



# 21<sup>st</sup> Century Water

Views from the  
finance sector  
on water risk  
and opportunity

Discussion paper

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## Acknowledgements

WWF is very grateful for the valuable time and input provided by those who took part in interviews for our scoping study on finance sector perceptions on water issues. We hope this discussion paper offers some useful insights and begins to outline the main issues for debate in the convergence between financial activity and the dynamic and uncertain landscape of today's and tomorrow's freshwater issues.

WWF sees this as very much the first step in a more extensive engagement with the finance sector. We hope that, through collaborative approaches and action, we are able to advance this important debate in a meaningful way.

Thank you

WWF

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ANZ: Peter S Davis, Head of Utilities & Infrastructure, Institutional Banking; Andrew Murphy, Manager, Sustainable Development.

HSBC Bank Pension Trust (UK) Limited: Keith Brown, CEO

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# PART A:

# Introduction

## About WWF and our work on freshwater

As an international network, WWF addresses global threats to people and nature such as climate change, the peril to endangered species and habitats, and the unsustainable consumption of the world's natural resources. We do this by influencing how governments, businesses and people think, learn and act in relation to the world around us, and by working with local communities to improve their livelihoods and the environment upon which we all depend.

Alongside climate change, the existing and projected scarcity of clean water is one of the key challenges facing the world in the 21st century, and is already a reality affecting people and nature. This is not just WWF's view: many world leaders, including successive UN Secretaries General, have said as much in recent years. Influential voices in the global economy are increasingly talking about water-related risk as an emerging threat to businesses.

Ensuring water security remains one of WWF's key priorities. WWF works with industry, civil society and governments to address the drivers behind the unsustainable demand and use of water, and to prepare for the impacts of climate change on freshwater resources.

WWF also works on key freshwater projects across the world, on issues critical to the protection of freshwater resources and to improve water management. For example, our work on the Great Ruaha River, Tanzania, has supported collaborative efforts between stakeholders and authorities at local, regional and national levels to improve management of water and natural resources in the catchment. As a result, a significant stretch of the river flowed throughout the year in 2006, for the first time in five years, despite droughts. This has helped address

the major impact that the drying of the river has had on biodiversity and people's lives and livelihoods. Since 2006, these improvements have been maintained, again, despite relatively poor rains.

WWF has also been working in the Yangtze River basin since 2002, with funding from HSBC. Through the HSBC Climate Partnership, WWF is working to reconnect 50 networks of lakes back to the Yangtze to increase flood retention capacity. This will among other benefits, assist in the conservation of the endangered finless porpoise and improve biodiversity in general. We are managing wetland networks effectively to restore their ecological function and so provide better quality drinking water, particularly for Shanghai.

At the global scale, WWF has worked with donor agencies such as DFID and multilateral organisations such as the World Bank to advance thinking on issues relating to international water law, climate change adaptation and transboundary water management.

## Why freshwater?

The integrity of hydrological ecosystems is crucial to WWF's goal to protect and enhance biodiversity. Freshwater ecosystems clean and store the water that is essential for human livelihoods, economic activities and for the survival of wildlife. The continuing availability of water forms the basis for action on food security, energy security, poverty reduction, economic growth, conflict resolution, and adaptation to climate change.

But increasing global exploitation of water resources across the world has led to high biodiversity loss and to significant degradation of ecosystems and the goods and services

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they provide. As a result, more than half of global wetlands have been destroyed and WWF's index of freshwater species populations has declined significantly since 1970. People are feeling the consequences of this too: over the last 50 years, the frequency of severe flooding and the damage it causes have increased, in part due to the degradation of freshwater ecosystems. If current water consumption patterns continue, nearly half the world's projected population will live in water-stressed river basins by 2025.

As well as being an issue of concern to environmentalists and communities, over-exploitation of water has economic impacts on business and can adversely affect the ability of governments to meet a broad set of policy goals. For the finance sector, water risk may represent a material near-term risk on investment returns, perhaps more visible and obvious than longer-term climate change issues. The past few years have seen a radical increase in media and corporate recognition of the importance of water for society, economy and ecology, largely due to the increased understanding of the pressures and risks associated with the world's freshwater resources. Corporate risk related to water is likely to become more significant into the 21st century, due to increasing water stress internationally, investor perceptions and public awareness.

Multinational corporations have begun to assess the risks and uncertainties they face throughout their supply chains in producing and marketing their goods and services. The CEO Water Mandate, World Economic Forum (WEF) and Alliance for Water Stewardship (AWS) processes (amongst others) are already distilling these debates. Likewise, the

UNEP FI Water Work Stream has focussed on corporate water performance as a driver of investment and finance decision-making, with a small section of the finance sector increasingly taking this into consideration. However, underlying risks for finance from the water context have not been fully captured yet. This is why a meaningful debate amongst finance stakeholders around these issues is both timely and increasingly urgent.

### Key challenges

At present, the majority of global freshwater systems are stressed due to over-abstraction, particularly from agricultural use, fragmentation from infrastructure development, pollution and changes in rainfall patterns caused by climate change. This represents a critical threat to all living systems, as water has no substitute.

Water is primarily managed at the local or river basin scale, but the benefits of water use from a particular location can be shared by many people across the world through global trade of products grown or processed using this water. The corollary of this is that trade can be a driver of mismanagement and over-use of water resources. The environmental and social effects of poor water management are felt mostly by ecosystems and communities within the river basin concerned but the drivers of this are often distant and detached from the river basin itself.

Trade, and therefore businesses, can also incur economic risk. Put simply, a business which has a factory in, or which sources materials from, a poorly managed river basin may find itself at risk from absolute water scarcity, from increased cost or regulation of water and from



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reputational damage caused by the real or perceived impacts of its operations on communities and habitats. Any finance stakeholder associated with that business may suffer knock-on consequences from this risk in terms of reduced returns, higher insurance premiums or associated reputational risk. As a consequence, the finance sector will have a vested interest in promoting good corporate behaviour with regard to water use and, more broadly, good water management at the river basin scale, especially in parts of the world where water is scarce.

