

Overview Assessment:

Implementation of PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes



**OSPAR Commission
2006**

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”) was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Community and Spain.

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par la Communauté européenne et l'Espagne.

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Executive Summary/Récapitulatif

This document provides an overview and assessment of the implementation of PARCOM Decision 92/3 on the Phasing Out of PCB and Hazardous PCB Substitutes in the OSPAR Convention area in 2005. It is based on national implementation reports received from eight of the 15 Contracting Parties which have been requested to submit, in the 2005/2006 meeting cycle, reports on the national measures taken, and their effectiveness, to give effect to the provisions of the Decision in their territories. So far, Ireland, Luxembourg and Portugal have not supplied evidence that the measure has been implemented in their territories and Iceland and Switzerland have not reported on the effectiveness of their measures taken.

Le présent rapport comporte un récapitulatif et une évaluation de la mise en œuvre de la Décision PARCOM 92/3 sur l'abandon des PCB et des succédanés dangereux des PCB dans la zone de la Convention OSPAR en 2005. Il se fonde sur les rapports nationaux de mise en œuvre communiqués par huit des quinze Parties contractantes. Ces dernières sont tenues de communiquer, durant le cycle des réunions 2005/2006, des rapports sur les mesures nationales qu'elles ont prises ainsi que sur leur efficacité afin d'appliquer les dispositions de la Décision dans leur territoire. Jusqu'à présent, l'Irlande, le Luxembourg et le Portugal n'ont pas communiqué d'informations qui indiquent que des mesures ont été mises en œuvre. L'Islande et la Suisse n'ont pas présenté de rapport sur l'efficacité des mesures prises.

Information submitted by Contracting Parties in 2005 and the previous implementation reporting round in 2000/2001 showed no major changes. Based on information from both reporting rounds, PARCOM Decision 92/3 can be regarded as broadly implemented by Contracting Parties reporting.

Les informations communiquées par les Parties contractantes en 2005 ainsi que la série précédente de rapports de mise en œuvre en 2000/2001 n'indiquent aucune modification importante. On peut considérer, à partir de ces deux séries, que les Parties contractantes ont notifié, au sens large, la mise en œuvre de la Décision PARCOM 92/3.

Most PCBs used in closed applications have been destroyed or are about to be destroyed. Those used in open applications, such as in building materials, are destroyed or will be removed in connection with reconstruction or demolition measures.

La plupart des PCB utilisés en circuits fermés ont été ou vont être détruits. Ceux qui sont utilisés en circuits ouverts, tels que dans les matériaux de construction, sont détruits ou seront retirés selon les mesures relatives à la reconstruction ou à la démolition.

As far as data about hazardous PCB substitutes were submitted it can be concluded that inventories of hazardous PCB substitutes have not been established. Moreover, information about measures and emissions from hazardous substitutes is incomplete.

A partir des données soumises concernant les succédanés dangereux des PCB, l'on peut conclure que les inventaires des succédanés dangereux des PCB n'ont pas été mis sur pied. D'autant plus, les informations concernant les mesures et les émissions des succédanés dangereux ne sont pas complètes.

In the light of the broad implementation by Contracting Parties of the measure, existing EC legislation, and the OSPAR monitoring strategy for PCBs which will provide in future the information necessary for OSPAR to assess progress towards the cessation target for PCBs, OSPAR 2006 agreed that further implementation reporting on PARCOM Decision 92/3 could cease for all Contracting Parties.

A la lumière de la mise en œuvre, au sens large, de la mesure par les Parties contractantes, de la législation d'ores et déjà en place de la CE et de la stratégie de surveillance OSPAR relative aux PCB, laquelle fournira à l'avenir les informations qui permettront à OSPAR d'évaluer les progrès dans le sens de l'objectif de cessation des PCB, OSPAR 2006 est convenue qu'il n'est pas nécessaire de poursuivre la notification de mise en œuvre de cette mesure.

1. Introduction

1.1 PARCOM Decision 92/3

Polychlorinated biphenyls are persistent, bioaccumulating and toxic (PBT) substances which have been selected and prioritised by OSPAR as chemicals for priority action. It is the aim of PARCOM Decision 92/3 to prevent PCBs and hazardous PCB substitutes from entering the marine environment through their phase out and the destruction in an environmentally safe manner of all identifiable PCBs and identified hazardous PCB substitutes. As interim option, safe deep underground disposal in dry rock formation of capacitors and empty transformers is permitted. PARCOM Decision 92/3 provides guidelines to assist Contracting Parties in the management of substitutes for PCBs in transformers, capacitors and hydraulic fluids.

For Iceland and the North Sea States, the phase-out and destruction should be achieved for PCBs by 1995, or by the end of 1999 at the latest, and for hazardous PCB substitutes seven years after their identification. For the remaining Contracting Parties, the target is for PCBs 2005, or by the end of 2010 at the latest, and for hazardous PCB substitutes between their identification and the year 2010 or seven years after their identification whichever date is later.

1.2 EC legislation

EC legislation with relevance for the control and reduction of inputs of PCBs to the marine environment are for example:

- a. Regulation (EC) No. 850/2004 of the European Parliament and of the Council on persistent organic pollutants and amending Directive 79/117/EEC (which implements at EC level the Stockholm POPs Convention and the UN/ECE POPs Protocol to the Convention on Long-Range Transboundary Air Pollution);
- b. Directive 96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT).

1.3 Implementation reporting

1.3.1 General reporting requirements

Under Article 22 of the OSPAR Convention, Contracting Parties shall report to the Commission at regular intervals on the national measures (legal, regulatory, or other) taken by them to implement the provisions of the decisions and recommendations adopted under the OSPAR Convention and on the effectiveness of these national measures. This implementation reporting forms the basis for OSPAR to assess the compliance by Contracting Parties with the Convention and ultimately to evaluate the effectiveness of programmes and measures under the Convention.

Detailed provisions on implementation reporting and related assessments by OSPAR are laid down in OSPAR's Standard Implementation Reporting and Assessment Procedure (reference number 2003-23, update 2005). Unless stated otherwise in the OSPAR instrument concerned, the practice has been in general that an implementation report should be submitted to the appropriate OSPAR subsidiary body in the intersessional period four years after the adoption of a measure and every four years thereafter until fully implemented. Implementation reporting does not apply to Contracting Parties with reservations (or non-acceptance) on an OSPAR measure unless and until the reservation (or non-acceptance) is lifted.

1.3.2 Reporting requirements under PARCOM Decision 92/3

This overview assessment of the implementation of PARCOM Decision 92/3 has been prepared by lead country Germany based on national reports submitted by Contracting Parties in the 2005/2006 meeting cycle, and has been examined by the Hazardous Substances Committee (HSC) in 2006. Previous implementation rounds took place in 1996 and 2000/2001; overview assessments were published in the corresponding following year and can be obtained from the OSPAR Secretariat upon request.

The last overview assessment (published in 2002) concluded that it was difficult to draw some overall conclusions as the reports from some Contracting Parties had been very general.

2. Overview of compliance

All Contracting Parties were invited to submit implementation reports on PARCOM Decision 92/3 by 31 August 2005. An overview of the implementation reports received in 2005/2006 is included in Table 1. The national reports submitted in 2005/2006 are appended to this overview assessment. A summary of the information reported by Contracting Parties on the effectiveness of measures taken is given in section 3.

