



China HCFC Phaseout Project Stage II (P156397)

EAST ASIA AND PACIFIC | China | Environment, Natural Resources & the Blue Economy Global Practice |
Montreal Protocol | Investment Project Financing | FY 2019 | Seq No: 6 | ARCHIVED on 21-Dec-2021 | ISR48826 |

Implementing Agencies: People's Republic of China, Ministry of Ecology and Environment, Foreign Economic Cooperation Office

Key Dates**Key Project Dates**

Bank Approval Date: 14-Dec-2018

Effectiveness Date: 06-Mar-2019

Planned Mid Term Review Date: 18-Jan-2022

Actual Mid-Term Review Date:

Original Closing Date: 31-Dec-2027

Revised Closing Date: 31-Dec-2027

Project Development Objective (PDO)

Project Development Objective (from Project Appraisal Document)

The project development objective is to reduce HCFC production and consumption, as well as to avoid and reduce the use of high global warming controlled substances in the consumption sector and the emissions of greenhouse gases from the production sector.

Has the Project Development Objective been changed since Board Approval of the Project Objective?

No

Components Table

Name

Investment in the Reduction of the Consumption of Controlled Substances:(Cost \$229.04 M)

Investment in the Reduction of the Production of Controlled Substances:(Cost \$303.93 M)

Technical Assistance and Policy Support:(Cost \$12.26 M)

Project Management:(Cost \$27.56 M)

Preparation of Phase-out and Emissions Reduction Activities:(Cost \$0.60 M)

Overall Ratings

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	<input type="checkbox"/> Moderately Satisfactory	<input type="checkbox"/> Moderately Satisfactory
Overall Implementation Progress (IP)	<input type="checkbox"/> Moderately Satisfactory	<input type="checkbox"/> Moderately Satisfactory
Overall Risk Rating	<input type="checkbox"/> Low	<input type="checkbox"/> Low

Implementation Status and Key Decisions

The project is making good progress towards meeting its development objective to support China in reducing HCFC production and consumption, in line with the reduction schedule under the Montreal Protocol on Substances that deplete the Ozone Layers, and with the overall production and consumption reduction schedule specific to this Project.



Based on preliminary information/data, the 2020 total production of HCFC for applications controlled by the Montreal Protocol has been reduced to 16,103 ODP tons (equivalent to 251,078 metric tons). This is below the allowable limit of 22,742 ODP tons for 2020 and well on the way toward the 2024 limit of 18,929 ODP tons.

Pending the independent verification of production and consumption data for 2020, the consumption of HCFC-141b in the PU foam sector during the 2020 calendar year is estimated to be below the maximum allowable limit of 2,965.6 ODP tons (equivalent to 26,960 metric tons).

Of the total US\$32.1 million that has been released to China by the Multilateral Fund Executive Committee (ExCom), US\$26.48 million (or 82%) has been withdrawn by FECO to the project designated account (DA) for conversion contracts and technical assistance activities in the foam sector, as well as production quota reduction and production closure contracts.

The ExCom has agreed to reduce the overall funding allocated to China for this project (along with funding for other HCFC phase-out projects implemented by other agencies). The Bank team has been working with the PMO at the Foreign Environmental Cooperation Center of the Ministry of Ecology and Environment to revise the project approach accordingly, by placing a greater emphasis on technical assistance and policy support in lieu of direct reduction of ozone depleting substances. After some delay, the revised plans for the foam sector and production were approved by ExCom in July 2020 and April 2021, respectively. Pending a formal request from the Government of China, these changes will be reflected through a restructuring of the project, which is expected early in calendar year 2022.

Risks

Systematic Operations Risk-rating Tool

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	<input type="checkbox"/> Low	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Macroeconomic	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Sector Strategies and Policies	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Technical Design of Project or Program	<input type="checkbox"/> Substantial	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Institutional Capacity for Implementation and Sustainability	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Fiduciary	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Environment and Social	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Stakeholders	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Other	--	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Overall	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low

Results

PDO Indicators by Objectives / Outcomes

Reduce HCFC prod./consump. as well as avoid/reduce use of high global warming controlled substances				
▶ Consumption of HCFC-141b within the allowable limits in 2020 and 2025 (ODP Tones/year) (Tones/year, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	3,774.50	2,965.60	2,965.60	0.00
Date	31-Dec-2018	08-Apr-2021	01-Nov-2021	31-Dec-2027