The reasons for this interest include (but are not limited to):

- reducing risks caused by changes in water availability and quality
- building advisory and relationship services with clients
- developing new products and services (in particular, linked to infrastructure)

Crucially, there is no silver bullet in solving the water crisis, but rather our responses require a suite of interventions and knowledge to address this problem. Given the complexity of the water challenges we face, these interventions should include innovative approaches and behaviours on how to address this crisis, such as collective, participatory action, testing of assumptions, and the application of iterative processes that facilitate ongoing lesson learning.

### Background and purpose of WWF's scoping study and discussion paper

#### The motivation behind WWF's scoping study

stems from an acknowledgement of the crucial role the finance sector plays in influencing business practices through its investment, insurance, lending and advisory services, research and legal activities, among others. This sector can be a force for good and a source of transformative action. Also, and importantly, WWF understands that the water risks the private sector is exposed to warrant consideration of the liabilities these risks represent to the finance sector and those with a stake in it. WWF set out to gain a better understanding of how different actors within the finance sector view water as a resource, as well as a source of business opportunities and risks.

**Adopted method:** Given the complexity of the water context and the finance system, WWF chose a dialogue interview approach to explore the nature of these issues and their relevance to the participating organisations, and as a way to identify the key themes, trends and gaps in the understanding of water issues by the finance sector.

Many efforts to catalyse change in a system begin with conversations among people with a stake in that system. Dialogue interviews such as those carried out as part of this project not only represent an objective diagnostic and data-collecting approach, but they also help step into the world of the stakeholders, their values and motivations, their frames for thinking about the issues, and the context in which they think and act.

Representatives from banks, insurers, pension funds and business both in the northern and southern hemispheres were interviewed. WWF is grateful for

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their time and valuable contributions. Most participants have agreed to be named as contributors to this report; however opinions and comments have been kept anonymous. Participants' quotes have been included throughout the paper.

**The purpose of this discussion paper** is to initiate a dialogue with stakeholders working in finance to help develop a joint understanding of what water risks and opportunities mean for this sector. By reflecting back to the finance community the current perception on water issues by finance stakeholders (as far as the extent of WWF's scoping study was able to capture) WWF seeks to mobilise the finance sector in a joint debate, so that together we can contribute to mitigate or reduce risks in water management and support the sustainable management of freshwater systems through the influence of finance.

The **audience** for this paper includes those with a stake in the finance system who are interested in understanding and managing the positive and negative impacts that water issues may have on their business and that of their stakeholders. WWF intends to share this paper with interview participants and with a range of finance stakeholders such as FIs, insurance companies and pension fund managers.

#### Structure of the paper

This paper provides a summary of the key findings, followed by a commentary by WWF freshwater experts on the findings. Our extensive field experience across the world combined with our ongoing work on water footprint, standards development, water disclosure, risk, impacts, public policy and the private sector, gives us a unique insight into the multiple challenges and approaches to freshwater challenges. The commentary section is intended as a way to foster a debate around these issues and those identified by the interviews to stimulate the reader's thoughts.

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### Next steps

WWF is currently working in collaboration a group of institutions including the Water Footprint Network (WFN), the Alliance for Water Stewardship (AWS) and the UN CEO Water Mandate to develop a greater understanding of water use and impacts by the corporate sector, how these impacts can be measured and managed, and the role of the corporate sector in water policy development. The information and understanding emerging from this work is expected to contribute to effective corporate disclosure on water impacts and a greater engagement by corporate actors in water management, with the aim of reducing associated risks and unlocking opportunities.

In parallel, WWF is working with the Association of Certified Chartered Accountants (ACCA), which has a history of expertise in corporate disclosure, on a study of how UK-based multinational companies are reporting on their water impacts and vulnerabilities, and their responses to these. The study has both adopted existing and developed new generic and sector-specific criteria to help score companies' corporate responsibility reports. The study is designed to complement existing work and help inform the global debate.

WWF welcomes collaboration on the following areas:

- WWF believes in collaborative, participative dialogue as a way of developing solutions around complex issues. The finance sector has an important role to play in the freshwater arena, including the development of a business case for investment in “soft” management solutions. **WWF looks forward to feedback around the themes presented in this report and to working with organisations in the coming months on this critical agenda.**
- The UN CEO Water Mandate and Alliance for Water Stewardship are two existing collaborative initiatives to strengthen water governance and stewardship. **WWF encourages finance sector stakeholders to join these initiatives and add value to the global discussions.**
- WWF would benefit greatly from supporting our current freshwater work with an in depth understanding of finance. We believe this combination of expertise would foster the development of effective approaches and solutions to water impacts on finance. **WWF welcomes support both financial and in kind, such as a full-time staff secondment from organisations in the finance sector, in order to support our developing work in this area.**

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### How does the finance sector currently approach water issues? What changes do finance institutions anticipate in this arena?

Interview responses reflected that water is an issue for consideration for finance stakeholders in their lending and investment decisions, but it is not a top strategic priority. Institutions which have an internal sustainability policy framework will take into account water as part of their overall sustainability considerations. However, in general there seems to be no detailed framework within FIs or other finance stakeholders that would automatically help detect specific water issues, especially where these represent indirect risks associated with lending to or investing in businesses whose activities are not strictly water-related, such as is the case with a water utility or beverage company.

