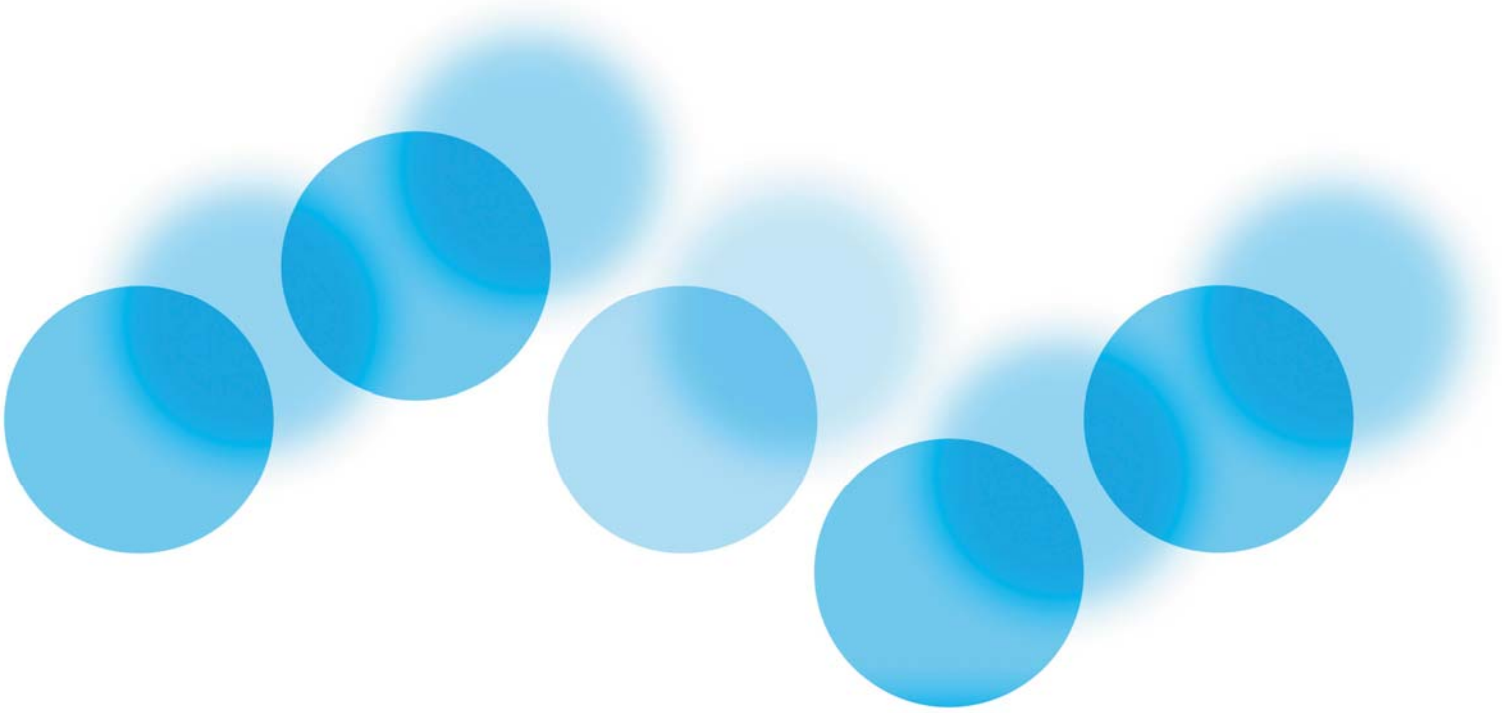
UNDP I GEF
DANUBE
REGIONAL
PROJECT

November 2006

RECOMMENDATIONS FOR THE REDUCTION OF PHOSPHORUS IN DETERGENTS

FINAL REPORT



UNDP GEF

WORKING FOR THE DANUBE AND ITS PEOPLE

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ABBREVIATIONS

AISE	Association internationale de la savonnerie, de la détergence et des produits d'entretien (the official body that represents the soap, detergent and maintenance products industry within Europe)
CEE	Central and Eastern Europe
DRB	Danube River Basin
DRP	Danube Regional Project
EG	Expert Group
EU	European Union
EU15	15 pre 2004 European Union Member States
EU WFD	EU Water Framework Directive
GEF	Global Environment Facility
ICPDR	International Commission for the Protection of the Danube River
STPP	Sodium tripolyphosphate
UNDP	United Nations Development Programme
EMIS EG	Emissions Expert Group of the ICPDR
P & M EG	Pressures and Measures Expert Group of the ICPDR (formerly the EMIS EG)

EXECUTIVE SUMMARY

WRc plc has been appointed by the United Nations Office for Project Services (UNOPS) (Reference 00036337, RER/03/G31) to develop recommendations for the reduction of phosphorus in detergents, which were intended to be used as a basis for the negotiation of a voluntary agreement between the International Commission for the Protection of the Danube River (ICPDR) signatory countries and the Detergent Industry.

The project was based on the previously established need to reduce phosphorus input to the Danube and its tributaries (ICPDR DABLAS, 2004[1], Danubs, 2005[2]), and targets for phosphorus input reductions are included in the ICPDR Joint Action Programme (ICPDR JAP 2001-2005[3]).

The project Terms of Reference of November 2004 (ToR) divided the project into three tasks:

- Task 1 – Review existing legislation, policies and voluntary commitments on the reduction of phosphorus in laundry detergents across the EU and the Danube River Basin (DRB);
- Task 2 – Compile and evaluate data on phosphorus containing detergents across the DRB, as well as associated production structures, in discussion with the Detergent Industry; and
- Task 3 – Develop proposals for accomplishing a voluntary agreement between ICPDR / contracting parties (DRB countries) and the Detergent Industry.

This report documents the approach and outcome of the project. It must be noted that, due to the outcome of Tasks 1 and 2 (Sections 3 and 4 of this report), Task 3 no longer seemed highly relevant, although it is addressed in Section 5 to provide background information relating to voluntary agreements.

The overall findings are summarised below.

Table A summarises the available information on the use of phosphate-free laundry detergents in the Danube River Basin (DRB) countries, including population figures (total and those in the DRB). It has been difficult to obtain information and the information on the use of phosphate-free detergents must be considered approximate.

In many cases the information is incomplete and problems with the definition of 'phosphate-free' and different approaches to product labeling have given rise to uncertainties. We have attempted to use the definition of 'phosphate-free' as <0.2% phosphate in line with the EU Regulation on detergents (EC/648/2004) according to which a phosphate content of 0.2% or higher has to be declared on the label. However, in some cases, the 'phosphate-free' component may include 'low phosphate' products, e.g. up to 5% phosphate content. The Czech voluntary agreement, for example, allowed up to about 2% phosphate in 'phosphate-free' detergents. Another difficulty was the contradictory information at times between product labels (as examined on supermarket shelves) and manufacturers' information (e.g. Hungary); this could have been due to a variety of factors, for example changes in product formulations or differences in products with the same name but produced in different countries. Overall, large multinational detergent manufacturers were not particularly co-operative but on near completion of the project, we managed to make contact with an AISE representative for Central and Eastern European (CEE) countries, who is interested in dialogue at least.

[1] http://www.icpdr.org/icpdr-pages/dablas.htm

[2] http://danubs.tuwien.ac.at/

[3] http://www.icpdr.org/icpdr-pages/pub_programmes.htm

Table A Detergent usage, populations & phosphate-free detergents by country

Percentage detergent that is phosphate-free	Country	Total laundry detergent usage (tonnes/year)	Total population (million) [1]	Total population in Danube Basin (million) [2]
>98%	Austria	55,197	8.1	7.7
	Germany	643,000	82.0	9.1
>~50%	Czech Republic		9.9	2.7
	Hungary	126,300	10.3	10.3
	Slovenia		2.0	1.7
	Serbia-Montenegro [3]	89,057	9.3	9.1
<10%	Bosnia-Herzegovina	7,485	4.4	2.5
	Bulgaria		7.9	4.4
	Croatia	16,516	4.7	3.2
	Moldova		4.3	1.1
	Slovak Republic		5.4	5.2
	Ukraine	219,873	49.1	3.1
Not known [4]	Romania	154,584	22.4	21.8
Total			**219.8**	**81.9**

Notes:

1. Information from Whitaker's Almanack 2005
2. From Joint Action Programme, 2000-2005
3. Data for 'phosphate-free' in Serbia-Montenegro may include low phosphate detergents (i.e. up to 5% phosphate)
4. Data for products indicates 'no phosphate-free detergents' on the market in 2005

Nevertheless, the situation can be broadly summarized as follows.

Austria and Germany have virtually no phosphate containing laundry detergents and need not be considered for further action. Austria has achieved this through a voluntary agreement, whilst Germany has used a combination of legislative and voluntary measures with the full co-operation of the detergent industry and involvement of the public.

Slovenia has a high proportion of phosphate-free laundry detergents (>75%). However, it seems that there has been an increase in the use of phosphate detergents in recent years (it was virtually phosphate-free in 2000), and it may still be rising. Consequently, whilst it should not receive priority for action, the situation may need to be monitored.

The Czech Republic has recently replaced a voluntary agreement to reduce phosphorus in laundry detergents, which was a partial success, with legislation; it will therefore not need to be considered for further action either.

The above four countries together account for about 26% of the total population in the DRB.

Of the remaining countries, only Hungary and Serbia-Montenegro use significant proportions of phosphate-free laundry detergents and together account for another 24% of the DRB population. In both cases there are some uncertainties in the data, for example some conflicting information from Hungary; moreover, the data for phosphate-free detergents in Serbia-Montenegro may include 'low phosphate' products (up to 5% phosphate) and, particularly in view of the significant

proportion of the DRB population, we recommend consideration of these countries for further action.

The other seven countries use little or no phosphate-free detergents and make up about half the DRB population; of these Romania is the most significant in terms of DRB population (about 27% of total). No figure was given for phosphate-free detergents in Romania, although the available product data (incomplete) indicated an absence of phosphate-free detergents.

To conclude therefore, the countries requiring reductions in phosphate-based detergents are as follows (see **Table B**), together representing about three quarters (74%) of the DRB population:

Table B Countries requiring action to reduce phosphate in detergents and percentage of DRB population

DRB Country	Percentage of DRB population
Romania	26.6
Hungary	12.6
Serbia-Montenegro	11.1
Slovak Republic	6.4
Bulgaria	5.4
Croatia	3.9
Ukraine	3.8
Bosnia-Herzegovina	3.1
Moldova	1.3

Among these countries, Romania should receive priority because it currently has virtually no phosphate-free detergents on the market and yet constitutes the biggest single contribution to the DRB in terms of its population (almost 27%). In contrast, Hungary and Serbia-Montenegro already have a significant proportion of P-free detergents (>50%) and will require lower priority. In addition to the above countries, developments in Slovenia should be monitored.

Unilever in Romania has recently announced it will start producing phosphate-free detergents in Romania. This could be a significant development, since Unilever is one of two major players in the Romanian market (the other is Proctor & Gamble), although it seems to be aimed at automatic washing machines only, probably representing a relatively small proportion of the total detergent usage.

It is also worth noting that Moldova intends to legislate and to use a combination of subsidies, tax incentives and public involvement to promote the use of phosphate-free detergents. More information should be sought concerning the details and progress of these plans. However, it must be noted that Moldova relies mainly on imports of detergents.

It was not possible to obtain any information on production costs of phosphate-free detergents, because the industry was not prepared to reveal any such information. However, Zeolite A has previously been shown to be a viable alternative to phosphate and is used successfully in many countries, including the DRB countries, Germany and Austria. The main adverse effect of abandoning the use of phosphates in detergents is expected to be on the phosphate industry, but not on the detergent industry, which should be able to adjust detergent formulation and production.

Similarly, the information gathered on costs to consumers was inadequate for a thorough statistical assessment, but has not indicated any evidence of higher costs of phosphate-free detergents.

The Czech example has demonstrated the difficulties in maintaining a successful voluntary agreement with the detergent industry without legislative back-up. In the Czech case, the agreement was between government and the industry association, and the initial success was eroded because of increasing sales of phosphate detergents by non-members of the association. Similarly, it would be difficult to control imports or the emergence of other manufacturers/suppliers outside any agreements. The latter has been experienced in Slovenia, where there is a trend towards increasing use of phosphate detergents (although no voluntary agreement has been in place, the market was virtually phosphate-free in 2000).

Few RBD countries outside the EU have experience with voluntary agreements, but they are generally following EU legislation. Moreover, there is an indication that manufacturers prefer to await legislation. For these reasons, EU legislation to ban or reduce phosphates in detergents would be far more effective in dealing with the problem. In any case we already have the curious situation, where several EU Member States have legislation to reduce or ban phosphates in detergents, whereas others have not (legislation is in place in Germany, the Czech Republic, Italy and the Netherlands; and soon to follow are Sweden and France; with voluntary agreements in Austria and Ireland being effectively equivalent to 'bans').

Current EU legislation (Regulation on detergents EC/648/2004, Article 16) requires the situation to be reviewed by April 2007 and, if appropriate, a legislative proposal to be prepared to phase out or restrict phosphates in detergents. To this end, a report (funded by the detergent phosphate industry) has just been completed and should be published shortly by the Directorate General on Enterprise and Industry, the EC Department with responsibility for the Regulation. Any developments will need to be observed.

The above requirement provides a timely opportunity to review the situation and to harmonise it across Europe by introducing a ban or restrictions on phosphate detergents across the Community.

Nevertheless, unless EU legislation can be expected in the near future, it may still be worth attempting to negotiate voluntary agreements, since even a partial success could usefully contribute to reductions in phosphate in the Danube river basin. Alternatively, and probably a more promising option, would be to persuade DRB country governments of the need for national legislation.

It may be beneficial to hold a workshop, for example in Romania, to inform stakeholders of the situation and to explore a way forward.

In any case it will be important to liaise closely with the appropriate government department in each country concerned and to maintain a dialogue with the industry and relevant trade associations. In addition, it will be important to promote public debate and involvement, and to monitor compliance with any agreements or legislation, possibly with assistance from NGOs.

Whilst it is recognised that other actions, such as improved urban waste water collection and treatment, as well as 'good agricultural practices' are necessary complementary actions, the study has shown clearly that there is ample scope for contributing to a successful resolution of the problem of eutrophication, by replacing phosphate detergents with phosphate-free detergents, thereby reducing the total phosphate burden.

1. INTRODUCTION

WRc plc has been appointed by the United Nations Office for Project Services (UNOPS) (Reference 00036337, RER/03/G31) to develop recommendations for the reduction of phosphorus in detergents, which will be used as a basis for the negotiation of a voluntary agreement between the International Commission for the Protection of the Danube River (ICPDR) signatory countries and the Detergent Industry.

The project is part of the UNDP / GEF Danube Regional Project (DRP).

Objective 1 of the DRP is: the creation of sustainable ecological conditions for land use and water management. This project contributes to output 1.8 of this objective, i.e. recommendations for the reduction of phosphorus in detergents.

The objective of this project described in the Terms of Reference of November 2004 (ToR) can be summarised as follows:

To develop proposals for the introduction of voluntary agreement schemes leading to a reduction in the level of phosphates used in (laundry) detergents across the Danube River Basin.

The specific objectives as stated in the ToR are to:

- Assess the current use of phosphate builders in laundry detergents used within the Danube River Basin; and
- To develop proposals for the introduction of voluntary agreements for phosphate reduction to be negotiated by the ICPDR / contracting parties and the Detergent Industry.

The ToR divides the project into three tasks:

- Task 1 – Review existing legislation, policies and voluntary commitments on the reduction of phosphorus in laundry detergents across the EU and the Danube River Basin (DRB);
- Task 2 – Compile and evaluate data on phosphorus containing detergents across the DRB, as well as associated production structures, in discussion with the Detergent Industry; and
- Task 3 – Develop proposals for accomplishing a voluntary agreement between ICPDR / contracting parties (DRB countries) and the Detergent Industry.

The project is based on the previously established need to reduce phosphorus input to the Danube and its tributaries.

Whilst the study focuses on domestic use of laundry detergents, reviews of current practice include industrial and domestic laundry detergent uses, where data was readily available. A review of production structures in all Danube River Basin (DRB) countries forms an important part of the study.

The recommendations are based on experiences of DRB and other countries, in the context of related developments (policy and legislative) at the European Union level and take account of the institutional and economic capability of the DRB countries.

This final report documents the outcome of the study (Tasks 1-3). More detailed information is provided in Annexes.

2. THE DANUBE RIVER BASIN

The Danube River, at 2 780 km length, is the second largest river in Europe draining an area in excess of 800 000 km^2. It flows through 18 countries including EU Member States, Accession countries and other countries that have not applied for EU membership (ICPDR, 2005). The Danube River discharges into the Black Sea.

The International Commission for the Protection of the Danube River (ICPDR) is the implementing body under the "Convention on Co-operation for the Protection and Sustainable Use of the Danube River" (Danube River Protection Convention, DRPC) and serves as the platform for co-ordination to develop and establish the Danube River Basin Management Plan (DRBMP).

2.1. Countries in the Danube River Basin District

A total of 18 countries have territories in the Danube River Basin District (see Table 1).

Table 1 Countries in the Danube River Basin District

Country	ISO-Code	Status in the EU
Albania	AL	-
Austria	AT	Member State
Bosnia – Herzegovina	BA	-
Bulgaria	BG	Accession Country
Croatia	HR	Applied to become an Accession Country
Czech Republic	CZ	Member State
Germany	DE	Member State
Hungary	HU	Member State
Italy	IT	Member State
Macedonia	MK	-
Moldova	MD	-
Poland	PL	Member States
Romania	RO	Accession Country
Serbia and Montenegro	CS	-
Slovak Republic	SK	Member State
Slovenia	SI	Member State
Switzerland	CH	-
Ukraine	UA	-

European Union Member States include Austria, Germany and Italy, joined by five further countries on 1 May 2004, i.e. the Czech Republic, Hungary, Poland, Slovak Republic and Slovenia.

Three other Danube countries are in the process of accession or under application. Bulgaria and Romania will join the EU in 2007. Croatia has applied to become an Accession Country in April 2004, but negotiations have not started.

Seven countries currently are not members of the EU and have not to date initiated a formal process to join. These are: Albania, Bosnia-Herzegovina, Macedonia, Moldova, Serbia and Montenegro, Ukraine and Switzerland.

The territory of Hungary is totally within the Danube river basin. The rest of the basin comprises nearly all parts of Austria, Romania, Slovenia, Slovakia, and Serbia and Montenegro, significant parts of Bosnia–Herzegovina, Bulgaria, Croatia, Czech Republic and Moldova and small parts of Germany and Ukraine.

Countries sharing less than 2000 km² of the Danube river basin are (in descending order by size) Switzerland, Italy, Poland, Albania and Macedonia and are therefore excluded from this study.

Therefore, 13 countries are included in the study as the principle Danube River Basin (DRB) countries:

- Austria
- Bosnia-Herzegovina
- Bulgaria
- Croatia
- Czech Republic
- Germany
- Hungary
- Moldova
- Romania
- Serbia-Montenegro
- Slovakia
- Slovenia
- Ukraine

2.2. The need to reduce phosphorus emissions in the Danube River Basin

The need to reduce phosphorus emissions in the Danube River Basin has already been established and is not the subject of this report.

Identified by the European Environment Agency (EEA) as a major environmental problem across Europe (EEA, 2005), eutrophication is the excessive enrichment of waters with nutrients (nitrogen and phosphorus – N and P) and subsequent adverse ecological consequences. The presence of nutrients in the Danube Basin has led to severe ecological problems: the deterioration of groundwater resources and the eutrophication of rivers, lakes and especially the Black Sea (daNUbs, 2005).

Other projects, which have clearly shown the need for phosphate input reduction in the DRB include the DABLAS project (ICPDR DABLAS, 2004) and targets for phosphorus input reductions are included in the ICPDR Joint Action Programme (ICPDR JAP, 2001-2005).

3. TASK 1 - REVIEW EXISTING LEGISLATION, POLICIES AND VOLUNTARY COMMITMENTS ON THE REDUCTION OF PHOSPHORUS IN LAUNDRY DETERGENTS ACROSS THE EU AND DRB

3.1. Mechanisms for the reduction of detergent phosphates

The main mechanisms for significantly reducing phosphate entry into waters of the Danube river basin (DRB) have been described as follows (Popovici, 2003):

1. Reduce the amount of sodium tripolyphosphate (STPP) used in detergent builders and switch to "alternative" non-phosphate-based builders, such as Zeolite A;
2. Improve wastewater treatment through implementation of the Urban Wastewater Treatment Directive (UWWTD).

Legal bans on phosphate in detergents are in place in Germany, Italy (ban 1989), the Netherlands, Switzerland (ban 1986), Japan (ban limited to areas containing sensitive lakes but in effect no STPP-based detergents sold in Japan), Canada (ban 1973) and the USA (different dates in different states from the 1970s onwards) (Glennie, et al., 2004). The Czech Republic has recently introduced legislation because of failure of a voluntary agreement (see details in **Section 3.3.1** – Case Studies). Moreover, the Swedish Government has just announced that it intends to legislate to provide for a national ban on the use of phosphates in laundry detergents and other cleaning agents. The move is in line with the recommendations of an earlier report by a panel of international experts on measures to counter eutrophication in the Baltic Sea (ENDS Europe Daily, 2006). In addition, France intends to ban phosphates in detergents in the near future (2007) (ENDS Europe Daily, 2006a).

There are several voluntary agreements between governments and industry to limit the use of phosphates in detergents by the detergent industry. In some countries, such as Germany, Austria, and more recently Ireland, the voluntary agreement is in effect equivalent to a "ban" of phosphates in household laundry detergents.

