

Friends of Europe Les amis de l'Europe



# WATER SECURITY

## Does Europe have a strategy?



7 June 2007

*With the support of*

*Media partner*



**Europe's World**  
THE FIRST EUROPEAN MEDIA PARTNER



European  
Water Partnership

# The European Water Partnership

- Uniting European expertise
- Raising awareness about water
- Engaging with European institutions and coordinating access to knowledge and experts
- Active participation in European initiatives and projects, promoting European solutions
- Broadening of traditional water sector boundaries

The European Water Partnership is a European action-oriented open forum that unites all stakeholders to harness European innovative capacity, exchange views and stimulate partnerships to help address world water challenges.

Avenue de Tervuerenlaan 168, bte 15  
B-1150 Brussels, Belgium  
tel: +32 2 735 0681 fax: +32 2 735 0682  
e-mail: [info@ewp.eu](mailto:info@ewp.eu)

[www.ewp.eu](http://www.ewp.eu)

# **WATER SECURITY**

Does Europe have a strategy?

## **REPORT**

On the occasion of the European Policy Summit co-organised by *Friends of Europe* and the European Water Partnership (EWP)

With the support of the Water Supply and Sanitation Technology Platform (WSSTP), the Co-operative Programme on Water and Climate and Dow Europe

Media partner *Europe's World*

**Thursday, 7 June 2007**  
**Bibliothèque Solvay, Brussels**

The views expressed in this report are personal opinions and not necessarily the views of the organisations they represent, nor of *Friends of Europe*, its Board of Trustees, members or partners.

Reproduction in whole or in part is permitted, provided that full credit is given to *Friends of Europe*, and provided that any such reproduction, whether in whole or in part, is not sold unless incorporated in other works.

**Rapporteur:** James Dorsey  
**Photographer:** David Plas  
**Publisher:** Giles Merritt  
**Production Co-ordinator:** Sarah Collins  
**Project Manager:** Giovanni Colombo  
**Design and Production:** Brief-ink

# TABLE OF CONTENTS

<b>The conference programme</b> .....	9
<b>Foreword</b> .....	12
<b>Introduction</b> .....	13
Water: not a technical dossier, but a political issue .....	14
Can agriculture become more efficient? .....	16
The public vs private debate – where does water fit in?.....	17
Africa’s problem is Europe’s too.....	19
<b>Background report</b> .....	25
Executive summary .....	31
Setting the scene .....	34
EC policy tools .....	37
Issues and challenges .....	40
Quality versus quantity: a north-south debate.....	40
Water pricing: who pays?.....	41
Demand management: industries and agriculture.....	42
Climate change: how to adapt? .....	43
Energy and water .....	44
Water governance: putting European legislation into practice.....	46
Implementation: a difficult process .....	46
Political will.....	47
Funding and research .....	47
Getting Central and Eastern Europe back on their feet:	
Is public/private partnership working?.....	49
Can less-developed countries learn from Europe’s experience? .....	52
Combining infrastructure investments and sound management.....	52
Virtual water.....	54
Issues for discussion and debate.....	56
<b>List of participants</b> .....	21
<b>Some of our VIPs</b> .....	57



# THE CONFERENCE PROGRAMME

## Session 1: Managing Europe's water and climate challenges

Water management is becoming a major policy challenge throughout the EU as intensive domestic, industrial and agricultural water use – along with climate change – are making water supplies scarcer and more unpredictable. Water shortages and floods can be economically devastating, and long-term imbalances in water supply can seriously hamper Europe's economic growth. But are the policy solutions now being applied proving successful? Is the EU's Water Framework Directive enough to cope with the problems of today and tomorrow, or should it be seen as just the forerunner for a more ambitious strategy? Given the importance of water security in sectors as diverse as power generation, health and food production, how can stakeholders in government, business and civil society be reached out to and included in the water policy debate?

*Welcome address:*

**Giles Merritt**, Secretary General, *Friends of Europe*

*Introductory remarks:*

**Tom Vereijken**, Chairman, European Water Partnership (EWP)

*Speakers:*

**Fritz Holzwarth**, President of the International Commission for the Protection of the Rhine (ICPR) and Water Director at the German Ministry of Environment

**Grant Lawrence**, Director for Water, Chemicals and Cohesion, European Commission, Directorate General for the Environment

**Ingeborg Bromée**, Head of Unit, Environment, Committee of Professional Agricultural Organisations in the EU and General Confederation of Agricultural Co-operatives in the EU (COPA-COGECA)

**Riccardo Petrella**, International Committee Coordinator, World Water Contract

**Richard Seeber MEP**, Rapporteur, Directive on the Assessment and Management of Floods and Member of the European Parliament Committee on the Environment, Public Health and Food Safety

*Moderator:*

**Friedrich Barth** Vice-Chairman, European Water Partnership (EWP)

## Session 2: Investment opportunities in water

Estimates say that over 40 million people in Europe do not have easy access to clean drinking water, and 85 million do not have basic sanitation services. Water procurement, treatment and distribution need sophisticated infrastructures, and that in turn means substantial investment programmes that must start very soon. What resources are available to finance these long-term investments? Are public sector budgets the main option, or will the money come from higher water bills for end-users? How can public-private partnership help leverage the private sector activities and assets most effectively? And with primary water supplies around the world needing to increase by 22% by 2025, what funding models will be most appropriate for developing countries?

### *Speakers:*

**Jens Berggren**, Manager of the Water Integrity Network (WIN), Transparency International, Germany

**David Boys**, Member of the UN Secretary General's Advisory Board on Water and Sanitation and International Utilities Project Coordinator, Public Services International (PSI)

**Jürg Gerber**, Chief Operating Officer, World Business Council for Sustainable Development (WBCSD) and Senior Adviser for Global Projects, Alcan Inc

**Mark Lane**, Head of the Water Sector Group, Pinsent Masons, UK

**Brigita Schmögnerová**, Vice President, European Bank for Reconstruction and Development (EBRD)

### *Moderator:*

**Giles Merritt**, Secretary General, *Friends of Europe*





## Session 3: Enhancing water and energy security

European water solutions and policy thinking are making a growing impact worldwide. The EU and its Member States are not only by far the world's largest aid donors, but also do much to promote more efficient water governance. How should the EU further spread its own water-related experience and best practice among its neighbours and partners? Is water policy being adequately integrated into the EU's policies for addressing energy, climate change and other global environmental challenges?

### *Speakers:*

**Bertrand Charrier**, Vice President, Green Cross International

**Androulla Kaminara**, Director for Operations Quality Support, EuropeAid Co-operation Office, European Commission

**Sharon L. Nunes**, Vice President, Strategic Growth Initiatives, Big Green Innovations, IBM, USA

**Raymond van Ermen**, Executive Director, European Partners for the Environment (EPE)

**Gheorghe Constantin**, Director for Water Resources Management, Ministry of Environment and Sustainable Development, Romania

### *Moderator:*

**Johan Kuylenstierna**, Project Director, Stockholm International Water Institute (SIWI)



# FOREWORD



I am delighted to introduce the proceedings of this year's European Policy Summit on Water – “Water Security: Does Europe have a Strategy?” On 7 June, some 250 EU and national policymakers, NGOs and industry leaders gathered in the Bibliothèque Solvay in Brussels to discuss the challenges being created by climate change and inadequate water management. The strength of the response reflects strong interest from many parties and reinforces our determination to raise water further on the European political agenda. I would like to express my thanks to all the contributors and participants for the inspiring and high-level debates.

Europe will need to act on the water challenges, which can no longer be assimilated to arid regions of the world. Climate change, increasing floods, drought and water scarcity are just some of the threats to Europe scrutinised by European policymakers, NGOs, businesses and industry. To confront these threats, Europe needs an incisive, forward-looking water strategy. This will also provide an example to the rest of the world, which expects Europe to react collectively and constructively to one of the most pressing natural resource issues facing the world today.

This crisis cannot be addressed in isolation through investment, policies or technological innovation. Co-operation is needed by all stakeholders. This is the objective of the European Water Partnership, which brings together actors from all sectors: government, private, financial, research and NGOs, including those outside the traditional boundaries of the water sector. I am therefore delighted that we were able to welcome representatives of some leading organisations hitherto absent from these crucial debates on water.

At the summit, the European Water Partnership was proud to announce the creation of the Dolphin Group, an informal Issue Group on water within the European Parliament. In addition, the World Water Council announced that it has requested the EWP to co-ordinate European input to the next World Water Forum in Turkey in 2009.

These activities will further contribute to a new water awareness and the co-operation that is needed to address water challenges. If we really want to make a difference, we will have to establish Europe-wide, multi-stakeholder co-operation. The European Water Partnership welcomes your contribution to such co-operation and I look forward to meeting you to discuss ways in which we can work together.

**Tom Vereijken**

Chairman, European Water Partnership



## INTRODUCTION

Europe may as yet not have a fully fledged water security strategy, but it certainly has the building blocks to develop one that will fortify it against the threats to water posed by climate change. That was the tenure of a day of intense discussion between EU and national policymakers, NGOs and industry leaders gathered in Brussels for the European Policy Summit on the challenges being created by climate change and inadequate water management, which was co-organised by *Friends of Europe* and the European Water Partnership on 7 June.

The building blocks contained in far-reaching European Commission water legislation are of heightened importance as the problems of water and water security are poised to become the next major items on Europe's environmental agenda.

## Water: Not a technical dossier, but a political issue



David Grant Lawrence

“Water is no longer one of the EU’s technical dossiers but a very important political issue,” *Friends of Europe’s* Secretary General, Giles Merritt, tells the 250 participants at the opening of the one-day conference.

His words are echoed by the European Commission Water Director, **David Grant Lawrence**, who predicts that water, like climate change, is on its way to becoming a policy priority. “I have no fears about water’s place on the agenda. It will climb up the agenda. Look at climate change five years ago. Today, anybody dealing with climate change says, ‘Gosh, it’s all about water’,” Lawrence explains.

In his opening remarks to the conference, the European Water Partnership (EWP) Chairman, Tom Vereijken, emphasises his organisation’s key role in ensuring that stakeholders tackling water issues communicate with one another. “Different stakeholders are not talking to each other in trying to achieve results. We immediately have to change this approach. The EWP is able to facilitate and harness European capacities on water,” Vereijken says.

