

# INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.: ISDSC15984

**Date ISDS Prepared/Updated:** 22-Apr-2016

**Date ISDS Approved/Disclosed:** 20-May-2016

## I. BASIC INFORMATION

### A. Basic Project Data

<b>Country:</b>	Vietnam	<b>Project ID:</b>	P152232
<b>Project Name:</b>	Vietnam HCFC Phaseout Project Stage II (P152232)		
<b>Task Team Leader(s):</b>	Qing Wang		
<b>Estimated Appraisal Date:</b>	07-Nov-2016	<b>Estimated Board Date:</b>	29-Sep-2017
<b>Managing Unit:</b>	GEN02	<b>Lending Instrument:</b>	Investment Project Financing
<b>Sector(s):</b>	Other industry (91%), Public administration- Industry and trade (9%)		
<b>Theme(s):</b>	Pollution management and environmental health (47%), Climate change (47%), Environmental policies and institutions (6%)		
<b>Financing (In USD Million)</b>			
<b>Total Project Cost:</b>	12.98	<b>Total Bank Financing:</b>	0.00
<b>Financing Gap:</b>	0.00		
<b>Financing Source</b>			<b>Amount</b>
Borrower			0.00
Montreal Protocol Investment Fund			12.98
Total			12.98
<b>Environmental Category:</b>	B - Partial Assessment		
<b>Is this a Repeater project?</b>	Yes		

### B. Project Objectives

11. The project development objective is to reduce HCFC consumption in order to contribute to Vietnam's efforts to meet its 2020 HCFC consumption phase-out obligations under the Montreal Protocol, as well as to reduce emissions of greenhouse gases in the manufacturing and use of refrigeration and air-conditioning equipment.

### C. Project Description

The proposed Stage II project is a direct continuation of the ongoing Stage I project and the project duration is expected to be from 2017 to 2022. The funding is expected to be approved by the MLF Executive Committee in 2016. The project consists of three proposed components described below.

#### Component 1: HCFC Consumption Reduction

AC sector. The project will finance incremental capital costs (ICC) needed for converting to alternative technologies including new production equipment, new AC model performance testing, and training for installing and servicing technicians, and incremental operating cost (IOC) based on MLF financing guidelines at four enterprises which are eligible for MLF and consumed 176 MT of HCFC-22 in 2014. After completion of conversion at the four enterprises, no HCFC-22 should be used for AC production in the whole sector, i.e. about 251 MT of HCFC-22 presently used. The estimated investment funding is about US\$2 million. The potential low GWP alternatives to HCFC-22 in the AC sector are HFC-32 with a GWP 675 or R-290 with a GWP of 5, however both are flammable. In addition, EE financing will be explored during project preparation for supporting the uptake of non-HCFC more energy efficient AC (such as EE regulations and awareness, energy star labelling, technical assistance, demand-side initiatives, etc.).

Refrigeration sector. There is no single refrigerant which can replace HCFC-22, making the HCFC phase-out in the refrigerant sector very challenging. The project will finance conversion of priority industrial refrigerating systems where cost-effective and low GWP alternatives (e.g. ammonia, hydrocarbons, HFC-32 etc.) are available, by providing ICC (system, component and process redesign, new equipment, performance verification, safety training, etc.) and IOC for conversion at about 30 enterprises which are eligible for MLF funding. The estimated cost to the project is about US\$ 1.5 million. In addition, EE financing for refrigeration manufacturing in conjunction with the Vietnam Energy Efficiency Financing for Industrial Enterprises project (EE in end users) will be explored during project preparation to offset the climate impacts of interim alternatives with high GWP that may have to be used if low GWP alternatives are not yet available.

Servicing sector. The project will finance the following activities: training and certification in good servicing and maintenance practices, provision of servicing tools to selected vocational training centers to enable training in the handling of alternative flammable refrigerants, technical assistance demonstration for 10 selected industrial refrigeration end users on HCFC leakage management, and bilateral TA from Japan Ministry of Economy, Trade and Industry (METI) for using HFC-32 in the AC sector. The estimated cost for these activities is US\$1.7 million for a HCFC-22 phase-out impact of 352 MT.

Foam sector. The project will finance ICC needed for foam production conversion to hydrocarbon, methyl formate or HFO (hydrofluoroolefin) alternatives at about 40 enterprises eligible for funding. In order to allow SMEs (consuming HCFC-141 less than 20MT) to convert to non-HCFC production in a cost-effective way, the project will also finance upgrading of two or three system houses to be competitively selected among existing foam producers or chemical suppliers that have established the basic system house infrastructure. These system houses would supply non-HCFC pre-blended polyol to SMEs. In addition, the project will finance conversion at an enterprise which uses HCFC-22 for XPS foam production. The estimated investment funding request from MLF for the sector is about US\$6.6 million.