Of those Contracting Parties that have not reported in 2005/2006, Denmark, France, Iceland and Switzerland reported in the last reporting round in 2000/2001. Iceland and Switzerland reported on compliance only but not on the effectiveness of the measures taken. So far, Ireland, Luxembourg and Portugal have not supplied evidence that the Decision has been implemented in their territories.

Table 1: Overview of the implementation of PARCOM Decision 92/3

Contracting Party	Report submitted in 2005/2006	Measure applicable	Implementation by means of		
			Legislation	Administrative action	Negotiated agreement
Belgium	yes	yes	yes	yes	yes
Denmark ¹	no	yes	yes	no	no
Finland	yes	yes	yes	yes ¹	no ¹
France ¹	no	yes	yes	no	no
Germany	yes	yes	yes	yes	no
Iceland ^{1,2}	no		yes	no	no
Ireland	no	No evidence supplied that this measure had been implemented			
Luxembourg	no	No evidence supplied that this measure had been implemented			
Netherlands	yes	yes	yes	yes	yes
Norway	yes	yes	yes	no	no
Portugal	no	No evidence supplied that this measure had been implemented			
Spain	yes	yes	yes	yes	yes
Sweden	yes	yes	yes	yes	yes
Switzerland ^{1,2}	no	yes	yes	yes	no
United Kingdom	yes	yes	yes	yes	yes

¹ As indicated in the 2000/2001 report

² No report on effectiveness of this measure has been submitted.

It should be noted that a specification of the means of implementation has been given by Belgium, Denmark, Finland, Germany, the Netherlands, Spain and the UK. None of the above Contracting Parties reported any difficulties with implementing this measure.

3. Overview of effectiveness

3.1 Closed Applications

On the establishment of inventories of PCB quantities and PCB-containing materials/products in closed applications and quantities of destroyed PCBs and materials/products, Contracting Parties reported as follows:

In Belgium disposal in underground facilities is not allowed. The inventory comprises 24 063 appliances; 17 658 of them are Askarel transformers, 201 transformers contaminated with PCBs, 6 204 large capacitors and 183 are listed as other appliances. By October 2005, 20 551 of the appliances have been destroyed.

In Finland, all PCB containing appliances have been removed and destroyed by the end of 1999.

For Germany, 395 tonnes of PCB-containing oil and 381 appliances are reported for the year 2000. By mid 2004, more than 99% of the PCB-containing equipment had been disposed of and the remaining appliances have to be disposed of by the end of 2010.

In the Netherlands in the 80s, 22 911 capacitors and 1 222 transformers containing a total amount of 790 tonnes of PCBs have been listed in an inventory. In the period 1984-1988, 570 tonnes of PCBs were disposed of. At the end of the 80`s it was concluded that the amount of PCB-containing equipment had been underestimated. Moreover more strict Dutch limits for PCB-containing equipment were entering into force. The disposal of PCB-waste continued. At the end of 2003 virtually all PCB-containing transformers owned by the electricity distribution network companies had been cleaned or removed. An enforcement project in 2005 stated that all PCB-containing equipment owned by non-electricity companies virtually had been cleaned or

removed. All big capacitors containing PCBs had been removed. Some remaining PCB containing capacitors had been identified in 2005 and cleaned from PCBs; 3 transformers remained to be cleaned in 2005. All small capacitors were treated as PCB contaminated and were destroyed in an appropriate chemical waste incinerator.

In Norway, 400 tonnes of PCB containing big capacitors and transformers were incinerated by 1995. Out of 330 tonnes of PCB in small capacitors a quantity of 88 tonnes PCBs was still in use by the end of 2004, 77 tonnes had been safely disposed of between 2000 and the end 2004 while only a minor part of the 165 tonnes disposed of before the year 2000 ended in a safe deposit.

In Spain national legislation is implementing EC Directive 96/59 and a plan for the management and total elimination of PCBs and PCTs in the years 2001-2006 is set up. This plan includes a general PCB inventory which reflects appliances containing more than 1 l PCBs. Based on data submitted by the 17 autonomous regions a revised PCB inventory has been established. Data from the up-dated inventory were not available for this reporting as there were data missing from 4 of the autonomous regions. In the years 1999 to 2004, 33 511 tonnes (appliances) were eliminated.

Sweden reported a total of 2 000 tonnes of PCBs that have been destroyed by October 2005. It reported further that all Askarel transformers have been destroyed by October 2005. The use of PCB as hydraulic fluids or heat exchange fluid was banned in the early seventies. Small PCB capacitors in fluorescent lamp fittings etc. are forbidden since 1973. About 20 tonnes of PCB were used in lightning devices of which a certain quantity is likely to be still in use since pertinent information on their destruction is not available.

The UK informed that summaries of inventories were submitted to the European Commission under the EC Directive 96/59, which are updated at regular intervals. More specific information was not provided in the implementation report.

3.2 Open Application

On the establishment of inventories of PCB quantities and PCB-containing materials/products in open applications and quantities of destroyed PCBs and materials/products, Contracting Parties reported as follows:

The United Kingdom made reference to section 3.1 and to information that has been passed to the European Commission.

For Belgium data are not available. The data provided for the previous report were national estimates.

Sweden estimated that about 100 tonnes may be the most likely quantity of PCBs used in sealants. Out of 115 tonnes of PCBs used in insulation glass, 80 tonnes were estimated to have ended in landfills.

In the Netherlands, open applications were discontinued at the beginning of the 1970s with a voluntary agreement of the producers. Legislation prohibiting open use had been implemented in 1979. A study performed in the beginning of the 80's stated that open PCB applications were not of relevance in the Netherlands. Estimations show that the emissions to Dutch surface waters are mainly due to atmospheric deposition and have been calculated for the years 2000-2003 to about 2 kg/year. Monitoring shows that in the years 2000-2003 the amount brought across the borders by marine rivers varied between 100 and 300 kg/year.

Norway submitted detailed figures: 150 tonnes of PCBs were used in insulating glue in window frames of which 99 tonnes had been disposed of in landfills or destructed by 2002, while there is a remaining quantity of 51 tonnes. 100 tonnes of PCBs were used in seam sealants of which 67 tonnes had been disposed of in landfills or destructed by 2002 and 34 are still in use. 120 tonnes of PCBs were used in grouting and as additives to concrete of which 64 tonnes had been disposed of or destructed by 2002, while 56 are still in use. PCBs in paints on ships were estimated to amount to 75 tonnes of which 65 tonnes were disposed of in landfills or released directly to the sea while 10 tonnes are still in use.

In Germany, PCB containing sealants and coatings are still in use and will be disposed of in connection with reconstruction or demolition measures. Information on quantities involved is not available.

Finland reported that according to a study conducted in 2002, about 110 to 274 tonnes of PCBs were used in sealants between 1959 and 1975. A major proportion of them was removed during renovation work. But there is no exact data on the quantities used and removed. It should be noted, however, that all PCB-containing construction material from renovation works are treated as hazardous waste. Information on PCBs in grouting, plasticizers and paint is not available.