Comments:	<p>This is an interim ISR. Progress under all indicators will be reviewed at the next implementation support mission scheduled for January 2022.</p> <p>Absent of a 2020 production verification or data from MEE/FECO which is pending, the consumption of HCFC-141b in the PU foam sector during the 2020 calendar year is estimated to be not more than the maximum allowable limit of 2,965.6 ODP tons (equivalent to 26,960 MT). The 2020 consumption, along with that of 2019, is expected to be verified in 2021 under a modified methodology due to travel restrictions associated with the COVID-19 pandemic.</p> <p>The baseline for this indicator was revised. The 2018 allowable consumption of HCFC-141b in the foam sector is used as the baseline, instead of the 2017 consumption data because the Project became effective at the end of December 2018. This revision was made to better capture the actual impact of the Project.</p>			
► Production of HCFCs (HCFC-141b, HCFC-142b, HCFC-22, HCFC-123 and HCFC-124) within the allowable limits in 2020 and 2025 (ODP Tones/year) (Tones/year, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	22,742.00	16,103.41	16,103.41	8,292.00
Date	31-Dec-2018	08-Apr-2021	01-Nov-2021	31-Dec-2027
Comments:	<p>This is an interim ISR. Progress under all indicators will be reviewed at the next implementation support mission scheduled for January 2022.</p> <p>Based on preliminary information provided by HCFC producers to MEE/FECO, the 2020 total production of HCFC for applications controlled by the Montreal Protocol has reduced to 16,103.41 ODP tons (equivalent to 251,078.24 MT). This is below the allowable limit of 22,742 ODP tons for 2020 and well on the way toward the 2024 limit of 18,929 ODP tons. The verification of the 2019 and 2020 production has started virtually and will be completed after travel restrictions due to COVID-19 is lifted.</p> <p>The baseline for this indicator is revised. The 2018 allowable HCFC production is used as the baseline, instead of the 2017 production level because the Project became effective at the end of December 2018. This revision was made to better capture the actual impact of the Project and to align with the Agreement with ExCom. The end-traget is similarly revised to reflect the latest Agreement discussed with ExCom.</p>			
► Reduction of GHG emissions in the PU foam sector (Tones/year, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	5,335,340.00	5,335,340.00	24,870,000.00
Date	31-Dec-2018	08-Apr-2021	01-Nov-2021	31-Dec-2027
Comments:	<p>This is an interim ISR. Progress under all indicators will be reviewed at the next implementation support mission scheduled for January 2022.</p> <p>The impact of the production and consumption reduction policy has resulted in the actual HCFC-141b reduction in the foam sector by 809.5 MT against the 2018 baseline, equivalent to 7359 metric tons. Since alternatives of HCFC-141b are the cyclopentane and water blown technology, and HFOs with negligible GWP, the reduction of greenhouse gas (GHG) emission in the foam sector in 2020 is 5.3 million tCO₂ equivalent (7359 MT multiplied by 725 which is the global warming potential of HCFC-141b).</p> <p>The baseline and the end target for this indicator was revised. The 2018 allowable consumption of HCFC-141b in the foam sector is used as the baseline, instead of the 2017 consumption data because the project became effective at the end of December 2018.</p> <p>The revision was made to better capture the actual impact of the project. The end target was revised to reflect the latest Agreement with ExCom.</p>			
► Reduction of GHG emissions in the production sector (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	108.9 million tCO ₂ equivalent	108.9 million tCO ₂ equivalent	296.94 million tCO ₂ e
Date	31-Dec-2018	11-Jan-2021	01-Nov-2021	31-Dec-2027



Comments: This is an interim ISR. Progress under all indicators will be reviewed at the next implementation support mission scheduled for January 2022.

With the ExCom's approval of the stage II production sector plan, the end target for reduction of GHG emission is 296.94 million tCO₂ (difference between 2018 and 2026 targets) .

The total production for controlled use in 2020 is 67,965.13 MT lower than the 2018 production level. By multiplying GWP of respective HCFCs (HCFC-22, HCFC-141b, HCFC-142b, HCFC-123 and HCFC-124), the total GHG emission reduction is about 108.9 million tCO₂ equivalent.

The GHG emission reduction reported in this ISR is significantly greater than the amount reported in the previous ISR, due to review and confirmation of the methodology.

Overall Comments

This is an interim ISR. Progress under all indicators will be reviewed at the next implementation support mission scheduled for January 2022.

Intermediate Results Indicators by Components

Investment in the Reduction of the Consumption of Controlled Substances				
► Reduction by contracts signed in the PU foam sector (in ODP ton) (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	91.30	91.30	3,630.00
Date	31-Dec-2018	08-Apr-2021	01-Nov-2021	30-Dec-2027
Comments:	<p>This is an interim ISR. Progress under all indicators will be reviewed at the next implementation support mission scheduled for January 2022.</p> <p>Thus far, 11 consumption sector sub-grant agreements have been signed for the combined phaseout of 1,189.17 MT of HCFC-141b. Of this amount, 410.15 MT of HCFC-141b will be replaced by HC. The balance will be replaced by water and HFO alternatives. Since alternatives selected by these enterprises have low global warming potential (GWP of HFO and water is less than one, GWP of cyclopentane is about 4), the GHG reduction will be 860,506 tCO₂ equivalent (1,189.2x725-410.5x4). This consumption has already gone down to 91.3 ODP T in 2020 as a result of completed conversions of 7 sub-projects. The total HCFC-141b consumption to be phased out by the 11 sub-grant agreements was revised downward from 1,189 MT, as reported in the previous ISR, to 1,028.2 MT (which is based on the final consumption validation of each enterprise by the implementing support agency).</p>			
Investment in the Reduction of the Production of Controlled Substances				
► Reduction by signed contracts in the production sector (in ODP ton) (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	814.25	814.25	TBD
Date	30-Nov-2018	08-Apr-2021	01-Nov-2021	30-Dec-2027
Comments:	<p>This is an interim ISR. Progress under all indicators will be reviewed at the next implementation support mission scheduled for January 2022.</p> <p>The total production reduction based on the production quota reduction contract is 16,210 MT (equivalent to 814.25 ODP tons: 7,019 MT of HCFC-22; 836 MT of HCFC-141b; and 5,173 MT of HCFC-142b).</p>			
Project Management				
► Timely submission of semi-annual reports by FECO (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target