#### Component 2: Technical Assistance and Policy Actions

This component aims to support sector-wide technology and knowledge transfer, TA and exchange

of best practices, as well as to create a policy and market environment that will enable and sustain sector transformation. TA activities focused on the refrigeration and AC manufacturing sectors will include training workshops on sub-projects preparation, international and national technical consultant services, development of technical standards of alternatives, training for government officials, training on safe use of alternatives, study tours on HCFC alternatives, a joint study on integrating HCFC phase-out and EE improvement in the industrial refrigeration manufacturing and food process sectors, TA on foaming formulation using non-HCFC pre-blended polyol for the system houses, and others as needed. TA for the servicing sector is included in Component 1 as it results in HCFC phase-out impact.

On policies, this component will cover the annual HCFC import quota issuance and the development and issuance of sector-specific policy and regulations by project completion, including bans on local production and import of HCFC-22 based ACs, ban on import and use of pre-blended HCFC-141b polyol in foam production, and ban on installation of selected out-of-date HCFC-22 refrigeration applications.

### Component 3: Project Management

It is proposed that the PMU currently implementing the Stage I HCFC Phase-out Project continues in this new project, including financial, procurement, and safeguard management as well as monitoring and reporting. However, MONRE will formally announce establishment of the PMU for the Stage II project. This component will finance hiring of PMU staff, project launch and completion workshops, financial audits, annual HCFC consumption verification, public awareness activities, and incremental operating cost.

#### **D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

The project may involve HCFC conversion at about 80 enterprises in air-conditioning, refrigeration, and foam manufacturing sectors around the country. A long list of potential participating beneficiary enterprises in these sectors will be determined during project preparation. The final list of beneficiary enterprises will only be confirmed during the project implementation when preparing and appraising sub-projects by the PMU. Ammonia, HFC-32 and hydrocarbons, which are flammable materials, are the main alternatives to be adopted by the project. This could lead to safety issues for which proper safety equipment and training should be put in place.

#### **E. Borrowers Institutional Capacity for Safeguard Policies**

Department of Meteorology, Hydrology and Climate Change in MONRE hosts the National Ozone Office (NOO) which acts as the focal point for MP implementation. The Stage I HCFC Phase-out Project employs a project management unit (PMU), which works directly with the NOO and has been facilitating and coordinating preparation of this Stage II HCFC project. It is expected that the PMU currently implementing the Stage I HCFC Phase-out Project would continue in the new project, including safeguard management, monitoring and reporting, but MONRE will formally name the PMU. MONRE and the PMU are experienced with safeguard issues under the HCFC Stage I project.

Participating enterprises are also under supervision of the Department of Natural Resources and Environment in each province, the Ministry/Department of Industry and Trade (for safe chemical use and chemical import) and the Industrial Zone Management Board for those located in the industrial zones or clusters.

#### **F. Environmental and Social Safeguards Specialists on the Team**

Ha Thi Van Nguyen (GEN2A)

Van Trung Nguyen (GSU02)

Public Disclosure Copy

## II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The project will have a positive impact on the global environment by reducing the use of HCFCs, which are both ozone-depleting substances and greenhouse gases with a global warming potential (GWP) ranging from several hundred to several thousand times that of CO<sub>2</sub>.</p> <p>The project will include a series of investment activities in existing AC, refrigeration and foam manufacturers. No closure of these enterprises is expected due to the project. Most of these enterprises are located in industrial area, but some SMEs are located in residential area.</p> <p>The main environmental impacts, but manageable, could result from mishandling of some of the chemicals that are already used in AC, refrigeration and foam production and alternatives to replace HCFCs. The manufacturing process will involve potential occupational and health safety issues associated with flammable alternatives (hydrocarbons, HFC-32, ammonia). Therefore, OP 4.01 is considered triggered.</p> <p>In foam sector, hydrocarbon technology is the preferred technology for enterprises with HCFC-141b consumption of more than 20 MT per year. Hydrocarbons has a GWP less than 25. Due to its flammability, safety requirements associated with hydrocarbons are important and should be in place. In the AC sector, the proposed alternative technology is HFC-32 with GWP of 675 (about 1/3 of HCFC-22 to be replaced) or R-290 with a GWP of 5, however, both are flammable. Potential safety risks and fire hazards must be properly addressed. In the refrigeration sector, ammonia, hydrocarbons and HFC-32, are potential alternatives to HCFC-22. Ammonia is widely used for large distributed systems and large chillers. This refrigerant is an important option for many industrial refrigeration applications. However, ammonia is toxic and it has low flammability – appropriate safety precautions are</p>

