

**COMBINED PROJECT INFORMATION DOCUMENTS / INTEGRATED
SAFEGUARDS DATA SHEET (PID/ISDS)**

Additional Financing

Report No.: PIDISDSA21883

Date Prepared/Updated: 30-Jun-2017

I. BASIC INFORMATION

A. Basic Project Data

Country:	Indonesia	Project ID:	P161588
		Parent Project ID (if any):	P115763
Project Name:	Indonesia: HCFC Phase-out in the PU Foam Sector: Additional Financing for Stage 2 (P161588)		
Parent Project Name:	HCFC Phase-out in the PU Foam Sector Project (P115763)		
Region:	EAST ASIA AND PACIFIC		
Estimated Appraisal Date:	25-Sep-2017	Estimated Board Date:	21-Nov-2017
Practice Area (Lead):	Environment & Natural Resources	Financing Instrument:	Investment Project Financing
Borrower(s)	Government of Indonesia		
Implementing Agency	Ministry of Finance		
Financing (in USD Million)			
Financing Source			Amount
Montreal Protocol Investment Fund			4.26
Financing Gap			0.00
Total Project Cost			4.26
Environmental Category:			
Appraisal Review Decision (from Decision Note):	The review did authorize the team to appraise and negotiate		
Other Decision:			
Is this a Repeater project?	No		

B. Introduction and Context

Country Context

As a signatory of the Montreal Protocol (MP), Indonesia is obligated to undertake a gradual phase out of its consumption of HCFCs (hydrochlorofluorocarbons) until 2030. Indonesia started its phase-out

under the HCFC Phase-out Management Plan (HPMP) Stage 1 per agreement with the Executive Committee (ExCom) off the Multilateral Fund (MLF), which covers the period January 1, 2013 to December 2019 and aims at reaching a maximum consumption of 323.1 ODP (Ozone Depleting Potential) tonnes by 1 January 2018. The Stage 1 agreement targets a reduction of HCFC-141b consumption in the PU foam sector down to 81.55 ODP tonnes, which Indonesia has already achieved. The PU Foam Sector Plan Stage 1 is implemented through the World Bank as implementing agency with MLF grant funding of US\$2,714,187 for phasing out HCFC-141b use in companies that use foam in the manufacture of appliances, refrigerated trucks and integral skin products.

ExCom approved Stage 2 of the HPMP at its 76th meeting (May 2016). The Stage 2 agreement between Indonesia and ExCom covers the period until the end of 2024 and aims to reach a maximum allowable consumption of 181.76 ODP tonnes by 1 January 2023. Stage 2 of the HPMP includes a PU Foam Sector Plan for the remaining foam sub-sectors and targets a complete phase-out of HCFC-141b consumption in the PU foam sector, for which ExCom has approved an MLF grant of US\$4,255,163. Stage 2 will repeat the activities and impact of Stage 1 without introducing substantive changes to the project design. The grant will be used to phase out HCFC-141b use in 12 large and medium size foam companies and about 200 small foam producing companies as well as to support formulation and supply of alternative foam blowing agents by two foam system houses.

Sectoral and Institutional Context

Indonesia imports all of its HCFCs. The government's phase-out strategy impacts HCFC consumption on the supply side through import controls and on the demand side through financial incentives paid to companies for investments in alternative technology and HCFC substitutes, followed by a ban on HCFC use. Import quotas are set and financial incentives are offered in a way that achieves complete phase-out in sub-sectors in a phased manner. Consumption of controlled substances and compliance with the import quota regime is subject to annual verification and is reported to ExCom.

The import of HCFC-141b reached its peak in 2013 with 1,300 MT (Metric Tonnes). Since then, the import quota has been lowered to 760 MT HCFC-141b, while actual imports have fallen below the quota to 560 MT in 2016, i.e. below the HCFC-141b consumption target of 81.55 ODP. This indicates that the conversion investments are having the intended effect on HCFC-141b demand and that the project is on track to achieve its objective. HCFC-141b phase-out completed in companies targeted by the project has reached 75% of the Stage 1 phase-out target, along with corresponding reductions in greenhouse gas (GHG) emissions, while 15 small foam companies did not apply for the incentive payment under Stage 1. These companies will have to phase-out under the quota system and to comply with the HCFC-141b ban.