**“Water is just another environmental issue that we consider when assessing investments and lending. It is not the priority issue or the single issue we look at.”**

Feedback showed that a key factor in the prioritisation of water issues lies in the geographical location and client footprint of finance stakeholders: the more water stressed the country or region where the institution operates, the higher up the agenda water-related issues appear to lie. In particular, responses reflected that portfolio exposure to water risks seems to be a clear driver for prioritising water issues in organisational strategies. Examples include client footprints in agribusiness, in water-scarce locations or in regions prone to flooding. The interviews however did not reflect any specific references to a broader scope of water risks such as embedded water in products that are transported from water scarce areas.

Participants acknowledged the importance of water resources for society and business – but they were clear that climate change currently claims most of the attention and resources from both public and private sectors, including within finance, and water is not given strategic priority. In addition, respondents reflected that there seems to be a poor understanding of the connection between water and climate change, such as its impact on rainfall patterns. Another area poorly understood is the link between energy generation through hydropower and its impact on ecosystems services.

### What are the main drivers and incentives for finance stakeholders to engage on water issues?

**The need to manage risk** is perhaps the key driver behind an active engagement by finance on water issues. In particular, client exposure to water risks – especially direct risks such as those derived from water as a prime raw material for clients (e.g. water utilities and agribusinesses) – came at the top. Indirect water risks emerging from lending and investing in sectors other than agriculture, water utilities or infrastructure, appears to be considerably more difficult for finance stakeholders to understand, assess and manage.

**Reputational and legal risks** were also mentioned, with respect to maintaining a “social licence to operate” and managing risks emerging from local community activism where businesses are located. Some participants recognised this tends to be more common in areas of water scarcity or where lack of good water management is predominant. It was noted that urban centres in particular can be areas where water management and availability can become a contentious issue and trigger



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risks to water companies and their financiers, whether it is in relation to the waste of water by utility companies for instance, or around water tariffs and rights.

#### **An opportunity for finance stakeholders to develop expertise on water issues:**

multiple benefits were identified as a result of this approach. For instance, it was seen as a way of gaining competitive advantage. Most participants agreed that internal capacity building can help strengthen sustainability credentials and external company communications. In addition, some participants expressed that water-related expertise can create value for their clients, e.g. by helping them economise on water and reduce costs, or through advising clients as they formulate their own water strategies. It was suggested that this could provide finance sector organisations with a chance to get closer to clients by providing insights into the water crisis, educating each other, and recognising water as an opportunity. Finally, staff training and awareness building were seen as a benefit as they can enable employees to identify and develop business opportunities and risks associated with water issues. It was highlighted that around the world, there is still a long way to go for environmental risk to become a core part of institutional thinking and business planning.

A few external incentives emerged as triggers for a more active engagement by finance stakeholders on water issues: among these, regulation and government subsidies stood out.

**Regulation** was identified as an important source of incentives both for business as well as for the finance sector itself. Not merely seen as an incentive, a regulatory structure for water management was also perceived as a fundamental pre-requisite to provide specific products

such as certain types of insurance. Respondents stated that regulation can push clients towards more sustainable water practices, making it easier for finance stakeholders to engage them on water issues. In contrast, the importance to look for the business angle and create business value, rather than rely solely on government regulation, was also highlighted by some participants.

Government subsidies were mostly identified as a source of opportunity for finance. This would include subsidies in urban environments (e.g. for setting up water tanks) and subsidies for agricultural infrastructure, which could help reduce costs and encourage more efficient practices. Opportunities in the retail sector were also mentioned, where government subsidies may cover a percentage of costs for water efficiency measures (e.g. 30%) and a bank may provide the additional percentage in the form of product financing. However, some perceived subsidies for water pricing as a negative intervention by governments and a blockage towards achieving sustainable water management.

**The need to understand cumulative impacts** that may affect projects or businesses and therefore have a knock-on effect on finance was highlighted. In order to achieve this, a cooperative approach was deemed necessary. It was noted that cumulative impacts are still not automatically reported in Environmental Impact Assessments (EIAs) unless they are specifically asked for. Strategic Environmental Assessments (SEAs) – as a tool for understanding cumulative impacts – were not specifically mentioned by respondents.

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#### What are the conditions required to achieve sustainable water management?

There was general support for **concerted action** in the face of the water crisis amongst participants, with the need for a combination of different sectors to pool skills and resources. Sectors mentioned included citizens, local government, national government, finance, NGOs, business and industry, including their entire supply chains.

Some stressed that **strong local leadership** is required if water is to be conserved and managed sustainably, with the role of government and regulation being considered fundamental to resolving the water crisis. It was noted that local governments are interested in improving water management, which will create investment opportunities. However some respondents made it clear that local political leaders need to show the initiative to attract investors, rather than expect investors to come to them.

In this sense, there was a general agreement that it is governments' role to manage the interests of users and stakeholders, including suppliers, service providers, those involved in irrigation, manufacturing and industry, and the environment.

Some participants, in particular those whose client footprints sit in water scarce regions, noted the need for achieving holistic water management through **integrated river management approaches**, led by government agencies. This was seen as an approach to avoid independent bodies over-allocating the amount of available water, as is the case currently in some regions. An angle that was not explicitly mentioned was the fact that government agencies themselves have their own vested interests and may over-allocate water as a result of this.

Respondents also noted **international action and coordination on transboundary water sources** as an important condition for sustainable water management.

**Education and the role of the school system** emerged as one of the conditions for achieving sustainable water management: some participants mentioned education as the means through which water issues will become "front of mind".

**“Sustainable water management requires a combination of different sectors bringing in their resources. Leadership in this area requires a combination of efforts and concerted action.”**

Finally, two **economic mechanisms** were cited as key to enabling sustainable management of water, namely: **separating land rights from water rights**, and the use of **water pricing**. As for the first option, payment for ecosystem services schemes could be a way forward, for instance with governments buying up water rights to secure availability and reduce over allocation. Some participants felt that governments must change their **water pricing mechanisms** where these distort the real cost/value of water (e.g. as can happen through subsidies and regulation). It was noted that in agricultural regions this would help promote growth of the right crops in the right environment rather than grow water-thirsty crops in areas of water scarcity.



