
ENFORCEMENT OF THE CFC REGULATIONS IN THE NETHERLANDS

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SUMMARY

As a result of the Montreal protocol, the subsequent directives of the European Community, the Dutch policy objectives of the National Environmental Policy Plan, and the ensuing chlorofluorocarbon-action programme, the Order concerning substances depleting the ozone layer was published on 5 November 1992. In order to attain the reduction targets defined in the Resolution, an enforcement organisation has been created.

In April 1991 this was started. After taking an inventory of the entire target group, selecting enforcing options, drawing up the enforcement programme, and setting up the enforcement organisation, the implementation of checking compliance of regulations was put into effect on 17 February 1993.

During 1993 about 1,600 companies were visited. In general, compliance was found to be unsatisfactory; companies held back and waited whether compliance would really be enforced.

Although matters can be improved, nevertheless it can be stated that already a great deal has been achieved in one year of enforcement.

1 INTRODUCTION

On 5 November 1992 the Order concerning substances depleting the ozone layer (the so-called CFC-Order) was published(1).

This paper provides the historic background to the CFC-Order. Furthermore, it will be outlined how the enforcement organisation in the Netherlands is set up to check compliance of the CFC-Order. Specific problems and preliminary results of the enforcing activities in 1993 are presented.

Considering the size of the project and the complexity of the problems, inevitably this paper can be but a brief outline of the problems encountered and the results achieved. An attempt is made to offer a hand to those who are planning to set up a similar organisation or who are already involved in this by reporting the experiences acquired in the Netherlands.

2 HISTORY

2.1 International

In the Montreal Protocol of 16 September 1987(2) concerning substances depleting the ozone layer (when CFCs are mentioned in the text, these are understood to mean all substances coming under the effect of the protocol), it was decided by all participating countries to reduce considerably the production and use of ozone depleting substances or to eliminate these due to the effect of these substances on the ozone layer and its attendant effects on mankind and environment as a result of the increased ultraviolet radiation.

Scientific research and results of atmospheric observations led to tightening the reduction scheme in subsequent meetings between the parties of the protocol in London (1990) and Copenhagen (1992). Table 1 shows the reduction agreements of the amended protocol (1992). The agreements with regard to chlorofluorocarbons (better known as HCFCs) are not discussed in this paper.

Table 1. Reduction Agreements in the Amended Protocol (1992)

	Reference Year	1992	1993	1994	1995	1996
Reduction Agreements (in percentage)						
Chlorofluorocarbons (CFCs)	1986	0		75		100
Halons	1986	0		100		
Other CFCs*	1989	0	20	75		100
1,1,1-trichloroethane	1989		0	50		100
Tetrachlorocarbon	1989	0			85	100

* CFCs included in the protocol revised in 1990.

2.2 European Community

On 30 December 1992 a directive of the European Community (EC) (3) came out, in which the European regulations for ozone depleting substances are adapted to the agreements made in Copenhagen. In this directive the reduction scheme for the EC is laid down. With respect to halons and 1,1,1-trichloroethane, it lays down the Copenhagen agreements, as to CFCs and tetrachlorocarbon a tighter reduction scheme was decided upon (see table 2).

Table 2. Reduction Scheme for the European Community

	Reference Year	1991	1992	1994	1995	1996
Reduction Agreements (in percentage)						
Chlorofluorocarbons (CFCs)	1986	0	50	85	100	
Halons	1986	0		100		
Other CFCs*	1989	0	50	85	100	
1,1,1-trichloroethane	1989		0	50		100
Tetrachlorocarbon	1989	0	50	85	100	

* CFCs included in the protocol revised in 1990.