Lessons from Stage 1 include that the relative high price of HFC-245fa, high conversion costs for small production volumes, and the non-availability from local system houses of pre-blended HFC-245fa polyol have contributed to the decisions made by the 15 companies. In response, and to support these companies, the government decided to retrofit Stage 1 by supporting technology conversion in two foam system houses, which will supply zero-ODP and low Global Warming Potential (GWP) substitutes to the market; and Stage 2 will continue to work with system houses and with their small company customers through a voucher system to offset some of the higher cost of substitute chemicals during the market's transition phase.

The institutional framework for Stage 2 of the project will continue as before. The Ministry of Environment and Forestry (MOEF) hosts the National Ozone Unit (NOU) within the Directorate for Climate Change Mitigation. The NOU is the focal point for MP implementation in Indonesia. Together with the Ministries for Trade and Industry, the NOU decides on HCFC quota allocation and

regulation. The NOU has created a project management unit (PMU), which works directly with the NOU on the implementation of the HPMP in all sectors.

C. Proposed Development Objective(s)

Original Project Development Objective(s) - Parent

Key Results

Complete phase-out of HCFC-141b consumption in the Indonesian foam sector.

D. Project Description

The PDO is the same as for the parent project: to reduce the consumption of HCFC-141b in the foam sector in Indonesia in order to contribute to the government's effort to comply with Indonesia's HCFC phase-out obligations under the MP. -- Stage 2 of the project will organize the HCFC-141b phase-out in the remaining PU foam sub-sectors, which are: thermoware, water heaters, imitation wood, sandwich panels, block foams, pipe and tank insulation, spray foam, and fishing boats. In addition, Stage 2 will support domestic foam system houses to ensure adequate supply of substitutes, provide technical assistance (TA) to the foam sector, and support the government's regulatory agenda. Stage 2 of the project will be implemented as a direct continuation and repetition of Stage 1. The activities under all components of Stage 2 will be the same as under Stage 1, with minor modifications as detailed below.

Component Name:

Investment in HCFC-141b consumption reduction in the PU foam sector

Comments (optional)

Component 1 will provide investment support to 12 companies. Four companies with HCFC consumption of at least 20 MT each will introduce cyclopentane (CP) as foam blowing agent and eight companies (7-20 MT) will convert to pre-blended CP polyols. The technology deployed, safeguard requirements and the replacement process will be the same as for Stage 1. About 200 companies with HCFC-141b consumption below 7 MT will switch to pre-blended hydrofluoroolefin (HFO) -- a new and currently more expensive technology with low upfront investment cost. They will receive vouchers as financial incentive, which they can use to buy pre-blended polyol at a discount. Component 1 will also support two system houses to introduce technology that allows them to supply low GWP foaming formulations to the market.

Component Name:

Technical Assistance and Policy Support

Comments (optional)

Component 2 will fund TA to support the equivalent services as under Stage 1. In particular, this component will (i) assist the government's policy setting agenda on HCFC import quota and a use ban, including for (imported) pre-blended HCFC polyols, as well as provide training for public officials, (ii) fund workshops, training events, outreach activities and TA for participating companies in preparing conversion plans and proposals, and (iii) support the PMU's technical and consultant work on replacement technologies and processes, safety standards, and market conditions, as well as fund public awareness activities.

Component Name:

Project Management

Comments (optional)

This component will provide financial support for the continued operation of the PMU.

E. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

Stage 2 of the project will cover foam companies identified and domiciled in different locations throughout Indonesia. These companies will participate in the project with their current production facilities and in compliance with World Bank safeguard policies, the project Environmental Management Framework (EMF), applicable World Bank Group General Environmental Health and Safety (EHS) guidelines, plant specific environmental management plans (EMP) and standard safety and operating procedures as required by the selected foam production technology. In addition, the government plans to issue national safety guidelines for the manufacture of foam products using hydrocarbon technology, which will enshrine the project's safety standards beyond the project's term.

