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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Seventy-second Meeting
Montreal, 12-16 May 2014

PROJECT PROPOSALS: CHINA

This document consists of the comments and recommendations of the Fund Secretariat on the following project proposals:

Methyl bromide

- National phase-out of methyl bromide (phase II, ninth tranche) — UNIDO/Italy

Phase-out

- HCFC phase-out management plan (stage I, refrigeration servicing sector and the national enabling programme, third tranche) — UNEP/Japan

Production

- Sector plan for the phase-out of methyl bromide production (phase IV) — UNIDO

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

China

(I) PROJECT TITLE	AGENCY
Methyl bromide	Italy, UNIDO

(II) LATEST ARTICLE 7 DATA (ODP Tonnes)			Year: 2012	
CFC: 0	CTC: 0	Halons: 0	MB: 149.8	TCA: 0.0

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP Tonnes) — Year: 2010

Substances	Aerosol	Foam	Halon	Refrigeration		Solvent	Process Agent	MDI	Lab Use	Methyl Bromide		Tobacco fluffing	Total Sector Consumption
				Manufacturing	Servicing					QPS	Non QPS		
CFC													0.
CTC													0.
Halons													0
Methyl Bromide										656.6	149.8		806.4
Others													0
TCA													0

(IV) PROJECT DATA			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Montreal Protocol Consumption Limits		MB	1,102.1	1,102.1	1,102.1	881.7	881.7	881.7	881.7	881.7	881.7	881.7	881.7	881.7	881.7	0.	
Maximum Allowable Consumption (ODP Tonnes)		MB	1,087.8	1,087.8	1,087.8	880.	723.8	570.6	390.	250.	209.	176.	150.	100.	50.	0.	
Project Costs (US$)	UNIDO	Project Costs		4,086,600.				1,200,000.	1,800,000.	1,300,000.	600,000.	500,000.	500,000.	500,000.	302,742.		10,789,342.
		Support Costs		306,495.				90,000.	135,000.	97,500.	45,000.	37,500.	37,500.	37,500.	22,706.		809,201.
	Italy	Project Costs				4,000,000.											4,000,000.
		Support Costs				470,000.											470,000.
Total Funds Approved in Principle (US$)		Project Costs		4,086,600.		4,000,000.		1,200,000.	1,800,000.	1,300,000.	600,000.	500,000.	500,000.	500,000.	302,742.		14,789,342.
		Support Costs		306,495.		470,000.		90,000.	135,000.	97,500.	45,000.	37,500.	37,500.	37,500.	22,706.		1,279,201.
Total Funds Released by the ExCom (US$)		Project Costs		4,086,600.		4,000,000.		1,200,000.	1,800,000.	1,300,000.	600,000.	500,000.	500,000.	500,000.	0.		14,486,600.
		Support Costs		306,495.		470,000.		90,000.	135,000.	97,500.	45,000.	37,500.	37,500.	37,500.	0.		1,256,495.
Total Funds Requested for Current Year (US$)		Project Costs												0.	302,742.		302,742.
		Support Costs												0.	22,706.		22,706.

(V) SECRETARIAT'S RECOMMENDATION:	Blanket Approval

PROJECT DESCRIPTION

1. On behalf of the Government of China, UNIDO, as the lead implementing agency, has submitted to the 72nd meeting of the Executive Committee a request for funding for the implementation of the ninth and final tranche of phase II of the national plan for the phase-out of methyl bromide (MB)[1], at a total cost of US $302,742 plus agency support costs of US $22,706 for UNIDO. The submission also includes a progress report on the implementation of the MB phase-out plan during 2013 and the implementation programme for 2014 and 2015. The project is being implemented with assistance from the Government of Italy.

Progress report

2. Monitoring and technical assistance activities were carried out in the commodity and tobacco sectors, where MB has not been used since 2007 and 2008, respectively, to ensure the permanent and sustainable phase-out of MB.

3. In the agriculture sector, MB is used only as a soil fumigant in the production of ginger, and some small quantity on yam. Field activities included technical assistance on the application of alternative chemicals, improvement of the grafting technology (for vegetable crops) in combination with integrated pest management (IPM) and training to farmers particularly on ginger, yam, strawberry and vegetable crops.

4. Alternative technologies introduced over 207.5 ha of ginger reduced the aggregated MB consumption by 50 ODP tonnes. Field activities carried out to test chloropicrin and dazomet as alternatives for MB involved 397 farmers and five ginger cooperatives. The technical assistance unit (Institute of Plant Protection, Chinese Academy of Agricultural Sciences) established 10 additional model farms[2] which screened MB alternatives including dazomet and chloropicrin, and 1,3 dichloropropene plus chloropicrin. The results so far achieved demonstrate that MB alternatives are cheaper than MB and that the impact on crop yield is insignificant. However, many farmers still have concerns about the long-term efficacy of MB alternatives and the possibility to have sustainable yields.

5. An IPM protocol has been developed based on the above assessment focusing on the entire range of chemical and non-chemical technologies registered in China and taking into consideration international experiences on MB alternative technologies and IPM protocols. Following on-site surveys in nurseries and farms, the grafting technology was improved and field monitoring was conducted on tomato, cucumber, eggplant, melon and watermelon crops. Functioning machine prototypes for the application of solid and liquid MB alternatives were developed and tested by three companies; further improvements of the machines are currently under implementation.

6. The coordination mechanism between the MB consumption and production phase-out is in place and both projects will end in 2015. No export quotas for controlled uses of MB had been issued since 2010. Since the implementation of the first tranche of the MB phase-out plan, over 26,446 trainers and farmers have been trained, as shown in Table 1 below.

