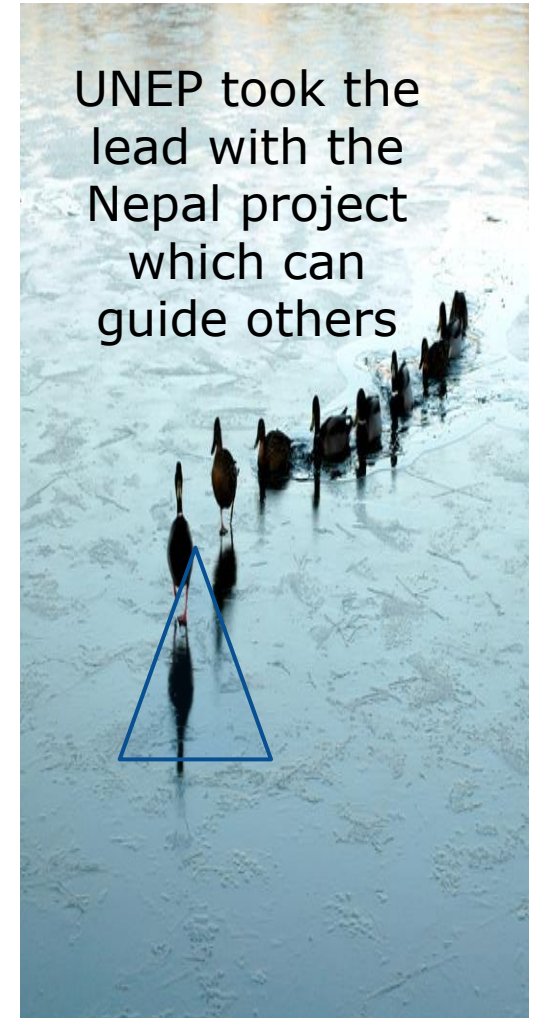
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- ▶ CRT purchase in California
- ▶ Carbon Neutrality & Going Green
  - ▶ Corporate Social Responsibility/Environment Ethics
  - ▶ Public relations/Branding
  - ▶ Compulsion for being part of value chain (suppliers)
- ▶ Investment/Business Opportunity

<b>Voluntary Carbon Standard (VCS)- <i>only for CFCs</i></b>	<b>Climate Action Reserve (CAR)- <i>only for CFCs</i></b>
Internationally accepted Standard with wide geographic supply and demand	US based standard with US centric demand and supply
Average Price – 0-1 USD (ODS projects)	Average Price – 1-4 USD (ODS projects)
~300 registered projects (none for ODS); 22 million issues VCU	>20 registered projects (ODS); 2.4 million issued CRTs

# Nepal Project: Background

- ▶ In the year 2004, 74 ODP tons of CFCs were confiscated in Nepal. 11 tons were left un-released in the market. In the 20<sup>th</sup> Meeting of Parties, Nepal requested guidance from Parties on leftover stock of CFCs post 2010
- ▶ Nepal ODS destruction project was approved by MLF with following objectives in mind:
  - ▶ Demonstrate the viability of economically destructing ODS stockpile in LVCs within the MLF approved funding of USD 13.5/kg
  - ▶ Disseminate information on good practices and learning from implementation of the destruction facilities to other LVCs in similar situation.
  - ▶ Integrating deriving climate benefit co-funding (through carbon market mechanisms)



# Nepal Project: Current Status

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## ▶ **Current Status:**

- ▶ Material has been destroyed in destruction facility in USA- Feb 2013.
- ▶ Carbon credit verification process is complete and carbon credits have been issued in May 2013
- ▶ Marketing process of selling carbon credits is currently underway.
- ▶ The sale of CRTs would bear the part of the cost of destruction and the remaining money would be shared by the stakeholders including the Nepal government

## ▶ **Previous key steps:**

- ▶ Inventorisation of the leftover ODS stock – Quantity and Purity analysis; technology options evaluations
- ▶ NoU Nepal had received clearance from Ministry of Commerce, Nepal for exemption from "CFC export Ban" law for this assignment.
- ▶ Logistics- material exported from Kolkatta port in India; in USA- material tested before loading to destruction unit

# ODS Destruction Projects: Scope of Activities

