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THE ROLE OF COST-EFFECTIVENESS THRESHOLDS IN SECTORAL PHASEOUT PROPOSALS AND GUIDELINES FOR UMBRELLA PROJECTS

Introduction

1. An umbrella project for the completion of conversion of four domestic refrigerator manufacturers in the Philippines was submitted at the 18th Meeting of the Executive Committee. The cost-effectiveness was calculated on the basis of the combined costs of the four enterprises and their combined ODS consumption. Only one of the enterprises met the cost-effectiveness threshold value established by the Executive Committee, the others exceeding this value. The Executive Committee took Decision 18/7 as follows:

> "Having agreed to defer judgment on the proposed household refrigerator projects in the Philippines due to a lack of advance information, the Executive Committee decided that further consideration should be given to the role of cost-effectiveness thresholds in sectoral phase-out proposals, as well as to the issue of, and the provision of guidelines for, umbrella projects. It requested the implementing agencies and the Secretariat to prepare a paper on the subject."

Scope of the Paper

2. This paper addresses the role of cost-effectiveness thresholds in umbrella projects, in the context of sectoral phase-out activities. The paper draws on a historical analysis of past submissions and considers the implications, in the future, of the use of umbrella projects. The paper also considers the advantages and disadvantages of assessment of individual proposals which form the umbrella projects, including the application of cost-effectiveness thresholds. Guidelines for treatment of umbrella projects are provided with a subsequent recommendation for consideration by the Executive Committee. The case of the Philippines project referred to in the introduction is presented to demonstrate the application of the proposed guidelines.

3. At its 17th Meeting, the Executive Committee requested the World Bank to develop sectoral strategies in China as an alternative to an enterprise-by-enterprise approach to ODS phase-out. The role of cost-effectiveness thresholds in a complete sector phase-out will be an integral part of this work. Therefore, the role of cost-effectiveness thresholds and the use of umbrella projects is not assessed in relation to major sectoral phase-out strategies, which are likely to be considered under a separate set of proposals, commencing with China.

4. At its 18th Meeting, the Executive Committee considered policy papers on "Approaches to ODS Phaseout in Small and Medium Size Enterprises" and on "Innovative Approaches for the Phasing out of Ozone Depleting Substances in low-ODS Consuming Countries." After further work, these papers are being considered at the Nineteenth Meeting. The development of groups of projects to meet the needs of low consuming countries or low consuming enterprises will thus be taken up in these papers and is not included in this discussion of umbrella projects.

Definition of an umbrella project

5. In the light of the above, for the purpose of this paper, an umbrella project is defined as an investment project producing ODS phase out in a single sector or sub-sector combining several enterprises using similar conversion technology.

Background

Industry Profiles

6. Article 5 countries with different consumption levels have significantly different industry profiles. In low and medium ODS consuming countries a sector is typically represented by a limited number of enterprises with similar levels of production capacity, technological sophistication and development. In high ODS consuming countries the sector usually consists of a larger number of enterprises with varying production capacities and different levels of technological advancement and development. A large sector can incorporate highly technologically developed enterprises, including affiliates of transnational corporations, as well as small-and medium-size enterprises. Multinational affiliates may be more amenable to ODS phase-out as a result of policies in their respective headquarters.

Previous Consideration of Group Projects

(a) Prior to the application of cost-effectiveness thresholds

7. A sector-based approach in phasing out ODS consumption in Article 5 countries was first considered in 1991, when the 5th Meeting of the Executive Committee considered the paper "A sector-based approach to supporting activities under the Interim Multilateral Fund." This paper proposed an integrated approach to enable the rationalization of the project preparation activities, focusing on technologies and technical options available for immediate transfer in several key-use sectors

8. Prior to the 16th Meeting several proposals were submitted in the form of groups of projects consisting of several sub-projects each. They covered the aerosol, foam, solvent and domestic and commercial refrigeration sectors. Combining several projects into one group enabled the implementing agencies to rationalize the cost of project preparation using the same consultants. In some instances it also led to a reduction of project implementation costs of up to 25 per cent, by combining procurement, technical support and training costs. Some umbrella projects led to complete ODS phase out in a sector. The choice of enterprises included in groups of projects appeared to be made according to the national strategies of the governments concerned.

