CEO Endorsement (CEO) entry ? Full Sized Project ? GEF - 7

Demonstration of production phase-out of mercury-containing medical thermometers and sphygmomanometers and promoting the application of mercury-free alternatives in medical facilities in China

Part I: Project Information

GEF ID
10349

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Demonstration of production phase-out of mercury-containing medical thermometers and sphygmomanometers and promoting the application of mercury-free alternatives in medical facilities in China

Countries
China

Agency(ies)
UNDP

Other Executing Partner(s)
Foreign Environmental Cooperation Center, Ministry of Ecology and Environment, China (formerly the Foreign Economic Cooperation Office, Ministry of Environmental Protection, China)

Executing Partner Type
Government

GEF Focal Area

Chemicals and Waste

Taxonomy

Focal Areas, Chemicals and Waste, Mercury, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Transform policy and regulatory environments, Deploy innovative financial instruments, Stakeholders, Communications, Education, Public Campaigns, Awareness Raising, Behavior change, Local Communities, Type of Engagement, Participation, Consultation, Information Dissemination, Partnership, Indigenous Peoples, Beneficiaries, Private Sector, Large corporations, Capital providers, Individuals/Entrepreneurs, Financial intermediaries and market facilitators, SMEs, Civil Society, Community Based Organization, Academia, Non-Governmental Organization, Gender Equality, Gender results areas, Access to benefits and services, Capacity Development, Knowledge Generation and Exchange, Gender Mainstreaming, Women groups, Capacity, Knowledge and Research, Innovation, Enabling Activities, Knowledge Exchange, Targeted Research, Learning, Indicators to measure change, Adaptive management, Knowledge Generation

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 0

Submission Date

6/16/2021

Expected Implementation Start

1/13/2022

Expected Completion Date

1/12/2027

Duration

60In Months

Agency Fee($)

1,440,000.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-1-1	Strengthen the sound management of industrial and other waste through better control, and reduction and/or elimination	GET	16,000,000.00	112,000,000.00
		Total Project Cost($)	**16,000,000.00**	**112,000,000.00**

B. Project description summary

Project Objective

Establishing the enabling environment to accelerate the transfer to the production of mercury-free medical devices, and to lay the foundation for market acceptance and growth for mercury-free devices in medical facilities, in order to meet associated phase-out deadlines under the Minamata Convention on Mercury.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Integrated policy, regulatory framework, quality standards, fiscal tools, action plans and associated capacities, to support the phase out of mercury-containing medical thermometers and sphygmomanometers under the Minamata Convention	Technical Assistance	**1.1** Cross ministerial cooperation established to jointly develop and implement the necessary policy, regulations, tools, action plans and guidelines, in coordination with appropriate private sector partners, to phase out the production and consumption of mercury-containing medical devices, to reduce the use of primary mercury in medical devices, to manage waste of obsolete devices, and to promote the uptake of mercury-free medical devices.	**Output 1.1**: Inter-ministerial Committee established (e.g., Environment, Health, Industry, etc.) to support the execution of China?s National Implement Plan for the Implementation of the Minamata Convention and take actions to address the identified policy and enforcement capacity gaps between national regulatory policies and the Convention?s legal requirements for Parties, and to look at modalities for linking mercury consumption reductions from this sector into the primary mining plans within the National Minamata Implementation Plan, to avoid redirection of phased out consumption to other sectors. **Output 1.2**: Proposals on policy and regulatory frameworks on chemical management, supervision and law enforcement, standards for inspection and maintenance of	GET	600,000.00	3,000,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2. Demonstration of technology transfer and investment for (i) supporting enterprises in phasing out the production of mercury-containing medical devices; (ii) the application of mercury-free devices in medical facilities, and (iii) enhanced knowledge base for the risk assessment and sound management of obsolete mercury devices, contaminated materials/wastes, and contaminated areas on premises	Investment	**2.1** Enterprises are enabled to convert production lines as per legally mandated national phase-out planning guidelines, and to soundly manage remaining mercury, stockpiled devices and/or contaminated areas on premises resulting in the phase-out of at least 75 metric tons of mercury.	**Output 2.1**: Production of mercury-free medical thermometers and sphygmomanometers achieved and sound management of obsolete mercury and stocks of mercury devices implemented in four (4) producers of mercury-containing medical thermometers and two (2) producers of mercury-containing sphygmomanometers. **Output 2.2**: Use of mercury-free devices and the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers demonstrated in at least 6 medical facilities. 60% of baseline mercury-containing medical thermometers and sphygmomanometers replaced by mercury-free devices and staff capitated to use and maintain mercury-free devices and to soundly manage obsolete mercury devices and related wastes.	GET	12,600,000.00	89,400,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3.Development of long-term guidance and tools for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers, and mercury-contaminated areas	Technical Assistance	**3.1** Production enterprises and medical facilities implemented appropriate strategies, tools and guidance to assure long-term sound management of mercury-containing medical devices and mercury contaminated areas.	**Output 3.1**. Guidance tools for inventory of mercury-contaminated sites at piloted enterprises producing mercury-containing medical thermometers and sphygmomanometers developed. **Output 3.2**. Risk management strategy, technical guidance and training materials developed for the sound management of residual mercury stocks and obsolete mercury-containing medical thermometers and sphygmomanometers at production enterprises/sites. **Output 3.3** Risk management strategy, technical guidance and training materials developed for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers in medical facilities.	GET	1,400,000.00	9,800,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
4. Knowledge Sharing & Management, Monitoring and Evaluation established and implemented	Technical Assistance	**4.1**. Tools for Knowledge sharing developed, activities and experiences about policy, technical knowledge and lessons learned for the project shared. Disaggregated information on stakeholder ?s activities and experiences under the project gathered and fed into the Monitoring and Evaluation processes of the Project.	**Output 4.1**. Project Communication Strategy created and effective KM and M&E support delivered in differentiated approaches for stakeholders (manufacturing enterprises, medical facilities, mercury mining enterprises, government and international agencies, etc.). **Output 4.2**. Awareness raised manufacturers, medical facilities and public on sound management of chemicals; knowledge gathered and shared, as well as learning tools created and utilized periodically during the project lifecycle. **Output 4.3**: Monitoring and Evaluation Tools (PIR, Mid Term and Terminal Evaluations as well as Quarterly Performance Reports and Project Board Reports, budget revisions and financial control and project management tools) delivered as required and adaptive management	GET	640,000.00	4,480,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
				Sub Total ($)	**15,240,000.00**	**106,680,000.00**
Project Management Cost (PMC)						
				GET	760,000.00	5,320,000.00
				Sub Total($)	**760,000.00**	**5,320,000.00**
				Total Project Cost($)	**16,000,000.00**	**112,000,000.00**

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Pollution Control Center of Solid Wastes and Chemicals of Shandong Province	Grant	Investment mobilized	3,099,000.00
Recipient Country Government	Pollution Control Center of Solid Wastes and Chemicals of Shandong Province	In-kind	Recurrent expenditures	3,874,000.00
Recipient Country Government	Department of Ecology and Environment of Shaanxi Province	Grant	Investment mobilized	1,500,000.00
Recipient Country Government	Department of Ecology and Environment of Shaanxi Province	In-kind	Recurrent expenditures	6,000,000.00
Private Sector	Dong?a-hua Medical Technology Co., Ltd.	Grant	Investment mobilized	12,400,000.00
Private Sector	Dong?a-hua Medical Technology Co., Ltd.	In-kind	Recurrent expenditures	6,000,000.00
Private Sector	Anhui Fangda Pharmaceutical Machinery Co., Ltd.	Grant	Investment mobilized	3,719,200.00
Private Sector	Anhui Fangda Pharmaceutical Machinery Co., Ltd.	In-kind	Recurrent expenditures	11,446,500.00
Private Sector	Jiangsu Yuyue Medical Instruments Co., Ltd.	Grant	Investment mobilized	4,842,710.00
Private Sector	Jiangsu Yuyue Medical Instruments Co., Ltd.	In-kind	Recurrent expenditures	12,000,000.00
Private Sector	Hongjiang Zhengxing Medical Instrument Factory	Grant	Investment mobilized	6,784,440.00
Private Sector	Hongjiang Zhengxing Medical Instrument Factory	In-kind	Recurrent expenditures	8,400,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Private Sector	Jiangsu Yuyue Medical Equipment & Supply Co., Ltd.	Grant	Investment mobilized	20,463,350.00
Private Sector	Jiangsu Yuyue Medical Equipment & Supply Co., Ltd.	In-kind	Recurrent expenditures	9,000,000.00
Private Sector	Jiangsu Yuanyan Medical Equipment Co., Ltd.	Grant	Investment mobilized	1,084,800.00
Private Sector	Jiangsu Yuanyan Medical Equipment Co., Ltd.	In-kind	Recurrent expenditures	700,000.00
Beneficiaries	China Association for Medical Devices Industry	Grant	Investment mobilized	163,000.00
Beneficiaries	China Association for Medical Devices Industry	In-kind	Recurrent expenditures	223,000.00
GEF Agency	UNDP	In-kind	Recurrent expenditures	300,000.00
			Total Co-Financing($)	**112,000,000.00**

Describe how any "Investment Mobilized" was identified

I) Private Sector Co-finance: Will be mobilized through the enterprises that will participate in demonstration activities. Investment will be deployed by these companies to undergo conversion/retrofit of the manufacturing facilities (e.g., mercury-free injection equipment, assembly line, chip mounter, etc.) and to adjust the production lines and processes in order to be able to produce and improve quality of mercury-free products. Meanwhile, R&D funds for the mercury-free products and marketing fee will also be mobilized by the enterprises with loans obtained including through the potential green finance mechanism, all these will be the necessary investments mobilized to facilitate accelerated elimination of mercury consumed in the production of mercury-containing thermometers and sphygmomanometers to comply with the Minamata Convention deadline of January 2026. Such investments will facilitate the enterprises to update to alternative technologies to secure the market and ensure the enterprises' sustainable development. II) Public Sector Co-finance: In addition, local governments will mobilize funds to support and to organize the demonstration of mercury-free products application and promotion in the selected demonstration medical institutions. Even with the support of GEF fund, the demonstration medical institutions will also

mobilize additional co-financing to carry on the mercury-free products procurement, maintenance, calibration, mercury waste disposal and personnel training, to ensure long-term maintenance and sustainable investment.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
UNDP	GET	China	Chemicals and Waste	Mercury	16,000,000	1,440,000
				Total Grant Resources($)	**16,000,000.00**	**1,440,000.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **false**

PPG Amount ($)

300,000

PPG Agency Fee ($)

27,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
UNDP	GET	China	Chemicals and Waste	Mercury	300,000	27,000
				Total Project Costs($)	**300,000.00**	**27,000.00**

Core Indicators

Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
75.00	75.00	0.00	0.00

Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
75.00	75.00		

Indicator 9.3 Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
1	1		

Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
1	1		

Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 10 Reduction, avoidance of emissions of POP to air from point and non-point sources (grams of toxic equivalent gTEQ)

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)

Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 10.2 Number of emission control technologies/practices implemented (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	700	150,000		
Male	300	150,000		
Total	1000	300000	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

The table below outlines the changes in the project design from the original PIF to the CEO Endorsement.

Component/Activity/ Section	Original PIF	Adjusted in CEO Endorsement	Justification
Component 1, Activity 1.1.1,	Not included	Training plan to improve capacity of national policy and enforcement effectiveness, to include management capacity of inspection officers	To address risk identified under the Social and Environmental Screening Procedures (SESP) to enhance management capacity on enforcement
Component 2, Activities 2.1.2, 3.1.1, 3.2.1 and 3.2.2	Remediation pilots at production sites	No remediation pilot will be carried out. The project will only develop guiding methodology and carry on investigation to identify and collect data to establish inventory on mercury-contaminated sites	Remediation activities will not be supported

Component 3, Activity 3.1.1	Remediation of contaminated sites on production sites	No remediation pilot will be carried out. The project will only develop guiding methodology and carry on investigation to identify and collect data to establish inventory on mercury-contaminated sites	Remediation activities not supported

A) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

The problem of mercury in national context

Mercury can lead to significant adverse neurological and other health effects in humans, including the unborn child and infants. The global transport of mercury in the environment requires concerted global actions to address the problem of mercury pollution. As one of the global efforts to protect human health and the environment from anthropogenic emissions and releases of mercury as well as mercury compounds, the Minamata Convention on Mercury was agreed on by the intergovernmental negotiating committee and was opened for signature on October 10, 2013.

The Minamata Convention on Mercury went into effect on August 16, 2017 for signatory parties to the Convention including China, and sets out a range of measures to meet the abovementioned objective, including measures to control the supply and trade of mercury, the control of mercury-added products, etc. Parties to the Convention agree in Article 4 of the Minamata Convention on Mercury to forbid the manufacture, import or export of mercury-added products (listed in Part I of Annex A) after the 2020 phase-out date. This list of mercury-added products includes mercury-containing medical devices like thermometers and sphygmomanometers.

As per the Minamata Convention on Mercury, the import and/or export and manufacture of mercury-containing medical thermometers and sphygmomanometers will be forbidden from January 1, 2021 onwards. As for China, the manufacture of mercury-containing medical thermometers and sphygmomanometers will be forbidden from January 1, 2026 on since China registered an exemption pursuant to Article 6 of the Minamata Convention of Mercury (www.mercuryconvention.org/Countries/Parties/Exemptions/tabid/5967/language/en-US/Default.aspx).

Production of Mercury-contained thermometers and sphygmomanometers in China

China is a large manufacturer of mercury-containing medical thermometers and sphygmomanometers. The production facilities are mostly located in Eastern China like Jiangsu, Anhui and Shandong Provinces etc. Affected by the relevant control policies and economic situation, recent investigation showed the production of mercury-containing thermometers fell from about 150 million to about 100 million units between 2010 and 2016.

Surveys conducted in 2020 showed that there were more than 300 enterprises in China producing medical thermometers and sphygmomanometers. While most are small to medium sized enterprises (SMEs) that have permits to produce mercury-free thermometers and sphygmomanometers, their product quality varied considerably and still falls short from expected stability and accuracy required for large scale market supply and well acceptance in medical institutions. In addition, 23 enterprises in different size (small, medium and large) still using mercury in thermometers and sphygmomanometers and currently face technical and financial challenges to adapt to Hg-free products.

Data gathered from seven (7) of the eighteen (18) enterprises that produce mercury-containing thermometers, whose combined production volume exceeds more than 50% of the total sector production capacity, shows the production volume has increased again since 2017. Based on the survey, the national production of mercury-containing thermometers was expected to exceed 200 million units in 2020. One third of the produced mercury-containing thermometers is exported to other countries.

Less than 5 enterprises among the mercury-containing thermometer producers have the license to produce the mercury-free Galinstan-in-glass thermometers, which is an alternative to mercury-in-glass thermometers. These enterprises face critical challenges related to low yield, limited production capacity, high production cost, uneven product quality and a relatively small market share of Galinstan-in-glass thermometers. Several mercury-containing thermometers manufacturers are also producing or capable to produce digital thermometers but have poor market competitiveness compared to companies that are solely manufacturing digital ones. Therefore, technology transfer is necessary among the manufacturers.

With respect to mercury-containing sphygmomanometers, there are a total of 5 enterprises that have the ability to produce and their production output in 2020 was about 1.3 million units.

There are mainly three types of sphygmomanometers in the market: (i) mercury-containing sphygmomanometers; (ii) aneroid sphygmomanometers; and (iii) oscillometric sphygmomanometers. Through survey conducted in 2020, it was observed that among the 5 enterprises which produce mercury-containing sphygmomanometers at present, all have incipient/limited capacities to also produce mercury free aneroid sphygmomanometers.

Most thermometers and sphygmomanometers producers sell their products through third-party trading companies to domestic and foreign consumers, rarely directly to medical facilities. Therefore, the enterprises and medical facilities are not directly linked.

Consumption of mercury-contained thermometers and sphygmomanometers in China

Mercury-containing thermometers and sphygmomanometers are widely used in medical facilities in China. There are nearly one million medical facilities at three different grades including tertiary, secondary and primary medical institutions (mostly consist of township, community, and village clinics, etc.). The size of these medical facilities at same grade is different according to the specific conditions of each province, city and county. Previous investigations show that some medical facilities have demonstrated the application of mercury-free medical devices like the digital ones, and the substitution has shown an increasing trend in recent years, however considering the stability, quality, price and people?s awareness of digital thermometers and sphygmomanometers, the promotion of mercury-free ones were slow. Mercury-containing medical thermometers and sphygmomanometers are still the mainstream devices in China, especially in medical institutions, and are the first choice for many medical workers in part due to their cost and simplicity to use. Due to the huge number of medical institutions as mentioned above, the total amount of mercury-containing medical thermometers and sphygmomanometers used in medical facilities is difficult to estimate.

An investigation in 2020 covering a sample 25 medical institutions showed that, from 2017 to 2019, medical institutions also consumed a large amount of mercury for the maintenance and calibration of mercury-containing sphygmomanometers. Some hospitals even had elemental mercury storage on hand. Among the 25 medical institutions investigated, there are more mercury-containing thermometers and sphygmomanometers than mercury-free ones, although the amount of the mercury-containing devices in medical institutions dropped sharply in recent years. It was identified that digital sphygmomanometers are more commonly used in higher-level medical facilities.

Institutional and legal baseline for phasing out the production of mercury-containing medical thermometers and sphygmomanometers

For the import and/or export and manufacture of mercury-containing medical thermometers and sphygmomanometers, the Government of China has issued several related policies and regulations to meet the requirement of the Minamata Convention on Mercury. For example, in 2017, an Announcement of the Entry-into-Effect of Minamata Convention on Mercury (2017-85) led by the then Ministry of Environmental Protection (now the Ministry of Ecology and Environment) was issued. It clearly stated that the import and/or export of mercury-containing medical thermometers and sphygmomanometers will be banned from January 1, 2021 and the manufacture of mercury-containing medical thermometers and sphygmomanometers will be banned from January 1, 2026.

In 2017, the then Ministry of Environmental Protection issued the "National Catalogue of Environmental Protection Technology", which listed mercury-containing medical thermometers and sphygmomanometers as high-pollution and high-environmental-risk products. In 2019, the National Development and Reform Commission issued the "Guiding Catalogue of Industrial Structure Adjustment (2019 version)", which listed the manufacture of mercury-containing medical thermometers and sphygmomanometers after December 31, 2025 in the catalogue of phase-out. In 2020, National Medical Products Administration issued an announcement stating that the validity of the

licenses for all mercury-containing medical thermometers and sphygmomanometer manufacturers should not be later than December 31, 2025.

The Ministry of Commerce, the Ministry of Ecology and Environment and the General Administration of Customs have jointly issued the "Catalogue of Prohibited Imports" (the seventh batch) and the "Catalogue of Prohibited Exports" (the sixth batch), clarifying that from January 1, 2021, the import and export of mercury-added products controlled by the Convention is prohibited. In addition, there are also some standards, verification requirements and guidelines for thermometers and sphygmomanometers as listed in Table 1 below.

Table 1 Law/regulation/standard/guidelines related to the import and export and the manufacture and verification of mercury-containing medical thermometers and sphygmomanometers

Law/regulation/standard/ Guideline	Issuing Institution	Issuing Date	Requirements or limits
Announcement of the Entry-into-Effect of Minamata Convention on Mercury	Ministry of Environmental Protection and other 17 relative Ministries or Administrations	August 15, 2017	The import and/or export of mercury-containing medical thermometers and sphygmomanometers will be banned from January 1, 2021 and the manufacture of mercury-containing medical thermometers and sphygmomanometers will be banned from January 1, 2026
National Catalogue of Environmental Protection Technology	Former Ministry of Environmental Protection	2013, 2014, 2015, 2017	Mercury-containing medical thermometers and sphygmomanometers are high-pollution and high-environmental-risk products
Guiding Catalogue of Industrial Structure Adjustment (2019 version)	National Development and Reform Commission	Septembrer10, 2019	Manufacture of mercury-containing medical thermometers and sphygmomanometers after December 31, 2025 belongs to the catalogue of phase-out
Notice of the Comprehensive Department of National Medical Products Administration on Matters Concerning the Implementation of the Minamata Convention on Mercury	National Medical Products Administration	October 10, 2020	The validity of the production licenses for all mercury-containing medical thermometers and sphygmomanometers should not be later than December 31, 2025

Catalogue of Prohibited Imports (the seventh batch) and the Catalogue of Prohibited Exports (the sixth batch)	The Ministry of Commerce, the Ministry of Ecology and Environment and the General Administration of Customs	December 30, 2020	The import and export of mercury-added products controlled by the Convention is prohibited from January 1, 2021
GB 1588-2001 Clinical thermometer	General Administration of Supervision, Inspection and Quarantine of the People`s Republic of China	December 4, 2001	This national standard specifies the classification, nomenclature, requirements, test methods, inspection, labeling and other requirements for clinical glass thermometers
GB/T 21416-2008 Clinical electronic thermometer	General Administration of Supervision, Inspection and Quarantine of the People`s Republic of China and the Standardization Administration of China	January 22, 2008	This national standard specifies the terms and definitions, requirements, test methods, inspection rules and labeling and other requirements for clinical electronic thermometer
GB 3053-1993 Sphygmomanometer	State Bureau of Technical Supervision	October 16, 1993	This national standard specifies the product classification, technical requirements, test methods, acceptance rules and labeling of sphygmomanometers
Administration measures of the people's Republic of China for the compulsory verification of working measuring instruments	State Administration for Market Regulation	February 25, 2019	Clinical thermometers and sphygmomanometers are required for compulsory verification.
Verification regulation of clinical thermometers (JJG 111-2019?	State Administration for Market Regulation	December 31, 2019	The glass thermometer only need verification once and should be discarded if not accurate. The regulation applies to mercury-containing medical thermometers
Verification regulation of clinical electronic thermometers (JJG 1162-2019?	State Administration for Market Regulation	December 31, 2019	The verification cycle for clinical electronic thermometers should be no more than one year
Verification regulation of infrared ear thermometers (JJG 1164-2019?	State Administration for Market Regulation	December 31, 2019	The verification cycle for infrared ear thermometers should be no more than one year

Verification regulation of sphygmomanometer (JJG 270-2008?	General Administration of Supervision, Inspection and Quarantine of the People`s Republic of China	March 25, 2008	The verification cycle for sphygmomanometer should be no more than a half year
Verification regulation of non-invasive automated sphygmomanometer (JJG 692-2010?	General Administration of Supervision, Inspection and Quarantine of the People`s Republic of China	May 11, 2010	The verification cycle for non-invasive automated sphygmomanometer is one year or shorter if necessary. It must be verified after maintenance.

As for the sound management of mercury and obsolete mercury-containing medical thermometers and sphygmomanometers, mercury waste is listed in the Directory of National Hazardous Wastes and need to be managed based on Law on Pollution Prevention and Control of Solid Wastes. Standard for pollution control on hazardous waste storage (GB 18597-2001) and Technical specifications for collection, storage, transportation of hazardous waste (HJ 2025-2012) specified the requirements for the management of mercury waste as listed in Table 2.

Table 2 Law/regulation/standard/ Guideline for sound management of obsolete mercury-containing medical thermometers and sphygmomanometers

Law/regulation/standard/ guidelines	Issuing Institution	Issuing date	Relevant requirements or limits
Law on Pollution Prevention and Control of Solid Waste (revised version)	Standing Committee of the National People's Congress	April 29, 2020	Obsolete mercury-containing medical thermometers and sphygmomanometers are hazardous waste
Directory of National Hazardous Wastes (revised version)	Ministry of Ecology and Environment, National Development and Reform, Ministry of Public Security, Ministry of Transport, National Health Commission	November 25, 2020	Obsolete mercury-containing medical thermometers and sphygmomanometers are hazardous waste

Standard for pollution control on hazardous waste storage (GB 18597-2001)	State Environmental Protection Agency, General Administration of Supervision, Inspection and Quarantine of the People`s Republic of China	December 28, 2001	The general requirements for hazardous waste storage, and the requirements for hazardous waste packaging, site selection, design, operation, safety protection, monitoring and closing of storage facilities
Technical specifications for collection, storage, transportation of hazardous waste (HJ 2025-2012)	Ministry of Environmental Protection	December 24, 2012	Technical requirements for hazardous waste collection, storage and transportation, which is a guiding standard
Regulation on the Administration of Medical Wastes	State Council	March 28, 2008	Regulations about the collection, transportation, storage, disposal, supervision and management of medical waste
The Classified Catalogue of Medical Wastes	National Health and Family Planning Commission	June 5, 2013	Obsolete mercury-containing medical thermometers and sphygmomanometers belongs to medical wastes

Barriers that need to be addressed for phasing out of the production of mercury-containing medical thermometers and sphygmomanometers and the application of mercury-free medical thermometers and sphygmomanometers in medical facilities.

There are several challenges in terms of policy and regulatory framework, technical and financial supports as well as educational and awareness raising that could hamper the phase-out the production of mercury-containing medical thermometers and sphygmomanometers in enterprises and the application of mercury-free medical thermometers and sphygmomanometers in medical facilities in China.

COVID-19 pandemic immediate implications to the mercury-free market of medical devices

With the outbreak of COVID-19 in China, the demand for body temperature checking in households, community and public place had resulted in increased demand use of thermometers. As noted in the 2020 survey carried on during project preparation process, from the 100 million units produced in 2016, this production has increased and was expected to reach 200 million units of mercury-contained thermometers in 2020, putting pressure in the national demand and jeopardizing the phase-out commitments under the Minamata Convention.

On the other hand the demand on the application of contact-free and mercury-free thermometers in medical institutions and communal places had also promoted an increased use of mercury-free thermometers, but also concerns considering the need for accuracy and reliability of these thermometers.

Policy and regulatory challenges

Since the phase-out date for the import and/or export and manufacture of mercury-containing medical thermometers and sphygmomanometers has been set as per the Minamata Convention on Mercury, corresponding national policies, regulations and action plans are needed to reach this goal.

In light of the approaching phase-out of the production of mercury-containing medical thermometers and sphygmomanometers, several policy, regulatory instruments and action plans were issued by the Government of China to ensure the introduction and appropriate application of mercury-free medical thermometers and sphygmomanometers in medical facilities, and by the general public as listed in Tables 1 and 2 above. However, some of these measures are only recommended measures rather than compulsory ones, which require a thorough review and assessment to identify gaps and overlaps, close loopholes and harmonize approaches and propose relevant mandatory bylaws.

As for the introduction and application of mercury-free thermometers and sphygmomanometers in medical facilities, policies and regulatory framework at national or local levels to promote their introduction and application are lacking. Besides, many training materials focused more on mercury-containing medical thermometers and sphygmomanometers rather than mercury-free ones, which need to be updated. Furthermore, standards for the manufacture of mercury-free thermometers and sphygmomanometers are required to be updated to ensure the manufacturing of products that meet the necessary requirements.

Finally, obsolete mercury-containing medical thermometers and sphygmomanometers from medical facilities were listed in the Classified Catalogue of Medical Wastes issued by National Health and Family Planning Commission, but gaps in policies, regulatory framework, guidance, tools and actions plans still exist in the interim storage of mercury and the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers and mercury contaminated sites.

Technical challenges

The baseline for the replacement of mercury-containing medical thermometers and sphygmomanometers is that mercury-free alternatives should meet the demand of the consumers and the market, both in terms of quantities and quality, without causing much inconvenience. As for the manufacture of mercury-free medical thermometers, non-electronic thermometers with liquid Galinstan, and electronic thermometers, are both considered promising alternatives to mercury-containing medical thermometers.

In the case of the manufacture of Galinstan-in-glass thermometers, there are several technical issues to be addressed, including the high price of liquid Galinstan, the requirement for technical improvement in such thermometers because of their slow reset time, and suboptimal efficacy at low temperatures, as compared to mercury-containing medical thermometers. Furthermore, only a few companies hold related-patents to produce Galinstan-in-glass thermometers in China, such that the production capacity of Galinstan-in-glass thermometers is currently very limited. The lack of trained personnel for the

manufacture of Galinstan-in-glass thermometers is another obstacle. Therefore, the demonstrative technical transfer from production of mercury-containing medical thermometers to Galinstan-in-glass thermometers is necessary.

As for the manufacture of electronic thermometers, dependence on the chips from the suppliers outside of the country and its intellectual property might be the barriers in the conversion and increase the cost of the electronic alternatives. The lack of trained personnel is another obstacle. In addition, the quality of the electronic thermometers is variable, and there is a need for universal quality control in production. Therefore, the demonstrative technical transfer from production of mercury-containing medical thermometers to electronic thermometers is necessary.

As for the manufacture of mercury-free sphygmomanometers, there are two main alternatives: mercury free aneroid sphygmomanometers and electronic sphygmomanometers. Similar to the manufacture of electronic thermometers, the manufacture of electronic sphygmomanometers also lacks chips with independent/self-owned intellectual property rights, and trained personnel, and the same issue of variability of quality exists. Therefore, the demonstrative technical transfer from production of mercury-containing sphygmomanometers to electronic ones is necessary.