3.3 Inventories of and Measures on Hazardous PCB Substitutes

3.3.1 Inventories

On the establishment of inventories for hazardous PCB substitutes and reported quantities of these substitutes having been destroyed since then, no Contracting Party submitted the information asked for because relevant data is not available or too unspecific.

Belgium reports no changes to the previous report, where it was considered to establish an inventory of substitutes.

Finland does not have an inventory of hazardous PCB substitutes.

Germany reported that there are no hazardous PCB substitutes in use.

The Netherlands referred to the information presented in the implementation report in 1995.

Norway mentioned one producer of transformers who used mineral oils. But transformers are no longer produced in Norway.

Sweden estimated that 60 tonnes of PCT were used as substitutes. How much of it was destroyed is not known. Existing legislation on PCBs has been used in analogy to regulate also PCTs.

The UK made reference to its national regulations which are in line with the EC Directive and thus also cover hazardous PCB substitutes. They mentioned that a quantity of polychlorinated naphthalenes from the telecommunications sector, which is covered by the PARCOM Decision but not by the EC Directive has been disposed of.

3.3.2 Measures

On measures taken to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers, and their effectiveness, and on progress in replacing identified hazardous PCB substitutes, Contracting Parties reported as follows:

Finland referred to their Council of State Decision 711/1998 according to which the term PCB has been extended to include a number of specified hazardous PCB substitutes and preparations containing more than 0,005 % of PCBs or such substitutes. The Decision forbids the use of equipment containing more than 5 dm³ of PCBs or specified hazardous PCB substitutes as from 31 December 1999. Transformer oils and thus PCB substitutes contained therein are treated as hazardous waste. As from 2005, capacitors and other waste from electronic equipment are subject to separate collection by the producers.

There are no measures in Belgium yet.

Germany referred to its answer to question 3 and reiterated that there are no PCB substitutes in use.

Also Norway referred to its answer to question 3 (cf. section 3.3.1) apart from which it stated that its regulations for hazardous substances follow relevant EC legislation and are for general application rather than specific use areas.

According to the national legislation in the Netherlands hazardous substitutes should have been disposed of by the end of 2003.

In Sweden alternative means of fire protection were used as from the beginning of the seventies. For power capacitors produced in Sweden, only chlorine free synthetic liquids were used.

The UK made reference to its answer under question 3 (cf. section 3.3.1).

3.4 Emissions of PCBs and PCB Substitutes

Voluntary information on emissions of PCBs or hazardous PCB substitutes to the environment was reported by Contracting Parties as follows:

Belgium has no new data compared to the previous report in which estimates for emissions from open and closed applications were given.

In the Netherlands PCBs and some PCB substitutes are part of an annual general emission inventory but the obtained figures are not adequately specific for this reporting format.

The UK provided a graph showing that atmospheric PCB emissions from production processes, metal production and other sources decreased between 1990 and 2003 from more than 7 000 kilogrammes to about 1 400 kilogrammes.

Sweden does not have any available information.

Norway had no particular information on such emissions.

Germany provided information on average values according to the BiPRO Report 2005* as follows: air – 0,77 ng PCB/m³, soil – 40,02 ng PCB/g and vegetation – 176,80 pg PCB/g.

Finland provided no information.

4. Assessment

Information submitted by Contracting Parties in the 2000/2001 and 2005 implementation reporting rounds showed no major changes. Based on information from both reporting rounds, PARCOM Decision 92/3 can be regarded as broadly implemented by Contracting Parties reporting.

Most PCBs used in closed applications have been destroyed or are about to be destroyed. Those used in open applications, such as in building materials, are destroyed or will be removed in connection with reconstruction or demolition measures.

As far as data about hazardous PCB substitutes were submitted it can be concluded that inventories of hazardous PCB substitutes have not been established. Moreover, information about measures and emissions from hazardous substitutes is incomplete.

In the light of the broad implementation by Contracting Parties of the measure, existing EC legislation and the OSPAR monitoring strategy for PCBs which will provide in future the information necessary for OSPAR to assess progress towards the cessation target for PCBs, OSPAR 2006 agreed that further implementation reporting on PARCOM Decision 92/3 could cease for all Contracting Parties.

* European Commission Brussels
Study to facilitate the implementation of certain waste related provisions of the Regulation on Persistent Organic Pollutants (POPs)
Final Report August 2005
<http://europa.eu.int/comm/environment/waste/studies/index.htm>

Annex 1: Belgium

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:

Reservation applies¹

Is measure applicable in your country?

If not applicable, please state why not:

.....

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	Yes	Yes	yes

Please provide information on:

a. *specific measures taken to give effect to this measure;*

On the national level the Royal Decision of 9th of July 1986 forbids the production and trading of PCB's and PCB-containing equipment.

The Directive on PCB has been implemented on the national level, trough regional legislation.

In the Brussels Capital Region it has been converted into the Decree of the Brussels- Capital government of 4th of March 1999: Decree of the Brussels- Capital government of 4th of March 1999.

Administrative action is taken through management plans and environmental permits.

In the Brussels Capital Region the Ministerial Decision of 20th of December 1999 is in effect which establishes a Plan for disposal and decontamination of PCBs and PCTs. According to this plan all equipment containing PCBs (>50 ppm) should be eliminated for 31 th December 2005, except those for which a dispensation was issued. These will all be eliminated be for 2007. The plan follows a certain scheme based on the equipment's date of fabrication.

The Decision of the Brussels-Capital government of 9th of September 1999. The Decree was brought out to control the transformers and condensers on the terrain and so, to protect the soil and water from any leaking equipment.

The Flanders Region has drawn up a disposal plan based on the age of the appliances; all appliances should have been removed by 31 December 2005. However, a number of derogations have been provided for, in which case the ultimate year of disposal is 2010.

b. *any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;*

c. *the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;*

d. *if appropriate, progress towards being able to lift the reservation¹.*

¹ According to OSPAR 99/15/1, Annex 11, No 39, there are no reservations on PARCOM Decision 92/3

² Delete whichever is not appropriate

PART B: IMPLEMENTATION REPORT ON EFFECTIVENESS

PLEASE NOTE THAT THE NUMBERS BELOW DO NOT INCLUDE DATA FROM THE WALLOON REGION. ADDITIONAL INFORMATION WILL BE SUBMITTED TO THE SECRETARIAT AS IT BECOMES AVAILABLE.

Country:

Belgium

I. Phasing out and Destruction of PCBs and PCB contaminated Appliances

Question 1: Closed Applications

Has an inventory been established in your country of the liquid PCB-quantities and of appliances that contain/contained PCBs? How much or how many of the quantities/appliances have been destroyed since then? How many contaminated appliances have been disposed of in a safe underground deposit? Please provide figures/estimates in the table below.*

No disposal in underground facilities is allowed

.....

Closed applications	Inventory	Destruction by 31.12.1999	Destruction by 01.10.2005
1. PCB-quantities involved			
Appliances:			
2. Askarel transformers	17 658	5 173	14 312
3. Transformers contaminated with PCBs	201	10	89
4. Large capacitors	6 204	2 509	5 980
5. Small capacitors (e.g. strip light fittings)			
6. Heat exchange systems			
7. Hydraulic systems			
Other appliances:			
8.	183	46	170
Total	24 063	7 738	20 551

* Please note that the PARCOM Dec. 92/3 is applicable to all identifiable PCBs.