9. In the domestic and commercial refrigeration sectors, projects for several refrigerator manufacturers and one compressor producer supplying compressors to them were combined in

one umbrella project. Similarly, one aerosol can-filling centre was established to satisfy the needs of several contract fillers. The objective was to recognize and preserve the strategic link between the supplier and end-users within the same sector by coordinating the time of conversion. This approach also facilitated the calculation of incremental operating costs savings for each enterprise and avoided double counting.

10. In all cases, incremental costs were calculated and presented separately for each sub-project in the umbrella project or in the group of projects. Similarly, cost-effectiveness or unit abatement cost was calculated for each sub-project by the Fund Secretariat or by the implementing agency and presented to the Executive Committee as part of project evaluation.

(b) After the application of cost-effectiveness thresholds

11. The Executive Committee has considered several umbrella projects submitted after the cost-effectiveness thresholds were established at the 16th Meeting. These submissions cover domestic and commercial refrigeration and the foam and aerosol sectors. Projects submitted were identified in national strategies as priority projects. It was recognized that approval of umbrella projects would mitigate possible market distortion. The same or similar technology was applied in these umbrella projects. Implementing agencies recognized that grouping several enterprises together would facilitate project preparation and implementation through rationalization of costs associated with technical assistance, training and procurement of equipment. In every case, cost-effectiveness thresholds were calculated for each individual sub-project.

12. Cost effectiveness thresholds were introduced by the Executive Committee at its Sixteenth Meeting as part of a package of measures to streamline the approval process. Cost-effectiveness thresholds in different sectors and sub-sectors were calculated on the basis of the cost-effectiveness of individual projects submitted by the implementing agencies. They were approved as a mechanism to achieve transparent, objective and fair distribution of funding where the projects submitted exceeded the resources available, and to achieve at the same time the maximum benefits for the ozone layer in terms of tonnes of ODS to be phased out. Once the threshold values were established, cost-effectiveness was always calculated for each project or sub-project on the basis of individual enterprises and used by the Executive Committee as a fundamental criterion in resource allocation.

The Use of Umbrella Projects

13. Umbrella projects, as defined in this paper, could continue to be used in order to realize benefits through:

- more cost-effective and efficient preparation of projects to phase out entire sectors/sub-sectors
- more cost-effective and efficient implementation of projects
- mitigation of market distortion through simultaneous conversion of competing enterprises

- maintenance of the strategic linkage between complementary enterprises in a sector (such as compressor manufacturers and refrigerator manufacturers)
- facilitating the application of regulations to ban/limit the supply of ODS to the sector/sub-sector concerned.

14. The above points all relate to preparation and implementation of projects. In this regard, the use of umbrella projects is fully consistent with the policies and guidelines of the Multilateral Fund, has no disadvantages and should be encouraged.

Role of Cost-effectiveness Thresholds in Umbrella Projects

15. The use of umbrella projects can have an additional impact, in relation to the review and approval process and the assessment of cost-effectiveness. If the cost-effectiveness of an umbrella project is calculated by considering the total cost of the project and the total ODS to be phased out, then individual enterprise proposals which do not meet established cost-effectiveness thresholds could still be eligible for funding as part of an umbrella project. If the cost-effectiveness is calculated individually for each enterprise, then each enterprise proposal will have to meet the relevant cost-effectiveness threshold, in order to be eligible for consideration. As well, in this scenario, each proposal for each enterprise would be reviewed individually for eligibility and compliance with policies and guidelines of the Executive Committee.