[1] Phase II of the national plan for the phase-out of MB in the consumption sector in China was approved in principle at the 44th meeting at a total funding level of US $14,789,342, including US $4,086,600 approved at the 41st meeting. Since then, the Committee has approved the first eight tranches of the project at a total value of US $10,400,000 plus agency support costs of US $950,000 (in addition to the US $4,086,600 plus agency support costs of US $306,495 approved at the 41st meeting).

[2] Model farms are regular commercial scale farms, with a surface area of at least 0.067 ha (one mu), where MB alternatives are applied under close supervision of the technical assistance unit throughout the entire crop season.

Table 1: Number of trainers and farmers trained in China

Crop	2008	2009	2010	2011	2012	2013	Total
Trainers							
Strawberry	233	185	60		50		528
Cucumber/tomato	57	678					735
Ginger	27	475			80		582
Total	317	1338	60	0	130	0	1,845
Farmers							
Strawberry	10,851	6,902	500	172	180	182	18,787
Cucumber/tomato	120			200	461	297	1,078
Ginger	50	1,554	308	879	516	1,199	4,506
Eggplant				185			185
Yam						155	155
Total	11,021	8,456	808	1,436	1,157	1,833	24,711
Grand total	11,338	9,794	868	1,436	1,287	1,833	26,556

7. As of March 2014, of the US $10,400,000 approved for the first eight tranches, US $9,900,000 had been disbursed and US $234,033 had been committed for implementation of part of the 2014 work programme. The balance of US $265,967 plus the funding associated with the last tranche (US $302,742) will be used for implementation of the remainder of the 2014 and the 2015 work programmes.

2014-2015 work programme

8. The 2014-2105 work programme will continue monitoring the use of phosphine in the commodity sector to ensure its effective application and control of insects' resistance with no further resources from the Fund, and implementing technical assistance activities in the tobacco using its own resources to consolidate the new technologies and optimize seedlings quality and production costs. Activities in the agricultural sector will aim to consolidate the latest achievements, particularly with regard to training, soil fumigation machinery and use of IPM practices; monitoring and assessment of the results achieved and a large scale awareness programme. The work plan for 2015 (the last year of project implementation) will focus on the overall assessment of the project, the establishment of the required framework to ensure the long-term sustainability of the MB phase-out in all crops and applications, and monitoring.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

MB consumption

9. The 2012 MB consumption reported by the Government of China under Article 7 of the Montreal Protocol of 149.8 ODP tonnes was already 731.9 ODP tonnes below that of the 881.7 ODP tonnes allowed under the Protocol, and 0.2 ODP tonnes below that of the 150.0 ODP tonnes allowed under the Agreement between the Government and the Executive Committee. The estimated consumption in 2013 is the same as that allowed in the Agreement, as shown in Table 2 below:

Table 2: MB consumption in China

Sector/Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*	2014
Allowable consumption under the Agreement											
Commodity	126.0	46.0	25.2								
Tobacco	427.8	300.0	164.6	124.6							
Agriculture	534.0	534.0	534.0	446.0	390.0	250.0	209.0	176.0	150.0	100.0	50.0
	1,087.8	880.0	723.8	570.6	390.0	250.0	209.0	176.0	150.0	100.0	50.0
Actual consumption											
Commodity	52.2	32.1	7.0	-	-	-	-	-	-		
Tobacco	227.8	54.0	21.0	32.4	-	-	-	-	-		
Agriculture	534.0	534.0	282.1	351.7	371.3	241.9	201.7	174.8	149.8	100.0	
Total	814.0	620.1	310.1	384.1	371.3	241.9	201.7	174.8	149.8	100.0	

(*) Estimated

Registration of alternative fumigants

10. With regard to the registration of MB alternatives to be used in ginger crops, UNIDO reported that the most likely fumigants are dazomet (which is already used on tomato, cucumber and strawberry crops) and dimethyl disulfide mixed with chloropicrin to enhance the control of nematodes. Although the registration of 1,3 dichloropropene was submitted in 2007, it has not been approved due to the major risk of ground water contamination (as reported in several countries). Other alternative fumigants are not effective (e.g., methyl iodine; metham sodium while already registered in China, it will not be registered for use in ginger crops; formalin).

Sustainability of the MB phase-out

11. The following regulations are in place:

(a) Ban of MB uses in the commodities sector, issued by the State Administration of Grain and the Ministry of Environmental Protection (26 September 2006);

(b) Ban of MB uses in the tobacco seeding sector, issued by the State Tobacco Monopoly Administration and the Ministry of Environmental Protection (19 November 2008); and

(c) Ban of MB uses in the strawberry and cucumber sectors, issued by the Ministry of Agriculture (14 July 2011).

12. Currently, MB is registered only for application on ginger crop. Once the project is completed (end of 2015), the Ministry of Agriculture will issue a ban of MB on this sector.

13. With regard to the legislation that will be in place to ascertain that MB is no longer utilized for controlled uses in the soil and commodities sector, UNIDO explained that according to the "Regulations on Pesticide Management" once the phase-out of MB in all crops (including yam and ginger) is achieved, the Ministry of Agriculture will issue a notice to ban MB used in controlled uses. At the same time, the law enforcement inspection will be strengthened to ensure compliances. The process will be synchronized with the MB production sector.

14. One of the technical assistance activities implemented under the MB production sector in China[3], was a study on the root-know nematode and other pathogen isolation, identification, assessment and

[3] At its 61st meeting, the Executive Committee decided *inter alia*, "To take note of the information provided on the reallocation of funds for the Agreement for the methyl bromide production sector plan from the first tranche for technical assistance, noting that Multilateral Fund resources should be directly linked to assessing Article 7 data and to clarify the country's non-quarantine and pre-shipment (QPS) usage." (Decision 61/18(b)(v)).

control on ginger crop. The results of the study resulted in new approaches for the control of the main soilborne pathogens of ginger. Field activities demonstrated that it is possible to adopt strategies based on chemicals alternatives to MB in combination with IPM techniques that could result in the complete phase-out of MB on this crop. The field activities were implemented in farms which allowed a better communication of the results to growers. Implementation of IPM techniques must be further enhanced, considering *inter alia*, non-chemical soil treatments (e.g., steam, bio-fumigation); reduced dosages of chemical fumigants combined with virtually impermeable films; introduction of new alternative chemicals if proven cost-effective and sustainable; and rhizome dressing using reduced dosage of chemicals.