China?s National Implement Plan for the Implementation of the Minamata Convention, for which work has been initiated to begin its preparation, will seek to work with enterprises to phase out mercury from their operations and enhance safe handling of mercury on site. However, in fine-tuning the sectoral plan for this, there needs to be prioritization of enterprises, and improved understanding of not only where the largest mercury consumption lies in production of devices, but also of the greatest risks of contamination and threats to human and environmental health. The development of a long-term risk management strategy for enterprises could be supported through pilot assessment of contaminated sites associated with the operations of enterprises, and development of guidance and tools for the sound management of mercury-contaminated sites and obsolete mercury and mercury-containing medical thermometers and sphygmomanometers at enterprises is necessary in order to reduce risks to workers on site.

The introduction and application of mercury-free thermometers and sphygmomanometers in medical facilities requires accurate and reliable measurements similar to the mercury-containing ones. The lack of the confidence on the quality of measurements taken with mercury-free devices, and the lack of trained medical workers to accurately use and maintain mercury-free medical devices in many medical facilities are significant barriers. These need to be overcome with demonstration interventions in medical facilities (at various health-care level) to instill in medical personnel the confidence in the quality and usability of mercury-free alternatives.

Finally, the development of long-term guidance and tools for the sound management of obsolete mercury and mercury-containing medical thermometers and sphygmomanometers at medical facilities is also necessary. Mercury released from the broken thermometers and sphygmomanometers may collect in cracks and crevices or may accumulate within the facility with time that can pose a prolonged health risk to building occupants. Currently, risk assessment and management plans for the management of the released of mercury from broken mercury-containing medical thermometers and sphygmomanometers at medical facilities are lacking.

Financial challenges

Most of the enterprises manufacturing mercury-containing medical thermometers and sphygmomanometers are private companies with relatively low profitability. As such they face financial constraints for the conversion from mercury-containing medical thermometers and sphygmomanometers to mercury-free alternatives. The transfer to mercury-free alternatives generally requires construction of new production lines, and training of employees in new technologies. Financial support to demonstrate the technical transfer from mercury-containing medical thermometers and sphygmomanometers will support manufacturing companies in accessing incremental investments for the conversion to mercury-free technologies and train their employees in new technologies. In those instances where site contamination and disposal of obsolete mercury-containing materials is an issue, they can also require assistance to conduct risk assessment and putting management procedures and approaches in place to protect their workers as well as surrounding communities.

Considering the relatively high price and high cost for the maintenance of mercury-free alternatives combined with medical staff that is not trained in their use, medical facilities are reluctant to introduce mercury-free alternatives. Financial support and a green financing framework in participating medical facilities will facilitate the adoption of mercury-free alternatives, and help to conduct risk assessment and develop management plans to ensure the sound management of broken and/or obsolete mercury-containing medical thermometers and sphygmomanometers to safeguard medical staff, patients, visitors and surrounding communities. Medical facilities could also help to provide critical feedback to manufacturers and the government alike, in testing performance of new technologies, and helping to confirm the best products for upscale and wider use in the long term. Besides, the general public are supposed to follow the choice of medical facilities on mercury-free alternatives.

Educational and awareness raising challenges

It is recognized that mercury-containing medical thermometers and sphygmomanometers are still widely used in China, while some developed and a few developing countries had phased-out the use of mercury-containing medical devices. Therefore, the gathering of international experiences, lessons-learned and the exchange of best and worst practices from countries and medical facilities will be critical to contribute to a successful phase out in China.

As relates to the adoption of mercury-free alternatives, the lack of trained medical workers to use such devices requires thorough, systematic education, including appropriate use and gaining critical capacity as relates to calibration and accuracy of measurements. For the general public, the knowledge on the health impact of mercury is still insufficient and needs to be further enhanced, particularly to the impact on pregnant women and children. Also, the knowledge on the performance and correct using methods so forth of mercury-free alternatives is also necessary. It is therefore necessary to assure that ?buy-in? of peoples and communities to ensure the introduction, promotion and wider acceptance of the mercury-free alternatives is implemented successfully.

Awareness raising among government entities, private sector entities, civil society stakeholder groups and the general public and medical personnel is critical, concrete actions are needed to focus on the necessity to replace mercury-containing medical thermometers and sphygmomanometers in light of the current deadlines, as well as to continuously conduct R&D on mercury-free alternatives (such as the refinement of Galinstan devices).

Gender challenges

In general, certain gender disparities persist in China in areas of knowledge, employment, and involvement in decision-making due to cultural barriers. In this sense, women working in thermometers and sphygmomanometers producing enterprises continue to face challenges in equal access to training and employment and are particularly exposed to mercury during the production process.

In terms of women participation in medical institutions, it is noted that they form part of more than 50% of the healthcare workforce, being majority in the nursing careers and are relevant in medical Specialties positions, however gaps still exist in terms of participation and decision making in the process involved in procurement and use of medical devices.

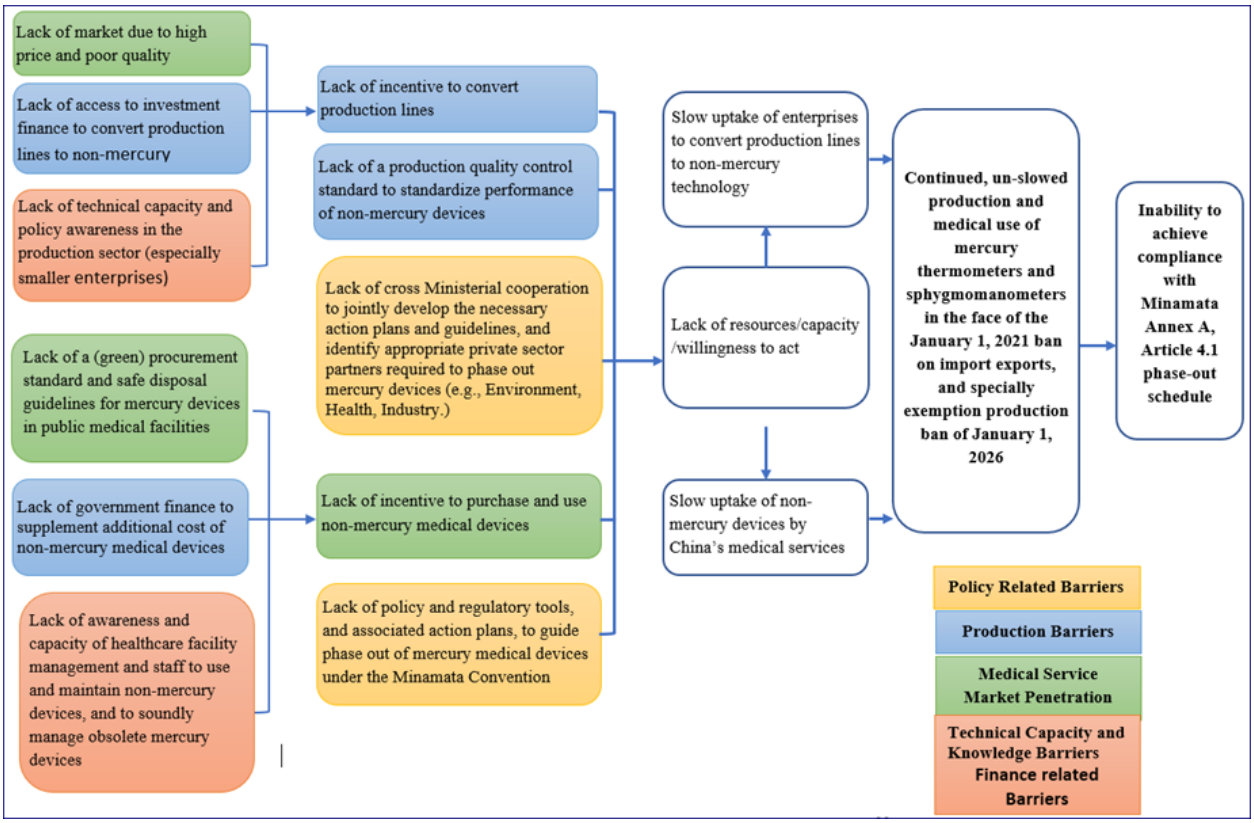
The project recognizes that without adequate and appropriate consideration of the gender gaps and relevant gender-responsive measures in design and implementation of its intervention, women would be continuously suffering disadvantages in access to participation training at production and decision making and access of mercury-free technologies (at all levels), as well and other relevant benefits and services in the use of mercury-free devices such as minimization of contamination risk, which are gender gaps most strategic and relevant to GEF-programming.

At end-user/household level, it is acknowledged that large number of families still use mercury-contained thermometers as these consist cost-effective and easy-to-use solutions. However, accidents in use that involved break up of glass and mercury leakage are also common at households and this can directly expose women and children particularly in small, poorly ventilated rooms. Therefore accurate and reliable mercury-free fever thermometers must be made available at end-user level in also cost-effective manner, and additional awareness raising is required to support families in gain confidence in their use. In this regard, the role of women as family leaders is also critical for behavioral change.

Problem Analysis for the successful introduction of mercury-free medical thermometers and sphygmomanometers in China.

Taking into account the myriad of barriers, and the interconnectedness of production phase out with market uptake, a cause-effect ?problem tree? can be constructed to help categorize barriers, see where they lie, who can help alleviate them, and how addressing barriers in component activities can feed into achieving the ultimate project objective. Figure 1 below gives a graphic representation of this analysis of the barriers at baseline.

FIGURE 1 PROBLEM ANALYSIS TO EXPLORE THE CAUSE-EFFECT FOR CHALLENGES FACED IN THE PHASE OUT OF MERCURY-BASED MEDICAL DEVICES IN CHINA



B) The baseline scenario and any associated baseline projects

In China, the manufacture of mercury-free thermometers and sphygmomanometers has been encouraged by the National Development and Reform Commission of China since 2011. In 2014, mercury-containing thermometers and sphygmomanometers were listed as high-pollution and high-environmental-risk products by the then Ministry of Environmental Protection of China. The Ministry of Ecology and Environment has initiated work to begin the preparation of a National Implement Plan for implementation of the Minamata Convention on Mercury, including the phase-out of mercury containing medical thermometers and sphygmomanometers. Some regulations on the calibration of electronic thermometers have also been issued from 2009. In 2017, the then Ministry of Environmental Protection issued the "National Catalogue of Environmental Protection Technology", which listed mercury-containing medical thermometers and sphygmomanometers as high-pollution and high-

environmental-risk products. In 2019, the National Development and Reform Commission issued the "Guiding Catalogue of Industrial Structure Adjustment (2019 version)", which listed the manufacture of mercury-containing medical thermometers and sphygmomanometers after December 31, 2025 in the catalogue of phase-out. In 2020, National Medical Products Administration issued an announcement stating that the validity of the licenses for all mercury-containing medical thermometers and sphygmomanometer manufacturers should not be later than December 31, 2025.

However, gaps still exist between the current regulatory system and the requirements of the Minamata Convention on Mercury on the phase-out of the production of mercury-containing thermometers and sphygmomanometers and the application of mercury-free medical devices. Therefore, cross ministerial cooperation (e.g., Environment, Health, and Industry, etc.) to jointly develop the necessary action plans and guidelines, and identify appropriate private sector partners is required to phase out the production of mercury-containing medical thermometers and sphygmomanometers in enterprises and introduce mercury-free medical devices in medical facilities.

Surveys conducted in 2020 showed that there were more than 300 enterprises in China producing medical thermometers and sphygmomanometers. While most are small to medium sized enterprises (SMEs) that have permits to produce mercury-free thermometers and sphygmomanometers, their product quality varied considerably and still falls short from expected stability and accuracy required for large scale market supply and well acceptance in medical institutions. In addition, 23 enterprises in different size (small, medium and large) still using mercury in thermometers and sphygmomanometers and currently face technical and financial challenges to adapt to Hg-free products.

Data gathered from seven (7) of the eighteen (18) enterprises that produce mercury-containing thermometers, whose combined production volume exceeds more than 50% of the total sector production capacity, shows the production volume has increased again since 2017. Based on the survey, the national production of mercury-containing thermometers was expected to exceed 200 million units in 2020. One third of the produced mercury-containing thermometers is exported to other countries.

Less than 5 enterprises among the mercury-containing thermometer producers have the license to produce the mercury-free Galinstan-in-glass thermometers, which is an alternative to mercury-in-glass thermometers. These enterprises face critical challenges related to low yield, limited production capacity, high production cost, uneven product quality and a relatively small market share of Galinstan-in-glass thermometers. Several mercury-containing thermometers manufacturers are also producing or capable to produce digital thermometers but have poor market competitiveness compared to companies that are solely manufacturing digital ones. Therefore, technology transfer is necessary among the manufacturers.

Most thermometers and sphygmomanometers producers sell their products through third-party trading companies to domestic and foreign consumers, rarely directly to medical facilities. Therefore, the enterprises and medical facilities are not directly linked.

Mercury-containing thermometers and sphygmomanometers are widely used in medical facilities in China. There are nearly one million medical facilities at three different grades including tertiary,

secondary and primary medical institutions (mostly consist of township, community, and village clinics, etc.). The size of these medical facilities at same grade is different according to the specific conditions of each province, city and county. Previous investigations show that some medical facilities have demonstrated the application of mercury-free medical devices like the digital ones, and the substitution has shown an increasing trend in recent years, however considering the stability, quality, price and people?s awareness of digital thermometers and sphygmomanometers, the promotion of mercury-free ones were slow. Mercury-containing medical thermometers and sphygmomanometers are still the mainstream devices in China, especially in medical institutions, and are the first choice for many medical workers in part due to their cost and simplicity to use. Due to the huge number of medical institutions as mentioned above, the total amount of mercury-containing medical thermometers and sphygmomanometers used in medical facilities is difficult to estimate.

An investigation in 2020 covering a sample 25 medical institutions showed that, from 2017 to 2019, medical institutions also consumed a large amount of mercury for the maintenance and calibration of mercury-containing sphygmomanometers. Some hospitals even had elemental mercury storage on hand. Among the 25 medical institutions investigated, there are more mercury-containing thermometers and sphygmomanometers than mercury-free ones, although the amount of the mercury-containing devices in medical institutions dropped sharply in recent years. It was identified that digital sphygmomanometers are more commonly used in higher-level medical facilities.

In terms of baseline projects, this project builds on the knowledge and experience of past projects and initiatives such as:

(a) The GEF funded project "China Minamata Convention Initial Assessment (MIA) project (2015-2018)." Based on the situation in 2014, this project collected the available data of production and use of mercury-containing medical thermometers and sphygmomanometers, estimated the whole national production in China. Initially provided data reference for China's implementation work. Indeed, this project was identified as a priority during the MIA project, as the production of thermometers and sphygmomanometers is one of the major industries using mercury and the production and utilization of these medical instrument will bring mercury pollution and health risk;

(b) The GEF funded project "Capacity Strengthening for the Implementation of the Minamata Convention (2018-2022)". The on-going capacity strengthening project will partly help in supporting the identification of technologies for producing mercury-free alternatives, which will facilitate the demonstration activities contained in this project. The gaps including policies, technologies and finance for the successful replacement of mercury-added products and Convention implementation will be further identified and acted on.

FECO/MEE was the Execution Agency (Implementing Partner, as of UNDP?s Policy on Programme and Project Management - PPM) for both of these projects which assure total integration and experiences learned and shared. The two ongoing GEF projects focus on establishing a comprehensive overview of the mercury issues in China. On the other hand, this mercury-containing medical devices project will specifically address the mercury issues in mercury-added products, i.e. mercury-containing medical thermometers and sphygmomanometers.

C) The proposed alternative scenario with a brief description of expected outcomes and components of the project

In light of the ban on the manufacture of mercury-containing medical thermometers and sphygmomanometers by 2026 in China, it is necessary to better understand the consumption patterns of mercury-free alternatives at all levels and potential markets; to demonstrate the application of mercury-free alternatives with representative samples ahead of upscaling; to improve technical capacities of production plants, transfer technologies and remove technical and financial barriers to conversion of production lines; and to soundly manage obsolete mercury-containing thermometers and sphygmomanometers, and to find ways to incentivize rapid uptake of mercury-free ones.

The project will close the gaps that still exist between the current regulatory system and the requirements of the Minamata Convention on Mercury on the phase-out of the production of mercury-containing medical thermometers and sphygmomanometers and link them with the end-user application of mercury-free medical devices. Therefore, cross ministerial cooperation (e.g., Environment, Health, and Industry, etc.) to jointly develop the necessary regulatory frameworks, action plans and guidelines, and identify appropriate private sector partners is required to phase out the production of mercury-containing medical thermometers and sphygmomanometers in enterprises and introduce mercury-free medical devices in medical facilities.

Under this project, the GEF incremental support will be critical to allow China to enhance the institutional capacities and technical capabilities of public and private stakeholders for phase-out of the production of mercury-containing medical thermometers and sphygmomanometers in enterprises and the application of mercury-free medical devices in medical facilities, by:

(a) Reviewing and updating the current regulation and policies, with due consideration of the requirements of Minamata Conventions on Mercury;

(b) Carrying out pilot demonstrative activities that will provide the evidence base for the scope of capacity building and technical assistance needs, areas of prioritization; and

(c) Develop long term tools and financial schemes that take into consideration the associated costs of upscaling phase-out through China?s National Plan for the Implementation of the Minamata Convention (hereafter referred to as ?the National Plan?) for which work has been initiated to begin its preparation.

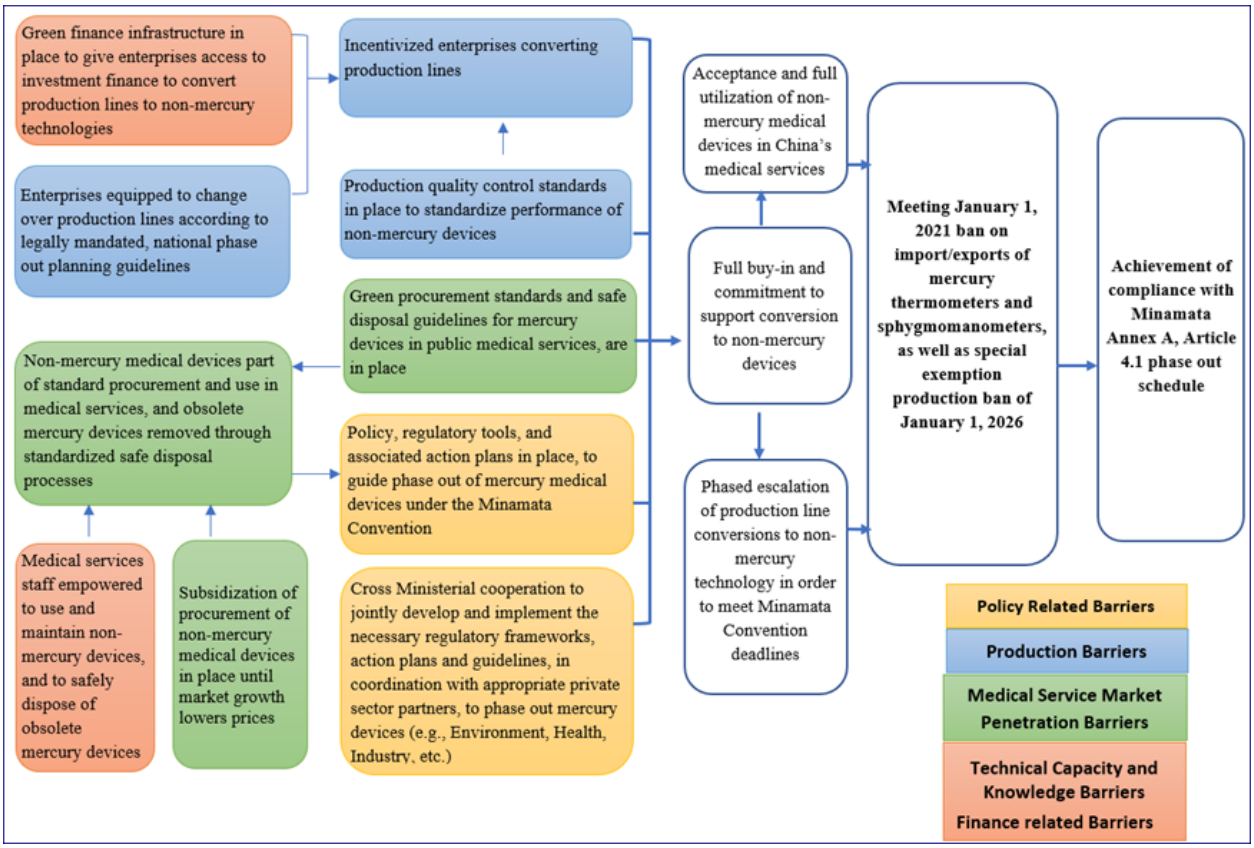
The Foreign Environmental Cooperation Center (FECO) of the Ministry of Ecology and Environment (MEE) has scoped the potential co-finance to meet the 1 (GEF TF) to 7 (co-finance) ratio requested, resulting in the current indicative co-financing amount of USD 112 million, as listed in Section IX, Financial Planning and Management, of the UNDP Project Document (page 57) by working with the relevant enterprises and medical institutions, capital and operational investment required to support the alternative scenario indicated in the project document, as well as local fund sources associated with poverty alleviation and demonstration activities at medical institutions.

The co-finance will focus on the enterprise investment associated with: (i) the elimination and technology transformation of the production of mercury containing medical equipment; (ii) on promotion and application of non-mercury technologies in medical facilities; (iii) on environmental and human risk assessment and control measures (within pilot enterprises and medical institutions); (iv) on public awareness, and (v) capacity building activities.

Proposed alternative scenario, with a brief description of expected outcomes and components of the project (Theory of Change ? TOC)

In carrying out an analysis of the project objectives, the negative aspects or ?problems? identified in the problem analysis (see Figure 1) were reformulated into positive ones to reflect what is envisioned for the future. This can be drawn up in an ?objectives tree? (see Figure 2) for the Theory of Change of the project, such that the various levels of objectives and the ?means-end? relationships between them are clear, as are the different levels of objectives for the overall project strategy. The objective of this project therefore becomes to ?**set the enabling environment to accelerate uptake of mercury-free technology in production of medical thermometers and sphygmomanometers, and to lay the foundation for market acceptance and growth for mercury-free devices in the medical services sector, to meet the associated phase out deadlines under the Minamata Convention**.?

FIGURE 2 OUTCOME/OBJECTIVES ANALYSIS FOR THE PHASE OUT OF MERCURY-BASED MEDICAL DEVICES



Component 1. Integrated policy, regulatory framework, quality standards, fiscal tools, action plans and associated capacities, to support the phase out of mercury-containing medical thermometers and sphygmomanometers under the Minamata Convention

This component will address the policy and regulatory barriers as it will systematically evaluate measures (including administrative, legal, financial and economic instruments, etc.) to phase-out the production of mercury-containing medical thermometers and sphygmomanometers in enterprises and promote the introduction and use of mercury-free medical devices in medical facilities.

The component will develop and implement integrated approach consisting of policy and regulatory measures, quality standards, fiscal tools, and associated capacities to meet the requirements of the Minamata Convention. Activities under this component will help strengthen regulatory and institutional baseline levels of effort under the National Plan in expanding beyond an initial ?siloed policy review and amendment exercise?, and providing opportunity for integration between different public sector entities and broader consultation amongst private and public partners.

A Cross-ministerial cooperation mechanism will be established to jointly oversee the assessment and review of the policy, regulations, tools, action plans and guidelines required to improve the Regulatory Framework. In case of need to develop/update specific regulations/standards, and in coordination with

appropriate private sector partners and other stakeholders such as civil society, the mechanism will provide the proper guidance to the project team on these activities.

Proposals on policy and regulatory frameworks on chemical management and on the use of mercury-free products will be developed to update regulatory measures and strengthen management capacity. These activities will be accompanied by capacity-building programmes geared to relevant Officers in charge of the monitoring, supervision, regulation and enforcement of the phase-out of mercury in the production of medical thermometers and sphygmomanometers.

A collaboration mechanism will also be established with the World Health Organization (WHO) to ensure incorporation of international best practices, assessment of international standards and experiences on monitoring and management systems that can facilitate the smooth implementation of demonstration phase-out of mercury, particularly in the medical facilities.

Finally, this component will also promote consultations with relevant stakeholders to develop appropriate frameworks on green procurement standards and action plans to phase-in mercury-free medical devices at medical facilities, as well as to creative fiscal or revenue generating tools to support the long-term phase-out of mercury from the medical device production sector, and to cover any initial cost increases related to procurement of non-mercury devices by key medical facilities.

Component 2. Demonstration of technology transfer and investment for (i) supporting enterprises in phasing out the production of mercury-containing medical devices; (ii) the application of mercury-free devices in medical facilities, and (iii) enhanced knowledge base for the risk assessment and sound management of obsolete mercury devices, contaminated materials/wastes, and contaminated areas on premises

Components 2 and 3 complement each other and will be implemented in a coordinated manner to help addressing the technical barriers identified in the above section.

Component 2 will focus on generating the evidence base for real time replication and provision of the necessary technology transfer and investment support to enable the conversion of the manufacturing from mercury-containing medical thermometers and sphygmomanometers to mercury-free alternatives. This will be achieved through demonstration activities at the selected production facilities:

(a) Four (4) of the top 10 producers of mercury-containing thermometers, and

(b) Two (2) producers of mercury-containing sphygmomanometers

The enterprises that are considered as potential demonstration candidates have been selected through open solicitation conducted during the PPG stage to participate in the demonstration activities. All enterprises that manufacture mercury-containing thermometers and sphygmomanometers in China were given opportunity to submit application and offers to the project. The evaluation and selection criteria is specified in the online open bidding announcement and also released to all manufacturing

enterprises through the industry association at the same time. The selection process and criteria included:

Enterprises interested in participating as a demonstration enterprise met the following minimum qualifications:

(a) Qualification: Enterprise must be an independent legal entity with no record of serious violation of laws and shall be mainly engaged in the research and development, production and sales of mercury-containing thermometers or sphygmomanometers;

(b) Environmental management: Mercury-containing waste gas and water shall be discharged after meeting relevant standards. Mercury-containing wastes shall be managed according to relevant requirements on hazardous waste management;

(c) Other requirement: Entity shall agree to cooperate in the testing, research and publicity activities during the duration of the project.

Demonstration enterprises selection process:

(a) Interested enterprises submitted their letter of intents and application materials according to the project requirements, bearing an official seal and accompanied by a certificate issued to prove that the information contained therein is true and reliable;

(b) Application evidence-materials included: (i) Business license (copy); (ii) Statement on no record of serious violation of laws; (iii) Registration certificates of mercury-containing medical devices (copy): the registration certificate shall remain valid for at least six months; otherwise, a certificate shall be provided for the extension of registration certificate; (iv) Production permit of medical devices (copy); (v) Business permit of medical devices (copy); (vi) Permit of pollutant emission (original or copy or record table, if any); (vii) Documents for project establishment, the Environmental Impact Assessment (EIA) report and official replies or other relevant documents (including the production line, production capacity and other information pages); (viii) A letter of recommendation from the environmental protection department at provincial or municipality level (stating the basic information of enterprise, the supervisory monitoring report in 2019 and notes thereto, reason of recommendation, etc.).

(c) Based on application materials received, the Implementing Partner and an expert panel conducted formal examination of the submission and determined the candidates for participating in the demonstration activities.

Enterprises selection Criteria:

The expert panel scored the applications on enterprise situation, phase-out objectives, anticipated demonstration output, technical route and fund use, and miscellaneous aspects to base their decision on the selection. The main criteria are:

(a) Favorable enterprise situation, including the enterprises? size, management measures of the enterprise for the prevention and control of mercury pollution, and its willingness for the provision of co-finance, including adherence to national laws on Labor Practices.

(b) Scientific and reasonable plan for phase-out objectives, including the discontinuation Plan on producing mercury-containing medical devices, reducing mercury consumption and mercury-containing products sales plan, mercury-free alternatives R&D, production and promotion plan and so forth.

(c) Responsiveness between the anticipated demonstration output and the result framework of the project document, including the result of production phase-out and transformation, environmentally sound management of mercury, organization of or participation in training activities, promotion of gender equality and summary of demonstration experience and achievements.

(d) Scientific and reasonable technical route and fund use, including feasible technical route design, rational staffing, disciplines, and division of labor of the team and rational allocation of the project budget.

(e) Miscellaneous aspects which enabling the phase-out activities, including having work plan to conduct publicity and helping other enterprises to transform, and recommendation letter issued by local environmental protection department.

