

Action 7 of the EUSDR: “To legislate at the appropriate level to limit the presence of phosphates in detergents”.

Milestone no2: Policy response on the Overview Report

- REPORT -



Association Justice & Environment

20 December, 2013

This report has been prepared by Association Justice and Environment, on the request of PA4 of the EUSDR.

Author: dr. Szilvia Szilágyi(szilvia@emla.hu)

The Roadmap of Priority Area 4 of the EUSDR contains Action 7, “To legislate at the appropriate level to limit the presence of phosphates in detergents”. The ICPDR was responsible under Milestone 1 to prepare an overview report on the implementation of regulation (EU) 259/2012.In the Roadmap of PA4 A7 a special task was identified in Milestone 2 to make a policy response to the overview report. Therefore to complete this task and partially based on Hungarian governmental funds, PA4 concluded a contract with an international research organisation, Czech based Justice and Environment, who prepared a complete research document analysing the situation with regards to phosphates in the Danube basin.

Table of Contents

[List of abbreviations 4](#_Toc378242214)

[Introduction 6](#_Toc378242215)

[I. Introduction of phosphate-free detergents 8](#_Toc378242216)

[I.1. Findings of the Overview Report 8](#_Toc378242217)

[I.2. EU legislation aiming to prevent and to mitigate eutrophication 11](#_Toc378242218)

[I.3. EU Regulation 648/2004 as amended by Regulation 259/2012 12](#_Toc378242219)

[II. Recommendations on short-term policy responses 15](#_Toc378242220)

[Bibliography 18](#_Toc378242221)

# List of abbreviations

BAT Best Available Technique

DRB Danube River Basin

DRBD Danube River Basin District

DRBM Plan Danube River Basin District Management Plan

DRPC Danube River Protection Convention

EC European Commission

EU European Union

(EU) MS European Union Member State

GEF Global Environment Facility

JAP Joint Action Programme

Non EU MS Non-European Union Member State

EU WFD European Union Water Framework Directive. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327, 22.12.2000, p. 1–73

ICPDR International Commission for the Protection of the Danube River

IPPC Directive Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control. OJ L 24, 29.1.2008, p. 8–29

Nitrates Directive Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources. OJ L 375, 31.12.1991, p. 1–8

Overview Report ICPDR (International Commission for the Protection of the Danube River) (2012),*Interim Report on the Implementation of the Joint Program of Measures in the DRBD*.

Regulation 648/2004 Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents OJ L 104, 8.4.2004, p. 1–35.

Regulation 259/2012 Regulation (EU) No 259/2012 of the European Parliament and of the Council of 14 March 2012 amending Regulation (EC) No 648/2004 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents. OJ L 94, 30.3.2012, p. 16–21

UNDP United Nations Development Programme

UNOPS United Nations Office for Project Services

UWWTD Council Directive 91/271/EEC of 21 May concerning urban waste water treatment. OJ L 135, 30.5.1991, p. 40–52

# Introduction

Nutrient pollution – particularly caused by nitrogen and phosphorus –may cause eutrophication[[1]](#footnote-2) of surface waters. Furthermore, the emission and discharge of these substances into coastal areas and into the marine environment may have a significant impact on the status of these ecosystems. Nutrient pollution is a priority challenge, particularly as it affects not only freshwaters but groundwater and the marine environment as well.

Nitrogen and phosphorus emissions cause eutrophication in many Danube River Basin District (DRBD) surface waters and contribute to eutrophication in the Black Sea North Western shelf. For the period of 1988-2005, the Danube, as one of the major rivers discharging into the Black Sea, was estimated to introduce on average about 35,000 tonnes of phosphorus and 400,000 tonnes of inorganic nitrogen into the Black Sea each year.[[2]](#footnote-3)

Phosphates are used to improve the cleaning effect of detergents, especially when used with hard water. The removal of phosphates from wastewater is a costly procedure and requires sophisticated technologies, which many wastewater treatment plants in the Danube Basin lack. As a result, a lot of phosphate is carried to the Black Sea, where it contributes to strongly increased levels of nutrients.

The annual consumption of phosphate-containing detergents in the EU-25 is about 1.8 million tonnes, a value equivalent to a phosphorous content of about 110,000 tonnes. 90-95% of these are consumed in domestic laundry and dishwashing detergents.[[3]](#footnote-4)The emission of phosphates via household detergents is significant in the Danube River Basin (DRB) and it is included in the agglomerations’ contribution to total emissions. In the absence of wastewater treatment or in the case of treatment without a tertiary treatment, the respective phosphate loads find a direct way into the aquatic environment.