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#### **Is there a sense of urgency on water issues, within the finance sector? What does the future of this resource look like from this perspective?**

Those participants operating in areas and sectors (such as agriculture) affected by water stress considered that the urgency of the crisis is being felt now and that this will only increase in the next three years. Some of the feedback reflected that within some finance there is an implicit sense of urgency for the need to take action on climate change and water issues, although it is not yet clear as to what this action may look like. Respondents felt that water will become a priority issue in the short term, although more awareness is needed across the finance sector before this happens.

For finance stakeholders whose footprint lies in areas of current or perceived water abundance, the urgency is perceived to be less pressing. From this perspective, water will become a top issue in ten years' time. It was felt that, as issues such as climate change and deforestation affect water availability, with time this situation will raise the importance of water issues higher up the agenda of finance stakeholders.

For some respondents, the urgency (or lack of urgency) within the finance sector regarding water issues was determined by the fact that for the most part, **material impacts of water risks are not currently visible or tangible to finance stakeholders**. Therefore, although indirect water liabilities may be monitored as "emerging risks", their immateriality at present means they are not being accounted for by the sector at the moment.

An important point made by respondents was regarding the **lack of a unified approach** by the finance sector

as a whole to tackling water liabilities and opportunities. Whilst some stakeholders are taking water issues seriously and are keen to assess the impacts of these on their business, others seem to be far from this level of interest and understanding.

As regards the **future of water management**, and achieving sustainability in this area, a pre-requisite according to respondents would be for **metering of water consumption** for homes and businesses to become a reality. Agricultural production, water abstraction and metering were also mentioned, with some references to the need for water to be managed through a closed-circle approach via reuse. Respondents reflected that this was not yet happening in agriculture.

Participants generally felt that more developed regulatory and governance structures are likely to be in place in ten to fifteen years' time, especially in countries where water scarcity is an issue. However, in contrast to this expectation most respondents also expressed that although technological solutions are already available, the **real challenge is an issue of management**. Broadly speaking, it was felt that, governments are unlikely to be running water efficiently in ten to fifteen years' time. This view also aligns with a shared feeling that, although there will be some progress towards integrated river basin management including watershed protection, there will not be complete resolution within these timescales.

Some respondents perceived that **water-related conflicts** will be a reality within a decade. From their perspective, climate-related catastrophes will lead to conflicts and to the emergence of climate refugees.

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As a consequence, they envisage increasing claims for losses through water scarcity and certain countries becoming uninsurable. Some participants thought that this context will accelerate agreements and resolution of water issues.

Another view expressed regarding the future management of water resources focused on **water pricing**. It was perceived by some respondents that in fifteen years' time pricing is likely to reflect real water costs and unrealistic subsidies are likely to have been removed. Participants sharing this view expressed hope and an expectation that within a decade and a half, countries, people and industry will be willing to pay for the cost of water, and that regulation will have the greatest impact on price.

#### What do finance stakeholders perceive as the main business risks and opportunities emerging from water issues?

When discussing emergent risks and opportunities from the water context, there was a general sense that it is counter-productive to look at water issues solely as a source of risks. When considering water as a strategic issue for financial organisations, a series of interesting opportunities for finance might emerge from the current and evolving sustainability context.

#### Risks

As mentioned above, risk management emerged as the main driver for engaging on water issues for the finance sector. Within this area, **client exposure** was the first on the list, in particular as it relates to **direct risks associated with client operations** in certain sectors. **Agribusiness** was identified as one of the highest risk sectors, with **industry** following closely behind. For those finance stakeholders with a large agribusiness portfolio, it was clear that, whilst there is a rising general awareness of water risks from agricultural operations, information and detailed understanding of liabilities is not specific enough yet. More and better information is required in order to assess these risks appropriately.

Furthermore, clients' **exposure to flooding** was high on the list of key risks to finance, in particular for the insurance sector. The view expressed was that too much water, or water of the wrong quality as a result of flooding, can bring about material risks to companies such as utilities and consequently to finance stakeholders. In this respect, the view from participants highlighted the importance of government regulation and planning in relation to flooding as a way of managing these risks appropriately. At the same time flooding risks were also identified as a potential source of business opportunities in the shape

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of new financial products aimed at helping reduce water consumption, manage water better, safeguard individuals and businesses from flooding or water scarcity related losses.

Participants agreed that **indirect water risks** associated from clients' operations in sectors not obviously linked to water are much more difficult to ascertain. Although there was mention of the need to take companies' entire supply chains into consideration when assessing lending and investment, general feedback reflected a sense that there is a lack of tools available for finance stakeholders to understand and measure indirect water risks, and a greater sense still that until these risks become material they will only be a secondary concern for the finance sector.

Several respondents pointed to a need for more climate science and modelling in order to be able to predict water scarcity better and translate that knowledge into data, and thus enabling a better assessment of risks. The perception seemed to be that the more climate data is available, the better finance can prepare for emerging water risks. However what this approach did not reflect was the similarly important need to work with the information that is already available and start designing and planning for ways to adapt to the changes in climate and rainfall patterns that are already taking place.

Another source of indirect water risk identified by many of the participants related to the need for finance stakeholders to maintain their **social licence to operate**. Local community complaints about water issues such as availability or pollution can represent a reputational and material risk not only for the companies targeted by these groups, but also for finance organisations associated with them.

#### Opportunities

**“It is counter-productive to think of water solely as a risk. There are lots of existing and new water technologies that can bring about opportunities”**

In terms of **business opportunities emerging from the water context**, respondents reflected that lending and investment in water is directed for the most part towards the **“hard” water infrastructure sector**. This understanding of water investments as infrastructure investments was reflected in most of the responses.