The WRc study (Glennie *et al.*, 2002) to address the current use of phosphates in detergents throughout the EU recommends measures to reduce phosphorus concentrations in surface waters below levels that cause eutrophication, through either improving wastewater treatment, banning the use of phosphates as detergent builders, or a combination of the two approaches. The study suggests that banning phosphorus from household detergents can achieve a phosphorus load reduction of up to 40% entering surface water bodies, which is substantial but not sufficient in isolation to result in any significant improvement. Furthermore, improvements in wastewater treatment to fully comply with the Urban Waste Water Treatment Directive (UWWTD) (Council Directive 91/271/EEC) would only result in typical phosphorus reductions of around 30%. This is because centres with less than 10 000 residents would not be required to eliminate phosphorus from their wastewater. As demonstrated by Switzerland, the USA and Italy, the greatest improvements in lakes and rivers were observed where a combination of reduced detergent phosphorus and improved wastewater treatment were implemented, thereby achieving the required 70-90% reduction in external load.

3.2. EU and international legislation and agreements restricting the use of phosphates in detergents

3.2.1. Overview of EU and other international legislation relevant to DRB countries

UNEP Global Plan of Action

Danube River Protection Convention (DRPC)

The Danube River Protection Convention (DRPC) is a legally binding instrument, which provides a substantial framework and a legal basis for co-operation between the contracting parties, including enforcement. It came into force in October 1998. The main objective is the protection and sustainable use of groundwater and surface waters and ecological resources, directed at basin-wide and sub-basin-wide co-operation with trans-boundary relevance. Joint activities and actions are focused on co-ordination and enhancement of policies and strategies, while the implementation of measures lies mainly with the executive tools at the national level. The Strategic Action Plan provides guidance concerning policies and strategies in developing and supporting the implementation measures for pollution reduction and sustainable management of water resources, enhancing the enforcement of the Danube River Protection Convention.

The Danube River Protection Convention has been ratified by all of the 13 DRB countries eligible to join it, along with the European Commission.

International Commission for the Protection of the Danube River (ICPDR)

The Danube Countries established the International Commission for the Protection of the Danube River (ICPDR) to strengthen co-operation and to respond to the obligations of the Danube River Protection Convention. The Commission has created several Expert Groups to strengthen the proactive participation of all Contracting Parties and associated countries in the design and implementation of joint measures for pollution reduction, including nutrients and water management.

Black Sea Convention

Co-operation between the ICPDR and the International Commission for the Protection of the Black SEA (ICPBS) – Joint *Ad-hoc* Technical Working Group of the ICPDR and the ICPBS

In 1998, the ICPDR and the ICPBS established a joint Working Group, which analysed the causes and the effects of eutrophication in the Black Sea. In its findings, the Working Group indicated that the loads entering the Black Sea from the Danube had fallen in recent years due to the collapse of the economy of many transitional countries formally attached to the Soviet Block, the measures undertaken to reduce nutrient discharges in the upper Danube countries, in particular Germany and Austria, and a decline in the use of phosphate in detergent.

The Working Group concluded that in spite of the evidence of recovery in the Black Sea ecosystems, there were still concerns that the nutrient discharges to the Black Sea, in line with the expected economic growth, were likely to rise again unless action was taken to implement nutrient discharge control measures as part of economic development strategies.

The Working Group went on to define the possible objectives and strategies, which are included in the Memorandum of Understanding between the ICPDR and the ICPBS, as follows:

- The long-term goal is defined as a recovery of the Black Sea ecosystem to conditions similar to those in the 1960s;

- As a mid-term goal, measures should be taken to prevent discharges of nutrients and hazardous substances from exceeding the levels of 1997; and
- Inputs of nutrients and hazardous substances should be assessed, monitored and sampling procedures should be determined, and the results reported.

Detergent Eco-label Schemes

There are two principal pan-European schemes aimed at minimising the effect of detergents upon the environment:

- Eco-label and
- Nordic White Swan.

The aims of both are similar and encompass encouraging business to market 'greener' products. The twin goals of the schemes are to provide producers with the necessary information to take advantages of this strategy, and to enable consumers to make informed decisions regarding the environmental impact of products.

Only products that satisfy strict environmental requirements on the basis of objective assessments are allowed to display either of the labels.

The **Nordic environmental label** is a neutral, independent label, which guarantees a certain environmental standard and works in close co-operation with the eco-label scheme. It is run through the competent bodies as nominated by the members, Sweden, Finland, Denmark, Iceland and Norway.

The label helps consumers to identify the products that cause the least damage to the environment amongst those in the market. As a result, manufacturers are stimulated to develop products and production processes, which are better for the environment.

The Nordic Swan criteria for 'all purpose cleaners' allow:

- 0.2 g P (phosphorus) per recommended dose per litre (this means per litre after dilution according to manufacturer's recommendation)

The Nordic Swan criteria for 'sanitary' cleaners allow:

- 0.2 g P (phosphorus) per 100g of product.

The **EU Eco-label scheme**, laid down in Council Regulation EC/1980/2000, was established in 1992 to promote products and services with a reduced environmental impact. Manufacturers meeting the environmental criteria established for a product group can obtain the Eco-label and display the Flower logo on their products. At the European level the Scheme is run by the EU Eco-labelling Board (EUEB). Each EU Member State has a competent authority, which helps companies that want to obtain the Flower logo by providing information on how to apply, and checking compliance. Applicants must provide a detailed dossier showing how the technical criteria have been met.

The European Union's Eco-label scheme for **laundry detergents** (Council Decision 2003/200/EC) allows:

- 25 g STPP within a maximum of 100 g total chemicals per wash = 25% STPP
- less than or equal to 0.5 g phosphonates that are not readily biodegradable (aerobically) per wash

A 'wash' refers to the dosage per 4.5 kg load (dry textiles) for heavy-duty detergents and per 2.5 kg load (dry textiles) for low-duty detergents in the washing machine.

The European Union's Eco-label scheme for **dishwasher detergents** (Council Decision 2003/31/EC) allows:

- less than or equal to 10 g STPP within a maximum of 22.5 g total chemicals per wash = 44% STPP
- less than or equal to 0.2 g phosphonates that are not readily biodegradable (aerobically) per wash

A 'wash' refers to the quantity of product required to wash 12 place settings with a standard level of soilage.

The European Union's Eco-label scheme for **all purpose cleaners and cleaners for sanitary facilities** (Council Decision 2005/344/EC) allow total quantity of elemental phosphorus (P), calculated per functional unit (for all-purpose cleaners) or per 100g of product (cleaners for sanitary facilities) taking into account all ingredients containing phosphorus, (e.g. phosphates and phosphonates):

- All-purpose cleaners: P < 0.02 g per functional unit;
- Cleaners for sanitary facilities: P < 1.0g per 100g of product; and
- Window cleaners: no phosphorus.

For all-purpose cleaners the functional unit (used in the criteria above) is the dosage in grams of the product recommended by the manufacturer for one litre of suds (washing water).

The European Union's Eco-label scheme for **hand dishwashing detergents** (Council Decision 2005/342/EC) details how to calculate the critical dilution volume toxicity (CDV_{tox}) for each ingredient. The CDV_{tox} of the recommended dose expressed for one litre of dishwashing water shall not exceed 4200 l.

The current eco-label criteria also promote consumer information about 'dosage' and 'low temperature washing' only. Thus it is suggested that further use instructions are added to reduce environmental impact, these include:

- Pre-sort laundry (by colour, degree of soiling, type of fibres);
- Treat specific soilage (ink, fruit, etc.) prior to wash;
- Wash with full loads;
- Avoid pre-washing;
- Avoid overdosing; and
- Prefer low temperature washing cycles.

The Nordic environmental label is the official eco-label in Norway, Sweden, Denmark, Finland and Iceland.

Detergent Directives (European Union)

The Commission Recommendation (98/480/EC) concerning **good environmental practice for household laundry detergents** sets the target that all poorly biodegradable organic ingredients (PBO) in household laundry detergents should be decreased by 10% by 2002 compared with 1996 in the EU15. Other targets concern energy, weight of detergent and packaging.

In order to monitor progress of this Recommendation, statistics are requested on the total consumption of poorly biodegradable organic ingredients[4] (in tonnes per year) associated with

[4] Poorly biodegradable organic ingredients are those which fail to biodegrade by more than 70 % in SCAS or Zahn Wellens biodegradability test as defined under C.12. and C.9. of Annex V to Directive 67/548/EEC as amended by Directive 92/32/EEC.

detergent consumption (solid and liquid) for each calendar year. Consumption means the tonnes of poorly biodegradable organics in detergents sold on each national market.

AISE[5] committed itself to undertake initiatives to achieve the targets set in the Recommendation and in 1996 developed a Code of Good Environmental Practice for the Household Laundry Detergents for implementation in 18 countries: the EU15 plus Iceland, Norway and Switzerland.

Implementation of the Code started in Denmark and Sweden in autumn 1997 as a pilot project. Following the positive results obtained from this pilot project, and the endorsement by the European Commission, implementation in the other participating countries started in mid-1998 / early 1999 and has continued since.

Commitments and targets in the AISE Code are based on risk assessment and life cycle analysis. Under the Code, manufacturers agree to provide consumers with relevant usage instructions to guide them on how to do their laundry in an environmentally responsible manner.

AISE and some non-AISE members that sell, market or produce household laundry detergents within the European Community and the European Economic Area therefore committed themselves to ensure compliance with this Recommendation, in co-operation with National Associations, and to report progress towards the targets for consumption, packaging and poorly biodegradable ingredients in detergents at least every two years, and to report on the energy consumption at the end of a five-year period.

The Commission's report on the implementation of the Recommendation (COM(2004)134) states that the target to reduce all poorly biodegradable organic ingredients in household laundry detergents by 10% by 2002 compared with 1996 in the EU15 was achieved, in fact exceeded. The reduction reported is –13.1% between 1996 and 1998; –14.5% between 1996 and 2000; and –23.7% between 1996 and 2001. Looking at the EU15 Member States individually (see Table 2), the recorded reduction was greatest in Italy (-39.0%), Austria (-38.5%) and the Netherlands (-34.4 %), whilst there was an increase recorded in Greece and Ireland (both 10.2%).

Table 2 Change in consumption of poorly biodegradable organic (PBO) ingredients in household laundry detergents between 1996 and 2001 in the 15 EU Member States (taken from COM(2004)134)

EU Member State	Change in per capita PBO consumption
Austria	- 38.5 %
Belgium	- 26.1 %
Denmark	- 25.7 %
Finland	- 1.7 %
France	- 14.9 %
Germany	- 25.6 %
Greece	+ 10.2 %
Ireland	+ 10.2 %
Italy	- 39.0 %
Luxembourg	- 26.1 %
Portugal	- 19.4 %
Spain	- 23.9 %

[5] AISE (Association internationale de la savonnerie, de la détergence et des produits d'entretien) is the official body that represents the soap, detergent and maintenance products industry within Europe and towards other international organisations. AISE's members and its National Associations are present in 28 countries (in Europe essentially). Their members are companies locally placing products of the above categories on the market. AISE represents over 90 % of the detergent and cleaning product industries in the Community.

EU Member State	Change in per capita PBO consumption
Sweden	- 25.6 %
The Netherlands	- 34.4 %
UK	- 4.6 %
EU15	**-23.7 %**

Council and European Parliament **Regulation EC/648/2004 on detergents**, which entered into force on 8 October 2005, replaces the five Directives and the Commission Recommendation listed below in order to bring all EU measures on detergents under a single text.

- Council Directive 73/404/EEC on the approximation of the laws of the Member States relating to detergents, *Official Journal* L347, 17 December 1973
- Council Directive 73/405/EEC on the approximation of the laws of the Member States relating to methods of testing the biodegradability of anionic surfactants, *Official Journal* L347, 17 December 1973
- Council Directive 82/242/EEC on the approximation of the laws of the Member States relating to methods of testing the biodegradability of non-ionic surfactants and amending Directive 73/404/EEC, *Official Journal* L109, 22 April 1982
- Council Directive 82/243/EEC amending Directive 73/405/EEC on the approximation of the laws of the Member States relating to methods of testing the biodegradability of anionic surfactants, *Official Journal* L109, 22 April 1982
- Council Directive 86/94/EEC amending for the second time Directive 73/404/EEC on the approximation of the laws of the Member States relating to detergents, *Official Journal* L80, 25 March 1986.
- Commission Recommendation 89/542/EEC for the labelling of detergents and cleaning products, *Official Journal* L291, 10 December 1989

The new Regulation on detergents (EC/648/2004) is primarily concerned with the aerobic biodegradability of surfactants within detergents. Limits for biodegradability are stipulated in the Regulation's Annex which must be adhered to for a detergent to be placed on the market.

The only other reference to phosphates is that, if present in a concentration above 0.2% by weight, it needs to be listed as an ingredient on the packaging label. Weight percentage ranges as detailed in Annex VII are to be used, i.e.

- less than 5%
- 5% or over and less than 15%
- 15% or over and less than 30%
- 30% or more.

A list of ingredients is set out, including phosphates and phosphonates, which have to be declared in the above concentration ranges if their content is 0.2% or more by weight. Some other ingredients are listed, which require declaration irrespective of their content.

However, Article 16 - Review, states:

"By 8 April 2007, the Commission shall evaluate, submit a report on and, where justified, present a legislative proposal on the use of phosphates with a view to their gradual phase-out or restriction to specific applications".

The Regulation on detergents (EC/648/2004) is within the scope of responsibilities of Directorate General Enterprise and Industry (Unit G.2), which has 'commissioned' the review required under

Article 16. The study is funded by CEEP (European Detergent Phosphate Industry – Joint Research Association), a Cefic Sector Group, and being conducted by the Laboratory for Ecotoxicology at the Spanish Department of Environment, National Institute for Agriculture and Food Research and Technology (INIA) in co-operation with Green Planet Environmental Consulting S.L. (also in Spain). The interim report of September 2005 and the final report of October 2006 have been obtained (Madariaga, *et al*. 2005 and 2006) from DG Enterprise.

It is outside the scope of this project to assess the above review. However, it is worth noting that the main focus of the work is on developing and validating a model for risk assessment, concerning phosphorus inputs from different sources, including detergents, into European rivers and the associated risk of eutrophication. The risk assessment seems to be based on the fact that a considerable proportion of the EU population is already using phosphate-free detergents.

Other EU Directives

Urban Wastewater Treatment Directive (UWWTD)

The main aim of the UWWTD (Council Directive 91/271/EEC) was to ensure the treatment of significant discharges of sewage before discharge, either to inland surface waters, groundwaters, estuaries or coastal waters. Sewage is normally treated to secondary treatment standards, although discharges into 'Sensitive Areas' require higher standards of treatment (removal of phosphates and/or nitrate at wastewater treatment plants above 10 000 population equivalents (p.e.) in the catchment of a designated sensitive area) due to eutrophication of receiving waters or a potential for eutrophication, if preventive measures are not taken.

Dates were set for the implementation of the requirements of the Directive, i.e. secondary treatment for discharges above 15 000 p.e. (population equivalents) to be provided by 31 December 2000; and discharges between 2 000 and 15 000 p.e. into estuaries and between 10 000 and 15 000 p.e. into coastal waters must receive secondary treatment by 2005. Smaller discharges must also receive appropriate treatment by 2005.

Water Framework Directive (WFD)

The WFD (Council Directive 2000/60/EC) was adopted in December 2000. It requires Member States to adopt an integrated system of water management covering surface and ground waters and to achieve "good ecological status" in all waters by 2015. The Directive requires integrated river basin management to be achieved through river basin districts, which had to be identified by December 2003. An initial characterisation of all water bodies within each river basin district and an assessment of the pressures and impacts on those water bodies should have been completed by December 2004. Following this, Member States must develop monitoring programmes, river basin management plans and programmes of measures to ensure the achievement of good ecological status by 2015.

The Directive also requires the Commission to identify priority substances and priority hazardous substances. For priority substances, discharges, emissions and losses must be reduced whilst for priority hazardous substances they must be eliminated. Substances contributing to eutrophication (particularly phosphates and nitrate) are listed as being among the main pollutants, under Annex VIII of the Directive.

Decision 2455/2001/EC has been adopted, identifying 33 priority and priority hazardous substances, and will be referred to as Annex X, in Directive 2000/60/EEC. The Commission is currently developing a proposal for a daughter Directive to the WFD, which will specify Environmental Quality Standards (EQS) and emission controls for these substances.

EU legislation implementation report

The European Commission has published its sixth annual survey on the implementation and enforcement of community environmental law, covering 2004 (European Commission, 2005). The surveys provide information on the state of application of Community environmental law.

Proposed EU measures

REACH - Registration, Evaluation and Authorisation of Chemicals

The European Commission adopted a proposal for a new EU regulatory framework for chemicals (COM(2003)644) on 29 October 2003.

Under the proposed new system, enterprises that manufacture or import more than one tonne of a chemical substance per year would be required to register it in a central database. The aims of the proposed new Regulation are to improve the protection of human health and the environment while maintaining the competitiveness and enhancing the innovative capability of the EU chemicals industry. REACH would furthermore give greater responsibility to industry to manage the risks from chemicals and to provide safety information on the substances. This information would be passed down the chain of production. The proposal has been drafted in close consultation with all interested parties, including an internet consultation. This has allowed the Commission to propose a streamlined and cost-effective system. The proposal is now being considered by the European Parliament and the Council of the EU for adoption under the co-decision procedure.

3.2.2. EU voluntary agreements

The Commission Recommendation concerning good environmental practice for household laundry detergents (98/480/EC) recommended for the first time at Community level "Environmental Agreements" as a tool for industry to implement the actions envisaged in the Recommendation. It takes into account the Council and European Parliament Resolutions of 17 July 1997 and 7 October 1997 on Environmental Agreements, which recognise that voluntary agreements may be a valuable instrument to make optimum use of industry's own responsibilities (Council and European Parliament Resolutions, 1997 and 1997a).

The effectiveness of voluntary agreements has been criticised by the European Consumers' Association, BEUC, in a call to strengthen voluntary agreement rules (ENDS Europe Daily, 2006b). BEUC maintained that voluntary agreements failed to deliver environmental improvements and often simply allowed industry to avoid significant behavioural changes. Quoted shortcomings included low participation rates, leading to free-rider problems, and lack of analysis of impact, scope, outcomes and effectiveness. Recommendations for strengthening agreements included the imposition of large fines against individual companies where targets were not met.

3.2.3. Other measures for limiting phosphates in detergents

WashRight campaign

The WashRight campaign, an initiative of AISE (Association internationale de la savonnerie, de la détergence et des produits d'entretien), was launched in 1998. It presents information to consumers in a uniform format across the EU on detergent correct dosage and washing temperature. The information itself is tailored to the existing usage habits in each country. The campaign actions include television advertising, a dedicated website (http://www.washright.com) and reminder panels on packaging.

The effectiveness of the campaign towards achieving the goals set in the Recommendation concerning good environmental practice for household detergents (98/480/EC) cannot be

quantified because the impact of information on consumer behaviour is intrinsically difficult to evaluate.

3.3. Overview of existing and planned legislation, policies and voluntary agreements in DRB countries

A questionnaire was sent to representatives of DRB countries and the information received, together with soe additional information is summarised below. More detailed summaries are provided in **Annex 1** (Tables summarising country information) and a copy of the questionnaire template is included in **Annex 2**.

The information provided was very limited. In general terms it shows that the appropriate EU legislation (Directive 73/404/EEC, Recommendations 89/542/EEC and 98/480/EEC, and Regulation 648/2004/EC all relating to detergents; the Urban Waste Water Treatment Directive - UWWT - 91/271/EEC; and the Water Framework Directive - WFD - 2000/60/EC) has been transposed in the Member States, and in part also by the accession countries and other Danube countries, although in some cases with considerable transition periods. For example in the case of the UWWT, Bulgaria has a transition period until 2015.

However, it is worth noting that, even once the UWWT Directive, for example, is fully implemented, this will not result in total phosphate removal, as phosphorus and/or nitrogen removal will only be required in designated sensitive areas and their catchments at wastewater treatment plants > 10 000 p.e. (or an overall reduction of 75% nutrient input), whilst smaller plants and unconnected effluents will continue to contribute phosphorus to receiving waters.

Germany has succeeded in achieving completely phosphate-free laundry detergent use through a combination of legislation and voluntary agreements, to a large extent industry led and encouraged by public debate.

Voluntary agreements concerning the reduction of phosphates in detergents have been used in two Danube countries, **Austria** where it is still in operation and considered very successful, and the **Czech Republic**, where it was a partial success but has now been replaced with legislation (see Error! Reference source not found.).

No other Danube countries have legislation or voluntary agreements to reduce P in detergents, although **Bulgaria** has a national Eco-labelling scheme as well as voluntary participation in the EU eco-management and audit scheme (EMAS). This at least could form a basis on which to build other voluntary agreements. The Czech Republic also has a voluntary agreement to reduce the environmental burden of mercury from dental health care practices (Error! Reference source not found.).

The experiences of Germany, Austria and the Czech Republic are described briefly in **Section 3.3.1**.

3.3.1. Brief case studies

Three brief case studies are included below: Germany where phosphate-free laundry detergents are exclusively in use; Austria, which appears to have been successful in implementing a voluntary agreement, and the Czech Republic, where partial success was achieved, but legislation has now replaced it.

Germany

In Germany phosphorus was defended initially on the grounds that substitutes would be more expensive than alternative ways of reducing phosphorus discharges, such as better treatment of

wastewater. In 1972 Henkel argued that the cost of introducing increased sewage treatment (2.50 DM/capita/year) would be far less to the consumer than changing the composition of detergents. A joint research programme between Henkel (who had held the patent for zeolite since 1973) and the German government resulted in production of zeolite being advocated on economic grounds, almost a decade later.

This research led to the regulation of phosphate content of detergents by the "Phosphate-Höchstmengenverordnung", which stipulates maximum concentrations, and which entered in to force on 1 January 1984. The maximum permitted concentration of phosphates in detergents was reduced by 50%. Following the regulation there was a decline in the consumption of STTP (sodium tripolyphosphate), from 185 900 tonnes in 1984 to 13 000 tonnes in 1990, and none in 1998.