So far only a fewcountries in the DRB have introduced a phosphate ban for laundry detergents; although others intend to follow. Phosphate emissions due to laundry and dishwasher detergents in the DRB are estimated at 9.190 t/a. This is 15.7% of the total phosphates emissions.[[4]](#footnote-5)

Thebasin-wide vision of theInternational Commission for the Protection of the Danube River (ICPDR) for tackling nutrient pollution is abalanced management of nutrient emissions via point and diffuse sources in the entire DRBD.The main objective of the respective policies and measures are to create an environment whereneither the waters of the DRBD nor the Black Sea are threatened or impacted by eutrophication. Within the framework of that vision, reducing the amount of phosphates in detergents is an important objective, preferably to be achieved by eliminating phosphates in detergent products, as it is already the case incertainDanube countries.

The Danube River Basin Management Plan (DRBM Plan) is one of the most comprehensive analyses, whichaims to achieve at least‘good status’ for all waters of the DRB. The Plan covers the period from 2009 until 2015. It provides a detailed overview on the basin and sets out a Joint Programme of Measures including guidelines for tackling the problems across the entire river network.

The 2012 "Interim Report on the Implementation of the Joint Program of Measures in the Danube River Basin District" (Overview Report) was published by the ICPDR in January2013. The objective of the Interim Report is to provide an overview on the state of play regarding the implementation of the Joint Programme of Measures as included in the DRBM Plan and agreed by the Danube countries.

Parallel to the efforts of the ICPDR, within the 28 European Union (EU) countries, a wide range of approaches are followed, from legal bans via voluntary agreements to no measures at all.

At an EU level, the Detergents Regulation (Regulation (EC) No 648/2004) was published on 8th April 2004 and entered into force on 8th October 2005. This Regulation was later amended by Regulation (EU) No 259/2012 to restrict the use of phosphates and other phosphorus compounds in consumer laundry and automatic dishwasher detergents, in order to reduce the level of phosphorus discharged into waters.

Regulation259/2012 stipulatesthat from 30 June 2013 consumer laundry detergents shall not be placed on the market if the total content of phosphorus is equal to or greater than 0.5 grams in the recommended quantity of the detergent to be used in the main cycle of the washing process for a standard washing machine load. Likewise, by 1 January 2017phosphorous in dishwasher detergents must not overstep a limit of 0.3 grams in the standard dosage.

**The aim of the current report is** to summarise the main findings of the Overview Report regarding Action 7 “to legislate at the appropriate level to limit the presence of phosphates in detergents” and to formulate recommendations for short term policy reflections, that is, one or two years at the most. The report will also providea comprehensive overview on the current legislation aiming to limit the presence of phosphates in detergents at the EU level and at the level of the EU Member States.

# Introduction of phosphate-free detergents

## I.1. Findings of the Overview Report[[5]](#footnote-6)

The introduction of phosphate-free detergents is considered to be a fast and efficient measure to reduce nutrient emissions into surface waters.[[6]](#footnote-7) The ICPDR has initiated a process to support the introduction of phosphate-free detergents in the Danube countries.

Reducingphosphate in detergents may contribute greatly to decreasing nutrient loads in the Danube, particularly in the short term,untilall countries have built a complete network of sewers and wastewater treatment. Dishwashing detergents are a significant and increasing source of water pollution in all Danube countries. Efforts to regulate this source are also needed.[[7]](#footnote-8)

Scenarios calculated in the DRBMP show that a ban on phosphate-containing laundry detergents by 2012 and dishwasher detergents by 2015[[8]](#footnote-9) would reduce the levels of phosphates by approximately 2,000 tons a year, to a level of only 5% above the values of the 1960s. This would mean that the objectiveof reducing the phosphate loadby 2015 set forward in the DRBM Plan of 2009 would almost be achieved. While building waste water treatment plants is always a large, capital-intensive and long-term project, a ban on phosphates from an early stage of theimplementation of thePlanis considered asa fast and efficient solutionto reduce nutrient emissions into surface waters.

Ministers of the Danube countries have committed themselves at the Ministerial Meeting in 2010 to initiate the introduction of a maximum limit of 0.2 to 0.5% phosphorus weight/weight%for the total phosphorus content in laundry detergents for consumer use, if possible by 2012; and to work towards a market launch of polyphosphate-free dishwasher detergents for consumer use by2015.

**Alternatives to phosphate based detergents are available**. Based on the findings of the Overview Report, laundry detergents on the **German** and **Austrian** market are **almost completely phosphate-free**. The **Czech Republic permits phosphatecontent up to** 0.5% of weight in laundry detergents, except for detergents producedfor industrial use and agents for dishwashers. Some countries, such as Germany and Austria, have successfully reducedthe amount of phosphates **through industry agreements**; whilein others countries, including**Hungary, reducing phosphate content is currently in progress**. In **Croatia, Serbia, Romania and Ukraine, legislation or voluntary agreements** are under development. In other Danube countries such as **Bosnia and Herzegovina and Slovenia, the shiftto phosphate-free detergents was market-driven**.