F. Environmental and Social Safeguards Specialists

Alkadevi Morarji Patel, Social Safeguards Specialist

Kian Siong, Environmental Safeguards Specialist

II. IMPLEMENTATION

The financial management (FM) arrangements under Stage 2 will be the same as for Stage 1, including budgeting, funds flow, internal control, accounting and reporting, and auditing. The project's FM will continue to be managed centrally in the NOU under the Directorate for Climate Change Mitigation of MOEF. The team within the NOU is familiar with the FM aspects of World Bank funded operations. The audit report for Stage 1 of the project was consistently received on time with unqualified opinions towards the project's financial statement and no significant findings were noted. The latest FM supervision gave a moderately satisfactory rating to the project noting the timely submission of financial reports and well supported project expenditures. A risk is delayed project implementation due to delays in budget effectiveness. It is important that this risk be mitigated through continuous close coordination between the NOU and the Ministry's planning bureau to ensure that the budget becomes effective in a timely manner.

The procurement arrangements under AF for Stage 2 will following the same implementing agency arrangements and processes with the same responsibilities as for Stage 1. Procurement will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated January 2011, revised July 2014 and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated January 2011, revised July 2014. Permission to continue using these procurement guidelines has been granted. Procurement by the NOU is expected to include selection of individual consultants and procurement of small goods through shopping method. As under Stage 1, procurement of equipment for use in supported foam companies will be done by these companies under the rules of "commercial practice".

The safeguard-relevant aspects and requirements for activities under Stage 2 are the same as for Stage 1, and the safeguard category remains B. The project's EMF was consistently applied to

Stage 1 activities, site visits by the PMU and Bank safeguard staff were conducted regularly, and no adverse issues have been reported. The Bank team included a technical and environmental specialist, who conducted safety check to ensure compliance with the EMP. Implementation of safeguard requirement by the enterprises has been satisfactory.

For Stage 2, a survey and site visit of the 12 large and medium-size foam companies and 2 system houses, which plan to use CP, was conducted and information was collected on their production technology, HCFC use and safeguards-related issues. The project's EMF has been reviewed with minor updates for Stage 2. And the PMU has carried out stakeholder consultation for participating enterprises. As for Stage 1, medium and large foam producers and system houses will submit a proposal, which must include a description of their production and conversion plans, including safety and safeguard conditions, and an EMP, which – after a technical and safeguard review – will become part of the sub-project agreement to be signed by them. These companies must also comply with the applicable parts of the World Bank's General EHS guidelines as well as with national guidelines as detailed in the EMF.

III. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The safeguard relevant features of Stage 2 are the same as under Stage 1, and the task team has concluded that the potential environmental and social impact will remain the same as for Stage 1. Therefore, the safeguard category rating remains B. An EMF is in place and has been reviewed and amended for Stage 2. Participating medium and large enterprises have been pre-assessed by the PMU. They are familiar with Bank safeguard procedures, and there is no environmental liability or legacy issue associated with these enterprises.</p> <p>The project will include a series of investment activities in 12 foam companies and 2 system houses at their current locations. These medium and large foam producers are planning to use CP (a flammable substance) in pre-blended or bulk form. In addition, about 200 small companies are expected to adopt a pre-blended HFO/polyol solution. The project will have a positive impact on the global environment by reducing the use of HCFCs, which are ozone depleting substances with a high GWP. The project will promote the adoption of low or zero GHG technology wherever possible to yield maximum climate benefits. No relocation or layoff of workers is expected due to or coincidental with the</p>

		<p>project.</p> <p>From a technical point of view, the process of foam production using pre-blended HFO can be carried out without environmental and safety concerns in existing facilities. But the companies that plan to use CP (a volatile organic compound and highly flammable substance) may face operational challenges, although they are located in industrial parks at a significant distance from residential areas. Due to the safety requirements associated with the use of flammable substances, the World Bank's Environmental Assessment (OP/BP 4.01) policy is triggered; and these companies will prepare a site-specific EMP for the conversion to address the safety concerns of CP use.</p> <p>The World Bank's General EHS Guideline will serve as standard for construction of CP underground and above ground storage tanks. The Guideline requires these tanks to be designed and built according to recognized industry standards. They must have a secondary containment systems to prevent the uncontrolled release and be equipped with leak detection systems as well as devices that prevent spills and overfills, such as overflow alarms, automatic shut-off devices and catch basins around fill pipes. (http://www.ifc.org/wps/wcm/connect/47d9ca8048865834b4a6f66a6515bb18/1-5%2BHazardous%2BMaterials%2BManagement.pdf?MOD=AJPERES)</p>
Natural Habitats OP/BP 4.04	No	As the project will take place in existing industrial facilities, protected areas, known natural habitats, or established or proposed critical natural habitats will not be affected.
Forests OP/BP 4.36	No	The project will not include activities that would involve significant conversion or degradation of critical forest areas or related critical natural habitats as defined under this policy.
Pest Management OP 4.09	No	The policy is not triggered since the project (a) will not procure any pesticides, nor (b) will the use of pesticides increase as a result of the project.