*“Water is no longer one of the EU’s technical dossiers but a very important political issue”*

*Giles Merritt*

Anticipating the mounting political importance likely to be attributed to water, the EWP announced during the conference the creation of the Dolphin Group, a water-focused intergroup in the European Parliament.



Gheorge Constantin

One dominant theme throughout the day-long deliberations was the need for more effective structures to address growing water shortages within Europe and beyond. The Commission’s seven-year-old Water Framework Directive (WFD), Europe’s most far-reaching water legislation to date, was upheld as a model for other parts of the world.

Romania’s Water Director, **Gheorge Constantin**, whose country is currently chairing the International Commission for the Protection of the Danube, acknowledges the impact of EU water policies even beyond its borders. He recalls how 18 countries (some close to EU membership at the time, some with a long way to go) that share the Danube basin got together shortly after the EU’s adoption of the WFD to embrace the principle of integrated water resource management and to cooperate in the river’s water management.

Focusing on developments within the EU, the Water Director at the German Ministry of Environment, **Fritz Holzwarth**, says Europe has the legislation to address both trans-boundary and national issues. “Implementation would identify gaps that might still exist,” he says.

Speakers agree that the solution to water scarcity in Europe will not be found in seeking to increase availability but will have to be sought in reducing consumption and fortifying the continent against the effects of climate change, such as floods and drought. Achieving greater water efficiency is primarily an issue of management, Holzwarth argues.



*Fritz Holzwarth*



*Pier Vellinga*

He warns against attempts to camouflage lack of management by creating what he calls “artificial” differences between northern and southern EU Member States or by blurring the lines between climate change and water issues. Southern EU members assert that their problems are not addressed in the WFP.

Referring to assertions that EU legislation is insufficient, Wageningen University Environmental Sciences and Global Change Professor, **Pier Vellinga**, says, “Europe does not need more climate directives but adaptation of the present ones.”

*“Europe does not need more climate directives but adaptation of the present ones”*

*Pier Vellinga*

## Can agriculture become more efficient?



*Ingeborg Bromée*

Agriculture, which accounts for some 70% of water consumption<sup>1</sup> in Europe, figures repeatedly in the discussions as a key area where consumption will have to be reduced – a principle endorsed by **Ingeborg Bromée** of the Committee of Professional Agricultural Organisations and the Confederation of Agricultural Co-operatives in the EU (COPA-COGECA).

“Using water wisely is a priority for European farmers,” she says. “Water-use efficiency in agriculture is improving yearly, and this is illustrated by the use of more efficient irrigation systems and new technologies like soil moisture sensors.”

While Bromée agrees that water management is the main geostrategic challenge of the 21st century, she nevertheless doubts the effectiveness of pricing, a key WFD principle, as a tool to fully handle demand management (due to price elasticity).

*“If consumers really understood the issues, the reduction of water usage would make tremendous progress”*

*Sharon L. Nunes*

Bromée acknowledges that “irrigation should be at the centre of attention”, but emphasises the contribution of agriculture to the prevention of soil erosion and fires, as well as Europe’s attractive and healthy landscapes, and the preservation of biodiversity.

“Adaptation is intrinsic to agriculture but it cannot change overnight,” Bromée concludes.

IBM Vice President for Strategic Growth Initiatives, **Sharon L. Nunes**, explains that the IT giant is exploring the deployment of sensors in irrigation that will enable farmers to make decisions on water use based on access to a localised weather forecast. “If consumers really understood the issues and impact of their decision, reduction of water usage would make tremendous progress,” Nunes says.



*Sharon L. Nunes*

<sup>1</sup> From the European Commission’s Directorate General for Environment, Second Interim report on water scarcity and droughts, May 2007, p.4: “Data available at EU level on water use help to identify the main sources of water abstraction and consumption. The data also gives an insight into geographical and sector differences. Aggregated EU data highlight the significant part of the energy sector in the overall abstractions (44% compared to 14% for agriculture, 18% for public water supply and 14% for industry), while consumption measurements show agriculture as the most demanding sector (69% compared to 13% for public water supply, 10% for industry and 8% for energy production).”

## The public vs private debate – where does water fit in?



Mark Lane

Opponents and proponents lined up on both sides of the argument concerning the role of the public and private sectors, and the concept of public-private partnership (PPP).

**Mark Lane**, Head of the Water Sector Group of British law firm Pinsent Masons, pleads for moving

beyond the ideological discussion and taking the best of the public and the private.



Brigita Schmögnerová

“The fact is that the market is so enormous that we can all work on it together.” He advocates shooting initially for “the lowest hanging fruit”, such as industrial water re-use, a task primarily for the private sector. At the same time, Lane notes that the public sector has the lowest cost of capital.

*“The fact is the market is so enormous that we can all work on it together”*

*Mark Lane*

The Vice President of the European Bank for Reconstruction and Development (EBRD), **Brigita Schmögnerová**, emphasises the principle of commercialisation, “to ensure that investments are efficient and appropriate and to bring about operational efficiency and fiscal discipline”.



Jürg Gerber

Speaking on behalf of the World Business Council for Sustainable Development, its Chief Operating Officer, **Jürg Gerber**, says business is prepared to pay a fair cost for water, but for that to happen water needs to be priced. Increasingly, business is looking at its water footprint in both the company’s own production cycle as well as the product’s life cycle, Gerber says. “Once management is convinced of its importance, it will think about it. Pricing forces management to do so.” Gerber also focuses on the importance of managing the water issues more and more within river basins rather than on national boundaries. He says that water availability and demand dimensions should

be managed within river basins in a manner which takes the needs of all stakeholders into account.

The International Committee Co-ordinator for the World Water Contract, **Riccardo Petrella**, says the principles enshrined in the WFD, such as full cost recovery, water to be treated as an economic good and subjection of public companies to competition, clearly indicate that the European Commission's agenda is the agenda advocated by the private sector.

"There is no difference between the EU strategy and the strategies of Veolia or Suez," Petrella says, of two major French water companies with international operations.

Public Services International representative, **David Boys**, takes the argument further, asserting that there is no history of private investment in water, especially for extending services to the poor, so private ownership and management may not bring more capital. But he does advocate a more responsible private sector. "The private sector's role should be limited to providing goods and services to publicly owned and managed systems, but this can be a very significant role in itself," he explains. The EBRD actually invests a lot in public municipal utilities, he adds.



*David Boys*



*Riccardo Petrella*



## Africa's problem is Europe's too

Europe's role in assisting African and other less-developed nations to tackle their water problems, particularly in the framework of the Millennium Development Goals (MDGs), is aimed at reducing the number of people without access to safe drinking water and sanitation by half by 2015.

"It is the duty of Europe to take a leading role in the water issue," acknowledges **Richard Seeber**, a member of the European Parliament's Committee on the Environment, Public Health and Food Safety, and rapporteur for the Directive on the Assessment and Management of Floods.



*Richard Seeber*



*Jens Berggren*

**Jens Berggren**, Manager of the Water Integrity Network (WIN), argues that less-developed countries are not so much confronting a water crisis but a crisis of governance, with corruption constituting a major obstacle to solving the problem. "The answer to the problem in the water sector is not just more money but how it is spent," Berggren says.

Noting that the EU and its Member States account for more than 50% of global development aid, **Androulla Kaminara**, the Operations Quality Director at the European Commission's EuropeAid Co-operation Office, says that in addition to governance, political and sector reforms are the key ingredients to a solution. Nonetheless, she is pessimistic about the international community's ability to achieve the MDGs on target. "We will not achieve the MDG for safe drinking water by 2015, but only by 2040, one generation later. Sanitation will only be achieved in 2075, three generations later," she explains.



*Androulla Kaminara*

In seeking to address problems beyond Europe, **Raymond van Ermen**, Executive Director of European Partners for the Environment, proposes to create an international structure to deal with the potential conflict stemming from water. This would involve:

- A European neighbourhood policy focused on the Mediterranean, Black and Caspian seas;
- The signing of a water and energy treaty;
- The creation of a European high commissioner for water;
- The creation of an international water court.



*Raymond van Ermen*

“We should explore new institutional mechanisms inspired by the founding fathers of the EU,” Van Ermen adds.



*Bertrand Charrier*

Green Cross Vice President, **Bertrand Charrier**, says that European countries have moral and ethical responsibilities to speed up the implementation of the MDGs in order to stop the deaths of millions and millions of people every year.

“More and more water conflicts, even water wars, are foreseen in the future between countries sharing the same trans-boundary rivers,” he states. Charrier estimates that the signature by EU Member States of the 1997 United Nations Convention on the Law of Non-Navigational Uses of International Watercourses could be an important step. Only seven of the EU’s 27 members have so far signed the Convention.

“It would be a very good sign for Europe and the world,” Charrier concludes.

*“More and more water conflicts, even water wars, are foreseen in the future between countries sharing the same trans-boundary rivers”*

*Bertrand Charrier*

# BACKGROUND REPORT

## WATER SECURITY

### Does Europe have a strategy?

A background report by James M. Dorsey  
June 2007

What follows is a background report published in advance of the European Policy Summit, **Water Security: Does Europe Have a Strategy?** The report draws on some 30 interviews conducted in April and May 2007 with European Commission officials, European parliamentarians, finance executives, business leaders, NGO representatives and academics.

## ABOUT THE AUTHOR

---

James M. Dorsey, a European Water Partnership advisory board member, is an award-winning foreign correspondent with great experience in Europe, North America, the Middle East, Africa and Latin America, covering ethnic and religious conflicts as well as water issues. Before establishing Quest Ltd, a company that runs a global network of 800 journalists, covering the financial and investment aspects of water, He served as a foreign correspondent for publications such as *The Wall Street Journal* and *The New York Times*, and worked in broadcast media, including NBC News, ABC News and Dutch and Belgian radio and television.

The views expressed in this report are the private views of the author and the interviewees, and are not necessarily those of the organisations they represent, nor of *Friends of Europe*, its Board of Trustees, its members or partners.

# EXECUTIVE SUMMARY

The European Commission's water policy has largely been embraced as a serious attempt to create the necessary institutional framework for dealing with water stress and other effects of climate change.