The significance of this legislation must also be viewed in a wider context. Other factors in explaining the reduction include voluntary agreements. The use of phosphate-free detergents was an industry led development, encouraged by public debate on the eutrophication of the aquatic environment. Since 1986 consumers have generally decided in favour of phosphate-free products and since then there have been virtually no phosphates in detergents in Germany. (Glennie *et al*., 2002; UBA, 2004).

Table 3 Voluntary agreements: information from the questionnaire - Relating to P reduction in detergents

Country	**Name**	**Type (e.g. voluntary agreement, eco-labelling, incentive scheme)**	**Details of agreement (i.e. who is the agreement between, what does it address etc). See note 1.**	**Is the agreement existing or planned. Please give dates (note 2)**	**If an existing agreement, please provide a brief overview of its success/failure, with reasons.**
Austria	Freiwillige Verzichtserklärung Waschmittel	Notice of abandonment (voluntary agreement), Eco-labelling	Detergent Producing Industry, not to use P in household laundry detergents	Existing	Successful
Czech Republic	Agreement between the Czech Association of producers of Soaps, Cleaning Agents and Detergents (CSDPA) and the Ministry of the Environment on gradual decrease in environmental impact of detergents	Voluntary agreement	Goal of the Agreement and its amendment was a gradual decrease in the amount of phosphates and other substances in water. Since 1st January 2005 the Association has placed on the market only phosphate-free washing powders. Full text of Agreement on the Ministry of the Environment website www.env.cz/AIS/web.nsf/pages/voda_ochrana (in Czech only) (English version see **Annex 3**).	Existing. Agreement was concluded in 1995 and its amendments in 1998 and 2001.	Decrease of phosphates in laundry detergents from 9 000 t in 1995 to 5 065 t in 2003 was the result of the Agreement. The member companies of the Association offered on the market compact, phosphate-free, as well as phosphate containing detergents. In the year 2003 36.6% of the overall amount of detergents produced by the Association members sold were phosphate-free laundry detergents. Since the 1st of January 2005 members of Association do not sell laundry detergents containing phosphates. From this point of view the goal of the Agreement has been met (but see comment in case study - **Section 3.3.1**).

Table 4 Voluntary agreements: information from the questionnaire - Relating to other environmental issues

Country	Name	Type (e.g. voluntary agreement, eco-labelling, incentive scheme)	Details of agreement (i.e. who is the agreement between, what does it address etc). See note 1.	Is the agreement existing or planned. Please give dates (note 2)	If an existing agreement, please provide a brief overview of its success/failure, with reasons.
Bulgaria	National Eco-labelling Scheme in accordance with Regulation (EC) No 1980/2000 of the European Parliament and of the Council of 17 July 2000 on a revised Community Eco-label Award Scheme	Voluntary scheme awarding an attractive eco-label logo for products, which are generally a better choice for the environment.	Agreement between competent authority and manufacturers. Products that meet strict ecological and performance criteria are awarded with the ecolabel.		
Bulgaria	National Eco-environment Auditing Scheme in accordance with Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)	Voluntary scheme	The agreement between competent authority and organisation which has an impact on the environment. National Eco-environment Auditing Scheme certified organisations have committed themselves to evaluating and improving their environmental performance and providing relevant information to the public.		
Czech Republic	Voluntary agreement between the ministry of the Environment and the Czech Dental Chamber on reducing the environmental burden caused by mercury from dental health care facilities.	Voluntary agreement	Full text of Voluntary Agreement on the Ministry of the Environment website www.env.cz/AIS/web.nsf/pages/voda_ochrana (in Czech only).	Existing. Signed in December 2001	From 2005 all dental workplaces are fitted with effective amalgam separators. This eliminates the discharge of mercury into the sewer systems and prevents contamination of treatment plant sludge.

Austria

A voluntary agreement (Freiwillige Verzichtserklärung Waschmittel) in Austria appears to have been very successful and further action is not considered necessary. The agreement was entered into between the Austrian authorities and the detergent producing industry; it specified not to use phosphates in household laundry detergents. Unfortunately we have been unable to obtain further details but we understand that virtually all household laundry detergents used in Austria are now phosphate-free (information from questionnaire).

Czech Republic

An environmental voluntary agreement on Washing Powders in the Czech Republic (CAVA Working Paper no. 99/10/11) proved a partial success, but legislation is now being introduced to achieve further improvements. A summary of the Czech experience is provided below.

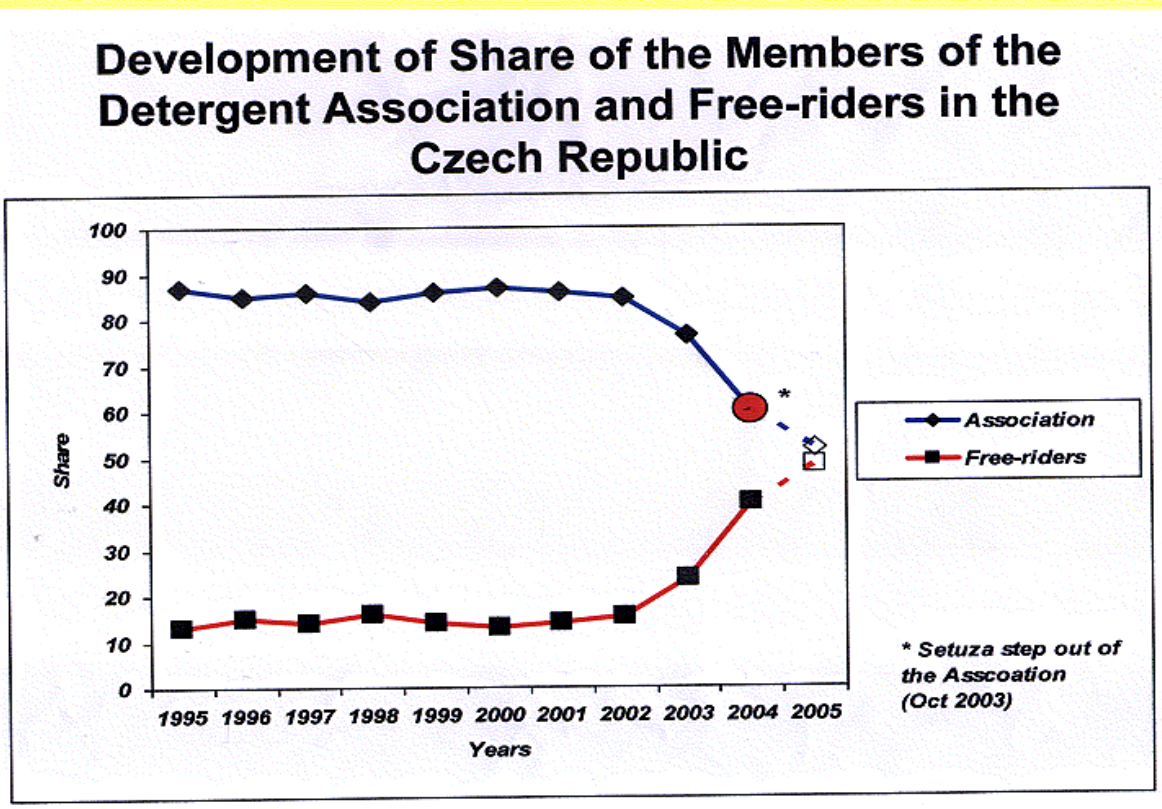
A voluntary agreement on the gradual decrease in environmental impact of detergents was concluded in 1995 between the Czech Association of producers of Soaps, Cleaning Agents and Detergents CSDPA) and the Ministry of the Environment; amendments were accepted in 1998 and 2001.

The goal of the Agreement and its amendments was a gradual decrease in the amount of phosphates and other substances in water. Since 1st January 2005 the Association has placed on the market only phosphate-free washing powders (full text of Agreement on the Ministry of the Environment website www.env.cz/AIS/web.nsf/pages/voda_ochrana - in Czech; an English translation is provided in Annex 3).

A decrease of phosphates in laundry detergents from 9 000 tonnes in 1995 to 5 065 tonnes in 2003 was the result of the Agreement. The member companies of the Association offered on the market compact, phosphate-free as well as phosphate containing detergents. In the year 2003 36.6% of the overall amount of detergents produced by the Association members were phosphate-free. Since 1st of January 2005 members of the Association no longer sell laundry detergents containing phosphates. From this point of view the goal of the Agreement has been met.

However, since the year 2000 an increase in the number of phosphate containing detergents from producers other than Association members has been observed. For example, the company SETUZA left the Association in 2003. The share of non-member producers on the market is not negligible at present as it was at the time of signing the Agreement (see Figure 1). In the year 2004 their share was estimated at about 40%, and in the year 2005 at 50% of all producers.

For this reason, and with the aim to further reduce the impact of laundry detergents on waters in the Czech Republic, it has been decided to control the content of the phosphorus in detergents through the Amendment of the Ministry of Environment Regulation No. 221/2004 Coll., stipulating the list of dangerous substances, whose introduction into the market, distribution or use are prohibited or limited. This measure is in line with the Regulation EC/684/2004 of the European Parliament and the Council of 31 March 2004 on detergents, Art. 14. Nevertheless, the measure does not cover the whole category of detergents in the sense of Regulation EC/684/2004, but only laundry detergents. It seems difficult to modify the whole spectrum of detergents to phosphate-free detergents because of missing technologies. Hence, even after the approval of the above-mentioned Amendment to the Ministry of Environment Regulation, it will be possible to produce industrial cleaning and dish washing agents with phosphorus, but it will not be possible to produce laundry detergents with a phosphorus content of more than 0.5% by weight.



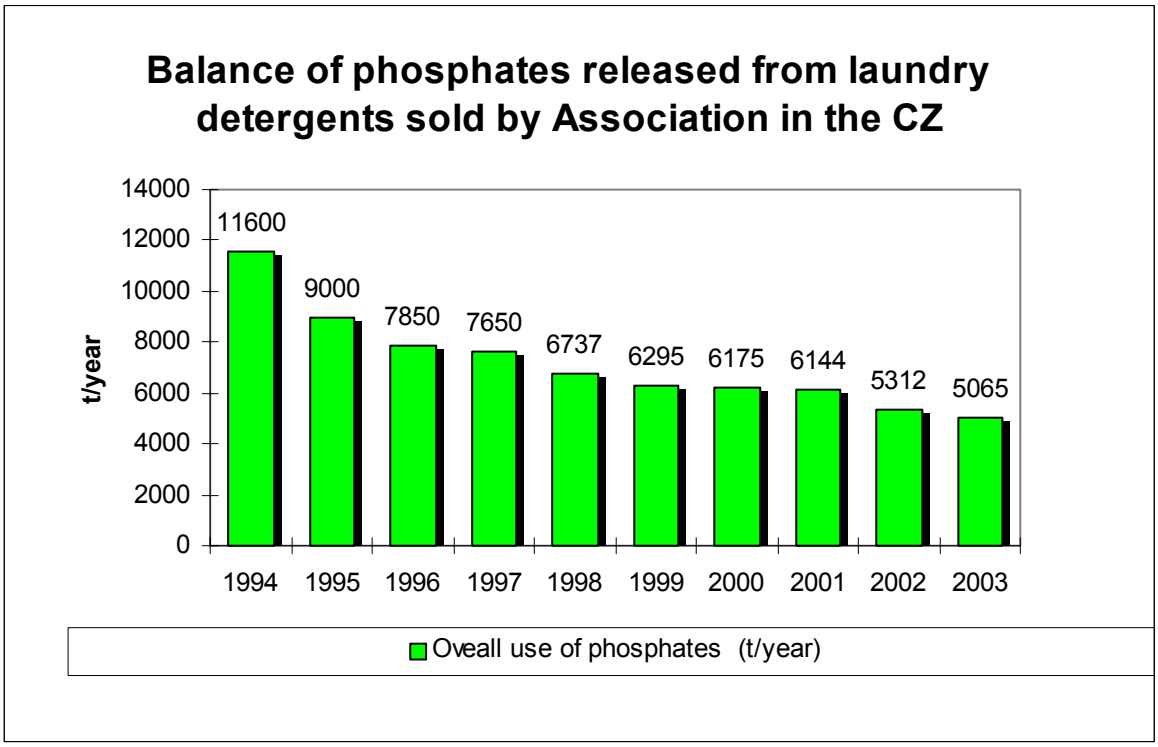


Figure 1 Phosphate-free detergents in the Czech Republic (source: Doubravka Nedvedova, Ministry of Environment, Czech Republic)

The above information for the Czech Republic was provided by Doubravka Nedvedova of the Czech Ministry of Environment, through the questionnaire and attachments supplied.

3.3.2. Advantages, limitations and costs involved in implementation of voluntary agreements in DRB countries

Most of the RBD countries do not at present use voluntary agreements as a tool of co-regulation. Some have reported on obstacles/difficulties to implementing voluntary agreements. These include:

- Poor economic status of the country and, consequently, the main priorities focus on economic development, rather than environmental protection;
- Current legislation does not promote voluntary commitments;
- Institutional constraints and inadequate financial resources to implementing such agreements;
- Lack of knowledge and understanding of such instruments among producers and governmental bodies;
- Lack of encouraging incentives from relevant governmental institutions; and
- Industry is waiting for EU action on the phosphate situation.

Possible measures to promote the feasibility of voluntary agreements have been proposed by RBD countries, as follows:

- Establishing national institutions responsible for implementing and monitoring voluntary agreements;
- Improving communication and establishing mutually beneficial (or at least working) relations between producers and relevant ministries;
- Appropriate information campaign to raise awareness, share knowledge and increasing the understanding of the benefits from such instruments for both sides (including producers and governmental regulating institutions).
- Revision of appropriate regulations and legal acts in order to provide legal support of voluntary incentives.

Concerning information campaigns, assistance from experienced institutions of EU countries (in the form of training, workshops etc.) would be considered helpful (e.g. Ukraine).

4. TASK 2 – COMPILE AND EVALUATE DATA ON PHOSPHORUS CONTAINING DETERGENTS AND ASSOCIATED PRODUCTION STRUCTURES ACROSS THE DRB

4.1. Production and use of phosphorus-based and alternative detergent builders in DRB countries

Sodium tripolyphosphate, STPP ($Na_5P_3O_{10}$), an inorganic sodium salt, is the main phosphate present in detergents. It is prepared from phosphoric acid by neutralisation with soda ash (sodium oxide) forming sodium hydrogen phosphates. A powdered mixture of disodium hydrogen phosphate, and sodium dihydrogen phosphate is then heated to 500-550°C to produce the stable form of STPP.

Phosphates offer a number of functions in detergents. They neutralise the 'hardness' of water and dirt, allowing surfactants to function (and so reducing surfactant dosages), prevent the re-deposition of dirt by "emulsifying" dirt particles, buffering pH, facilitating dissolving of the detergent and so reducing dosing. They are known as builders and detergents currently contribute 25-30% of phosphates in domestic sewage, where phosphate-based detergents are used.

In sewage, water and soil, phosphates break down (hydrolyse) to a simple soluble phosphate. In water, the phosphates can act as a fertiliser, where they stimulate the growth of water plants and algae. The growths can be used in ecosystems or dispersed as nutrients in the water, but where excessive fertilisation occurs (eutrophication) problems can be caused in surface waters. The phosphates can be removed from sewage using either chemical precipitation or biological processes, such as nutrient removal, from where they may be recycled to agricultural land as fertiliser (provided certain criteria are met, such as the content of toxic elements/substances). Chemical precipitation is seen as the most effective method of phosphate removal, however it does result in an increased amount of sludge. Biological processes are less effective (40-70%), but do not result in an increase in sludge amounts.

Phosphates can be replaced by a number of different chemicals offering the same multiple functions provided by the phosphates. However, these chemicals usually include insoluble, non-biodegradable and non-recyclable components and are ultimately transferred to sewage sludges (approximately 90%), from where they will accumulate in soils.

Zeolites (Zeolite A, P and X) are examples of alternative detergent builders. After discharge to surface water Zeolite hydrolyses to amorphous minerals, or in the presence of environmental calcium and phosphate, to poorly soluble calcium aluminium silicate phosphates. These amorphous materials have no ion exchange capacity, and are unable to bind metals in the environment. Thus, after hydrolysis, Zeolites should be environmentally inert.

4.1.1. Overview of production structures, washing techniques and regional differences in detergent formulations

There are many different types of detergents produced and imported in the Danube Basin countries, with the market for household laundry detergents dominated by multinational groups like Procter & Gamble (P&G), Unilever, Reckitt & Colman, and Henkel-Merima (the largest manufacturer of detergents in the Balkan peninsula). The largest detergents producer, by volume

sales, is the Unilever Group, which has a strong presence in all regional markets in the world. The total European market for laundry detergents was estimated at € 3-4 billion in 2000.

Below is a summary of the detergents, washing techniques and production in Danube countries, as available. Table 5**,** Table 6**,** Table 6 summarise information from the questionnaires; additional information has been obtained from CECEP.

Czech Republic: In 2003–2004, the growth in consumption was registered in concentrated liquid detergents, gels and concentrated powders. Sales of standard powder detergents were eroded by increased sales of concentrated formats, with tablets remaining among the least popular products.

Hungary: In the last few years (1999-2004) two different effects have modified the phosphates market in Hungary. Between 1999 and 2004 consumption of the different types of detergents only increased moderately in Hungary (maximum 10%). The market was also rearranged in this period, with the consumption of phosphate-free detergents increasing from approximately 25% in 1999 to 40-60% in 2004. This process is proposed to continue into the future. As a result of these two different effects, the total share of the phosphate load of the surface waters originating from detergents remained fairly stable.

No significant difference was noted in the type or quantity of detergent used in top and front loader machines in Hungary.

Moldova: In 2002, only 200 tonnes of synthetic detergents were produced in Moldova, compared to 800 tonnes in 2001, showing a sharp decrease in the amount of detergents produced in the country. From these figures it was not possible to determine the precise amount of phosphate-free detergents, although it is known they represent a very small percentage of the country's market. The type of detergent used is dependent on the financial abilities of consumers rather than on the design of washing machine.

Romania is an Accession country with two major detergent manufacturers, P&G (Timisoara) and Unilever (Ploiesta). Both produce detergents containing phosphates and discharge all wastewater into the urban sewerage system. According to the National Institute for Statistics, the detergents are classified as anionic, cationic and non-ionic and not as laundry, industrial and dishwasher detergents. Therefore, the term of detergents means organic surface-active agents (others than the soaps), tensio-active preparations, auxiliary preparations for washing and for laundry and cleaning preparations (inclusive soap containing). Figure 2 shows the development of detergent production, export, import and usage in Romania from 2000 - 2004; all have increased substantially over the four-year period.

No data was available on the number of households with washing machines and their design.

Serbia and Montenegro: There is big competition on the local market between domestic and foreign producers/suppliers. P&G is the single producer with the highest market share (brand names: Bonux, Ariel, Tide), while the major "domestic" producer is the company Henkel-Merima (largest manufacturer of detergents in the Balkan peninsula) who export to Romania, Bulgaria, and former Yugoslavian republics. Products from Henkel-Merima and most other domestic producers are phosphate-free (or <5% P), in comparison to the majority of P&G products, which are phosphate-based. This is even though P&G are active in Germany, where phosphate is not used in laundry detergents.

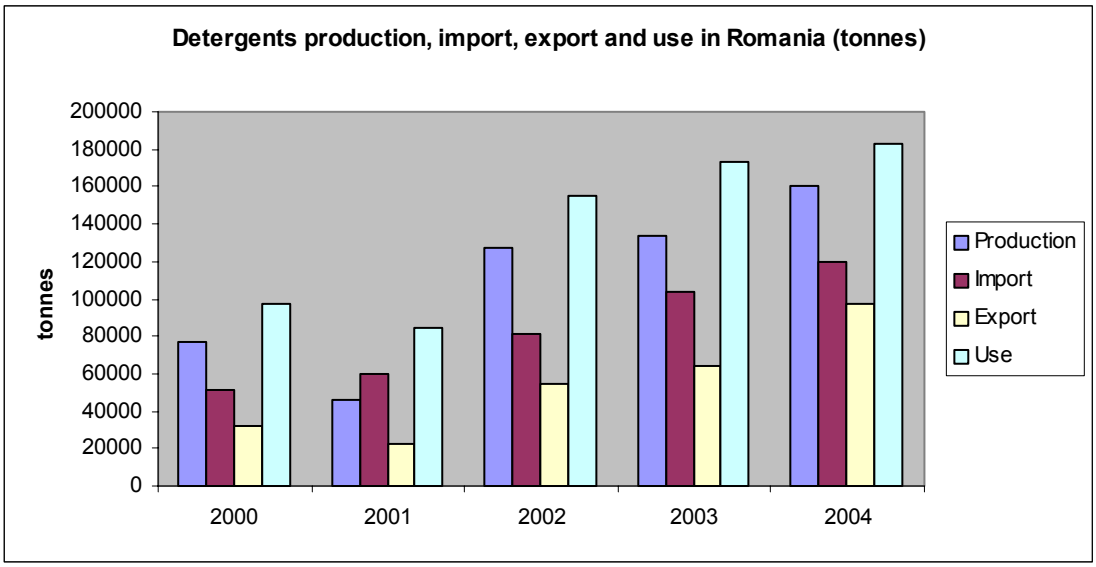


Figure 2 Detergents production, use and trade in Romania, 2000-2004 (source: Romanian national statistics)

According to statistical data available in Serbia, the highest amount of detergent produced in the country belongs to powdered laundry detergents, with liquid detergents for dish washing in second place and followed by liquid industrial detergents.