Individual Assessment of Enterprise Proposals Within Umbrella Projects

16. The individual assessment of enterprise proposals and the individual calculation of cost-effectiveness thresholds has the following implications, which could be seen as advantages. They are:

(a) There is no departure from the principle established by the Executive Committee at its 16th, 17th and 18th Meetings of giving priority to cost-effective projects, therefore there is no diversion of the resources of the Fund from implementation of projects which produce the most benefit for the ozone layer.

(b) Assessment of individual enterprise proposals is consistent with the basic principle of approved threshold values which were developed and calculated on the basis of individual projects.

(c) Individual assessment provides a mechanism to assess and account for eligibility of proposed incremental costs, "avoidable" technological upgrades and other policies and guidelines approved by the Executive Committee.

(d) All enterprises in a sector or sub-sector will be treated equally, whether or not they are associated with an umbrella project. The allocation of resources will be fair and equity in the treatment of enterprise proposals which come forward singly, and those which come forward in a group or umbrella project, will be maintained.

(e) The opportunity for enterprises with very good cost-effectiveness to receive allocations at a particular meeting of the Executive Committee will be enhanced, because if the cost-effectiveness value is reduced through combination with less cost-effective projects, the priority for funding will also be reduced.

17. An additional implication is that enterprise proposals which do not meet sub-sectoral cost-effectiveness thresholds, after individual review, would not go forward for approval. This is neither an advantage or a disadvantage, as it reflects the intention of the Executive Committee in establishing cost-effectiveness thresholds in the first place. However, the consequence of such projects not being eligible has disadvantages:

- firstly, for the enterprises, which have to wait until;
  - the emergence of new technology to provide a more cost-effective solution, or
  - funding of more cost-effective projects is completed, or
  - the proposal is redesigned (including through the option of partial funding) to reduce costs so that cost-effectiveness thresholds are met;
- secondly, for the country and the Multilateral Fund, since completion of phase-out in a sector or sub-sector may be delayed if the projects not eligible are the only projects remaining in that sector or sub-sector;
- thirdly, because postponement of completion of phase out in the sub-sector could give rise to temporary market distortion.

Overall Assessment of Umbrella Projects, without Consideration of Individual Enterprise Proposals

18. Overall assessment of umbrella projects and overall calculation of cost-effectiveness, without consideration of individual enterprise proposals, would have the following implications, which could be seen as disadvantages.

(a) This modality would be a departure from cost-effectiveness principles established on an enterprise-by-enterprise basis at the 16th, 17th and 18th Meetings.

(b) Eligibility of individual enterprise proposals could not be reviewed without individual assessment.

(c) A more cost-effective enterprise coming forward in an umbrella project would receive lower priority for funding than one coming forward on its own, thus introducing the issue of equity.

19. However, the following implications could be seen as advantages:

(a) A less cost-effective, but eligible project may receive higher priority for funding as part of an umbrella project than it would if submitted singly;

(b) Enterprise proposals which were outside the cost-effectiveness threshold could become eligible for funding as part of an umbrella project. While this departs from the cost-effectiveness principles established by the Executive Committee, it could enable additional enterprises to qualify for immediate funding approval, thus facilitating completion of a sectoral or sub-sectoral phase-out and assisting to mitigate possible market distortion.

Discussion

20. Debate on umbrella projects is frequently centered on the issue of cost-effectiveness thresholds. The use of umbrella projects has a much wider application, especially in relation to project preparation and project implementation. There are advantages in the use of umbrella projects irrespective of how cost-effectiveness thresholds are calculated.

21. The assessment of enterprise proposals on an individual basis has significant advantages in relation to reviewing and confirming the eligibility of proposed incremental costs.

22. The application of cost-effectiveness thresholds on an individual basis can exclude some enterprises from inclusion in an umbrella project. Thus, the opportunity for individual enterprise proposals to obtain an exemption from cost-effectiveness thresholds through the use of umbrella projects becomes the main focus of discussion in relation to the use of umbrella projects.