The Water Framework Directive (WFD) has established the principle of Integrated Water Resource Management (IWRM) as the operational basis for river basin<sup>2</sup> authorities, a basis that is being emulated in Africa and Asia. The directive forces Member States to focus on water quality and the ecological status of the continent's rivers and implement measures to reduce water consumption, create the resources for maintenance and upgrading of water infrastructure through the 'user pays' principle, and ensure that all stakeholders are consulted and given a voice.

Yet not all Member States, particularly those bordering on the Mediterranean, are convinced that it sufficiently addresses the problems that they confront, such as water scarcity and drought. Mediterranean Member States would like to see quantity issues more explicitly addressed in the Commission's seven-year-old WFD, its most substantive water legislation to date. Issues of water scarcity and drought, however, are likely to be addressed in a Communication by the Commission expected to be published in the summer of 2007. Moreover, vested interests lobbying for a better deal in what is a costly and painful undertaking complicate policy implementation. For agriculture, the sector which is effectively the continent's largest water consumer, there is much at stake. Mediterranean Member States facing the most acute water shortage problems need to take a tough look at their water consumption and develop more sustainable patterns in areas such as tourism.

While the 'user pays' principle has been widely accepted, distribution of cost remains an issue. Agriculture, for example, has yet to shoulder the full cost of its usage.

Overall, the Commission's major concern is not so much enhancement of its legislation but ensuring that it is properly implemented by Member States. In many states, the WFD has yet to be properly incorporated into national legislation. In addition, river basin authorities often have yet to properly meet the reporting requirements under the WFD, with regard to recovery of the costs of water services and identification of the most cost-effective measures. Reports submitted often fail to take into account pressures, impacts and assessments of risk to water quality and are compiled without seeking the input of stakeholders.

<sup>2</sup> The European Commission, in its Directive 2000/60/EC of 23 October 2000 establishing a framework for Community action in the field of water policy (Water Framework Directive) describes a river basin as: The area of land and sea, made up of one or more neighbouring river basins, together with their associated groundwaters and coastal waters, which is identified under Article 3(1) (of the water framework directive) as the main unit for management of river basins.

Nonetheless, there is broad consensus on steps that need to be taken, such as water storage and reduced consumption. Yet disagreement persists on how water should be stored, with environmentalists and non-governmental organisations opposed to dam construction and convinced that business and industry should shoulder a greater share of the burden.

Lagging implementation of EU legislation by Member States raises the question of whether Europe has the political will to do what is needed to confront water stress and the effects of climate change on water. Some critics fear that water stress in Europe will have to increase to generate the political will to seriously address the issue. This could mean that Europe will not be truly prepared to confront water stress and will be responding to crises on an ad hoc basis, rather than through a structured approach. This realisation is prompting traditionally conservative and technocratic water sector executives to adopt a sense of urgency and assert themselves politically.

Treating water as a part of various policies such as energy, competition and health is one factor that stymies political attention. One way of ensuring that water is attributed its due significance would be the establishment of a separate Directorate General for Water at the European Commission.

To compensate for Central and Eastern Europe's need to bridge the gap with older EU Member States in infrastructure and service levels, officials and business and finance executives are looking to public/private partnerships as a solution. New Member States have been spoiled by the EU's initial willingness to extend grants to help them bridge the gap. They now have to accept that they will need to co-finance restructuring of their water sectors through public budgets and repayment of loans extended by EU institutions to implement projects. Public/private partnerships are one vehicle to achieve that goal. For these partnerships to work, governments need to demonstrate political commitment, establish independent regulators, allow for realistic tariff levels, draft transparent tender procedures and provide realistic data.

European water policy is increasingly viewed as a model that could benefit less-developed countries. For these countries to benefit from this model, however, heavy investment in infrastructure and good management is a sine qua non. Improving access to drinking water and sanitation in less-developed countries is in Europe's interest in its bid to stem the tide of illegal immigration. It is also an issue that goes to the core of Europe's water footprint: a footprint substantially enlarged by Europe's importation of water embedded in the procurement of food and goods produced outside the EU. This is one area where the introduction of new technologies and production methods could deliver the greatest water savings. Transparency in the amount of water used to produce food and goods would help draw a realistic picture of the environmental costs of international trade. Yet, although Europe has a vested interest, it is not prepared for helping developing countries cope with the expected consequences of climate change.

# SETTING THE SCENE

Climate change is dominating Europe's political agenda. A growing consensus among European Commission officials, senior officials of national governments, businessmen and environmentalists agrees it poses threats to European water security. But the water community is struggling to focus political attention on the effects of climate change in an environment in which much of the discussion concentrates on energy.

The effect of climate change on water could result in increased demand for irrigation in agriculture, reduced hydropower potential, less available cooling water, health problems stemming from worsening water quality and economic downturn in water-related recreation, fishing and navigation.

Officials, executives and activists warn that Europe's water resources and water balance will be affected. For northern Europe that means increased annual rainfall and for southern Europe, less rain. Climate change is prompting glaciers to melt, sea levels to rise and hazardous weather to become a fact of life.

Already, warming in the Alps is twice the world average, precipitation is more often rain than snow and runoff patterns are changing. Germany's last mountain glacier, located atop the majestic Zugspitze in Bavaria, is melting away. The Zugspitze's ice, 80m thick in 1910, is only 45m thick today.

As a result, Europe is bracing itself for the fact that an increasing percentage of its population will experience water stress from climate change-induced water factors.

According to the European Environment Agency<sup>3</sup>:

- 20% of all surface water in the EU is seriously threatened with pollution;
- 60% of European cities overexploit their groundwater resources, which supply around 65% of all drinking water in Europe;
- 50% of wetlands have «endangered status» due to groundwater over-exploitation;
- The area of irrigated land in Southern Europe has increased by 20% since 1985.

Europe since 1998 has suffered more than 100 major floods which have caused extensive damage. Erosion and landslides are expected to increase as climate change prompts more winter floods and summer droughts.

A third of Europe's population lives within 50 kilometers of a coast where rising sea levels are likely to raise the level of salt water intrusion.

In 2003, large parts of Europe were hit by a prolonged heatwave, leaving some 35,000 people dead. The heatwave caused €10 billion in damages to the agriculture of central, southern and eastern European areas not covered by insurance. Shipping on the Rhine was heavily restricted and a large number of power plants worked at a reduced capacity<sup>4</sup>.

Still largely unnoticed, rates of groundwater recharge are changing. Studies in Great Britain predict a 5% to 15% reduction in recharge; in the Elbe catchment area the average decrease is expected to reach 22% by the year 2055.

The German Institute for Economic Research (DIW) predicts economic damages caused by global climate change of 137 billion by the year 2050 in Germany alone unless countermeasures are taken in good time. Without resolute measures, global losses in economic growth could increase to 20% of the global GDP by 2100. With proper policies in place, these losses can be limited to only 1% of global GDP<sup>5</sup>.

Floods and drought constitute not only an environmental hazard but also an apparent political divide in Europe. If floods and melting glaciers are the dominant issue in northern and central Europe, southern Europe is focused on water scarcity and drought.

Officials from various southern European nations charge that European policy formulated in the European Commission's seven-year-old Water Framework Directive primarily addresses issues relevant to the north, to the detriment of very real problems confronting the south. These problems, the officials say, are illustrated by Italy's May 2007 declaration of a state of emergency in northern and central regions because of fears of drought following unusually warm and dry weather. France, at about the same time, imposed water rationing in various regions, also due to fear of drought. In total, some 14 EU Member States with 100 million inhabitants in 26 river basin districts throughout Europe suffer from water scarcity.

Water scarcity and drought are likely to climb their way up the agenda as Portugal takes over the EU presidency during the second half of 2007 and as the European Commission issues a Communication on the issue.

---

"Regarding water scarcity and drought, the Framework Directive needs further improvements in terms of a more adequate priority to those items," says **Professor Viriato Soromenho-Marques**, a member of European Commission President José Manuel Barroso's Advisory Group on Energy and Climate Change.

---

<sup>4</sup> Speech by Mogens Peter Carl, Director General for Environment, European Commission, for the Symposium, Time to Adapt: Climate Change and the European Water Dimension - Vulnerability - Impacts - Adaptation, 12 - 14 February 2007, Berlin: <http://climate-water-adaptation-berlin2007.org/presentations.htm>

<sup>5</sup> Speech by Sigmar Gabriel, German Federal Minister, at the Symposium, Time to Adapt: Climate Change and the European Water Dimension - Vulnerability - Impacts - Adaptation, 12 - 14 February 2007, Berlin: [http://eu2007.de/en/News/Speeches\\_Interviews/February/0212U.html](http://eu2007.de/en/News/Speeches_Interviews/February/0212U.html)



# EC POLICY TOOLS

Adopted in 2000, the European Commission's Water Framework Directive governs the EU's water policy. It constitutes the most substantial piece of water legislation ever produced by the Commission aimed at achieving comprehensive water management across the European land mass.

The WFD aims to integrate water management based on river basin districts rather than administrative boundaries. Under the directive, Member States are obliged to prepare river basin management plans by 2009 as a way of providing a flexible and cost-effective instrument to address water-related issues.

The directive also states that all inland and coastal waters within defined river basin districts must achieve good ecological status by 2015, to be achieved through the establishment of environmental objectives and ecological targets for surface waters.

The directive introduces the 'user pays' principle, taking into account the costs and benefits of a fair water pricing policy.

The WFD further calls for wide and active public consultation in the development of water management plans.

It emphasises the need for international collaboration for trans-boundary river basins based on the principle of Integrated Water Resource Management (IWRM), which views different uses of water as interdependent.

As a result, water allocation and management decisions need to take into account the effect of one use of water on other uses.

The WFD requires river basin authorities to define what is meant by good ecological status by:

- Setting environmental quality objectives for surface and groundwater;
- Identifying characteristics of the river basin district, including the environmental impact of human activity;
- Assessing present water quality in the river basin district;
- Analysing significant water quality management issues;
- Identifying pollution control measures required to achieve environmental objectives;
- Implementing agreed control measures;
- Monitoring improvements in water quality;
- Revising water management plans accordingly to achieve the quality objectives.