Physical Cultural Resources OP/BP 4.11	No	The project will take place in existing enterprises. As such, the project will not adversely affect sites with archeological, paleontological, historical, religious, or unique natural values.
Indigenous Peoples OP/BP 4.10	No	All project activities will take place in urban or industrial areas with no ethnic minorities as defined under the Bank's policy. Therefore, OP 4.10 on Indigenous People is not triggered.
Involuntary Resettlement OP/BP 4.12	No	As for Stage 1, all project activities under Stage 2 will take place in existing facilities and there will be no land acquisition, displacement of people or layoff of workers.
Safety of Dams OP/BP 4.37	No	The project will not finance construction or rehabilitation of any dams.
Projects on International Waterways OP/BP 7.50	No	There are no project components involving international waterways.
Projects in Disputed Areas OP/BP 7.60	No	The project will not be implemented in any known areas under territorial dispute.

IV. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

Stage 2 is a direct continuation of Stage 1. Stage 2 focuses on HCFC phase-out in the production of PU foam in 12 large and medium foam enterprises located in West Java, Central Java, East Java and North Sumatera, about 200 small companies using foaming chemical and two foam system houses. None of the 12 foam enterprises plans to acquire land as a consequence of the project or concomitant with the implementation of the project. The small companies plan to adopt a pre-blended HFO/polyol solution to produce foam, which requires only very minor modifications of their production process. Thus, each company's Standard Operating Procedure (SOP) will continue to apply in addressing environmental and safety concerns, provided the SOPs are properly updated to reflect the handling of the new foam blowing agents. The 12 medium and large enterprises plan to use CP (a flammable substance) as blowing agent either in bulk or pre-blended with polyol. These companies will meet minimum distance requirements from residential areas and will be able to implement the required safety measures within their existing facilities. Verification will be carried out to ensure that safety criteria are met. Four large enterprises plan to have CP delivered in drums or in bulk and transferred into a specially constructed above or underground storage tank. Eight medium enterprises plan to have the chemicals delivered in drums as pre-blended mixture of polyol and CP, which will be stored in a dedicated storage room.

Foam production impacts the environment when (part of) the blowing agent and/or other chemicals used in the foaming process are emitted to the environment from storage

containers, during the production process or in the use of the final product. An EMF has been prepared, which provides details on the impacts of chemicals used for foam production and any related precautions and safety measures. The key environmental and safeguard issues are as follows:

(a) Ozone depletion: The phase-out by the project of HCFC-141b as blowing agent will contribute positively to the recovery of the ozone layer. HFOs, HFCs and CP are ozone neutral.

(b) Climate change: HCFCs and HFCs are GHGs with different GWP. A conversion from HCFC-141b to CP or HFOs will benefit the climate; CP has a GWP of 25 and results in 95% reduction of GHG emissions compare to HCFC-141b.

(c) Local air pollution: While HCFC-141b and pre-blended HFO are chemically stable and do not affect local air quality, CP is a volatile organic compound, which can contribute to ground-level smog pollution. But with emission of only 2-3% of the blowing agent, the environmental impact is insignificant.

(d) Soil and water pollution: The other chemicals involved in foam production are isocyanides (MDI), amine catalysts and fire retardants. The probability that a spill of polymeric MDI (liquid at room temperature) contaminates the soil and water is very low, because the floor of the foam production areas consists of cement coated with an anti-leakage, low permeability chemical layer such as epoxy. If MDI leaks into the soil, it will react with moisture or water, and the reaction would result in CO₂ and insoluble polyurea compounds, which are not biodegradable and chemically inert. Fire retardant and amine catalysts (very limited amounts) are mixed with polyol by system house suppliers. They remain in the final foam products and are not emitted to the environment.

(e) Waste: Solid waste related to the replacement of old production system will be scrap metals, which will be stored until the destruction and replacement of the old equipment has been audited. These materials will then be send for recycling. Drums in which foaming agent are delivered will be returned to suppliers.