Ukraine: Based on sales for 2001, imported products account for almost 40% of the total number of cleaning products in the Ukraine, with the greatest trade opportunities seen in the product categories of washing powders and detergents, all-purpose formulas, scouring powders and liquids, and rust and lime removing formulas. Most of the competition in the Ukrainian cleaning products market comes from German, Russian, Turkish, and Polish suppliers. Large U.S. companies, such as P&G, SC Johnson, and Colgate Palmolive are also present and aggressively fight for market leadership. Currently, nearly 50 large and medium Ukrainian companies import and distribute foreign cleaning products in the market place. The current trend in the market is that the share of imports from Turkey, Poland, and Romania has been significantly decreasing since 1998, while imports from Russia have increased.

The Ukraine noted that all types of detergents could be used for both top and front-loading machines. However, it is recognised that front-loading machines are more up-to-date and have improved parameters. They also require improved quality washing powders ("automatic"). According to estimation, the consumption of "automatic" powders in the Ukraine is 2 000 t annually.

Table 5 Detergent suppliers by country (information from questionnaires)

Country	*Multi-national suppliers*	*Local suppliers*
Austria		
Bosnia-Herzegovina		
Bulgaria		
Czech Republic		
Croatia		
Germany		
Hungary	Benckiser, Henkel, Procter & Gamble	??
Moldova	Henkel, Procter & Gamble	Agurdino Com, Aschim
Romania	Henkel, Procter & Gamble, Unilever	??
Serbia-Montenegro	Henkel, Procter & Gamble	Albus Novi Sad, Hemik Kikinda, HI Panonija Pancevo, Impuls Hemila, Novi Sad, Sinchem Beograd, Yuco-Hemija, + ??
Slovak Republik		
Slovenia		
Ukraine	Benckiser, Henkel, Procter & Gamble, Unilever Cussons (Poland), Havat Chemical Industry (Turkey), Onvia-Beta (Turkey), Unal (Turkey)	

Note: Blank boxes: no information

Table 6 Data on household laundry detergent use (information from questionnaires)

Country	Year	Total laundry detergent usage (tonnes/year)	% of detergent that is phosphate-free	Total population (million)	Total number of households (million)	Average use of laundry detergent (g/person/day)	Average use of laundry detergent (g/household/day)	% of households with washing machines	% of washing machines of the top loading design	Is there a difference between top and front loaded machines, in terms of the type of detergent used or the amount?
Austria	2001	55 197	100	8.1			19.0			
Bosnia-Herzegovina		7 485	0.5	4.0	0.5					
Bulgaria			5[3]	7.5	2.5					
Czech Republic	2005		50	10.0					No data	No data
Croatia		16 516	<1	4.4	1.5					
Germany	2005	643 000	98	9.4[4]						
Hungary	2004	126 300	40-60	10.1	3.9	34.2	89.6	71	48	No differences
Moldova	2005	n/a	1.5	4.2	0.8	22.0	90.0	10	90	No (note 1)
Romania	2004	182 855	0[5]	21.8	8.1	19.4	52.1	-	-	
Serbia-Montenegro	2004	89 057	64[6]	7.5	2.7	33.0				
Slovak Republic	(2004[7])	(206[7])	10[4] (27[7])	4.9[4]						
Slovenia			>75[3]	1.8[4]						
Ukraine	2004	219 873	0[5]	47.3	14.0	4.7	40.1	81	5	No (note 2)

Note 1: Type of detergent use depends on financial abilities of consumers rather than on design of washing machine
Note 2: Any types of detergents can be used for both types of machines but front loaded machines represent modern types of machines with improved parameters and require improved washing powders "automate" (according to estimation, consumption of "automate" powders is 2 000 t annually)
Note 3: Data from CESEP
Note 4: In Danube Basin, 2000 (from the Danube Commission Expert Group Report)
Note 5. Data on laundry detergent brands indicates that none are P-free
Note 6. May include detergents with up to 5% phosphate
Note 7: Data relates to manufactured and sold in Slovak Republic only - no information on imports

Table 7 Industrial, & domestic dishwasher, detergent use (information from questionnaires)

Country	Year	Total industrial detergent usage (tonnes/year)	% of industrial detergent that is phosphate-free		Total dishwasher detergent usage (tonnes/year)	% of dishwasher detergent that is phosphate-free	% of households with dishwashers
Austria	2001						
Bosnia-Herzegovina		32	0.2		887		
Bulgaria							
Czech Republic							
Croatia		2063	58		4346	65	
Germany	2005				147000	<10	
Hungary	2004	6600			24730	25-40	5
Moldova	2005	n/a	0		n/a	0	1
Romania		-	-		-	100	-
Serbia-Montenegro	2004	2534			8038		
Slovak Republic							
Slovenia							
Ukraine	2004	No data (1)					

Note 1. Available data do not differentiate between detergents sold / used in the country for household and industrial purposes

Blank boxes: no information

4.1.2. Overview of the current production and use of phosphate-based detergents (including import and export)

The use of STTP in detergents represents a high proportion of STPP production. World wide, STPP is used as a detergent builder more than Zeolites, 4.7 million tonnes compared to 1 million tonnes respectively. Zeolites are used in the USA, Canada, Japan and much of the EU, while STPP is used in a greater proportion in China and India. STPP production capacity located in the EU is relatively small compared to the rest of the world (<10%).

As limited data was provided by Danube countries with regards to the current production and use of phosphate-based detergents, further information was obtained from appropriate sources, including additional information obtained by CESEP (2005) and a previous report produced by WRc (Glennie, *et al*., 2002) on phosphates and detergent builders.

Table 8 shows the use of phosphate-free detergents in the Danube countries.

Table 8 The use of phosphate-free detergents in the Danube countries

Country	% of phosphate-free detergents used	Imports	Exports
Austria	100 (laundry detergents)		
Bosnia-Herzegovina	0.5		
Bulgaria	5[3]		
Croatia	1.1 (laundry) 58 (industrial) 65 (dishwasher)		
Czech Republic	20[6] 100 (laundry)[7]	EU Countries	
Germany	>98 (laundry) <10 (dishwasher)		
Hungary	40-60 (laundry) 0 (industrial) 25-40 (dishwasher)	EU Countries	
Moldova	1-2 (laundry) 0 (dishwasher)	Romania, Turkey, Russia and Ukraine	
Romania	?? low (laundry) 100 (dishwasher/liquid)		Serbia & Montenegro, Russia, Bosnia-Herzegovina, Bulgaria, Ukraine and Moldova.
Serbia-Montenegro	64 (laundry)		Bosnia- Herzegovina Croatia
Slovakia	10[3]	EU Countries	
Slovenia	>75	EU Countries	
Ukraine	Negligible	Russian Federation, Jordan, Poland, Hungary, Bulgaria and Turkey	Russian Federation, Moldova, Belaruse and other countries

Note: Blank boxes: no information

Austria: Austria uses over 55 000 tonnes of laundry detergents per year, all of this is phosphate-free. We do not have any further details concerning the production structures. However, this is not important, as there seems to be no need for further action.

Bulgaria: 95% of the household detergents are STPP-based.

Czech Republic: In 1995 an Agreement was concluded between the Czech Association of Producers of Soaps, Cleaning Agents and Detergents and the Ministry of Environment on a gradual decrease in the environmental impact of detergents. The main goal of the Agreement and its amendments, concluded in 1998 and 2001 is a gradual decrease in the amount of phosphates contained in laundry detergents produced by members of the Association[8] and their input into the surface water. Members of the Association committed themselves from 2005 to introduce to the

[6] From: ICPDR Issue Paper on the rationale for a phosphate ban in detergents (Popovici, 2003).

[7] As from 1st January 2005, Producers of Soaps, Cleaning Agents and Detergents no longer able to sell phosphate-based laundry detergents.

[8] UNILEVER ČR, spol. s.r.o., PROCTER and GAMBLE, v.o.s., HENKEL ČR, spol. s.r.o., BENCKISER, spol. s.r.o., SETUZA a.s.

market only laundry detergents with a maximum content 0.1% (weight) of inorganic phosphorus and 1.0% of phosphorus bound in phosphonates. As of the 1st of January 2005 members of Association were no longer able to sell phosphate-based laundry detergents. The Agreement resulted in a decrease of phosphates in laundry detergents from 9 000 t in 1995 to 5 065 t in 2003. However, this was accompanied by a sharp increase in the sale of phosphate containing detergents by non-members of the association from 2002 - 2004, resulting in about 40-50% by 2003 - 2004 (see case study in Section 3.3.1).

Germany: Similar to Austria, about 98% of laundry detergents used are phosphate-free (about 643 000 tonnes per year) and therefore no further action is necessary. Only 10% of dishwater detergents are phosphate-free and the usage is considerable (147 000 tonnes per year compared with 643 000 tonnes per year of laundry detergents.

Hungary: The consumption of phosphate-free detergents has been increasing from approximately 25% in 1999 to 40-60% in 2004, and the trend is expected to continue.

Moldova: More than 90% of the detergents used are imported, with the levels of detergents and soaps increasing by 11.2% in 2004. The majority of imports are from Romania, Turkey, Russia and the Ukraine. On a small share of imported powder detergents the phosphate content was not indicated. Among the 20 kinds of detergents inspected, only one was found to contain a lower phosphate content (5-15%), compared to 15-30% indicated on other detergents. There were no phosphate-free detergents found on the market.

To improve this situation new legal acts are intended to be implemented to limit phosphate-content in detergents; financial support from donors will be provided to subsidize phosphate-free detergents prices; tax policy in relation to phosphate-free detergents will be changed and public involvement increased.

Romania: In 2000 the National Research Institute for Environmental Protection carried out a study named "Experimental researches in order to establish the effect of the detergents concentration on biological treatment process". One of the conclusions of this study was that the phosphate concentrations identified in the commercial detergents were, on average, between 0 and10%. The same study also drew the conclusion that, in the case of Cluj city, a maximum 27.6% of the phosphates quantity contained in the non-treated wastewaters was coming from household washing/laundry.

However, all products surveyed on the market in 2005 (for this project) contained phosphate concentrations ranging from about 10-20%. No phosphate-free detergents were found, but Unilever has recently announced that it will soon provide phosphate-free detergents, initially those for automatic machines.

Serbia: There is much competition on the local market between domestic and foreign producers/suppliers, with P&G being the single producer with highest market share (brand names: Bonux, Ariel, Tide). Most of the P&G products are phosphate-based even though they are based on German technology, where phosphate is not used in laundry detergents. The major "domestic" producer is Henkel-Merima (Krusevac), which, like most other domestic producers, is phosphate-free. The major export of detergents is to neighbouring countries such as Bosnia-Herzegovina and Croatia.

Slovenia: Less than 25% of the detergents used in Slovenia are reported to contain phosphates. Discussions with Jaroslav Slunecko of Proctor & Gamble in Slovenia (AISE representative for Central and Eastern Europe) revealed that prior to 2000, almost 100% of detergents in Slovenia were phosphate-free, not because of any legislation or voluntary agreements, but merely the particular market structure. This has gradually changed and is still changing because of an increase in the market share of a variety of small companies supplying phosphate-based detergents.

Ukraine: The production and selling of detergents for domestic and industrial purposes is growing by 15-20% annually and represents one of the most rapidly developing business sectors (legally and illegally) in the Ukraine. Most products comprise surface-active substances and phosphate compounds. In 2004 the Ukraine produced 155 217 t packed and 1 852 t non-packed detergents and cleansers, with 70-75% of them as washing powders. The detergents produced in the Ukraine cover 65% of the Ukrainian market. 14 852 t of detergents produced in the Ukraine (14 460 t packed and 392 t non-packed) were exported to the Russian Federation, Moldova, Belarus and other countries. During the same period in 2004, the Ukraine imported 77 656 t detergents and cleansers (71 424 t packed and 6 232 t non-packed). These products were supplied by the Russian Federation (54 000 t or 69% of imported products), Jordan (4 800 t), Poland (3 500 t), Hungary (3 400 t), Bulgaria (3 300 t), and Turkey (1 300 t).

National Statistics in the Ukraine do not provide reliable data concerning phosphate containing detergents production and use in household and industrial sector. No market data was available on the amount of phosphate-free detergent used in the Ukraine, however from an assessment of the available information, it was concluded that the proportion of phosphate-free detergents was negligible.

DRB: Recent calculations from the 'Significant pressures for the WFD Roof report' (ICPDR, 2004) indicate that the catchments with the highest specific phosphate discharges were found for the Sava, Banat-Eastern Serbia, Velika Morava and Mizia-Dobrudzha. The specific phosphate emissions are above 2 g/(Inh.·d) for Slovenia, Croatia and Serbia and Montenegro. The medium level phosphate emissions between 1 and 2 g/(Inh.·d) were found for the Slovak Republic, Hungary, Bosnia, Herzegovina, Romania and Bulgaria. Specific point phosphate discharges below 1 g/(Inh.·d) were recorded for Austria, Germany, the Czech Republic, Moldova and Ukraine. For the Czech Republic this is due to the fact that some WWTPs have additional phosphate elimination. The Ukraine and Moldova also have relatively low specific phosphate emissions. Specific phosphate point discharges reflect, not only the state of the phosphate elimination in waste water treatment plants, but also the existing use of phosphorus in detergents, and discharges from direct industrial sources.

The annual specific per capita consumption of detergents in this period varies from about 1.0 - 11.6 kg in the Danube Basin countries. This represents approximately 85-90% of the total household consumption of phosphate containing detergents and only 10-15% of the total industrial consumption, especially in commercial laundries.

4.1.3. Summary of the current use of alternative (e.g. zeolite-based) detergents in DRB countries

Table 9 summarises the available information on the use of phosphate-free laundry detergents in the Danube River Basin (DRB) countries, including population figures (total and those in DRB). It has been difficult to obtain information and the information on the use of phosphate-free detergents must be considered approximate.

Table 9 Detergent usage, populations & phosphate-free detergents by country

% Detergent that is Phosphate-free	Country	Total laundry detergent usage (tonnes/year)	Total population (million)[1]	Total population in Danube Basin (million)[2]
>98%	Austria	55 197	8.1	7.7
	Germany	643 000	82.0	9.1
>~50%	Czech Republic		9.9	2.7
	Hungary	126 300	10.3	10.3
	Slovenia		2.0	1.7
	Serbia-Montenegro [3]	89 057	9.3	9.1
<10%	Bosnia-Herzegovina	7 485	4.4	2.5
	Bulgaria		7.9	4.4
	Croatia	16 516	4.7	3.2
	Moldova		4.3	1.1
	Slovak Republic		5.4	5.2
	Ukraine	219 873	49.1	3.1
Not known [4]	Romania	154 584	22.4	21.8

Note 1. Information from Whitaker's Almanack 2005
Note 2. From Joint Action Programme, 2000-2005
Note 3. Data for 'phosphate-free' in Serbia-Montenegro may include low phosphate detergents (i.e. up to 5% phosphate)
Note 4. Data for products indicates no phosphate-free detergents on the market in 2005

In many cases the information is incomplete and problems with the definition of 'phosphate-free' and different approaches to product labeling have given rise to uncertainties. We have attempted to use the definition of 'phosphate-free' as <0.2% phosphate according to the EU Regulation on detergents (EC/648/2004) according to which a phosphate content of 0.2% or higher has to be declared on the label. However, in some cases, the 'phosphate-free' component may include 'low phosphate' products, e.g. up to 5% phosphate content. The Czech voluntary agreement, for example, allowed up to about 2% phosphate in 'phosphate-free' detergents. Another difficulty was the contradictory information at times between product labels (as examined on supermarket shelves) and manufacturers' information (e.g. Hungary): whilst manufacturers claimed their products were phosphate-free, information from the survey of products on the market was unclear or contradictory (see Section 4.2.3, Table 10). this could have been due to a variety of factors, for example changes in product formulations or differences in products with the same name but produced in different countries, such as Germany and Hungary.

Nevertheless, the situation can be broadly summarized as follows.

Austria and Germany have virtually no phosphate containing laundry detergents and need not be considered for voluntary agreements or other measures. Austria has achieved this through a voluntary agreement, whilst Germany has used a combination of legislative and voluntary measures with the full co-operation of the detergent industry and involvement of the public.

Slovenia has a high proportion of phosphate-free laundry detergents (about 75%). However, it seems that there has been an increase in the use of phosphate detergents in recent years (it was virtually phosphate-free in 2000), and it may still be rising. Consequently, whilst it should not receive priority for action, the situation may need to be monitored.

The Czech Republic has recently replaced a voluntary agreement to reduce phosphorus in laundry detergents, which was a partial success, with legislation; it will therefore not need to be considered for further action either.

The above four countries together account for about a quarter, or 26%, of the total population in the DRB.

Of the remaining countries, only Hungary and Serbia-Montenegro use significant proportions of phosphate-free laundry detergents and together account for about another quarter (24%) of the DRB population. In both cases there are some uncertainties in the data, for example some conflicting information from Hungary; moreover, the data for phosphate-free detergents in Serbia-Montenegro may include 'low phosphate' products (up to 5% phosphate) and, particularly in view of the significant proportion of the DRB population, we recommend consideration of these countries for further action.

The other seven countries use little or no phosphate-free detergents and make up almost half the population; of these Romania is the most significant in terms of DRB population (about 27% of total). No figure was given for phosphate-free detergents in Romania, although the available product data (incomplete) indicated an absence of phosphate-free detergents.

It is worth noting that Moldova intends to legislate and to use a combination of subsidies (from donors) and tax incentives to promote the use of phosphate-free detergents. More information should be sought concerning the details and progress of these plans.

4.2. Industry and country costs and benefits associated with switching from phosphate-based to more environmentally friendly detergent builders

4.2.1. Comparison of production costs for phosphate-based and alternative (e.g. zeolite-based) detergents

There are many different types of detergents produced and imported in the Danube Basin countries, resulting in trade flows of detergents between EU countries and Central European Countries, as well as other neighbouring countries, and within the Central European Countries themselves, having significantly expanded over the last years.

Figure 3 shows the market shares of phosphate-free powder detergents in Europe in 1998.

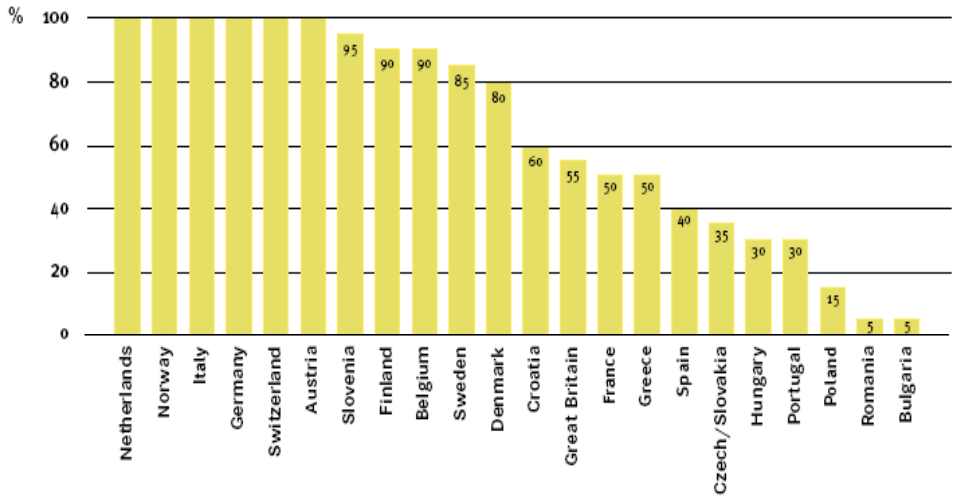


Figure 3 Market shares of phosphate-free powder detergents in Europe in 1998 (Source: E.J. Smulders as provided by CESEP)

Among those countries indicated in Figure 3, the 1998 figures for Austria and Germany (100% P-free) are in line with our current findings. Similarly, the data for the Czech/Slovak republics (combined 30% P-free compared with our findings: ~50% for CZ and <10% for SK), as well as the low percentages of P-free in Bulgaria and Romania. However, it is interesting to note that the P-free share has increased from about 30% in 1998 to 40-60% current usage (2005) in Hungary, but has decreased significantly in Slovenia (from 95% to about 75%) and in Croatia (from abot 60% to less than 10%).

An analysis of the volume of trade shows that the Czech Republic, Slovakia, Slovenia and Hungary import detergent products mainly from the EU countries, whilst imports by Romania, the Ukraine and Moldova from EU countries are very limited in terms of volume and value. The amount of detergents imported by Slovakia, Hungary, Romania, the Ukraine, Moldova and Bulgaria has played a significant part in the decrease of the domestic production of detergents over the last five years in Croatia, Hungary, Romania, Ukraine and Bulgaria. The production and use of detergents has dropped mainly because of the economic crisis and detergent imports.

The EU currently contributes to less than 10% of the world's STPP production, and employs approximately 1000 people. Therefore, while an EU-wide ban on STPP use would direct STPP manufacturing to other large centres, such as China and India, the economic loss of this would not be considered great in overall EU terms.

Zeolite-A is the most commonly used substance for replacing phosphates in detergents. Approximately 50% of the zeolites are produced in Europe, where the capacity for production exceeds the current rate of production. Zeolite A has been shown to be a cost effective alternative, both in terms of socio-economic and environmental impacts to STPP as a detergent builder. Therefore, as the EU capacity for Zeolite A production exceeds the actual production, it could be expected that increased production in this area would result in substantial employment and economic opportunities, with only a small requirement for additional capital expenditure on infrastructure.

Unilever in Romania indicated that, in order to obtain the same washing performances as phosphate-based detergents, the production of phosphate-free detergents implied higher production costs. However, no details were forthcoming from Unilever or any other manufacturers. Such information is regarded as trade secrets (Jaroslav Slunecko, Procter & Gamble in Slovenia and AISE representative for CEE countries, personal communication).