Adopting a long-term perspective in assessing the impact of climate change and cost-effectiveness of water management strategies is key to the development of six-year river basin management plans, a crucial WFD pillar. To help river basin managers develop their plans and adapt to climate change, the Commission is developing a work programme that will include enhanced assessment methods to measure good ecological status. One such method is likely to be surveillance monitoring, which would provide information to assess long-term changes resulting from widespread anthropogenic activity. In addition, the Commission is preparing a Green Paper on Climate Change Adaptation, which would create an EU-wide legal framework that would include support for adaptation in EU funding programmes such as the Structural, Cohesion and Solidarity funds, the Agriculture and Rural Development funds, and LIFE, the Financial Instrument for the Environment.

The WFD is complemented by existing and proposed EU policy instruments, such as:

- the Directive on the Assessment and Management of Floods, addressing flood risks;
- the proposed Marine Strategy Directive that will provide a framework for developing marine strategies;
- the Maritime Policy Green Paper that recognises climate change as a major threat and discusses adaptation to changing coastal risks in Europe;
- the common fisheries policy;
- the initiative under development on drought and water scarcity.

The flood directive has garnered broadly based praise from both proponents and detractors of the Commission's water policy. It aims to reduce and manage risks that floods pose to human health, the environment, infrastructure and property. Under the directive, Member States will need to identify river basins and associated coastal areas at risk of flooding and draw up flood risk maps and flood risk management plans focused on prevention, protection and preparedness. The directive builds adaptation to climate change into the required six-year planning cycles.

---

"[The Flood Directive] is very good. It provides a way to manage, it includes both adaptation and mitigation," said **Pascal Berteaud**, Director for Water at the French Ministry of Ecology and Sustainable Development.

---

He believes it should serve as a model for future European water-related legislation.

The directive gives Member States the flexibility to adapt the policy to their specific situations while working together to ensure that measures in one country do not negatively affect other countries that share the river basin. It also gives Member States the scope to decide what level of protection they wish to afford their citizens, says Austrian MEP **Richard Seeber**.

By leaving Member States free to decide whether river basin authorities should be responsible for flood management or whether that responsibility should be lodged with a separate authority, critics say the Commission risks undermining its goal of developing an overarching, all-encompassing water policy.

---

"It's ridiculous to get out of the authority already charged. We finally have an overarching policy [with the WFD]. But even that is being diluted by creating new directives like the one on floods," says World Wildlife Fund (WWF) European freshwater policy officer **Sergey Moroz**.

---

To address southern Member States' concerns, the Commission is currently engaged in an in-depth assessment of the gaps in EU policy, which will include the effects of climate change. The assessment is expected to be published in the summer of 2007. This is likely to involve the conclusion that there is room for considerable improvement in the use of the existing EU instruments, particularly with regard to significant potential for water savings through reduced consumption in sectors contributing to structural imbalances.

# ISSUES AND CHALLENGES

## QUALITY VERSUS QUANTITY: A NORTH-SOUTH DEBATE

Critics of the Water Framework Directive, particularly in Mediterranean EU countries, charge that it focuses primarily on qualitative rather than quantitative issues, the latter being a source of water scarcity and drought in the south. The criticism is rejected by proponents of the WFD, who argue that southern European nations have yet to live up to the difficult choices the directive obliges them to make.

The critics say that addressing their concerns is made difficult, if not impossible, because of the European Union's most basic legal document, the 1957 Treaty of Rome, which stipulates that decisions on quantitative aspects of water need to be adopted unanimously by Member States – a tall order to meet, considering the very different interests of all 27 countries.

---

"The WFD does not recognise the problems of the south. The south's main problem is water quantity. We have no water in the summer," says **Pascal Berteaud**. "Water is either a European competence or it is not. Distinguishing between quantity and quality is absolutely stupid."

---

Berteaud argues that Europe needs a Water Management Framework rather than a Water Framework Directive. He adds that his arguments are regularly brushed aside by Commission officials as a ploy to ensure continued, uninterrupted irrigation.

"You can't explain to the public the importance of issues such as quality and good ecological status without addressing their main problems," Berteaud goes on. "There is a huge gap between the WFD and problems people face."

Berteaud is not alone in his criticism. **Richard Sturt** of the UK's Consumer Council for Water believes the Treaty of Rome is at the core of problems of finding necessary resources to confront water stress.

---

"Nobody wants to know about creating resources. Local municipalities in France, for example, let contractors provide services. There is no incentive to think more regionally and to put resources where they are needed, no duty to provide resources. It's high time the EU took another look at the Treaty of Rome," says **Richard Sturt** of the UK's Consumer Council for Water.

---

On the opposite side of the argument, the Water Director at the European Commission's Environment Directorate General, **David Grant Lawrence**, argues that the WFD does link quality and quantity issues by insisting that any abstraction of water must be authorised by a river basin authority. He sees southern European criticism of the WFD, at least in part, as an attempt to evade tough choices that governments have to confront, such as water pricing.

## WATER PRICING: WHO PAYS?

---

With the introduction of the 'user pays' principle, the European Commission hopes that the WFD will encourage efficient use of water by creating a level playing field, making water users think twice about how they use the precious resource and putting a stop to needless losses or waste. While the principle has been widely accepted, distribution of cost remains an issue. Agriculture, for example, has yet to shoulder the full cost of its usage.

Pressure from vested interests is meanwhile forcing the Commission to revisit the cost of implementing the WFD, an admittedly costly undertaking, according to David Grant Lawrence, who hints that the cost would be significantly less if Member States had properly implemented earlier EU water legislation dating from the 1990s. Lawrence points to his current hometown, Brussels, where wastewater is still largely untreated.

---

"Water companies are stirring up the discussion that the WFD is expensive. I don't understand it, they'll make money. They do not sufficiently take into account what has to be done for good ecological status," says **David Grant Lawrence** of the Commission's Directorate General for Environment.

---

Veolia also raises the issue of cost. Its concern focuses on the tariff of water and wastewater.

---

"The citizen and water consumer should not alone support the cost of the WFD," says Veolia's European Technical Director, **Jérôme Loyer**.

---

He argues that Member States often define too narrowly who the water users are, and this leads to an "undue financial burden" being put on urban consumers. The higher the cost of the WFD, the larger the risk for water operators, Loyer says.

A comparison of security of water supply between London and New York illustrates the effect of proper pricing, particularly if it involves individual metering, rather than a flat-rate policy.

The introduction of water meters in New York has significantly contributed to reductions in usage, as have leakage reduction programmes, the development of more efficient appliances and consumer awareness. Average usage has dropped from 787 litres per person to 515 litres, which has contributed to a secure water supply. It has also enabled the New York City Council to invest in enhanced water quality and infrastructure.

By contrast, London – where regulators have imposed a flat-rate system on Thames Water, the city’s private water operator – is suffering from insufficient water supply. Thames Water was forced in recent years to ask Londoners not to water their gardens. The flat-rate system gives users little reason to reduce consumption.

Thames predicts the water shortfall in London by 2030 to be 12% of current supply, but says metering would lead to water savings of 172 million litres a day. Overall, in OECD countries, moves from fixed tariffs to usage-based pricing have reduced per capita water usage by 11% over the last 27 years, according to a Thames Water executive.

France’s recently adopted new water law ensures that municipalities have the funds needed for water investments. French users pay for their usage as well as a tax on top of their bill. Municipalities and utilities are obliged to hold these funds in separate accounts for water use only.

---

“River basins in France are banks. They collect money and return it to the user’s basin. It’s a cycle within the river basin and they are getting richer and richer,” says **Jean Louis Olivier**, Secretary General of France’s Académie de L’Eau.

---

## DEMAND MANAGEMENT: INDUSTRIES AND AGRICULTURE

Much of the debate on demand management focuses on agriculture, which accounts for 70% of water use in the EU. Farmers are being urged to select crops that consume less water, especially in river basins where water is scarce. To achieve this, EU officials suggested removing incentives for irrigated crops. For their part, biotech companies are looking at ways to make major crops drought resistant by building stress relief into plants. Suez Environnement’s Institutional Relations Director, **Jacques Labre**, advocates developing formulas that would encourage farmers to entertain water-sharing strategies and enable them to shoulder the burdens by, for example, accepting flooding at times to protect sensitive urban areas. The proposals constitute a red flag for agriculturalists and their supporters.

---

“We have been irrigating in the south of France for the past 6,000 years,” says the

French government's **Berteaud**. "No irrigation, no agriculture. It is not possible to stop irrigation on a large scale."

---

Instead Berteaud argues for reduced water consumption where possible, water savings through pricing and use of new technologies and imposition of water management.

Berteaud's suggestions implicitly endorse analysis of the water market by advisory companies such as US-based WestWater Research, which blames inefficiencies on problems with water pricing.

---

Finance Corporation's agribusiness economist, **Richard Henry**, adds: "If you price it right, that will direct you towards uses of water that make economic sense and crops with higher value. So there are institutional and policy issues that are critical to the productive use of water in agriculture."

---

European Commission and WWF officials say southern nations need to ask themselves some difficult questions regarding demand management, which should lead to major changes, particularly in the tourism industry where alternatives to unsustainable activities are badly needed.

---

The questions these countries face are, according to the European Commission's **Grant Lawrence**: "Do you build more golf courses and swimming pools or do you irrigate agriculture?"

---

## CLIMATE CHANGE : HOW TO ADAPT?

---

While climate change has jumped to the top of the political agenda, not everyone accepts that it is the source of all water problems. Some industry executives point to increased agricultural use of water, stepped-up demand for biofuels and growing populations whose diets are evolving as major sources of water stress.

Government officials and industry executives nonetheless agree that Europe's need to adapt to global warming and climate change can in part be achieved through 'mitigation' measures, such as increased water storage, desalination and water transfer.

**Guy Leclerc**, PricewaterhouseCoopers' Paris-based Water Director, says little has changed over the past 20 centuries.

---

"You can't transfer water like energy or data. The Greek and Roman aqueducts are as

necessary today as they were then. I have no alternative to building dams but am happy to hear from different stakeholders. Underground storage may be less controversial but it is very expensive,” **Leclerc** explains.

The key to water storage – and to mitigation measures in general – is that it has to be ecologically feasible and economically reasonable. “In lots of cases, we believe that one can build dams or reservoirs and the best way would be for the beneficiaries to pay for the water,” says Pascal Berteaud. But while the WFD allows for increased storage capacity, including dams, governments encounter problems because NGOs in particular seek to interpret the directive as not endorsing new dam construction.

