

**Submission on practical solutions to address the implications of the situation where issuing certified emission reductions (CERs) for the destruction of hydrofluorocarbon-23 (HFC-23) at new hydrochlorofluorocarbon-22 (HCFC-22) facilities could lead to higher global production of HCFC-22 and/or HFC-23 than would otherwise occur.**

Kiko Network

## **Introduction**

The twenty-fourth session of the Subsidiary Body for Scientific and Technological Advice (SBSTA-24) in May 2006 invited Parties, admitted observers and relevant intergovernmental organizations to submit their inputs elaborating practical solutions to address the implications of the situation where issuing certified emission reductions for the destruction of HFC-23 at new HCFC-22 facilities could lead to higher global production of HCFC-22 and/or HFC-23 than would otherwise occur.

Kiko Network welcomes the opportunity to provide its view on this important issue.

## **General Principles**

In considering this issue, it is necessary to take into account the following general principles.

First, an implementation of one multilateral environmental agreement (MEA) must not impair other MEA's objectives. In this particular case, the implementation of the Kyoto Protocol (including the use of Kyoto Mechanisms) should not result in undermining the objectives of the Montreal Protocol and the Vienna Convention.

Second, although the production of HCFC-22 for dispersed uses is not regulated in developing countries at this moment and the regulation is not scheduled until 2016, voluntary efforts to reduce HCFC-22 need to be encouraged, not discouraged, given the objective of the Montreal Protocol and the Vienna Convention. The fact that the complete phase out of HCFC-22 consumption is already scheduled needs to be considered seriously.

Third, although developing countries have no targets for GHG emissions including HFC-23 under the Kyoto Protocol, taking actions to limit GHG emissions is a general obligation for all parties under the United Nations Framework Convention on Climate Change (UNFCCC) and hence every party should encourage all the HCFC-22 manufacturers to minimize the emissions of HFC-23. At the very least there should be no incentives for them to increase such emissions.

Fourth, one of the two objectives of the Clean Development Mechanism (CDM) is to promote sustainable development in developing countries. On one hand, the current CDM functions well as a market mechanism which provides cheap emission reduction opportunities but it does not work properly as a driving force towards sustainable development in developing countries. Specifically more emphasis is needed on renewable and energy efficiency projects, which have high sustainable development values, and an introduction of additional obstacles such as cheap credits with low sustainable development values needs to be avoided.

## **Types of implications**

There are at least four kinds of implications which need to be considered.

- 1) Increased consumption of HCFC-22 (for dispersed use) in developing countries up to 2015 (and the resultant higher level of emission quota after the period)

It is generally understood that production of HCFC-22 in developed countries will have to be decreased due to the commitment under the Montreal Protocol. However, the production of HCFC-22 in developing countries is forecasted to increase in coming years, at least until 2015. The trend is partly due to the ongoing shift of production from developed countries to developing countries. This trend

could be accelerated by allowing HFC-23 destruction projects at new HCFC-22 facilities as additional opportunities for the revenue from the type of projects give perverse incentives for HCFC-22 manufactures to increase production of HCFC-22 in developing countries.

Since the Montreal Protocol requires developing countries to freeze its consumption for disperse uses at 2015 by 2016, it is important to note the higher production and consumption up to 2015 would raise the level of consumption from which the reduction starts at 2016. If the consumption level of 2016 is raised more than it would otherwise be, this simply means higher quota of HCFC-22 for developing countries thereafter. Thus it would lead to higher production of the substance in developing countries.

The shift of production poses another problem of double counting. On one hand, the shift is considered “reduction” of HFC-23 emission in the developed country and, on the other hand the project developer receives CERs from the HFC-23 destruction at the new plants in the host country.

## 2) Slower phase-out of HCFC-22 in developing countries after 2015

The Montreal Protocol requires developing countries to freeze its consumption of HCFC-22 for dispersive uses at 2015 levels by 2016, and to phase out at 2040. Under such circumstances, it is conceivable that some of the manufactures may voluntarily prepare an earlier phase-out. Also the governments may prepare to introduce policies earlier to make the trend towards the complete phase-out.

However, there is no detailed schedule for reduction toward phase-out between 2015 and 2040. This absence of specific, gradual phase-out schedule generally gives manufactures to produce HCFC-22 as long as the market demand requires. In addition to that, if additional incentives to produce HCFC-22 are introduced due to the revenue from HFC-23 destruction projects, it would certainly cut motivation for manufactures to reduce production and look for Not-In-Kind alternatives or substitutes. It could also delay the introduction of policies to reduce HCFC-22 consumption.

This would result in slower phase-out of HCFC-22 in developing countries for disperse uses. Although it is difficult to quantify this effect as it requires counterfactual estimates, generating this trend itself is clearly against the objectives of the Montreal Protocol and the Vienna Convention.

## 3) Increase of HFC-23 emissions

It is well known that the generation rate can be reduced if the plants are equipped with proper abatement technologies, though it is impossible to eliminate HFC-23 emissions completely from the production process. Allowing HFC-23 destruction projects at new HCFC-22 facilities makes it more profitable for project participants not to take such measures and thus generation rates of HFC 23 could be discouraged from improvement.