Most of the demonstration enterprises were established in the years of 1960s and 1970s, having a well-established structure and production lines that required costly conversion to mercury-free production. Four (4) potential demonstration enterprises are located in industrial parks, with the other two located some 100-500 meters away from mixed urban (including industrial) and cultivated land. The mercury consumption of the four selected mercury-containing medical thermometer producers all exceeded 30 metric tons in 2019, representing over 60% of the sector consumption, their production capacity represents 60% of the sector output, and all have certain technical reserves for the production of mercury-free alternatives.

Manufacturing enterprises of mercury-containing sphygmomanometer are located in Jiangsu Province and Shanghai with most of them located in industrial park while the others are close to residential areas or farmlands, with residents or farmland located about 50 meters from the factory site. The two (2) selected mercury-containing sphygmomanometers producers include the top mercury consumption enterprise and the other a small consuming enterprise and their combined production exceeded more than 70% of the sector output and 70% of the sector mercury consumption. These selected demonstration producers will carry out technology transfer according to their own situation.

Manufacturing Level Demonstration Projects will:

? Encourage demonstration enterprises of mercury-containing medical devices to gradually reduce mercury consumption in mercury devices production and sales and shut down the production lines by December 31, 2025; lead the whole industry in phasing out the use of mercury and to ensure

achievement of the goal of the Minamata Convention. In implementing the demonstration activities, enterprises plan to phase out mercury-containing equipment, and plan to improve mercury-free producing capacity by changing the original mercury-containing production lines into mercury-free ones or installing new manufacturing equipment;

? Promote R&D, production and marketing of mercury-free alternatives;

? Adhere to environmentally sound management of mercury; organize or participate in themed training; promote gender equality, etc.; and

? Share achievements and experiences of the demonstration with other enterprises.

Through the demonstration interventions, an incentive mechanism will be established and an assessment to determine the cost and various mercury-free technology options will be completed for each demonstration manufacturing enterprise. In addition, if there are issues of on-premises contamination and significant stores of mercury (containing) waste to be disposed of, and this is critical considering that some enterprises are located in industrial-mixed areas densely populated or close the farmland areas, in which any potential contamination from mercury can result in considerable impacts to environmental and human health.

In this regard, the demonstrations will provide a unique opportunity to pilot mitigation mechanisms and safe handling activities (at least one facility will be selected depending on the findings for prioritization). Ultimately, this will provide critical information for upscale through China?s National Plan.

Main activities of the mercury environmentally sound management (ESM) demonstration in the thermometer and sphygmomanometer producers will include: (i): establish mercury phase-out and ESM plan; (ii) create inventory of mercury contamination sites and facilities; (iii) collection and storage of mercury concerned, including providing guidance on mercury waste cleanup and handling linked to risk assessment (RA) procedures development for mercury contaminated sites and risk management (RM) strategies guidance for mercury contaminated sites; and (iii) development of sustainable ESM Strategies for mercury and mercury-contained/contaminated wastes and recommendations for contaminated sites.

Consumer Level Demonstration Projects

This project component will also promote the demonstration of the uptake of mercury-free alternatives in at least 6 medical institutions in one (1) to two (2) different demonstration locations covering different size categories (tertiary, secondary- and primary-grade) and types. The project pays particular attention to those facilities located in remote and/or poor areas in order to ensure that there is appropriate representation of facilities to mirror China?s overall profile of medical facilities. This selection strategy is critical, so that the evidence gathered from piloting is relevant, and can be captured and up-scaled post project in the overarching National Plan.

The documented experience from all demonstration medical institutions will be shared and promoted to more medical institutions locally and nationally to promote wider use of mercury-free alternatives and ensure environmental sound management of mercury wastes. Besides, the research and study on promoting mercury-free alternatives will feed the Components 1 and 4 in order to help to develop a more environmentally sound strategy for the health care sector.

The correct use of mercury-free alternatives, including their routine internal and external calibration, required capacity building for the accurate calibration of mercury-free alternatives, and activities like collection and storage of mercury concerned, mercury waste cleanup and handling, mercury waste transport and disposal and risk analysis (RA) of mercury contaminated areas and sustainable ESM of mercury waste and contaminated sites, will be supported by the project.

The demonstration interventions also aim to train medical staff to correctly use mercury-free thermometers and sphygmomanometers and soundly manage obsolete mercury-containing medical thermometers and sphygmomanometers. Demonstration outcomes will be captured and shared in awareness and training materials and guidance documents for long term, post-GEF-funded project, and the replication process.

Component 3. Development of long-term guidance and tools for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers, and mercury-contaminated areas

This component will focus on the identification and prioritization process for long-term sound management of mercury-contaminated sites and obsolete mercury-containing medical thermometers and sphygmomanometers. An assessment regarding the status of potential mercury-contaminated sites in pilot enterprises (where the production of mercury-containing medical thermometers and sphygmomanometers has taken place) will be undertaken.

The risks posed due to mercury contamination in these sites will be assessed and a strategy for their risk management will be developed. As part of this project component, an assessment of risk to employees and surrounding communities working on or living close to these sites will also be conducted; a targeted Environmental and Social Management Framework (ESMF) for the downstream implementation of the industries? co-financed activities will be conducted (in response to Risks 5 and 8, as per detailed in Annex 5, SESP). This overall risk management strategy and associated guidance will serve as guidance for replication in the National Plan that can effectively link to the national strategies of disposal of mercury waste and interim storage of mercury.

As part of the private sector risk assessment that will be undertaken, the project will ensure that the interim storage facilities at the selected enterprises (Activity 2.1.1 and Activity 3.3.1) referring to the Minamata Convention?s Guidelines on the environmentally sound interim storage of mercury. A Spill Prevention and Management Plan will be developed and implemented at all demonstration sites for safe handling and disposal of mercury-containing obsolete devices and safely cleanup of accidental mercury releases (as detailed in Annex 5 ? SESP).

Finally, this component will also undertake a similar risk assessment in the course of development of a risk management plan related to the accumulated mercury from accidental broken mercury-containing medical thermometers and sphygmomanometers at the manufacturing facilities, and the safe handling and disposal of obsolete mercury-containing medical thermometers and sphygmomanometers in medical facilities.

Component 4. Knowledge Sharing & Management, Monitoring and Evaluation

Component 4 will address the educational and awareness raising barriers, it will promote experience gathering, sharing, technical exchanges, information dissemination and awareness raising among different stakeholders including the government, public and private sectors, medical personnel, civil society groups and the general public. The component will facilitate the complete phase out of production of mercury-containing medical thermometers and sphygmomanometers by 31 December 2025, and the successful promotion of wider application of mercury-free alternatives at local and national medical facilities. This project component will also ensure the smooth implementation of project activities through standard, internal periodical communication, evaluation and external review.

A Communication Strategy will be created delivering differentiated approaches for stakeholders (manufacturing enterprises, medical facilities, mercury mining enterprises, government and international agencies, etc.) and supporting the knowledge sharing and training activities in a geared and effective manner.

Knowledge management tools will be developed and deployed to accelerate the nationwide transformation to mercury-free production of medical devices, promoting wide application of mercury-free technologies as a result of the national replication programme designed and piloted under Components 1, 2 and 3. These tools will support the dissemination of experiences, lessons learned and best practices, to accelerate the rollout of real-time project results and scale up.

This component will also be responsible to deploy the Gender Action Plan developed, as referenced in Annex 9, to raise awareness and empower women?s roles in sound management activities and promote gender sensitive approaches for the project?s KM activities that can incorporate gender equality principles and actions into environmentally sound management of mercury waste activities.

Finally, the Monitoring and Evaluation Tools will be used as required to guarantee the best performance in project execution and monitoring, as well as to promote the adaptive management during the project lifecycle.

Project Objective: Establishing the enabling environment to accelerate the transfer to the production of mercury-free medical devices, and to lay the foundation for market acceptance and growth for mercury-free devices in medical facilities, in order to meet associated phase-out deadlines under the Minamata Convention on Mercury

Objective Indicators:

? Through Demonstration at 4 selected mercury-containing thermometers manufacturers and 2 mercury-containing sphygmomanometers manufacturers, completely stop their production lines, reducing mercury consumption, production and sales to zero, eliminating the consumption of 75 metric tons of mercury on completion of the demonstration projects by 31 December 2025;

? Facilitated by technology transformation and national replication programme, completely phase out by 31 December 2025 the consumption of mercury by the 18 enterprises manufacturing mercury-containing thermometers and mercury consumed by the 5 enterprises manufacturing mercury-containing sphygmomanometers;

? Mercury-free medical devices promoted in at least 6 demonstration medical facilities, staff trained to use and maintain mercury-free medical devices;

? Environmental sound management of mercury on interim mercury storage, mercury-containing waste and mercury contaminated areas at the demonstration production facilities and medical facilities implemented.

Component 1. Integrated policy, regulatory framework, quality standards, fiscal tools, action plans and associated capacities were achieved, to support the phase out of mercury-containing medical thermometers and sphygmomanometers under the Minamata Convention

Expected Outcome 1.1:
Cross ministerial cooperation established to jointly develop and implement the necessary policy, regulations, tools, action plans and guidelines, in coordination with appropriate private sector partners, to phase out the production and consumption of mercury-containing medical devices, to reduce the use of primary mercury in medical devices, to manage waste of obsolete devices, and to promote the uptake of mercury-free medical devices.

Expected outputs:
Output 1.1: Inter-ministerial Committee established (e.g., Environment, Health, Industry, etc.) to support the execution of China?s National Implement Plan for the Implementation of the Minamata Convention and take actions to address the identified policy and enforcement capacity gaps between national regulatory policies and the Convention?s legal requirements for Parties, and to look at modalities for linking mercury consumption reductions from this sector into the primary mining plans within the National Minamata Implementation Plan, to avoid redirection of phased out consumption to other sectors.

Activity 1.1.1:

? Coordinate with relevant ministries to establish the Inter-ministerial Committee.

? Develop an implementation action plan to formulate proposals and training plan to improve the capacity of national policy and enforcement effectiveness in meeting compliance, including

management capacity of inspection officers etc., in meeting compliance of Minamata Convention obligations.

? Examine linkage of mercury consumption in the production of medical devices and overall national mercury consumption as it relates to national mining production, and establish monitoring measure to ensure sustainable reduction of mercury consumption achieved through phase out in mercury-containing medical devices.

Output 1.2: Proposals on policy and regulatory frameworks on chemical management, supervision and law enforcement, standards for inspection and maintenance of mercury-free products, and rules on the use of mercury-free products are developed or updated and capacity-building programmes updated or developed to support the monitoring, supervision, regulation and enforcement of the phase-out of mercury in the production of medical thermometers and sphygmomanometers, by collaborating with World Health Organization (WHO) to ensure incorporation of international best practice and experience.

Activity 1.2.1: Develop proposals to update relevant policies, regulations, standards and monitoring and management systems that will support and facilitate the smooth implementation of demonstration phase-out of mercury in the production of mercury-containing medical devices to enable China to fulfill the necessary requirements and ensure compliance of the Convention.

Output 1.3: Proposals on green procurement standards and action plans developed to promote the application of and grow the market for mercury-free medical thermometers and sphygmomanometers in medical facilities.

Activity 1.3.1: Consultations with relevant stakeholders to develop proposals on policy and regulatory frameworks, green procurement standards and action plan to facilitate promoting the wide application of mercury-free medical devices at medical facilities.

Output 1.4: Green Finance Framework developed and mercury-free devices procurement subsidization scheme created.

Activity 1.4.1: Interact with technical experts and relevant stakeholders to develop a Green Finance Framework to encourage green financing.

Activity 1.4.2: Support green procurement practices, develop guides and model specifications for acquisition of mercury-free medical thermometers and sphygmomanometers.

Activity 1.4.3: Provide information and other data to feed Components 2 and 4 related to capacity building and awareness activities geared towards awareness and capacity building at medical facilities.

Component 2. Demonstration of technology transfer and investment for (i) supporting enterprises in phasing out the production of mercury-containing medical devices; (ii) the application of mercury-free devices in medical facilities, and (iii) enhanced knowledge base for

the risk assessment and sound management of obsolete mercury devices, contaminated materials/wastes, and contaminated areas on premises completed

Expected outcome 2.1:

Enterprises are enabled to convert production lines as per legally mandated national phase-out planning guidelines, and to soundly manage remaining mercury, stockpiled devices and/or contaminated areas on premises resulting in the phase-out of at least 75 metric tons of mercury.

Output 2.1: Production of mercury-free medical thermometers and sphygmomanometers achieved and sound management of obsolete mercury and stocks of mercury devices implemented in four (4) producers of mercury-containing medical thermometers and two (2) producers of mercury-containing sphygmomanometers

Based on the 2019 surveyed consumption of the six (6) candidate demonstration enterprises, upon signature of the execution-assistance contracts for the demonstration activities, it is expected that the quantity of the 2019 mercury consumption to be reduced at these demonstration enterprises may exceed the 75 metric tons.

Activity 2.1.1: Based on a risk assessment of the alternative technologies that will be used taking into consideration avoiding retrenchment, demonstration activities will accelerate phase-out and production transformation to mercury-free devices, undertake relevant trainings, document demonstration experience and achievements no later than 31 December 2025; and will develop a risk management plan to reduce related social and environmental risk.;

Activity 2.1.2: Develop plan for environmentally sound management of mercury waste and guidance actions (risk assessment guidelines) for contaminated areas.

Activity 2.1.3: Organize personnel training to manage technical issues in order to continuously improve the quality and convenience of use of mercury-free thermometers and sphygmomanometers.

Activity 2.1.4: Develop preliminary plan for gender equality and mainstreaming activities in workplace and at management level.

Output 2.2: Use of mercury-free devices and the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers demonstrated in at least 6 medical facilities. 60% of baseline mercury-containing medical thermometers and sphygmomanometers replaced by mercury-free devices and staff capitated to use and maintain mercury-free devices and to soundly manage obsolete mercury devices and related wastes.

Activity 2.2.1: Carry-on consultations with the World Health Organization (WHO), international and domestic experts to facilitate knowledge in support of experience exchanges and domestic training activities.

Activity 2.2.2: Develop relevant trainings to staff and medical institutions and promote knowledge and experience sharing about the replacement of mercury-containing thermometers and sphygmomanometers.

Activity 2.2.3: Develop relevant researches/investigation to technically support introduction and adoption of mercury-free alternatives in medical facilities.

Activity 2.2.4: Organize and implement field activities to effectively substitute mercury-containing medical thermometers and sphygmomanometers for clinical purposes at selected medical institutions.

Activity 2.2.5: Develop safe disposal management plan/strategy for mercury-containing medical thermometers and sphygmomanometers.

Component 3. Development of long-term guidance and tools for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers, and mercury-contaminated areas accomplished.

Expected outcome 3.1:

Production enterprises and medical facilities implemented appropriate strategies, tools and guidance to assure long-term sound management of mercury-containing medical devices and mercury contaminated areas.

Output 3.1: Guidance tools for inventory of mercury-contaminated sites at piloted enterprises producing mercury-containing medical thermometers and sphygmomanometers developed.

Activity 3.1.1: Develop guiding methodology and carry on model investigation on how to identify and collect data to establish inventory on mercury-contaminated sites including risk assessment analysis.

Output 3.2: Risk management strategy, technical guidance and training materials developed for the sound management of residual mercury stocks and obsolete mercury-containing medical thermometers and sphygmomanometers at production enterprises/sites.

Activity 3.2.1: Identify, monitor and undertake actions that ensure sound and secure management of interim storage of mercury and mercury wastes in piloted facilities.

Activity 3.2.2: Develop risk management strategy, technical guidance and training materials to facilitate implementation and future replication and scale up of sound management of mercury waste, storage, and identification of contaminated sites at national level. The strategy will include measures to minimize impact on inhabitants, businesses located on land identified as contaminated.

Output 3.3: Risk management strategy, technical guidance and training materials developed for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers in medical facilities.

Activity 3.3.1: As part of the private sector risk assessment, the project will ensure the safe handling and/or disposal of residual mercury and obsolete devices and implementation of sound management on disposal storage of mercury-containing medical devices, and mercury waste at both the manufacturing enterprises and the medical facilities. A Spill Prevention and Management Plan will be developed and implemented for safe handling and safely cleanup of accidental mercury releases.

Activity 3.3.2: Develop the relevant targeted risk management strategies, technical guidance and training materials to facilitate promotion of mercury-free medical device.

Component 4. Knowledge Sharing & Management, Monitoring and Evaluation established and implemented

Expected outcome 4.1:

Tools for Knowledge sharing developed, activities and experiences about policy, technical knowledge and lessons learned for the project shared. Disaggregated information on stakeholder?s activities and experiences under the project gathered and fed into the Monitoring and Evaluation processes of the Project.

Output 4.1: Project Communication Strategy created and effective KM and M&E support delivered in differentiated approaches for stakeholders (manufacturing enterprises, medical facilities, mercury mining enterprises, government and international agencies, etc.)

Activity 4.1.1. Document the project?s activities and the outputs achieved in close monitoring Components 1, 2 and 3 and share knowledge and achievements with relevant stakeholders.

Activity 4.1.2. Support the replication of achievements by creating knowledge management tools that can accelerate the nationwide transformation to mercury-free production of medical devices, promoting wide application of mercury-free technologies.

Activity 4.1.3. Provide KM tools that can be incorporated in environmentally sound management strategies of obsolete medical devices, mercury waste and contaminated sites and support the alignment of the national replication plan to be developed with National Implement Plan.

Activity 4.1.4. Carry on public awareness and general education activities to facilitate buy-in/phase-in of mercury-free medical devices.

Output 4.2: Awareness raised manufacturers, medical facilities and public on sound management of chemicals; knowledge gathered and shared, as well as learning tools created and utilized periodically during the project lifecycle.

Activity 4.2.1: Carry out disaggregated surveys designed to measure impact before/during/after training or demonstration activities.

Activity 4.2.2. Regularly compile or update relevant trainings and awareness materials such as guidelines or textbooks for the use of mercury-free alternatives; and carry on awareness events for the general public et al.

Activity 4.2.3. Disseminate experiences, lessons learned and best practices, to accelerate production transformation, wide application of mercury-free medical devices.

Activity 4.2.4. Gender Action Plan developed, as referenced in Annex 9, to raise awareness and empower women?s roles in sound management activities and promote gender sensitive approaches for the project?s KM activities that can incorporate gender equality principles and actions into environmentally sound management of mercury waste activities.

Output 4.3: Monitoring and Evaluation Tools (PIR, Mid Term and Terminal Evaluations as well as Quarterly Performance Reports and Project Board Reports, budget revisions and financial control and project management tools) delivered as required and adaptive management actions implemented during the project lifecycle.

Activity 4.3.1: Prepare quarterly and annual reports; support timely PIRs time; carry on the monitoring and supervision efficiently and ensure smooth and timely execution of project activities. Support the timely conduction of MTR and TE and continuously assess the project execution performance to incorporate adaptive management practices and lessons learned into daily execution.

The above activities will take measures as referenced in the Annex 5 (SESP) of the UNDP Project Document to meet the SES requirements.

D) Alignment with GEF focal area and/or Impact Program strategies

This project is aligned with the GEF Chemicals and Waste focal area, Program 1, ?Industrial Chemicals Program,? with a focus on ?reducing the use and releases of mercury, as mandated under the Minamata Convention on Mercury, through activities that will reduce the use of mercury for the production of medical devices and enhance the management of related contaminated wastes and sites?.

This project will demonstrate technical transfer to support the phase-out of the production of mercury-containing medical thermometers and sphygmomanometers and support the introduction and use of mercury-free medical thermometers and sphygmomanometers in medical facilities. The project is expected to reduce the use of mercury by at least 75 metric tons of Mercury throughout its duration.

E) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

The project is designed to respond to the requirements of the Minamata Convention on Mercury and reduce the risks of mercury on human health and the environment by demonstrating the phase-out of mercury in the manufacturing of medical thermometers and sphygmomanometers. The project also aims to ensure the uptake of mercury-free alternatives in demonstration medical facilities. The project will complement and enhance implementation of China?s National Plan to implement the Minamata Convention.

Specifically, its incrementality lies in its purpose to

(i) create the enabling environment (i.e. policy, legal, capacity, financial);

(ii) establish technical guidance (including the risk mitigation strategies for safe handling/disposal);

(iii) form the evidence base (i.e. characterizing the production and medical sectors in terms of priorities for action; demonstrating the investment and capacity building activities); and critically,

(iv) support the costs associated with this for representative enterprises and facilities

In turn, the outputs generated by the Project will be used to inform national sectoral planning, and upscale action nationwide in support of China?s National Plan for the Implementation of the Minamata Convention.

Therefore, this project represents a critical incremental investment for China to this end. It is important to note that the Project has identified a number of enterprises currently manufacturing mercury-containing medical thermometers and sphygmomanometers that are private sector companies with low profitability. Furthermore, there are also technical, regulatory, and knowledge-related constraints to be tackled.

Thus, GEF funding will provide critical assistance in providing for:

(i) the establishment and implementation of policies, regulations, standards and tools to promote the removal of barriers preventing the transfer to mercury-free production processes and medical devices (Outputs 1.1, 1.2 below);

(ii) the building of organizational and institutional capacity at the level of municipalities, public administration and the private sector (Outputs 1.1, 1.2, 1.3);

(iii) the mobilization of all relevant resources (e.g. capital, land, labor and technology) to phase out mercury with mercury-free alternatives (Outputs 2.1, 2.2);

(iv) the introduction of innovative practices and development of tools and technologies for the manufacture of mercury-free alternatives (Outputs 2.1, 2.2);

(v) the development of risk assessment and management strategies for both enterprises and medical facilities to deal with mercury waste. (Outputs 3.1, 3.2).

Similarly, due to the much higher price of the mercury-free alternatives, lack of medical staff trained in the proper use and calibration of such devices, and overall lack of confidence in accuracy and reliability, medical facilities are usually reluctant to adopt mercury-free alternatives.

In addition, understanding the parameters and related risks associated with the safe management of the obsolete mercury-containing medical devices in medical facilities is lacking. The GEF funding will therefore be critical for:

(i) the establishment and implementation of policies, regulations, standards and tools to promote the appropriate application of mercury-free alternatives in medical services (Outputs 1.1, 1.2);

(ii) the adaption to mercury-free alternatives through choosing the most appropriate mercury-free alternatives in demonstrative medical facilities (Outputs2.2);

(iii) the risk assessment and building of capacity in sound management of mercury in obsolete mercury-containing medical devices at pilot demonstration medical facilities (Outputs 3.1, 3.2, 3.3).

GEF funding will also support the development and operation of a Communications Strategy to enable cooperation on technology exchange between international and Chinese experts and institutions, as well as information sharing and awareness raising system among stakeholders (Outputs 4.1, 4.2).

Finally, GEF funding will be critical to leverage domestic co-finance. It will also play a significant role as catalyst in promoting the mobilization of social and private sector resources. The Project has already launched efforts to catalyze commitment from project partners, such that so far, indicative co-finance of USD 112 million has been identified from enterprises and medical institutions that will focus heavily on (i) the elimination and technology transformation of the production of mercury containing medical equipment; (ii) on promotion and application of non-mercury technologies in medical facilities; (iii) on environmental and human risk assessment and control measures (within pilot enterprises and medical institutions); (iv) on public awareness, and (v) capacity building activities. The detailed assignment of co-finance in the project budget is indicated in Section VIII and Annex 1.

The project will use GEF funding efficiently and smartly, incorporating creative fiscal tools, to generate post-project, long term access to finance and other public revenue streams (if appropriate) for long term support of the production and uptake of non-mercury devices. The Government of China will also strategically leverage stakeholder resources to not only ensure adequate levels of co-financing, but also to raise the levels of cash contribution from private sector and local government. The Government of China commits highly to support the implementation of Minamata Convention on Mercury through its National Plan, and so the incremental GEF financing is considered very valuable.

This project builds on the knowledge and experience of past projects and initiatives such as:

(a) The GEF funded project "China Minamata Convention Initial Assessment (MIA) project (2015-2018)." Based on the situation in 2014, this project collected the available data of production and use of mercury-containing medical thermometers and sphygmomanometers, estimated the whole national production in China. Initially provided data reference for China's implementation work. Indeed, this project was identified as a priority during the MIA project, as the production of thermometers and sphygmomanometers is one of the major industries using mercury and the production and utilization of these medical instrument will bring mercury pollution and health risk;

(b) The GEF funded project "Capacity Strengthening for the Implementation of the Minamata Convention (2018-2022)". The on-going capacity strengthening project will partly help in supporting the identification of technologies for producing mercury-free alternatives, which will facilitate the demonstration activities contained in this project. The gaps including policies, technologies and finance for the successful replacement of mercury-added products and Convention implementation will be further identified and acted on.

FECO/MEE was the Execution Agency for both of these projects which assure total integration and experiences learned and shared. The two ongoing GEF projects focus on establishing a comprehensive overview of the mercury issues in China. On the other hand, this project will specifically address the mercury issues in mercury-added products, i.e. mercury-containing medical thermometers and sphygmomanometers.

Co-financing that will be provided by the Implementing Agency (IA) UNDP, the Government of China, private sector entities, medical facilities and others will focus on: (i) the establishment of infrastructure for manufacturing mercury-free alternatives in demonstration plants (Outcome 2.1); (ii) support capacity strengthening to enable the introduction and correct use and calibration of mercury-free alternatives in demonstration medical facilities (Outcome 2.1); and (iii) support technology exchange, information gathering, sharing and awareness raising among stakeholders (Outcome 4.1).

F) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The Global Environmental Benefits (GEB) of the project at the CEO Endorsement stage remains valid as presented at the PIF stage.

The project?s GEBs include the phase-out of 75 metric tons of mercury consumed at the 6 demonstration manufacturing facilities of mercury-containing medical thermometers and sphygmomanometers with implementation of technologies transformation. With demonstration activities in at least 6 medical facilities, it will promote the uptake and proper use and calibration of mercury-free alternatives.

Besides the reduction of domestic mercury use as a result of the uptake of the mercury-free devices, this project also assist on the regulation and supervision on the production of mercury thermometers

and sphygmomanometers and the mining of primary mercury, encourages and guides the enterprises to manufacture mercury-free alternatives with low-chemicals and sound management of the chemicals, and develop a national replication plan based on the demonstration experience. Through the national replication programme, completely stops the production of mercury-containing medical thermometers and sphygmomanometers. As China is an exporter of medical devices, by switching to export of mercury-free medical devices as of January 1, 2021, it would also reduce the global impact on exposure to mercury due to mercury-containing devices.

Besides, through technology transformation and R&D activities implemented at the demonstration enterprises to optimize performance of alternatives (e.g. those associated with Galinstan-in-glass thermometers, and quality/performance standard setting for devices) will result in improved accuracy and reliability of the mercury-free medical devices, something that not only generate national benefits within China, but will contribute to global benefit to the manufacturing sector, as well as to generate a wider acceptance and application. This will accelerate the replacement of mercury-containing medical devices at consumer?s level. Knowledge and experience gained will not only be used with the national replication plan, but will also share with countries in the region or any interested Parties, through UNDP?s global networks.

G) Innovativeness, sustainability and potential for scaling up

Innovativeness

This project has an innovative approach to demonstrate technology transfer to support conversion from technologies manufacturing mercury-containing medical thermometers and sphygmomanometers to mercury-free ones. The Minamata Convention requires to ban production of mercury-containing thermometers and sphygmomanometers. The project is devoted to phase-out the production of mercury-containing thermometers and sphygmomanometer to meet the obligation of the Convention, at the same time, to take actions to promote the application of non-mercury alternatives in medical institutions which is the main users of thermometers and sphygmomanometers to accelerate the production transformation and reduce the effect and harm of mercury on humans and environment. The R&D work in streamlining performance of Galinstan-in-glass devices and overall standardization of production and performance of the non-mercury technologies in China could also yield innovations. The technologies, knowledge sharing and experiences obtained through this project can be used as basis for national wide replication. In addition, coming up with solutions to optimize performance of alternatives (e.g. those associated with Galinstan-in-glass thermometers, and quality/performance standard setting for devices) is something that can be of global benefit to the manufacturing sector.

At the operational level, the promotion of R&D and technology transfer to mercury-free alternatives will assist privately owned production facilities to phase out mercury. At the managerial and economic development level, removal of market barriers to the adoption of new technologies will be encouraged through a novel incentive programmes. At the strategic level, national policy reform will promote green industrial and public heath development in China, including through use of specific regulations and legal frameworks to impose increasing financial costs for those non-compliance companies. The outline of the 14th Five-Year Plan for national economic and social development and the long-range objectives through the year 2035 (hereinafter referred to as the 14th Five-Year Plan) requires the

construction of ecological civilization, green development and pollution prevention and control, and also emphasis to make all-round efforts to build a Healthy China, improve public health service projects and strengthen the community-level public health system, implement the public health responsibilities of medical institutions.