## ENERGY AND WATER

Forging closer ties between the European Union’s energy and water policies, which are currently handled by separate governances, is one key to effectively confront threats to the continent’s water security. Examples of why closer co-ordination is needed abound. Providing additional supplies of water to alleviate drought often involves more investment in energy-consuming projects, such as desalination plants and pumped-water transfer schemes. Improvements in water quality, needed to combat existing pollution, often require increased energy. Land management schemes for river basin protection and the use of land for water storage to alleviate flooding may have implications for greenhouse gas emissions<sup>6</sup>.

According to the US-based Alliance to Save Energy<sup>7</sup>, between 2% and 3% of the world’s energy consumption is used to pump and treat water for urban residents and industry. Energy consumption in most water systems worldwide could be reduced by at least 25% through cost-effective actions.

The question is how to link Europe’s energy and water policies so that they are both accorded the importance they require. The creation of a Directorate General for Water is one answer. That is to say: make water an independent policy rather than a sub-text to other policies such as environment, competition and health.

“That reflects my view. Environmental policy starts with water: If you don’t have it you can forget life,” says **Grant Lawrence**.

“Why shouldn’t these issues be part of an independent water policy?” asks **Robert Schroder** of the Dutch Association of Drinking Water Companies and Water Boards.

<sup>6</sup> European Environment Agency, Climate Change and Water Adaptation Issues, EEA Technical Report No. 2/2007.

<sup>7</sup> <http://www.watergy.org/>





# WATER GOVERNANCE: PUTTING EUROPEAN LEGISLATION INTO PRACTICE

## IMPLEMENTATION: A DIFFICULT PROCESS

Getting the best possible implementation of the WFD is a major concern for the European Commission. A report on the implementation of the Water Framework Directive last March<sup>8</sup> charged that Member States were not properly implementing the WFD. The statement said countries had failed to properly incorporate the directive in their national legislation and were lagging in making economic instruments part of their water management systems. It also asserted that implementation of the Commission's Urban Wastewater Treatment Directive, which requires Member States to build adequate treatment facilities for municipalities over a certain size, was not on target. The statement also said:

*“The Commission found that only 51% of all treatment plants in the European Union – before enlargement in 2004 – met the standards under that directive.”*

The statement followed an earlier World Wildlife Fund (WWF) survey which concluded that Member States were lagging in reporting required by the WFD on the proper recovery of the costs of water services and identification of the most cost-effective measures.

The WWF survey said a majority of river basin authorities have:

- Developed their economic analyses without taking into account pressures, impacts and assessments of risk;
- Produced economic analyses that often constitute little more than data-collection exercises;
- Created their economic analyses as desk-based data-gathering exercises without seeking the input of stakeholders.

Lagging implementation of the WFD has undermined efforts to achieve a continent-wide homogeneous implementation of the directive, the report said. It called on Member States to revise their economic analyses by 2008, apply “*a correct definition of water service and water use*”, integrate environmental and resource costs and include “*the incentive dimension of water pricing as key instruments for effectively reaching the environmental objectives of the WFD*”.

<sup>8</sup> Water Framework Directive Implementation Report 2007: [http://ec.europa.eu/environment/water/water-framework/implrep2007/index\\_en.htm](http://ec.europa.eu/environment/water/water-framework/implrep2007/index_en.htm)

## POLITICAL WILL

---

Water may still be the underdog in debates about climate change, which focus more often than not on energy. It raises questions about whether the European Commission and national governments have the political will to do what is necessary to ensure water security.

“The whole discussion is on climate change and energy. There is not much talk about water, the lack of political will is everywhere,” charges Water Supply and Sanitation Platform (WSSTP) board member **Peter Wilderer**.

French Académie de L’Eau’s Jean Louis Olivier attributes the absence of political will to successful lobbying by representatives of agricultural and industrial interests.

“Things will have to get worse before they get better,” Olivier concludes.

Europe’s lack of political will means, according to the critics, that it will be confronting future crises on an ad-hoc basis.

“We will have to adopt a firefighter’s approach when something happens such as water shortage, flooding or lack of snow in the Alps,” Wilderer says.

This realisation is prompting traditionally conservative and technocratic water sector executives to adopt a sense of urgency and assert themselves politically. The Dutch Association of Water Companies and Water Boards, for example, recently opted to establish a lobbying office in Brussels.

“We can no longer simply sit back and wait,” says Robert Schroder, the Association’s Brussels representative.

## FUNDING AND RESEARCH

---

Critics like WSSTP’s Wilderer assert that the lack of political will is reflected in what they view as meagre funding for necessary research. Wilderer notes that the European Commission had initially axed research funds for water but then allocated \$500 million over a period of seven years, approximately 25% of what he estimates is needed. In a bid to set the research agenda, WSSTP in October 2006 published a 67-page strategic action plan.

The WSSTP research strategy document asserts that to support radical and innovative solutions, phased research is necessary in natural sciences, engineering, governance, economics and social sciences. Its agenda envisions the most urgently needed advances being available by 2010 and medium-term objectives met by 2020. It proposes Integrated Water Resource Management (WRM)-based research that would adopt a systems approach and develop integrated solutions which address all major issues and relevant interfaces within the system in five areas:

- balancing demand and supply;
- ensuring appropriate quality and security;
- reducing negative environmental impacts;
- introducing novel approaches to the design, construction and operation of water infrastructure assets, including innovative and integrated concepts for water distribution and re-use;
- establishing an enabling framework.

---

“These recommendations mean that we propose to address the water re-use question more aggressively,” **Peter Wilderer** says. “Water re-use by municipalities and in agriculture is the only thing to do in case of a water shortage.”

---

Others, such as France’s Pascal Berteaud, argue that focusing research on what is relevant to water resource managers, rather than funding, is the issue.

Suez’s Environnement’s Jacques Labre suggests research should focus on the management of coastal areas affected by dropping sea levels, the reduction of the base flow of rivers in southern Europe during summer time and demand management, particularly in agriculture.

# GETTING CENTRAL AND EASTERN EUROPE BACK ON THEIR FEET: IS PUBLIC/PRIVATE PARTNERSHIP WORKING?

Officials of the European Bank for Reconstruction and Development (EBRD), the Organisation for Economic Cooperation and Development (OECD) and private sector executives see Armenia as a model for how public/private partnerships (PPPs) can work to alleviate water problems in Central and Eastern Europe, as well as other countries in transition.

With major privately-managed utilities covering some 65% of the population, Armenia, they say, is a success story that could be emulated.

---

"Armenia is a shining example. The country suffered war and earthquakes. Water was in a terrible state in the mid-1990s. The French went in with an upfront investment in infrastructure, they installed meters. Prices increased, consumption was reduced. There was full cost recovery and Armenia is now doing well," said **Lorents Lorentsen**, the OECD's Environment Director.

---

One key to Armenia's success is the fact that the government has, over the past 10 years, increased public spending on water on a yearly basis three to fourfold. Both the Armenian capital of Yerevan and Bucharest serve as showcases for proponents of PPPs.

Veolia introduced public/private partnerships in both Bucharest and Yerevan. Here the project started off as a management contract with a repayable \$18 million World Bank loan. The problem with management contracts is that they have a limited impact. They are short-term contracts that do not allow companies to deliver long-term planning and training.

Improving things like procurement can be achieved over a five-year period, but long-term investments and training a new generation of managers cannot.

This is why companies are keen to change the management contract into a public/private partnership; a company can commit to invest and take the responsibility for repaying international donors.

In Yerevan, Veolia implemented restructuring to which the municipality agreed, but which the municipality could not do itself for political reasons. Staffing of the city's water utility was reduced by more than half (from 5,000 to 2,000) in conjunction with a pre-agreed social plan included in the contract.

In Bucharest, despite investments of some €100 million over the past five years, water pricing remains in the middle range of the country's water price scale. According to Veolia's Jérôme Loyer, "Cost recovery is good. After one year, bad debt is no more than 3%." Bucharest's next step is the construction of a €300 million wastewater treatment plant in which Veolia, as the operator, will be responsible for water quality and collection of fees, which will be introduced as a special levy.

The municipality took a 16% share in the operating company, which has a cash equity of €35 million, and was assigned board seats. The EBRD provided €50 million in project finance for a stand-alone water plant, while local authorities are funding expansion of the network.

---

"We suffer from certain suspicions, but in fact public and private can coexist. Smart public funding can be combined with a public/private partnership when you have Chinese walls or earmark who does what. Some say we should cut our profits once the risk is behind us. That is a completely wrong attitude. We as companies carry good and bad risk. Who gives us a parachute if we are in a bad condition? The story of profit is a story of risk," **Loyer** adds.

---

For PPPs to work from a business's perspective, there are a number of prerequisites, according to a report submitted to an OECD ministerial conference by Severn Trent Water International's **Lloyd Martin**.

These prerequisites include:

- political commitment to PPPs at all levels of government;
- strong, independent utility regulation;
- realistic tariff levels for full cost recovery, at least in terms of operation and maintenance costs;
- hybrid funding arrangements so that capital investments can be financed from public budgets;
- transparent tender procedures;
- donor guarantees to ensure compensation for breaches of contract;
- realistic data on the actual situation or, when not available, acceptance of the need to re-evaluate the data after commencement of the contract.

With water a major focus of its funding activity, the EBRD, in promoting PPPs, is struggling to wean local authorities in Central and Eastern Europe off the expectation that funding will be in the form of grants, as they often have come to expect in the run-up to their EU accession.

---

“New Member States are not eager to accept municipal infrastructure loans because they get a lot of EU funding [in the form of grants]. We are more in favour of combining grants and loans to strengthen financial discipline and the use of funds,” says EBRD Vice President, **Brigita Schmögnerová**.

---

Schmögnerová says the ability of utilities and municipalities to repay loans from cash flows makes funding easier. The EBRD maintains a rule that water bills should not exceed 4% of household expenditure to ensure that all, including the poorest, retain access to water and sanitation and that authorities have schemes in place to assist the lowest-income households.