**At the European level, the Water Framework Directive[[9]](#footnote-10) (WFD)** establishes a legal framework to protect and restore clean water across Europe and ensure its long-term, sustainable use.

**Additionally, the European Council has adopted Regulation (EU) No 259/2012** of the European parliament and of the Council of 14 March 2012 amending Regulation (EC) No 648/2004 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents.

The limit value for consumer laundry detergents is set at “0.5 grams of phosphorus per washing process in a standard washing machine”[[10]](#footnote-11) and it is applicable from 30 June 2013.

The limit value for consumer automatic dishwasher detergents is set at “0.3 grams of phosphorus in a standard dosage”[[11]](#footnote-12) and it will be applicable from 1 January 2017.However, it is subject to confirmation through a thorough assessment in the light of the most recent scientific data and taking into account available alternatives to the use of phosphates.

Reducing phosphate in detergents may contribute greatly to decreasing nutrient loads in the Danube, particularly in the short term, until all countries have built a complete network of sewers and wastewater treatment; and it will not attract additional costs to consumers or governments.

Based on the findings of the Overview Report[[12]](#footnote-13),Danube countries are regulating the phosphatecontent in detergents by different methods:

Table1: Regulation of phosphate-free detergents in the Danube countries

|  |  |
| --- | --- |
| Country | Regulation |
| Germany | Phosphate-free detergents are in use. |
| Austria | Phosphate-free detergents are in use. |
| Czech Republic | For dishwasher agents phosphate content is not restricted. Detergents with a concentration of phosphates lower than 0.5 % weight are in use except in industries and institutions where washing is organised by specially trained personnel. |
| Slovakia | EU Regulation Number 259/2012 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented. |
| Slovenia | Phosphate-free detergents are in use. EU Regulation Number 259/2012 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented. |
| Croatia | Phosphate-free detergents are partially in use. Under discussion with the Association of Manufacturers and Wholesale Dealers of Washing, Cleaning, and Beauty Products.  |
| Serbia | Partially in use. |
| Bosnia and Herzegovina | About 50% of domestically produced detergents are phosphate-free.There is no informationavailable on imported products. |
| Hungary | By 2013, approx. 80-90% of detergents are expected to bephosphate-free, partly due tothe EURO Compact project.Regulation 259/2004/EK enteredinto force in 2013. |
| Bulgaria | EU Regulation Number 259/2012 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented. |
| Romania | The average % of phosphate in AWM detergents in 2008 was 5.3, which represents a 66% decrease compared to2005. The accelerated decrease in trend is continuing. EU Regulation No 259/2012 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented. |
| Moldova | No progress. |
| Ukraine | The Ministry of Environmental Protectionhas drafted a bill on phosphate-free detergents. |

As the data above shows, **in EU Member States,Regulation 259/2012** as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents**is implemented. In countries outside the EU,different measures are in place**, such ascommand and control instruments (national regulations aiming to limit the phosphate content of detergents) and voluntary agreements between governments and industry to restrict phosphate in detergents.

## I.2. EU legislation aiming to prevent and to mitigate eutrophication

There have been a number of Directives enacted at the EU level with the aim to limit the concentration of nutrients in surface waters, and thereby help to counter eutrophication:

**Council Directive 91/271/EEC concerning urban waste water treatment** (UWWTD)

The objective of the Directive is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors (as stipulated by Annex III of the Directive). The Directive requires member states to:[[13]](#footnote-14)

* collect and treat waste water in all agglomerations of more than 2000 population equivalents,
* apply secondary treatment of all discharges from agglomerations of more than 2000 population equivalents; and more advanced treatment for agglomerations of more than 10 000 population equivalents in designated sensitive areas and their catchments;
* require pre-authorisation of all discharges of urban wastewater, of discharges from the food-processing industry and of industrial discharges into urban wastewater collection systems;
* monitor of the performance of treatment plants and receiving waters; and
* control sewage sludge disposal and re-use as well as treated waste water re-use whenever it is appropriate.

**Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources** (Nitrates Directive)

Under the Nitrates Directive,MSs are required to identify vulnerable zones and to establish and implement action programmes in order to reduce water pollution from nitrogen compounds. The Nitrates Directive aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices. It forms an integral part of the WFD and is one of the key instruments in the protection of waters against agricultural pressures.[[14]](#footnote-15)

The main measures of the Directive to realise its objectives are the following:

* identifying waters polluted or at risk of pollution;
* designating "Nitrate Vulnerable Zones";
* establishing Codes of Good Agricultural Practice to be implemented by farmers on a voluntary basis;
* establishing action programmes to be implemented by farmers within “Nitrate Vulnerable Zones” on a compulsory basis;
* national monitoring and reporting.