Question 2: Open Applications

*Has an inventory been established in your country of the PCB quantities and of the PCB-containing materials/products involved in open applications? How much or how many of the PCB quantities or contaminated materials/products involved have been destroyed since then?
 Please provide figures/estimates in the table below.*

No regional data available, the data provided in the previous report were a national estimation

Open applications	Year of the Inventory (199...)	Destruction/ Landfill by 31.12.1999
Building products: Sealant Grouting Plasticisers, paints /.....		

II. Phasing out and Destruction of Hazardous PCB-Substitutes and Appliances contaminated with such Substitutes

Question 3:

*Has an inventory been established in your country of hazardous PCB substitutes (see Appendix 1)? How much or how many of these PCB substitutes have been destroyed since then?
 Please provide figures/estimates in the table below.*

No changes to the previous report

Hazardous PCB substitutes	Application [open, close,..]	Quantity	Destruction/ Landfill by 31.12.1999
1.			
2.			
...			

III. Measures to Control the use of Hazardous PCB-Substitutes in Capacitors and Transformers

Question 4:

Which measures have been taken by your country in order to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers? How effective have these measures been? Has any of the hazardous PCB substitutes identified under question 3 been replaced by a less or even non hazardous substance?

No changes to the previous report

IV. Voluntary Information on Emissions of PCBs or Hazardous PCB Substitutes to the Environment

Question 5:

Do you have any information on emissions of PCBs or hazardous PCB substitutes to the environment? If yes, please indicate estimates in the table below.

No changes to the previous report

Substance	Quantities emitted from				Time period covered
	closed applications	open applications	thermal processes	disposal sites or landfills	
1. PCBs					
2.					
3.					
4.					

Annex 2: Finland

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:

Reservation applies³

Is measure applicable in your country?

If not applicable, please state why not:

.....

.....

.....

.....

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	yes	yes/no²	yes/no²

Please provide information on:

- a. specific measures taken to give effect to this measure;
- b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;
- c. the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;
- d. if appropriate, progress towards being able to lift the reservation¹.

.....

.....

.....

.....

³ According to OSPAR 99/15/1, Annex 11, No 39, there are no reservations on PARCOM Decision 92/3.

PART B: IMPLEMENTATION REPORT ON EFFECTIVENESS

Country:

FINLAND

I. Phasing out and Destruction of PCBs and PCB contaminated Appliances

Question 1: Closed Applications

Has an inventory been established in your country of the liquid PCB-quantities and of appliances that contain/contained PCBs? How much or how many of the quantities/appliances have been destroyed since then? How many contaminated appliances have been disposed of in a safe underground deposit? Please provide figures/estimates in the table below.

An inventory of equipment containing more than 5 dm³ PCB was conducted in 1999. At the time there were 107 PCB containing appliances. Of these 104 were capacitors and the rest, i.e. 3 large transformers. All the capacitors contained < 450 kg PCB, most of them 10 - 40 kg PCB. All the equipment was to be removed and destroyed by the end of 1999.

Closed applications	Year of the Inventory (199...)	Destruction/ Landfill by 31.12.1999	Appliances in safe disposal
1. PCB-quantities involved Appliances:	107 appliances, containing < 5000 kg PCB in total	100 %	-/-
2. Askarel transformers	4	4	
3. Transformers contaminated with PCBs			
4. Large capacitors	103	103	
5. Small capacitors (e.g. strip light fittings)			
6. Heat exchange systems			
7. Hydraulic systems			
Other appliances:			
8.			

Question 2: Open Applications

Has an inventory been established in your country of the PCB quantities and of the PCB-containing materials/products involved in open applications? How much or how many of the PCB quantities or contaminated materials/products involved have been destroyed since then? Please provide figures/estimates in the table below.

PCB was commonly used as a sealant between 1959 - 1975. According to a study conducted in 2002, altogether 110 - 274 tons of PCB have been used in sealants. A major proportion of these has been removed during renovation work. However, there is no exact data on the quantities used and removed. The problems related to PCB sealants were only realised in the 1990s so in houses renovated before that, the old PCB containing sealants were possibly not removed. Since 2000, PCB containing sealants are removed during renovations. It should also be noted that part of the PCBs contained in the sealants has spread in the surrounding soil. No inventory has been conducted on PCB containing groutings, plasticizers or paints. However, it should be noted that all the PCB containing construction materials from renovation works are treated as hazardous waste.

* Please note that the PARCOM Dec. 92/3 is applicable to all identifiable PCBs.

Open applications	Year of the Inventory (2002)	Destruction/ Landfill by 31.12.1999
Building products: Sealant Grouting Plasticisers, paints /.....	110 - 274 tons	no information

II. Phasing out and Destruction of Hazardous PCB-Substitutes and Appliances contaminated with such Substitutes

Question 3:

Has an inventory been established in your country of hazardous PCB substitutes (see Appendix 1)? How much or how many of these PCB substitutes have been destroyed since then? Please provide figures/estimates in the table below.

There has been no inventory of the hazardous PCB substitutes.

.....

Hazardous PCB substitutes	Application [open, close,..]	Quantity	Destruction/ Landfill by 31.12.1999
1.			
2.			
...			

III. Measures to Control the use of Hazardous PCB-Substitutes in Capacitors and Transformers

Question 4:

Which measures have been taken by your country in order to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers? How effective have these measures been? Has any of the hazardous PCB substitutes identified under question 3 been replaced by a less or even non hazardous substance?

In the Council of State Decision 711/1998 on phasing out of PCBs and PCB containing equipment and on handling PCB containing waste, PCB also means terphenyls, monomethyl tetrachloro di-phenyl methane, monomethyl dichloro diphenyl methane, monomethyl dibromo diphenyl methane and any preparation with more than 0,005 % of those substances. The Decision forbids the use of equipment containing more than 5 dm³ of these substances as of 31st December 1999 onwards. The separation of PCB or PCB containing waste for reuse is forbidden. So far no control measures have been set on other hazardous PCB substitutes.

However, transformer oils are treated as hazardous waste and therefore any hazardous PCB substitutes contained in them are treated as hazardous waste, too.

Since 2005 capacitors and other waste from electronic equipment are subject to separate collection by the producers.

IV. Voluntary Information on Emissions of PCBs or Hazardous PCB Substitutes to the Environment

Question 5:

Do you have any information on emissions of PCBs or hazardous PCB substitutes to the environment? If yes, please indicate estimates in the table below.

.....

Substance	Quantities emitted from				Time period covered
	closed applications	open applications	thermal processes	disposal sites or landfills	
5. PCBs					
6.					
7.					
8.					

Annex 3: Germany

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:

Reservation applies⁴

Is measure applicable in your country?

If not applicable, please state why not:

.....

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	yes	yes	no

Please provide information on:

- specific measures taken to give effect to this measure;
- any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;
- the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;
- if appropriate, progress towards being able to lift the reservation¹.

PCB/PCT Waste Ordinance of 26 June 2000: Wastes with a PCB content > 50 mg/kg have to be disposed of without delay by disposal operations such as D 8, D 9, D 10, D 12 (only in safe, deep, underground storage in dry rock formations and only for equipment containing PCBs and used PCBs which cannot be decontaminated) and/or D 15 (storage where it is produced, pending further operations) provided for in Annex II A of Directive 75/442/EEC.