Another “hard” technological approach to the water crisis mentioned was **desalination** of sea water into fresh water, also seen as an obvious focus for development for the finance sector. Some finance stakeholders whose client footprint lies in regions most exposed to water scarcity voiced the need for desalination approaches in those territories and a potential for financial opportunities from this context. However, a different view was expressed by other respondents operating in water scarce regions or whose client portfolios were exposed to water scarcity risks: some participants in this group expressed an interest in other options such as financing **“soft” water management measures or technologies**. Water shortages, participants reflected, can create incentives for taking action on water issues, and business opportunities can be developed out of the scarcity and regulatory context.

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Some examples of “soft” water investments included the opportunity for finance stakeholders to work together with clients in different sectors whose activities might be complementary and who might be able to share technological approaches, products or services, for instance the transfer of membrane technology developed for desalination processes to the wastewater treatment industry. Innovative water technologies being developed around the world were mentioned as another source of opportunities for financing, with water reuse, water pollution and water efficiency solutions highlighted as obvious candidates. In general, however, “soft” water investments seemed to represent a greater challenge in terms of revenue generation for finance stakeholders. For instance, it was mentioned that in some cases investments can be too small to justify the management costs, or can even fall below the lowest levels of investment finance organisations are allowed to make (e.g. in the case of pension funds).

Moreover, **water trading** was mentioned as a potential source of business opportunities in particular regions where the government may have already set up an appropriate framework. Whilst it was clear to some participants that decisions on water allocation should fall on government, an opportunity was identified for financial services organisations to take the lead and devise equitable, transparent and sustainable market mechanisms required to make water trading a reality. More traditional financial services such as **cash management tools** and **opportunities in commercial finance** were also mentioned as a source of potential new business.

As **government regulatory frameworks** change in the water arena, respondents anticipated that a series of commercial opportunities for finance will emerge. With water regulation changing at local level, it was noted that finance stakeholders will require a detailed knowledge of how local frameworks evolve in order to ascertain where opportunities may lie.

Respondents anticipated the potential for generating new business opportunities in the current water context through growing their **in-house expertise** on water issues. Examples illustrated how, through awareness and an understanding of water issues for businesses, employees were able to identify new opportunities and at the same time promote good water management practices through their client relationships. Participants pointed to the advantages of becoming market leaders in water and that way developing a competitive, differentiating factor. The potential for developing intellectual property out of research and development activities was also noted.

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#### What are the current barriers preventing the finance sector from engaging more on water issues?

**Lack of access to information** was cited by all participants as one of the main barriers to action on water issues. Some of the key questions that emerged from discussions include: How can a financial institution know whether certain investment or client project has water-related risks before it these become material? Is the information available the right information? It was noted that in certain sectors, such as agribusiness, it is easier to assess water risks than in industrial sectors because the agricultural sector has long been affected by water availability and has built up substantial information on their water requirements and related risks. Also, it was noted how difficult it is to assess how water risks will affect a project in the future. Given that water is a dynamic resource, respondents noted how complex it is to assess and detect future problems.

**“Is the information available the right information? In some sectors such as agribusiness for instance, it is much easier to assess water risk than it is with industrial clients.”**

**Lack of local capacity and awareness** within financial institutions themselves, and with clients, were identified as barriers for action in this arena. This situation can lead to difficulties in implementing policies on the ground, with an example mentioned about how a lack of client awareness can result in challenges with convincing farmers to change their practices towards more water efficient ones. A key question that emerged amongst respondents was how to build awareness of water risks and opportunities

amongst staff and clients. In order to achieve this, some felt that information needed to be simplified for managers in different geographies and business areas who handle client relationships, so that they are able to understand and apply this knowledge in practice.

**“Where water is a relatively cheap resource, the price of water is not something that will dramatically affect business or industry.”**

On this point, discussions also reflected that there are limits to the influence that finance stakeholders can have on their clients when it comes to water issues: the view from participants was that client advisory can only go so far, but ultimately it's up to clients to do their research, understand their water requirements and any risks they may be exposed to.

Other major barriers for change highlighted during interviews were **water pricing and related subsidies**. Participants reflected that water pricing is seen as a very political issue, making it difficult for it to be adequately resolved. Respondents commented that where the price of water does not reflect its real cost, it is challenging to drive water efficiency. In this scenario, it was noted that price incentives don't go far in shifting behaviour. In some places water is a very cheap resource both for industry and urban users, so price is not an incentive for water saving<sup>1</sup>. The general view from participants was that prices would need to rise dramatically in some places in order for them to start making a difference in water efficiency.

<sup>1</sup> A related example is the case of energy subsidies linked to water pumping, as is the case in India. This kind of indirect subsidies can also have a negative effect on water efficiency.

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When it comes to driving water efficiency, it was highlighted that where governments still hold the monopoly of water management, this can act as a barrier against achieving greater efficiencies in this sector. Likewise, it was noted that an abundance or perceived abundance of fresh water in a country or region can have serious consequences for sustainable water management. In general, this situation is accompanied by a lack of interest to engage in water efficiency and good management, and tends to lead to wasteful usage.