---

“Pricing in transition countries is often so low that even a doubling is within the 4% ceiling,” says **Craig Davies**, the Executive Secretary of the EBRD’s Project Preparation Committee.

---

Davies concedes, however, that a combination of grants and loans is often needed to ensure that pricing stays within the 4% limit.

# CAN LESS-DEVELOPED COUNTRIES LEARN FROM EUROPE'S EXPERIENCE?

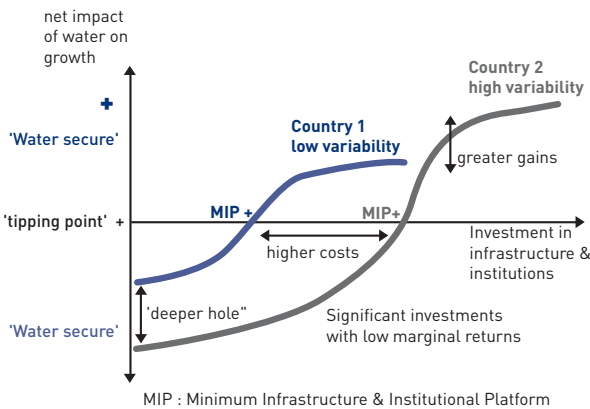
## COMBINING INFRASTRUCTURE INVESTMENTS AND SOUND MANAGEMENT

For developing countries to achieve water security, they need to create what the World Bank terms a 'minimum platform', the right combination of:

- Investments;
- Infrastructure;
- Sound institutional governance;
- Management.

This platform creates a point at which perceptions of water change from being a source of floods and other natural disasters to constituting a driver for economic growth.

### 'Water Security' & the 'Minimum Platform'



(Source: World Bank, *Water Security, Growth and Development, Media Background Paper, April 2005*)

Threat perceptions of water are fuelled by the fact that nature constitutes the biggest obstacle for many of the least-developed countries, which makes it tougher for these countries to create the minimum platform. Contrary to European nations, less-developed countries often cannot count on predictable rainfall and a relatively low risk



of serious flooding. This, in turn, complicates the investment proposition. The required investment is larger, the period for return on the investment is longer and early returns are lower than they were in the more developed European nations. All of this is, of course, complicated by global warming and climate change.

For Europe to effectively share its experience to the benefit of its less-developed neighbours, particularly on the eastern and southern shores of the Mediterranean, it will have to bridge the chicken-and-egg question: What comes first: infrastructure or sound management? Initial investment in less-developed countries is likely to emphasise infrastructure; without that, highly sophisticated management techniques make little sense. The gap to be bridged goes to the heart of differences between donors and recipients. Donors emphasise good management while recipients have a sometimes holy belief in infrastructure as the sole solution to their problems. In addition, rising living standards in developing nations bring greater environmental awareness. Designers will have to build the flexibility into their infrastructure projects to accommodate over time demands for greater environmental quality.

Europe, like the United States, has largely made the water infrastructure investments needed to secure a high level of water security and achieve economic growth. For its part, large swathes of the developing world are still locked into a vicious circle in which droughts lead to crop failure, flood defences are weak, growth is held back as industry suffers from the negative impacts of water and new investors are put off by the risks involved, which in turn means there is a lack of investment in water. In other words, if Europe and the developed world have shown how water security underpins economic growth, then less-developed countries have demonstrated how the lack of it stunts development. On the other hand, intermediate economies have made substantial investments, but achieved only limited progress – at times succeeding in flood prevention but unable to ensure secure water supplies. Developing local management expertise and the right policies to run water services efficiently has often proved too daunting a task<sup>9</sup>. This is one area where Europe's experience could well benefit less-developed nations.

The WFD's emphasis on a river basin approach and its concept of shared water management are areas where Europe is already serving as a model. **Martin Walshe** and **Andre Liebaert** of the European Commission's Development Directorate General note developments in the Niger, Volta, Mekong and Nile basins. "Europe has the image of dealing better with basins," Walshe says.

Yet, overall, European Commission Director General for Environment, **Mogens Peter Carl**, speaking at a conference in Berlin earlier this year, conceded that Europe and the international community are not prepared for helping developing countries to cope with the expected consequences of climate change.

---

<sup>9</sup> World Bank, *Water Security, Growth and Development*, Media Background Paper, April 2005.

---

“Climate change [in the developing world] will uproot tens of millions of people who will have to move to another location, perhaps to another country, and/or make the production and supply of food even more precarious, especially in Africa. And this in circumstances infinitely more difficult than those that we will be facing here in Europe. This will require a huge effort of organisation and solidarity for which the international community is simply not geared up,” **Mogens Peter Carl** said.

---

Officials of EU member governments and NGO spokespersons say, however, that a lack of political will is impacting Europe’s interest in assisting developing countries to ensure that their populations have access to safe drinking water and sanitation, even though Europe is the world’s single largest water donor. They point to the fact that the Commission’s Water Facility of 500 million is a one-off rather than a revolving initiative, as well as their assessment that water does not figure high on the Commission’s political agenda.

The European Commission’s Water Facility chief, **Wiepke van der Groot**, and other water facility officials note, however, that there are calls to continue the funding beyond its current one-off round.

---

A Commission official explains Europe’s focus on the energy rather than the water aspects of climate change by noting that, “Climate change is about energy, not water. We don’t need water from Africa, we need energy from Africa.”

---

Describing his colleague’s view that Europe is more interested in African energy than water as “very personal”, the Commission’s Grant Lawrence says that beyond Europe’s commitment to the Millennium Development Goals, Europe also has a vested interest in improving access to water and sanitation in Africa as part of its bid to stem the tide of illegal immigration from the continent.

## VIRTUAL WATER

---

The cynical view that Europe has little, if any, vested interest in water in developing countries may also be less true than meets the eye, given that water consumption for drinking and sanitation is but a fraction of the water that is consumed in Europe in food and goods. Waterwise, a British government-funded watchdog, estimates that 70% of the water consumed in the United Kingdom is imported in food, textiles, computers and cars as ‘virtual water’. Cultivation of one tomato involves 13 litres of water, an apple 70 litres, a cup of coffee 140 litres, a pair of jeans 1,100 litres, a hamburger a stunning 2,400 litres and a car a whopping 400,000 litres. The result of this trade in ‘embedded water’ is that countries with a water shortage are exporting water in various goods to countries that suffer a far lower shortage.

Activists suggest that transparency in the amount of water used to produce food and goods would help draw a realistic picture of the environmental costs of international trade. That view is shared by investors with a focus on sustainability. A study by Generation Investment Management, an asset management company with offices in London and Washington, concluded that embedded water, rather than water consumption in non-agricultural sectors, was where the most material gains could be achieved. “*Best practice corporate frameworks treat water as a resource that must be managed efficiently and transparently,*” the study says.

Reducing embedded water footprints by introducing more environmentally sound technologies is increasingly becoming a business focus. Nestlé employs agricultural experts across the globe to monitor water conditions in its supply chain, introduce new technologies and share best practices with farmers.

Business is also developing savings mechanisms for far more direct use of water. Britain’s BAA Stansted Airport has introduced waterless urinals with the aid of the National Industrial Symbiosis Programme (NISP), a two-year-old British organisation that helps companies find value in under-used resources. Since its inception, NISP says it has helped its members reduce their industrial use of potable water by over 2.1 million tonnes, the equivalent of 950 Olympic-sized swimming pools or 9.2 million household baths.

---

“There is much potential to be gained by businesses who manage their water efficiently, particularly through water re-usage,” says NISP Director **Peter Laybourn**.

---

# ISSUES FOR DISCUSSION AND DEBATE

This report doesn't set out to answer the question of whether Europe has a water security strategy. Instead, it seeks to clarify the issues that need to be addressed by policymakers.

The questions that need to be tackled, if the gaps in Europe's water strategy are to be filled, are as follows:

- Are Europe's responses to climate change taking the water issue into account? Is water a sufficiently major concern in EU energy policies now being developed, especially when it comes to security of supply and environmental sustainability? How can an increase in biofuel production be reconciled with water demand management strategies?
- North vs South = Quality vs Quantity? If the EU's Mediterranean states feel that water scarcity issues is not fully being addressed, what new instruments does the EU need? Can the pricing policies envisaged by the WFD contribute to more sustainable demand management solutions in water-scarce countries? How can the burden of keeping water clean and reducing water consumption be better shared among stakeholders?
- Public - Private: Industry executives say that public and private money can co-exist, but are the 'Chinese walls' tall enough in transition countries to ensure that economic efficiency and shareholders' interests can be reconciled with consumers' needs? If Europe's infrastructure needs to be upgraded to cope with the challenges of water scarcity and pollution, what governance and management formulas might deliver the best synergies between public and private sectors?

# LIST OF PARTICIPANTS

**Albena Aarnaudova**, Communication Adviser, United Nations World Health Organisation (WHO)

**Gabriel Amankwah**, First Secretary, Embassy of Ghana to Belgium

**Veronika Andrejsova**, Advisor, Water Protection, Ministry of Environment, Czech Republic  
**Vassiliki Avgoustidi**, Associate Lawyer, Gide Loyrette Nouel

**Panagiotis Balabanis**, Research Programme Officer, Environmental Technologies and Pollution Prevention, European Commission Directorate General for Research

**Giulia Baldoni**, Consulmare Sviluppo Bruxelles  
**Duncan Barclay**, Director, Subsea Infrastructure

**Friedrich Barth**, Vice-Chairman, European Water Partnership (EWP)

**Jens Berggren**, Programme Manager of the Water Integrity Network (WIN), Transparency International

**Agnes Biesiekierska**, European Water Partnership (EWP)

**Steve Bloomfield**, Head of Utilities, UNISON

**Berend Boer**, Senior Project Officer, International Institute for Geo-Information Science and Earth Observation (ITC)

**Elizabeth Bogosian**, Counsellor, Mission of Uruguay to the EU

**Charles Boisvert**, Attaché, Affaires Européennes, Délégation Générale du Québec

**Rachel Bonfante**, EU Affairs Manager, Norsk Hydro EU Office

**Sandra Borst**, European Water Partnership (EWP)

**Larbi Bouguerra**, Water Mobilizing Programme, Fondation Charles Leopold Mayer pour le progrès de l'homme (FPH)

**David Boys**, International Utilities Project Coordinator, Public Services International (PSI)

**Susana Braz**, Account Director, GPlus Europe

**Ingeborg Bromée**, Head of Unit Environment, General Committee of Agricultural Cooperation of the EU (COPA-COGECA)

**Paul Buijs**, Director, Global Membrains

**Maxime Bureau**, Counsel, European Affairs, General Electric International (GE)

**Casper Burgering**, Sector Analyst, ABN AMRO Bank

**Geert Cami**, Director & Deputy Secretary General, *Friends of Europe*

**Elena Camilletti**, Policy Officer, Regione Emilia-Romagna

**Mila Campanini**, Officer, Regione Lombardia

**Zoë Casey**, Brussels Correspondent, Agra Europe

**Miguel Castroviejo Bolibar**, Counsellor, Environment, Permanent Representation of Spain to the EU

**Mario Catizzone**, Senior Scientific Officer, Policy Aspects of Research and Sustainable Development, European Commission Directorate General for Research