Chemicals Prohibition Ordinance of 13 June 2003: Articles with a PCB content > 50 mg/kg are not allowed to be put into circulation.....

.....

PART B: IMPLEMENTATION REPORT ON EFFECTIVENESS

Country:

I. Phasing out and Destruction of PCBs and PCB contaminated Appliances

Question 1: Closed Applications

Has an inventory been established in your country of the liquid PCB-quantities and of appliances that contain/contained PCBs? How much or how many of the quantities/appliances have been destroyed since then? How many contaminated appliances have been disposed of in a safe underground deposit? Please provide figures/estimates in the table below.

⁴ According to OSPAR 99/15/1, Annex 11, No 39, there are no reservations on PARCOM Decision 92/3.

* Please note that the PARCOM Dec. 92/3 is applicable to all identifiable PCBs.

More than 99 % had been disposed of by mid 2004. Remaining applications by special permission are limited to 31 December 2010.

.....

Closed applications	Year of the Inventory (2000 ⁵)	Destruction/ Landfill by 31.12.1999	Appliances in safe disposal
1. PCB-quantities involved Appliances: 2. Askarel transformers 3. Transformers contaminated with PCBs 4. Large capacitors 5. Small capacitors (e.g. strip light fittings) 6. Heat exchange systems 7. Hydraulic systems Other appliances: 8.	395 t oil 381 pieces		-/-

Question 2: Open Applications

Has an inventory been established in your country of the PCB quantities and of the PCB-containing materials/products involved in open applications? How much or how many of the PCB quantities or contaminated materials/products involved have been destroyed since then? Please provide figures/estimates in the table below.

There are still PCB containing sealants and coatings in use which will be disposed of in connection with reconstruction or demolition measures.
 Information on quantities involved is not available.

.....

Open applications	Year of the Inventory (199...)	Destruction/ Landfill by 31.12.1999
Building products: Sealant Grouting Plasticisers, paints /.....		

⁵ see: Siegfried Kalmbach, VKS-News 53 (2001) p. 5-6

II. Phasing out and Destruction of Hazardous PCB-Substitutes and Appliances contaminated with such Substitutes

Question 3:

Has an inventory been established in your country of hazardous PCB substitutes (see Appendix 1)? How much or how many of these PCB substitutes have been destroyed since then? Please provide figures/estimates in the table below.

There are no hazardous PCB-substitutes in use.

Hazardous PCB substitutes	Application [open, close,..]	Quantity	Destruction/ Landfill by 31.12.1999
1.			
2.			
...			

III. Measures to Control the use of Hazardous PCB-Substitutes in Capacitors and Transformers

Question 4:

Which measures have been taken by your country in order to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers? How effective have these measures been? Has any of the hazardous PCB substitutes identified under question 3 been replaced by a less or even non hazardous substance?

See question 3

IV. Voluntary Information on Emissions of PCBs or Hazardous PCB Substitutes to the Environment

Question 5:

Do you have any information on emissions of PCBs or hazardous PCB substitutes to the environment? If yes, please indicate estimates in the table below.

Average values (from BiPRO-Report 2005⁶):.....
 air - 0,77 ng PCB/m³.....
 soil - 40,02 ng PCB/g.....
 vegetation - 176,80 pg PCB/g

⁶ European Commission Brussels
 Study to facilitate the implementation of certain waste related provisions of the Regulation on Persistent Organic Pollutants (POPs)
 Final Report August 2005
<http://europa.eu.int/comm/environment/waste/studies/index.htm>

Substance	Quantities emitted from				Time period covered
	closed applications	open applications	thermal processes	disposal sites or landfills	
1. PCBs					
2.					
3.					
4.					

*

Annex 4: The Netherlands

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:

Reservation applies

Is measure applicable in your country?

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	yes	yes	yes

Please provide information on:

- specific measures taken to give effect to this measure;
- any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;
- the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;
- if appropriate, progress towards being able to lift the reservation.

To stimulate the phasing out of PCB applications in existing equipment, the destruction of PCBs in big transformers and capacitors was subsidised in the period 1984-1989. It was assumed that by 1989 all capacitors containing PCBs and all transformers originally filled with PCBs had been removed. In August 1998 the Ministerial Decision on the disposal of PCBs and PCTs entered into force. The decision serves the implementation of both Directive 96/59/EC on the disposal of PCBs and PCTs and PARCOM Decision 92/3 on the phasing out of PCBs and hazardous PCB substitutes. The Ministerial Decision furthermore contained a provision that all appliances/equipment containing more than 5 dm³ PCBs have to be reported to the Environment Inspectorate.

After the entry into force of the Ministerial Decision the results of an inventory carried out in cooperation with the concerned industrial sector showed that transformers are more often contaminated with PCBs than originally assumed. In order to achieve a complete disposal of PCBs and PCTs, a plan for the enforcement of the Ministerial Decision has been drawn up. In addition to this, the Environment Inspectorate informed the concerned sector in January 2000 that all equipment contaminated with more than 5 mg/kg congener (corresponding with 50 mg/kg PCBs) has to be cleaned or removed by the end of 2001 at the latest. For equipment contaminated with 0,5-5 mg/kg congener (corresponding with 5-50 mg/kg PCBs) the deadline was set at the end of 2003. Results of the enforcement activities are reported in part B.

PART B: REPORT ON EFFECTIVENESS

Country:

The Netherlands

I. Phasing out and Destruction of PCBs and PCB contaminated Appliances

Question 1: Closed Applications

Has an inventory been established in your country of the liquid PCB-quantities and of appliances that contain/contained PCBs? How much or how many of the quantities/appliances have been destroyed since then? How many contaminated appliances have been disposed of in a safe underground deposit? Please provide figures/estimates in the table below.

An inventory in the 80's showed that in 1980 a total of 22 911 capacitors and 1 222 transformers was present in the Netherlands containing a total amount of 790 tons of PCBs. In the period 1984-1988 570 tons of PCBs were disposed of (72 %): a removal of 84 percent for capacitors and 85 percent for transformers. At the end of the 80s however, it was concluded that the amount of PCB-containing equipment in 1980 was more than estimated before. Due to this incomplete overview of owners of PCB-containing equipment and a more strict Dutch limit for PCB-containing equipment (change from 50 to 0,5 ppm per congener (PCB 28, 52, 101, 118, 138, 153 or 180) i.e. from 500 to 5 ppm PCB) the disposal of PCB-waste continued.

Results of an enforcement project pointed out that at the end of 2003 virtually all PCB-containing transformers owned by the electricity distribution network companies had been cleaned or removed.

Based on data of an enforcement project in 2005 for PCB-containing equipment owned by non-electricity companies, it can be concluded that virtually all PCB-containing equipment (>90%) has been cleaned or removed. In this project only a few PCB-containing transformers were found, but no PCB-containing capacitors. In consultation with the enforcement section the few PCB-containing transformers have been cleaned from PCB's, with 3 transformers remaining to be cleaned in 2006. For the possibly remaining PCB-containing equipment it is suggested to inform present owners by means of information sheets about their obligations to remove their contaminated equipment according to the regulations.