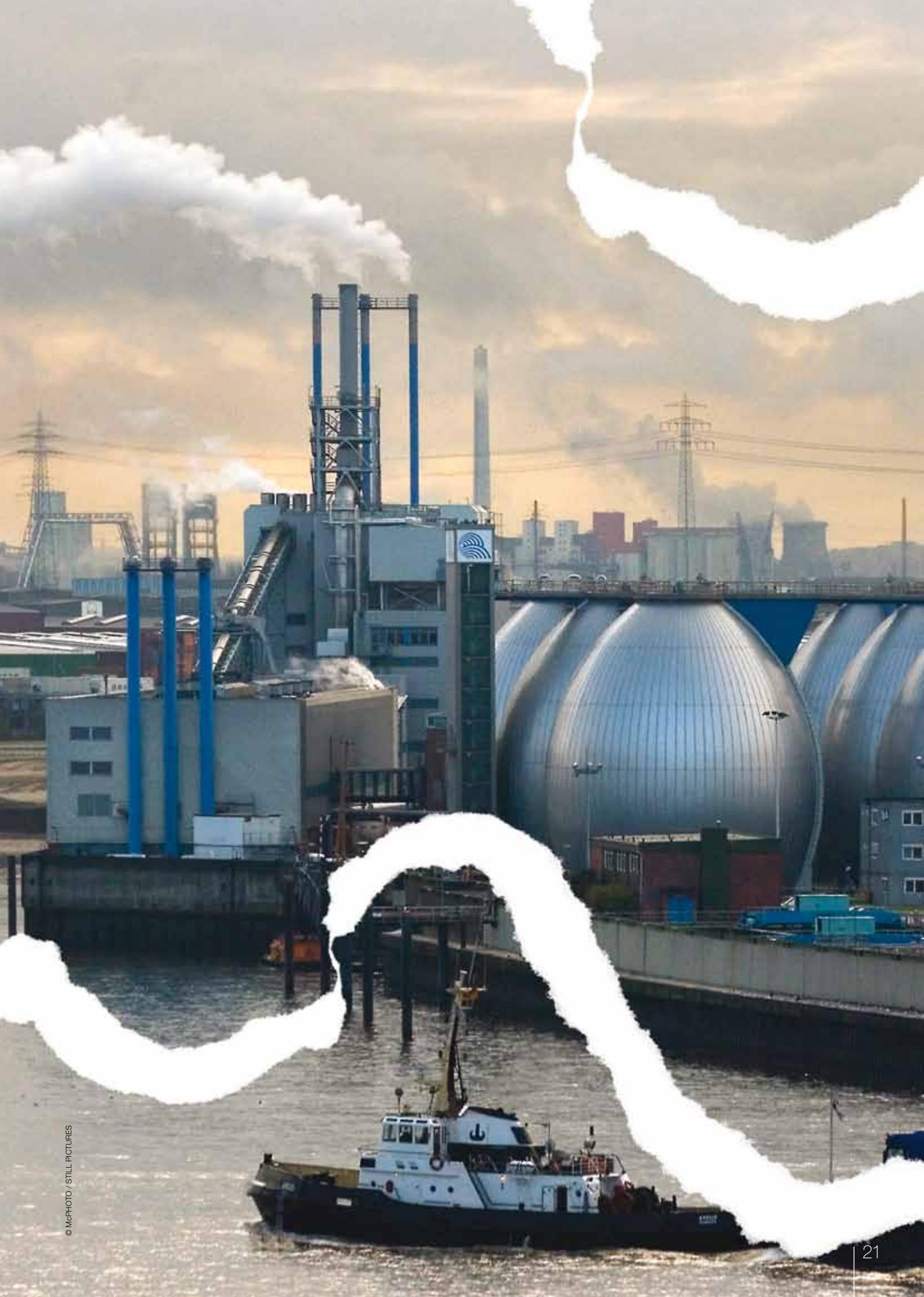
Some respondents noted that a **lack of regulatory infrastructure** in a country's water sector leads to uncertainty from the part of business and finance stakeholders, acting as a barrier for action and engagement of the private sector.

#### Overcoming barriers

**Clear policy from governments** in terms of planning and regulation would enable finance stakeholders to manage their own exposure to water risk, as well as allow them to identify what financial services they would be able to provide in such context.

**An analysis of the industries a finance stakeholder is involved in and where water risk lies in relation to these industries** would be a step in the right direction. Respondents suggested that the finance sector needs much more detailed knowledge of where the risks are, where the clients are, where their production is based or where they grow their crops or base their activities.

**Tools to assess water risk** especially for investments in businesses not directly linked to water were identified as useful. Some participants noted that the finance industry is not sophisticated enough to understand detailed water risk. However, in the case of water related projects such as "hard" water infrastructure, respondents felt it was much easier to understand where opportunities and risks lie.



# PART C:

## WWF commentary and conclusions

**Key themes have emerged from WWF's review,** which include a considerable appetite for greater knowledge of not just water risks, but of the water sector more generally. Issues that most interested respondents include:

- greater information on companies' water needs and performance
- wider connections of water with society, climate change and energy sectors
- better information availability
- better regulation
- better water pricing

These themes and questions arising from the finance sector resonate with views from other sectors. However, **it is the specific risks to companies that determine their strategic roadmap for dealing with water, and it is important for there to be a nuanced understanding of water-related risks depending not only on sector, but on many wider factors.**

For example, the food and beverage sectors have been at the front line of poor perceptions because of water use in agriculture and the bottled water industry. As a result, these sectors have embarked on a path to understand their water footprint risks and manage their impacts. Yet their business profiles and brand images attract exposure to reputational risks in a way that the mining sector does not. This is also true of construction companies, microchip manufacturers and cotton companies, each with varying degrees of exposure depending upon their brand visibility, where they source from, where they operate and sell and whether or not their product is aligned with

a positive image, is a luxury item, or a basic necessity. Each relates to the public's relationship with their product, the government regulation of their operations and the risks they are exposed to. As regards the water sector, the intensity of this industry's water-use poses risks that need to be contemplated. **For the finance sector, it is advantageous to understand these sectoral differences, while also being aware of wider issues such as demographic changes, climate change impacts and alterations to water laws and policies.** All of these affect water availability and priorities for increasingly scarce resources, and affect not only sectoral risks but also investments and opportunities.