(f) Social: There is no negative social impact. The project will help participating companies to continue their foam manufacturing operations in compliance with the HCFC phase-out policy. The conversion of the foam production system will not result in worker layoffs. Participating companies will not need to acquire land to implement the project.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

None

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Conversion from HCFC-141b to pre-blended HFO or CP will provide a solution to the phase-out of ozone depleting substances. In consideration of the fact that HFC-245fa, which was used as a substitute blowing agent by some companies under Stage 1, has a GWP much higher than CP and HFO, Stage 2 will promote the adoption of hydrocarbon technology and HFOs where possible to maximize climate benefits. To this end, the project supports the supply by system houses of HFO solutions to their small company customers.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The NOU has accumulated extensive experience with World Bank policies, including on safeguards, through the successful execution of the previous Chlorofluorocarbon (CFC) phase-out project and Stage 1 of the present HCFC-141b phase-out project, which used the same implementation modality. The NOU has prepared an EMF for the project, which has been revised for Stage 2 and which is to be disclosed again locally and in the World Bank Info Shop. The EMF contains a series of mitigating and enhancement measures designed to ensure that the project minimizes any possible negative impacts and brings about positive results.

Project participants converting to hydrocarbon must submit an EMP as part of their proposal. The PMU will assess conformance of the EMP with the EMF's requirements and ensure that the EMP is acceptable to the Bank, before the EMP becomes a part of the sub-grant agreement, compliance with which will be verified by the PMU. The EMP must contain appropriate operational health and safety (OHS) measures as well as emergency preparedness and response measures for (i) spill prevention, control, and countermeasures, (ii) prevention of direct contact with and inhalation of MDI vapors (which can cause irritation), and (iii) fire protection and countermeasures. In addition, the EMP must contain provisions for (i) training of enterprises' managers and operational staff on environment, health and safety requirements during the conversion process and in the handling of CP in the foam production process, and (ii) require at least one safety inspection and audit before the start-up of normal foam production using CP. An EMP is not required from foam companies that plan to convert to pre-blended HFO/ polyol, which is a non-hazardous substance. These companies must follow the relevant provisions in the EMF and update their SOPs in consultation with their suppliers, including conformance with OHS requirements. The PMU will verify that the SOPs have been updated.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The key stakeholders of this project include: (i) the foam enterprises, which are responsible for the safe conversion from HCFC-141b to CP or pre-blended HFO, (ii) the PMU, which is responsible for the proper management and oversight of the overall HCFC-141b phase-out project, including environmental and safety aspects of each conversion sub-project, and (iii) the equipment suppliers, which are responsible for the safe design and installation of the foam production line, in particular when using CP, and (iv) the system house, which supply substitute foam making formulations and provide technical advice to their clients.

Project information including the EMF has been disclosed locally on the NOU's website ([http:// www.ozon-indonesia.org/](http://www.ozon-indonesia.org/)) and at the World Bank InfoShop. The EMF is available in English and in Bahasa. If any population is affected by the project's activities, they will be invited to participate in the identification and assessment of impacts as well as in the development and implementation of the mitigation measures; and a grievance redress mechanism is in place.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other

Date of receipt by the Bank

23-May-2017

Date of submission to InfoShop	15-Jul-2017
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	
"In country" Disclosure	
Indonesia	15-Jul-2017
<i>Comments:</i>	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why::	
Not Applicable	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment						
Does the project require a stand-alone EA (including EMP) report?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	NA	<input type="checkbox"/>
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	NA	<input checked="" type="checkbox"/>
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
The World Bank Policy on Disclosure of Information						
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
All Safeguard Policies						
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
Have costs related to safeguard policy measures been included in the project cost?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>
Have satisfactory implementation arrangements	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	NA	<input type="checkbox"/>

been agreed with the borrower and the same been adequately reflected in the project legal documents?

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V. Contact point

World Bank

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 Title: Senior Environmental Specialist

Contact: Ina Binari Pranoto
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Borrower/Client/Recipient

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VII. Approval

Task Team Leader(s):	Name: Johannes Heister, Ina Binari Pranoto	
<i>Approved By:</i>		
Safeguards Advisor:	Name: Peter Leonard (SA)	Date: 06-Sep-2017
Practice Manager/Manager:	Name: Christophe Crepin (PMGR)	Date: 06-Sep-2017
Country Director:	Name: Yogana Prasta (CD)	Date: 05-Oct-2017