4.2.2. Comparison of wastewater treatment costs for phosphate-based and alternative (e.g. zeolite-based) detergents

The overall economic balance between wastewater treatment operating costs for phosphate-based or phosphate-free detergents is dependent on sludge generation, on the choice between biological or chemical phosphorus removal and on the proportion of sewage works in which phosphate removal is not necessary (but where substitutes, on the other hand, will nonetheless be transferred to sludge). This makes the main obstacle to implementing the EU sewage treatment legislation (Urban Wastewater Treatment Directive) to be plant investment cost.

Sewage sludge disposal is now the biggest single operating expense for most European water companies, with costs usually averaging 150 Euros per tonne dry matter, and rising. Sludge volumes will become an even more important sewage works management issue with application of the EU Landfill Directive, which imposes over a 15-19 year horizon, a 65% reduction in biodegradable waste going to landfill.

Phosphates can be removed in sewage works either by chemical precipitation or by biological techniques (which also allow nitrogen removal). Chemical precipitation is easy to operate and involves little investment. However, there is a cost for purchasing precipitant chemicals (often iron) and the sewage sludge volumes are increased by contributions from both the suspended solids removed and from the chemicals added to induce precipitation. Biological phosphate removal is potentially more sustainable than chemical precipitation systems, but it requires a higher initial investment and is more complex to operate. It also typically removes only 40 to 70% (exceptionally, up to 85%) of the phosphate present and thus may not be able to meet some of the strictest phosphate consent levels found in the EU. For these reasons and other considerations (financially, biological phosphate removal has higher capital costs, but lower running costs than chemical phosphate removal), chemical phosphate removal is currently more prevalent in EU countries.

Where phosphate-free detergents are used, a deposition of 0.7 g of phosphates (STPP) is equivalent to a deposition approximately 0.9 g zeolite plus 0.2 g polycarboxylates. Both these products will be transferred in sewage treatment to the sewage sludge in all sewage works, implying a significant increase in sludge volumes. Approximately 90% of the Zeolite entering the sewage treatment facility is incorporated into the sewage sludge. Although this typically causes an increase of approximately 10% in the dry weight of the sludge produced the sludge volume has been shown not to increase, as Zeolites aid sludge settling. Thus sludge transport costs will not be increased by the use of Zeolite in washing products. In treated wastewater effluents the amount of suspended solids is regulated, therefore the use of Zeolites will not increase the emissions of suspended solids in surface waters over those values accepted for the receiving waters.

According to the previous experience of western European States, where phosphate-free detergents are already widely used, the cost of the introduction of phosphate-free detergents is much less than the additional cost of the improvement of sewage treatment to deal with phosphate elimination. Therefore, it will not involve any additional direct costs to either the consumer or national budgets. However, it is generally estimated that, where phosphates are used in detergents, this contributes less than one third of the total phosphates in sewage, the remainder coming from human and food wastes and other material (e.g. natural bed-rock erosion and agricultural run-off). This means that even where sewage phosphate is contributing to eutrophication problems, moving to phosphate-free detergents will not totally resolve the problems, irrespective of detergent formulation. It will still be necessary to install phosphate removal in sewage works to remove the phosphates in human wastes.

In the long-term, it is deemed that the cost and environmental balance of phosphate removal from sewage may be significantly improved in the future with the development of phosphate recovery for recycling, which will effectively convert sludge production into a valuable re-usable resource. The substitutes used in phosphate-free detergents themselves are not feasibly recyclable at present.

4.2.3. Estimation of costs/benefits of using alternative detergent builders in DRB countries (country specific)

The data supplied as part of this study was inadequate for an assessment of the costs and benefits of replacing phosphate detergents with phosphate-free detergents. For example, detergent producers were not prepared to provide information on production costs and we have no information on the investment costs (if any) for switching from the production of phosphate detergents to non-phosphate containing detergents.

However, the previous study (Glennie, *et al*., 2002) found that Zeolite A was a cost-effective alternative, both in terms of socio-economic and environmental impacts. Moreover, only minor differences were observed between the production costs in terms of energy used and sludge produced.

In terms of environmental benefits, it has also been established previously (Glennie, *et al*., 2002) that a combined approach is needed to combat eutrophication problems, that is the use of phosphate-free detergents, effective wastewater treatment to remove nutrients and 'good agricultural practice'.

At present, the use of chemical and biological phosphate removal from wastewater can require initial investment costs and regular costs for purchasing the precipitation chemicals. Therefore, it is understood that in the long-term the introduction of phosphate-free detergents will be a cost-effective and necessary measure.

Some information has been obtained in the present survey on costs of detergents to the consumer; this information is summarised in Table 10 for Hungary, Table 11 for Moldova, Table 12 for Romania, Table 13 for Serbia-Montenegro and Table 14 for the the Ukraine, as available. From this data it is not possible to draw any firm conclusions, concerning the cost of phosphate detergents compared with phosphate-free detergents. This is mainly due to the uneven distribution of samples; in all except Serbia-Montenegro where most samples were phosphate-free, there were few or no phosphate-free detergents. In addition, the prices varied a great deal according to many factors, such as product, manufacturer, packet size etc. Some phosphate-free detergents (or low phosphate, i.e. <5%) were in the lowest price bracket, others in the higher range, providing no evidence of phosphate-free (or low phosphate) detergents consistently being more expensive.

Table 10 Laundry detergent manufacturers, brands, types & prices - Hungary (2005)

Name of manufacturer/supplier	Country of manufacture	Brand name	Phosphate-free	Phosphate-based (% Phosphate)	Type / purpose	Price range Euro/kg	Amount used (t/year)
Procter & Gamble	EU	ARIEL	No	15-30	Several types, usually universal	2.5-4.5 *	No data
Procter & Gamble	EU	BONUX	No	15-30 (5-15)	Several types, usually universal	1.5-2	No data
Procter & Gamble	EU	TIDE	No	15-30	Several types, usually universal	2 to 4	No data
Henkel	Germany, Hungary	PERSIL, Matik	Yes / No [1]	<5 / 15-30	For each washing machine type	2.5-3.5	No data
Henkel	Germany, Hungary	PERSIL, Other types	Yes [1]	<5	Several types, usually universal	2.5-3.5	No data
Henkel	Germany, Hungary	TOMI	Yes [1]	<5	Several types, usually universal	1.5-2	No data
Henkel	Germany, Hungary	BIOPON Colour	Yes / No [1]	<5 / 5-15	Several types, usually universal	1.5-2	No data
Henkel	Germany, Hungary	BIOPON white	Yes / No [1]	<5 / 15-30			No data
EVM	Hungary	ÁSZ	Yes [1]	<5	Universal	1	No data
Benckiser	EU	DOSIA	No	15-30	Several types, usually universal	1.5	No data
	EU	BIP	No	5-15	Several types, usually universal	1.5-2	No data

Note 1: Whilst manufacturers Henkel and EVM confirmed that their products were P-free (<0.2% phosphate), the package information was unclear, sometimes indicating merely <5% phosphate, or even contradictory (see BIOPON and PERSIL Matik)

Table 11 Laundry detergent manufacturers, brands, types & prices - Moldova (2005)

Name of manufacturer/supplier	Country of manufacture	Brand name	Phosphate-free	Phosphate-based (% Phosphate)	Type / purpose	Price range Euro/kg	Amount used (t/year)
Agurdino Com	Moldova	Unidet	No	15-30	Hand wash	0.6	15 (in the Danube basin)
Aschim	Moldova	Planeta/Moldova	No	15-30	Hand wash	0.6	17 (in the Danube basin)
Henkel	Czech Republic	Tide	No	15-30			No data
Henkel	Poland	E	No	15-30			No data
Henkel	Romania	Omo	No	15-30	90^{O} wash	1.8	No data
Henkel	Romania	Dero	No	15-30	90^{O} wash	1.5	No data
Henkel	Russia	Sorti,Bimax	No	15-30			No data
Henkel	Turkey	Fax	No	15-30	All types	1.2	No data
Henkel	Turkey	Bingo, Test, Joly,	No	15-30			No data
Henkel	Turkey	Nit (dishwasher)	No	15-30		2.2	No data
Henkel	Ukraine	Persil	No	15-30	Coloured wash	2.0	No data
Henkel	Ukraine	Rex,Perwall	No	15-30			No data
Procter & Gamble	Romania	Bonux	No	15-30	All types	1.2	No data
Procter & Gamble	Romania	Ariel	No	15-30	90^{O} wash	1.6	No data
Procter & Gamble	Romania, Russia	Tide	No	15-30			No data
		Other	Yes			2-3.5	No data

Table 12 Laundry detergent manufacturers, brands, types & prices – Romania

Name of manufacturer/supplier	Country of manufacture	Brand name	Phosphate-free	Phosphate-based (% Phosphate)	Type / purpose	Price range Euro/kg	Amount used (t/year)
Unilever	Romania	Dero Surf Automat2 in 1 AV	No	21.3	90°C wash	1.67 (package 1.5 kg)	No data
Unilever	Romania	Dero Surf2 in 1 AV	No	15.2	Hand wash	1.49 (6kg), 1.70 (0.45 kg)	No data
Unilever	Romania	Dero Surf Automat	No	21.3	90°C wash	1.25 (6 kg), 1.35 (3 kg)	No data
Unilever	Romania	Dero Surf	No	15.2	Hand wash	1.55 (0.45 kg)	No data
Unilever	Romania	Bona Automat 3 in 1	No	15.6	90°C wash		No data
Unilever	Romania	Bona 3 in 1	No	15.2	Hand wash	2.40 (0.45 kg)	No data
Unilever	Romania	Bona Automat	No	15.6	90°C wash		No data
Unilever	Romania	Bona manual	No	15.2	Hand wash		No data
Unilever	Romania	Omo Automat	No	20.3	90°C wash	2.38 (3kg), 2.14 (6 kg), 2.06 (9 kg)	No data
Unilever	Romania	Omo color	No	18.3	Coloured wash		No data
Unilever	Romania	Floraszept, Biopon chloride[1]	No	8.8	Soaking		No data
Unilever	Romania	Biopon Automat[1]	No	14.4	90°C wash		No data
Unilever	Romania	Pollena	No	11.9	90°C wash		No data
Unilever	Romania	Total all brands	No				43421
Procter & Gamble	Romania	No data					
Henkel		No data					

Note 1: also exported to Hungary

Table 13 Laundry detergent manufacturers, brands, types & prices - Serbia-Montenegro

Name of manufacturer/supplier	Country of manufacture	Brand name	Phosphate-free	Phosphate-based (% Phosphate)	Type / purpose	Price range Euro/kg	Amount used (t/year)
Albus Novi Sad	Serbia	Albus Automat (Albus)	Yes		Laundry machine powder	0.3 - 1.13	288
Albus Novi Sad	Serbia	Max Duo (Albus)	Yes			0.30 - 1.87	
Albus Novi Sad	Serbia	Gong	Yes				
Albus Novi Sad	Serbia	Industrial det.	Yes				226
Hemik Kikinda	Serbia	Pjaf ekonomik	Yes				102
Henkel	Serbia	Industrial det.	Yes				1457
Henkel	Serbia	Mer	Yes				33328
Henkel	Serbia	Meril (Henkel-Merima)	Yes			1.6	
Henkel	Serbia	Merix (Henkel-Merima)	Yes			1.0 – 1.5	
Henkel	Serbia	Persil (Henkel)	Yes		Laundry machine powder	2.0	
Henkel	Serbia	Rex	Yes				
Henkel	Serbia	Sudomil	Yes				
HI Panonija Pancevo	Serbia	Industrial det.	Yes				60
HI Panonija Pancevo	Serbia	Lana, Fino-Per	Yes				130
Impuls hemija Novi sad	Serbia	Impuls, Impuls multiaktiv	Yes				54
Impuls hemija Novi sad	Serbia	Industrial det	Yes				370
Procter & Gamble		Ariel (P&G)	No	15-30	Laundry machine powder	1.6 – 2.2	
Procter & Gamble		Bonux (P&G)	No	5 - 15		0.8 – 1.0	
Procter & Gamble		Tide (P&G)	No	15-30		1.4 – 1.8	

Name of manufacturer/supplier	Country of manufacture	Brand name	Phosphate-free	Phosphate-based (% Phosphate)	Type / purpose	Price range Euro/kg	Amount used (t/year)
Simchem Beograd	Serbia	Axel Matic (Sinchem)	Yes		Dishwasher machine powder	3.4	74
Yuco-hemija	Serbia	Azur D	No	11			36
Yuco-hemija	Serbia	Industrial detergent	Yes				40
Yuco-hemija	Serbia	Star, Aktiv, Atomic, Ox etc	Yes				605
		Talas Clean forest (Delta in)	Yes		Laundry machine powder	1.0 – 1.2	
		Talas economic plus (Delta In)	No	15-30		1.0 – 1.2	

Table 14 Laundry detergent manufacturers, brands, types & prices - Ukraine (2004)

Name of manufacturer/supplier	Country of manufacture	Brand name	Phosphate-free	Phosphate-based (% Phosphate)	Type / purpose	Price range Euro/kg	Amount used (t/year)
Benckiser	International	Dosia	No	>12			No data
Benckiser	International	Lanza	No	>12			No data
Cussons	Poland	E	No	15 - 30	Universal[1]	1.5 - 1.6	No data
Havat Chemical Industry Co	Ukraine, Turkey	TEST	No	12 - 17	Universal[1]	0.9 - 1.7	No data
Henkel	Ukraine, Austria	Losk	No	>12	Universal[1]	1.3 - 1. 8 *	No data
Henkel	Ukraine, Austria	Persil	No	>12	Universal[1]	1.5 - 2.0	No data
Henkel	Ukraine, Austria	REX	No	>12	Universal[1]	0.9 - 1.3	No data
Olvia-Beta	Ukraine, Turkey	Gala	No	>12			No data
Procter & Gamble		Ariel	No	>12	Universal[1]	1.7 - 1.9	No data
Procter & Gamble		Tide	No	>12	Universal[1]	1.3 - 1.7	No data
Procter & Gamble		Gala	No	>12	Universal[1]	1.0 - 2.3	No data
Procter & Gamble		DAX	No	>12	Universal[1]	0.7 - 0.9	No data
Procter & Gamble		Bonux	No	>12	Universal[1]	1.0 - 1.3	No data
Unal - ABC Chemical Industry	Ukraine, Turkey	Test	No	12 - 17			No data
Unilever	International	OMO	No	>12			No data
Unilever	International	Surf	No	>12			No data

Note 1. All types of fabric. There are different types for hand and machine washing

5. TASK 3 – EUROPEAN EXPERIENCE OF VOLUNTARY AGREEMENTS

5.1. Types of voluntary agreement

There are many examples of voluntary initiatives by industries to reduce pollution and improve the environment. These have been reviewed by the Wuppertal Institute (Dalkmann et al, 2005), in order to identify success factors and risks. Their report is recommended reading for those who may play a role in setting up voluntary agreements in Danube basin countries. Here a brief summary of their findings is given, with supporting material from earlier documents (Higley *et al*., 2001; Ijjas, undated; UNEP, 2000).

For industries, both 'command and control' regulation, and 'market instruments' such as taxes, can impose costs and reduce their ability to compete. For governments and their environmental agencies, regulation can be technically difficult and costly. These perceptions have encouraged the emergence of more flexible voluntary approaches to achieving environmental objectives (Higley *et al.,* 2001).

The UNEP identifies five types of voluntary initiative (UNEP 2000, summarised in Table 15). The proposed voluntary agreements considered in this report are of type 3.

Table 15 Types of voluntary initiative

1	Industry initiatives	The decisions on goals, how to achieve them, monitoring & reporting are taken unilaterally by the company or industry.
2	Government initiatives	The goals are defined by governments, usually in consultation with industry. Companies volunteer to take part.
3	Joint government / industry initiatives	Negotiated agreements, either sector specific or cross-sector (e.g. on packaging or energy efficiency).
4	Third party initiatives	Standards such as ISO14000, which are set up and monitored by non-government non-business organisations.
5	UN and other international & voluntary initiatives	These use the moral authority of international commitments.

Differences exist between countries in legal systems, and in relationships between government, business and the voluntary sector. These have been important influences on the use of voluntary agreements.

In addition to the options identified in Table 15 above, other characteristics of an agreement need to be considered:

- Product based versus process oriented:
- An agreement on detergents would be product based, i.e. define standards for products.
- Target based versus implementation based:
- Voluntary agreements can set targets, or define ways of meeting targets set elsewhere.
- Binding versus non-binding:
- A binding agreement would include sanctions for non-compliance and be enforceable.
- Individual versus collective liability:

- Either individual companies, or the sector association collectively, may be liable to pay sanctions for not complying with the agreement. Or there may be no sanctions.
- Open versus closed access to third parties:

  Community organisations, independent experts and environmental groups provide a useful independent view.

5.2. Benefits and risks of voluntary agreements

Benefits:

A flexible approach to complex and incompletely understood environmental problems

Voluntary agreements are one part of a mix of policies, alongside 'command and control' regulation, taxes and emissions trading. The most important environmental issues for voluntary agreements have been waste management and climate change mitigation, where there was a high degree of technological uncertainty when the issues were first addressed, and voluntary agreements have offered flexibility.

Wider awareness of the issues and sharing of information

Voluntary agreements have resulted in increased awareness of environmental damage on the part of industry staff, and in the sharing of clean or energy saving technology.

Risks:

The biggest concern is '*regulatory capture*', when the industry influences the terms of the agreement in its own immediate interest. The result is a weak agreement, as for example that between the EU and the European Automobile Manufacturers Association on CO_2 emissions from passenger cars.

The *credibility* of an agreement can be undermined, if it is negotiated between government and industry without the involvement of independent third parties, such as voluntary organisations, parliaments or research institutes.

Free riding occurs when one or more parties to the agreement does not take the action agreed on. This can easily occur when there are many participating companies, and liability is collective rather than individual.

A variation of free riding seems to have occurred in the case of the Czech voluntary agreement on detergents, when one member left the industry association in order to be free to sell detergents containing >5.5% P, and increased its market share significantly (see Section 3.3.1).

5.3. Setting up a voluntary agreement

Dalkmann *et al*. (2005) define a process for creating and implementing a voluntary agreement (Figure 4). Table 16 provides comments and observations and Table 17 lists possible incentives for entering voluntary agreements (UNEP, 2000).

Figure 4 Negotiating and implementing a voluntary agreement

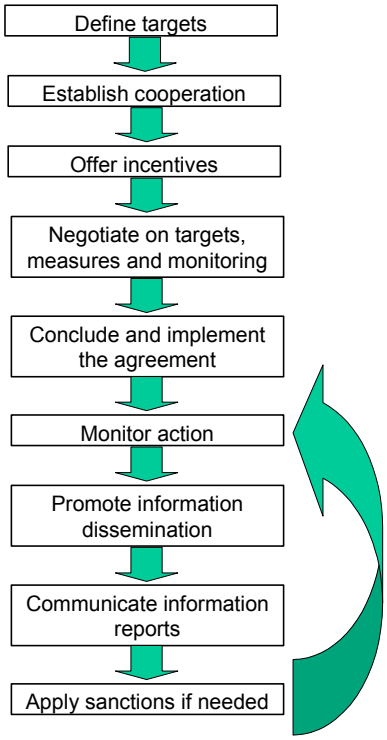


Table 16 Comments and observations

Step	General comments	Czech agreement on detergents
Define targets	The targets need to be clearly defined and sufficient to meet the environmental objectives.	In 1995, no timetable for achieving the objectives was set.
Establish cooperation	It is important to build confidence between the involved parties and seek agreement on the basic elements	The CSDPA[9] was created to show corporate responsibility and to limit negative impacts on business
Offer incentives	See Table 17	The main motive of the companies was to avoid potentially costly regulation?
Negotiate on targets, measures and monitoring		Negotiations were between industry and the Ministry of the *Environment* – better than the Ministry of Economic Affairs!
Conclude and implement agreement		
Monitor action		Annual reports are obligatory. Two NGOs and the Prague Chemical and Technology College are involved in monitoring as independent experts

[9] The Czech Soap and Detergent Products Association was set up by 5 companies covering >90% of the Czech market

Step	General comments	Czech agreement on detergents
Promote information dissemination		
Communicate information reports		
Apply sanctions if needed		Since 2001 a collective fine of 1 million CZK (33 000 Euro) has been in force, but never tested. The main sanction has been the threat of regulation, which is now being introduced.

Based on Dalkmann *et al*., 2005

Table 17 Incentives for companies to enter voluntary agreements

Incentives to reduce costs, especially by cutting resource use and waste generation
Desires to avoid or at least delay additional regulatory action that would impose undesirable administrative and compliance costs
Fear of damage to public image and associated customer and investor confidence, or desire to enhance public reputation and associated customer and investor confidence
Desire to minimise risk of costly surprises
Expectation of competitive advantage through exclusion of new competitors and access to new markets
Requirements imposed by banks and/or insurers that do not wish to inherit environmental liabilities
Demands of suppliers and customers who wish to avoid environmental costs and liabilities
Pressure from staff or fellow industry members
Personal commitment of corporate leaders

Source: Robert Gibson, UNEP 2000

5.4. Content of a voluntary agreement

The texts of the Czech and Irish agreements are attached as Annex 3. These are examples, and should not be followed word for word.

A list of suggested headings for an agreement is shown below.

Title

Subject

Objective

Defines the overall objective and the target date for achieving it

Parties to the agreement and their roles

Government, industry association and independent expert / community representatives

The association / its members

Targets and timetable for achieving them

Specific and measurable, and consistent with the objective

Monitoring and evaluation

What and by whom

Reporting and dissemination of information

What information, prepared by whom and made available to whom

Sanctions

When they would apply, individual or collective, amount

Changing or terminating the agreement

End date of the agreement

Circumstances and period of notice for terminating the agreement

Provision for changing the agreement

Provision for a member of the association to leave?