2.3 The Netherlands

The international regulations (as laid down by the protocol as well as the EC) concerning the ozone layer depleting substances made the Netherlands include action point A.1 into the National Environmental Policy Plan in 1989:

".... Domestically, the aim will be elimination of the use and emission of completely halogenated CFCs in 1995 or soon after, assuming that substitute substances are available."(4)

Following this action point of the National Environmental Policy Plan, the government together with industry formed the CFC commission, whose main task was to make a CFC action programme in which agreements between various branches about reducing the production and use of CFCs and other ozone-depleting substances should be recorded. On 21 June 1990 the CFC commission launched the CFC action programme.

These agreements have been laid down in the CFC-Order by which they have gained force of law. In order to enforce compliance of the CFC-Order, the Inspectorate for the Environment has created an enforcement organisation which has been operational since 17 February 1993.

3 ENFORCEMENT ORGANISATION

3.1 Introduction

Enforcement of the CFC-Order is primarily the task of the Inspectorate for the Environment, being a part of the ministry of Housing, Spatial Planning and the Environment (VROM) because the minister of VROM has been appointed as competent authority for the implementation of the CFC-Order.

In 1991 the Inspectorate for the Environment decided to start a project for the enforcement of the CFC-Order in order to achieve the objectives set out in the National Environmental Policy Plan. This meant a phased approach to be distinguished in the following phases:

- 1 Inventory
- 2 Options for enforcement
- 3 Programme for enforcement
- 4 Setting up the organisation for enforcement
- 5 Enforcement
- 6 Aftercare of the project

Phase 1 started on 10 April 1991, and phase 5 will end on 31 December 1995. In the course of 1994 a decision will be taken on the details of phase 6. In the following paragraphs the procedures and main results of each phase are described.

3.2 Inventory

From 10 April 1991 to August 1991 an inventory was taken of the total target group. By means of interviews and branch investigations, it was examined per branch (read; fields of application) how many companies qualify for checking and what are the branch-specific points of interest for enforcement.

On the basis of the chain-approach of the enforcing of the CFC-Order, the companies within these branches were further classified according to the company's function in the chain; a producer has a different function from a user. This classification was of particular significance for gaining an insight into the methods of checking companies with different functions; for example, a company visit to a dealer in chemical products will be administrative in character whereas a company visit to an installer will be of a more technical nature, irrespective of the branch in which is operated.

The classification of dealers in chemical products and the producers of CFCs according to the different fields of application proved to be artificial and is no longer used. In addition, the use of CFCs in spray canisters is not discussed because in the Netherlands its use has been reduced to virtually nil.

Following in table 3 is a brief description of the results of the inventory taking:

Table 3. Brief Report of the Results of the Inventory Taking

Target Group	Number of Companies	Points of Interest for Enforcement
Production and trade	200	- Compliance of regulations with regard to import - Obtaining customers' lists
Refrigerating installers	1500	- Only licensed installers are permitted to carry out refrigerating engineering. - Is the installation work carried out according to the technical requirements? - Administrative requirements
Users of refrigerating installations	200.000	- Only a licensed installer is permitted to carry out checking and maintenance work - Administrative requirements - Leakage of installation
Users of solvents and cleaning products	600	- Surface treatment equipment must comply with recovery requirements - Administrative requirements - Storage requirements
Installers/suppliers of halon extinguishing gas installations	15	- Have new installation ben sold after 1-1-1993? - Essential applications - Waste disposal; halon bank
Users of halon extinguishing gas installations	270.000	- Essential applications - Waste disposal; halon bank
Suppliers of insulating materials	25	- Insulating materials have to be CFC-free from 1-1-1993 - Import end export limitations
Users of insulating materials	unknown	- Random check at 50 building sites - Checking via supplier

Considering the large numbers of users of refrigerating installations and potential users of halon extinguishing gas installations, provinces and municipalities have already been requested in this phase to cooperate in the enforcing task by including the monitoring of the CFC-Order in their regular company inspections.

3.3 Options for enforcement

In this phase of the project, running from August 1991 to November 1991, an attempt was made to convert the data of the inventory taking to the necessary financial and personnel effort by specifying the enforcing tasks per target group. Ultimately, a high visit frequency and a maximum effort by provinces and municipalities was chosen.