To our knowledge, capacitors nowadays do not contain liquids contaminated with PCBs, as they are closed systems and the applied liquids should be PCB free. Small capacitors (in refrigerators etc.) are collected through special collection systems. Since it is impracticable to determine whether individual (small) capacitors are contaminated with PCBs, they are all treated as PCB contaminated and destroyed in an appropriate chemical waste incinerator. To our knowledge, all big capacitors containing PCBs have been removed.

No information is available about other closed systems. All destruction takes place in plants for chemical waste incineration. It is not permitted to dispose PCB containing waste at a dump site.

According to the waste notifications during the period 1993-2004, a total of about 13 500 tons of PCB containing equipment has been disposed of. The data on the preceding period 1988-1992 showed that about 2 100 tons of PCB-containing waste had been disposed of. The reported amount in 2004 (subject to official approval) was 3-4 times lower than the yearly amounts in the period 2000-2003, which indicates the lower amounts of PCB-containing equipment remaining.

* Please note that the PARCOM Dec. 92/3 is applicable to all identifiable PCBs.

Question 2: Open Applications

Has an inventory been established in your country of the PCB quantities and of the PCB-containing materials/products involved in open applications? How much or how many of the PCB quantities or contaminated materials/products involved have been destroyed since then?

Please provide figures/estimates in the table below.

Open applications of PCBs, e.g. sealants, synthetic resins, hot melt glues, paints, printing inks, paper and textiles, copying paper and plastics were discontinued at the beginning of the 1970s with a voluntary agreement of producers. Legislation prohibiting open use has been in effect since 1979. A study performed in the beginning of the 80's reported that in the Netherlands only closed applications for PCB were relevant.

The emissions of PCBs from remaining contaminated materials or products is considered to be insignificant. The amount of PCB entering surface water is estimated on a yearly basis. According to most recent figures concerning the years 2000 to 2003, the emission to Dutch surface waters was mainly due to atmospheric deposition, and amounted to about 2 kg/year. Monitoring pointed out that in the same years the amount brought across the borders by the main rivers varied between 100 and 300 kg/year.

II. Phasing out and Destruction of Hazardous PCB-Substitutes and Appliances contaminated with such Substitutes

Question 3:

Has an inventory been established in your country of hazardous PCB substitutes (see Appendix 1)? How much or how many of these PCB substitutes have been destroyed since then?

Please provide figures/estimates in the table below.

Information on various hazardous PCB substitutes has been presented in the 1995 implementation report on this PARCOM Decision.

III. Measures to Control the use of Hazardous PCB-Substitutes in Capacitors and Transformers

Question 4:

Which measures have been taken by your country in order to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers? How effective have these measures been? Has any of the hazardous PCB substitutes identified under question 3 been replaced by a less or even non hazardous substance?

According to the Ministerial Decision mentioned in part A of this report, also hazardous PCB substitutes should have been disposed of by the end of 2003. Enforcement of this Decision by the Environment Inspectorate is proven to be essential to finish the use of PCB's and PCB-containing substitutes.

IV. Voluntary Information on Emissions of PCBs or Hazardous PCB Substitutes to the Environment

Question 5:

Do you have any information on emissions of PCBs or hazardous PCB substitutes to the environment? If yes, please indicate estimates in the table below.

It is assumed that virtually all applications of PCBs and hazardous PCB substitutes have been phased out. PCBs and some substitutes are part of the annual general emission inventory; however, the obtained figures are not as specific as asked for in the table included in the reporting format.

Annex 5: Norway

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:	NORWAY
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Reservation applies	no
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Is measure applicable in your country?	yes
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If not applicable, please state why not:

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	yes	no	no

Please provide information on:

- a. *specific measures taken to give effect to this measure;*
- b. *any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;*
- c. *the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;*
- d. *f appropriate, progress towards being able to lift the reservation¹.*

PART B: IMPLEMENTATION REPORT ON EFFECTIVENESS

Country:	NORWAY
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I. Phasing out and Destruction of PCBs and PCB contaminated Appliances

Question 1: Closed Applications

Has an inventory been established in your country of the liquid PCB-quantities and of appliances that contain/contained PCBs? How much or how many of the quantities/appliances have been destroyed since then? How many contaminated appliances have been disposed of in a safe underground deposit? Please provide figures/estimates in the table below.

Answer to question 1:

Inventories for big capacitors and transformers were made in the period 1990-1995 before destruction of these devices. The devices have been destructed mostly in British and Finnish hazardous waste incineration plants, and none in underground deposits. The transformer oil, however, was destructed in a Norwegian cementory kiln. The original amount of PCBs in the capacitors and transformers that is the same as the amount destructed, was about 400 metric tonnes.

For small capacitors estimations has been done both on the original amount and on the remaining amount of PCB. In addition sites where the remaining PCB-containing capacitors are to be found are identified. The investigation shows that 90 % of the PCB-containing small capacitors are used in fluorescent light fixtures in road and other outdoor illumination and in large buildings in industry, official buildings like schools and hospitals. About 10 % of the PCB in small capacitors is to be found in other electrical equipment like old radios and washing machines etc. Except for the year of production we did not find any possible way to make any lists describing PCB-containing capacitors by manufacture firm.

From an original amount of about 330 metric tonnes of PCB in small capacitors, about 88 tonnes are per 31.12.2004 still in use in remaining capacitors. The 165 metric tonnes of PCB in small capacitors taken out of use until year 2000 have to a very small degree been delivered to the hazardous waste system and been safely disposed of. From year 2000 about 77 tonnes have been safely disposed of, while 88 tonnes still are in use per 31.12.2004.

Closed applications	Year of the Inventory ()	Landfill by 31.12.1999	Appliances in safe disposal
1. PCB-quantities involved	1990-95	None	2,3 and 4; 400 metric tonnes destroyed by incineration
Appliances:	1990-95	None	
2. Askarel transformers	1990-95	None	Legislation made to collect the remaining 165 tonnes for safe disposal
2. Transformers contaminated with PCBs	1997 (see text)	About 165 tonnes disposed of by landfill/metal industry	
3. Large capacitors	1995	Landfill 5 tonnes	None left
4. Small capacitors (e.g. strip light fittings)	1995	Landfill	Legislation made to collect the remaining less than 5 tonnes PCB in a safe way
5. Heat exchange systems	1997	Unknown	
6. Hydraulic systems	1996	Landfill 30 tonnes	

* Please note that the PARCOM Dec. 92/3 is applicable to all identifiable PCBs.

Other appliances:			
8. Electrical bushings			
9. Other applications			

Question 2: Open Applications

Has an inventory been established in your country of the PCB quantities and of the PCB-containing materials/products involved in open applications? How much or how many of the PCB quantities or contaminated materials/products involved have been destroyed since then?

Please provide figures/estimates in the table below.

Answer to question 2:

The original and remaining amount and use specifications of PCB-containing grouting, sealants, concrete, plasticisers, paint, insulating glue etc. was investigated in 1997. By use specification is meant sites of use for the PCB-containing building materials (type of building, whether outside or inside, around doors, windows, between stone/concrete elements etc).