Whilst reputational and legal issues were mentioned in the dialogue interviews, respondents did not identify as a risk the issue of the legality of water supplies and licensing. For the agricultural sector, the use of illegal wells and abstraction against regulations is a serious and widespread phenomenon. This shows a clear gap in the responses received, and may be an indication that most finance stakeholders are probably not aware that a great deal of the water abstraction for agriculture, as well as for business, might not comply with the legal requirements in the countries where the infringement is taking place. As a consequence, **finance stakeholders might be exposed to unknown risks emerging from these types of practices, and therefore they have a material interest in gaining a better understanding of the issues happening on the ground.**

Like finance stakeholders, WWF sees a key need for better publicly available data about companies' impact on water resources. **Water disclosure is still a long way from being a meaningful reality,** with only a handful of

## PART C:

### WWF commentary and conclusions

companies currently disclosing their water use and water strategies. This is because water is for many a new issue to face, and in addition there is no standardised method for assessing and reporting on qualitative and quantitative water impacts. As such, WWF is engaged in numerous activities to help fill in the data gaps for measurement and reporting of water use and impacts. Through the Water Footprint Network (WFN) WWF is helping to develop state-of-the-art tools for measuring quantities and impacts of water use, with the aim of delivering a full accounting tool in three years. This work will entail numerous pilot studies and method-testing studies to improve data and information over time. The latest hydrological models and climate simulations will be included in this work, which will provide additional information to the user, with the caveat that it is not possible to derive high-confidence forecasts from these models.

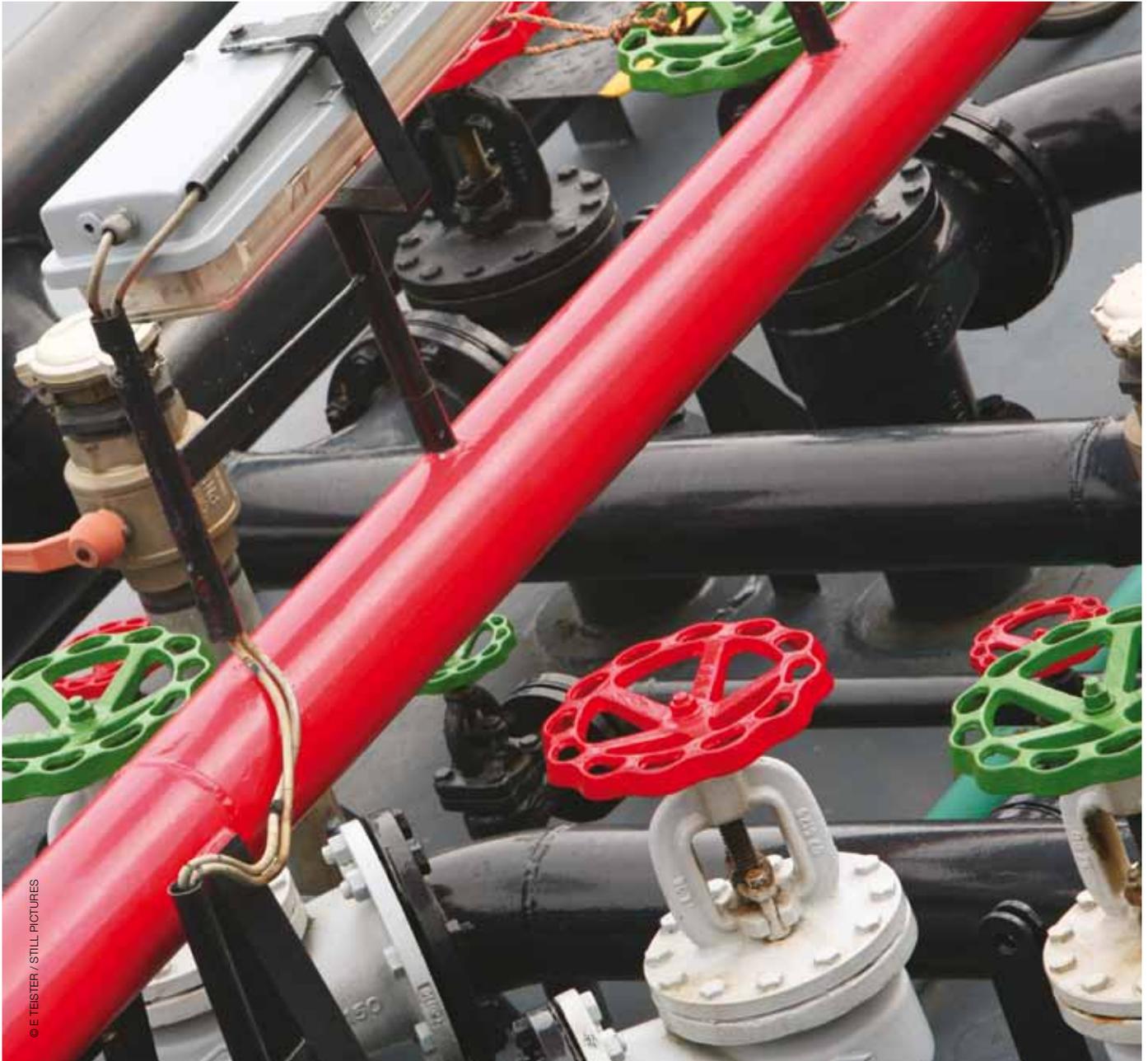
Country data on water resources is patchy and not always available. This is a key issue for many stakeholders involved in water management and **there may be a role for the finance sector to either help fund better hydrological monitoring and/or to press governments and international organisations to put more monitoring capacity in place.** At times we must rely on the best proxy measures; in this respect, WWF is working in key river basins globally with local authorities and international academics to define environmental flows for these river basins. This aims to create the baseline from which sustainable water management must be built. **This information will also be essential for those interested in the reduction and better management of risk from their business and finance profiles.**

Another issue highlighted by respondents was to do with the limits to how much finance stakeholders can influence their clients to engage in understanding water issues affecting their business. An area to explore is the role that **standards for water consumption** can play in sectors such as agribusiness and hydro. These **could be used by finance stakeholders and corporate business as a way of engaging their staff** with the complexities of water issues, learning how these affect them, and guiding compliance and procurement requirements.