15. With regard to the long-term sustainability of the technologies introduced once the national phase-out is completed (during 2015), UNIDO explained that the mechanism that will be implemented to control MB consumption includes: continued training for farmers, fumigation companies and extension services; development of technical standards and regulations for soil disinfection with alternative fumigants (e.g., chloropicrin and dazomet); and development of good agriculture practices in strawberry and tomato sectors. It will also promote the development and registration of MB alternative and application technologies, and incentives to promote MB alternative application at an acceptable level. It will also provide continuous awareness and capacity building through *inter alia* publication and dissemination of various information materials on the "principle and practices of MB phasing-out and soil disinfection technologies" to farmers, fumigation companies and extension services. It will also provide assistance to further develop alternative technologies, including IPM, and maintain farmers, fumigation companies and extension service, up to date.

16. The sustainability of the phase-out will also be supported by the establishment of a MB producer management scheme to ensure that MB produced for feedstock and/or quarantine and pre-shipment (QPS) applications will not be diverted to soil fumigation. This will be supported by a monitoring information system for producers and feedstock users, and a QPS information system that will collect and analyse information provided by quarantine authorities, fumigation companies, import/export authorities.

Critical use exemption

17. The Government of China has submitted, through the Ozone Secretariat, a critical use nomination (CUN) to the Methyl Bromide Technical Option Committee (MBTOC) for 72 ODP tonnes (120 metric tonnes) of MB to be used in the fumigation of ginger crop in 2015 (i.e., 54 ODP tonnes to be applied on open field ginger crop and 18 ODP tonnes on protected ginger). Noting that the Executive Committee has approved over US $15.6 million for the phase-out of MB in the consumption sector and US $8.0 million for the MB production sector (excluding agency support costs) in China, and that alternative chemical combined with IPM practices have been demonstrated in ginger crop with positive results (although farmers have a concern on the presence of nematodes), the Secretariat requested UNIDO to further elaborate on this request.

18. UNIDO explained that the funding approved for the MB consumption and production sectors covers multiple sectors (e.g., tobacco seedlings, strawberry, tomato, cucumbers, eggplant, ginger, yam); applications (e.g., commodity fumigation); training and technical assistance in all sectors (e.g., disposal of obsolete MB at grain storages); and compensation for profit loss for MB producers. Of the total funding approved, approximately US $2 million has been allocated to ginger crop. The CUN requested for 2015 (72 ODP tonnes) is applied in approximately 300 ha of land, corresponding to 0.25 per cent of the total land cultivated with ginger in China. UNIDO also pointed out that as the MB critical uses are granted on a yearly basis and, as previous experience shows, it is most likely that the CUN request could be drastically reduced if not completely withdrawn in 2016.

19. The Secretariat notes that the Agreement between the Government of China and the Executive Committee for the national MB phase-out approved at the 44th meeting[4] does not prevent China to submit a CUN for consideration by the Parties to the Montreal Protocol. Moreover, the maximum allowable level of consumption specified in the Agreement excludes "any exemptions for quarantine and pre-shipment applications and critical uses".

RECOMMENDATION

20. The Fund Secretariat recommends that the Executive Committee:

(a) Takes note of the progress report on the implementation of the eighth tranche of phase II of the national phase-out of methyl bromide (MB) plan for China; and

(b) Request the Government of China, the Government of Italy and UNIDO to submit the project completion report to the Executive Committee to the first meeting in 2016.

21. The Secretariat further recommends blanket approval of the ninth tranche associated with the 2014-2015 annual implementation programme of phase II of the national plan for the phase-out of MB, with associated support costs, at the funding level shown in the table below.

Project title	Project funding (US $)	Support costs (US $)	Implementing agency
National phase-out of methyl bromide (phase II, ninth tranche)	302,742	22,706	UNIDO

[4] Annex VI of document UNEP/OzL.Pro/ExCom/44/73.

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

China

(I) PROJECT TITLE	AGENCY
HCFC phase-out plan (stage I) servicing sector, including enabling	Japan, UNEP (lead)

(II) LATEST ARTICLE 7 DATA (Annex C Group l)	Year: 2012	21,094.65 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)									Year: 2012
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123				10.2	5.4				15.6
HCFC-141b		6,502.0				523.1			7,025.0
HCFC-142b		637.0		7.2	348.7				992.8
HCFC-22	95.4	1,892.0		6,569.3	4,503.8				13,060.4
HCFC-225ca						0.4			0.4
HCFC-225cb						0.7			0.7

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	19,269.0	Starting point for sustained aggregate reductions:	18,865.44
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	3,445.19	Remaining:	15,420.25

(V) BUSINESS PLAN		2013	2014	2015	Total
Japan	ODS phase-out (ODP tonnes)	1.0	1.0	1.0	3.0
	Funding (US $)	90,400	90,400	90,400	271,200
UNEP	ODS phase-out (ODP tonnes)	13.9	14.7	9.9	38.5
	Funding (US $)	1,227,546	1,304,268	873,960	3,405,774