23. It can be argued that, in view of the extensive consideration of cost-effectiveness thresholds by the Executive Committee at its 16th, 17th and 18th Meetings, exemptions from these decisions should only occur when there are significant reasons for doing so, and that these reasons should be identified and discussed by the Executive Committee. In this regard:

- the fact that it has not been possible in current circumstances to prepare a project which meets the relevant threshold is not of itself a sufficient reason to seek an exemption;
- projects in low volume consuming countries do not need exemptions because they are eligible to be funded from the LVC allocation provided by the Executive Committee specifically for this purpose;
- projects involving low consuming enterprises (LCEs) do not need exemptions as they will be able to make use of arrangements developed specifically for those enterprises.

24. The remaining category of projects for which an exemption might be considered consists of those projects which represent the completion of phase-out in a sector, or a sub-sector recognized by the Executive Committee. In this situation, it can be argued that the benefits to a country and to the Multilateral Fund arising from completion of phase-out in a sector may be a sufficient reason for setting aside cost-effectiveness thresholds for individual enterprises, in favor

of an umbrella approach. But in any circumstances, the overall umbrella project should meet established thresholds, and all components of it should be eligible for funding.

25. In examining the possible use of umbrella cost-effectiveness calculations to achieve a sectoral or sub-sectoral phase-out, it would be prudent to consider whether limits should apply for some parameters such as:

- the maximum consumption level of an enterprise which might be permitted to exceed a cost-effectiveness threshold;
- the extent by which thresholds might be exceeded by individual enterprises, for instance, up to 20% or 50% above the threshold;
- limits on project costs for individual enterprise proposals which might be permitted to exceed a cost-effectiveness threshold.

26. It should be noted that it would be possible to adopt the use of umbrella cost-effectiveness calculations, while still maintaining individual assessment of enterprise project proposals. This would maintain the Executive Committee's current level of scrutiny and review of eligibility and other criteria. It would also enable assessment of any boundary limits on individual enterprise proposals that the Committee might wish to observe, as outlined in the paragraph above.

Guidelines and Criteria for Umbrella Projects

27. On the basis of the above discussion, guidelines and criteria have been developed which cover the options of both individual assessment and umbrella assessment of cost-effectiveness in umbrella projects. The proposed guidelines are as follows:

> "Having determined that proposals to phase-out ODS in a sector or sub-sector could best be prepared and implemented by use of umbrella projects, implementing agencies are encouraged to formulate and submit such projects. Accordingly, when more than one enterprise is involved in a sector or sub-sector, projects for those enterprises should be grouped together to facilitate cost-effective preparation and implementation. The following criteria should be used in the preparation and review of umbrella projects:
>
> (a) An umbrella project should target a group of large or medium sized enterprises in a sector or sub-sector using similar technology. Low consuming enterprises may wish to be considered under this approach, but will normally make use of arrangements specifically designed for LCEs.
>
> (b) Umbrella projects should demonstrate economic or efficiency benefits by:
> - rationalizing project preparation activities
> - realizing economies of scale in procurement of equipment and services
> - grouping activities such as technical assistance, testing, commissioning and training
> - rationalizing equipment needs, e.g., test equipment, recycling equipment.

(c) Implementation of umbrella projects should result in achievement of some or all of the following objectives:
- avoiding unintentional market distortions by converting to non-ODS technologies a group of competing enterprises at the same time
- accelerating implementation
- achieving uniformity of calculating operational cost/savings
- recognizing and preserving the strategic link between the supplier and end-user within the same sector by coordinating the time of conversion; and
- facilitating the introduction of uniform safety codes in sectors where hydrocarbon technology is used
- facilitating the application of regulations to ban/limit the supply of ODS to the sector or sub-sector concerned.

(d) In keeping with established practice, each enterprise proposal within the umbrella project will be reviewed individually in regard to eligibility and other criteria, established by the Executive Committee.

