

Annex XI

Terms of reference for a study on alternatives to CFC in rigid foam applications

1. The Executive Committee of the Multilateral Fund wishes to undertake a study to examine the economic aspects of conversion from CFCs in the rigid foam subsector. The purpose of the study is to provide transparency and comprehensive information on:

- The factors leading to the choice of alternative technologies in Article 5 countries at the producing enterprise level. Factors to be considered are, inter alia cost, availability of alternatives, the interim or final nature of the alternative, effects of local safety regulations or concerns, availability of Fund assistance, etc.;
- The short-term and long-term economic consequences for firms converting to various alternatives to CFCs.

2. The objective of the study is to provide to firms in Article 5 countries a greater understanding of the economic impacts of conversion to various alternatives. The Executive Committee should gain a clearer picture of how Fund policies may influence the choice of alternatives.

3. The following key factors shall be considered in the study:

- The study should cover the full range of alternative technologies to CFCs in the rigid foam sector, i.e. hydrocarbons, water, CO₂, HCFCs, HFCs, etc.;
- The study should examine the relevant funding rules of the Multilateral Fund and analyse the impacts on the choice of alternatives and (future) implications for the Multilateral Fund. As a starting point it should consider projects funded to date, their choices of technologies and all completion reports available on those projects;
- The study should carry out an analysis of capital costs associated with the foam projects. This would include the equipment directly needed to make the transitions to the technologies investigated, and the changes necessary to make certain transitions. It should also consider the useful life of foaming and other related equipment that will need to be procured to enable the conversion from CFCs;
- The study should examine the operational cost or benefit associated with the use of the alternative technology selected. Related costs should also include costs for changes in the starting material and additives taking into account the prevalent use of premixed systems and costs for performing changes of the properties of the product (for example density, R-factor, etc.). The focus should be on estimating total operational cost, as well as any costs that may be incurred by the firm that are not compensable under Fund rules. The latter may include costs for relevant country firms that face project costs exceeding the Fund's cost-effectiveness thresholds, project term cost or benefit (beyond the compensable 2 years) of providing the alternative chemical at a level needed to sustain current output, and costs of secondary conversions from HCFCs considering factors related to the timing of compliance with the Montreal Protocol's HCFC provisions, as well as factors related to the useful life, usability, or

retrofit potential for the use of current equipment, cost of conversion and evolving market acceptability issues;

- In order to enable enterprises to clearly understand short-term and long-term economic implications they may be facing, the study should make assumptions regarding the cost of CFCs and the various alternatives. With regard to alternatives under advanced development but not currently commercially available, the study should make a range of reasonable assumptions on the basis of probable scenarios ahead. The study should also consider the added cost/benefit of conversion using each of the various technologies. In that regard, it should assume a 4-, 10- and 15-year project lifetime;
- While, to the extent found relevant, the above factors should be considered, they are not meant to be overly limiting. In developing a consistent evaluative methodology, the consultant should contact purveyors of the different technological options. In the conduct of the study, efforts should also be made to utilize local expertise gained in Article 5 countries by the implementing agencies;
- The total cost (both capital and operational) associated with using different alternatives should be presented in terms of net present value using at least two assumptions for a discount rate;
- The study should contain case studies as well as (a) table(s) providing information relevant to different foam applications, alternatives, size of firms and economies of scale (measured by current use of tons of CFCs). Representative samples should be considered from the point of view of the end users. In that regard, total net-present-value costs of using the different options for the different project lifetimes for firms of different sizes should be presented.

4. The Secretariat of the Multilateral Fund shall contract for the services of a qualified independent consultant experienced in conducting economic evaluations at the enterprise level and familiar with conversions to related technologies to carry out the study.

5. If possible, the Executive Committee believes it would be desirable to have at least a summary of findings delivered to the Executive Committee at its 32nd meeting.