Sustainability

Innovation, sustainability and scale up are expected to also be achieved with the development of potential long-term green finance mechanisms to support conversion of all manufacturing facilities in China, safe handling of mercury waste and green procurement by medical facilities. Furthermore, China?s 14th Five-Year Plan emphasizes on expanding investment space to support the development on public health and ecological environmental protection.

Improving the regulatory framework and strengthening China?s capacity through relevant policy adjustments and increased stakeholder awareness, will ensure the phase-out of the production of mercury-containing medical thermometers and sphygmomanometers, and support China?s national implementation of the Minamata Convention on Mercury. This will ensure the sustainability of the project. The sustainability of technology interventions will be ensured through the demonstrative adaption to mercury-free technologies in enterprises, which can be easily replicated to other plants.

Potential for Scaling Up and Industries Conversion Up-take to comply with national deadlines

Real time National Replication will be imitated early in the second year (2023) of project implementation, as soon as initial results of technology transformation, knowledge and implementation experience will be ready to be shared by the demonstration production enterprises and medical institutions with the other producing enterprises and medical facilities. Cost effective technologies will be promoted throughout this project to ensure engagement and awareness of the private sector stakeholders.

The National Replication will therefore have a three-year duration (2023-2025) to facilitate the achievement of complete phase-out by all producing enterprises by 31 December 2025, in addition to the fact that the National Medical Products Administration had issued Notice that production license of such mercury-containing medical devices shall not exceed 31 December 2025. Social sustainability will be ensured by strengthening information dissemination of project outcomes and awareness raising of the general public, private sectors and other stakeholders to minimize exposure to mercury.

The demonstration activities at the medical institutions will raise awareness on the correct application, proper calibration and maintenance of the mercury-free medical devices and through the replication activities, will raise awareness and promote wider application of the mercury-free to facilitate market uptake of mercury-free medical devices. With promotional activities targeting enterprises, medical facilities and the public on mercury hazard prevention, environmental and public health concerns, in

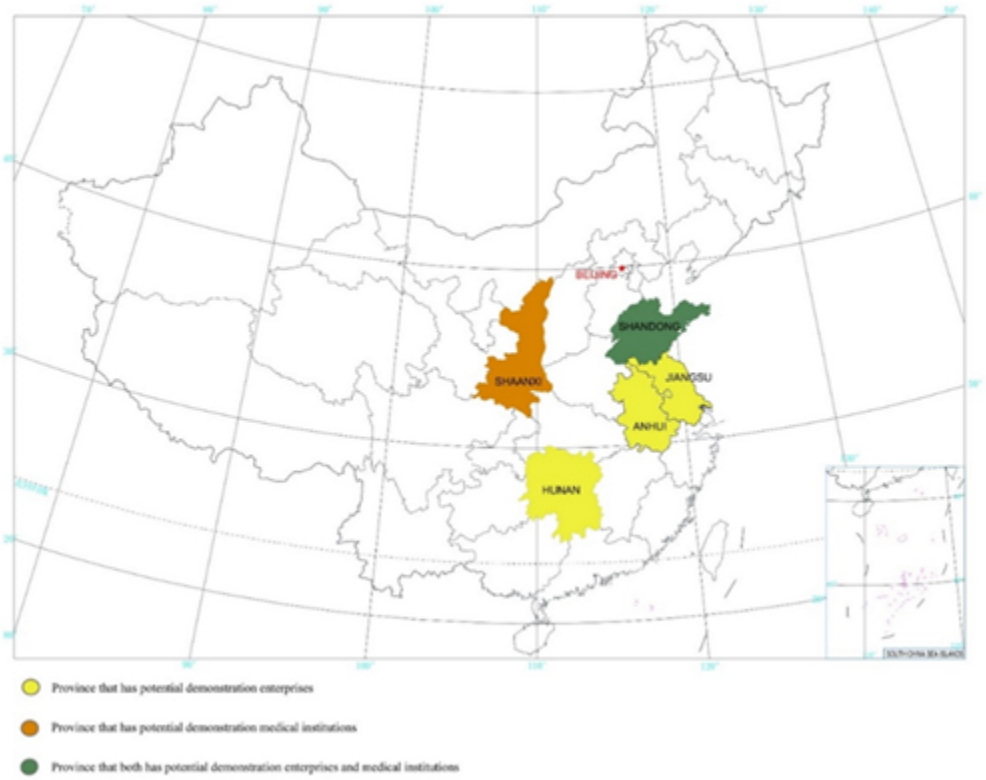
particular, the promotion of medical personnel on the proper application and maintenance of mercury-free devices, this will be a significant effort to promote market uptake.

In addition, by engaging with relevant stakeholders through its Component 1, the project will develop appropriate frameworks on green procurement standards and action plans to phase-in mercury-free medical devices at medical facilities, as well as to creative fiscal or revenue generating tools to support the long-term phase-out of mercury from the medical devices production sector, and to cover any initial cost increases related to procurement of non-mercury devices by key medical facilities. This actions will drive end-user/consumer demand to close the loop and speed up the mercury-free devices update by industries working from the demand side.

This project attaches high importance to technology innovation. The novel and updated technologies for mercury-free thermometers and sphygmomanometers can be scaled up and replicated in China and other countries and regions through replication activities. The experiences obtained through the demonstration of appropriate application of mercury-free thermometers and sphygmomanometers can also be replicated in China and other countries and regions.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



The above project map is included as Annex 2 in the UNDP Project Document. Locations of the demonstration producing enterprises and medical facilities in China are indicated below

- ? Anhui Province: (114?54??119?27?E?29?41??34?38?N)
- ? Jiangsu Province: (116?21? ?121?56? E, 30?45? ?35?08?N)
- ? Hunan Province: (108?47??114?15?E?24?38??30?08?N)
- ? Shaanxi Province: (105?29??111?15?E?31?42??39?35?N)
- ? Shandong Province: (114?48??122?42?E, 34?23??38?17?N)

Source: the map is painted based on the Standard Map Service provided by the Ministry of Natural Resources of the People?s Republic of China.
Disclaimer: The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders
Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholders will be actively engaged in the whole project, including:
i) before the project implementation;

ii) engagement in project implementation;
iii) participation in project monitoring Mid-term Review and Terminal Evaluation;
iv) information request procedure for broad public; and
v) grievance redress mechanism. Detailed information can also be found in Stakeholder Engagement Plan, attached as Annex 8 of the UNDP Project Document.

Effective stakeholder engagement is critical to success of GEF-financed projects. Stakeholder engagement improves project performance and impact by enhancing recipient country ownership of, and accountability for, project outcomes; addressing the social and economic needs of affected people; building partnerships among project executing agencies (EA) and stakeholders; and making use of skills, experiences and knowledge particularly from enterprises especially the private sector, medical facilities, communities and local groups, ethnic minority peoples, male and female residents, as well as the project design team, in the design, implementation, monitoring and evaluation of project activities.

This Stakeholder Engagement Plan (SEP) is designed to ensure inclusive, effective, and efficient engagement of key stakeholders throughout the lifecycle of the GEF-supported project.

During the PPG process, based on the Project Identification Form (PIF), a stakeholder analysis was conducted aiming to identify the key stakeholders related to the project and assess their roles, responsibilities for, interests in production phase-out of mercury-containing medical thermometers and sphygmomanometers, interests in application of mercury-free alternatives, and in management of the phase-out and application in China. Major barriers for female staff and female residents to engagement in the project are also assessed. The key stakeholders and their roles are summarized in Table 1.

TABLE 1: SUMMARY OF KEY STAKEHOLDER ANALYSIS

Key Stakeholders	Mandate Relevant to the project	Roles in the project
National level administrative authorities		
Ministry of Finance (MoF)	MoF manages loans (grants) from multi- and bi-lateral development organizations and foreign governments.	GEF Operational Focal Point (OFP). Coordination and implementation of GEF projects in China. The MoF was briefed on project development and will endorse the final Project Document.

Key Stakeholders	Mandate Relevant to the project	Roles in the project
National Development and Reform Commission (NDRC)	NRRC is responsible for promotion of the strategy of sustainable development through its lead role in the five-year planning process. NDRC makes proposal on strategy, plan, and relevant policies on using foreign funds.	NDRC will be a key partner in project mainstreaming efforts related to its lead role in the adjustment of industrial structure
Ministry of Ecology and Environment (MEE)	Supervise and administer to ensure the attainment of national emission reduction targets? Supervise efforts to prevent environment pollution; Formulate and implement regulations for pollution of the air, water, sea, soil, noise, light, odor, solid waste, chemicals, and vehicles; Guide and coordinate educational campaigns over ecological environmental protection; Formulate and implement educational campaign outlines for ecological environmental protection; Promote societal and public participation in environmental protection efforts;	Advise and supervise the project development relate to management of mercury-polluted production sites and disposal of obsolete mercury-containing equipment

Key Stakeholders	Mandate Relevant to the project	Roles in the project
Foreign Environmental Cooperation Centre (FECO), Ministry of Ecology and Environment, China	Responsible for performing Minamata Convention in China	As the executing agency of the project, FECO is responsible for the project design, advise and supervise the project implementation.
National Health Commission of PRC	Makes proposal on the demonstration and expansion medical facilities to apply mercury-free medical devices.	Join the project inter-Ministerial Committee to jointly develop and implement the necessary policy, regulations, action plans, tools and guidelines, relevant to mercury-free devices use and scientifically disposal of obsolete mercury-containing medical devices Advise the demonstration and expansion medical facilities to apply mercury-free medical devices, and dispose obsolete mercury-containing medical devices.
State Administration for Market Regulation	Responsible for comprehensive management of market. Develop regulations and policies on marketing	Join the project inter-Ministerial Committee to jointly develop and implement the necessary policy, regulations, action plans, tools and guidelines, relevant to trade and phase out of mercury-free thermometer and sphygmomanometer production; Advise the demonstration enterprises to implement the policies and regulations made by the Cross Ministerial Cooperation, and to trade and phase out mercury-containing medical devices production
United Nations Development Programme (UNDP)	UNDP works in about 170 countries and territories, helping to achieve the eradication of poverty, and the reduction of inequalities and exclusion. UNDP helps countries to develop policies, leadership skills, partnering abilities, institutional capabilities and build resilience in order to sustain development results.	UNDP is GEF Implementing Agency for the project, and is therefore responsible for oversight and monitoring project implementation and ensuring adherence to UNDP and GEF policies and procedures.

Key Stakeholders	Mandate Relevant to the project	Roles in the project
World Health Organization (WHO)	WHO's international technical expertise and evidence-based policy advice helps the Government attain more equitable health outcomes, and supports progress towards the achievement of global health norms and standards, as well as the Sustainable Development Goals.	The exchange and training of international experience on phase-out of mercury containing medical devices and the application of mercury-free medical devices.
Provincial and/or local level administrative authorities		
Provincial and/or local Health Commissions	Carry out management of medical facilities and supervise the implementation	Supervise the demonstration and expansion medical facilities to apply mercury-free medical devices, and dispose obsolete mercury-containing medical devices.
Provincial and/or local environmental management department	Carry out management of ecological and environmental protection and supervise the implementation	Supervise the demonstration enterprises and medical institutions to implement the policies and regulations made by the Cross Ministerial Cooperation, ecological and environmental protection, and the phase out of mercury-containing medical devices production
The project demonstration enterprises		
Demonstration mercury-containing medical thermometer and sphygmomanometer manufacturing enterprises	Produce medical devices commercially	Pilot the production phase-out and demonstration for the others
Demonstration medical facilities	Treat diseases related to people including using thermometers and sphygmomanometers to do the treatment	Pilot application of mercury-free alternatives and demonstrate effective and efficient ways for replication across China.
Expansion demonstration medical facilities	Treat diseases related to people including using medical devices to do the treatment	Expanded demonstration to promote application of mercury-free alternative medical devices

Key Stakeholders	Mandate Relevant to the project	Roles in the project
Other stakeholders		
Mercury mining enterprises	Mining and trade mercury commercially	Reduce mining mercury to stop providing mercury to the demonstration mercury-containing medical devices enterprises
Public and/or private banks	Provide loan commercially	Provide supporting guidance and fair opportunity to the demonstration enterprises and other financially viable small and medium size producers to access available green finance instruments, for phasing out of production of mercury-containing medical devices, and/or to the demonstration medical facilities
Academic institutes, colleges, universities, and/or relevant individuals	Universities and research organizations focus on teaching, research and conservation knowledge development and policy recommendations	Conduct field surveys, monitoring, data collection and database development for the project Provided technical expertise on the phase-out of mercury-containing devices production and the application of mercury-free medical devices
CSOs	Have their focuses and special interests on mercury pollution.	Potential to provide technical expertise and bring in international experience, networking and platform for communication. Possible co-implementers for some activities such as training, communication and public awareness under projects.
Local communities	Living in the influential area of the mercury-polluted sites; Living surrounding the demonstration medical facilities; Communities of project publicity on application of mercury-free thermometers and sphygmomanometers	Participate in design of dealing with mercury-stock in the demonstration enterprises, and/or participate in design of disposal scheme of obsolete mercury-containing medical devices in the medical facilities Targets of the project publicity on application of mercury-free thermometers and sphygmomanometers
Ethnic minorities	In the above communities, some ethnic minorities might live	Full and effective participation and engagement in consultations and activities to secure their free, prior and informed consent (FPIC) where their rights, lands, territories, resources, traditional livelihoods may be affected.

Sources: the PIF, consultations with the EA and other PPG team members, etc.

There are a number of barriers to female production workers, female medical staff and female residents? engagement in the project. Main barriers to the demonstration enterprises? displaced female workers? engagement might be the women workers? engagement in trainings on production of mercury-free thermometers and mercury-free sphygmomanometers and/or the women workers? skills to be reemployed; and (ii) the female nurses? engagement in the trainings on scientifically use of mercury-free medical devices due to their time availability. The barriers and the measure are stated in Table 2.

Table 2: Barriers to Women?s Engagement and the Measures

Female group	Barrier types	Barriers to Engagement	Proposed engagement Measures
Women workers displaced related to the project of the demonstration enterprises	Participation	It is often that women have less participation opportunity than men. This tradition may limit the displaced women?s participation in trainings on production of mercury-free medical devices or trainings on other skills for reemployment	It is proposed in the project Gender Mainstreaming Action Plan that the demonstration enterprises to train the displaced women workers on production of mercury-free medical devises or on other skills for reemployment
	Reemployment	Women?s labour participation rate in China is lower than that of men, which means that women have relatively less opportunity to be employed. This may limit the displaced women workers? reemployment	It is proposed in the project Gender Mainstream Action Plan that the demonstration enterprises will undertake measures to avoid or reduce redundancies. Where no viable alternatives are identified, a Restructuring Plan will be developed and implemented to reduce and mitigate adverse impacts of retrenchment on workers
Female nurses of the demonstration and the expansion medical facilities at county level and the above	Available Time	Besides working for medical institutions, usually female nurses also undertake more unpaid housework than their counterpart men colleagues, which may make the female nurses with less available time than the male ones to participate in the project trainings.	The PMO and/or the responsible people will coordinate the demonstration medical facilities to make the female clinicians and female nurses available to participate in the project trainings, such as considering the time spent on the project related trainings as working time.

Female nurses of the demonstration and expansion medical facilities at township and village levels	Participation	As mentioned above, women usually have less participation opportunities than their men colleagues, which may limit female nurses? participation in the trainings on application of mercury-free thermometers and sphygmomanometers.	It is proposed in the project Gender Mainstreaming Action Plan that the medical facilities will ensure the female nurses? equal participation in the project trainings on application of mercury-free thermometers and sphygmomanometers.

Sources: consultations with the EAs and other PPG team members

After the analysis, further actions were taken to identify and assess the project key stakeholders through consulting and discussing with UNDP, the Foreign Environmental Cooperation Center (FECO) of the Ministry of Ecology and Environment (MEE), the other members of the project preparation team, and survey of the demonstration enterprises and medical facilities, as shown in Table 3. Based on the consultations and survey, the Stakeholder Engagement Plan for the project implementation, monitoring, and evaluation has been developed as presented in Table 4.

Stakeholder engagement during the project preparation. Due to the pandemic of the COVID-19, the stakeholder consultations during the preparation phase were mainly done online or by email, via phone call, etc. Since the PPG team started working on the project, several online meetings on identifying key stakeholders, their roles, interests, and responsibilities, were conducted led by FECO and UNDP; survey questionnaires were discussed, improved, and finalized; seven mercury-containing thermometer production enterprises, three mercury-containing sphygmomanometer production enterprises were surveyed for two runs, and seventeen medical facilities were surveyed during the PPG stage. (Table 3).

TABLE 3: STAKEHOLDER ENGAGEMENT IN THE PROJECT PREPARATION (PPG) PHASE

Means of Engagement	Objectives	Stakeholders engaged	Time	Major results

Means of Engagement	Objectives	Stakeholders engaged	Time	Major results
First run survey of the production enterprises using questionnaire, survey outline, key informant interview. The surveyed enterprises are all private. The enterprises produced over 80% of the total mercury-containing thermometers and about 85% of the mercury-containing sphygmomanometers in China in 2019	Collect information on production of mercury-containing and mercury-free thermometers and sphygmomanometers in the PRC, management situation of mercury stock, etc.	- Jiangsu Yuyue Medial Equipment Co. Ltd. (Yuyue Company) - Donge?ejiao Medical Technology Co. Ltd (Dong?e Company) - Hongjiang City Zhengxing Medical Instrument Company (Zhengxing Company) - Wuxi City Medical Instrument Co., Ltd (Wuxi Company - (Shaanxi Medical Instrument Company (Shaanxi Company) - Ningbo City Thermometer Company (Ningbo Company) - Chongqing Riyue Medical Equipment Co. Ltd (Riyue Company)	March -June 2020	Situation of the enterprises: productivity of mercury-containing and mercury-free medical devices, management situation of mercury stock, etc.

Means of Engagement	Objectives	Stakeholders engaged	Time	Major results
Meeting of PPG members with UNPD and FECO	- Make familiar with the PIF emphasized gender - Achieve common and deep understanding of the project, the outcomes, objectives, the institutional arrangement, etc. - Further identify key stakeholders	- UNDP - FECO - PPG Gender and stakeholder specialist - PPG Waste and management specialist - PPG phase-out scheme design team - Others	April 7, 2020	- Clear understanding of the project - identification of the key stakeholders
Second run of questionnaire survey of the enterprises	Further understand situation of enterprises producing mercury-containing thermometers and mercury-containing sphygmomanometers	- Yueyue Company - Dong?e Company - Zhengxing Company - Wuxi Company - Shaanxi Company - Ningbo Company - Riyue Company - Jiangsu Huachen Medical Instrument Co., Ltd (Huachen Company) - Jiangsu Yuanyan Medical Equipment Co., Ltd (Yuanyan Company)	15 Apr-15 May, 2020	Situation of the enterprises: updated situation of production of mercury-containing and mercury-free medical devices, willingness to phase out, women and men, Han and ethnic minority workers etc.

Means of Engagement	Objectives	Stakeholders engaged	Time	Major results
Meeting of PPG members with the EA	Methods and tools developed for consultation of the key stakeholder	- FECO team - PPG gender and stakeholder specialist - PPG Waste and management specialist - PPG phase-out scheme design team - Application scheme design team - Others	May 8 2020	Finalization of survey questionnaire for surveying relevant medical facilities Sampling and survey methods agreed
Questionnaire survey of medical facilities	Questionnaire and survey outline	- 17 medical facilities in Beijing City, Guangxi Zhuang Autonomous Region and Jiangsu Province	May ? July 2020	Situation of the medical facilities: use of mercury-containing medical devices, willingness to apply mercury-free devices, women and men medical staff, etc.

Stakeholder engagement during the project implementation. Based on the above-mentioned consultations, and GEF policy on stakeholder engagement, the following Stakeholder Engagement Plan for the project implementation phase has been developed (Table 4 below).

This Stakeholder Engagement Plan provides strategic guidance on the mechanisms for stakeholder engagement during project implementation, which may be further elaborated at project inception. The Stakeholder Engagement Plan is designed to ensure inclusive, effective, and efficient engagement of the key stakeholders throughout the lifecycle of this GEF-financed, UNDP-supported project. The Project Manager will be responsible for facilitating and monitoring implementation of this Stakeholder Engagement Plan, with the demonstration production enterprises and demonstration medical facilities? coordination of their implementation. The monitoring results will be included in the annual Project Implementation Report.

A full report on the Stakeholder Engagement Plan is included as Annex 8 of the UNDP Project Document.

TABLE 4: STAKEHOLDER ENGAGEMENT DURING PROJECT IMPLEMENTATION

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
1. Before the project implementation						
Dissemination of the project document on websites	Public access to the project information outreach of the project	Any interested individual and organization, male and female?Han and Ethnic minorities	GEF agency (UNDP), GEF partner (FECO), PMO,	Disclosed on websites of the UNDP, and FECO	Before the project implementation	The project budget
Dissemination of the project information to the relevant communities in an appropriate and understandable manner, for example, noticeboard, community representative meetings	Key communities fully informed with the project information	Relevant women and men residents in the communities surrounding (within 500 m?the mercury contaminated sites of waste and obsolete mercury-containing medical thermometers and sphygmomanometers	PMO The demonstration enterprises	The relevant communities	Ditto	The project budget
Validation Workshop for consultation and interaction	Secure comments on and confirmation of project objectives, outcomes, outputs and activities	Personnel from governmental departments, demonstration manufacturers, medical facilities and interested individuals from communities with close proximity to mercury-containing device manufacturing sites	GEF agency (UNDP). GEF partner (FECO), PPG Team	Online	Before finalization of project document and CEO Endorsement Request	PPG budget
2. Engagement in project implementation						

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
Competitive bidding for the demonstration enterprises	Select the most suitable enterprises	All the enterprises interested in the demonstration	PMO	Bidding information disclosed online	In the PPG phase and the beginning of the project implementation	The project budget
Recommend and select the demonstration medical facilities according to the selection criteria and the local situation	Select the most suitable medical facilities	All the medical facilities interested in the demonstration	PMO and the local government in demonstration areas (including the management department of environment and/or health)	Selected demonstration areas	In the beginning of the project implementation	The project budget
Inception workshop Bi-annual work plan making and/or update	Reach an agreement on the project detailed arrangement	All the key stakeholders	UNDP, FECO, the PMO	TBD	Project Inception Period	The project budget
For Component 1: Integrated policy, regulatory framework, quality standards, fiscal tools, action plans and associated capacities, to support the phase out of mercury medical devices under the Minamata Convention						
Consultation workshops, interviews, and/or surveys	Develop policy and regulatory frameworks, quality control standards, monitoring and management systems, and capacity-building programs for phase out	The project inter-ministerial Committee, The demonstration enterprises: men and women participants	UNDP, FECO, the PMO	TBD	During the project implementation	The project budget

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
Consultation workshops, interviews, and/or surveys	Develop policy and regulatory frameworks, green procurement standards and action plans for mercury-free medical device application	The project inter-ministerial Committee, The demonstration medical facilities: men and women participants, Potential expansion medical facilitates: men and women participants	Ditto	TBD	Ditto	The project budget
Consultation workshops, interviews, and/or surveys	Develop a Green Finance Framework to facilitate the manufacturing enterprises, including SMEs, to phase out mercury-containing medical thermometers and sphygmomanometers production and for the medical facilities to apply mercury-free medical devices	The project inter-ministerial Committee, The demonstration enterprises: men and women participants, The demonstration medical facilities Any potential finance agencies	Ditto	TBD	Ditto	The project budget
For Component 2: Demonstration of technology transfer and investment for (i) Supporting enterprises in phasing out the production of mercury-containing medical devices; (ii) the application of devices in medical facilities, and (iii) enhanced knowledge base for the sound management of obsolete mercury devices, contaminated materials/wastes, and contaminated areas on premises						
Demonstration of mercury-containing production phase-out	Mercury-containing medical thermometer and sphygmomanometer production phased out	The project demonstration enterprises with women and men participants	The PMO, the demonstration enterprises	Location of the enterprises	During the project implementation	The project budget

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
Demonstration of application of mercury-free thermometers and sphygmomanometers	Mercury-free thermometers and sphygmomanometers application demonstrated	The selected medical facilities who will demonstrate application of mercury-free thermometers and sphygmomanometers	The PMO, the demonstration medical facilities	Location of the medical facilities	During the project implementation	The project budget
Expanded application of mercury-free thermometers and sphygmomanometers	Mercury-free thermometers and sphygmomanometers application expanded	Potential medical facilities who have willingness to apply mercury-free thermometers and sphygmomanometers	The PMO, the demonstration medical facilities, and the expansion medical facilities	Location of the medical facilities	During the project implementation	The project budget
For Component 3: Development of long-term guidance and tools for the sound management of obsolete mercury-containing devices, and mercury-contaminated areas.						
Information collection	Develop inventory of mercury contaminated sites at enterprises producing mercury-containing medical thermometers and sphygmomanometers	All enterprises who are producing mercury-containing medical thermometers and sphygmomanometers	FECO, the PMO	TBD	During the project implementation	The project budget

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
Workshops, interviews, and/or survey	Develop long-term guidance and tools for the sound management of residual mercury stocks and obsolete mercury containing devices, and the remediation of contaminated sites on production sites	Demonstration enterprises	FECO, the PMO	TBD	During the project implementation	The project budget
Workshops, interviews, and/or survey	Develop long-term guidance and tools for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers in medical facilities	Demonstration medical facilities, Medical facilities with expansion application of the mercury-free medical devices	FECO, the PMO	TBD	During the project implementation	
For component 4: Knowledge Sharing & Management						
Workshop, online communication, etc.	Increase stakeholders? awareness and share knowledge and experience to replicate phase out of mercury-containing medical devices at other non-demonstration enterprises, and promote wide application of mercury-free medical devices at other medical	Demonstration enterprises: men and women staff	PMO Communication staff and/or specialist	Website, media, and other ways	During the project implementation	Project budget

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
Workshop, online communication etc.	Increase stakeholders? awareness and knowledge to promote wide application of mercury-free medical devices at other medical facilities	Demonstration medical facilities: men and women staff, Expended medical facilities: men and women staff, Other relevant enterprises and medical facilities: men and women, Public population	PMO Communication staff and/or specialist	Website, media, and other ways	During the project implementation	Project budget
3. Participation in project monitoring						
The overall monitoring ? Monitoring the project progress	Smooth implementation of project activities to achieve project objectives	The demonstration enterprises, the demonstration medical facilities, the medical facilities involved in expansion application of the mercury-free medical devices	The PMO	Sites of the project activities located	During project implementation	Project budget for M&E
? Consultation with women and men in the demonstration agencies	Gender equality in the project monitoring	Project direct beneficiaries and implementers:	PMO, monitoring staff	Suitable places and/or channels identified during the monitoring	Ditto	Project budget for Component 2
? Consultation with academic and research institutions, relevant governments, and other stakeholders	Experiences and suggestions from the stakeholders obtained for effectively implementation of the project	Relevant academic, Research institutions etc.	PMO, monitoring staff	Suitable places and/or channels identified during the monitoring	Ditto	Project budget for M&E

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
4. Mid-term review and terminal evaluation						
Consultation with relevant stakeholders	Evaluation done effectively and adaptive management instituted	Key project stakeholders	PMO, Independent evaluation consultants	Suitable places and/or channels identified during the evaluation	During the evaluations	Project budget for M&E
Dissemination of the approved review/evaluation reports to broad public	Make information accessible to broad public	Any interested individual and organization	GEF, UNDP, FECO and PMO	Disclosed on websites of the GEF, UNDP, the FECO	4 weeks after the evaluation reports finalized	Project budget for M&E
5. Information request procedure for broad public						
Publicizing contact details for information requests from public	Project non-confidential information accessible to public.	Any individual and organization interested in the project	PMO, relevant project agencies	Disclosed on websites of the project and/or FECO	Immediately after inception workshop	Project budget for communications
Public request information to the contacts by email or by written document	If necessary, institution/individual request needed information	individual and organization requested project information	PMO, relevant project agencies	Emails or written documents to relevant project office / PAs	Any time during the project implementation	Project budget for communications
The Project?s reply to the information requests	The requests were replied	individual and organization requested project information, relevant project agencies	PMO, relevant project agencies	same way replying to the request	Within 2 weeks after received the request	Project budget for communications
6. Grievance redress mechanism						

Engagement methods	Objectives	Key Stakeholders being engaged	Main responsible agencies	Location	Time	Resources
Step 1: affected people submit grievance if any to the contacts of demonstration enterprises or medical facilities	express grievance	People or organizations submitted grievance	Relevant demonstration agency	Written grievance	Any time during the project implementation	Project budget for M&E
Step 2: demonstration agencies address the grievance	Address grievance	People or organizations submitted grievance	PMO, relevant demonstration agency	Suitable ways	Two weeks after received the complaint	Project budget for M&E
Step 3: if dissatisfied, the affected people submit his/her grievance to the project PMO	Address grievance	People submitted grievance	PMO	Suitable ways	Two weeks after received the complaint	Project budget for M&E
Step 4: if still dissatisfied, the affected people can appeal to relevant administrative authorities	Address grievance	People submitted grievance	PMO The administrative authorities	Suitable ways		

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

During the Project Preparation Phase, a Gender Analysis was conducted by a national gender expert. The objective of the gender analysis followed by the development of the Gender Mainstreaming Action Plan is to warrant that the gender perspective is mainstreamed throughout the project to endure that women and men have equitable access to the benefits and opportunities resulting from the project?s planned activities, and that gender inequalities are not perpetuated during implementation, monitoring and evaluation of the project?s components. The plan was developed based upon surveys of relevant project documents, consultations with seven mercury-containing thermometer production enterprises, three mercury-containing sphygmomanometer production enterprises, seventeen medical facilities, analysis of secondary data, and discussions with UNDP, FECO, and other members of the project preparation grant (PPG) team.