(VI) PROJECT DATA			2011	2012	2013	2014	2015	Total
Montreal Protocol consumption limits			n/a	n/a	19,269.0	19,269.0	17,342.1	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	18,865.4	18,865.4	16,978.9	n/a
Agreed funding (US $)	Japan	Project costs	80,000	80,000	80,000	80,000	80,000	400,000
		Support costs	10,400	10,400	10,400	10,400	10,400	52,000
	UNEP	Project costs	1,579,000	598,000	1,104,000	1,173,000	786,000	5,240,000
		Support costs	176,703	66,921	123,547	131,269	87,960	586,400
Funds approved by ExCom (US $)		Project costs	1,659,000	678,000	0	0	0	2,337,000
		Support costs	187,103	77,321	0	0	0	264,424
Total funds requested for approval at this meeting (US $)		Project costs	0	0	1,184,000	0	0	1,184,000
		Support costs	0	0	133,947	0	0	133,947

Secretariat's recommendation:	Blanket approval

PROJECT DESCRIPTION

22. At the 71st meeting, the lead implementing agency for each sector plan, on behalf of the Government of China, had submitted requests for funding for the next tranche of stage I of the HCFC phase-out management plan (HPMP). The component on the refrigeration servicing sector plan and the national enabling programme[5], submitted by UNEP, had been deferred by the Executive Committee for consideration to the 72nd meeting (decision 71/35(g)).

23. On behalf of the Government of China, UNEP as the lead implementing agency, has re-submitted to the 72nd meeting of the Executive Committee a request for funding for the third tranche of the refrigeration servicing sector plan and the national enabling programme of stage I of the HCFC phase-out management plan (HPMP) for China at a total cost of US $1,317,947, consisting of US $1,104,000, plus agency support costs of US $123,547 for UNEP, and US $80,000, plus agency support costs of US $10,400 for the Government of Japan. The submission includes a progress report on the implementation of the second tranche of the HPMP and the tranche implementation plan for 2014.

Progress report on the implementation of the second tranche

24. The following activities have been implemented since the approval of the second tranche:

(a) The implementation plan for the first tranche was finalized and signed in January 2013, while an Amendment of the Project Cooperation Agreement (PCA) between UNEP and the Foreign Economic Cooperation Office, Ministry of Environmental Protection (FECO/MEP) to include the funding approved for the second tranche and its corresponding activities was completed and signed in September 2013;

(b) Procurement of two industry codes/standards for the servicing sector was completed in 2013. The terms of reference for adopting these codes to China and hiring of the consultant after the procurement process was agreed in March 2013;

(c) A contract between FECO/MEP and the Chinese Refrigeration and Air-conditioning Industry Association (CRAA) for the development of training materials was signed in September 2013;

(d) A feasibility study to support the certification of service technicians had been initiated. In October 2013, a contract was signed with the Vocational Training and Qualification Certification of China to undertake the study, and the first draft was completed in March 2014;

(e) Stakeholder consultations, data survey of the local refrigerant servicing market and one training workshop on the progress of the implementation of the HPMP, overall compliance to the Montreal Protocol and enforcement of ODS regulations and the use of refrigerant identifiers were completed as part of the implementation of the Shenzhen demonstration project;

(f) The national management system of ODS imports and exports was upgraded and launched in December 2013;

[5] The refrigeration servicing sector plan and the national enabling programme for China, as a component of stage I of the HCFC phase-out management plan (HPMP) was approved at 64th meeting, at a total funding of US $5,640,000, for UNEP and the Government of Japan.

(g) A training workshop with 90 participants to build capacity of local authorities to support the HCFC phase-out was held in June 2013; and

(h) Outreach and communication activities were also completed, focusing on Ozone Day, with a youth video competition and awards given during the period.

Status of disbursement

25. Of the US $2,337,000 approved so far[6], US $680,000 was disbursed by UNEP to FECO/MEP on 13 September 2012 under the PCA. The second payment of US $340,000 was made in October 2013, bringing the total fund transfers to FECO/MEP to US $1,020,000. An additional US $288,500 was disbursed by UNEP for technical assistance to develop the outreach and communication strategy and travel costs for experts to attend meetings in China. This represents a cumulative disbursement of 56 per cent.

Annual plan for the third tranche of the HPMP

26. The requested funding for the third tranche will be used to:

(a) Finalize training materials and undertake training of service technicians on good refrigeration practices; continue the development and finalization of the Qualification and/or Compulsory Certificate System for servicing technicians; complete the development of standards/codes activities in servicing sector; procure 12 sets of training equipment; finalize the training information database; and continue activities of the Shenzhen project which will demonstrate work for the servicing sector through the local Environmental Protection Bureau (EPB) (US $825,500);

(b) Build capacity of national and local authorities by providing training support and holding annual meetings with relevant Government ministries and other agencies (US $35,000);

(c) Undertake policy training for national and local authorities to strengthen the enforcement of the import and export regulations for ODS in the country (US $110,000);

(d) Continue capacity-building of national and local authorities (no new funding required);

(e) Continue outreach and awareness raising activities focusing on strengthening the social media and website component of the activities; activities for International Ozone Day; and development and printing of publicity materials (US $122,500);

(f) Support to the operation of the working group overseeing the implementation of the service sector plan in China (US $71,000); and

(g) Technical assistance (US $20,000).

[6] Of this amount, US $308,500 has been allocated for procurement of equipment, and meeting resource persons, and will be disbursed through a Small Scale Funding Agreement (SSFA) directly to FECO.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Level of implementation of activities achieved

27. The Secretariat noted that there was sufficient progress in the implementation of the activities planned for the second tranche. Several contracts were signed, agreements were finalized and coordination meetings were held with various stakeholders, which were necessary to put in place the institutional arrangements for implementation of the various activities for this component, taking into account the size of China's servicing sector. While no trainings had taken place during the period, it was reported that the concept for delivery of the national and regional training programmes as well as the participation of some master trainers from a Chinese university in a regional training workshop organized by UNEP were completed. Both specific training for 1,200 refrigeration servicing technicians and customs officers including the distribution of equipment are planned for the first half of 2014.