Public Disclosure Copy

		<p>required.</p> <p>For all project sites, a due diligence review on occupational health and safety measures, fire and exposure risk will be conducted and appropriate emergency preparedness and response measures will be described as identified in the World Bank Group Environment, Health and Safety (EHS) Guidelines. Staff involved in the production, installation and services will be trained as needed.</p> <p>As sub-projects will only be confirmed from a long list of potential enterprises in different sectors through , subproject proposals preparation by application enterprises and appraisal will be prepared by the confirmed enterprises and appraised by the PMU during project implementation, in order to address the environment, health and safety issues of sub-projects, it is proposed that an overall project environmental management plan (EMP) will be prepared before the project appraisal and an EMP with site-specific mitigation measures for each sub-project will be prepared as part of the subproject proposal during the project implementation stage. This is also why there is no confirmed subprojects and specific safeguard instruments by appraisal. The overall/generic EMP will be used as a sample for preparing site-specific EMP. The procedures for undertaking Environmental, Health and Safety due diligence review during project implementation for participating enterprises will be spelled out in the generic EMP.</p> <p>All the participating enterprises must be in compliance with national and local law and regulations related to environment/ social/health and safety protection.</p> <p>The project activities will likely occur in the existing facilities, even though flammable substances such as ammonia, R-32 and hydrocarbons will be used, which may create safety and occupational health issues. However, these impacts are site specific and can be mitigated with appropriate mitigation measures. Therefore the project is proposed as Environment Category B.</p>
Natural Habitats OP/BP 4.04	No	The project will not affect any protected areas,

		known natural habitats, or established or proposed critical natural habitats as all the project activities will take place within the existing plant boundaries either located industrial zone or residential area, thus there is no impacts on natural habitat.
Forests OP/BP 4.36	No	There is no proposed investment involving forest harvesting or forest management.
Pest Management OP 4.09	No	The project does not involve the procurement or use of any pesticides or herbicides.
Physical Cultural Resources OP/BP 4.11	No	The project will not adversely affect sites with archeological, paleontological, historical, religious, or unique natural values.
Indigenous Peoples OP/BP 4.10	No	All sub-projects will be implemented within existing project enterprises or in industrial area, so there is no IP group to be affected. Therefore, the project will not trigger this policy.
Involuntary Resettlement OP/ BP 4.12	Yes	<p>All sub-projects will be likely implemented within project enterprises, so land related impact are not expected. However, some enterprises, with small establishments, are possibly relocated first to industrial area, which probably trigger the policy.</p> <p>As sub-projects will only be confirmed from a long list of potential enterprises in different sectors and subproject proposals will only be prepared by the confirmed enterprises and appraised by the PMU during project implementation, it is proposed that a RPF will be prepared prior to appraisal to guide handling of relocation and potential land issues if any during preparation of the subproject proposals (during the overall project implementation stage).</p> <p>During project implementation, the TT will review when and how the land was acquired or being acquired for the Industrial Zone and the enterprise relocation plan at the preparation stage of sub-projects. For each sub-project which require involuntary resettlement, if the land has been acquired before the sub-grant agreement is signed, a due diligence review of the land acquisition process will be undertaken by the TT to confirm whether there is any legacy issues. The procedures for undertaking land due diligence review will be spelled out in the RPF. An abbreviated RPs if applicable will be prepared for subprojects (as part of the sub-project proposals) to handle the relocation and potential land</p>

		<p>issues.</p> <p>The project will finance incremental capital cost (providing new equipment and training) needed for foam production conversion and refrigeration and AC equipment production conversion to using more environmentally sound chemicals, which will contribute to enterprise competitiveness improvement, therefore, it is not expected that the project will cause potential retrenchment or displacement of workers.</p> <p>As no significant social issues outside resettlement are expected due to the project implementation, it is proposed that an annex for addressing any social issues if identified will be included to the generic EMP.</p>
Safety of Dams OP/BP 4.37	No	There is no construction or rehabilitation of dams or dykes.
Projects on International Waterways OP/BP 7.50	No	The project does not have any impact on any international waterway.
Projects in Disputed Areas OP/BP 7.60	No	The project is not located in any disputed areas.

### III. SAFEGUARD PREPARATION PLAN

**A. Tentative target date for preparing the PAD Stage ISDS: 01-Sep-2016**

**B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing<sup>1</sup> should be specified in the PAD-stage ISDS:**

The safeguard instrument: the overall project EMP and the Resettlement Plan Framework will be developed before the project appraisal. The site-specific EMP and the abbreviated RP (if applicable) will be prepared during project implementation prior to implementation of sub-projects. The overall project EMP and the RPF will be disclosed locally (in local language-Vietnamese) and in the Bank InfoShop prior to the appraisal mission.

### IV. APPROVALS

Task Team Leader(s):	Name: Qing Wang	
<b>Approved By:</b>		
Safeguards Advisor:	Name: Peter Leonard (SA)	Date: 24-Apr-2016
Practice Manager/ Manager:	Name: Iain G. Shuker (PMGR)	Date: 20-May-2016

<sup>1</sup> Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.