**Directive 2008/1/EC of the European Parliament and of the Council concerning integrated pollution prevention and control** (IPPC Directive)

Under the IPPC Directive,MSs are required to issue permits for certain industrial installations according to the best available techniques (BAT). Annex III of the Directive, the indicative list of the main polluting substances to be taken into account for fixing emission limit values, includes substances which contribute to eutrophication, in particular nitrates and phosphates.[[15]](#footnote-16)

Directive 2000/60/EC, the Water Framework Directive (WFD), has led to an increased focus on eutrophication and to a more holistic approach to water management.Under the WFD MSs must enact programmes of measures to ensure that water bodies throughout the EU reach ‘good status’ by 2015. In cases where WFD monitoring and assessment shows that phosphorus inputs are significantly contributing to eutrophication, MSs must implement measures to address this problem.

## I.3. EU Regulation 648/2004 as amended by Regulation 259/2012

The EU is a land of shared waters. About 60% of the EU's surface area lies in river basins that cross at least one national border, and all Member States except Cyprus and Malta contain sections of at least one international river basin district.[[16]](#footnote-17)Europe’s waters are at risk from a wide range of pollutants from different sources, from over-abstraction to physical changes. Therefore, an integrated assessment and planning approach is needed to tackle this multitude of pressures in a coherent and effective way.

The cornerstone of the EU’s water policy is the WFD; besides, a number of other legal measures[[17]](#footnote-18) are applied to tackle water pollution, to ensure the good quality of drinking and bathing waters and manage flood risks.

Regulation 259/2012 aims to provide improved protection of the environment by safeguarding water systems from the harmful effects of certain substances found in detergents. It aims:

* to protect the environment by reducing eutrophication caused by phosphorus in detergents used by consumers;
* to reduce the costs of phosphates removal in waste water treatment plants; and
* to ensure the smooth functioning of the internal market in consumer laundry detergents and consumer automatic dishwasher detergents.

In the Community legislation detergents are subject to certain provisions concerning their manufacture, proper handling, usage and labelling, in particular with reference to Commission Recommendation 89/542/EEC and Commission Recommendation 98/480/EC of 22 July 1998 concerning good environmental practice for household laundry detergents;[[18]](#footnote-19) Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations[[19]](#footnote-20) .

Regulation 648/2004 introduced the following measures:

* The Regulation harmonised the requirements set for the biodegradability of surfactants in detergents − only surfactants that meet the criteria for ultimate aerobic biodegradation may be placed on the market;
* A derogation procedure has been introduced to grant a derogation for substances intended for industrial or professional use;
* The Regulation requires comprehensive detergent package labelling (including fragrances with potential to cause contact allergy, at concentrations exceeding 0.01% by weight);
* It requires the manufacturers to provide competent authorities and medical personnel with the results of tests regarding detergent ingredients.

In its Report of 4 May 2007 to the Council and the European Parliament, the Commission evaluated, pursuant to Regulation (EC) No 648/2004 of the European Parliament and of the Council,[[20]](#footnote-21) the use of phosphates in detergents. Following further analysis, it has been concluded that the use of phosphates in consumer laundry detergents and consumer automatic dishwasher detergents should be limited in order to reduce the contribution of phosphates from detergents to eutrophication risks and to reduce the cost of phosphates removal in waste water treatment plants. Those cost savings outweigh the cost of reformulating consumer laundry detergents with alternatives to phosphates.

Based on research data,[[21]](#footnote-22) efficient alternatives to phosphate-based consumer laundry detergents require small amounts of other phosphorus compounds, namely phosphonates, which, if used in increasing quantities, might be of concern for the environment. According to the provisions of theRegulation, while it is important to encourage the use of alternative substances with a more favourable environmental profile than phosphates and other phosphorus compounds in the manufacture of consumer laundry detergents and consumer automatic dishwasher detergents, such substances should, under their normal conditions of use, present no risk, or a lower risk, to humans and/or the environment. The REACH[[22]](#footnote-23) system should therefore, where appropriate, be used to evaluate such substances.