It may be possible for project developers to prove that they do not arbitrarily increase the generation rates of HFC-23 at HCFC-22. However, it is almost impossible to ask them to prove they do not arbitrarily refrain from equipping new facilities with more effective abatement technologies as there is no regulation requiring them to do so.

## **Evaluation of the proposed practical solutions**

For the HFC-23 destruction projects at new HCFC-22 facilities to be allowed, the abovementioned implications need to be addressed properly one way or another. There are already several proposed solutions to address such implications. Below we examine the major proposals to assess if they are really effective.

### 1) Applying a discount rate to the achieved emission reduction in the project

Several parties proposed the idea of applying a discount rate to the achieved emission reduction in the projects. It is argued that the discount would reduce perverse incentives for manufactures to intentionally increase HCFC-22 production for the purpose of earning credits.

Since it directly reduces the amount of CERs which the project participants could have obtained from the project, it reduces the perverse incentives to some extent. It is obvious that the effect of this

approach depends on the actual rate of discount. How to determine the rate is an important factor in this regard. However, it is difficult to determine the appropriate level of a discount rate as it also depends on the price of carbon credits and it is difficult to forecast the price at this moment.

More fundamentally, this approach does not eliminate the perverse incentives themselves and thus cannot be considered as a fundamental solution.

2) Setting a fixed cap on the quantity of CERs to be issued

Another similar proposal is to set a fixed cap on the quantity of CERs to be issued from this type of projects. This approach faces the same problem with the above “discount rate” approach as the effectiveness of a cap depends on the price of carbon. Again it also does not solve the problem as it cannot eliminate the perverse incentives.

3) Requiring the project developer to provide relevant information to demonstrate that the HCFC-22 produced by the project plant meets the real market demand

A few parties proposed that if the project developer can prove the HCFC-22 production at the project plant meet a real market demand then the project can be allowed.

It is very difficult to determine what the real market demand is. It may not be plausible to estimate the market demand in overall HCFC-22 market in even in a rough sense. In this case, however, what is needed is a plant-level information as CDM is a project-based mechanism which needs to have a project boundary. In addition, low price of ‘heavily subsidized’ HCFC-22 would be likely to increase the market demand. That would make it even more difficult to define the real market demand. Finally, the lack of data would also severely hinder the implementation of this approach. To define a real market demand, sufficient data is necessary for the demand and supply for feedstock use of HCFC-22 as well as for the current production and use of HCFCs in developing countries, neither of which is required under the Montreal Protocol.

4) Imposing a tax on the revenue from earned CERs

It is also proposed to impose some kind of tax on the revenue of CERs from this type of projects and use the tax revenue to support activities to promote sustainable development in developing countries. If the proposal assumes that the tax is collected by the host governments, it is not feasible to oblige every developing country which has HCFC-22 facilities to set up such tax domestically just for this purpose and, even if it is possible, setting the tax rate would face the same problem with the abovementioned first two proposals. Furthermore, it may contribute to sustainable development in the host country but it would not solve the problem of potential negative impacts on the ozone layer protection. However, the idea could be improved and utilized for the emission reduction of HFC-23 (see below)

### **Other means to reduce HFC-23 emissions in developing countries**

One of the difficulties related to this matter is that the production and consumption of HCFC-22 is forecasted to increase in developing countries, whether the HFC-23 destruction project is allowed under CDM or not. Therefore, if no other measures are taken, the emissions of HFC-23 from those newly developed HCFC-22 will keep emitted into the atmosphere.

Some would argue this is why the HFC-23 destruction project at new HCFC-22 facilities should be allowed. However, it is important to bear in mind that CDM is by nature carbon neutral to the Kyoto Protocol targets and, even if reduction of HFC-23 emission is achieved, it is always offset by emissions in developed countries.

It is therefore necessary to think about what kind of other measures can be implemented to reduce HFC-23 emissions in developing countries, especially where the necessary fund can be obtained.

Global Environmental Facility (GEF) is mentioned for this purpose in the past. However, even at this moment, the total financial scale of GEF is not enough to cover necessary projects in major environmental issue areas. The fundamental problem of this matter is not an absolute lack of funding resources but rather a lack of financial incentives to take appropriate measures to abate HFC-23 at

HCFC-22 facilities in developing countries. It may not be the best idea to use GEF for this purpose.

Another possible option is to set up a new fund for the abatement of HFC-23 at new HCFC-22 facilities. The fund's source could be collected by imposing levies under the UNFCCC on the revenue of CERs from this type of projects.

After the fund is established and is made available to HCFC-22 manufacturers, then later plant facilities could use the fund for the abatement of HFC-23 without CDM project.

### **Conclusion**

Based on the discussion about the implications and the proposed solutions, we believe that all of the proposed solutions leave uncertainties about the effectiveness to address all the implications. We therefore conclude the exclusion of this type of project activities from CDM is the appropriate course of action.

Even if the type of projects is to be allowed under CDM, part of the revenue must be collected to provide fund for the abatement of HFC-23 in later HCFC-22 facilities in developing countries, so that further perverse incentives for such CDM projects as discussed here can be reduced.