5.5. Strategy for implementing the agreements

Ijjas (undated) recommends voluntary agreements between the producers of detergents and the responsible government agencies for the removal of P from detergents, as part of a programme that includes:

- Harmonisation with the EU standards for detergents;
- Introduction of the European eco-labelling system for detergents;
- Market oriented measures, such as taxes or fines. This could be a product charge: 'tax differentiation seems to be one of the more successful economic instruments and its application' (Ijjas, undated);
- Increased public awareness and involvement. Ijjas comments that public awareness of environmental problems related to detergents has been growing, but is still poor, and that where people are under pressure because of unemployment, inflation or low salaries, willingness to pay for solving water pollution problems is reduced;
- Introduction of environmentally friendly substitutes for P in detergents;
- Enhancement of wastewater treatment.

Table 18 shows the steps to be taken to achieve a voluntary agreement and Table 19 lists whether DRB countries have members of AISE.

Table 18 Steps to achieve a voluntary agreement

Step	Implementation in the Danube basin
1. Define targets	What limit on the P content of detergents should be set? For which types of detergent? Who will raise public awareness, in what ways?
2. Establish cooperation	The first step will be to encourage the formation of an association, where one does not exist. Of the 9 Danube countries of interest (see Section 4.1.3), 3 have an association that is a member of AISE[10] (Table 19).
3. Offer incentives	See Table 17. A clear understanding is needed of any increased production costs with P-free detergents, and whether they will be passed on to consumers.
4. Negotiate on targets, measures and monitoring	NGOs / independent experts should be involved.
5. Conclude and implement agreement	
6. Monitor action	NGOs / independent experts should be involved.
7. Promote information dissemination	
8. Communicate information reports	
9. Apply sanctions if needed	What sanctions will be included? Individual or collective? What would prevent a company leaving the association and selling detergents containing P? How to deal with imports of phosphate detergents?

Table 19 AISE member associations in Danube countries

Country	AISE member association?
Austria	Yes
Bosnia-Herzegovina	**No**
Bulgaria	**No**
Croatia	**No**
Czech Republic	Yes
Germany	Yes
Hungary	**Yes**
Moldova	**No**
Romania	**Yes**
Serbia-Montenegro	**No**
Slovakia	**Yes**
Slovenia	Yes
Ukraine	**No**

Note: The countries, where phosphate reductions in detergents are needed (see Section 4.1.3) are marked in bold

[10] There may be industry associations in some of the other 6 countries, but the authors are not aware of any.

A summary of AISE membership information is provided in Table 20, including number of member companies, small and medium size enterprises and number active in consumer product domain. Bosnia-Herzegovina, Bulgaria, Croatia, Moldova, Serbia-Montenegro and the Ukraine have no members of AISE. As AISE is a European trade association, companies in these countries may belong to other (national) associations. AISE contact details in the different countries are presented in Annex 4.

Table 20 Summary of AISE membership information

Association / AISE member	Number of members	Number of SMEs[1]	Number active in consumer product domain
Czech Republic	7	1	4
Hungary	19	11	13
Romania	16	1	15
Slovenia	21	13	20
Slovak Republic	?	?	?
Austria	17	10	8
Germany	128	99	75

Note 1. SME = small / medium sized enterprise

Source: http://www.aise-net.org/downloads/members2006.pdf

6. CONCLUSIONS AND RECOMMENDATIONS

The work undertaken has demonstrated that a high proportion of phosphate-based detergents is used in Danube River Basin (DRB) countries, except in Germany and Austria, where virtually all domestic laundry detergents are phosphate-free. The proportion of phosphate-free detergents used in the remainder varies from negligible to about 75%, with the majority of countries using less than 10% P-free.

Consequently there is considerable scope for reducing phosphate inputs into DRB waters by reducing the amount used in detergents in DRB countries.

Austria has achieved P-free detergent use through a voluntary agreement, whilst Germany has used a combination of legislative and voluntary measures with the full co-operation of the detergent industry and involvement of the public.

The Czech Republic has recently introduced legislation and does not need to be considered for further action.

Although Slovenia uses a significant proportion of P-free detergents (about 75%), it has recently experienced a significant increase in the use of phosphate-based detergents; therefore it should be monitored and further action considered if appropriate.

The following, remaining countries, together accounting for about three quarters of the DRB population, must be considered for action to achieve reductions in phosphate-based detergents:

- Bosnia-Herzegovina
- Bulgaria
- Croatia
- Hungary
- Moldova
- Romania
- Serbia-Montenegro
- Slovakia
- Ukraine

Among these countries, Romania should receive priority because it currently has virtually no phosphate-free detergents on the market and yet constitutes the biggest single contribution to the DRB in terms of its population (about 26%). In contrast, Hungary and Serbia-Montenegro already have a significant proportion of P-free detergents (>50%), but they are significant in terms of their population and, hence, detergent usage.

It may be worthwhile to follow developments in Moldova, where a combination of measures (legislation, incentives and public involvement) are planned to promote reductions in the use of P-based detergents.

It must be noted that in many cases the information is incomplete and problems with the definition of 'phosphate-free' and different approaches to product labeling have given rise to uncertainties. Another difficulty was the contradictory information at times between product labels (as examined on supermarket shelves) and manufacturers' information. Overall, large multinational detergent manufacturers were not particularly co-operative.

It was not possible to obtain any information on production costs of phosphate-free detergents, because the industry was not prepared to reveal any such information. However, Zeolite A has previously been shown to be a viable alternative to phosphate and is used successfully in many countries, including the DRB countries, Germany and Austria. The main adverse effect of abandoning the use of phosphates in detergents is expected to be on the phosphate industry, but not on the detergent industry, which should be able to adjust detergent formulation and production.

Similarly, the information gathered on costs to consumers was inadequate for a thorough statistical assessment, but has not indicated any evidence of higher costs of phosphate-free detergents.

Voluntary agreements without legislative backing are unlikely to be successfully established, and in particular, to be maintained in the Danube River Basin (RBD) countries where action is needed. This is partly because these countries have little experience in the field of voluntary agreements, but would be likely to follow EU legislation, if this were to be put in place. Large multinational detergent manufacturers also seem to prefer to wait for legislation, rather than enter into voluntary agreements. Moreover, there is a considerable risk of other manufacturers or suppliers, not having signed up to the agreement, expanding their market position with P-based detergents, either through production or imports.

These difficulties have been exemplified by the Czech experience, where a voluntary agreement has recently been replaced by legislation, because of failure of the voluntary agreement due to the emergence of 'free-riders'. Similarly, Slovenia has recently seen significant increases in P-based detergents (the market was virtually P-free in 2000, although no voluntary agreement was in place).

It is therefore quite clear that the best way forward would be to introduce a ban or restrictions on phosphate in detergents through EU legislation. The current Regulation on detergents (EC/648/2004) provides an opportunity through Article 16, to review the need and to propose legislation if considered appropriate. The review is under the responsibility of EC Directorate General Enterprise and Industry and a report (funded by the phosphate industry) has recently been published. Developments will need to be monitored.

Nevertheless, if appropriate EU legislation is not forthcoming in the near future, it may still be worth attempting to enter into voluntary agreements, since even partial success could usefully contribute to reductions in phosphate in the DRB. Probably a more promising option would be to persuade national governments to introduce national legislation.

It may be beneficial to hold a workshop, for example in the high priority country Romania, to inform stakeholders and to explore the best way forward.

In any case it will be important to liaise closely with the appropriate government department in each country concerned and to maintain a dialogue with the industry and relevant trade associations. In addition, it will be important to promote public debate and involvement, and to monitor compliance with any agreements or legislation, possibly with assistance from NGOs.

Whilst it is recognised that other actions, such as improved urban waste water collection and treatment, as well as 'good agricultural practices' are necessary complementary actions, the study has shown clearly that there is ample scope for contributing to a successful resolution of the problem of eutrophication, by replacing phosphate detergents with phosphate-free detergents, thereby reducing the total phosphate burden in the DRB.

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ANNEXES

ANNEX 1 INDIVIDUAL COUNTRY DETERGENT POLICY – RESULTS FROM QUESTIONNAIRE

ANNEX 2 TEMPLATE FOR INDIVIDUAL COUNTRY DETERGENT POLICY AND USE QUESTIONNAIRE

ANNEX 3 EXAMPLES OF VOLUNTARY AGREEMENTS – CZECH REPUBLIC AND REPUBLIC OF IRELAND

ANNEX 4 AISE MEMBER ASSOCIATIONS IN DANUBE COUNTRIES

ANNEX 1

INDIVIDUAL COUNTRY DETERGENT POLICY – RESULTS FROM QUESTIONNAIRE

INFORMATION FROM QUESTIONNAIRES

Austria

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents				
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]	Federal Ministry for Agriculture, Forestry, Environment and Water			
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive				
Directive 2000/60/EC	Water Framework Directive				

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005

Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure
Freiwillige Verzichtserklärung Waschmittel	Notice of abandonment (voluntary agreement), Eco-labelling	Detergent Producing Industry, not to use P in household laundry detergents	Existing	Successful

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type1	Details of agreement2	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

If no voluntary agreement has been made – What has prevented this?

What do you think is needed in your country for an effective voluntary agreement to be established?

Bosnia-Herzegovina

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents				
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]				
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive			Transposed in the draft Law on water, that is to be adopted by responsible bodies soon	
Directive 2000/60/EC	Water Framework Directive				

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005

Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Water Laws	To achieve good status of water bodies and improve in that sense water management. The Water Law deals with use and protection of water and contains provisions on permits, legal procedures, international standards, and conditions for water use.	1998 Water Laws of FBiH and RS are currently in force. Laws are different for both entities and not efficient with regard to water protection. Therefore, the new entity Laws on protection of waters were passed (in 2002 in RS and in 2003 in FBiH). But, these laws are not harmonized particularly with regard to implementing institutions. Coming into	It has to be emphasized that a vast majority of the decrees, regulations and instructions which could ensure operative functioning of the 1998 Water Laws have not yet been adopted. It was envisaged that the new law on water come in effect by the end of June 2005, but it was not happened. Namely, the government refused to adopt the law.

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
		effect for both of these laws has been postponed, until adoption of the new entity laws on water. The draft new law on water is to be adopted soon. The draft law has been developed in scope of the EU funded "River Basin Management Programme". The new law follows the guidelines of the EU Water Framework Directive.	Drafting of bylaws that shall accompany the new law on water will take a long time, and in the meantime there is no regulation such as Regulation of Threshold Concentrations of Harmful and Dangerous Materials that may be found in Processed Waters, etc.
Regulation on Harmful Substances not to be Discharged into Waters	Threshold values for harmful substances not to be discharged	Currently in force	No binding provisions on phasing-out P-containing detergents?
Law on physical planning	Urban planning, environmental protection and land, water and air protection	Not in force any more. There is new law on physical planning that covers only urban planning maters.	
Regulations on Types, Manner and Scope of Measurement, Investigation of Used and Discharged Polluted Waters	Wastewater quality standards, method for analysis and taxation mechanisms	Currently in force	Effective since 1998
Regulations of Threshold Concentrations of Harmful and Dangerous Materials that may be found in Processed Waters			
Regulations of Threshold Concentrations of Harmful and Dangerous Materials that may be Discharged to the Recipient after Treatment			
Regulations of Threshold			

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Concentrations of Harmful and Dangerous Materials that may be Discharged onto Agricultural Land			
Framework Environmental Law	Integrated environmental permits		Effective since 2002 in RS and since 2003 in FBiH

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type1	Details of agreement2	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

If no voluntary agreement has been made – What has prevented this?

Bosnia and Herzegovina presents special difficulties concerning the establishment of international agreements. Acceptance of international agreements is exclusively under competence of state level authorities, but implementation is under competence of entity level bodies.

There is ongoing activity on establishing of state level EPA, as well as state level "umbrella law". This activity is supported by international community, which gives good chances to succeed in practice.

From practical point of the view, a lot of problems will be solved by establishing state level authority, including those related to voluntary agreements establishing.

What do you think is needed in your country for an effective voluntary agreement to be established?
Both of ministries engaged in environmental protection are faced with two main problems:

- Lack of human resources
- Lack of financial means.

Ministries have been established in 1997 on entity level, as departments in spatial planning ministries, with only few employees.
One of the most repeated statements in B&H is desperately needed institutional strengthening, which understands increasing of employees and also their additional education.
Regular financing of environmental sector is insufficient, based on the budget.
Concerning effective voluntary agreement to be established practice and experience of other countries, especially those from the region, could be very useful.
Organising of training courses, for employees in environmental institutions will be useful.
Active co-operation with international bodies, at first line ICPDR in order to prepare conditions for implementation of international rules in the country.
Developing of relations with neighbouring countries, especially with SEE countries.

Bulgaria

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents	Ministry of Environment and Water of Bulgaria			
Recommendation 89/542/EEC	Labelling of detergents	Ministry of Environment and Water of Bulgaria			
Regulation 648/2004/EC	On detergents (degradability and labelling)1	Ministry of Environment and Water of Bulgaria			
Recommendation 98/480/EC	Good environmental practice for household detergents	Ministry of Environment and Water of Bulgaria			
Directive 91/271/EEC	Urban Waste Water Treatment Directive	Ministry of Environment and Water of Bulgaria		Transitional	8 year transitional period, until 2015
Directive 2000/60/EC	Water Framework Directive	Ministry of Environment and Water of Bulgaria			

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005
Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Environmental Protection Law	Environmental management		Effective since 1991
Water Law	Provides activities for integrated water resources management and their sustainable use. Includes protection of water from pollution		Effective since 2000. Realised at National level by the Council of Ministers and MOEW; and at basin level by the River Basin Directorate
Water Users Association Act	Law will set rules for the exploitation of water and use of drainage systems by the Water Users Association		Act passed on 22 March 2001
Bulgarian Water Act			

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure
National Ecolabeling Scheme in accordance with Regulation (EC) No 1980/2000 of the European Parliament and of the Council of 17 July 2000 on a revised Community Eco-label Award Scheme	It is voluntary scheme awarding an attractive ecolabel logo for products, which are generally better choice for the environment.	The agreement between competent authority and manufacture. Products that meet strict ecological and performance criteria are awarded with the ecolabel.		

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure
National Eco-environment Auditing Scheme in accordance with Regulation (EC) No 761/2001 of the European parliament and of the council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)	Voluntary scheme	The agreement between competent authority and organisation which has an impact on the environment. National Eco-environment Auditing Scheme certified organisations have committed themselves to evaluating and improving their environmental performance and providing relevant information to the public.		

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

If no voluntary agreement has been made – What has prevented this?

What do you think is needed in your country for an effective voluntary agreement to be established?

Czech Republic

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents	Ministry of the Environment	Act No. 157/98 on chemical substances and chemical preparations and related regulations	Act No. 356/2003 on chemical substances and chemical preparations as amended and related regulations	Methods for assessment of detergents biodegradability, their labelling and restrictions for use
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]	Ministry of the Environment		Amendment to the Act. No. 356/2003 is at present in Parliament	Methods for assessment of biodegradability, of detergents, labelling and restrictions for use. Establishes competent authority responsible for reporting in line with Regulation 648/2004/EC
Recommendation 98/480/EC	Good environmental practice for household detergents	Not covered	Not covered	Not covered	
Directive 91/271/EEC	Urban Waste Water Treatment Directive	Ministry of Agriculture/Ministry of Environment		Water Act No. 254/2001 Coll. and related regulations and Act No. 274/2001 on water Supply and Sewage Systems Coll.	Full compliance in 2010
Directive 2000/60/EC	Water Framework Directive	Ministry of Agriculture/Ministry of Environment		Water Act No. 254/2001 Coll. and related regulations	

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005
Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Water Act 254/2001 Coll. and related regulations	Full transposition of requirements of WFD and basis of the Czech water legislation	In force	
Act. 274/2001 Coll. on Water Supply and Sewerage systems and related regulations	Covers area of drinking water supply and collection and waste water treatment	In force	
Public Health act 258/2000 Coll. and related regulations	Regulates rights and duties of physical and legal persons on the field of public health support and establishes network of public health protection bodies. Among others delimits requirements for drinking water.	In force	
Act No. 356/2003 Coll. on chemical substances and chemical preparations as amended and related regulations	Methods for assessment of biodegradability ,of detergents, labelling and restrictions for use.	In force	

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments
Amendment to the Act No. 356/2003 Coll. on chemical substances and chemical preparations as amended	Establishes competent authority responsible for reporting in line with Regulation 648/2004/EC and covers issues emerged in connection with the Czech Republics EU membership.	October 2005	At present in Parliament
Amendment of the Ministry of Environment Regulation on lists of dangerous chemical substances and dangerous chemical preparations No. 221/2004 Coll.	The amendment restricts the use of phosphates in washing powders on 0,5 % by weight.	In negotiation	

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure
Agreement between the Czech Association of producers of Soaps, Cleaning Agents and Detergents and the Ministry of the Environment on gradual decrease in environmental impact of detergents	Voluntary agreement	Goal of the Agreement and its amendment was gradual decrease in amount of phosphates and other substances in water. Since 1st January 2005 the Association has placed on the market only phosphate-free washing powders. Full text of Agreement on the Ministry of the Environment website www.env.cz/AIS/web.nsf/pages/voda_ochrana (only in Czech).	Existing. Agreement was concluded in 1995 and its amendments in 1998 and 2001.	Decrease of phosphates in laundry detergents from 9,000 t in 1995 to 5,065 t in 2003 was the result of the Agreement. The member companies of Association offered in the market compact, phosphate-free as well as phosphate containing detergents. In the year 2003 36.6% of phosphate-free laundry detergents has been sold from the overall amount of detergents produced by the Association members. Since the 1st of January 2005 members of Association do not sell laundry detergents containing phosphates. From this point of view the goal of the Agreement has been met.

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure
Voluntary agreement between the ministry of the Environment and the Czech Dental Chamber on reducing the environmental burden caused by mercury from dental health-care facilities.	Voluntary agreement	Full text of Voluntary Agreement on the Ministry of the Environment website www.env.cz/AIS/web.nsf/pages/voda_ochrana (only in Czech).	Existing. Signed in December 2001	From 2005 all dental workplaces are outfitted with the effective amalgam separators. This regulation eliminates the discharge of mercury into the sewer systems and prevents contamination of treatment plant sludge.

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

Yes, it has been successful.

From the 1st of January 2005 members of Association do not sell laundry detergents containing phosphates. Since the year 2000 the increase of number of phosphate containing detergents from other producers than Association members has been observed. SETUZA a.s. stepped out of the Association in 2003. The share of non-member producers on the market is not negligible at present as it was in time of signing of the Agreement. In the year 2004 their share was estimated at about 40% and in the year 2005 it is 50% of all producers (see Annex 3). With the aim to reduce the impact of laundry detergents on waters in the Czech Republic it has been decided to control the content of the phosphorus in detergents through the Amendment of the Ministry of Environment Regulation No. 221/2004 Coll. stipulating the list of dangerous substances and dangerous chemical means introduction of which into the market, distribution or use is prohibited or limited. This measure is in line with the EC Regulation No. 684/2004 of the European Parliament and of the Council of the 31st of March 2004 on detergents, Art. 14. Nevertheless, the measure does not cover the whole category of detergents in sense of EC Regulation No. 684/2004, but only laundry detergents. According to our information it is not possible to modify the whole spectrum of detergents to phosphate-free detergents because of missing technologies. Hence, also after the approval of above mentioned Amendment to the Ministry of Environment Regulation it will be possible to produce industrial cleaning and dish washing agents with content of phosphorus, but it will be not possible to produce laundry detergents with content of phosphorus of more than 0.5% of weight.

If no voluntary agreement has been made – What has prevented this?

What do you think is needed in your country for an effective voluntary agreement to be established?

Croatia

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents	Ministry of Econ., Labour and Entrepreneurship			n/a
Recommendation 89/542/EEC	Labelling of detergents	Ministry of Econ., Labour and Entrepreneurship			n/a
Regulation 648/2004/EC	On detergents (degradability and labelling)1	Ministry of Econ., Labour and Entrepreneurship			n/a
Recommendation 98/480/EC	Good environmental practice for household detergents	Ministry of Econ., Labour and Entrepreneurship			n/a
Directive 91/271/EEC	Urban Waste Water Treatment Directive	Ministry of Agriculture, Forestry and Water Management			See note 3
Directive 2000/60/EC	Water Framework Directive	Ministry of Agriculture, Forestry and Water Management			Approach basically accepted for incorporation into national legislation. CARDS 2003

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005
Note 2: As stated in Annex 8.2 Transposal or adoption (year)
Note 3: Based on CARDS 2003 Project Preparation of Draft strategy and action plan for approximation of Croatian legislation with EU Water Aquis which is ready for tendering draft a Strategy and Action Plan for approximation of the Croatian water legislation with EU Water Aquis as supporting tool that shall assist in planning of legal transposition and implementation of the EU Water Aquis in Croatian national legislation. CARDS 2003 should be finished in 2007.

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Water Pollution Control Plan (OJ 8/99)	Manages water in accordance with the principle integrity of the river system and principle of sustainable development	Yes	
The Water Act (OJ 107/95)	Provides framework for new regulations in water pollution control, and water quality control in	Yes, Review in 2005	Permits must be issued for chemicals and derivatives which get into water after use.

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
	compliance with EU regulations and international conventions		Only existing mechanism that can be directly used regarding P-containing detergents
Water Management Financing Act (OJ 107/95)		Yes	
Ordinance on Water Classification (OJ 77/98)	Defines: water quality, methods of sampling/ analyzing and methods of defining/ presenting water classification, ambient quality standards	Yes	
Ordinance on Hazardous Substances in Water (No. 78/98)	Defines substances forbidden to be discharged into waters; substances that can be discharged but only at a maximum permissible level	Yes	Includes: biological non-suspended detergents, surface active substances, inorganic phosphorous compounds, elementary phosphorous
Regulations on the issuing of water management consents and permits (OJ 28/96)	Defines obligation of water management permits for detergents	Yes	
Regulation on the discharge of hazardous and other substances into water (OJ 44/99)	Defines the limit values of hazardous and other substances discharged in different category of effluents.	Yes	
Environmental Protection Act (OJ 82/94)	Protection of natural sources on levels not harmful for human, plants and animals	Yes	

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

If no voluntary agreement has been made – What has prevented this?