The interaction between phosphates and other phosphorus compounds requires a careful choice of the scope and level of the limitation on the use of phosphates in consumer laundry detergents and consumer automatic dishwasher detergents. This limitation should apply not only to phosphates, but also to all phosphorus compounds in order to preclude a mere substitution of other phosphorus compounds for phosphates. The limit on phosphorus content should be low enough to effectively prevent the marketing of phosphate-based consumer laundry detergent formulations, while being high enough to allow the minimum quantity of phosphonates required for alternative formulations.[[23]](#footnote-24)

According to theRegulation, it is currently not appropriate to extend limitations on the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents to industrial and institutional detergents at the level of the Union because suitable technically and economically feasible alternatives to the use of phosphates in those detergents are not yet available.

As regards consumer automatic dishwasher detergents, alternatives are likely to be more widely available in the near future. It is therefore appropriate to apply restrictions on the use of phosphates in those detergents. Such restrictions should apply from a future date by which time alternatives to phosphates are expected to be widely available, in order to stimulate the developments of new products. It is also appropriate to specify a maximum permissible phosphorus content, based on evidence including existing national restrictions for phosphorus in consumer automatic dishwasher detergents.

Pursuant to Regulation 259/2012, the content of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents is limited. As of 30 June 2013, the total content of phosphorus in consumer laundry detergents placed on the market shall be less than 0.5 grams in a standard washing machine load. As of 1 January 2017, the total content of phosphorus in consumer automatic dishwasher detergents placed on the market shall be 0.3 grams in a standard machine load.[[24]](#footnote-25)

Based on the provisions ofArticle 14 (free movement clause) of Regulation 259/2012, MSs may lay down national rules concerning restrictions on the content of phosphates and of other phosphorus compounds in detergents for which no restrictions on the content are set out in Regulation 259/2012. These restrictions have to be justified in particular, on grounds such as the protection of public health or the environment and their feasibility both technically and economically shall be presented.

MSs may maintain national rules that were in force on 19 March 2012 concerning restrictions on the content of phosphates and of other phosphorus compounds in detergents for which restrictions set out have not yet become applicable. Such existing national measures shall have beenreported to the Commission by 30 September 2012 and may remain in force until the date when the restrictions set out apply.

From 19 March 2012 until 31 December 2016 MSs may adopt national rules that implement the restriction on the content of phosphates and of other phosphorus compounds, where justified, in particular, on grounds such as the protection of public health or the environment and where technically and economically feasible alternatives are available. Member States shall communicatesuch measures to the Commission in accordance with Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services.

Where a MS has justifiable grounds for believing that a specific detergent, although complying with the requirements of Regulation 259/2012, constitutes a risk to the safety or health of humans or of animals or a risk to the environment, it may take all appropriate provisional measures, commensurate with the nature of the risk, in order to ensure that the detergent concerned no longer presents that risk, is withdrawn from the market or recalled within a reasonable period or its availability is otherwise restricted.

# Recommendations on short-term policy responses

There is extended literature on those environmental policy measures which aim toreduce or eliminatethe phosphate content of detergents.[[25]](#footnote-26)These range from measuresaiming at limiting pollution by imposing regulations or standards on companies, via the use of economic instruments, such as taxes and charges,to policies employing economic incentives, in particular environmental taxation or voluntary agreements to reduce phosphate use in detergents.[[26]](#footnote-27)

Recent approaches attempt to connect individualinstruments such as regulatory instruments[[27]](#footnote-28) by integrating existing measures into a comprehensive framework for sustainable development (market based instruments[[28]](#footnote-29) and/or voluntary agreements[[29]](#footnote-30)).

According to the JAP,[[30]](#footnote-31)**a joint decision for a voluntary agreement**[[31]](#footnote-32) on promoting the introduction and use of phosphate-free detergents to the market of the Danube countries should be formulated.At the same time, it is true that the severity and threat of eutrophication is very different even within the EU and also in the Danube countries.**The contribution of phosphate-based detergents to eutrophication therefore varies country by country as well as in different hydrographic basins depending on specific human activities and land use.**

There are several voluntary agreements between governments and industry to limit the use of phosphates in detergents by the detergent industry.[[32]](#footnote-33)In some countries such as Germany, the voluntary agreement in effect is equivalent to a ‘ban’ of phosphates in household laundry detergents.