Gender situation in General: Gender equality is the basic state policy of the People?s Republic of China (the PRC). Legally, women and men have equal social, political, and economic rights. The PRC recognizes the importance of gender equality and devotes great efforts on promoting gender quality. Significant advances in gender equality have been made since the founding of the PRC. Despite this progress however, gender inequality in practice continues to persist in many forms such as disparity in women?s political representation and participation. According to the World Economic Forum issued Global Gender Gap Report 2020, gender gaps in management and decision making were still big in the PRC.

Gender Situation in mercury-containing thermometer production: By 2020 there were 18 companies who had licenses to produce mercury-containing thermometers. The companies are mainly located in Zhejiang, Anhui and Shandong provinces, with a total production of around 200 million mercury-thermometers in 2020. Seven of the companies were surveyed by the PPG team between March and July 2020. The seven companies produced over 50% of the total mercury-containing thermometers. It is from the survey that the majority of the workers (77.2%) for production of mercury-containing thermometers were women. Production conversion to mercury-free medical devices will retrench the workers including women. It is responsibility of the demonstration companies to ensure reemployment of the retrenched staff. Without the project support, the women workers might

have less opportunity to be reemployed. Therefore, the demonstration companies should pay more attention to the displaced women workers.

Gender situation in mercury-containing sphygmomanometer production: Number of companies who produced mercury-containing sphygmomanometers decreased in past years. It fell from 8 companies in 2016 to 5 companies who had licenses to produce mercury-containing sphygmomanometer in 2019. The companies were mainly located in Jiangsu and Shandong provinces. Of the five companies, Jiangsu Yuyue Medical Equipment & Supply Co., Ltd. (Yuyue) produced 70% of the total mercury-containing sphygmomanometers. Of the five companies, three were surveyed by the PPG team between April-July 2020. The three companies produced about 85% of the total mercury-containing sphygmomanometers. It is from the survey that there were total 56 people including 51.8% of women working for the mercury-containing sphygmomanometers production in the three companies. Similar to the demonstration mercury-containing thermometer production companies, it is responsibility of the demonstration mercury-containing sphygmomanometer companies to place great efforts to the women workers? reemployment and to ensure the retrenched staff?s reemployment,

Gender Situation in Medical Facilities: Health systems in China show some gender differences such as labor division and associated hierarchies, with women frequently concentrated in specific segments of the health care. Women are less likely than men to be in senior professional, managerial and policy making positions. It is from the 2018 statistics that the majority of technical healthcare staff in China are female. Of the total 9,529,179 technical medical employees, 71.8% were women. Of the 3,607,156 doctors, 46.2% were female. Of the 547,658 nurses, 97.7% were women. More female nurses are working in lower-level medical institutions. Of the nurses working in township healthcare institutions, 98.5% were female. Of the nurses working in urban communities, 99.3% were female. These imply that women?s capacity is crucial to the application of mercury-free medical devices in the future in general and for the project in particular.

Women proportion in the total management staff is less than women?s share in the technical staff. 53.9% of the management staff in the healthcare facilities were women, which was 17.9 percentage points lower than 71.8%, the women?s proportion in the total technical staff. This to some degree indicates that more efforts need be made to promote women?s participation in the project related activities and to women?s involvement in the decision making of the project.

Gender Gap and Potential Gendered Impacts: It is known from the analysis on gender situation in China, in the mercury-containing thermometer production enterprises, and in the surveyed medical facilities that gender disparities related to application of medical devices mainly exist in areas of knowledge, employment, and involvement in decision-making. Women continue to face challenges in equal access to training, employment, participation, and decision making. Without adequate and appropriate consideration of the gender gaps and taking effective gender-responsive measures in design and implementation of the project, women would be continuously with limited participation, limited access to trainings and decision making, and other benefits and services, which are the three gender gaps most strategic and relevant to GEF-programming.

Gender-responsive theory of change: The majority of medical technical staff especially clinic nurses are women. Women?s equal engagement in the project design and implementation such as participation in trainings, technical and/or skills will enhance women?s capacity and empower women technically. Women?s capacity of applying mercury-free medical devices is the foundation for achieving the project objective of applying mercury-free in medical facilities.

Women are key persons using thermometers and sphygmomanometers at home. The project publicity targets toward women will increase women?s awareness and skills in applying mercury-free thermometers and sphygmomanometers. Equal involvement of women in the project consultation can greatly facilitate equal opportunities for women to express themselves, to voice their needs, priorities, ideas, and opinions, and equally integrate women?s concerns in the project design, which will lay a foundation for the project to develop and take culturally-appropriate and responsive measures to minimize or eliminate barriers to women?s engagement and to maximize women?s contribution to the project. Meanwhile, it also equally benefits women.

Engaging more women in the project-related decision making, such as in development of the project related policies, is not only women?s rights. More importance, integrating women?s perspective into the project decision-making will greatly make contribution toward project?s social, economic and environmental impacts, and make the project results sustainable.

Barriers to Women?s Engagement: Traditional habit that men workers engagement first is a barrier for women workers equal participation in trainings on production of mercury-free medical devices. Women?s available time is another barrier to engagement in demonstration production enterprises and in demonstration medical facilities. Women are often busy with their jobs and domestic chores, especially female clinicians and female clinic nurses who are very busy with their work. Using participatory approaches to identify proper training time and training location is crucial for women?s participation. Some actions are proposed in the gender mainstreaming action plan (GMAP) to overcome the barriers and facilitate women?s equal participation in the project. Overall strategy of the plan is to ensure female residents? equal participation in and benefit from the project as male ones. With support of gender focal points assigned by each of the Project Implementation Units, to collect detailed sex-disaggregated data on project beneficiaries and participants.

Gender Mainstreaming Strategies: Recognized differences between roles, knowledge, employment, and involvement in decision-making of men and women, the project will adopt the following strategies to avoid deteriorating gender inequality and promote gender equality:

(i) Formulation of the project management committee and other relevant decision-making groups with enough consideration on increasing women?s involvement;

(ii) Integration of gender element in the development of relevant policy frameworks;

(iii) Inclusion of all the displaced women?s reemployment policies and plans in the project phase-out guidelines;

(iv) Medical capacity development programs prioritizing female clinicians and clinic female nurses in scientifically use of mercury-free thermometers and mercury-free sphygmomanometers?and

(v) The project publicity targets toward women, who are key persons using thermometers at home.

Gender mainstreaming action plan: While general gender mainstreaming strategies will apply across all interventions at the demonstration organizations, the following specific actions are proposed in order to empower women and promote gender equality.

A full report on Gender Analysis and Gender Mainstreaming Action Plan developed for this project is included as Annex 9 of the UNDP Project Document.

Table 5: Gender Mainstreaming Action Plan

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
Component 1. Integrated policy, regulatory framework, quality standards, fiscal tools, action plans and associated capacities, to support the phase out of mercury-containing medical thermometers and sphygmomanometers under the Minamata Convention **Outcome 1.1:** Cross ministerial cooperation established to jointly develop and implement the necessary policy, regulations, tools, action plans and guidelines, in coordination with appropriate private sector partners, to phase out the production and consumption of mercury-containing medical devices, to reduce the use of primary mercury in medical devices, to manage waste of obsolete devices, and to promote the uptake of mercury-free medical devices **Output 1.1:** Inter-ministerial Committee established (e.g., Environment, Health, Industry, etc.) to support the execution of China?s National Implement Plan for the Implementation of the Minamata Convention and take actions to address the identified policy and enforcement capacity gaps between national regulatory policies and the Convention?s legal requirements for Parties, and to look at modalities for linking mercury consumption reductions from this sector into the primary mining plans within the National Minamata Implementation Plan, to avoid redirection of phased out consumption to other sectors. **Output 1.2:** Proposals on policy and regulatory frameworks on chemical management, supervision and law enforcement, standards for inspection and maintenance of mercury-free products, and rules on the use of mercury-free products are developed or updated and capacity-building programmes updated or developed to support the monitoring, supervision, regulation and enforcement of the phase-out of mercury in the production of medical thermometers and sphygmomanometers, by collaborating with World Health Organization (WHO) to ensure incorporation of international best practice and experience. **Output 1.3:** Proposals on green procurement standards and action plans developed to promote the application of and grow the market for mercury-free medical thermometers and sphygmomanometers in medical facilities. **Output 1.4:** Green Finance Framework developed and mercury-free devices and procurement subsidization scheme created.							
? Establish the Inter-ministerial Committee with a focus on increasing women?s involvement (output 1.1)	# of women in the inter-ministerial committee	At least 10% of women member	At least 25% of women member	0	Relevant project managers	2022-2026	No extra cost

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Develop policies on reemployment of all women and men workers displaced due to the conversion from mercury-containing to mercury-free thermometers and sphygmomanometers production (output 1.2)	Policies or relevant sections in the regulatory frameworks	Proposals for at least two policies or two sections in the overall policy	Proposals for six policies or six sections in the overall policy	0	Project Board	2022-2026	Included in project budget Component 1
? Develop capacity-building policies with a focus on strengthening frontline women nurses? capacity of using the mercury-free thermometers and mercury-free sphygmomanometers (output 1.3)	Policies or relevant sections in the regulatory frameworks	Proposals for at least two policies or two sections in the framework	Proposals for six policies or six sections in the framework	0	Project Board	2022-2026	Included in project budget Component 1
? Develop policies on avoiding negative impacts on women and men of disposing obsolete and stock of mercury-thermometers and mercury-sphygmomanometers in production enterprises and medical facilities. (output 1.4)	Policies or relevant sections in the regulatory frameworks	Proposals for at least two policies or two sections in the overall policy	Proposals for six policies or six sections in the overall policy	0	Project Board	2022-2026	Included in project budget Component 1

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
Component 2. Demonstration of technology transfer and investment for (i) supporting enterprises in phasing out the production of mercury-containing medical devices; (ii) the application of mercury-free devices in medical facilities, and (iii) enhanced knowledge base for the risk assessment and sound management of obsolete mercury devices, contaminated materials/wastes, and contaminated areas on premises **Outcome 2.1:** Enterprises are enabled to convert production lines as per legally mandated national phase-out planning guidelines, and to soundly manage remaining mercury, stockpiled devices and/or contaminated areas on premises resulting in the phase-out of at least 75 metric tons of mercury. **Output 2.1:** Production of mercury-free medical thermometers and sphygmomanometers achieved and sound management of obsolete mercury and stocks of mercury devices implemented in four (4) producers of mercury-containing medical thermometers and two (2) producers of mercury-containing sphygmomanometers **Output 2.2:** Use of mercury-free devices and the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers demonstrated in at least 6 medical facilities. 60% of baseline mercury-containing medical thermometers and sphygmomanometers replaced by mercury-free devices and staff capitated to use and maintain mercury-free devices and to soundly manage obsolete mercury devices and related wastes.							
? Each pilot production enterprise formulates a project committee with a focus on increasing women?s involvement in decision-making on phasing out of mercury-thermometers and mercury-sphygmomanometers and disposing obsolete and managing stock mercury device (output 2.1.1)	# and % of women and men in the decision-making group of each pilot production entity	At least 10% of women	At least: 25% of women	0	The pilot enterprises	2022-2026	No extra cost
? Policy formulated prioritizes reemployment of women displaced by the conversion to mercury-free production (output 2.1.1)	Policies or relevant sections in the regulatory frameworks	At least one proposal for policy formulation	At least one proposal for policy formulation	0	The pilot enterprises	2022-2026	No extra costs

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Conduct a socioeconomic assessment to evaluate situation of loss of jobs especially for low skilled workers, and if necessary, prepare and implement a gender responsive livelihood restoration plan to support these workers either through raising their capacity to be able to operate the installed devices or finding them other suitable jobs	A socioeconomic assessment on all the project displaced workers and/or a gender responsive livelihood restoration plan	A socioeconomic assessment on all the project displaced workers conducted and, if necessary, a gender responsive livelihood restoration plan for the workers developed	If necessary, a gender responsive livelihood restoration plan for the workers implemented	0	The pilot enterprises		Costs of the demonstration enterprises
? Develop training programs focusing on the displaced women workers being trained on producing mercury-free thermometers and/or sphygmomanometers, and involve women in development of the training programs (output 2.1.1)	# and % of displaced women trained	315 women participated in training	800 women participated in training	0	The pilot enterprises, Project Gender Officer	2022-2026	Project training budget under Component 4, M&E
? Ensure no negative impact of management of obsolete mercury and stocks of mercury devices on women and men workers and residents (output 2.1.1)	# and % of women and men workers and residents safeguard from negatively affected	At least 50%	100%	0	The pilot enterprises	2022-2026	No extra cost

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Develop training programs with a focus on clinic male and female nurses being trained on proper disposal of obsolete and broken mercury-thermometers and sphygmomanometers and scientific use mercury-free thermometers and sphygmomanometers, and involve more women in the program development (output 2.2.1)	X%[1][1] of clinic male and female nurse in the total trained	30% of clinic male and female nurse in the total trainees.	75% of clinic male and female nurse in the total trainees.	0	The pilot medical facilities Project Gender Officer	2022-2026	Project training budget under Component 4, M&E
? Ensure no negative impact on women and men workers and residents from disposal of obsolete mercury-containing medical thermometers and sphygmomanometer (output 2.2.1)	# and % of women and men workers and residents safeguard from negatively affected	At Least 50%	100%	0	The pilot medical facilities	2022-2026	No extra cost
Component 3. Development of long-term guidance and tools for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers, and mercury-contaminated areas **Outcomes 3.1:**: Production enterprises and medical facilities implemented appropriate strategies, tools and guidance to assure long-term sound management of mercury-containing medical devices and mercury contaminated areas **Output 3.1.** Guidance tools for inventory of mercury-contaminated sites at piloted enterprises producing mercury-containing medical thermometers and sphygmomanometers developed. **Output 3.2**. Risk management strategy, technical guidance and training materials developed for the sound management of residual mercury stocks and obsolete mercury-containing medical thermometers and sphygmomanometers at production enterprises/sites. **Output 3.3** Risk management strategy, technical guidance and training materials developed for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers in medical facilities.							

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Inventory of mercury contaminated sites at enterprises producing mercury-containing medical thermometers and sphygmomanometers indicating number of workers and surrounding residents disaggregated by sex and ethnic (output 3.1)	Workers and residents surrounding the manufacturing sites	Contaminated site at enterprises identity and inventory of workers and residents disaggregated by sex.	# of workers and surrounding residents disaggregated by sex and ethnic	0	The enterprises having mercury contaminated sites	2022-2026	No extra cost
? Include measures/sections to ensure no negative impact on women and men workers and the surrounding male and female residents in the risk management strategy, technical guidance and training materials for the sound management of residual mercury stocks and obsolete mercury containing (output 3.2)	Measures/sections to ensure no negative impact on men and women workers and the surrounding male and female residents	At least one relevant measure developed or sections included in the risk management framework	At least one relevant measure developed or sections included in the risk management framework	0	The enterprises	2022-2026	No extra cost

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Include measures/sections to ensure no negative impact on male and female staff and surrounding residents in the risk management strategy, technical guidance and training materials developed for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers in medical facilities (output 3.3)	Measures/section to ensure no negative impact on male and female healthcare staff and the surrounding male and female residents	At least one relevant measures developed or sections included in the risk management framework	At least one relevant measures developed or sections included in the risk management framework	0	The medical institutions	2022-2026	No extra cost
Component 4: Knowledge Sharing & Management, Monitoring and Evaluation **Outcome 4.1:** Tools for Knowledge sharing developed, activities and experiences about policy, technical knowledge and lessons learned for the project shared. Disaggregated information on stakeholder?s activities and experiences under the project gathered and fed into the Monitoring and Evaluation processes of the Project. . **Output 4.1**. Project Communication Strategy created and effective KM and M&E support delivered in differentiated approaches for stakeholders (manufacturing enterprises, medical facilities, mercury mining enterprises, government and international agencies, etc.) **Output 4.2.** Awareness raised manufacturers, medical facilities and public on sound management of chemicals; knowledge gathered and shared, as well as learning tools created and utilized periodically during the project lifecycle. **Output 4.3:** Monitoring and Evaluation Tools (PIR, Mid Term and Terminal Evaluations as well as Quarterly Performance Reports and Project Board Reports, budget revisions and financial control and project management tools) delivered as required and adaptive management actions implemented during the project lifecycle.							
? The project communication strategy includes key principles on gender equality (output 4.1)	Principle(s) on gender equality	At least 5 principles proposed	At least 5 principles established and implemented	0	Project communication officers, Gender focal points, Project Gender Officer	2022-2026	No extra cost

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Awareness materials, knowledge gathering, sharing and learning tools with gender responsive measures (output 4.2)	Gender-responsive measures	At least 50% of materials include gender responsive measures	100% of materials include gender-responsive measure	0	Project Manager, Gender focal points, Project Gender Officer	2022-2026	No extra cost
? PIR, Mid Term and Terminal Evaluations include section of gender mainstreaming and gender equality progresses (output 4.3)	Gender section in the reports	All reports containing gender section and sex disaggregated data and information	All reports containing gender section and sex-disaggregated data and information	0	The authors	2022-2026	No extra cost
? Recruit a Project Gender Officer to support project implementation (all outputs)	# of gender specialist	One Project Gender Officer recruited	One Project Gender Officer recruited	0	The project PMO	2022-2026	Project budget in Component 4, M&E
? Designate one gender focal point by PMO, each of the pilot enterprise and medical institution (all outputs)	# of gender focal point	One in PMO, one in each of the pilot enterprise and medical institution	One in PMO, one in each of the pilot enterprise and medical institution	0	The pilot enterprises and medical institutions	2022-2026	No extra cost
? Develop TORs for the gender focal points (all outputs)	# of TOR	1 for each of the gender focal point	1 for each of the gender focal point	0	Project manager and PMO Gender expert	2022-2026	No extra cost

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Develop protocol (questions, information gathering system, etc.) for the gender focal points to collect and report detailed gender information including the project affected people, project beneficiaries, participants of each project activity, and so on (all outputs)	# of the protocol	1 for each of the gender focal point	1 for each of the gender focal point	0	Ditto	2022-2026	No extra cost
? Provide training to the management staff and the gender focal points on gender mainstreaming and gender equality (all outputs) to establish a gender-sensitive corporate environment for the project implementation	# of gender training # of participant	Once at project inception for all PMO staff, gender focal points and relevant people of the pilot enterprises and medical facilities	Once prior to project completion for all PMO staff, gender focal points and relevant people of the pilot enterprises and medical facilities	0	Ditto	2022-2026	Project budget in Component 4, M&E
? Collect sex-disaggregated data wherever appropriate (all outputs)	Sex-disaggregated data	At least, sex-disaggregated project direct beneficiaries, sex-disaggregated data on the project-related trainings	At least, sex-disaggregated project direct beneficiaries, sex-disaggregated data on the project-related trainings	0	Project manager, gender focal points Project Gender Officer	2022-2026	No extra cost

Actions	Indicators	Mid-term Target	End of project Targets	Baselines	Responsible agencies	Timeline	Cost and budget
? Monitor and evaluate implementation of the GMAP (all outputs)	Included in the APRs, MTE, TER	Yearly evaluation undertaken	Report on annual evaluation Included in the APRs, MTE, TER	0	Project manager, MTR and TE experts	2022-2026	No extra cost
? Include gender sensitive indicators in the Project Strategic Results Framework	# and % of the project direct women beneficiaries	100,000 beneficiaries (50,000 female and 50,000 male)	300,000 (150,000 female, 150,000 male)	0	PPG experts	PPG stage	No extra cost

[1] Roughly equal to the percentage of male nurses in the total nurses

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

Does the project?s results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

The project has a significant number of private sector partners (see Section 2, Stakeholders). Private sector, represented by the 6 producers of mercury-containing medical thermometers and sphygmomanometers will be the participants in the key activities of the project through demonstration activities to undergo transformation to production of mercury-free alternatives, achieving the elimination of 75 metric tons of mercury consumed in their production, and that their knowledge and experience gained through implementation of the demonstration activities, will be the significant force to drive the national replication plan to achieve complete phase-out of mercury in mercury-containing medical devices production in China. In fact, co-financing contributions from the private sector, including the 6 demonstration enterprises and the China Association for Medical Devices Industry, account for a significant 87% ($97,527,000) of the total co-financing amount ($112,000,000) to the

project, of which 51% ($49,457,500) is grants co-financing. It reflects the strong interest, and their commitment and engagement in the project.

Private sector partners are involved in the implementation of the demonstration activities at the manufacturing side while on the consumption side, the patients through their engagement with the medical facilities, and general public as consumers of medical devices. In addition, mercury mining enterprises, public and/or private banks, academic institutions, CSOs and local communicates will also be engaged during project implementation.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

During PPG stage, through investigation and survey activities, preparation and design of the Stakeholder Engagement Plan and the Gender Analysis and Gender Action Plan, and more particularly, the conducting of the UNDP Social and Environmental Screening Procedures (SESP), the following risks that may threaten the achievement of project results have been identified. In assessing these risks, proper mitigation measures have been developed to address the risks during project implementation. Activities required for the mitigation measures have been included in the activities of the various project components, with corresponding budget allocated for such activities as appeared in Section X, Total Budget and Work Plan of the UNDP Project Document (pages 57-62).

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures	Risk Owner

1	Duty bearers, and other relevant stakeholders may fall short of capacities to meet their obligations in the Project upon the development of the new coordination and regulatory mechanisms.	Operational Organizational Regulatory	I=2 L=1 Low	Through Component 1, Activity 1.1.1, Activity 1.2.1 will support the training needs assessment and develop a targeted training plan (guided by the SES) to ensure that the relevant officials receive adequate training to understand their new extended responsibilities arising from the improved Institutional and Regulatory Frameworks being developed by the project in terms of new legislation, guidelines and mandatory standards. . Although this risk is LOW, the project will undertake these activities as incremental support resulting from the improved Regulatory and Institutional Frameworks.	FECO/MEE UNDP

2	Small or medium sized manufacturers and health care facilities are not involved in decision-making regarding development of policy and regulatory frameworks and green procurement standards and do not have equal access to financing through the Green Finance Framework	Regulatory Financial Strategic	I=3 L=3 Moderate	Stakeholder engagement will be undertaken to ensure fair representation of small and medium sized manufacturers of mercury medical devices who may otherwise be marginalized from participating in any financing schemes and be at a disadvantage once the final phase out of mercury device production for domestic markets commences at the end of 2025 (Activities 1.3.1, 1.4.1, and 1.4.2). A Stakeholder Engagement Plan (SEP) has been prepared (ProDoc Annex 5) to incorporating these engagement activities. In addition, the project will raise the awareness of enterprises on possible green finance instruments, and to facilitate their access to government and/or private banking investments, to support quality-controlled conversion of production lines. It will also create a procurement subsidization scheme to support green procurement, application of mercury-free medical thermometers and sphygmomanometers, sound management of obsolete mercury containing devices, any related capacity building and awareness activities in medical facilities.	FECO/MEE UNDP Demonstration enterprises

3	Potential risk to enterprise viability and workers? employment, particularly women, in the course of the transition to production of non-mercury devices, in particular.	Social and Environmental Strategic	I=3 L=4 Moderate	The project is designed to help with the transition to non-mercury medical devices, since there will be mandatory end of production of mercury devices for export by the end of 2020 and complete shut- down of production for domestic markets by the end of 2025. The project is therefore inherently addressing the risk of loss of income for businesses from mandatory shut down of mercury device manufacture under Minamata Convention compliance implementation, by offering capacity for production of non-mercury equipment, and preserving livelihoods. Nevertheless, stakeholder engagement throughout project implementation will ensure that enterprises that may be affected by the project all benefit from this support through capacity building and awareness raising on green financing available (Activities 1.3.1 and 1.4.1). A Stakeholder Engagement Plan has been prepared for that purpose. A risk assessment will be undertaken for the alternative technology (Activity 2.1.1) to be used taking into consideration avoiding retrenchment. The industry will consult with trade unions or other workplace representatives over the proposed redundancies on measures to avoid or reduce redundancies, the method of selection and mitigating the effects, integrating outcomes into the final restructuring plan. This includes potentially training qualified existing staff on other roles or skills that may be needed	FECO/MEE UNDP Demonstration enterprises

4	Inadequate participation of women in consultations, policy decision making and design of modalities for capacity building in uptake of non-mercury technologies and safe management and disposal of obsolete mercury devices	Social and Environmental Strategic	I=3 L=2 Moderate	The Gender Action Plan has addressed potential risks and included measures to mainstream gender in all project components, with specific focus on encouraging women representation in the following: ? Inter-ministerial committee for National Implementation Plan ? Development of policy and regulatory frameworks, quality control standards, monitoring and management systems, and capacity-building programs ? Capacity building of medical staff to use and maintain mercury-free devices, and to soundly manage obsolete mercury devices and related wastes ? Cooperation with WHO to share knowledge about the replacement of mercury thermometers and sphygmomanometers in health care ? Training on sound management of residual mercury stocks and obsolete mercury containing devices, and the remediation of contaminated sites on production sites and in medical facilities	FECO/MEE UNDP

5	Risk of release and worker/community exposure during decommissioning, transport and storage of waste mercury-related equipment, devices and elemental mercury in the course of the project	Social and Environmental Operational Health	I=4 L=2 Moderate	As part of the private sector risk assessment that will be undertaken, the project will ensure that the interim storage facilities at the selected enterprises (Activity 2.1.1 and Activity 3.3.1) are referring to the Minamata Convention?s Guidelineson the environmentally sound interim storage of mercury by confirming the following: ? Site is appropriate and abides by local zoning requirements. ? Facility is designed to facilitate the safe handling of containers. ? Indoor air is vented outside, and where levels of mercury call for venting via activated carbon or other mercury capture systems, system is installed and operational. ? Site is equipped with a fire protection system. ? Emergency response plan in place and local fire department, where available, is sufficiently informed, trained, equipped and otherwise prepared to safely handle any fires at the facility. ? Facility is constructed of non-combustible materials and non-combustible materials should be used for pallets, storage racks and other interior furnishings. ? A drainage and collection system for discharged water exists enabling mercury monitoring from the site. ? Floors of storage facilities are covered with mercury-resistant	FECO/MEE UNDP Demonstration enterprises

6	Risk of flooding of mercury device interim storage facilities	Social and Environmental Operational Health	I=3 L=2 Moderate	As mentioned earlier, the project, through the environmental audit of the interim storage facilities, will take into consideration flood risks when locating and designing storage facilities to minimize the risk of inundation.	FECO/MEE UNDP Demonstration enterprises
7	Increased GHG emissions from alternative processes to eliminate the use of Mercury	Social and Environmental Regulatory Strategy	I=3 L=3 Moderate	When selecting the process for the transition of industries (Activity 2.1.1), the level of GHG emissions of the considered alternatives will be one of the criteria to be evaluated for best environmental practice and SES requirements will be followed where applicable.	FECO/MEE UNDP Demonstration enterprises

8	Resettlement or economic displacement or damage to agricultural lands indirectly resulting from the project?s identification of contaminated sites that require remediation in pilot sites through co-financed activities	Social and Environmental Regulatory	I=4 L=2 Moderate	An appropriately scoped ESMF will be developed to manage this risk and all E/S risks associated with these specific co-financed activities. The risk management strategy that will be developed as part of Activity 3.2.2 and will be part of the cooperation agreement / contracts to be signed with each demonstration company per site. The management strategy carries the appropriate Environmental Impact Assessment (EIA; required under national law for this co-financing activity) and will address all relevant SES requirements for the land identified as contaminated in Activity 3.1.1. This will be further described in the forthcoming ESMF, including the extent to which consistency with the SES is necessary under the policy for these co-financed activities that fall outside the project?s framework. These will include, amongst other measures, consultations with affected persons in line with the Stakeholder Engagement Plan.	FECO/MEE UNDP Demonstration enterprises

9	Working conditions that do not meet national labor laws and international commitments and exposure to health and safety risk within the demonstration enterprises and hazardous waste disposal enterprises	Social and Environmental Regulatory Health	I=4 L=2 Moderate	Prior to engaging any enterprise, in particular the demonstration enterprises that manufacture medical thermometers (Activity 2.1.1) and sphygmomanometers, a private sector risk assessment will be conducted. This will be done through a visit to the facility and ensuring that occupational health and safety measures are applied (through an Occupational Risk Assessment) and that the interim storage facilities where mercury will be stored, prior to disposal, are referring to the Minamata guidelines and that the necessary ?Safety Certification? has been obtained from local authorities. If not already available at the enterprises, an Occupational Health and Safety Plan that determines the measures to be adopted (such as ventilation and wearing personal protective equipment) will be prepared and implemented. In addition, the demonstration enterprises will confirm that they have ensured the hazardous waste disposal enterprises they engaged/will engage are duly registered and authorized to conduct such business.	FECO/MEE UNDP Demonstration enterprises

10	Health and safety risk to workers during refurbishment of demonstration enterprises	Social and Environmental Regulatory Health	I=3 L=2 Moderate	As noted above, an appropriately scoped ESMF will be developed to manage this risk and all E/S risks associated with these specific co-financed activities The contractor engaged in the refurbishment activities will be required to submit and implement a worker health and safety plan in line with Local Regulations as well referring to International Standards and Guidelines of the Minamata Convention (for BAT/BEP). The project will approve this plan and ensure that it is being implemented. These risk management actions will be conducted in line with UNDP?s SES Policy.	FECO/MEE UNDP Demonstration enterprises

11	The COVID-19 Pandemic may inhibit the smooth implementation of this project, especially the sharing of the foreign experiences	Operational Health	I=2 L=2 Low	Government of China at different levels has taken rigorous measures to prevent COVID-19. Besides, since temperature check are frequently performed, the conveniences of mercury-free thermometers are more preferred compared to mercury-containing medical thermometer. This can also promote the implementation of this project. As China has instituted strict measures and has been able to contain the epidemic during its peak spreading period. Together with increased population being vaccinated, domestic cases gradually zeroed out and the national economy has returned to the right track under the guidance of national health policies. The project plans to carry out continuous monitoring and assessment of the impact of COVID-19 on the progress of project implementation, and undertake appropriate adaptive management. Project management and implementation supervision can be undertaken through various means such as online and telephone interactions, international experiences may be shared through web seminars.	FECO/MEE UNDP Demonstration enterprises

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The project will be implemented following UNDP?s national implementation modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of China, signed on 29 June 1979.