28. The Secretariat further advised UNEP that the servicing sector work plan needed to be updated to define specific indicators and targets for the activities that would be implemented for each tranche. This would allow for quantitative assessment, a more efficient monitoring of progress, and facilitate better reporting. In response, UNEP, in consultation with FECO/MEP, submitted a detailed work plan following a template that had been provided as part of the requirements for submission of tranches. This work plan provided information on activities from the previous tranches and their level of implementation, as well as the targets for the current tranche where funding is being requested.

Conclusion

29. Based on the information contained in the progress report, the responses to the Secretariat's queries, and further discussions with UNEP, the Secretariat noted that implementation of the activities in the refrigeration servicing sector are progressing as planned. As relevant agreements and contracts have been signed, it is expected that 1,200 refrigeration servicing technicians and customs officers will be trained during the first half of 2014. Additional training will be implemented during the second half.

30. Based on the above, the Secretariat further noted that the current request meets the required pre-conditions for the release of the third tranche of the HPMP.

RECOMMENDATION

31. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the second tranche of stage I of the refrigeration servicing sector plan and the national enabling programme in China, and further recommends blanket approval of the third tranche of the refrigeration servicing sector plan and national enabling programme for China, and the corresponding 2014-2016 tranche implementation plans, with associated support costs at the funding levels shown in the table below:

	Project Title	Project Funding (US $)	Support Cost (US $)	Implementing Agency
(a)	HCFC phase-out management plan (stage I, refrigeration servicing sector and the national enabling programme, third tranche)	1,104,000	123,547	UNEP
(b)	HCFC phase-out management plan (stage I, refrigeration servicing sector and the national enabling programme, third tranche)	80,000	10,400	Japan

SECTOR PLAN FOR THE PHASE-OUT OF METHYL BROMIDE PRODUCTION (PHASE IV)

Introduction

32. UNIDO, on behalf of the Government of China, has submitted to the 72nd meeting the progress report on phase III of the sector plan for the phase-out of methyl bromide (MB) production[7] covering the period of 2011-2013 together with the verification reports on MB production for controlled (2011-2013) and feedstock (2010-2012) uses in China for the period of 2010-2013. The release of US $1,790,000 plus agency support costs of US $134,000 for phase IV (2014-2015) is also being requested.

Background

33. At its 47th meeting, the Executive Committee approved the sector plan for the complete phase-out of MB production. The phase-out and funding schedule are shown in Table 3 below.

Table 3. Funding and phase-out schedule

Project data	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Annual product. limit (ODP tonnes)	621.0	600.0	570.6	390.0	250.0	209.0	176.0	150.0	100.0	50.0	0.0	-
Annual phase-out (ODP tonnes)	155.3	21.0	29.4	180.6	140.0	41.0	33.0	26.0	50.0	50.0	50.0	776.4
Project funding (US $000)	3,000	0.0	0.0	3,000	0.0	0.0	2,000	0.0	0.0	1,790	0.0	9,790
Agency support costs (US $000)	225	0	0	225	0	0	150	0	0	134	0	734
Phase	I			II			III			IV		

34. The targets and actual production of controlled use for the period 2007 to 2013 are shown in Table 4 below.

Table 4. Production targets and actual production amount (ODP tonnes)

Year	2007	2008	2009	2010	2011	2012	2013
Max. allowable production	570.6	390.0	250.0	209.0	176.0	150.0	100.0
Actual production	411.8	382.7	241.9	201.07	174.8	149.8	100.0*

*Note: Data for 2013 are estimated; final production data will be transmitted to the Ozone Secretariat in September 2014.

Verification of MB production for controlled uses for the period 2011 to 2013

35. The verification for controlled uses of MB was carried out by a team of technical and financial experts on 10-19 February 2014. The verification team has been delegated by the Foreign Economic Cooperation Office/Ministry of Environmental Protection of China (FECO/MEP) to audit production and sale in the three MB production companies in China. An overview of the three MB producing plants is provided in Table 5.

[7] In accordance with the Montreal Protocol, China should reduce MB production and consumption from the average level of 1995-1998 by 20 per cent by 1 January 2005, maintain that level of reduction for the years 2005 to 31 December 2014 and reduce to zero production by 1 January 2015 (except for quarantine and pre-shipment (QPS) applications, feedstock, and critical use). There is no requirement for production to be limited to domestic consumption for critical use exemptions (CUEs) as was the case with the CFC production sector agreement for essential use exemptions (EUEs). China currently exports MB to several other countries.

Table 5. MB production industry information

Enterprise name	LianyunGang Dead Sea Bromide Co., Ltd	Linhai City Jian Xin Chemical Co., Ltd	Changyi City chemical plant
Address	Lianyungang Jiangsu	Linhai， Zhejiang	Changyi， Shandong
Ownership	Joint venture 60 per cent Israeli / 40 per cent Chinese	Locally-owned	Locally-owned

36. Prior to each visit, MB production verification forms were developed and distributed to the three enterprises and a preliminary review of the data was undertaken. Having collected the relevant data the verification team visited all three enterprises to verify the corporate business license; balance sheets, profit and loss account; value added tax (VAT) form; annual procurement sales and workshop production records; annual reports to the Government of China; and raw material transfer, product storage, sales transfer, raw material transfer slips. Table 6 provides, for each enterprise, a breakdown of MB production by usage and the data by controlled use, QPS and raw material, as collected by the verification team.