Although voluntary agreements are regarded as effective tools of environmental policy in general, practical examples demonstrate the difficulties of maintaining a successful voluntary agreementwithout legislative back-up.[[33]](#footnote-34)**An alternative and probably a more promising option would be to persuade DRB country governments of the need for national legislation.**

The conclusion of the European Commission’s report to Council and the European Parliament on detergents and the use of phosphates further reinforced both the urgency and the need for action.*[[34]](#footnote-35)*

The UNDP-GEF[[35]](#footnote-36) Danube Regional Project funded by the United Nations Office for Project Services (UNOPS) to develop recommendations for the reduction of phosphorus in detergents in the Danube River Basin, has generated detailed data on phosphate concentration and eutrophication in the Danube. The final report[[36]](#footnote-37) concludes:

*“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”.*

**Based on the findings of the final report, the policy recommendation to countries of the Danube River Basin**was**to proceed with national legislation** and/or **further voluntary agreementsto replace phosphate-based detergents to protect the Danube and the Black Sea from eutrophication.** This was re-iterated at the recent High-Level Meeting of all 16 Danube and Black Sea Countries and the European Commission in a Declaration on Water Protection.[[37]](#footnote-38)**A combination of improved waste water treatment with the use of phosphate-free detergents** would decrease nutrient loads and thereby improve the marine environment more than either of these measures taken alone.[[38]](#footnote-39)

**A complex policy which aims to reduce and/or phase out phosphates from detergents shall be based on the following measures:**

* legislative measures;
* voluntary agreements;
* an eco-labelling system of detergents;
* taxes or fines;
* increased public awareness and involvement.

**National legislative measures** may include the following:

* introduction of a total ban of phosphates in detergents;
* restriction of phosphates in laundry detergents; or
* setting limit values for the content of phosphates in detergents.

When drafting national legislation, countries might build on the experiences of those countries thatalready have certain regulations and practical knowledgeon the phosphate content of detergents. **EU Regulation 648/2004 as amended by Regulation 259/2012 should also be followed and taken into account.**At the same time, EU MSs are obligedto apply the relevant measures of the Regulation.

While the above described legislative measures, the introduction of economic instruments as well as voluntary agreements maybe regarded as long-term or at least middle-term instruments for achieving the subsequent environmental objectives, short-term policy measures[[39]](#footnote-40)such as**public reflections or high level discussion**are also important.

The followingshort-term policy reflectionsare possible:

**In those countries where no legislation on phosphate-free detergents exists yet, preparing impact assessments** in order to findthe most suitable policy option for further action.

For those countries where the relevant legislation or voluntary agreementsaiming to reduce/eliminate the phosphate content of detergentsare already in place,the top priority is to**monitor compliance with already existing agreements or legislation**, **with the assistance ofNGOs when possible.**

**Promoting public debate and involvement**in the Danube countries regarding phosphate-free detergents: an extensive, national debate ongoals and tools should be the baseof any national measure, especially in counties where there is no national legislation on the phosphate content of detergents.

**Raising consumers' awareness** of the water footprint of products; for this purposethe media (print, radio and TV) could be used in most countries to support consumer education, involving consumers as partners in the circle of stakeholders. The internet is an effective tool to promote transparency and to facilitate co-operation and co-ordination among stakeholders (e.g. online versions of legislative or project databases should be created).

**Organising workshops**to inform stakeholders and to explore the best way forward could also be beneficial, for example in countries where there is no legislative ban in placeon the phosphate content of detergents.

In any case, it is important to **maintain close contact with the relevantgovernment departmentsof the countries concerned;**as well as to **maintain a dialogue with both the industry and the relevant trade associations**.International co-operation among the relevant stakeholders (ministries, representatives of the phosphate-industry, international organizations, NGOs) should be enhanced to promote the overall effectiveness of the existing and planned national measures and to recognise and build on other countries’ successful experiences.

Based on the conclusions drawnby the Interim Report, the introduction of limitations on phosphorus in detergents, i.e. a phosphorus limitation in laundry detergents by 30 June 2013 and in dishwasher detergents in January 2017, is seen as a cost-effective and necessary measure to complement the efforts of implementing urban wastewater treatment and reach a phosphorus level equivalent to the one in the 1960‘s. However**,in order to reach these objectives, effective cooperation and an exchange of information are essential to share already existing good practices and to provide legal and technical assistanceacross the Danube countries**.

# Bibliography

Madariaga, Barbara M. de, Ramos, M. José, Tarazona, José V., Dr. (2009),*Development of an European quantitative eutrophication risk assessment of polyphosphates in detergents model validation using the WFD intercalibration data, model re-calibration, and Pan-European assessment of the eutrophication risk associated to the use of phosphates in detergents*, Green Planet Research Report.

COM(2007) 234 final, Report from the Commission to the Council and the European Parliament pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates.

Council Directive 91/271/EEC concerning urban waste water treatment. OJ L 135, 30.5.1991, p. 40

Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources. OJ L 375, 31.12.1991, p. 1–8

ICPDR (International Commission for the Protection of the Danube River)(2009) *Danube River Basin District Management Plan, Part A – Basin-wide overview*.

Litke, David W. (1999),*Review of Phosphorus Control Measures in the United States and their Effects on Water Quality. U.S. Geological Survey Water-Resources Investigations Report 99–4007*, Denver, Colorado.