The **Implementing Partner** (UNDP term) / Executing Partner (GEF term) for this project is the **Foreign Environmental Cooperation Center (FECO)** of the Ministry of Ecology and Environment (MEE). The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in the signed UNDP Project Document along with the assumption of full responsibility and accountability for the effective use of the GEF-financed, UNDP support resources and the delivery of outputs, as set forth in the Project Document.

The Implementing Partner is responsible for executing this project. Specific tasks include:

1. Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
2. Risk management as outlined in this Project Document;
3. Procurement of goods and services, including human resources;
4. Financial management, including overseeing financial expenditures against project budgets;
5. Approving and signing the multiyear workplan;
6. Approving and signing the combined delivery report at the end of the year; and,
7. Signing the financial report or the funding authorization and certificate of expenditures.

Responsible Parties:

Three categories of Responsible Parties will be engaged in the implementation of this project:

Responsible Party A: The Responsible Party A is the demonstration mercury-containing thermometers and sphygmomanometers producing enterprises. With the guidance of the Implementing Partner, they are responsible for carrying out project activities to gradually reduce mercury consumption in mercury devices production and sales and shut down production by 31 December 2025, lead the whole industry in phasing out the use of mercury and to ensure achievement of the goal of the Minamata Convention. In implementing the demonstration activities, these enterprises will undergo refurbishment of their existing workshops, and plan to improve mercury-free producing capacity by changing the original mercury-containing production lines into mercury-free ones or installing new manufacturing equipment.

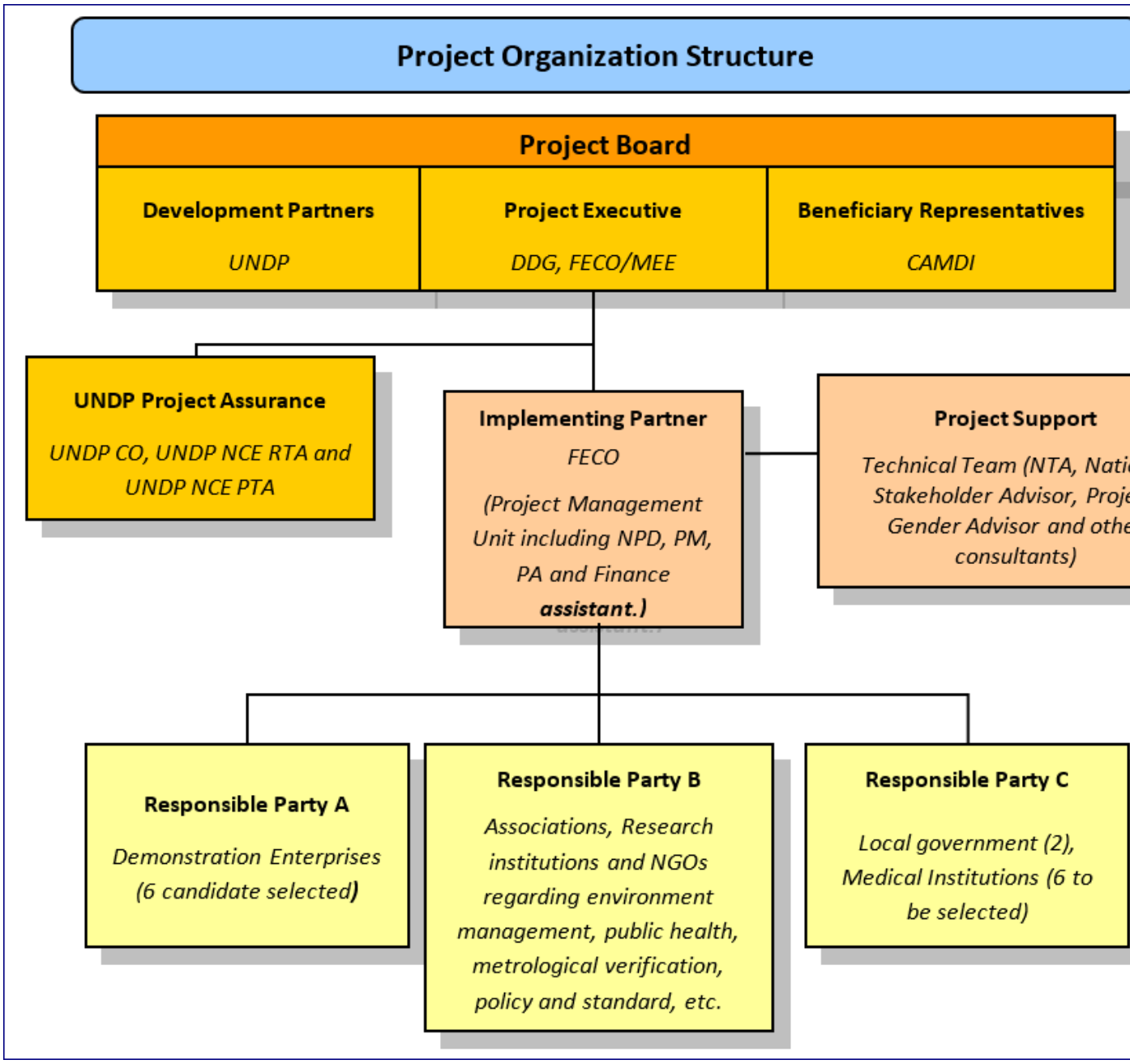
Furthermore, these enterprises will promote R&D, production and marketing of mercury-free alternatives, adhere to environmentally sound management of mercury; organize or participate in themed training; promote gender equality, etc. and Share achievements and experiences of the demonstration with other enterprises. These enterprises have also committed to provide co-financing to undertake the demonstration activities.

Responsible Party B: The Responsible Party B for this project are related associations, research institutions and NGOs regarding environment management (including mercury), public health, metrological verification, policy and standard, etc.. They are responsible for providing technical support and consultations to facilitate project implementation and decision making of governance and management.

Responsible Party C: The Responsible Party C are local governments and medical facilities. Guided by the Implementing Partner, they are responsible for carrying out demonstration project activities to promote and facilitate the replacement of mercury-containing medical thermometers and sphygmomanometers, on the correct use of mercury-free alternatives, including their routine internal and external calibration, required capacity building for the accurate calibration of mercury-free alternatives, and activities like collection and storage of mercury concerned, mercury waste cleanup and handling, mercury waste transport and disposal and risk analysis (RA) of mercury contaminated areas and sustainable ESM of mercury waste and contaminated sites. These demonstration medical institutions will also capture and share in awareness and training materials and guidance documents for long term, post-GEF-funded project, and the replication process to more medical institutions locally and nationally to promote wider use of mercury-free alternatives and ensure environmental sound management of mercury wastes.

UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

The project organization structure is as follow:



A Project Board will be established for this project. The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP?s ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Board include:

? Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
? Address project issues as raised by the project manager;
? Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
? Agree on project manager?s tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager?s tolerances are exceeded;
? Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;
? Ensure coordination between various donor and government-funded projects and programmes;
? Ensure coordination with various government agencies and their participation in project activities;
? Track and monitor co-financing for this project;
? Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
? Appraise the annual project implementation report, including the quality assessment rating report;
? Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
? Review combined delivery reports prior to certification by the implementing partner;
? Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
? Address project-level grievances;
? Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
? Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
? Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The **composition of the Project Board** must include the following roles:

a. **Project Executive**: Is an individual who represents ownership of the project and chairs the Project Board. The Executive is normally the national counterpart for nationally implemented projects. The Project Executive is the Deputy Director General (DDG) of FECO/MEE.

b. **Beneficiary Representative(s)**: Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often civil society representative(s) can

fulfil this role. The Beneficiary representatives are the China Association for Medical Devices Industry (CAMDI) and the Foreign Exchange and Communication Center of MEE.
Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partner(s) is UNDP:

c. **Project Assurance**: UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed, and conflict of interest issues are monitored and addressed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three-tier oversight services involving the UNDP Country Offices and UNDP at regional (UNDP NCE RTA) and headquarters levels (UNDP NCE PTA). Project assurance is totally independent of project execution.

Project Manager (PM): The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager?s prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

The Implementing Partner appoints the Project Manager, who should be different from the Implementing Partner?s representative in the Project Board.

Specific responsibilities include:

? Provide direction and guidance to project team(s)/responsible party(ies);
? Liaise with the Project Board to assure the overall direction and integrity of the project;
? Identify and obtain any support and advice required for the management, planning and control of the project;
? Responsible for project administration;
? Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
? Mobilize personnel, goods and services, training and micro-capital grants to initiative activities, including drafting terms of reference and work specifications, and overseeing all contractors? work;
? Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
? Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
? Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
? Be responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
? Manage and monitor the project risks initially identified and submit new risks to the project board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
? Capture lessons learned during project implementation;

? Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available.

? Prepare the GEF PIR and submit the final report to the Project Board;

? Based on the GEF PIR and the Project Board review, prepare the AWP for the following year.

? Ensure the mid-term review process is undertaken as per the UNDP guidance, and submit the final MTR report to the Project Board.

? Identify follow-on actions and submit them for consideration to the Project Board;

? Ensure the terminal evaluation process is undertaken as per the UNDP guidance, and submit the final TE report to the Project Board;

The head of the Implementing Partner will serve as the National Director of the Project. Among the responsibilities of the Implementation Partner there are: the planning and general management of the activities of the Project, the presentation of reports and accounting, the supervision of the other parties responsible for the implementation and the administration and audit of the use of project resources. Therefore, the National Project Director is responsible to the Project Board for:

a) The project?s management and results, the achievement of its objectives, the use of its resources and the application of the rules and procedures.

b) The custody and proper use of the project inputs, and will provide, in accordance with the instructions in this document, the necessary advice on its use.

c) The presentation of financial reports and respond for the custody and appropriate use of project funds.

d) The supervision of the responsible parties (if applicable).

The following activities are responsibility of the National Director of the Project and cannot be delegated in any case: a) Signature of the Project Document and its respective revisions, b) Signature/Conformity of the Combined Statement of Expenses (CDR) and Financial Reports (FACE), c) Performance the opening and management of the project?s bank account (if applicable).

The National Project Director may designate a Coordinator who will be responsible for project management. The Coordinator will report to the National Director for the coordination, management, planning and supervision of the work teams and preparation of reports. The Ministry of Foreign Coordination and Planning will perform, together with UNDP, its appointment of that position.

Technical Team: The Technical Team will consist of different technical areas from the industrial associations or individuals or entities engaged by the Implementing Partner. This team will ensure the proper and suitable assistance in every area involved in chemicals life cycle management. The following areas needs to be included: Waste, Enforcement, Emissions & Releases, Contaminated Sites, Chemicals and Monitoring.

Governance role for project target groups: The Project Manager will ensure the engagement of target groups in decision making for the project by following the Stakeholder Engagement Plan, where a stakeholder identification and analysis was carried out. This analysis includes concerns and expectations as well as recommendations in order to ensure that there is enough support for the project. This exercise helps

build local ownership, strengthens project integrity and design, and helps create foundational relationships that may contribute to constructive problem solving if difficulties or challenging issues arise.

Project stakeholders and target groups:

? Ministry of Ecology and Environment (MEE), as the administrative authority on ecological and environmental protection, is designated by the State Council as the core agency for coordination of all ecological and environmental protection work including mercury related activates in China. As the focal point for the implementation of the Minamata Convention in China, MEE is national implementing agency for this project;

? The National Steering Group (NSG) is an Inter-ministerial Steering Group and will comprise of MEE and other ministries like the Ministry of Industry and Information Technology (MIIT), the National Health Commission (NHC) etc. It will provide overall guidance and coordination for the implementation of the relevant project activities and ensure that inputs and contributions are available as required. The NSG will secure the cooperation, as necessary, with key Ministries and other public/private decision-making bodies, to ensure that execution of activities occurs smoothly and in an integrated way with overall national policies and planning;

? The National Project Team comprising of staff from MEE, MIIT, and NHC etc. will be established and based in Foreign Environmental Cooperation Center (FECO, formerly the Foreign Economic Cooperation Office) of MEE.

? Participating production enterprises and medical facilities will be the major role-players in the demonstration of technology transfer to and application of mercury-free alternatives, as well as undertaking sound management of mercury waste and develop plan for contaminated areas remediation;

? Associations and research institutions that are well connected with industries and the healthcare sector will provide information and coordination in implementing relevant activities and provide technical/policy consultation as well as awareness raising and environmental risk assessment of contaminated sites;

? Research institutions and laboratories will be engaged in the gap identification of the regulatory framework, R&D for mercury-free thermometers and sphygmomanometers, risk assessment and management of mercury-contaminated sites to minimize exposure risks to population groups. The project also seeks public participation by consulting those potentially affected by the production, use and management of mercury-containing medical thermometers and sphygmomanometers, e.g. residents living close to mercury-using industries and employees of such industries.

? Mercury mining enterprises. Strengthening the supervision on upstream mercury mining enterprises involved in this project is one of the measures to fulfill the convention and reduce the use of mercury.

Project extensions: The UNDP Resident Representative and the UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs in excess of the CO?s Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

Coordination with other relevant GEF-financed projects and other initiatives. This project builds on the knowledge and experience of past projects and initiatives such as:

(a) The GEF funded project "China Minamata Convention Initial Assessment (MIA) project (2015-2018), GEF ID 5862." Based on the situation in 2014. This project collected the available data of production and use of mercury-containing medical thermometers and sphygmomanometers, estimated the whole national production in China. Initially provided data reference for China's implementation work. Indeed, this project was identified as a priority during the MIA project, as the production of thermometers and sphygmomanometers is one of the major industries using mercury and the production and utilization of these medical instrument will bring mercury pollution and health risk;

(b) The GEF funded project "Capacity Strengthening for the Implementation of the Minamata Convention (2018-2022)", GEF ID 9240. The on-going capacity strengthening project will partly help in supporting the identification of technologies for producing mercury-free alternatives, which will facilitate the demonstration activities contained in this project. The gaps including policies, technologies and finance for the successful replacement of mercury-added products and Convention implementation will be further identified and acted on.

FECO/MEE was the Execution Agency (Implementing Partner, as of UNDP PPM) for both of these projects which assure total integration and experiences learned and shared. The two ongoing GEF projects focus on establishing a comprehensive overview of the mercury issues in China. On the other hand, this mercury-containing medical device project will specifically address the mercury issues in mercury-added products, i.e. mercury-containing medical thermometers and sphygmomanometers.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

- National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC
- National Action Program (NAP) under UNCCD
- ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury
- Minamata Initial Assessment (MIA) under Minamata Convention

- National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD
- National Communications (NC) under UNFCCC
- Technology Needs Assessment (TNA) under UNFCCC
- National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD
- National Implementation Plan (NIP) under POPs
- Poverty Reduction Strategy Paper (PRSP)
- National Portfolio Formulation Exercise (NPFE) under GEFSEC
- Biennial Update Report (BUR) under UNFCCC
- Others

This project is consistent with the priorities identified in China?s Minamata Initial Assessment (MIA) under the Minamata Convention. The Government of China has made significant effort to control mercury pollution and signed the Minamata Convention on Mercury on October 10, 2013. The Convention went into effect on August 16, 2017.

The GEF-funded MIA has set China on the right path to fulfilling its obligation under the Minamata Convention, and place sound chemicals management at the forefront of the national sustainable development agenda. This project will be fully aligned with priorities identified in China?s MIA, which will focus on the phase-out of mercury in medical thermometers and sphygmomanometers in key production facilities and promote the appropriate application of mercury-free alternatives in medical services.

This project is also fully consistent with the national strategies of environmental protection in China. The outline of the 14th Five-Year Plan (2021-2025) for national economic and social development and the long-range objectives through the year 2035 was adopted, it requires the construction of ecological civilization, green development and pollution prevention and control. The Ministry of Ecology and Environment has initiated work to prepare a National Implement Plan for the implementation of the Minamata Convention on Mercury under the project "Capacity Strengthening for the Implementation of the Minamata Convention (2018-2022)", including the phase-out of mercury-containing medical thermometers and sphygmomanometers.

Considering the production of mercury-free thermometers, verification regulation of clinical electronic thermometers (JJG 1162-2019) was issued to facilitate the production and application of electronic thermometers. In 2017, the then Ministry of Environmental Protection issued the "National Catalogue of Environmental Protection Technology", which listed mercury-containing medical thermometers and sphygmomanometers as high-pollution and high-environmental-risk products.

In 2019, the National Development and Reform Commission issued the "Guiding Catalogue of Industrial Structure Adjustment (2019 version)," which encouraged R&D on and the use of mercury-free thermometers and sphygmomanometers and restricted the production of mercury-containing medical thermometers and sphygmomanometers. There are many other related strategies and plans being explored to promote the production and application of mercury-free thermometers and sphygmomanometers.

Finally, the National Medical Products Administration issued an announcement in 0ctober 2020 that the validity period of the licenses for all mercury-containing medical thermometers and sphygmomanometer manufacturers will not exceed December 31, 2025.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

Component 4 of this project has been dedicated to ?Knowledge Management and Monitoring & Evaluation?. As part of Component 4, the project will Implement (i) a Stakeholder Engagement Plan (details in Annex 8) to raise awareness of 300,000 direct beneficiaries (150,000 female, 150,000 male) from the manufacturing enterprises and medical facilities; (ii) a Gender Mainstreaming Action Plan (details in Annex 9) to promote gender equality and to include all the displaced women?s reemployment policies in the project phase-out guidelines; and (iii) a Project Communication Strategy to making use of publications, promotional materials, lessons learned reports, among else to accomplish knowledge sharing.

In particular, knowledge and experience will be gathered, documented, managed and disseminated through the following activities which will capture lessons-learned and experiences gained, and will publish them in publications, lessons-learned reports and promotional materials that will be used in training, seminars and workshops to facilitate the national replication of transformation effort, promotion of wider acceptance and correct application of mercury-free medical devices, as well as the inspection, maintenance and calibration of mercury-free alternatives, and to achieve sound management of chemicals. The timeframe for the implementation of these activities is reflected in Annex 3 - Multiyear Workplan of the UNDP Project Document.

Activity 1.2.1: Develop proposals to update relevant policies, regulations, standards and monitoring and management systems that will support and facilitate the smooth implementation of demonstration phase-out of mercury in the production of mercury-containing medical devices to enable China to fulfill the necessary requirements and ensure compliance of the Convention.

Activity 1.4.1: Interact with technical experts and relevant stakeholders to develop a Green Finance Framework to encourage green financing.

Activity 1.4.2: Support green procurement practices, develop guides and model specifications for acquisition of mercury-free medical thermometers and sphygmomanometers.

Activity 1.4.3: Provide information and other data to feed Components 2 and 4 related to capacity building and awareness activities geared towards awareness and capacity building at medical facilities.

Activity 2.1.1: Based on a risk assessment of the alternative technologies that will be used taking into consideration avoiding retrenchment, demonstration activities will accelerate phase-out and production transformation to mercury-free devices, undertake relevant trainings, document demonstration experience and achievements no later than 31 December 2025; and will develop a risk management plan to reduce related social and environmental risk.

Activity 2.1.2: Develop plan for environmentally sound management of mercury waste and guidance actions (risk assessment guidelines) for contaminated areas.

Activity 2.1.3: Organize personnel training to manage technical issues in order to continuously improve the quality and convenience of use of mercury-free thermometers and sphygmomanometers.

Activity 2.2.1: Carry-on consultations with the World Health Organization (WHO), international and domestic experts to facilitate knowledge in support of experience exchanges and domestic training activities.

Activity 2.2.2: Develop relevant trainings to staff and medical institutions and promote knowledge and experience sharing about the replacement of mercury-containing thermometers and sphygmomanometers.

Activity 2.2.3: Develop relevant researches/investigation to technically support introduction and adoption of mercury-free alternatives in medical facilities.

Activity 2.2.4: Organize and implement field activities to effectively substitute mercury-containing medical thermometers and sphygmomanometers for clinical purposes at selected medical institutions.

Activity 2.2.5: Develop safe disposal management plan/strategy for mercury-containing medical thermometers and sphygmomanometers.

Activity 3.2.1: identify, monitor and undertake actions that ensure sound and secure management of interim storage of mercury and mercury wastes in piloted facilities.

Activity 3.2.2: Develop risk management strategy, technical guidance and training materials to facilitate implementation and future replication and scale up of sound management of mercury waste, storage, and identification of contaminated sites at national level. The strategy will include measures to minimize impact on inhabitants, business located on land identified as contaminated.

Activity 3.3.1: As part of the private sector risk assessment, the project will ensure the safe handling and/or disposal of residual mercury and obsolete devices and implementation of sound management on disposal storage of mercury-containing medical devices, and mercury waste at both the manufacturing enterprises and the medical facilities. A Spill Prevention and Management Plan will be developed and implemented for safe handling and safely cleanup of accidental mercury releases.

Activity 3.3.2: Develop the relevant targeted risk management strategies, technical guidance and training materials to facilitate promotion of mercury-free medical device.

It is also noted that the project will also using the awareness raising/engagement and data gathering platform, e.g. UNDP platform for South-South cooperation to exchange international experience in import and export management. Project experiences, knowledge and lessons learned will be shared nationwide and through UNDP?s global networks.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies[1]. The costed M&E plan included below, and the Monitoring plan in Annex, will guide the GEF-specific M&E activities to be undertaken by this project.

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[1] See https://www.thegef.org/gef/policies_guidelines

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities, deemed necessary to support project-level adaptive management, will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

Additional GEF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:

a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.

b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.

c. Review the results framework and monitoring plan.

d. Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP and other stakeholders in project-level M&E.

e. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.

f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.

g. Plan and schedule Project Board meetings and finalize the first-year annual work plan.

h. Formally launch the Project.

GEF Project Implementation Report (PIR):
The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The quality rating of the previous year?s PIR will be used to inform the preparation of the subsequent PIR.

GEF and/or LDCF/SCCF Core Indicators:
The GEF and/or LDCF/SCCF Core indicators included as Annex will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to MTR and TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with MTR/TE consultants prior to required evaluation missions, so these can be used for subsequent groundtruthing. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF website. If relevant to the project: The required Protected Area Management Effectiveness Tracking Tool (METTs) have been prepared and the scores included in the GEF Core Indicators.

Independent Mid-term Review (MTR):

The terms of reference, the review process and the final MTR report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center (ERC) (http://web.undp.org/evaluation/guidance.shtml#gef).

The evaluation will be ?independent, impartial and rigorous?. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project under review.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final MTR report and MTR TOR will be publicly available in English and will be posted on the UNDP ERC by 19 December 2024. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report?s completion.

Terminal Evaluation (TE)
An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center.

The evaluation will be ?independent, impartial and rigorous?. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by 19 September 2026. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report?s completion.

Final Report:

The project?s terminal GEF PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Agreement on intellectual property rights and use of logo on the project?s deliverables and disclosure of information: To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[1] and the GEF policy on public involvement[2][2].

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[1] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

[2] See https://www.thegef.org/gef/policies_guidelines

The budget of the M&E plan is summarized in the table below:

Monitoring and Evaluation Plan and Budget:		
GEF M&E requirements	**Indicative costs (US$)**	**Time frame**
Inception Workshop	8,000	Within 60 days of CEO endorsement of this project
Inception Report	None	Within 90 days of CEO endorsement of this project
M&E of GEF core indicators and project results framework	20,000	Annually and at mid-point and closure.
GEF Project Implementation Report (PIR)	None	Annually typically between June-August
Monitoring of environmental and social risks, and corresponding management plans as relevant	55,000	Continuous basis during project lifecycle
Implementation and monitoring of the Stakeholder Engagement Plan	35,000	Continuous basis during project lifecycle
Implementation and monitoring of the Gender Action Plan	60,000	Continuous basis during project lifecycle
Supervision missions	None	Annually
Independent Mid-term Review (MTR)	30,000	Before 19 December 2024
Independent Terminal Evaluation (TE)	30,000	Before 19 September 2026
TOTAL indicative COST	**238,000**	

Note: The costs of UNDP CO and UNDP BPPS-NCE-VF?s participation and time are charged to the GEF Agency Fee.

Effective and timely monitoring and evaluation activities undertaken will ensure the smooth implementation of project activities, to undertake timely adaptive management, to facilitate the conducting of MTR and Terminal Evaluation.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The Global Environmental Benefits (GEF) of this project at the CEO Endorsement stage, are the same as presented at the PIF stage which is the positive impacts of reduction of 75 metric tons of mercury consumed in the six (6) demonstration enterprises manufacturing mercury-containing medical thermometers and sphygmomanometers, and that with the real time national replication programme, will lead to the complete phase-out of mercury consumption at all the manufactures of mercury-containing thermometers (200 metric tons) and sphygmomanometers (35 metric tons) at the completion of the project.

China, as a major exporter of medical devices, through wider uptake of the application of mercury-free medical thermometers and sphygmomanometers, will yield positive impact in human health and environment with reduced exposure to mercury, and by switching to the export of mercury-free medical devices, will help to reduce the global impact on the exposure of mercury at the importing countries in the region.

Additional economic and social benefits that will be brought on by this project will include:

? Enhanced policy, regulatory, monitoring and analysis frameworks, to safeguard human health and the environment.

? Reduced health impact from the exposure to mercury by the workers in the work place, at the manufacturing enterprises and medical facilities, as well as residential and farmlands in the close proximity.

? Avoid potential loss of jobs for the low skilled workers with socioeconomic assessment that will be carried out to evaluate this risk, and if necessary, a gender responsive Livelihoods Restoration Plan will be prepared and implemented to support the workers either through raising their capacity to be able to operate the established devices or finding them other suitable positions with the enterprises.

? National replication plan to transfer knowledge and experience that leads to the complete phase-out of mercury consumed in the production of mercury-containing medical thermometers and sphygmomanometers and assure sustainability of phase-out in coordination with mercury]-mining enterprises to make sure that reduced consumption is not transferred to other sectors.

? Increase in awareness on wider acceptance and application of mercury-free medical devices at medical facilities and by the general public on sound management of mercury, wastes and contaminated areas. The project estimates to increase awareness of 300,000 direct beneficiaries, 150,000 female and 150,000 male.

? As medical devices are exported by China, switching to export of mercury-free medical devices will reduce global impact on exposure to mercury.