Table 6. MB production by usage (mt)

Production	**2011**			**2012**			**2013**		
	ODS	QPS	Raw material	ODS	QPS	Raw material	ODS	QPS	Raw material
Lianyungang	211.813	745.883	372.149	180.739	689.186	707.005	120.437	488.352	913.110
Jianxin	62.999	678.810	713.085	53.494	632.500	1,118.410	35.664	706.835	1,090.465
Changyi	16.52	254.495	107.920	15.500	264.495	85.650	10.500	242.808	311.916
Total	291.332	1,679.188	1,193.874	249.733	1,586.181	1,913.065	166.601	1,437.995	2,315.491

37. The verification team concluded that:

(a) None of the three enterprises or the whole manufacturing sector has produced controlled uses of MB exceeding the quotas; therefore they are in compliance with the Agreement;

(b) All the enterprises have qualification certificates issued by the provincial inspection and quarantine department/bureau;

(c) All enterprises are on the list of enterprises registered under the MEP; and

(d) None of the three companies has new construction, renovations or expansions or has introduced changes in production equipment or production process.

Verification of MB as raw material for feedstock uses in China for the period 2010 to 2012

38. The verification for raw material for feedstock was carried out from 14 October to 10 November 2013 to crosscheck the trade data of MB provided by feedstock end-users with data from MB producers; analyse and verify the actual application of MB as feedstock by checking the production process, technologies applied, production facilities and stocks as well as leakage; and confirm that MB producing and consuming enterprises strictly follow relevant laws and regulations.

39. The verification selected 22 feedstock users based on the following principles:

(a) Their total MB consumption should represent more than 60 per cent of the total MB feedstock consumption in China each year between 2010 and 2012;

(b) All sectors should be addressed including the pharmaceutical, agrochemical, and other relevant chemical sectors; and

(c) Suppliers must represent the three MB producers in China.

40. The verification concluded that the amount of MB consumed as feedstock was 1,661 mt in 2010, 1,194 mt in 2011 and 1,907 mt in 2012. With respect to the 22 enterprises surveyed all of them:

(a) Are legal manufacturing enterprises;

(b) Have kept standardized records;

(c) Have had the amounts of MB purchased verified to match closely to the sales volume provided by the manufacturing enterprises;

(d) Have had their invoices verified with production enterprises;

(e) Obey strictly the relevant regulation without illegal resale or use for other purposes; and

(f) Have production processes that ensure that all MB is consumed in the course of manufacturing the final product.

Progress report on the implementation of the sector plan from 2011 to 2013

41. Compensation contracts have been concluded with and funds have been disbursed to the three MB producers for the period 2011-2013. In May 2009, the Government of China issued regulations for feedstock users. FECO/MEP has scheduled on site verification at the major feedstock users in 2013 to ensure the correct application of MB as feedstock.

42. The Special Working Group (SWG) of FECO/MEP has developed a monitoring regulation for MB producers:

(a) Based on the compensation proposals, contracts between FECO/MEP and the MB producers for the year 2013 were drafted by SWG specifying that the producers must carry out production within their baseline capacity, produce MB for controlled uses within the established quota, and carry out production and distribution and sale according to the national regulation. FECO/MEP will disburse the compensation based on the verification to be conducted in early 2014;

(b) With regard to controlled uses, only qualified users and distributors can purchase MB from the producers through sales contracts with each individual client;

(c) MB sales are accounted as QPS only if the producer has received the QPS fumigation licence issued by the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) of China or by the local Supervision Bureaus;

(d) For import, export and QPS, certificates are issued by the local Supervision Bureaus to the import or export company;

(e) With regard to the domestic quarantine, the producers have to obtain the certificate from the relevant authorities to guarantee the duly purpose; and

(f) MB producers can sell MB only to the qualified feedstock users which have been previously registered by FECO/MEP and submit production and sales data on a quarterly basis.

43. The Government has undertaken several technical assistance activities. It has recruited a team of experts for the supervision of feedstock use; the coordination mechanism with AQSIQ to reinforce the Government's management and supervision on MB consumption for QPS use; the disposal of MB stocks in the grain storage sector; a survey on MB feedstock users through dispensing, collecting questionnaires and field studies; the implementation of an international technical assistant project to assist the Ministry of Agriculture and local agricultural bureau to phase out MB in the ginger sector. No new policies related to MB production were issued.

Fund disbursement

44. Table 7 shows the funds approved and disbursed for the 2005-2007 and 2008-2010 tranches as at 31 December 2013.

Table 7. Funds approved and disbursed for the 2005-2007 and 2008-2010 tranches of the MB production sector plan in China (US$)

Items	Amount
FUNDS APPROVED	
2005-2007 tranche	3,000,000
2008-2010 tranche	3,000,000
TOTAL FUNDS APPROVED 2005-2010	**6,000,000**
FUNDS DISBURSED	
Compensation 2005/2007	**728,075**
Compensation 2008	**378,000**
Compensation 2009	**293,914**
Compensation 2010	**172,168**
Technical assistance 2005/2007	**65,783**
Technical assistance 2008/2010	**85,265**
Audit by UNIDO (2007 and 2010)	**40,000**
TOTAL FUNDS DISBURSED 2005-2010	**1,763,205**
BALANCE from 2005-2010	**4,236,795**

45. Table 8 presents the funds approved and disbursed for the 2011-2013 tranche and the balance available as of 31 December 2013.