Original/remaining amount of PCB in insulating glue in window frames is estimated to about 150/51 metric tonnes of PCB. From 2000 a collecting system for safe disposal of PCB containing insulating glue in window frames has been established. Original/remaining amount of PCB in seam sealants is estimated to about 100/34 metric tonnes of PCB. Original/remaining amount of PCB in grouting and concrete additives in Norwegian buildings are about 120/56 metric tonnes of PCB. Original/remaining amount of PCB in paint on ships is estimated to 75/10 metric tonnes of PCB. Insulating glue in window frames, seam sealants and other waste shall be handled as hazardous waste if containing 50 mg/kg or more PCB.

Open applications	Year of the Inventory (...)	Destruction/ Landfill by 2002
Building products: Sealant on Windows	1997 (see text)	Landfill/destruction ^a 99 metric tonnes of PCB
Seam sealants	1997 (see text)	Landfill/destruction ^b 67 metric tonnes of PCB
Grouting and concrete	1997 (see text)	Landfill/destruction ^b 64 metric tonnes PCB
Plasticisers, paints	1997 (see text)	Landfill and direct to the sea about 65 metric tonnes of PCB

^a From 2000 a collecting system for safe disposal of PCB containing insulating glue in window frames has been established.

^b When renovating buildings where PCB-containing seam sealants and grouting and concrete have been identified the PCB-containing waste is collected and safely disposed of.

II. Phasing out and Destruction of Hazardous PCB-Substitutes and Appliances contaminated with such Substitutes

Question 3:

Has an inventory been established in your country of hazardous PCB substitutes (see Appendix 1)? How much or how many of these PCB substitutes have been destroyed since then?

Please provide figures/estimates in the table below.

Answer to question 3:

No exact inventory on the substitutes for PCB according to appendix 1 has been carried out in Norway. There has been only one producer of transformers in Norway and this producer has been using mineral oils. Transformers are no longer produced in Norway.

Hazardous PCB substitutes	Application [open, close,...]	Quantity	Destruction/ Landfill by 31.12.1999
1.			
2. ...			

III. Measures to Control the use of Hazardous PCB-Substitutes in Capacitors and Transformers

Question 4:

Which measures have been taken by your country in order to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers? How effective have these measures been? Has any of the hazardous PCB substitutes identified under question 3 been replaced by a less or even non hazardous substance?

Answer to question 4:

Norwegian regulations of hazardous substances are usually done for general use and not for specific use areas. Norwegian regulation of hazardous substances is done according to EU. Confer also the answer to question 3.

IV. Voluntary Information on Emissions of PCBs or Hazardous PCB Substitutes to the Environment

Question 5:

Do you have any information on emissions of PCBs or hazardous PCB substitutes to the environment? If yes, please indicate estimates in the table below.

Answer to question 5:

No particular information exists on hazardous substances used as PCB-substitutes.

Substance	Quantities emitted from				Time period
	closed applications	open applications	thermal processes	disposal sites or landfills	covered
1. PCBs					
2.					
3.					
4.					

According to OSPAR 99/15/1, Annex 11, No 39, there are no reservations on PARCOM Decision 92/3

Annex 6: Spain

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:

Reservation applies ⁷

Is measure applicable in your country?

If not applicable, please state why not:

.....

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	yes	yes	Yes

Please provide information on:

- a. specific measures taken to give effect to this measure;
- b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;
- c. the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;
- d. if appropriate, progress towards being able to lift the reservation¹.

Legislation:

- EC Directive 96/59 that establishes obligations on:
 - Inventories for equipment containing > 5 l of PCB
 - plans for decontamination and/or disposal
 - Outlines for the collection and disposal of non-inventoried equipment
- Royal-Decree 1378/1999 of measures on the management and elimination of PCB's, and Royal-Decree 228/2006 that modifies the previous one.
- Resolution that establishes a 2001-2010 Plan for the management and total elimination of PCB's and PCT's.

This Plan included a general PCBs inventory as a first milestone to start the Plan. This inventory provided an estimation of 90 000 Tm of PCBs appliances (volume > 1 l, and PCB concentration ≥ 50 ppm) .

The Spanish PCB inventory goes beyond what is established in the Directive since reflects appliances with volume > 1 l.

A revised PCB's inventory has been realised based this time on real data declared by the different Autonomous regions instead of the estimates made in 1999.

This new inventory, up-dated to 31-12-2004, reflects that the amount of appliances (considering solid + fluid, being the volume > 1 l and PCB concentration ≥ 50 ppm). 4 Autonomous regions of the 17 we have, have not finalised the declaration period. The data will be published in the coming weeks.

⁷ According to OSPAR 99/15/1, Annex 11, No 39, there are no reservations on PARCOM Decision 92/3

The inventory also reflects that the amount of appliances eliminated in the period 29-8-99 to 31-12-04 is 33 511 tons.

The new Royal Decree also establishes the obligations for the owners of PCB appliances, the annual declaration they have to present, analysis, labelling...

Annex 7: Sweden

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:

Reservation applies

Is measure applicable in your country?

If not applicable, please state why:

.....
.....

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	yes	yes	yes

Please provide information on:

- a. *specific measures taken to give effect to this measure;*
- b. *any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;*
- c. *the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;*
- d. *if appropriate, progress towards being able to lift the reservation.*

PART B: IMPLEMENTATION REPORT ON EFFECTIVENESS

Country: SWEDEN

I. Phasing out and Destruction of PCBs and PCB contaminated Appliances

Question 1: Closed Applications

Has an inventory been established in your country of the liquid PCB-quantities and of appliances that contain/contained PCBs? How much or how many of the quantities/appliances have been destroyed since then? How many contaminated appliances have been disposed of in a safe underground deposit? Please provide figures/estimates in the table below.

As a consequence of a fire in a PCB capacitor battery in a steel works in the early eighties inquiries were carried out in both power production/distribution and industrial electric power consumption. The target was heavy electrical PCB equipment: oil filled transformers and power capacitors for a larger reactive electric power rating than 2 kVA. The result was summarised as about 200 PCB transformers and 100 000 PCB power capacitors containing in total about 2000 tonnes of PCBs. A limited use of PCB fluids as hydraulic fluid and heat exchange fluids was banned already in the early seventies.

Small PCB capacitors in fluorescent lamp fittings etc. has had a limited use in Sweden (marketing and taking into use of the component small PCB capacitor and the products fluorescent lamp fittings and oil burners with PCB capacitor were forbidden in 1973). The legislation on waste from electric and electronic products in force since 2001 is intended to improve recycling of materials and catch dangerous substances like mercury, polybrominated flame-retardants and PCBs in components by dismantling and detoxifying the discarded products.

All the PCB waste has been incinerated in high temperature incinerators.

Closed applications	Year of the Inventory (1984)	Destruction/ by 01.10.2005	Appliances in safe temporary storage
1. PCB-quantities involved	~ 2000 tonnes	~2000 tonnes	
Appliances:			
2. Askarel transformers	~ 200 pieces	all	
3. Transformers contaminated with PCBs	No inventory*		
4. Large capacitors	~ 100 000 pieces	all	
5. Small capacitors (e.g. strip light fittings)	~ 20 tonnes in lightning devices**	No data	
	White goods, no data	No data	
6. Heat exchange systems	No inventory***		
7. Hydraulic systems	No inventory***		
Other appliances:			
8.			