Department for Environment, Food and Rural Affairs (Feb 2008),*Consultation on options for controls on phosphates in domestic laundry cleaning products in England*.

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327, 22.12.2000, p. 1–73.

Köhler, Jonathan, Dr.(2001),*Detergent phosphates and detergent ecotaxes: a policy assessment*, Department of Applied Economics University of Cambridge, UK.

Environmental Management and Law Association (2010),*Implementation of the Water Framework Directive, an overview of the Hungarian, Croatian, Serbian and Slovenian situation*.

ICPDR (International Commission for the Protection of the Danube River)(2012) *Interim Report on the Implementation of the Joint Program of Measures in the DRBD. Part A – Basin-wide overview*.

ICPDR (International Commission for the Protection of the Danube River) (2007),*Joint Action Programme. Final Implementation Report.*

Köhler, Jonathan (2006)*Detergent Phosphates: an EU Policy Assessment. Research Paper*. Faculty of Economics, University of Cambridge, Sidgwick Avenue, Cambridge. Institute of Business Administration. In: Journal of Business Chemistry Vol. 3, Issue 2 May 2006.

WRc plc (2006), *Recommendations for the Reduction of Phosphorus in Detergents. Final Report* (Project number 14092-0).

Kunikova, Emilia (March 2013) *Reducing nutrient pollution, challenges in agriculture. Background paper*, Workshop on the Joint Program of Measures, Water Research Institute Bratislava.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency (OJ L 396, 30.12.2006, p. 1).

Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents OJ L 104, 8.4.2004, p. 1–35.

Regulation (EU) No 259/2012 of the European Parliament and of the Council of 14 March 2012 amending Regulation (EC) No 648/2004 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents. OJ L 94, 30.3.2012, p. 16–21.

Littlejohn, Carla, Horth, Helen, WRc plc (2005),*Recommendations for the Reduction of Phosphorus in Detergents. Final Inception Report*(Project number 14092-0).