Table 8. Work plan budget, funds approved and disbursed for the 2011-2013 tranche of the MB production sector plan in China (US$)

Items	Budget	Amount
BALANCE from 2005-2010		4,236,795
2010-2013 tranche		2,000,000
TOTAL FUNDS AVAILABLE FOR 2011-2013 TRANCHE		6,236,795

Items	Budget	Amount
FUNDS DISBURSED 2011-2013		
Compensation to the three producers for 2011	360,000	363,301
Compensation to the three producers for 2012	288,000	333,900
Compensation to the three producers for 2013	552,000	434,672
Survey of feedstock users	250,000	54,000
Verification to three MB producers, expert fees and travelling	30,000	24,869
Audit 2007/2010/2014 (US $20,000 per year)	20,000	20,000
Monitoring and supervision (QPS) (AQSIQ)	150,000	0
MB alternatives promotion (AQSIQ and Ministry of Agriculture)	250,000	0
Training programme	100,000	0
Disposal of stored MB in grain storage sector		153,000
International consultancy		200,000
TOTAL FUNDS DISBURSED 2011-2013	**2,000,000**	**1,583,742**
BALANCE from 2005-2013		**4,653,053**

2014-2015 work plan and budget

46. Table 9 presents the work plan budget for the 2014-2015 tranche.

Table 9. Work plan budget, funds approved and disbursed for the 2011-2013 tranche of the MB production sector plan in China (US$) (Sub-totals in bold)

Items	2014-2015 work plan
BALANCE from 2005-2013	4,653,053
2014-2015 tranche	1,790,000
TOTAL FUNDS AVAILABLE FOR 2014-2015 TRANCHE	6,443,053
2014-2015 AQSIQ activities	**1,950,000**
· Evaluation and research of the MB capture technologies and alternatives in the QPS sector	1,200,000
· Training and dissemination for QPS supervision and management	190,000
· Management information system for QPS consumption	300,000
· Study tour for QPS alternatives	190,000
· Assessment of the legislation system for QPS management	70,000
M alternative technologies development	**1,270,000**
Monitoring and supervision	**320,000**
Capacity building	**1,270,000**
Verification and audit	**240,000**
Awareness (training, meetings, and publicity)	**240,000**
Expert groups	**130,000**
International consultants	**220,000**
Compensation to the three producers	**800,000**
TOTAL BUDGET	**6,440,000**

47. FECO/MEP has sent a draft memorandum defining the scope of work and funding for a contract with the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) to conduct the five activities indicated in Table 9.

48. The progress report and work plan document submitted by UNIDO on behalf of the Government of China indicated that additional activities including: verification of the disposal of the MB stock[8]; a complete MB feedstock-use survey for the information needed in the management information system (MIS); accelerate the establishment of the MB MIS for feedstock management; and lost profit compensation for plants for 2014-2015. An MB feedstock survey will continue beyond the completion of the project to prevent illegal uses of MB.

49. MB alternative technologies development would be aiming at replacing MB in QPS, feedstock and controlled uses. This includes a strong component of machineries development but also the development and registration of active ingredients that can effectively replace MB, research and development (R&D), and pilot commercial scale prototypes with the objective of stimulating the private sector to provide improved equipment and protocols for the application of MB alternative technologies.

50. The monitoring and supervision budget would develop monitoring tools, train personnel, and carry out monitoring.

51. Capacity building would provide training in China and abroad at national and international R&D centres in coloration with technology suppliers. The objective is to train technical staff in the Government and the private sector to further develop MB alternative technologies and the tools for monitoring. The scope is also to establish long terms cooperation agreement with international institutions in the QPS, feedstock and controlled uses of MB sectors.

52. The verification and audit will be carried out by UNIDO and FECO/MEP with relevant national institutions the monitoring and supervision of QPS, feedstock and controlled uses of MB.

53. UNIDO indicated that FECO/MEP, MOA and AQSIQ have experience in awareness campaigns and will coordinate a common strategy to address the most vulnerable sectors and subsectors prone to reverting to MB consumption.

54. Expert groups already exist and would be further expanded in 2014 and 2015 to assess the data provided from monitoring and supervision as well as development of MB alternative technologies. The expert groups will also asses and provide recommendation on policy development. International consultants will be recruited to address specific topics for which specific technical inputs are required, but no specific issues were identified for this funding.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

Technical audit

55. The verification teams for MB production confirmed that production was within the limits of the agreement; that there had been no changes to the production capacity or processes; that all enterprises using MB for QPS have certificates for that use; and all enterprises using MB as feedstock are registered by MEP/FECO. There were no recommendations from the verification teams for the period 2011-2013.

[8] According to UNIDO, no additional funds are needed for this activity as the destruction was verified as part of the costs for the destruction in 2011-2013.

56. However, the documentation and responses to queries from the Secretariat did not indicate what actions had been taken with respect to three recommendations from the technical audit for 2008-2010. Those recommendations addressed the need to:

(a) Develop proposals to implement the management of product sold but not delivered in the same year;

(b) Standardize/strengthen the process of internal exchange of product between warehouse and the return of product; and

(c) Use sequential numbers for bills of lading and finished goods accounting.

57. UNIDO indicated that since the recommendations were not reiterated in the 2013 audit so they are no longer an issue. The Executive Committee may wish to request UNIDO to indicate how these recommendations were implemented in a status report to be presented to the 73rd meeting.

2011-2013 progress report

58. Most of the funds allocated for compensation were disbursed although at different levels than anticipated. The compensation to producers was higher than budgeted in 2011 and 2012 but less in 2013. The survey of feedstock users (US $54,000) was significantly lower than budgeted (US $250,000). Verification costs were US $24,869 which was slightly lower than the budget of US $30,000. Funds totalling US $500,000 for monitoring and supervision, MB alternatives, and a training programme were not used during the reporting period.

59. Two activities that were not included in the 2011-2013 work plan were conducted including the disposal of 19.226 metric tonnes of stored contaminated MB in the grain storage sector (US $153,000) which was considered cost-effective, and an international consultancy to study root-knot nematode and other pathogen isolation, identification, assessment and control on ginger crop in China.

60. Funds for the international consultancy were used for the consulting service on root-knot nematode on ginger crop, related to the consumption sector and not the production sector. UNIDO indicated that decision 61/18(b)(v) allowed the use of US $1,920,766 for additional technical assistance activities. Moreover, UNIDO indicated that any unallocated balances would “follow a similar approach” and would be part of a detailed action plan to synchronize and integrate the MB production and consumption sector.