Table 4 shows per branch the visit frequencies, the time required per visit (the so-called index numbers) expressed in man-days, subdivided according to the executing agency.

On the basis of the ensuing total effort, the financial budget for the implementation of the enforcing activities has been fixed at 5 million guilders. These costs are determined 90% by personnel costs. The remainder has been allocated to sampling and analysis of the samples, travelling costs, and peripheral equipment.

Table 4 shows that the Inspectorate for the Environment has to supply yearly an effort of 2370 man-days to be able to carry out the aforesaid activities. In combination with the management of the project, it amounts to a total effort of 18 man-years to implement the enforcing task.

Table 4. Effort Required per Branch

Target Group	Number of Companies	Visit Frequency per Year	Index Numbers (in man-days)	Total Effort per Year	Executing Agency*
Production and trade	200	1	2	400	IMH
Refrigerating installers	1500	1/3	3	1500	IMH
Users of refrigerating installations	200.000	1/5 (average)	0,1	4000	Provinces and municipalities
Users of solvents and cleaning products	600	1/2	1	300	IMH
Installers/suppliers of halon extinguishing gas installations	15	1	3	45	IMH
Users of halon extinguishing gas installations	270.000	1/5 (average)	0,1	5400	Provinces and municipalities
Suppliers of insulating materials	25	1	3	75	IMH
Users of insulating materials	50	1	1	50	IMH

* IMH is an abbreviation for the Inspectorate for the Environment.

3.4 Programme for enforcement

After the total necessary personnel capacity had been calculated, a programme for implementation in the years 1992-1995 was drawn up from November 1991 to July 1992. This programme outlines the organisation form, the required training, the work agreements with other agencies, the necessary facilities, the information towards branches, and the judicial sequel. Following are a few relevant results.

3.4.1 Organisation form

An organisation form within the existing organisation of the Inspectorate for the Environment was decided. The project team consists of three region teams, who carry out company visits and in case of violations see to the follow-up, and the coordination centre, which has a facilitating and managing role and functions as a checkpoint for the provinces and municipalities.

3.4.2 Work agreements with provinces and municipalities

Via the coordinating organisations of provinces and municipalities, it has been agreed that these will include the monitoring of the CFC-Order in the execution of their regular tasks in order to restrict the extra effort to a minimum. The Inspectorate for the Environment will play a facilitating role and take over prosecution as soon as violations have been established. In addition, the Inspectorate for the Environment will publish an enforcement handbook describing the background to regulation for the benefit of enforcers of provinces and municipalities.

Through the national coordination commission for the enforcing of environmental legislation (a collaboration between enforcing agencies involved in environmental legislation), the enforcing of the CFC-Order has been raised to national priority, which means that all associated enforcing agencies will pay extra attention to enforcing the CFC-Order.

3.4.3 Information towards branches

The information towards companies in the various branches is supplied as much as possible by the branch organisations. The ministry of VROM has published a brochure containing the most relevant regulations and consequences for trade and industry.

3.4.4 Judicial follow-up

Considering the short term within which the reduction of emission and use must be realised, a stringent approach was chosen; after a brief information and warning phase in 1993, compliance will be enforced with all available tools.

3.5 Setting up the organisation for enforcement

From July 1992 until 17 February 1993, the organisation was given shape. Following are the main activities and results:

- Seventeen people were taken on. These people have all received an initial training.
- The enforcement handbook describing the background to the regulations has been composed for the benefit of the enforcers of the provinces and the municipalities.
- Drawing up a detailed monitoring programme for the separate region teams and the coordination centre.
- Setting up an information system for the purpose of the company visits.
- Drawing up questionnaires for the purpose of the company visits.
- Establishing the tasks and responsibilities of the project members.
- Establishing a procedure for sampling and analysis method to be used. At present this is still in the making.