**Bertrand Charrier**, Vice President, Green Cross International

**Theodoros Chartomatsidis**, Region of East Macedonia and Thrace

**Maria Chen Su**, Minister Counsellor, Embassy of Panama to Belgium

**Alberto Chitarin**, Commercial Manager, Passavat Impianti

**Torkil Jonch Clausen**, Managing Director, DHI Water Policy

**Jon Coniam**, Manager, British Energy

**Gheorghe Constantin**, Director for Water Resources Management, Ministry of Environment and Sustainable Development, Romania

**Stephanie Croguennec**, Project Officer, Protection of Water and Marine Environment, European Commission Directorate General for Environment

**Patrice Cros**, Managing Director, Premier Cercle

**Ruth Davies**, Vice Chair, Water & Environment Group Executive, UNISON

**Willy De Backer**, Director, 3eintelligence

**Eléonore De Bellefroid**, Partnerships Manager, GreenFacts

**Amélie de Bien**, Stakeholders Communications, Vinyl 2010

**Dominique de Crayencour**, Director, Brussels Office, European Investment Bank (EIB)

**Dominique de Halleux**, Manager for Activated Carbons Producers Association (ACPA), European Chemical Industry Council (CEFIC)

**Charles de Maud'Huy**, Advisor to the Chairman, Veolia Water

**Cédric De Meeus**, Group Deputy Representative with the EU Institutions, Veolia Environnement

**Hanne Degans**, Head of Office, Flemish Environment Agency (VMM)

**Bob Dekker**, Water Director, Ministry of Transport, Public Works and Water Management, The Netherlands

**Freddy Dekkers**, European Water Partnership (EWP)

**Rossella Della Monica**, Project Officer for Cooperation in the Field, Solidar

**Vincent Detemmerman**, Director, European & International Affairs, Confédération Construction

**Joachim D'Eugenio**, Temporary Official, Water, the Marine and Soil Unit, European Commission Directorate General for Environment

**Giulia Di Tommaso**, Director, Legal Policy and International Relations, Unilever European External Affairs

**Saskia Dirkzwager-De Rijk**, Case Handler, European Commission Directorate General for Competition

**James Dorsey**, Chief Executive Officer, Quest

**Benigne Du Parc**, Network Representative, PlaNet Finance

**Lenie Dwarshuis**, Member of the Executive Board, Provincie Zuid-Holland

**David Dwek**, Director, Subsea Infrastructure  
**Bianca Dykshoorn**, Information & Communication Officer, Netherlands Water Partnership (NWP)  
**Anne Eckstein**, Journalist, Environment, Europolitics  
**Abel Esteban**, Campaigner, Corporate Europe Observatory  
**Sonia Estevan**, Assistant, Office of the Regional Government of Aragon to the EU  
**Cristina Falcão de Campos**, Counsellor, Environment, Permanent Representation of Portugal to the EU  
**Roberto Farina**, Researcher, Ente per le Nuove Tecnologie l'Energie e l'Ambiente (ENEA)  
**Jane Fulbrook**, Third Secretary, Embassy of the United Kingdom to Belgium  
**Giovanni Furgivele**, Manager, Ente per le Nuove Tecnologie l'Energie e l'Ambiente (ENEA)  
**Nathalie Furrer**, Director, *Friends of Europe*  
**Emilio Gabbrielli**, Executive Secretary, Global Water Partnership (GWP)  
**Robert Gakobia**, Director, Ministry of Water & Irrigation, Kenya  
**Lorenzo Galbiati**, Head of Unit, Implementation of the WFD, Catalan Water Agency  
**Yann Gall**, Political Affairs Officer, Europe Near East Forum  
**Peter Gammeltoft**, Head of Unit, Protection of Water and Marine Environment, European Commission Directorate General for Environment  
**Deyi Gao**, Counsellor, Mission of China to the EU  
**Alexander Gee**, Case Handler, Energy & Water, European Commission Directorate General for Competition  
**Jürg Gerber**, Chief Operating Officer, World Business Council for Sustainable Development (WBCSD)  
**Caterina Geremei**, Consultant, Fleishman-Hillard  
**Catherine Gernay**, Managing Director, Centre d'Etude de l'Energie Nucléaire (CEN-SCK)  
**Christoph Gleitsmann**, Water & Sanitation Sector Specialist, European Investment Bank (EIB)  
**Federico González**, Responsible Agriculture and Fisheries, Centre Balears Europa  
**Ibrahim Gurer**, Professor, Faculty of Engineering & Architecture Department of Civil Engineering  
**Ibrahim Gurrer**, Professor, Gazi University  
**Durk Haarsma**, Publisher, Reed Business  
**Ina Hallmann**, Assistant to Horst Schnellhardt MEP, European Parliament  
**Anna Hasemann**, Assistant to Hans Gert Pöttering MEP, European Parliament  
**Andrea Heenes**, Environment Adviser, Representation of Bavaria to the EU  
**Javad Heidari**, Counsellor, Embassy of Iran to Belgium  
**Rob Heim**, Managing Director, Paques  
**Jacques Hellas**, Inspector Général, Société Wallonie des Eaux  
**Johan Holmberg**, Consultant, Stockholm International Water Institute (SIWI)  
**Fritz Holzwarth**, Deputy Director General, Directorate for Water Management, Ministry of Environment, Nature Conservation and Nuclear Safety, Germany

**Chantal Houdet**, Director European Affairs, Délégation Générale du Québec  
**Abigail Howells**, Policy Officer, Climate Change Strategy and International Negotiation, Monitoring of EU Action, European Commission Directorate General for Environment  
**Adriana Hulsmann**, Principal Scientific Officer, Kiwa Water Research, The Netherlands  
**Jan Huysmans**, Director, Merifin Capital  
**Pal Jacob Jacobsen**, Director, One Market  
**Albert Jansen**, Business Developer for Separation Technology, TNO Institute of Environment, Energy and Process Innovation  
**Katarina Jastrzemska**, Assistant to Zita Plestinska MEP, European Parliament  
**Kai Kaatra**, Director, Water Resources Management, Ministry of Agriculture and Forestry, Finland  
**Androulla Kaminara**, Director, Operations Quality Support, European Commission EuropeAid Cooperation Office  
**Stephen Katenta-Apuli**, Ambassador, Mission of Uganda to the EU  
**Takekazu Kawamura**, Ambassador, Mission of Japan to the EU  
**Birgül Kaya**, Turkish Industrialists' and Businessmen's Association (TUSIAD)  
**Gaim Kebreab**, Senior Advisor Water Sanitation, Norwegian Church Aid  
**John Kidd**, Chair, Water & Environment Policy Committee, UNISON  
**Inga Klawitter**, Assistant to the Secretary General, European Council of Young Farmers (CEJA)  
**Roel Pierre Klein**, Director, Project & Sales, DHV Water  
**Thomas Kluge**, Director, Institute for Social Ecological Research (ISOE)  
**Snezana Knezevic**, Counsellor, Mission of Serbia to the EU  
**Milos Koterec**, Member, European Parliament Committee on Regional Development  
**Antonio Kralovic**, First Counsellor, Mission of the Republic of Montenegro to the EU  
**Durk Krol**, Deputy Secretary General, European Union of National Associations of Water Suppliers and Waste Water (EUREAU)  
**Dagmar Kubinova**, Second Secretary, Development and Humanitarian Issues, Permanent Representation of the Czech Republic to the EU  
**Katarzyna Kuske**, Administrator, Sustainable Development, Climate Change and Competitiveness, European Commission Directorate General for Enterprise and Industry  
**Johan Kuylenstierna**, Project Director, World Water Week, Stockholm International Water Institute (SIWI)  
**Stef Lambrecht**, General Coordination, Protos  
**Mark Lane**, Head of the Water Sector Group, Pinstent Masons  
**Grant Lawrence**, Director, Water, Chemicals and Cohesion, European Commission Directorate General for Environment  
**Guy Leclerc**, Directeur Eau et Grands Projets, PricewaterhouseCoopers  
**Barbara Lempp**, Manager, European Affairs, RWE

**Jan Willem Lenders**, Deutscher Bauernverband  
**Aude Lenders**, Project Coordinator, Green Buildings, Institut Bruxelloise pour la Gestion de l'Environnement (IBGE)

**Andre Liebaert**, Water Policy Adviser, European Commission Directorate General for Development

**Marie-Noëlle Lienemann**, Member, European Parliament Committee on Environment, Public Health and Food Safety

**Elisabeth Lipiatou**, Head of Unit, Environment and Climate System, European Commission Directorate General for Research

**Margarida Llabres**, Environment Assistant, Government of Balearic Islands

**Elena Lopez-Gunn**, Alcoa Research Fellow, London School of Economics

**Flavia Loures**, Programme Manager, World Wide Fund for Nature (WWF) USA

**Anne Maibaum**, Account Executive, GPlus Europe

**Jean-Marie Marcoen**, Président, Région Wallonne Commission Consultative de l'Eau

**Ines Marin-Moreno**, European Policy Assistant, UK Nature and Landscape Office

**Lucie Marmen**, Second Director European Affairs, Délégation Générale du Québec

**Esther Martin**, Research Officer, German Office for Foreign Trade (BFAI)

**Steve McGiffen**, European Parliament

**Liz McVeigh**, Business Delivery Manager, Natural Resources International

**Rowley Merricks**, Rise Foundation Assistant, European Landowners' Organisation (ELO)

**Giles Merritt**, Secretary General, *Friends of Europe*

**Eduardo Mestre**, Director, Expo Zaragoza 2008

**Susane Michaelis**, Associate Programme Director, Science for Peace, North Atlantic Treaty Organisation (NATO)

**Slavica Milacic**, Ambassador, Mission of the Republic of Montenegro to the EU

**Sophie Miller**, Project Officer, Quaker Council for European Affairs

**Nina Möhrle**, German Association of Chemical Industries (VCI)

**Adelmo Moreale**, Deputy Head of Unit, Environment, GMO and Genetic Resources, European Commission Directorate General for Agriculture and Rural Development