61. However, decision 61/18(b)(v) states: “To take note of the information provided on the reallocation of funds for the Agreement for the methyl bromide production sector plan from the first tranche for technical assistance, noting that Multilateral Fund resources should be directly linked to assessing Article 7 data and to clarify the country’s non-quarantine and pre-shipment (QPS) usage”. This decision does not indicate that funds from the production sector could be used for the consulting service or integrated with the consumption sector. It should be noted that the last tranche of the consumption sector submitted also to the 72nd meeting for approval does not anticipate using funds from the production sector as part of the consumption programme.

2014-2015 work plan

62. Table 10 provides a comparison between the budget submitted by UNIDO on 14 April 2014 and the estimated costs of activities approved to-date for the MB production sector including estimates based on actual costs indicated for the period 2011-2013.

Table 10. Work plan budget and estimated costs for the 2011-2013 tranche of the MB production sector plan in China (US $) (sub-totals in bold)

Items	2014-2015 work plan	Estimated funds required
BALANCE from 2005-2013	**4,653,053**	**4,653,053**
2014-2015 tranche	**1,790,000**	**1,790,000**
TOTAL FUNDS AVAILABLE FOR 2014-2015 TRANCHE	**6,443,053**	**6,443,053**
2014-2015 AQSIQ activities	**1,950,000**	**1,950,000**
· Evaluation and research of the MB capture technologies and alternatives in the QPS sector	1,200,000	1,200,000
· Training and dissemination for QPS supervision and management	190,000	190,000
· Management information system for QPS consumption	300,000	300,000
· Study tour for QPS alternatives	190,000	190,000
· Assessment of the legislation system for QPS management	70,000	70,000
MB alternative technologies development	**1,270,000**	**0**
Monitoring and supervision	**320,000**	**0**
Capacity building	**1,270,000**	**0**
Verification and audit	**240,000**	**98,869**
· Verification of three MB producers		24,869
· UNIDO audit in 2016		20,000
· Survey of feedstock users		54,000
Awareness (training, meetings, and publicity)	**240,000**	**85,265**
Expert groups	**130,000**	**0**
International consultants	**220,000**	**0**
Compensation to the three producers	**800,000**	**754,582**
· 2014		377,291
· 2015		377,291
TOTAL BUDGET	**6,440,000**	**2,888,716**

63. The estimated costs assume that the contract with AQSIQ has been agreed. With regard to the AQSIQ activities (US $1,950,000), the Secretariat noted that these activities were foreseen in the 2011-2013 tranche including the evaluation of alternatives and training. The Secretariat requested further clarification about the need and justification for a study tour including who would be involved and what would be toured, why such high funding would be needed for a MIS, as funds have been used for MIS for feedstock, MB as an ODS, and other ODS in China, and what could be involved in an assessment of legislation for QPS management.

64. The estimated costs do not include costs for MB alternative development because alternative research was included in the contract with AQSIQ for QPS. The activities that could be included in the budget for monitoring and supervision seem to be covered by the costs of verification and audits. Capacity building is not included as an estimated cost because the areas of focus (alternative technologies, monitoring and policy development) seem to be addressed through other items in the 2014-2015 plan. The estimated costs for the verification and audit for the 2014-2015 tranche is based on actual costs for the 2011-2013 tranche (US $98,869) which are significantly below the US $240,000 budget requested. The budget of US $240,000 for awareness activities is much higher than the actual costs for technical assistance for 2005/2007 (US $65,783) or for 2008/2010 (US $85,265). Funds amounting to US $130,000

were budgeted for expert groups, but UNIDO indicated that expert groups had already been established without any costs having been required for their establishment in the past.

65. The activities to be undertaken by international consultants (US $220,000) were not specified; however, this category was used for consumption sector activities (the study of nematode) in the 2011-2013 tranche. Based on UNIDO's interpretation of decision 61/18(b)(v), these funds could be used for technical assistance in the consumption sector but no plan for this use has been submitted. However, the Secretariat has indicated that decision 61/18(b)(v) allows funds to be used for technical assistance for the production sector in particular to clarify QPS use and Article 7 data.

Conclusion

66. The budget of US $6.44 million for 2014-2015 activities compared to the estimated costs of US $2,888,716 suggests that there could be a significant balance of funds at the end of 2015 when the project would be completed, and, therefore, should be returned to the Multilateral Fund. The verification reports confirm that China has been in compliance with its agreement in terms of meeting the control measures. Therefore, the Secretariat would recommend that the request is approved with the understanding that all funds should be used for the production sector agreement and the work plan as approved, that any funds not disbursed for the MB production sector by the end of 2015 should be returned to the Fund, and that a project completion report should be submitted to the first meeting in 2016 on this Agreement.

RECOMMENDATION

67. The Executive Committee may wish to consider:

(a) Noting the progress report on phase III of the sector plan for the phase-out of methyl bromide (MB) production for the period 2011 to 2013 and the verification reports on MB production for controlled (2011 to 2013) and feedstock (2010 to 2012) uses in China;

(b) Requesting UNIDO to report on how the recommendations of the 2008-2010 technical audit of MB production have been implemented in a status report to the 73rd meeting;

(c) Approving the fourth tranche of the sector plan for the phase-out of MB production, and the corresponding 2014-2015 tranche implementation plan, at the amount of US $1,790,000 plus agency support costs of US $134,000 for UNIDO on the understanding that:

(i) All funds should be used for the MB production sector agreement and the work plan as approved;

(ii) Any funds not disbursed by the end of 2015 should be returned to the Fund; and

(iii) A project completion report should be submitted to the first meeting in 2016 on this Agreement.