What do you think is needed in your country for an effective voluntary agreement to be established?

- Assistance from ICPDR
- Training workshop
- Capacity building of the institutions
- Improvement in the legal system dealing with environmental issues

Germany

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents				
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]				
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive				
Directive 2000/60/EC	Water Framework Directive				

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005
Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Washing and Cleansing Agents Act of 1975 and 1986	To be reviewed to implement Regulation 648/2004/EC, which shall enter into force 8 October 2005		
Ordinance on Maximum Amounts of Phosphates in Washing and Cleansing Agents of 1980	Review planned 2007(?) because of Regulation 648/2004/EC Article 16 (1)"By 8 April 2007, the Commission shall evaluate, submit a report on and, where justified, present a legislative proposal on the use of phosphates with a view to their gradual phase-out or restriction to specific applications."		

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

If no voluntary agreement has been made – What has prevented this?
What do you think is needed in your country for an effective voluntary agreement to be established?

Hungary

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents	Ministry of Environment and Water (KvVM)	Processing. Transposed in 2001	Active	
Recommendation 89/542/EEC	Labelling of detergents	Ministry for Economics and Transport (GKM)	Adopted in 1998	Active (handout)	
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]	Ministry of Environment and Water (KvVM)	Government decree only on duties of Member states	Still not in force	
Recommendation 98/480/EC	Good environmental practice for household detergents	Not applicable in Hungary	-	-	-
Directive 91/271/EEC	Urban Waste Water Treatment Directive	Ministry of Environment and Water (KvVM)	Adopted		
Directive 2000/60/EC	Water Framework Directive	Ministry of Environment and Water (KvVM)	Adopted in 2004		

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005
Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
6/2001. ministerial decree on detergents (amended by 5/2004)		Still in force. 6/2001 ministerial decree will be replaced by a government decree on detergents on 2005. The government decree will regulate the duties of Member states (record keeping, notification, information, control measures, etc)	6/2001 has no restriction on the P content of detergents

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments
	Currently there is no regulation on P content. By 8 April 2007, the Commission shall evaluate, submit a report on and, where justified, present a legislative proposal on the use of phosphates with a view to their gradual phase-out or restriction to specific applications.	Before 8th October 2005	It will regulate the duties of Member States according to REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents

Voluntary Commitments relating to P reduction in detergents

Name	Type1	Details of agreement2	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

No voluntary agreements

If no voluntary agreement has been made – What has prevented this?
Industry waits for the report of the EU phosphate situation (opinion of the secretariat of the Hungarian Cosmetic and Home Care Association)

What do you think is needed in your country for an effective voluntary agreement to be established?
Improvement in the legal system: to establishment of the legal basis of the voluntary agreements.

Further more: clear environmental target on the subject (concrete goal how the voluntary agreement can be effective on the quality of the environment)

Moldova

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents	Ministry of Ecology and Natural Resources	Not yet adopted	Not yet adopted	None
Recommendation 89/542/EEC	Labelling of detergents	Ministry of Ecology and Natural Resources	Not yet adopted	There is a Regulation on obligatory product declaration and labelling	None
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]	Ministry of Ecology and Natural Resources	Not yet adopted	There are no legal acts and regulations regarding special features of detergent quality	None
Recommendation 98/480/EC	Good environmental practice for household detergents	Ministry of Ecology and Natural Resources	Not yet adopted	Not yet adopted	There is no experience in Moldova of developing "codes of good environmental practices" of the sort envisaged by the Directive
Directive 91/271/EEC	Urban Waste Water Treatment Directive	Ministry of Ecology and Natural Resources	Not yet adopted	There is no similar normative act within the Moldovan legislative corpus. The provisions of the Directive are spread in several Moldovan legal acts	See note 3
Directive 2000/60/EC	Water Framework Directive	Ministry of Ecology and Natural Resources	Not yet adopted	There was developed a set of recommendations towards approximation of Moldovan Water quality legislation to the EU legislation	There is no made an obvious progress towards approximation so far

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005

Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Note 3: General provisions for municipal wastewater discharges were identified as follows:

- The level of treatment should take into account local conditions, e.g. the use of the treated effluent, possibly blended with surface water run-off, for industrial and agricultural supply.

- In order to achieve the required ambient water quality in relation to individual substances. For example, the treatment level for raw municipal wastewater should be calculated from the size of the population and the assumptions of emission rate per person (in grams per day) as: phosphates P2O5 (3.3 g/day, including 1.6 g/day from detergents); detergents (2.5 g/day). For a population served by a non-canalised system, each of these values should be reduced by 33%.

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Water Pollution Control Plan	Manages water in accordance with the principle integrity of the river system and principle of sustainable development	In force	
The Water Code	Provides framework for new regulations in water pollution control, and water quality control	In force since 1993; modified and added - 2003	Defines obligation of water management
Environmental Protection Act	Protection of natural sources	In force	

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

No voluntary agreements

If no voluntary agreement has been made – What has prevented this?

The main reasons are lack of relevant laws/ regulations and other legal acts, and insufficient understanding and knowledge on the issue; Socio-economic barriers;

What do you think is needed in your country for an effective voluntary agreement to be established?

Introducing a system of P-control for the time being should be made on an ad hoc basis, with the donor countries starting negotiations with governments on conditions about P-removal for the financing of industrial plants in the most sensitive areas, if applicable.

Needed:

- Improvement in the legal system dealing with environmental issues
- Improvement of environmental education
- Assistance from ICPDR

Romania

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents	Ministry of Economy and Commerce – National Authority for Consumer Protection; Ministry of Environment and Water Management – Local Environment Authorities	In force since November 2001 (Governmental Decision 527/2001)	In force	
Recommendation 89/542/EEC	Labelling of detergents		In force since March 2000 (Governmental Decision 745/1999)	In force	
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]				
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive	Ministry of Environment and Water Management – National Administration "Apele Romane"; Ministry of Public Administration	Not in force in 2000; Transposed in March 2002 (Governmental Decision 188/2002)	In force (new Governmental Decision 352/2005 which amends the GD 188/2002)	See note 3
Directive 2000/60/EC	Water Framework Directive	Ministry of Environment and Water Management – National Administration "Apele Romane"	Not in force in 2000; Law 310/2004 for modification and amendment of the Water Law 107/1996	In force since July 2004	Progress in line with the EU countries

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005

Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Note 3: For the protection of the Black Sea and the Danube Delta against eutrophication, Romania has committed to designate all territory as being sensitive area.

Romania has obtained transition period:

- sewage network

31 December 2013 for agglomerations with more than 10 000 p.e.

31 December 2018 for agglomerations between 2000 – 10000 p.e.

- urban waste waters treatment stations;

31 December 2015 for agglomerations with more than 10 000 p.e. – nutrient removal (tertiary treatment);

31 December 2018 for agglomerations between 2000 – 10000 p.e. – biological treatment.

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Environmental Protection Law	Environmental management	Law 137/1995 – in force since 1995 - which was reviewed by the Government Ordinance 90/2003	
Water Law	It provides principles, objectives and policies for integrated water resources management and their sustainable use. It includes protection of water against pollution	In force since 1996 – Water Law 107/1996 which was amended by the Law 310/2004	Actually, the Romanian Water Law is in line with the requirements of the Water Framework Directive
Discharge norms	The Governmental Decision 352/2005 which amends the GD 188/2002 contains 2 discharge standards: NTPA 001 includes limit values for the main pollutants discharged into water resources. Also, the parameters "Anion-active surfactants" and "Phosphates" have thresholds in this standard. NTPA 002 provides thresholds for some pollutants discharged into the urban sewage network, including for detergents and phosphates.	In force	The 2 standards, NTPA 001 and 002, have been in force since 1997.
Ecolabelling	The Governmental Decision 1530/2004 concerning the setting up the criteria for assigning of ecologic label for dishwasher detergents	In force	

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

No voluntary agreement

If no voluntary agreement has been made – What has prevented this?

Socio-economic barriers
Lack of legislative measures or other incentives
Lack of support for establishing agreements
Insufficient understanding and knowledge on the issue

What do you think is needed in your country for an effective voluntary agreement to be established?

Improvement in the legal system dealing with environmental issues
Better internal (i.e. ministry) communication

Serbia-Montenegro

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents				No such Regulation or legal act
Recommendation 89/542/EEC	Labelling of detergents				There is a Regulation on obligatory product declaration
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]				See note 3
Recommendation 98/480/EC	Good environmental practice for household detergents				No such act or regulation or recommendation. The only existing standards are concerning analytical methods for quality examination and detergent efficiency
Directive 91/271/EEC	Urban Waste Water Treatment Directive			No such legal act	All measures and long-term plans on building UWWT plants are stated in the Water Master Plan for Serbia (2002); National Program with Action Plans according to the Law on environmental protection is yet to be drafted
Directive 2000/60/EC	Water Framework Directive			Transitional	Planned schedule for approximation 2005

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005

Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Note 3: It is stated by the Law on environmental protection " ..the production is not acceptable unless it fulfils the environmental quality standards and product quality standards…" but there are no specific legal acts or regulations concerning the product – detergent quality or the BAT in detergent industry.

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Environmental Protection Law	Environmental management - general		A new law, adopted in December 2004, in accordance with European legislation. By-laws and other legal acts are still needed in order to make the law effective.
IPPC Law	It is in accordance with IPPC Directive		Adopted in Dec. 2004, permits are to be issued at the latest by 2015 (there is a Program and time schedule for harmonizing industrial sectors with this law)
EIA Law	Concerning environmental impact assessment		Adopted in Dec. 2004
Law on Water	Generally concerning water protection, protection against devastating effects of water and water management (from1996)	A new Law on Water (in accordance with WFD) is prepared and in the process of adoption	According to the existing Law, water protection is generally based on emission monitoring; there are no emission standards

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?
No voluntary agreement

If no voluntary agreement has been made – What has prevented this?
• Lack of appropriate lows and regulations
• Lack of appropriate instruments to put in force the existing regulations
• Poor economic status of the country
• Many companies are undergoing the privatization process
• Among the detergent producers there is a good general knowledge on the issues like detergent biodegradability and phosphate caused problem to the environment, as well as on new technologies and BAT

What do you think is needed in your country for an effective voluntary agreement to be established?
• improvement in the legal system
• better internal communication
• capacity building

Slovak Republic

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents				
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]				
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive				
Directive 2000/60/EC	Water Framework Directive				

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005
Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

If no voluntary agreement has been made – What has prevented this?

What do you think is needed in your country for an effective voluntary agreement to be established?

Slovenia

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents				
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]				
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive				
Directive 2000/60/EC	Water Framework Directive				

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005
Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?

If no voluntary agreement has been made – What has prevented this?

What do you think is needed in your country for an effective voluntary agreement to be established?

Ukraine

Status of EU Legislation

Ref. Nr.	Title	Body responsible for implementation	Status in 2000[2]	Present status	Comments
Directive 73/404/EEC as amended	Biodegradability of detergents				The Law of Ukraine On the State Program of Adaptation of the Legislation of Ukraine to EU Legislation (N 1629-IV of 18.03.2004): environmental sector was determined as one of priority sectors for approximation of national legislation to the EU legislation. National legal acts in this area will be harmonised with EU by 2008. No specific measures undertaken
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling)[1]				
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive				See note 3
Directive 2000/60/EC	Water Framework Directive	Ministry for Environmental Protection of Ukraine			The Directive is translated in Ukrainian; the provisions of the Directive are taking into account during development of new legal acts and regulation

Note 1: Brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005

Note 2: As stated in Annex 8.2 Transposal or adoption (year)

Note 3: There are few national regulations in this area, which are not harmonised with Directive 91/271/EEC, including:

- Resolution of the Cabinet of Ministers "On the approval of the Rules of the protection of surface waters against pollution by return waters" (25.03.1999 N 465-99);
- Rules of taking-up the waste waters of enterprises into communal and sectoral sewerage systems of settlements of Ukraine (approved by the State Committee on Housing and Communal Service of Ukraine, 19.02.2002 N 37; registered by the Ministry of Justice 26.04.2002 N 403/6691);
- Resolution of the Cabinet of Ministers "On the procedure of development and approval of norms maximum allowable discharge of polluting substances and list of substances to be regulated during discharge" (11.09.1996 N 1100-96);
- Resolution of the Cabinet of Ministers "On the approval of the Rules for the determination of normative fees for pollution of the natural environment and collection of these fees" (01.03.1999, No 347)

Existing legislation and policies

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Law on Environmental Protection (1991)	Framework law , which determines, among others: -Objectives and principles of environmental protection -Competencies of central, regional and local governmental authorities -Mechanisms of prognostication, monitoring and information in the field of environmental protection; -Obligatory requirement of environmental expertise for any activities influencing the environment; -Ecological standards and norms; -Control and supervision of environmental protection; -Regulation of nature resources usage; -Economic mechanism of environmental protection incl pollution control); -Mechanisms of environmental emergency response; -Liability for violation of environmental legislation and regulation;	The Law is in force. Its provisions were detailed in many other laws and sub-legal acts.	
Water Code of Ukraine (1995)	The Code constitutes legal framework for - management of water protection - rational use of water for the population and economic activities - restoration of water resources - protection of waters from pollution, littering and depletion - prevention of accidental water pollution and floods and elimination of their consequences - improving the condition of water bodies - protection of rights of enterprises, institutions, organisations and citizens.	Some Articles of the Water Code correspond to the EU regulation (e.g., The Code introduces the Basin principle of water management.) but in general the Code is not harmonised Amendments to the Code have been approver by number of laws during 1996-2004	Related EU Directive: Principles of the EC Water Policy (draft, 4/12/96)
Law on Drinking Water and Drinking Water Supply (2002)	The Law is to provide legislative, economic and organisational framework for the sustainable operation of the drinking water supply system aimed at ensuring that the population is supplied with		Related EU Directive: On water Quality for Human Consumption (80/778/EEC)

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
	needed quantity and quality of safe drinking water. Centralised water supply system and its components are not available for privatisation.		
The Law on the State Program "Drinking Water of Ukraine" for 2006-2020, (03.03.2005)	The Program determines set of provisions aimed at the improvement of water supply for population in terms of adequate quality and quantity; reconstruction and development of the water supply / sewage network; rehabilitation, protection and sustainable use of the water sources.	Recently approved National Program, which complemented and to some extend replaced relevant parts of other national programs approved in the past.	
The Program of Development of Water Supply and Sewerage Sector (Resolution of the Cabinet of Ministers № 1269 of 17.11.1997)	The Program is aimed at the rehabilitation and improvement of an effectiveness of water supply / sewerage system.		Related EU Directives: Pollution Caused by Certain Dangerous Substances, Discharged into Water Bodies (76/464/EEC); Urban Wastewater Treatment (91/271/EEC)
Main Directions of State Policy on the Environmental Protection, Utilization of Natural Resource and Environmental Safety (1998)	Defines key priorities of Environmental Policy and Practical Actions, includes obligations to nutrient pollution reduction	As a policy document, it is still valid but some provisions are outdated and require revisions	
On the State Program of the Development of Water Economy (17.01.2002)	The Program is aimed at the implementation of national policy concerning the improvement of qualitative water supply to population and national economy, resolution of environmental and water-resources problems, establishments of the conditions for sustainable functioning of water economy complex.	The Program envisages practical implementation of the basin principle of water management.	

Name	Main aims/issues addressed	Is this still in force? Is a review planned?	Additional information / comments
Law on sanitary and epidemiological Security of the Populations (1994)	The Law: determines the rights and duties of governmental authorities, enterprises, organisations and citizens in the field of sanitary-epidemiological regulations; - establishes the procedures and state surveillance of sanitary-epidemiological services; -Introduces the licensing of all activities with potential impact of human health (including those in water sector).	Not harmonised with EU regulations	
On the approval of State Program of Protection and Rehabilitation of the Environment of the Black and Azov Seas (2001)	The Program (adopted by Law) is aimed at the development of the policy, strategy and action plan to prevent anthropogenic damage of the Black and Azov Seas environment, rehabilitate the Biodiversity and natural resources, and promote sustainable development of the region.	ICZM and pollution control of coastal and marine environment are among key components of the programs	

Planned Legislation and Policies

Name	Main aims/issues addressed	Expected date to come into force	Additional information / comments

Voluntary Commitments relating to P reduction in detergents

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Other Voluntary Commitments

Name	Type[1]	Details of agreement[2]	Is the agreement existing or planned? Dates	Overview of its success/failure

Note 1: e.g. voluntary agreement, eco-labelling, incentive scheme
Note 2: Who is the agreement between, what does it address etc

Barriers to the Implementation of Voluntary Agreements

If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?
No voluntary agreement

If no voluntary agreement has been made – What has prevented this?
Environmental Voluntary agreements as a tool of co-regulation, which is complementary to the traditional command-and-control approach, are not used in Ukraine. Possible reasons are:
- Environmental issues in reality are not on the top of governmental priorities due to domination of the goals of economic recovery and growth;
- Current legislation and regulation (first of all, economic mechanisms) do not promote voluntary commitments (implementation of such commitments requires additional financial implications);
- Institutional constrains (no association of producers of laundry detergents established in Ukraine, lack of co-operative relations with corresponding governmental bodies)
- Lack of knowledge and understanding on such instruments among producers and governmental bodies ;
- Lack of encouraging incentives from the Ministry for Environmental Protection and other relevant governmental institutions

What do you think is needed in your country for an effective voluntary agreement to be established?
To introduce Voluntary agreements practice in Ukraine the following measures would be helpful:
- Improving communication and establishing mutually beneficial (or at least working) relations between producers and relevant ministries (first of all, with the Ministry for Environmental Protection)
- Appropriate informational campaign to raise awareness, share knowledge and increasing the understanding of the benefits from such instruments for both sides (including producers and governmental regulating institutions); in this regard, any assistance from experienced institutions of EU countries (in form of training, workshops etc.) would be helpful;
- Revision of appropriate legal and regulation acts in order to provide legal support of voluntary incentives

Laundry detergents produced by Association in Czech Republic in 2000, 2001, 2002 , 2003

Product	*universal*	*color*	*compact*	*special*	*content of phosphate*
Colon/Dosia (bio,citrus)	X				phosphate
Colon/Dosia color		X			phosphate
Colon/Dosia bio	X				Phosphate-free
Colon/Dosia gel	X		X		Phosphate-free
Lanza bílá	X				phosphate
Lanza color		X			phosphate
Lanza ručka prášek				X	phosphate
Lanza gel	X		X		Phosphate-free
Lanza tabs	X		X		Phosphate-free
Lanza ručka tekutá				X	Phosphate-free
Lovela/Woolite prášek				X	phosphate
Lovela/Woolite Balsam liquid			X	X	Phosphate-free
Lip tekutý			X	X	phosphate
Lip prášek				X	Phosphate-free
Woolite-porstř. na praní jemn.prádla				X	Phosphate-free
Clarax plus	X				Phosphate-free
Titan	X				phosphate
Titan	X				Phosphate-free
Product	*universal*	*color*	*compact*	*special*	*content of phosphate*
Merkur	X				phosphate
Mýdlové Toto				X	phosphate
Mýdlová Hanka				X	Phosphate-free
Namo				X	Phosphate-free
Persil	X				Phosphate-free
Persil color		X			Phosphate-free
Persil gel	X		X		Phosphate-free
Persil color gel		X	X		Phosphate-free

Laundry detergents produced by Association in Czech Republic in 2000, 2001, 2002 , 2003

Product	*universal*	*color*	*compact*	*special*	*content of phosphate*
Palmex	X				Phosphate-free
Palmex color		X			Phosphate-free
Palmex gel	X		X		Phosphate-free
Palmex color gel		X	X		Phosphate-free
Rex	X				Phosphate-free
Rex color		X			Phosphate-free
Perwoll				X	Phosphate-free
Perwol tekutý			X	X	Phosphate-free
Ariel tekutý	X	X	X		Phosphate-free
Ariel pwd	X	X			phosphate
Tide/ Tix	X	X			phosphate
Bold 2 v 1	X	X			phosphate
Product	*universal*	*color*	*compact*	*special*	*content of phosphate*
Bonux	X	X			phosphate

ANNEX 2

TEMPLATE FOR INDIVIDUAL COUNTRY DETERGENT POLICY AND USE QUESTIONNAIRE

Detergent Use in Danube River Basin (DRB) Countries - Template for Individual Country Detergent Policy and Use

This template is in 2 sections. Section 1 deals with information relating to existing and planned policies, legislation and voluntary commitments. Existing information has been extracted from Annex 8.2 of the DRP Project Brief (Phase 2) – entitled "Existing and planned Policies and Legislation Relation to Pollution Control and Nutrient Reduction" (2000). Please update the existing information (which is based on information collected in or before 2000) and provide additional information where requested.

Section 2 deals with information regarding the usage, import and export of phosphorus containing and phosphorus free detergents. The Annex suggests further questions to detergent manufacturers; it would be helpful if answers to these could also be obtained.