3.6 Enforcement

On 17 February 1993 the enforcement of the CFC-Order has been started. It will continue until 31 December 1995. Every year the results are reported to the minister of VROM. At this moment the annual report of 1993 is being drawn up.

In addition, in 1993 an evaluation was made of the procedure and starting points of the preparation for the implementation of the project. The most important results up till now are as follows.

3.6.1 Compliance

1,600 companies in all have been visited, divided among the various branches. Generally, compliance conduct of the companies was moderate to poor. This was caused in particular by the expectant attitude of the companies. A number of times it was indicated that the inspector's visit would be awaited.

There are, however, differences between the various branches. In the refrigerating branch compliance of the administrative requirements of the CFC-Order proved to be very bad. With regard to the leakproof quality of the installations, no unequivocal conclusions can be drawn due to the lack of good administration.

In the solvent and cleaning products branch, companies also failed to meet the administrative requirements. Degreasing without any form of recovery appeared to take place in 15% of the companies visited.

The insulating materials containing CFCs proved to be imported most of the time. In most cases in which a violation was established, a warning was given. The main reason for this is that in the majority of these cases the violations were administrative in character, which could be fairly easily

rectified by the companies concerned. A warning means in this case that a company receives a limited term to rectify the violation. Should a second inspection reveal that one does not satisfy the requirements, criminal or administrative action is taken.

In eight cases criminal action proved to be necessary to rectify the violation. This number might increase because a great deal of re-checking has yet to be carried out. In three cases in which the companies refused to cooperate with the inspection administrative action was taken. These proceedings are not yet completed.

3.6.2 Familiarity with the CFC-Order

First estimates seem to indicate that about 60% of the total target group has been informed in some way or another about the CFC-Order. There are, however, great differences between the various branches. A further data analysis has yet to be carried out.

3.6.3 Monitoring programme

The 1993 evaluation showed that the monitoring programme for the coming years has to be set up differently. In 1994 clearly defined actions within a certain branch will take place and the index numbers for the company visits will be adjusted on the basis of the experiences gained in 1993.

Furthermore, a more uniform approach for correcting violations is advised. As a result a procedure has been drawn up indicating which judicial followup should be carried out by the enforcing officer in case of a violation.

3.6.4 Sampling and sampling analyses

Sampling and sampling analysis appear to be less simple than these were thought to be in the preparatory phase of this project. It turned out that there were no standards, there was no experience with sampling CFCs from installations under pressure, the analytical methods for the determination of CFCs in insulating material were not quantitative, and leaks in installations were detected on the basis of grammes per year instead of parts per million. The Government Institute for Health and Environment is seeking a solution for these problems.

3.6.5 Jurisprudence

As the regulations are relatively recent, there is as yet no jurisprudence. For that reason much attention was paid in 1993 to the interpretation of the regulations. Within the ministry, standpoints have been taken in cases in which the regulation was not unequivocal. A consequence of these problems was that less decisive and efficient action was taken in case of violations.

3.7 Aftercare of the project

In the initial planning of the project, it was assumed that after 1 January 1996 enforcement would become much easier and that it could be limited to inspecting trade and production of CFCs. In the meantime, views have changed. After 1 January 1996 many enforcement activities will still be necessary in other fields of application; for example, the use of HCFCs will be limited considerably, and companies in refrigerating branches will go on using hydrofluorocarbons (better known as HFCs), which come under the CFC-Order but not under the effect of the protocol.

In 1994 the Inspectorate for the Environment will decide which enforcement activities will be carried out after 1996.

4 CONCLUSIONS

- The chosen approach of the enforcement of the CFC-Order in the Netherlands has led to implementation of the inspection task within a relatively short period of time.
- Compliance of the CFC-Order in the Netherlands is still poor. In general, it can be stated that companies have held back. If inspection does not take place, the company will not take action on its own initiative to comply with the CFC regulation.
- Interpretation problems with regard to the CFC-Order and the related environmental legislation have provided many enforcement problems. These impeded a decisive and effective approach.

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