Value	No	Yes	Yes	Yes
Date	01-Jan-2018	08-Apr-2021	14-Nov-2021	30-Nov-2027
Comments:	The semi-annual progress reports for the production and consumption sectors for the period ending June 2021 were submitted to the Bank on time. The audited financial report for the calendar year 2020 and the interim unaudited financial report for the period ending June 2021 were also submitted on time.			
► Timely submission of implementation progress reports to the MLF (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	Yes	Yes	Yes
Date	31-Dec-2018	08-Apr-2021	14-Nov-2021	31-Dec-2026
Comments:	The implementation progress report for 2020 updated to June 2021 was submitted to the ExCom in September 2021, on a timely manner.			

Performance-Based Conditions

Data on Financial Performance

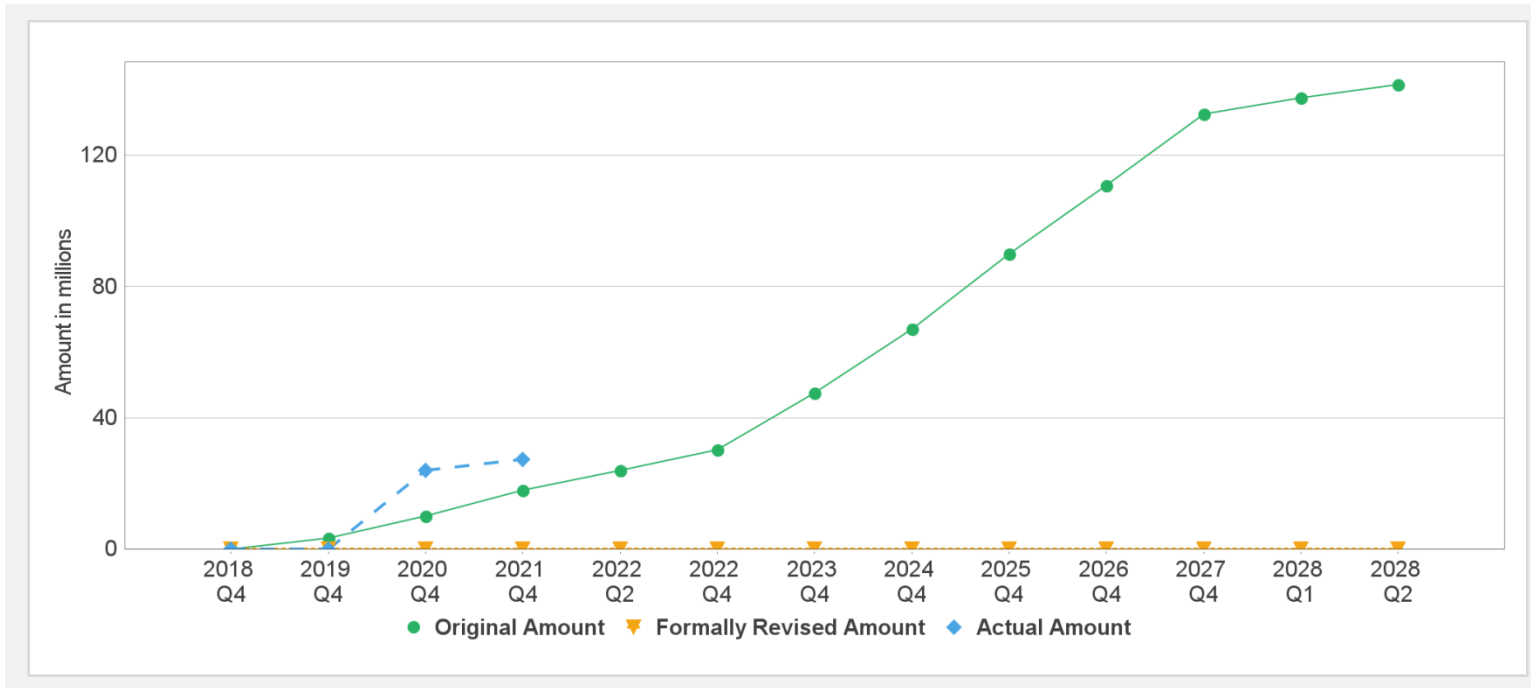
Disbursements (by loan)

Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P156397	TF-A9046	Effective	USD	164.47	164.47	0.00	27.28	137.19	17%

Key Dates (by loan)

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P156397	TF-A9046	Effective	08-Jan-2019	08-Jan-2019	06-Mar-2019	31-Dec-2027	31-Dec-2027

Cumulative Disbursements



Restructuring History

There has been no restructuring to date.

Related Project(s)

There are no related projects.