* Large transformers are checked in connection with the normal maintenance and when discarded. Typical levels observed for contaminated transformers (~ 10% of the examined pieces, are a few ppm of PCBs)

** Estimate

***Marketing, professional use and transfer to another party is banned since the end of 1972.

* Please note that the PARCOM Dec. 92/3 is applicable to all identifiable PCBs.

Question 2: Open Applications

Has an inventory been established in your country of the PCB quantities and of the PCB-containing materials/products involved in open applications? How much or how many of the PCB quantities or contaminated materials/products involved have been destroyed since then?

Please provide figures/estimates in the table below.

An inventory of PCB plasticised polysulphide sealants in buildings and remediation of discovered contamination is going on. The activities are carried out in accordance with a voluntary commitment by the building industry, including the estate owners. Inventories are made of less than 20% of the buildings of interest and a compulsory inventory and remediation rule is under way. Based on data on construction technique from the period 1956 – 1973 a wide range of 70 – 500 tonnes of PCBs in sealants has been estimated. Extrapolation of later data from inventories in the Stockholm area seems to indicate that about 100 tonnes may be a probable quantity.

Open applications	Comments	Destruction/ Landfill by 2002
Building products: Sealant	70-500 tonnes PCB	
Grouting	No known use in Sweden	
Insulating glazing units Plasticizers, paints	Not permitted for use since 1972. Total initial use in glazing units 115 tonnes of PCB	Insulating glazing units containing 80 tonnes of PCB are estimated to be land filled

II. Phasing out and Destruction of Hazardous PCB-Substitutes and Appliances contaminated with such Substitutes

Question 3:

Has an inventory been established in your country of hazardous PCB substitutes (see Appendix 1)? How much or how many of these PCB substitutes have been destroyed since then?

Please provide figures/estimates in the table below.

The only substitute included in the EU directive on the disposal of PCB/PCT that has had any known use in Sweden is PCT and the estimated total amount is 60 tonnes. The importer was informed that according to the existing legislation and by analogy PCTs were forbidden like the PCBs.

Hazardous PCB substitutes	Application [open, close,...]	Quantity	Destruction/ Landfill by 31.12.1999
1. PCT	Open and closed	60 tonnes	Unknown
2.			
...			

III. Measures to Control the use of Hazardous PCB-Substitutes in Capacitors and Transformers

Question 4:

Which measures have been taken by your country in order to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers? How effective have these measures been? Has any of the hazardous PCB substitutes identified under question 3 been replaced by a less or even non hazardous substance?

In the beginning of the seventies when the use PCB was regulated alternative techniques were used like fire cells and locating transformers outdoor for fire protection. For power capacitors only chlorine free synthetic liquids were used in power capacitors produced in Sweden. For small capacitors, full plastic (non-impregnated) types were used after a transition period when PCN was used as a substitute

IV. Voluntary Information on Emissions of PCBs or Hazardous PCB Substitutes to the Environment

Question 5:

Do you have any information on emissions of PCBs or hazardous PCB substitutes to the environment? If yes, please indicate estimates in the table below.

No.

Substance	Quantities emitted from				Time period covered
	closed applications	open applications	thermal processes	disposal sites or landfills	
1. PCBs					
2.					
3.					

Annex 8: United Kingdom

Implementation report on PARCOM Decision 92/3 on the Phasing Out of PCBs and Hazardous PCB Substitutes

PART A: IMPLEMENTATION REPORT ON COMPLIANCE

Country:

Reservation applies

Is measure applicable in your country?

Means of Implementation:	by legislation yes (national regulations)	by administrative action yes (national waste management plans, an action plan and awareness raising)	by negotiated agreement yes (EC Directive 96/59)
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Please provide information on:

- a. *specific measures taken to give effect to this measure;*
- b. *any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;*
- c. *the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;*
- d. *if appropriate, progress towards being able to lift the reservation.*

Measures taken: the PARCOM decision has been given effect in the UK through national regulations transposing EC Directive 96/59, which set out detailed requirements for the phasing out and disposal of PCBs.

PART B: IMPLEMENTATION REPORT ON EFFECTIVENESS

Country:

UNITED KINGDOM

I. **Phasing out and Destruction of PCBs and PCB contaminated Appliances**

Question 1: Closed Applications

Has an inventory been established in your country of the liquid PCB-quantities and of appliances that contain/contained PCBs? How much or how many of the quantities/appliances have been destroyed since then? How many contaminated appliances have been disposed of in a safe underground deposit? Please provide figures/estimates in the table below.

In line with the EC Directive, which requires the drawing up of inventories for equipment with PCB volumes of more than 5dm³, the national regulations for the UK referred to above require the competent authorities under the regulations to draw up inventories of contaminated equipment and submit summaries to UK Ministers. Those inventories include reference to the dates and types of treatment or replacement carried out or envisaged. Summaries of the inventories have been passed to the European Commission in line with the Directive. The national regulations provide for the regular updating of the inventories.

Question 2: Open Applications

Has an inventory been established in your country of the PCB quantities and of the PCB-containing materials/products involved in open applications? How much or how many of the PCB quantities or contaminated materials/products involved have been destroyed since then? Please provide figures/estimates in the table below.

See the answer to the previous question. As specified, the inventory requirements under the EC Directive and consequent national regulations are by reference to the volume quantity of PCBs in equipment.

II. **Phasing out and Destruction of Hazardous PCB-Substitutes and Appliances contaminated with such Substitutes**

Question 3:

Has an inventory been established in your country of hazardous PCB substitutes (see Appendix 1)? How much or how many of these PCB substitutes have been destroyed since then? Please provide figures/estimates in the table below.

The national regulations referred to above, along with the inventory requirements, are by reference to PCBs as defined at Article 2 of the EC Directive. For the purpose of the Directive and the national regulations, 'PCBs' are defined as meaning polychlorinated biphenyls, polychlorinated terphenyls, monomethyl-tetrachlorodiphenyl methane, mono-methyl-dichloro-diphenyl methane, monomethyl-dibromo-diphenyl methane. We understand that a quantity of polychlorinated naphthalenes (a substance also covered by the PARCOM decision, but not specified in the EC Directive) which was previously discovered in the UK telecommunications sector has now been disposed of.

* Please note that the PARCOM Dec. 92/3 is applicable to all identifiable PCBs.

III. Measures to Control the use of Hazardous PCB-Substitutes in Capacitors and Transformers

Question 4:

Which measures have been taken by your country in order to prevent or strictly control the use of hazardous PCB substitutes in capacitors and transformers? How effective have these measures been? Has any of the hazardous PCB substitutes identified under question 3 been replaced by a less or even non hazardous substance?

As stated in response to the preceding question, the national regulations, in line with the EC Directive, provide for the phasing out and destruction of PCBs as defined in the Directive, and which includes hazardous PCB substitutes. The substitution of PCBs by non-hazardous substances is a matter for individual businesses and has been occurring for some years.

IV. Voluntary Information on Emissions of PCBs or Hazardous PCB Substitutes to the Environment

Question 5:

Do you have any information on emissions of PCBs or hazardous PCB substitutes to the environment? If yes, please indicate estimates in the table below.

A table showing UK Emissions of PCBs from 1990 to 2003 is given in the table below taken from the National Atmospheric Emissions Inventory.