**Marta Moren Abat**, Research Programme Officer, Climate Change and Environmental Risks, European Commission Directorate General for Research

**Ruc Morin**, Second Secretary, Embassy of the Republic of Mauritius to Belgium

**Sergey Moroz**, Policy Officer, World Wide Fund for Nature (WWF) European Policy Office

**John Morse**, Director, Business Development, Lockheed Martin MS2 Radar Systems

**Timothy Moss**, Head of Department, Environment, Leibniz-Institut für Regionalentwicklung und Strukturplanung (IRS)

**Florence Mourey**, European Affairs Manager, Suez

**Ikaros Moushoultas**, Administrator, Policy Planning & Early Warning Unit, Council of the European Union Directorate General for External and Politico-Military Affairs

**Cornelia Nauen**, Policy Officer, Relations with Latin America, European Commission Directorate General for Research

**David Neil Gallacher**, Secretary General, Aqua Europa

**Lena Nielsen**, Project Manager, European Commission EuropeAid Cooperation Office

**Sharon Nunes**, Vice President, Strategic Growth Initiatives, Big Green Innovation, IBM USA

**Paul Ockier**, Technology Manager, Network of Waste Water Treatment Companies in Flanders (TNAV)

**José Pascual**, Presidente, Sindicato de Riegos de Castellón

**Thomas Patello**, Manager Integral Weather & Environmental Systems, Lockheed Martin

**Catherine Pedersen Schimer**, Fresh Water Assistant, World Wide Fund for Nature (WWF) European Policy Office

**Pekka Pesonen**, Secretary General, General Committee of Agricultural Cooperation of the EU (COPA-COGECA)

**Riccardo Petrella**, International Committee Coordinator, World Water Contract

**Peter Pex**, Senior Policy Advisor, European Affairs, Association of Dutch Water Companies (VEWIN)

**Helen Pilkington**, European Water Partnership (EWP)

**Filipa Pimentel**, Administrator, Agriculture, Rural Development and Environment, European Economic and Social Committee (EESC)

**Mathieu Pinkers**, Executive Director, International Water Policy, Ministry of Agriculture, Nature Conservation and Fisheries, The Netherlands

**Marcel Pirard**, Political Analyst, Delegation of Gulf Cooperation Council (GCC)

**David Plas**, Photographer

**Lionel Platteau**, Executive Director, European Water Partnership (EWP)

**Liviu Nicolae Popescu**, President, Global Water Partnership (GWP) Romania

**Alicia Portillo**, Policy Officer, Delegacion de la Junta de Andalucía en Bruselas

**Nathalie Puyal**, Environment Adviser, Electricité de France (EDF)

**Sanne Romer Radoor**, Assistant, Danish Agricultural Council

**Riikka Raitimo**, Director, Representation of East Finland to the EU

**Britt Rasmussen**, United Nations Food and Agriculture Organisation (FAO)

**Kristi Redick**, Communications Representative, Dow Chemicals Europe

**Eberhard Rhein**, Honorary Trustee, *Friends of Europe*

**Harro Riedstra**, European Water Partnership (EWP)

**Mario Rindone**, Assistant, Confederazione Nazionale Coldiretti

**Juan Antonio Riviere y Marti**, Adviser, Consumer Policy, European Commission Directorate General for Competition

**Jo Rogiest**, Chairman, Thesaurus Services

**Eberhard Röhm-Malcotti**, Brussels Representative, Federal Association of the German Gas & Water Industry (BGW)

**Patrick Roskam**, General Manager, Nyloplast Europe

**Virginie Rouas**, United Nations Environment Programme (UNEP)

**Jennifer Rousselle**, Chargée de Mission, Bureau Européen de l'Agriculture Française

**Gilbert Rukschcio**, Consultant, Pleon Public Affairs, Brussels

**Ingrid Rydberg**, Assistant Director, Federation of Swedish Farmers

**Martin Saeckl**, Partner, European Affairs Consulting Group (EACON)

**Amadou Sagnon**, Economic Counsellor, Embassy of Burkina Faso to Belgium

**Carme Sala Sansa**, Ambassador, Mission of Andorra to the EU

**Franck Sanfilippo**, Head of Hydraulic Planing Development, Société du Canal de Provence

**Allison Saunders**, First Secretary, Fisheries & Environment, Mission of Canada to the EU

**Peter Schallert**, Advisor, German Hard Coal Mining Association (GVST)

**Sander Scheurwater**, Public Policy Officer, Royal Institution of Chartered Surveyors (RICS)

**Djeevan Schiferli**, Business Development Executive 'Climate & Energy', IBM Nederland

**Johannes Schilling**, European Environment Agency (EEA)

**Brigita Schmögnerová**, Vice President, European Bank for Reconstruction and Development (EBRD)

**Robert Schröder**, Senior Policy Advisor, European Affairs, Association of Dutch Water Companies (VEWIN)

**Lydia Schulz**, Legal Adviser, German Electricity Association (VDEW)

**Michael Sebanz**, Environment Attaché, Permanent Representation of Austria to the EU

**Richard Seiber**, Member, European Parliament Committee on Environment, Public Health and Food Safety

**Ercan Sendil**, Counsellor for Economic Affairs, Mission of Turkey to the EU

**Ulrich Simon**, Camera, High Media

**Ludger Sonntag**, Project Manager, Trüf Institute für Abwassertechnik

**Tom Soo**, Project Manager, Association Verseau Developpement

**Julie Sors**, Assistant to Policy Officers on European Technology Platforms, European Commission Directorate General for Research

**Mark Stalmans**, External Relations Manager, Procter & Gamble

**George Stalter**, Technical Coordinator, Water & Waste, Oil Companies European Organisation for Environment, Health and Safety (CONCAWE) Dinos Stasinopoulos

**Valentin Stoica**, Executive Director, Lockheed Martin Global

**Gaetane Suzenet**, Head of Brussels Office, Water UK

**Lorena Sverko**, Head of Office, Representation of the Region of Istria

**Elisa Tachis**, Project Manager, Chamber of Commerce, Florence

**Parsia Tayebi**, European Water Partnership (EWP)  
**Marco Torregrossa**, Executive Assistant, European Partners for the Environment (EPE)

**Konstantin Trofimov**, Deputy Permanent Representative, Mission of the Russian Federation to the EU

**Selen Turung**, Assistant, Corporate and Public Strategy Advisory Group (CPS)

**Jeroen van der Sommen**, Managing Director, Netherlands Water Partnership (NWP)

**Raymond van Ermen**, Executive Director, European Partners for the Environment (EPE)

**Paul Van Hofwegen**, Programme Director, World Water Council

**Mariëke van Nood**, Policy Officer, European Commission Directorate General for Environment

**Henk van Schaik**, Programme Co-ordinator, Co-operative Programme on Water and Climate (CPWC)

**Marleen van Steertegeem**, Director, Flemish Environment Agency (VMM)

**Olivier van Stratum**, Consultant, OVS Consult

**Thomas van Waeyenberge**, Director, Aquafed

**Lucia Ana Varga**, Secretary of State, Ministry of Environment and Sustainable Development, Romania

**Arjan Veering**, Journalist, Water Forum Online

**Yalcın Vehit**, Representative, Turkish Cypriot Representation

**Luis Veiga da Cunha**, Professor, Universidade Nova de Lisboa

**Pier Vellinga**, Professor in Environmental Sciences and Global Change, Wageningen University

**Igor Vencel**, Deputy Permanent Representative, Delegation of Slovakia to NATO

**Marie-Laure Vercambre**, Green Cross International

**Tom Vereijken**, Chairman, European Water Partnership (EWP)

**Pedro Vitorio**, Deputy Director, Energias de Portugal (EDP)

**Laura Vitullo**, Secretary General, European Oil & Gas Innovation Forum (EUROGIF)

**Christina von Westernhagen**, Government Affairs Manager, Dow Chemicals Europe

**Francois Wakenhut**, Policy Officer, Team Leader for Marine Environment, Water Supply, Water Scarcity and Droughts Issues, European Commission Directorate General for Environment

**Martin Walshe**, Policy Desk Officer, Economic Development, Infrastructure and Communication Networks, Trade and Regional Integration,

European Commission Directorate General for Development

**Maeve Whyte**, Director, British Agricultural Bureau

**Lesha Witmer**, Honorary Secretary Steering Committee, Women for Water Partnership

**Beata Wolczuk**, Third Secretary, International Issues, Nature Protection, Chemicals & Urban Environment, Permanent Representation of Poland to the EU



# SOME OF OUR VIP MEMBERS



The European PVC Industry's Sustainability Programme

## We're keeping our promises



**VINYL 2010**

PVC conserves energy by its lightweight and insulating properties. Beyond these, Vinyl 2010 is the industry's programme to improve PVC production processes and products, invest in technology, minimise emissions, reduce waste and boost collection and recycling.

Vinyl 2010, a registered Partnership of the UN Commission for Sustainable Development

**PARTNERSHIPS for SUSTAINABLE DEVELOPMENT**

[www.vinyl2010.org](http://www.vinyl2010.org)



**WWF** *for a living planet*<sup>®</sup>



## **WWF EUROPEAN POLICY OFFICE**

Find out more about WWF's work in the capital of Europe

[www.panda.org/eu](http://www.panda.org/eu)





# Friends of Europe Les amis de l'Europe

**Friends of Europe thanks its VIP partners (Visibility - Input - Platform)**



European Active Citizenship

With the support of the European Commission:  
Support for bodies active at European Level  
in the field of active European Citizenship