1. Eutrophication has been defined by Directive 91/271/EEC as: “the enrichment of water by nutrients especially compounds of nitrogen and phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms and the quality of the water concerned”. Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment, OJ L135, 30.5.1991, p. 40. [↑](#footnote-ref-2)
2. ICPDR (International Commission for the Protection of the Danube River) (2009), *Danube River Basin District Management Plan, Part A – Basin-wide overview*, p. 11. [↑](#footnote-ref-3)
3. COM (2007) 234 final. Report from the Commission to the Council and the European Parliament pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates. [↑](#footnote-ref-4)
4. ICPDR (International Commission for the Protection of the Danube River) (2009), *Danube River Basin District Management Plan, Part A – Basin-wide overview* p. 15. [↑](#footnote-ref-5)
5. ICPDR (International Commission for the Protection of the Danube River) (2012), *Interim Report on the Implementation of the Joint Program of Measures in the DRBD. Part A – Basin-wide overview.* [↑](#footnote-ref-6)
6. Kunikova, Emilia (March 2013), *Reducing nutrient pollution, challenges in agriculture. Background paper. Workshop on the Joint Program of Measures*, Water Research Institute, Bratislava, p. 10. [↑](#footnote-ref-7)
7. ICPDR (International Commission for the Protection of the Danube River) (2009), *Danube River Basin District Management Plan, Part A – Basin-wide overview*, p. 59. [↑](#footnote-ref-8)
8. Phosphate-Ban Scenario-Nutrients. [↑](#footnote-ref-9)
9. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1). [↑](#footnote-ref-10)
10. ANNEX Via point 1. of Regulation 259/2012, limitations on the content of phosphates and of other phosphorus compounds. [↑](#footnote-ref-11)
11. ANNEX Via point 2. of Regulation 259/2012, limitations on the content of phosphates and of other phosphorus compounds. [↑](#footnote-ref-12)
12. ANNEX 1 “Interim Report on the Implementation of the Joint Program of Measures in the DRBD”. p. 1-7. [↑](#footnote-ref-13)
13. <http://ec.europa.eu/environment/water/water-urbanwaste/> [↑](#footnote-ref-14)
14. <http://ec.europa.eu/environment/water/water-nitrates/> [↑](#footnote-ref-15)
15. <http://ec.europa.eu/environment/air/pollutants/stationary/ippc/index.htm> [↑](#footnote-ref-16)
16. Water Notes on the Implementation of the Water Framework Directive: Water Note 1 - Joining Forces for Europe's Shared Waters: Coordination in international river basin districts. European Commission (DG Environment). ISBN 978-92-79-09282-4. [↑](#footnote-ref-17)
17. Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration. OJ L372, 27.12.06.; Directive 2008/105/EC of the European Parliament and of the Council on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council. OJ L348, 24.12.2008.; Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources. OJ L375, 31.12.91.; Council Directive 91/271/EEC concerning urban waste-water treatment. OJ L135, 30.5.91.; Directive 2007/60/EC of the European Parliament and of the Council on the assessment and management of flood risks. OJ L288, 6.11.2007.; Communication from the Commission to the Council and the European Parliament, Addressing the challenge of water scarcity and droughts in the European Union. COM(2007)414, 18.07.07. [↑](#footnote-ref-18)
18. OJ L 215, 1.8.1998, p. 73. [↑](#footnote-ref-19)
19. OJ L 200, 30.7.1999, p. 1. Directive as last amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1). [↑](#footnote-ref-20)
20. OJ L 104, 8.4.2004, p. 1. [↑](#footnote-ref-21)
21. Madariaga, Barbara M. de, Ramos, M. José, Tarazona, José V., Dr. (2009),*Development of an European quantitative eutrophication risk assessment of polyphosphates in detergents model validation using the WFD intercalibration data, model re-calibration, and Pan-European assessment of the eutrophication risk associated to the use of phosphates in detergents. Green Planet Research Report*. [↑](#footnote-ref-22)
22. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency (OJ L 396, 30.12.2006, p. 1). [↑](#footnote-ref-23)
23. Regulation 259/2012. Preamble, paragraph (3). [↑](#footnote-ref-24)
24. Annex VIa to Regulation 259/2012. [↑](#footnote-ref-25)
25. David W. Litke: Review of Phosphorus Control Measures in the United States and Their Effects on Water Quality. U.S. GEOLOGICAL SURVEY Water-Resources Investigations Report 99–4007. Denver, Colorado 1999.; Dr. Jonathan Köhler: Detergent phosphates and detergent ecotaxes: a policy assessment. Department of Applied Economics University of Cambridge, UK. 2001.; WRc plc (Project number 14092-0) Authors: Carla Littlejohn, Helene Horth: Recommendations for the Reduction of Phosphorus In Detergents. Final Inception Report. WRc plc 2005. [↑](#footnote-ref-26)
26. Jonathan Köhler: Detergent Phosphates: an EU Policy Assessment. Research Paper. Faculty of Economics, University of Cambridge, Sidgwick Avenue, Cambridge. 2006 Institute of Business Administration. In: Journal of Business Chemistry Vol. 3, Issue 2 May 2006. [↑](#footnote-ref-27)
27. Regulatory (administrative or directive-based) instruments specify the obligations of the various actors and define how certain activities shall be conducted. [↑](#footnote-ref-28)
28. Market based, or economic instruments create positive or negative incentives for certain activities by adjusting the financial conditions of those activities. [↑](#footnote-ref-29)
29. Voluntary agreementsareusually agreements which are not the result of a political decision-making process, but mainly the outcome of negotiations between the respective partners and organizations. [↑](#footnote-ref-30)
30. The Joint Action Programme of the ICPDR outlined the specific steps that were agreed to be taken over the period 2001-2005 to achieve the environmental objectives outlined in the Danube River Protection Convention including many large-scale measures to reduce water pollution, to promote nature conservation, to restore ecosystems, and to safeguard the long-term sustainable management of the environment.<http://www.icpdr.org/main/activities-projects/joint-action-programme-jap> [↑](#footnote-ref-31)
31. With the participation of the detergent industry (AISE) and the ICPDR. [↑](#footnote-ref-32)
32. ICPDR (International Commission for the Protection of the Danube River) (2007), *Joint Action Programme. Final Implementation Report*. [↑](#footnote-ref-33)
33. WRc plc (2006), *Recommendations for the Reduction of Phosphorus in Detergents. Final Report*(Project number 14092-0), p. 8, p. 55. [↑](#footnote-ref-34)
34. COM(2007) 234 final, Report from the Commission to the Council and the European Parliament pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates. [↑](#footnote-ref-35)
35. <http://web.undp.org/gef/aboutus.shtml> [↑](#footnote-ref-36)
36. UNDP/GEF report at Danube River is available at: <http://www.undp-drp.org/drp/activities_1-8_detergents.html> [↑](#footnote-ref-37)
37. <http://www.icpdr.org/icpdr-pages/water_protection_declaration.htm> [↑](#footnote-ref-38)
38. Report from the Commission to the Council and the European Parliament Pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates. (COM/2007/0234 final ) [↑](#footnote-ref-39)
39. Regarding the timing of their impact, for the purposes of this study, the term‘short-term policy measures’ is used for measures which are to be realized within a timeframe of 1-2 years. [↑](#footnote-ref-40)