Country name	
Consultant responsible for the questionnaire	
Contact details	
Completion date	

Summary

To be completed by the Consultant once all information has been obtained

1 EXISTING AND PLANNED POLICIES, LEGISLATION AND VOLUNTARY COMMITMENTS

1.1 STATUS OF EU LEGISLATION

Please identify progress with transposal into national legislation of the following Directives and Regulations, and adoption of the Recommendations:

Directive/ Regulation/ Recommendation No.	Title	Ministry or national body responsible for implementation	Status in 2000 (as stated in Annex 8.2) Transposal or adoption (year)	Present status	Comments Non-EU countries: Proposed progress towards approximation
Directive 73/404/EEC as amended	Biodegradability of detergents				
Recommendation 89/542/EEC	Labelling of detergents				
Regulation 648/2004/EC	On detergents (degradability and labelling) - brings together and replaces 73/404/EEC as amended, and 89/542/EEC - enters into force 8. October 2005)				
Recommendation 98/480/EC	Good environmental practice for household detergents				
Directive 91/271/EEC	Urban Waste Water Treatment Directive				
Directive 2000/60/EC	Water Framework Directive				

1.2 OVERVIEW OF NATIONAL LEGISLATION AND POLICIES

Please complete and update this information with details of the measures – existing and planned - specifically addressing the reduction of phosphate in laundry detergents (focus on domestic laundry detergents)

Existing legislation and policies

Name	Main aims/issues addressed by policy/legislation (with particular reference to phosphate in detergents)	Is this still in force? Is a review planned? Provide details	Additional information/comments

Planned legislation or policies

Name	Main aims/issues addressed by policy/legislation (with particular reference to phosphate in detergents)	Proposed dates for implementation	Additional information/comments

1.3 VOLUNTARY COMMITMENTS

Please provide details of any existing or planned voluntary commitments, incentives or other initiatives dealing with the reduction of phosphate in laundry detergents. Please also provide details of any other voluntary commitments dealing with general environmental issues, if available.

Name	**Type (e.g. voluntary agreement, ecolabelling, incentive scheme)**	**Details of agreement (i.e. who is the agreement between, what does it address etc). See note 1.**	**Is the agreement existing or planned. Please give dates (note 2)**	**If an existing agreement, please provide a brief overview of its success/failure, with reasons.**
1. Relating to P reduction in detergents				
2. Relating to any other environmental issues				

Note 1. If possible, please provide a copy of the agreement, or a link to where a copy can be found.
Note 2. If existing – when was the agreement made, if proposed, when will it be agreed?

1.4 BARRIERS ON THE IMPLEMENTATION OF VOLUNTARY AGREEMENTS

Please provide your views on what the current or future barriers are to establishing voluntary agreements and how you think these can be overcome in order to implement a successful agreement for the reduction of phosphate in detergents.

Please indicate whose views these are.

Question	**Response**
If a voluntary agreement has been made in the past – Has it been successful? What have the benefits been?	
If no voluntary agreement has been made – What has prevented this? For example: • Institutional barriers? • Socio-economic barriers? • Have relied on legislative measures or other initiatives (such as incentives)? • You do not feel that voluntary agreements are effective? • Lack of support for establishing agreements? • Insufficient understanding and knowledge on the issue? • Other reasons (please state).	
What do you think is needed in your country for an effective voluntary agreement to be established? For example: • Capacity building of the institutions? • Improvement in the legal system dealing with environmental issues? • Better internal (i.e. ministry) communication? • Ministerial reform? • Assistance from ICPDR? • Training workshop? • Other? Please state	

2 DETERGENT USE

Please state the source of information for each reply (or table), e.g.
(1) National government statistics
(2) Detergent industry / association statistics
(3) Independent market research organisation statistics

2.1 OVERALL DETERGENT USE

Year to which data applies	

Laundry detergents (domestic and in launderettes)

Total laundry detergent usage (tonnes/year)	
% of detergent that is phosphate-free (<0.2% phosphate)	
Total population (million)	
Total number of households (million)	
Average use of laundry detergent (g/person/day)	
Average use of laundry detergent (g/household/day)	
% of households with washing machines	
% of washing machines of the top loading design	
Is there a difference between top and front loaded machines, in terms of the type of detergent used or the amount? Please describe.	

Industrial detergents

Total industrial detergent usage (tonnes/year)	
% of industrial detergent that is phosphate-free (<0.2% phosphate)	

Dishwasher detergents

Total dishwasher detergent usage (tonnes/year)	
% of dishwasher detergent that is phosphate-free (<0.2% phosphate)	
% of households with dishwashers	

2.2 MANUFACTURERS AND SUPPLIERS OF LAUNDRY DETERGENTS

Note: if the information is more easily available in terms of percentage market share (for the whole country), this information and the total use can be used instead to estimate the amount of each brand.

Year to which data applies	

Used in the country

Name of manufacturer/ supplier	Country of manufacture	Phosphate free (<0.2% phosphate)		Phosphate-based		
		Brand name	Amount used (t/year)	Brand name	Amount used (t/year)	Phos-phate content (%)

Made in the country and exported to non-Danube countries

Name of manufacturer/ supplier	% of total production	Phosphate free (<0.2% phosphate)		Phosphate-based		
		Brand name	Amount exported (t/year)	Brand name	Amount exported (t/year)	Phos-phate content (%)

2.3 BRAND DESCRIPTIONS AND PRICES

Year to which data applies	

Please provide the following information for the leading phosphate-based and phosphate-free (<0.2% phosphate) brands

Brand name	Phosphate-free (<0.2% phosphate) yes/no	Phosphate-based (% phosphate)	Type / purpose[1]	Price range[2] Euro/kg

Note 1. For example 90°C wash, coloured wash, hand wash
Note 2. Typical shop prices

Exchange rate local currency to Euros	
How were the price ranges estimated?	

Annex: Additional questions for the detergent manufacturers:

1. What is the percentage difference between the production costs for phosphate-free (<0.2% phosphate) and phosphate containing detergents?
2. What are the reasons for any difference in costs (e.g. raw material costs, processing costs, production volume – please specify which and the significance of each in %)?
3. Would the unit cost decrease to that of phosphate containing detergents if the production volume increases to the current production of phosphate containing detergent?
4. Is there a difference in selling price for the phosphate-free (<0.2% phosphate) and phosphate containing detergent for the same application and if yes what are the reasons for any difference in price between phosphate-free (<0.2% phosphate) and phosphate containing detergents?
5. Have you discovered a difference in washing performance of domestic laundry between the use of front loaded and top loaded machines for phosphate containing and phosphate-free (<0.2% phosphate) detergents? If yes, what are the differences?
6. Are any investment costs required to move from phosphate containing detergents to alternative builders, e.g. zeolite? If yes what is the approximate cost per tonne of detergent produced?

Please summarise any information below:

ANNEX 3

EXAMPLES OF VOLUNTARY AGREEMENTS – CZECH REPUBLIC AND REPUBLIC OF IRELAND

CZECH AGREEMENT ON DETERGENTS

Full text of the voluntary agreement closed between CSDPA and the Ministry of the Environment on 22 March 1995:

Agreement

closed in the sense of § 51 of the Civil Code as amended between

Czech Soap and Detergent Products Association, with seat in Prague 10, V Olšinách 75, represented by **RNDr. Ing. Miloslav Handl**, Chairman of the Czech Soap and Detergent Products Association /hereinafter "Association"/

and

Ministry of the Environment of the Czech Republic, with seat in Prague 10, Vršovická 65, represented by **Ing. Vladimír Novotný**, the First Deputy Minister /hereinafter "ME CR"/

have decided to enter into the Agreement on gradual reduction of impact of laundry detergents on the environment.

I.
Subject of Agreement

1. The subject of the Agreement is a reduction of undesirable influence of used laundry detergents on the environment, particularly on a quality of surface water, determination of limits of contents of ingredients in these detergents, and further, determination of recommended procedures for the lowering of these limits.

2. This Agreement relates to laundry detergents for small-scale consumers, i.e. to laundry detergents supplied by domestic manufacturers or importers, the members of the Association, into retail network.

II.
Members of Association

The Association was entrusted by its members, all being main producers or importers of laundry detergents who perform their business activity in the territory of the Czech Republic, with execution of this Agreement. List of the Association´s members bound by this Agreement is attached.

III.
Limits of Detergent Ingredients

The members of the Association voluntarily undertake to maintain maximum level content of ingredients in their laundry detergent products supplied into retail network as stated below:

a) Phosphate detergents
EDTA max. 0,1 % (w/w)
NTA max. 4,0 % (w/w)
Polycarboxylates max. 6,0 % (w/w)
Phosphorus in total max. 5,5 % (w/w)
b) Phosphate-free detergents
EDTA max. 0,1 % (w/w)
NTA max. 4,0 % (w/w)
Polycarboxylates max. 6,0 % (w/w)
Inorganic Phosphorus max. 0,1 % (w/w)
Alkylphosphonates as phosphorus max. 1,0 % (w/w)

IV.
Compact Detergents

1. The Association and ME CR /hereinafter "contracting parties"/ are in agreement in stating that compact detergents can make a significant contribution to a decrease in the pollution of the environment, as they are distinguished by a decreased filler content, a decreased consumption of chemicals during laundering and decreased packaging and transport requirements.

2. The contracting parties therefore, for the sake of environmental protection, shall make their further effort to promote the compact detergents in the consumer market of the Czech Republic.

3. The Association shall support a promotion of the compact detergents in order to increase their part in total consumption in the Czech Republic.

V.
Surfactant Biodegradability

The members of the Association undertake to ensure that anionic and non-ionic surfactants used in laundry detergents comply with the requirements for biodegradability according to the EC directives, valid at the time of execution of this Agreement.

VI.
Consumers´ Information

The Association underlines its readiness and willingness to closely co-operate in activities aimed at improving the environmental consciousness of the consumers, for example by participation in the National Programme for Ecolabelling.

The attention shall be particularly paid to proper information of consumers about all the aspects of the use of laundry detergents. The Association shall ensure its activities by distributing information materials for consumers, organizing of special seminars and supporting educational events organized by ME CR.

VII.
Joint Evaluation of Agreement´s Fulfilment

The contracting parties agreed to organize annual meetings in order to evaluate Agreement´s fulfilment. Both parties shall prepare respective documents for such meetings. The first evaluation shall be completed by the end of November, 1995.

VIII.
Observance of Agreement´s Principles

1. The Association professes to the principle of self-control. To minimise the chances of distribution of products which are not in compliance with the principles mentioned herein the Association shall call upon its members to install appropriate monitoring system of consumer´s market in the Czech Republic.

2. After evaluation of information pursuant to the Section 1 of this Article, the contracting parties shall take necessary steps to support aims of this Agreement or, as the case may be, they will propose corrections to this Agreement for the purpose of the further limitation of the undesirable influences of phosphate-containing laundry detergents on the environment.

IX.
Further Provisions

1. The contracting parties are aware of the fact that all laundry detergent products for retail network manufactured or imported by the members of the Association prior to the effective date can be marketed without any limitation set forth by this Agreement.

2. This Agreement in no way authorizes the Association to co-ordinate the competitive behaviour of its members on the market.

X.
Termination of Agreement

In case of a material breach of this Agreement by the Association, ME CR can terminate this Agreement. The withdrawal notice period is one month, and must be sent in writing to the address of the Association. The notice period begins on the first day of the month following the month in which the notice was delivered.

XI.
Final Provisions

All changes or amendments of this Agreement must be made in written form based on agreement of both contracting parties.

This Agreement is executed in two copies and each party shall receive one copy.

This Agreement comes into effect 3 month after the execution day.

Prague, 22 March 1995

Ing. Vladimír Novotný
The First Deputy Minister
Ministry of the Environment of the Czech Republic

RNDr. Ing. Miloslav Handl
Chairman of the Czech Soap and Detergent Products Association

Attachment to the voluntary agreement:

The list of founding members of the Czech Soap and Detergent Products Association

Name of the Company	Seat of the Company	Represented by
SETUZA a.s.	Žukovova 100 Ústí nad Labem	Ing. RNDr. M. Handl
UNILEVER ČR, spol. s r.o.	V Olšinách 75 Praha 10	Dr. A. Steinbrecher
PROCTER and GAMBLE, v.o.s.	Karlovo nám. 7 Praha 2	William D. Harter
HENKEL ČR, spol. s r.o.	Štěpánská 33 Praha 1	Ch. Poschik
BENCKISER, spol. s r.o.	Voršilská 8 Praha 1	Milan K. De Millan

(Note : current list of the Association´s members - see separate page)

Full text of the Supplements to the voluntary agreement signed by the contracting parties on 23 June 1998:

SUPPLEMENT No. 1

to the Agreement on gradual reduction of impact of laundry detergents on the environment of 22 March 1995

closed on the date set below between

Czech Soap and Detergent Products Association,
with seat in Prague 1, Sněmovní 9,
represented by **Riccardo Cincotta**,
Member of the Board of Directors of the Czech Soap and Detergent Products Association
(hereinafter "Association")

and

Ministry of the Environment,
with seat in Prague 10, Vršovická 65,
represented by **Ing. Michael Barchánek**,
Deputy Minister of the Environment
(hereinafter "ME CR")

The Agreement on gradual reduction of impact of laundry detergents on the environment closed on 22 March 1995 between the Czech Soap and Detergent Products Association and the Ministry of the Environment of the Czech Republic is amended and supplemented as follows:

1.) Following the existing Article III., a new Article IIIa. is inserted, and reads as follows:

IIIa.
Renunciation of the use of surfactants
based on adducts of alkylphenols with ethylene oxide

The members of the Association voluntarily undertake not to use surfactants based on adducts of alkylphenols with ethylene oxide in their laundry detergents for retail network.

2.) The contracting parties are aware of the fact that all laundry detergents for retail network manufactured or imported by the members of the Association prior to the date on which this supplement becomes effective can be marketed without any limitations stipulated in this supplement.

3.) This supplement is executed in two copies and each party shall receive one copy.

4.) This supplement comes into effect 3 month after the date of its signing by both contracting parties.

5.) The contracting parties have read through this supplement and are in agreement with its content, in evidence whereof they affix their signatures hereto.

Prague, 23 June 1998

Ing. Michael Barchánek Deputy Minister of the Environment	Riccardo Cincotta Member of Board of Directors of the Czech Soap and Detergent Products Association

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SUPPLEMENT no. 2

To the Agreement on gradual reduction of the impact of detergents on environment dated March 22nd, 1995

Formed on the day, month and year shown bellow between

The Czech Association of Detergent Producers,
With the registered office in Prague 1, Sněmovní 9,
Represented by **Ing. Ladislav Tocháček**
Vice-chairman of the board of directors of The Czech Association of Detergent Producers
(hereafter the "Association")

and
The Ministry of Environment,
With the registered office in Prague 10, Vršovická 65,
Represented by **RNDr. Miloš Kužvart**,

The Minister of Environment
(hereafter the "MoE")

The Agreement on gradual reduction of the impact of detergents on environment
Formed on March 22nd, 1995 between The Czech Association of Detergent Producers and The Ministry of Environment in wording in force is being amended and supplemented in the following way:

1.) The current article III is being supplemented by the following provision:

The members of the Association undertake with effect from 2005 for all its products the Agreement relates to maintain the limits for the non-phosphate detergents. The limits presented in art. III par. a) "The detergents containing phosphates" are valid until the end of 2004.

The contractual parties will discuss the gradual balance limit throughout the year 2001.

The statement about adherence to particular limits will be a part of the documents prepared by the Association to annual assessment of performance of the Agreement.

2.) A new article III b. with the following wording is being inserted instead of the current article III a:

III b.
Labelling the non-phosphate detergents

The members of the Association undertake new detergents introduced firstly into the market after six month from the signing of Supplement 2 of Voluntary Agreement and complying with the limits for the non-phosphate detergents to label e.g. "does not contain phosphate", "phosphate-free". The same label will be after this date on the new labels all other washing products, which fulfil the limits.

3.) The current article IV. Compact detergents is being supplemented with par.4

IV. 4. The members of the Association undertake to ensure constant presence of compact detergents in the offer for the consumer market in the CR.

4.) The current article V. is being supplemented in this way:

In case of amendment of the EU legislation the contractual parties will within 1 year after its approval agree on another advance in this field.

5.) A new article V a of the following wording is being inserted instead of the article V.

V a.

The Association will support availability of measures and aids for dosage of detergents directly into the drum of a washing machine during purchase of detergents.

6.) The article VII is being supplemented in the following way:

As a groundwork for annual assessment the Association shall submit a list of produced or imported detergents stating the following features:
The product contains / does not contain phosphate
The product is / is not compact
The product is aimed for colour washing / is universal

Besides the contractual parties the agreement will be assessed also by the organisations of the non government environmental association, pertinently by other independent oraganisations and independent experts interested in participation in the assessment. Both contractual parties shall prepare documents for assessment which shall be submitted to all participants of the assessment for comments at least two months prior the pursuance of the assessment. Discussion of the comments will be part of the assessment. The result of the assessment will be published by both contractual parties.

7.) A new article IX a of the following wording is being inserted instead of the current article IX:

IX a.

Every subject that introduces detergents into the market of the CR or is interested in participation in solution of the impact of detergents on environment may join the agreement in a way agreed upon by the contractual parties.

8.) A new article XIa of the following wording is being inserted instead of the current article XI:

XIa.
Sanctions

The MoE is authorised to require the Association to pay a conventional fine in the amount of up to CZK 1 000 000 in case of breach of the provision of art. III, IIIa. Any amount of the potential conventional fine will be aimed and used for promotion of environmental projects upon mutual agreement.

9.) The contractual parties are aware of the fact that detergents aimed for retail, produced or imported by the members of the Association prior the date this Supplement comes to force, may be enforced in the market without restrictions determined in this Supplement.

10.) This Supplement has been formed in two copies, each of the party shall obtain one copy.

11.) This Supplement comes to force by expiration of 3 months after the date of its signing by both of the contractual parties.

12.) The contractual parties have read this Supplement, approve of its contents and as a proof thereof enclose their signatures.

In Prague on 23.7.2001

RNDr. Miloš Kužvart
Minister of Environment

Ing. Ladislav Tocháček
The Vice-chairman of the board of directors of the Czech Association of Detergent Producers

IRISH AGREEMENT ON DETERGENTS

AGREEMENT

between

THE IRISH DETERGENT AND ALLIED PRODUCTS ASSOCIATION (IDAPA)

and

THE MINISTER FOR THE ENVIRONMENT AND LOCAL GOVERNMENT

concerning

THE PHASING-OUT OF THE MARKETING OF PHOSPHATE-BASED DOMESTIC LAUNDRY DETERGENT PRODUCTS IN IRELAND

1. INTRODUCTION

The Irish Detergents and Allied Products Association **(IDAPA)** represents the principal producers and distributors of domestic laundry detergents in Ireland.

IDAPA shares the concern of the **Minister for the Environment and Local Government** about the water quality problems identified in "Managing Ireland's Rivers and Lakes: A Catchment-Based Strategy against Eutrophication" and enters into this Agreement with the **Minister** in recognition of its responsibility to help in overcoming the problem of eutrophication.

IDAPA and the **Minister** recognise that phosphorus inputs to waters come from a range of sources and that detergents make a limited contribution to the total phosphorus loading. This Agreement is part of the comprehensive strategy being pursued by the **Minister** to tackle all sources of phosphorus inputs to Ireland's waters.

2. OBJECTIVE

To phase out the marketing of phosphate-based domestic laundry detergent products on the basis of a 4 year Agreement (1999-2002) and thereby reduce the inputs of phosphorus to Irish waters.

3. TARGETS

The members of **IDAPA** voluntarily commit towards achieving the following phased reduction targets with respect to volume sales of domestic laundry detergent products in Ireland:

by **30 June, 2000:** 50% of market to be 'zero-phosphate' products,

by **31 December, 2001:** 80% of market to be 'zero-phosphate' products,

by **31 December, 2002:** 95% of market to be 'zero-phosphate' products.

Achievement of these goals will be driven by the members of **IDAPA** who currently account for approximately 90% of the Irish market and who will deliver the following phased reduction targets with respect to **IDAPA** volume sales of domestic laundry detergent products in Ireland:

by **30 June, 2000:** 55% of market share to be 'zero-phosphate' products,

by **31 December, 2001:** 90% of market share to be 'zero-phosphate' products,

by **31 December, 2002:** 95% of market share to be 'zero-phosphate' products.

4. IMPLEMENTATION

The implementation of this Agreement will be a priority action of **IDAPA** and its members.

5. MONITORING PROGRESS

IDAPA will, within 6 months of the deadlines mentioned at section 3 above, supply to the **Minister** audited sales figures in respect of all domestic laundry detergent products marketed in Ireland by **IDAPA**. The **Minister** acknowledges the views of **IDAPA** that the data so supplied is commercially sensitive and confidential in nature.

6. SUPPORT BY MINISTER

The **Minister** acknowledges that this voluntary agreement represents a significant industry response to the pursuit of sustainability and to the protection and improvement of water quality in Ireland. The **Minister** will seek to secure the delivery, by all other suppliers and distributors of domestic laundry detergent products to the Irish market, of commitments similar to those entered into by **IDAPA** under this Agreement.

ANNEX 4

AISE MEMBER ASSOCIATIONS IN DANUBE COUNTRIES

AUSTRIA

Fachverband der Chemischen Industrie Österreichs - F.C.I.O.

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E-mail: gruendling@fcio.wko.at

Website: http://fcio.at

CZECH REPUBLIC

Czech Soap and Detergent Association - C.S.D.P.A.

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E-mail: Robert.Klos@cz.henkel.com

Website: http://www.csdpa.cz

GERMANY

Industrieverband Hygiene und Oberflächenschutz Für Industrielle und Institutionelle Anwendung e.V. - I.H.O. -

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Fax: +49 69 2556 1254

E-mail: iho@iho.de

Website: http://www.iho.de

Industrieverband Körperpflege- und Waschmittel e.V. (IKW)

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Website: http://www.ikw.org

HUNGARY

Magyar Kozmetikai és Háztartás-vegyipari Szövetség - KOZMOS

Mr István Murányi

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ROMANIA

Romanian Union of Cosmetics and Detergent Manufacturers - RUCODEM -

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SLOVENIA

Association of Cosmetics and Detergents Producers of Slovenia - K.P.C. -

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Website:

SLOVAK REPUBLIC

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Website:

Source: http://www.aise-net.org/downloads/members2006.pdf