<u>Alternative 1 - Individual Cost-effectiveness</u>

(e) Each enterprise proposal within the umbrella project must meet the cost-effectiveness thresholds established for the relevant sector or sub-sector.

<u>Alternative 2 - Group Cost-effectiveness</u>

(e) The cost-effectiveness of an umbrella project will be calculated using the overall cost to the Multilateral Fund and the overall ODS to be phased out, each of which will be assessed according to established policies and criteria, provided that:
- the umbrella project includes all the remaining enterprises in a sector or a sub-sector for which cost-effectiveness thresholds have been established by the Executive Committee, and there will be no further requests for funding from the Multilateral Fund for that sector or sub-sector
- no individual enterprise proposal has a cost-effectiveness greater than -- per cent of the established threshold."

The Case of the Umbrella Project for the Philippines

28. A case study was prepared by the Secretariat to demonstrate the application of Guidelines and Criteria for consideration of umbrella project for the Philippines. The case study is contained in Annex 1.

Recommendation

29. It is recommended that the Executive Committee adopt one of the above options for Guidelines and Criteria for consideration of Umbrella Projects, for a trial period of 18 months.

ANNEX 1

THE CASE OF AN UMBRELLA PROJECT FOR THE PHILIPPINES

1. The project proposal was submitted by the World Bank to the 18th Meeting as an umbrella grant request to obtain funding to eliminate the remaining use of CFC-12 at four household refrigerator manufacturers in the Philippines by conversion to HFC-134a based technology. Each of the four companies had already received funds for conversion of their insulation foam-blowing operations to non-CFC technology. The grant request for conversion of the refrigerant part was calculated taking into account allocations approved for the foam conversion component for the four companies, and on the basis of aggregated ODP phaseout for both the foam and the refrigerant components. Only one sub-project meets the cost-effectiveness threshold (US $13.76 per kg ODP phased out) established by the Executive Committee in the domestic refrigeration sector. Cost effectiveness of the four sub-projects ranges from US $8.49 to 128.5/kg ODP. However, if the cost-effectiveness is calculated for the umbrella project as a group it meets the established threshold.

2. There are altogether five domestic refrigerator manufacturers in the Philippines. The four companies constituting the umbrella project submitted by the World Bank represent over 90 percent of all refrigerators manufactured in the Philippines. One company in the group is the biggest refrigerator manufacturer and the only one which meets the established threshold. The three companies are medium-sized enterprises. The Government of the Philippines requested that a sector-wide proposal be submitted in order that the project could proceed for all companies simultaneously, thereby phasing out remaining ODS in the sector and minimizing unintentional market distortion.

3. A project proposal for the only other medium-size plant in the Philippines was submitted earlier by UNDP and received allocations for conversion using similar technology. The cost-effectiveness of the approved project did not exceed the established threshold. The scale of operations and ODS consumption of this enterprise is comparable with the three medium-sized companies in the umbrella project.

4. The main issue arising from the proposed group project for the Philippines presented at the 18th Meeting was whether projects which on their own merits would not meet the cost-effectiveness threshold should be considered in combination with more cost-effective projects in the same sector, as an umbrella project which would meet the cost-effectiveness threshold.

5. Other issues arose during review of the project by the Fund Secretariat. They do not concern the modality for calculating cost-effectiveness, but are related to the eligibility and cost of the individual enterprise proposals. These issues can only be satisfactorily resolved by reviewing each enterprise proposal.

Application of Guidelines and Criteria

6. Each alternative for the guidelines and criteria makes provision for enterprise proposals to be reviewed individually. This will enable the issues concerning individual enterprises in the Philippines umbrella project to be properly resolved.

7. Under the first alternative, three of the four enterprises will not be eligible to be considered as part of an umbrella project on the grounds of cost-effectiveness. Under the second alternative, all enterprises would be eligible for consideration as part of an umbrella project.