Knowledge and experience gained, as well as lessons learned will not only be used with the national replication plan, but will also be shared with countries in the region or any interested Parties using the awareness raising/engagement and data gathering platform, e.g. UNDP platform for South-South cooperation to exchange international experience in import and export management, project experiences, knowledge and lessons learned will be shared nationwide and through UNDP?s global networks.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Complete SESP Attachment 1 before responding to Question 2.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5below before proceeding to Question 5*			**QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High**
Risk Description ***(broken down by event, cause, impact)***	***Impact and Likelihood (1-5)***	***Significance*** ***(Low, Moderate Substantial, High)***	***Comments (optional)***	***Description of assessment and management measures for risks rated as Moderate, Substantial or High***

Risk 1: Duty bearers, and other relevant stakeholders may fall short of capacities to meet their obligations in the Project upon the development of the new coordination and regulatory mechanisms. Related to: ? Human Rights; P.2 ? Accountability; P.14	I=2 L=1	**Low**	It is recognized that China holds an important baseline regulatory framework consisted by by-laws, guidelines and voluntary standards in relation to mercury management and use of mercury-based products. It also noted that Government Officers are subject of regular trained and are aware of the baseline instruments. The project propose a complementary and streamlined set of instruments in Component 1, thus Officials, responsible for enforcing legislation at mercury-containing medical device industries slated for mercury phase out, will require adequate further capacity building to be also delivered by the project for implementing them properly. Thus, this risk is LOW.	Through Component 1, Activity 1.1.1, Activity 1.2.1 will support the training needs assessment and develop a targeted training plan (guided by the SES) to ensure that the relevant officials receive adequate training to understand their new extended responsibilities arising from the improved Institutional and Regulatory Frameworks being developed by the project in terms of new legislation, guidelines and mandatory standards. Although this risk is LOW, the project will undertake these activities as incremental support resulting from the improved Regulatory and Institutional Frameworks.

Risk 2: Small or medium sized manufacturers and health care facilities are not involved in decision-making regarding development of policy and regulatory frameworks and green procurement standards and do not have equal access to financing through the Green Finance Framework Related to: ? Accountability; P.13, P.14	I = 3 L = 3	**Moderate**	If not aware of these potential financing instruments, small and medium sized manufacturers may not be able to feasibly convert their manufacturing process to become mercury-free and health facilities will not be incentivized to switch to mercury-free thermometers and sphygmomanometers . These groups will thus become marginalized and not benefit equally from the project.	Stakeholder engagement will be undertaken to ensure fair representation of small and medium sized manufacturers of mercury medical devices who may otherwise be marginalized from participating in any financing schemes and be at a disadvantage once the final phase out of mercury device production for domestic markets commences at the end of 2025 (Activities 1.3 and 1.4). A Stakeholder Engagement Plan (SEP) has been prepared (ProDoc Annex 5) to incorporating these engagement activities. In addition, the project will raise the awareness of enterprises on possible green finance instruments, and to facilitate their access to government and/or private banking investments, to support quality-controlled conversion of production lines. It will also create a procurement subsidization scheme to support green procurement, application of mercury-free medical thermometers and sphygmomanometers, sound management of obsolete mercury containing devices, any related capacity building and awareness activities in medical facilities.

Risk 3: Potential risk to enterprise viability and workers? employment, particularly women, in the course of the transition to production of non-mercury devices, in particular. Related to: ? Gender Equality and Women Empowerment; P.9 ? Accountability; P.13, P.14 ? Standard 7: Labour and Working Conditions; 7.1, 7.5	I = 3 L = 4	**Moderate**	Given the fact that the project focuses on changing production processes in plants to switch to production of non-mercury medical devices, there is some business risk for enterprises, and by extension to job security for workers. By transitioning technology out of mercury devices, it is expected that high technology devices will be used, meaning more specialized expertise (jobs) will be needed/created, while less skilled workers, the majority of whom are women, that currently work in the mercury-based lines could lose the jobs.	The project is designed to help with the transition to non-mercury medical devices, since there will be mandatory end of production of mercury devices for export by the end of 2020 and complete shut-down of production for domestic markets by the end of 2025. The project is therefore inherently addressing the risk of loss of income for businesses from mandatory shut down of mercury device manufacture under Minamata Convention compliance implementation, by offering capacity for production of non-mercury equipment, and preserving livelihoods. Nevertheless, stakeholder engagement throughout project implementation will ensure that enterprises that may be affected by the project all benefit from this support through capacity building and awareness raising on green financing available (Activities 1.3.1 and 1.4.1). A Stakeholder Engagement Plan has been prepared for that purpose. A risk assessment will be undertaken for the alternative technology (Activity 2.1.1) to be used taking into consideration avoiding retrenchment. The industry will consult with trade unions or other workplace representatives over the proposed redundancies on measures to avoid or reduce redundancies, the method of selection and mitigating the effects, integrating outcomes into the final restructuring plan. This includes potentially training qualified existing staff on other roles or skills that may be needed at the industry. Where no viable alternatives are identified, a Restructuring Plan will be developed to reduce and mitigate adverse impacts of retrenchment on workers. At a minimum, the Restructuring Plan will include the following: ? Ensuring that any collective dismissals are carried out in accordance with the provisions of national law and applicable collective agreements. ? Ensuring that the criteria for selection for redundancy are

Risk 4: Inadequate participation of women in consultations, policy decision making and design of modalities for capacity building in uptake of non-mercury technologies and safe management and disposal of obsolete mercury devices Related to: ? Gender Equality and Women?s Empowerment; P.10	I = 3 L = 2	**Moderate**	The Gender Analysis found a disproportionate number of women in the area of nursing in particular, and fair representation amongst the cleaning staff. In addition, at the enterprises visited, the majority of workers for production of mercury-containing thermometers were women, as were over a half of workers for the mercury-containing sphygmomanometers .	The Gender Action Plan has addressed potential risks and included measures to mainstream gender in all project components, with specific focus on encouraging women representation in the following: ? Inter-ministerial committee for National Implementation Plan ? Development of policy and regulatory frameworks, quality control standards, monitoring and management systems, and capacity-building programs ? Capacity building of medical staff to use and maintain mercury-free devices, and to soundly manage obsolete mercury devices and related wastes ? Cooperation with WHO to share knowledge about the replacement of mercury thermometers and sphygmomanometers in health care ? Training on sound management of residual mercury stocks and obsolete mercury containing devices, and the remediation of contaminated sites on production sites and in medical facilities

Risk 5: Risk of release and worker/community exposure during decommissioning, transport and storage of waste mercury-related equipment, devices and elemental mercury in the course of the project Related to: ? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7 ? Standard 3: Community Health, Safety and Security; 3.2, 3.4, 3.5 and 3.6 ? Standard 7: Labor and Working Conditions; 7.6 Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2 and 8.3	I = 4 L =2	**Moderate**	Transport, storage and disposal operations for any hazardous substance may pose potential human and ecosystem health risks, whether to workers or the wider community, to local environment, or transboundary ecosystems. Therefore, for any project which involves collection, handling, packaging, transport, destruction or disposal of waste, particularly hazardous chemicals waste, there is always a standing risk of release to the environment. However, in this particular sector, mercury is already fairly well controlled in processes, and mercury medical device manufacturing is not one of the main sources of mercury pollution. Instead for this project, the biggest contamination risks arise from the poor handling and gathering when broken in the medical institutions before disposal of the obsolete devices. Therefore, working with players in the manufacturing and medical sector who already have some sensitivity to care for handling of mercury, therefore lowers the risk associated with the decommissioning aspect of the work.	As part of the private sector risk assessment that will be undertaken, the project will ensure that the interim storage facilities at the selected enterprises (Activity 2.1.1 and Activity 3.3.1) are referring to the Minamata Convention?s Guidelineson the environmentally sound interim storage of mercury by confirming the following: - Site is appropriate and abides by local zoning requirements. - Facility is designed to facilitate the safe handling of containers. - Indoor air is vented outside, and where levels of mercury call for venting via activated carbon or other mercury capture systems, system is installed and operational. - Site is equipped with a fire protection system. - Emergency response plan in place and local fire department, where available, is sufficiently informed, trained, equipped and otherwise prepared to safely handle any fires at the facility. - Facility is constructed of non-combustible materials and non-combustible materials should be used for pallets, storage racks and other interior furnishings. - A drainage and collection system for discharged water exists enabling mercury monitoring from the site. - Floors of storage facilities are covered with mercury-resistant materials and have no cracks. - The facility is clearly marked with warning signs and secured to avoid theft and unauthorized access. Should any of these requirements not be met, then activities will be undertaken to introduce them, including retrofitting of the storage facility. Referring to the above-mentioned guidelines, containers that store

Risk 6: Risk of flooding of mercury device interim storage facilities Related to: ? Standard 2: Climate Change Mitigation and Adaptation; 2.1, 2.2 ? Standard 3: Community Health, Safety and Security; 3.3	I = 3 L = 2	**Moderate**	Increased weather events due to climate change may pose a risk on facilities where stockpiles of mercury medical devices are stored prior to disposal.	As mentioned earlier, the project, through the environmental audit of the interim storage facilities, will take into consideration flood risks when locating and designing storage facilities to minimize the risk of inundation.
Risk 7: Increased GHG emissions from alternative processes to eliminate the use of Mercury Related to: ? Standard 2: Climate Change Mitigation and Adaptation; 2.4	I = 3 L = 3	**Moderate**	The process needed to transition to non-mercury medical devices is more technologically advanced than the current one, which relies heavily on labor. Therefore, the GHG emissions may be higher under the new process. However conversion activities can also imprint opportunities to phase-in more efficient technologies and processes which could reduce GHG emissions.	When selecting the process for the transition of industries (Activity 2.1.1), the level of GHG emissions of the considered alternatives will be one of the criteria to be evaluated for best environmental practice and SES requirements will be followed where applicable.

Risk 8: Resettlement or economic displacement or damage to agricultural lands indirectly resulting from the project?s identification of contaminated sites that require remediation in pilot sites through co-financed activities. Related to: ? Standard 5: Displacement and Resettlement; 5.1, 5.2 ? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7	I = 4 L = 2	**Moderate**	The project will engage with six (6) local manufacturers of medical devices ? located in six different sites - that currently use Mercury in their products. The project will provide technical assistance to develop mercury-free technologies and will develop guidelines to support these 6 manufacturers to identify if their sites ? and neighboring lands ? could be contaminated with mercury due to their baseline industrial activities. Although the project itself will not be responsible for remediating any contaminated sites, the project?s guidance and support on identification of these sites may lead to other entities undertaking these remediation activities. An public manifestation process was carried out based on defined criterion for the selection of the 6 industries. On top of documentation review, verification against adherence to local environmental and labor laws, all	An appropriately scoped ESMF will be developed to manage this risk and all E/S risks associated with these specific co-financed activities. The risk management strategy that will be developed as part of Activity 3.2.2 and will be part of the cooperation agreement / contracts to be signed with each demonstration company per site. The management strategy carries the appropriate Environmental Impact Assessment (EIA; required under national law for this co-financing activity) and will address all relevant SES requirements for the land identified as contaminated in Activity 3.1.1. This will be further described in the forthcoming ESMF, including the extent to which consistency with the SES is necessary under the policy for these co-financed activities that fall outside the project?s framework. These will include, amongst other measures, consultations with affected persons in line with the Stakeholder Engagement Plan .

Risk 9: Working conditions that do not meet national labor laws and international commitments and exposure to health and safety risk within the demonstration enterprises and hazardous waste disposal enterprises Related to: ? Standard 7: Labor and Working Conditions; 7.1, 7.2, , 7.5, 7.6	I = 4 L = 2	**Moderate**	As mentioned earlier, workers in the manufacturing and medical sector already have some sensitivity and knowledge on safe handling of mercury, therefore lowering the risk associated with the decommissioning aspect of the work. It is important to note that Forced Labour is illegal in China through articles in the Penal Law of 2011 and Labour Contract Law of 2007.	Prior to engaging any enterprise, in particular the demonstration enterprises that manufacture medical thermometers (Activity 2.1.1) and sphygmomanometers, a private sector risk assessment will be conducted. This will be done through a visit to the facility and ensuring that occupational health and safety measures are applied (through an Occupational Risk Assessment) and that the interim storage facilities where mercury will be stored, prior to disposal, are referring to the Minamata guidelines and that the necessary ?Safety Certification? has been obtained from local authorities. If not already available at the enterprises, an Occupational Health and Safety Plan that determines the measures to be adopted (such as ventilation and wearing personal protective equipment) will be prepared and implemented. In addition, the demonstration enterprises will confirm that they have ensured the hazardous waste disposal enterprises they engaged/will engage are duly registered and authorized to conduct such business.

Risk 10: Health and safety risk to workers during refurbishment of demonstration enterprises (through co-financed activities). Related to: ? Standard 7: Labor and Working Conditions; 7.1, 7.24, 7.5, 7.6	I = 3 L = 2	**Moderate**	The project will engage with six (6) local manufacturers of medical devices identified through a public selection process in which proof documentation was provided as well as field verification by UNDP and Implementing Partner teams that verified the company is compliant with national laws that prohibit use child and forced labor. Although refurbishment of demonstration enterprises is not part of the project, they are co-financed activities that are essential for its success and therefore the risk on workers? health and safety have been considered.	As noted above, an appropriately scoped ESMF will be developed to manage this risk and all E/S risks associated with these specific co-financed activities. The contractor engaged in the refurbishment activities will be required to submit and implement a worker health and safety plan in line with Local Regulations as well as referring to International Standards and the Guidelines of the Minamata Convention (for BAT/BEP). . The project will approve this plan and ensure that it is being implemented. These risk management actions will be conducted in line with UNDP?s SES Policy.
	QUESTION 4: What is the overall project risk categorization?			
	Low Risk	**?**		

	Moderate Risk	**X**	The screening has identified 10 risks related to this project, one categorized as Low (Risk 1) and nine categorized as Moderate. **As result, the overall risk categorization for this project is determined to be Moderate.** Majority of risks are being managed through the project?s design: including a Stakeholder Engagement Plan (ProDoc Annex 8) as well as a Gender Action Plan (ProDoc Annex 9) have already been prepared.. Companies pre-selected by the project to implement the demonstration activities will only formally engage with the project upon meeting national legislation on SES (by developing and approving with local authorities their individual EIAs) and an ESMF to address Risks 8 and 10 will be developed before ProDoc Signature (or during the first year of the project implementation) covering the co-financed activities listed that are not administered by the Project. In addition, during project implementation and per the project?s design, a Spill Prevention and Management Plan and an Occupational Health and Safety Plan will be prepared and implemented. If retrenchment is found to be unavoidable for certain industries, a Restructuring Plan will be developed and implemented. Finally, interim storage facilities where mercury-containing devices will be stored prior to disposal will be subject to an environmental audit. A Grievance Redress Mechanism will be set up for the project (per the Stakeholder Engagement Plan).

	Substantial Risk	**?**			
	High Risk	**?**			
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)				
	Question only required for Moderate, Substantial and High Risk projects				
	Is assessment required? (check if ?yes?)	**X**			***Status? (completed , planned)***
	if yes, indicate overall type and status		**X**	Targeted assessment(s) Gender analysis Stakeholder analysis Occupational Risk Assessment Environmental Audit	 Completed Completed Planned Planned
			?	ESIA (Environmental and Social Impact Assessment)	
			?	SESA (Strategic Environmental and Social Assessment)	
	Are management plans required? (check if ?yes)	**X**			

	If yes, indicate overall type		**X**	Targeted management plans Gender Action Plan Stakeholder Engagement Plan Occupational Health and Safety Plan Spill Prevention and Mgt. Plan Restructuring (Jobs) Plan	Completed Completed Planned Planned If needed
			?	ESMP (Environmental and Social Management Plan which may include range of targeted plans)	
			X	ESMF (Environmental and Social Management Framework) Risk 8 and Risk 10 (EIAs from Industries)	Planned
	Based on identified <u>risks</u>, which Principles/Project-level Standards triggered?		**Comments (not required)**		
	Overarching Principle: Leave No One Behind				
	Human Rights	**?**			

	Gender Equality and Women?s Empowerment	X	
	Accountability	X	
	1. Biodiversity Conservation and Sustainable Natural Resource Management	X	
	2. Climate Change and Disaster Risks	X	
	3. Community Health, Safety and Security	X	
	4. Cultural Heritage	?	
	5. Displacement and Resettlement	X	
	6. Indigenous Peoples	?	
	7. Labour and Working Conditions	X	
	8. Pollution Prevention and Resource Efficiency	X	

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
6279 China Mercury Medical Devices - Annex 5 SESP - 9 Jun - clean and cleared	**CEO Endorsement ESS**	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

The Project Results Framework can be found in Chapter VI ?Project Results Framework? in the UNDP Project Document.(Page 41-45)

This project will contribute to the following Sustainable Development Goal (s): 3 good health and well-being; 5 gender equality; 8 decent work and economic growth; and 9 industry, innovation and infrastructure.				
This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): United Nations Sustainable Development Cooperation Framework (2021-2025) Outcome 3: People in China and the region benefit from a healthier and more resilient environment. UNDP Country Programme Document for China (2021-2025), Pillar 2 (A healthier planet and resilient environment), Output 2.1: Adaptive policies developed at target level (subnational), financed and applied for nature-based systems to align with multilateral agreements and transboundary platforms.				
	Objective and Outcome Indicators	**Baseline[1]**	**Mid-term Target[2]**	**End of Project Target**
Project Objective: Establishing the enabling environment to accelerate the transfer to the production	**Mandatory** Indicator 1: # direct project beneficiaries disaggregated by gender (individual people)[3][3]	0 direct project beneficiary	100,000 beneficiaries (50,000 female, 50,000 male)	300,000 beneficiaries (150,000 female, 150,000 male)

of mercury-free medical devices, and to lay the foundation for market acceptance and growth for mercury-free devices in medical facilities, in order to meet associated phase-out deadlines under the Minamata Convention on Mercury.	**Mandatory** GEF Core Indicators: Core Indicator 9: Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (thousand metric tons of toxic chemicals reduced) **Indicator 2:** Sub indicator 9.2: Reduction of 75 metric tons of mercury at demonstration enterprises to transform to production of mercury-free medical devices. Sub-indicator 9.4: One country with legislation and policy implemented to control mercury and waste. Sub-indicator 9.5: at least 1 non-mercury thermometer, and 1 non-mercury sphygmomanometer technology piloted.	In 2019, about 200 metric tons of mercury was consumed in 18 thermometer producers and 35 metric tons in 5 sphygmomanometer producers in China.	4 demonstration thermometer producers and 2 sphygmomanometer producers completed equipment and plant modification to start transformation to mercury-free production, with reduction of 30 metric tons of mercury achieved. 3 workshops held for knowledge sharing and technology transformation. Implementation action plan developed to address identified capacity gaps to enable China to enhance legislation and policy implemented to control mercury and waste. Piloting of at least 1 non-mercury thermometer, and 1 non-mercury sphygmomanometer technology in good progress with knowledge and implementation experience shared with other manufacturers.	All 6 demonstration enterprises completely stop production of mercury-containing medical thermometers and sphygmomanometers and reduction of 75 metric tons of mercury achieved. Through national replication, production of mercury-containing medical devices will be completely stopped. 6 workshops held for knowledge sharing and technology transformation. Proposals for the establishment or revision of legislation and policy to facilitate the control of chemicals i.e. mercury and waste. At least 1 non-mercury thermometer and 1 non-mercury sphygmomanometer technology successfully piloted and implementation experience and knowledge shared with other manufacturers.

Project component 1	**Integrated policy, regulatory framework, quality standards, fiscal tools, action plans and associated capacities, to support the phase out of mercury-containing medical thermometers and sphygmomanometers under the Minamata Convention**			
Project Outcome[4][4] 1.1 Cross ministerial cooperation established to jointly develop and implement the necessary policy, regulations, tools, action plans and guidelines, in coordination with appropriate private sector partners, to phase out the production and consumption of mercury-containing medical devices, to reduce the use of primary mercury in medical devices, to manage waste of obsolete devices, and to promote the uptake of mercury-free medical devices.	**Indicator 3:** Number of proposals on policies, regulations, standards, technical guidelines, strategies for strengthening the national legal framework to support the production transformation, wide application of mercury-free thermometers and sphygmomanometers, and sound management of mercury, interim storage and waste.	China has issued policies and regulations on reducing and restricting production and application of mercury-containing medical devices and their management. However, regulatory gaps were identified in 1) interim storage of mercury and sound management of obsolete mercury and contaminated sites, 2) inspection, maintenance and calibration of mercury-free alternatives, and 3) uptake and application of mercury-free products in medical facilities	At least 2 policies, regulations, standards, tools and associated capacity and guidelines proposed to be developed/enhanced in the control, monitoring and enforcement of sound management of mercury, interim storage and waste, and uptake and application of mercury-free products in the medical facilities promoted	At least 6 proposals for the development/enhancement of policies, regulations, standards, tools and associated capacities in the control, monitoring and enforcement of sound management of mercury, interim storage and waste, with measurable uptake and application of mercury-free products at medical facilities

Outputs to achieve Outcome 1.1	**Output 1.1:** Inter-ministerial Committee established (e.g., Environment, Health, Industry, etc.) to support the execution of China?s National Implement Plan for the Implementation of the Minamata Convention and take actions to address the identified policy and enforcement capacity gaps between national regulatory policies and the Convention?s legal requirements for Parties, and to look at modalities for linking mercury consumption reductions from this sector into the primary mining plans within the National Minamata Implementation Plan, to avoid redirection of phased out consumption to other sectors. **Output 1.2:** Proposals on policy and regulatory frameworks on chemical management, supervision and law enforcement, standards for inspection and maintenance of mercury-free products, and rules on the use of mercury-free products are developed or updated and capacity-building programmes updated or developed to support the monitoring, supervision, regulation and enforcement of the phase-out of mercury in the production of medical thermometers and sphygmomanometers, by collaborating with World Health Organization (WHO) to ensure incorporation of international best practice and experience. **Output 1.3:** Proposals on green procurement standards and action plans developed to promote the application of and grow the market for mercury-free medical thermometers and sphygmomanometers in medical facilities. **Output 1.4:** Green Finance Framework developed and mercury-free devices procurement subsidization scheme created.
Project component 2	**Demonstration of technology transfer and investment for (i) supporting enterprises in phasing out the production of mercury-containing medical devices; (ii) the application of mercury-free devices in medical facilities, and (iii) enhanced knowledge base for the risk assessment and sound management of obsolete mercury devices, contaminated materials/wastes, and contaminated areas on premises**

Outcome 2.1 Enterprises are enabled to convert production lines as per legally mandated national phase-out planning guidelines, and to soundly manage remaining mercury, stockpiled devices and/or contaminated areas on premises resulting in the phase-out of at least 75 metric tons of mercury.	**Indicator 4**: Enterprises are capacitated to convert their production lines to mercury-free production in line with legally mandated national phase-out planning guidelines and to soundly manage remaining mercury, stockpiled devices and/or contaminated areas on premises resulting in the phase-out of at least 75 metric tons of mercury.	Enterprises producing mercury-containing medical thermometers and sphygmomanometers that will be banned in China from 1 January 2026, and have insufficient capacity or knowledge to soundly manage mercury, stockpiled devices and/or contaminated areas on premises.	4 qualified enterprises producing mercury-containing thermometer and 2 enterprises producing mercury-containing sphygmomanometer selected for demonstration converted to mercury-free production in line with legally mandated national phase-out planning guidelines will complete equipment and plant modification and ready for trial production of mercury-free devices, with reduction of 30 metric tons of mercury achieved Enterprises trained to carry out soundly manage of remaining mercury, stockpiled devices and/or contaminated areas on premises. Demonstration experience and knowledge documented	All 6 demonstration enterprises successfully converted to mercury-free production lines in line with legally mandated national phase-out planning guidelines, have the capacity to soundly manage remaining mercury, stockpiled devices and/or contaminated areas on premises resulting in the phase-out of at least 75 metric tons of mercury. Demonstration achievements and experience shared and replicated at other manufacturers to accelerate production phase-out and transformation, leading to complete stop of mercury-containing production by 31 December 2025.

	Indicator 5: Percentage of replacement to mercury-free devices in the demonstration medical facilities	Mercury-containing medical thermometers and sphygmomanometers were still widely used in many medical facilities. Medical staff were significantly short of experience and capacity knowledge to use and maintain mercury-free devices, and sound management of mercury containing waste.	Within the 6 demonstration medical facilities in the two pilot areas, replacement of 30% of mercury-containing medical thermometers and sphygmomanometers achieved, and capacity strengthened for safe disposal management of obsolete mercury devices and related wastes.	At least 6 demonstration medical facilities in the one to two pilot areas completed the replacement of 60% of mercury-containing medical thermometers and sphygmomanometers, gained experience and capacity to use and maintain mercury-free devices, are trained to soundly manage of obsolete mercury devices and related wastes, and share experience in promoting wide application of mercury-free devices.
Outputs to achieve Outcome 2.1	**Output 2.1:** Production of mercury-free medical thermometers and sphygmomanometers achieved and sound management of obsolete mercury and stocks of mercury devices implemented in four (4) producers of mercury-containing thermometers and two (2) producers of mercury-containing sphygmomanometers **Output 2.2:** Use of mercury-free devices and the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers demonstrated in at least 6 medical facilities. 60% of baseline mercury-containing medical thermometers and sphygmomanometers replaced by mercury-free devices and staff capitated to use and maintain mercury-free devices and to soundly manage obsolete mercury devices and related wastes.			
Project component 3	**Development of long-term guidance and tools for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers, and mercury-contaminated areas**			

Outcome 3.1 Production enterprises and medical facilities implemented appropriate strategies, tools and guidance to assure long-term sound management of mercury-containing medical devices and mercury contaminated areas	**Indicator 6**: Number of persons in production enterprises and medical facilities trained and internal strategies, tools and guidelines developed or adopted to guide environmentally sound management of mercury, interim storage, waste and contaminated sites, and empowered to assist in the national replication to all actions across relevant sectors	Production entities and medical facilities have insufficient knowledge and lack appropriate strategies, tools and guidance on environmentally sound management	4 production enterprises of mercury-containing thermometer, 2 mercury-containing sphygmomanometer producers and 6 medical facilities with a total of 1,500 persons (1,000 female and 500 male) participated in trainings, workshops and guidance on sound management of mercury and wastes. Enterprises and medical facilities capacity strengthened to develop strategies to implement environmentally sound management of chemicals and waste. At least 2 internal strategies, tools and guidance updated or adopted to undertaken environmentally sound management	All 6 production enterprises-and 6 medical facilities with a total of 4,000 persons (2,800 female and 1,200 male) are strengthened with tools and guidance to have strategies developed and to actually implementing environmentally sound management of mercury and waste and contaminated sites. Enterprises and medical facilities are also able to share their demonstration achievements and experience to facilitate national replication for a sound and sustainable management of chemicals and wastes At least 6 internal strategies, tools and guidance updated or adopted to undertake environmentally sound management.
Outputs to achieve Outcome 3.1	**Output 3.1.** Guidance tools for inventory of mercury-contaminated sites at piloted enterprises producing mercury-containing medical thermometers and sphygmomanometers developed. **Output 3.2**. Risk management strategy, technical guidance and training materials developed for the sound management of residual mercury stocks and obsolete mercury-containing medical thermometers and sphygmomanometers at production enterprises/sites. **Output 3.3** Risk management strategy, technical guidance and training materials developed for the sound management of obsolete mercury-containing medical thermometers and sphygmomanometers in medical facilities.			
Project component 4	**Knowledge sharing and management, Monitoring and Evaluation**			

Outcome 4.1 Tools for Knowledge sharing developed, activities and experiences about policy, technical knowledge and lessons learned for the project shared. Disaggregated information on stakeholder?s activities and experiences under the project gathered and fed into the Monitoring and Evaluation processes of the Project. .	**Indicator 7**: Number of workshop and person trained in the Gender Action Plan and Project Communication Strategy and number of people benefited from knowledge sharing and public awareness raising activities. Application of standard UNDP/GEF M&E and adaptive management processes in response to project oversight needs and MTR findings.	Limited sharing on policy, technical knowledge and lessons learned about phase out of mercury]-containing thermometers and sphygmomanometer s the application and maintenance of mercury-free devices and sound management of mercury, interim storage, and waste 0 GEF UNDP M&E requirements met and no adaptive management applied.	1,500 direct beneficiaries (1,000 female and 500 male) trained through 4 workshops and various measures like traditional media and new media (TVs, newspapers, websites, wechat, etc.) on policy, technical knowledge and lessons about phase-out of mercury-containing medical thermometers, sphygmomanometer s and the application of mercury-free devices, and sound management of mercury, interim storage and waste. to reach the total beneficiaries of 100,000 (50,000 female, 50,000 male) Project activities are properly managed and monitored to ensure smooth implementation and achievement of results with Project inception report, PIR reports and Mid-term Review timely submitted.	4,000 direct beneficiaries (2,800 female and 1,200 male) in total are trained through 10 workshops and various measures like traditional media and new media (TVs, newspapers, websites, wechat, etc.) on policy, technical knowledge and lessons about phase-out of mercury-containing medical thermometers and sphygmomanometers, the application of mercury-free devices, and sound management of mercury, interim storage and waste to reach the total beneficiaries of 300,000 (150,000 female, 150,000 male). Project activities are properly managed and monitored to ensure smooth implementation and achievement of results with Project inception report, PIR reports, Financial audit reports and Terminal Evaluation timely submitted.

Outputs to achieve Outcome 4.1	**Output 4.1**. Project Communication Strategy created and effective KM and M&E support delivered in differentiated approaches for stakeholders (manufacturing enterprises, medical facilities, mercury mining enterprises, government and international agencies, etc.) **Output 4.2.** Awareness raised manufacturers, medical facilities and public on sound management of chemicals; knowledge gathered and shared, as well as learning tools created and utilized periodically during the project lifecycle. **Output 4.3:** Monitoring and Evaluation Tools (PIR, Mid Term and Terminal Evaluations as well as Quarterly Performance Reports and Project Board Reports, budget revisions and financial control and project management tools) delivered as required and adaptive management actions implemented during the project lifecycle.

[1] *Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and needs to be quantified. The baseline can be zero when appropriate given the project has not started. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.*

[2] *Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.*

[3] *Provide total number of all direct project beneficiaries expected to benefit from all project activities until project closure. Separate the total number by female and male. This indicator captures the number of individual people who receive targeted support from a given GEF project and/or who use the specific resources that the project maintains or enhances. Support is defined as direct assistance from the project. Direct beneficiaries are all individuals receiving targeted support from a given project. Targeted support is the intentional and direct assistance of a project to individuals or groups of individuals who are aware that they are receiving that support and/or who use the specific resources.*

[4]*Outcomes are medium term results that the project makes a contribution towards, and that are designed to help achieve the longer-term objective. Achievement of outcomes will be influenced both by project outputs and additional factors that may be outside the direct control of the project.*

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Response to Project Reviews from GEF Secretariat, Council Members and STAP can be found in the attached Annex B.

Comment/question	Response at PIF approval stage	Response at CEO endorsement stage
Comments by Japan		
On single-country projects, especially with large stated co-finance ratios that involves many stakeholders, we would appreciate greater detail and confirmation on ability of GEF and its accredited agencies to conduct independent audits of such contributions, including verifying and assessing the abilities of the involved parties to meet the co-financing obligations of this project. Details on how this is to be done, preferably in writing to be posted on the GEF website, would be appreciated, as it is not clear from the existing material and guidelines	*n/a*	At PPG stage, the co-financing commitments identified during PIR stage were further assessed and confirmed. Signed and stamped official commitment letters were obtained from these contributors and included as attachments to the UNDP Project Document and CEO Endorsement Request being submitted to the GEF Secretariat. During project implementation, the Implementing Agency and the Executing Partner of the project will deploy a three-fold verification process on assurance for co-finance: (i) During the whole implementation period: regular monitoring of the contributions will be carried out and annual verification of actual co-financing disbursements will be conducted. Actual annual co-financing disbursements can be included in the annual PIR to be submitted to the GEF Secretariat; (ii) In the Mid-Term Review, independent verifiers appointed by the GEF Agency will also verify the level of realization of the co-finance at this stage; and (iii) In the Terminal Evaluation, independent evaluators will be appointed by the GEF Agency and, among other responsibilities, he/she will also verify and confirm the level of co-finance realized.

On project 10349 (Demonstration of Production Phase-Out of Mercury Containing Medical Devices and Promoting the Application of Mercury-Free Alternatives), while we acknowledge the environmental benefits of phasing out mercury, we wonder about the scope of the assistance (=described in the document as ?phase out in all manufacturing enterprises (in China), as one of the largest manufacturers and exporters?). Given these descriptions, we would appreciate more information on how this assistance unequivocally would not serve as a subsidy for certain country?s industry players over others, ?reinforcing the market power of some targeted companies at the expense of other firms? as cautioned on p.20, in the most recent GEF Private Sector Engagement Strategy. The same concern applies to electrical-mobility-related projects, suggesting a need for transparency and balanced involvement of private sector providers in any of these cases

We took note of the Member?s concerns and we clarify that the aim of the project is to act as catalytic tool to support conversion of ?all? manufacturing facilities of mercury-containing medical thermometers and sphygmomanometers in China through a national replication plan to mercury-free production.

The four (4) mercury-containing thermometer producers and the two (2) mercury-containing sphygmomanometers producers will be incrementally (financially) support with the amount allocated of US $9,216,923, while their co-financing contributions amount to US $96,841,000 - approximately ten times higher than the incremental support from the GEF.

Moreover, the demonstration activities do not focus on baseline investment for the industrial conversion of the selected companies, rather they will focus on removing the technical barriers that hinder the companies? capacities to initiate the uptake of mercury-free technology and deploy the large-scale investments on manufacturing conversion, which are:

a) assess the cost and various mercury-free technology options;

b) Promote R&D for alternative technologies, technical guidelines and adoption of international standard and improve calibration methods, carry on trials of production and product optimization and support the market of mercury-free alternatives (improve general public confidence in new products);

c) Carry on specific training to relevant staff, manager and other officials;

d) Define environmentally sound management plans for mercury stocks;

e) Define guides for inventory of mercury contaminated sites and facilities in these plants; and

f) Develop preliminary plan for gender equality and mainstreaming activities in workplace and at management level.

The experiences and results generated will then be replicated to other companies using national resources and through a national replication programme indirectly driven by a green finance mechanism (Component 1) that will promote large scale replacement of mercury-contained devices.

Finally, the awareness raising and promotion activities are expected to increase the level of acceptance and application of mercury-free medical devices.

We also want to emphasize that such results will not only generate national benefits but as an important export country of medical

On above point 3, we would like some clarification on how generally council member donors can gain access to the following project-related information, as we are experiencing difficulties finding such information in the documents on the website: 1. The process of selecting companies that will gain access to funds/ projects, and how can companies go about to be selected; 2. What entities are involved in the Steering Committee of each project (how/ where is this disclosed)? 3. How are Steering Committee members selected, and how can new members be included, in order to increase effectiveness and efficiency of designing/ implementing a project?		**Question 1:** The demonstration enterprises participating in the Project were selected through an open bidding process carried out in the PPG phase. All companies manufacturing mercury-containing thermometers and sphygmomanometers in China were given opportunity to submit application and offers to the project. The Evaluation and selection criteria is specified in the online open bidding announcement and also released to all manufacturing enterprises through the industry association at the same time. The selection criteria and process are included: *Enterprises interested in participating as a demonstration enterprise met the following minimum qualifications:* (a) Qualification: Enterprise must be an independent legal entity with no record of serious violation of laws and shall be mainly engaged in the research and development, production and sales of mercury-containing thermometers or sphygmomanometers; (b) Environmental management: Mercury-containing waste gas and water shall be discharged after meeting relevant standards. Mercury-containing wastes shall be managed according to relevant requirements on hazardous waste management; (c) Other requirement: Entity shall agree to cooperate in the testing, research and publicity activities during the duration of the project. *Demonstration enterprises selection process:* (a) Interested enterprises submitted their letter of intents and application materials according to the project requirements, bearing an official seal and accompanied by a certificate issued to prove that the information contained therein is true and reliable; (b) Application evidence-materials included: (i) Business license (copy); (ii) Statement on no record of serious violation of laws; (iii) Registration certificates of mercury-containing medical devices (copy): the registration certificate shall remain valid for at least six months; otherwise, a certificate shall be provided for the extension of registration certificate; (iv) Production permit of medical devices (copy); (v) Business permit of medical devices (copy); (vi) Permit of pollutant emission (original or copy or record table, if any); (vii) Documents for project establishment, the EIA report and official replies or other relevant documents (including the production line, production capacity and other information pages); (viii) A letter of

Comment/question	Response at PIF approval stage	Response at CEO endorsement stage
Comment by US		
Project component 3 includes work to ?identify, monitor, and remediate mercury contaminated sites? with corresponding activities under Outputs 3.1 and 3.2. However, the remediation of contaminated sites has not been identified as a high priority under the Minamata Convention for funding under the GEF under the first (and only) round of GEF guidance from the Conference of the Parties. Although this is a relatively small part ($1.4 million) of a $16 million project, funding may be better spent on environmentally-sound and secure interim storage of mercury efforts. This would both ensure that funding is not diverted for use in other sectors and would be more aligned with the current guidance.		Outcome 3.1, Outputs 3.1 and 3.2 have been modified, the activities will include: (i) develop guiding methodology, carry on investigation, collect data to establish inventory on mercury-contaminated sites including conducting risk assessment analysis; and (ii) develop risk management strategy, technical guidance and training materials for the sound management of residual mercury stocks and obsolete mercury-containing medical thermometers and sphygmomanometers at production enterprises. There will not be any remediation action on contaminated sites sponsored by the project, as the only activity will be limited to identify potential sites and defined guidelines on actions for remediation. The project will ensure that sound management of interim storage of mercury and mercury wastes in piloted production facilities are carried out by enterprises. As suggested, a pilot to clean up interim storage at one project site will be carried out, to test out the management strategy, technical guidance and training materials developed, to ensure its effectiveness as replication instruments We respectfully refer to Component 3, Outcome 3.1, Outputs 3.1 and 3.2, Activities 3.1.1, 3.2.1 and 3.2.2 of the UNDP Project Document for more details.

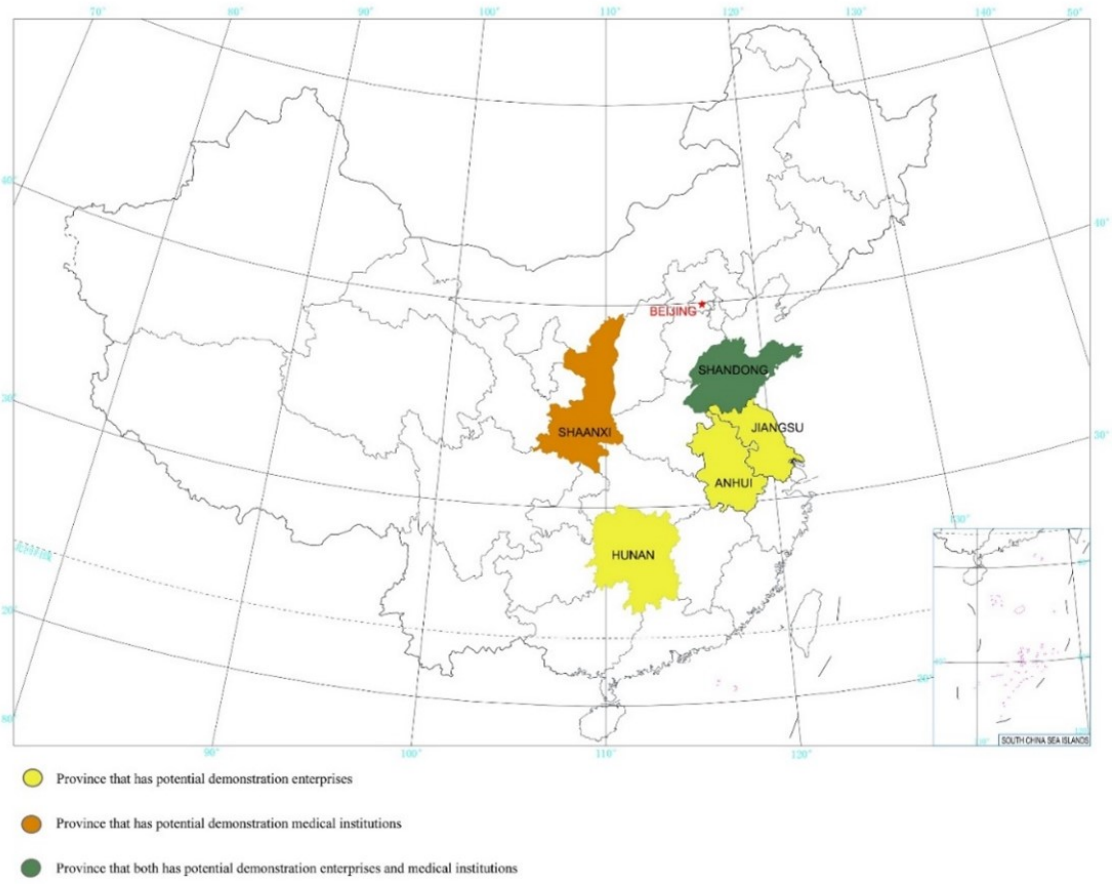
Second, we strongly advocate for two key aspects to be addressed in the final proposal. While the project identifies demonstration projects and aid to manufacturers to find funding alternatives to transition out of production for mercury devices, it does not address what the expected uptake rate will be, nor how they will effectuate and/or monitor the transition amongst the manufacturers. Given clear deadlines articulated for phase-out in the document (2021 in the Minamata Convention, 2026 in China), knowing how much change to expect when will be important to judging the expectations and effectiveness of a funded project. Additionally, it would be helpful to understand how and when the different efforts identified in the proposal will be implemented, and what the synergies will be between them		**Demonstration of alternatives and Production Conversion:** We clarify that the annual mercury consumption of the demonstration enterprises participating in the project represent more than 60% (for mercury-containing thermometers) and 70% (for sphygmomanometers) of the total annual sector production output. The project targets to complete part of these activities by December 2024, when 30 metric tonnes of mercury will be phased out directly as result of the incremental intervention under Component 2 of GEF project as: a) assess the cost and various mercury-free technology options; b) Promote R&D for alternative technologies, technical guidelines and adoption of international standard and improve calibration methods, carry on trials of production and product optimization and support the market of mercury-free alternatives (improve general public confidence in new products). c) Carry on specific training to relevant staff, manager and other officials; d) Define environmentally sound management plans for mercury stocks; e) Define guides for inventory of mercury contaminated sites and facilities in these plants f) Develop preliminary plan for gender equality and mainstreaming activities in workplace and at management level. The remaining consumption (approx. 40% and 30%) will be phased-out by 31 December 2025, as result of the ?real time? scale up/replication of the demonstration activities which will be initiated early in the beginning of 2023 as soon as some results of technology transformation, knowledge and implementation experience will be ready to be shared. Cost effective technologies will be promoted throughout this project to ensure engagement and awareness of the private sector stakeholders. The National Replication will therefore have a three-year duration (2023-2025) to facilitate the achievement of complete phase-out by all producing enterprises by 31 December 2025, in addition to the fact that the National Medical Products Administration has issued Notice that production license of such mercury-containing medical devices shall not exceed 31 December 2025. For this, the activities promoted in Component 4 of the project (Knowledge Management and Awareness

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **300,000**			
Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent Todate***	***Amount Committed***
Project Preparation Grant to finalize the project: Demonstration of phase-out of mercury-containing medical thermometers and sphygmomanometers and promoting the application of mercury-free alternatives in medical facilities in China	300,000	144,805	155,195
Total	**300,000**	144,805	155,195

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



Anhui Province: 114?54??119?27?E?29?41??34?38?N[1]
Jiangsu Province: 116?21? ?121?56? E, 30?45? ?35?08?N[2]
Hunan Province: 108?47??114?15?E?24?38??30?08?N[3]

Shaanxi Province: 105?29??111?15?E?31?42??39?35?N[4]
Shandong Province: 114?48??122?42?E, 34?23??38?17?N[5][5]

Source: the map is painted based on the Standard Map Service provided by the Ministry of Natural Resources of the People?s Republic of China.

Disclaimer: The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries

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[1] Published by Local Chronicles Office of Anhui Province (http://106.54.10.148:8083/dfz//static/plugin/pdf/web/hehe.html?bookId=846dc9e44d2a4be887472dc26fcaa039&file=http://106.54.10.148:8083/dfz/book/846dc9e44d2a4be887472dc26fcaa039/0.html&bookName=%E8%87%AA%E7%84%B6%E7%8E%AF%E5%A2%83%E5%BF%97)

[2] Announced by Jiangsu Provincial People?s Government (http://www.jiangsu.gov.cn/col/col31359/index.html)

[3] Announced by the People?s Government of Hunan Province (http://www.hunan.gov.cn/hnszf/jxxx/hngk/sqjs/sqjs.html)

[4] Published by Local Chronicles Office of Shaanxi Province (http://dfz.shaanxi.gov.cn/sxsq/201610/t20161020_679566.html)

[5] Announced by the People?s Government of Shandong Province (http://www.shandong.gov.cn/col/col94094/index.html)

ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)							Total (USD eq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	*Component 2*	*Component 3*	*Component 4*	*Sub-total*	*M&E*	*PMC*		

Equipment	Standard costs for communication and Audio Visual Equipment including postage, courier, telephone and connectivity charges, prefab structure/other building $13,692		13,692			13,692			13,692	FECO/ MEE
Equipment	IT equipment, 2 printers and 3 computers $7,500					-		7,500	7,500	FECO/ MEE
Equipment	Standard costs including postage, courier, telephone and connectivity charges, building maintenance etc. $5,000					-		5,000	5,000	FECO/ MEE
Contractual services - Individual	Costs of 260 weeks each (over 5 years) of Project Manager/Coordinator, Project Assistant and Project Finance Assistant to manage day-to-day implementation of project activities, calculated at $975, $650 and $740 per week respectively, rounded up to be budgeted at $615,385					-		615,385	615,385	FECO/ MEE

Contractual services - Company	Subcontracts for study on alternative mercury-free production technologies ($46,154) and on revision of standards for the inspection and maintenance of mercury-free products and rules on use of mercury-free products ($61,538)	107,692				107,692			107,692	FECO/ MEE

Contractual services - Company	Subcontracts to: (a) Provide technical expertise to guide and support enterprises to complete transformation to mercury-free production through conducting risk assessment of the alternative technologies to be adopted and to implement sound management of mercury stockpile, mercury wastes and contaminated areas, document knowledge and experience gained from demonstration, and assist in the supervision and evaluation of demonstration enterprises ($100,000); (b) Implement demonstration activities at 6 selected enterprises, including conducting a risk assessment of the alternative technology to be used taken into consideration avoiding retrenchment. Where no viable alternatives		12,519,230			12,519,230			12,519,230	FECO/MEE

Contractual services - Company	Subcontracts to: (a) Conduct inventory of mercury waste and contaminated sites ($107,692); (b) Design training materials for sound chemicals management targeting for different target groups ($30,769); (c) Develop the guidance and carry on demonstrative risk assessment/ESMF of contaminated sites at the piloted/demonstration companies / facilities aiming for interim storage areas ($215,385); (d) Pilot of interim storage areas for sound chemicals management and safe disposal of mercury waste ($450,000); (e) Demonstration provinces/cities to organize demonstration medical institutions to implement replacement of mercury-containing medical devices and sound			1,196,154		1,196,154			1,196,154	FECO/MEE	

Contractual services - Company	Subcontract to conduct performance and effectiveness evaluation, $60,000				60,000	60,000			60,000	FECO/ MEE
International Consultants	International Mercury-containing Medical Devices Phase-out Strategy Advisor at $2,000/week for 23 weeks = $46,000	46,000				46,000			46,000	FECO/ MEE
International Consultants	International consultants to conduct MTR and TE at daily rate of $680 , 25 workdays each for MTR and TE $34,000					-	34,000		34,000	UNDP

Local Consultants	Local consultants costs: (a) National Technical Advisor to provide technical support for the project including conducting a training need assessment and developing training plan covering management capacity of inspection officers etc., for 46 weeks at $2,000/week, rounded up to budgeted at $92,308 (b) Chemical Management Advisor for 16 weeks at $1,923/week, rounded up to budgeted at $30,769 (c) Supervision and Law Enforcement Advisor for 16 weeks at $1,923/week, rounded up to budgeted at $30,769 (d) Green Procurement Advisor for 16 weeks at $1,923/week, rounded up to budgeted at $30,769 (e) Green Financing Advisor for 20 weeks at $1,923/week, rounded up to budgeted at $38,462	223,077				223,077			223,077	FECO/ MEE

Local Consultants	Local consultant to provide technical support to demonstration enterprises, medical facilities, demonstration provinces/cities to prepare plan for and implement sound chemical management of mercury and mercury waste, 8 weeks at $1,923/week, rounded up to budgeted at $15,385		15,385			15,385			15,385	FECO/ MEE

Local Consultants	Three (3) Local consultants to prepare risk management strategy, technical guidelines and training materials for sound management for (a) Medical device manufacturing enterprises. 24 weeks at $1,923/week, rounded up to budget of $46,154; (b) Application and promotion of mercury-free medical devices at medical institutions, 24 weeks at $1,923/week, rounded up to budget of $46,154, and (c) provide technical support to demonstration enterprises and medical institutions including conducting private sector risk assessment, to prepare technical guides and to implement sound chemicals management plan including a Spill Prevention Management Plan, 46 weeks at $2,000/week, rounded up to			184,616		184,616			184,616	FECO/ MEE

Local Consultants	Costs for Project Gender Officer and National Stakeholder Advisor for 16 weeks each at $1,923 per week ($30,768 each), rounded up to total $61,539					-	61,539		61,539	FECO/ MEE
Local Consultants	National consultants to conduct MTR and TE at daily rate of $430, 30 workdays each for MTR and TE, rounded up to be budgeted at $26,000					-	26,000		26,000	UNDP

Training, Workshops, Meetings	Costs for workshop and seminar required for (a) Review and revision on policy frameworks, 5 one-day workshops per year (total 25 workshops) with 10 participants at $60/day per participant, sub-total $15,000, (b) Costs of a group of 5 experts to participate in the same meeting (5 one-day workshops per year, total 25 workshops) for the review relevant materials during the preparation of policy framework at $172/day per expert costs, sub-total $21,500. Total of (a) and (b) rounded up to be budgeted at $36,923	36,923				36,923			36,923	FECO/ MEE

Training, Workshops, Meetings	Standard Costs for meetings, workshops and seminars to assess demonstration provinces/cities, two one-day meetings with 7 participants at $110/day per participant ($1,540) and fee for participation of about 5 experts for each meeting at $184.5/day per expert ($1,845). Total $3,385		3,385			3,385			3,385	FECO/ MEE

Training, Workshops, Meetings	Standard meeting and workshop costs to facilitate demonstration activities and document of knowledge and experience of demonstration results of production enterprises and medical institutions. Six one-day meetings with 7 participants at about $113.55/day per participant ($4,769) and fees for about 5 participating experts at $200/days per expert per meeting ($6,000)			10,769		10,769			10,769	FECO/ MEE

Training, Workshops, Meetings	Standard costs for meetings, workshops and seminars include (a) International exchange workshop with participation of WHO, international and domestic experts for South-South cooperation platform, covering costs meeting facilities, fees of 10 invited experts, 2 interpreters, and printed materials ($24,616); $16,616 for Knowledge Management activities and $8,000 for M&E.; (b) Training workshops on technical tools and guidelines, awareness, knowledge and experience sharing, two 1-day workshops per year, with 50 participants for each workshop $29,230); $22,230 for Knowledge Management activities and $7,000 for M&E-related activities. (c) Inception workshop ($8,000), annual project				46,539	46,539			46,539	FECO/ MEE

Training, Workshops, Meetings	Standard costs for meetings, workshops and seminars include (a) International exchange workshop with participation of WHO, international and domestic experts for South-South cooperation platform, covering costs meeting facilities, fees of 10 invited experts, 2 interpreters, and printed materials ($24,616); $16,616 for Knowledge Management activities and $8,000 for M&E.; (b) Training workshops on technical tools and guidelines, awareness, knowledge and experience sharing, two 1-day workshops per year, with 50 participants for each workshop $29,230); $22,230 for Knowledge Management activities and $7,000 for M&E-related activities. (c) Inception workshop ($8,000), annual project						-	33,461		33,461	FECO/ MEE

Travel	Travel costs for: (a) International Mercury-containing Medical Device Phase-out Strategy Advisor, 3 missions at average costs of $5,179/mission, total $15,538; and (b) Domestic travel costs to demonstration producers and medical facilities locations for field research, technical consultations, policy consultation, 3 times per year , 3-person mission of 5-days each at average cost of $519 per person-per days, inclusive of transportation costs, rounded up to be budgeted at $116,923	132,461				132,461			132,461	FECO/ MEE

Travel	Travel costs to support selected demonstration provinces/cities, 5 persons for 5 days at average transportation and lodging costs of $492.32/day per person = $12,308		12,308			12,308			12,308	FECO/ MEE
Travel	Standard domestic travel costs to support ESM consultants for investigations, 2 persons at average transportation and lodging costs of $461/trip per person, and 5 times in total, rounded up to budgeted at $4,615			4,615		4,615			4,615	FECO/ MEE

	Travel	Travel costs [a & b for component 4; c, d, e & f for M&E] for: (a) international experts? mission and international exchanges ($178,461); (b) domestic travel costs of fees of 4 experts and 5 technical personnel from producers to participate in workshops/meetings at average costs of $950/ for experts and $470.80 for technical personnel total $6,154; (c) Travel costs for training, publicity, technical exchange, evaluation for 5 participants for an average of 5-day duration, total $31,000; (d) Annual monitoring and evaluation for 5 years, 5 persons at average travel costs of $1,000 per annual mission per person, total $25,000; (e) International evaluator for MTR and TE at $5,000 each; (total $10,000) and (f) National				184,615	184,615			184,615	FECO/ MEE

	Travel	Travel costs [a & b for component 4; c, d, e & f for M&E] for: (a) international experts? mission and international exchanges ($178,461); (b) domestic travel costs of fees of 4 experts and 5 technical personnel from producers to participate in workshops/meetings at average costs of $950/ for experts and $470.80 for technical personnel total $6,154; (c) Travel costs for training, publicity, technical exchange, evaluation for 5 participants for an average of 5-day duration, total $31,000; (d) Annual monitoring and evaluation for 5 years, 5 persons at average travel costs of $1,000 per annual mission per person, total $25,000; (e) International evaluator for MTR and TE at $5,000 each; (total $10,000) and (f) National						-	71,000		71,000	FECO/ MEE

Travel	Travel costs for project implementation, technical and administrative guidance, monitoring and supervision for 5 years, 3-person mission at average travel costs of $718 per annual mission per person - total $10,770					-		10,770	10,770	FECO/ MEE
Office Supplies	Standard costs of materials and supplies for workshop and meetings $10,770	10,770				10,770			10,770	FECO/ MEE
Office Supplies	Standard costs of materials and supplies for appointment, authorization and demonstration activities for and by demonstration enterprises, medical institutions and demonstration provinces/cities $6,000		6,000			6,000			6,000	FECO/ MEE

Office Supplies	Office supplies for duration of project period (5 years), including other office support, printing supplies, electronic media, and supplies for publications $10,000					-		10,000	10,000	FECO/ MEE
Other Operating Costs	Cost for: (a) Interpretation and translation for workshops and meetings ($30,000); (b) Printing and publications ($8,769)	38,769				38,769			38,769	FECO/ MEE
Other Operating Costs	Miscellaneous costs for conducting research in the field, including bank charges, exchange rate loss etc. ($4,308)	4,308				4,308			4,308	FECO/ MEE
Other Operating Costs	Costs for design, compilation and printing of reports by the demonstration entities for training, knowledge sharing, publicity and promotional activities $10,000		10,000			10,000			10,000	FECO/ MEE

Other Operating Costs	Standard costs for general miscellaneous expenses for the demonstration producers, medical facilities and demonstration provinces/cities, including bank charges, exchange rate loss etc. $20,000		20,000			20,000			20,000	FECO/ MEE
Other Operating Costs	Standard miscellaneous expenses for bank charges, exchange rate loss etc. $3,846			3,846		3,846			3,846	FECO/ MEE
Other Operating Costs	Costs of interpretation and translation to support production of training materials and publications by the demonstration enterprises and medical facilities and support to MTR and TE, $29,000				29,000	29,000			29,000	FECO/ MEE

Other Operating Costs	Development, design and printing of training materials, promotion materials and publications, including materials for demonstration production enterprises and medical institutions $92,308 ($80,308 for component 4 & $12,000 for M&E)				80,308	80,308			80,308	FECO/ MEE
Other Operating Costs	Standard miscellaneous expenses for bank charges, exchange rate loss etc. $1,538				1,538	1,538			1,538	FECO/ MEE
Other Operating Costs	Development, design and printing of training materials, promotion materials and publications, including materials for demonstration production enterprises and medical institutions $92,308 ($80,308 for component 4 & $12,000 for M&E)					-	12,000		12,000	FECO/ MEE

Other Operating Costs	Costs of general administration and operational activities covering office space, utilities, building operational and maintenance costs etc. $65,000					-		65,000	65,000	FECO/ MEE
Other Operating Costs	Standard project communication strategy and printing costs $15,385					-		15,385	15,385	FECO/ MEE
Other Operating Costs	Miscellaneous costs including bank charges, exchange loss etc. $1,960					-		1,960	1,960	FECO/ MEE
Other Operating Costs	Annual audit costs, total $29,000					-		29,000	29,000	UNDP
Total		600,000	12,600,000	1,400,000	402,000	15,002,000	238,000	760,000	16,000,000	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with

the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).