With regards to **water-related conflict**, the evidence that countries engage in wars specifically over water is not clear. There is little doubt that water conflicts are common at the inter-sector, inter-community, inter-farm, inter- (and intra) household level. The contests that arise may not register on military radars, but they can have a profoundly frustrating effect on development efforts, further entrenching social problems such as gender discrimination, and destabilising local governance. The 'water riots' against the Bechtel Scheme in Bolivia in 1999 and the ongoing tensions between landowners and poorer peasants in the Chittoor District, India, over the lowering of the water table, are typical of an increasing number of local conflicts<sup>2</sup>.

Similarly, civil actions against business operations are a risk to those businesses' reputations, but they also reflect societal struggles over water access and water use. Water-related conflicts are caused more by the way in which water use is governed than by water scarcity. The outcome of local conflicts tends to reflect societal problems. Those who are marginalized in society tend

<sup>2</sup> Wolf, A, (2003) Conflict Prevention and Resolution in Water Systems. Northampton: Elgar Reference Collection.



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to lose most in water conflicts, for example the rural poor in Chile and Mozambique, and the urban poor in Mexico and South Africa.

**In WWF's view, water-related conflicts clearly represent the materiality of reputational risks to multinational, brand sensitive clients in water scarce countries, and should be an issue for serious consideration by finance stakeholders.**

In terms of **over-allocation of available water**, and the vested interests of different sectors including government agencies themselves which lead to this situation, WWF believes that strong and transparent governance structures and implementation of these are a way of ensuring there are checks and balances to prevent this kind of situation.

As for **water metering**, providing appropriate economic incentives for water use across domestic, industrial and agricultural sectors will be crucial to ensuring resource

use efficiency. This should include the development of domestic and industrial metering accompanied by tariffs that support sustainability. In agriculture, incentive-based allocation schemes are required based on volumetric water use. A variety of alternatives are available, including some combination of pricing, trading, and water banking. The appropriate approach will depend on the local context.

The multiple factors that affect water resources in various levels and scales mean that there is no single solution for companies seeking to manage water risks. **The issues outlined above are considerations which in WWF's view need to be taken into account by financial stakeholders with regard to their lending, insuring and investment activities. Due to their complexity, they will require a considerable amount of investment in internal capacity building in order to develop a detailed understanding of risks relevant to each organisation's own business.**

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### WWF commentary and conclusions

Some issues highlighted by the finance sector may be harder for WWF to support or reconcile. For example desalination technology, while crucial in some areas and an option in very water-scarce areas, has significant environmental, social and economic drawbacks including costs, energy and carbon use, and effluent. Moreover, it perpetuates and strengthens the feeling that people should be able to continue increasing water use rather than invest in greater efforts to manage demand. This in turn exacerbates long-term scarcity risk. WWF sees desalination as a last resort, and this technology must be developed within the context of proper basin management planning and national policy/legislation that defines sectoral water needs, governs water allocation and then prioritises water efficiency measures.

In response to participants' calls for greater climate science in order to inform finance sector decisions, we can confidently say that "normal" aspects of water quality, quantity, and timing (e.g. flow regime) are changing irreparably and in ways that are very difficult to predict. The tools we have used in the past to manage water resources and design water infrastructure systems have assumed that the past was an accurate guide to the future, but this assumption is no longer true. Science tells us that the climate is shifting; however, it does not provide enough detail about how it is changing in particular places and at particular times, in order to confidently build new infrastructure designed to last decades. Instead, WWF advocates a process-based approach to freshwater management that focuses on assessing ecosystem vulnerability and institutional capacity, flexibility in water management, robust monitoring systems, and long-term planning.

**As regards the response of the finance sector (as well as other sectors) to climate uncertainty, WWF believes this should not be an excuse for inaction.**

Indeed the process of reducing uncertainty must become a guide for action, including an active approach by finance stakeholders to institutional learning, capacity building and flexibility in the face of climate change and impact uncertainty.

**Water pricing** is a solution that often seems logical to those who are new to the water debate. Pricing water in a way that reflects its value to encourage its efficient use may have a role in some places. However, this is a complex issue with which water managers and economists have been grappling for a long time. Effective pricing and charging relies on properly functioning regulatory and monitoring systems, which in turn rely on good governance from a central to a local level. In many countries, effective institutions are absent so pricing systems would be likely to fail, even if they were considered politically and socially acceptable. In particular, evidence suggests that water is price inelastic, meaning that prices will need to be raised considerably to achieve significant impacts on user behaviour. In many contexts, in particular agricultural water use, this would result in unacceptable negative impacts on incomes of the rural poor. However, there are other, more viable approaches to be considered to providing better economic signals and incentives for water users, such as water allocation and water trading approaches.

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**WWF has a stake in ensuring that the debates on water are holistic, long-term and based on an ecosystems approach** (i.e. recognising the real value of ecosystems and giving them priority). Ignorance of the social, economic and environmental benefits of ecosystem services and the profound social impacts of poor water management is almost certainly a precursor for economic, social and environmental loss.

Few participants referred explicitly to the potential for Payments for Ecosystem Services (PES) schemes but in recent years there has been an increase in interest in this as a tool for water management. It is too early to generalise about the efficacy of PES schemes. WWF's view is that, while PES is not a silver bullet, there may be specific situations where it can play a role in mobilising resources to improve water management. The extent to which PES offers business opportunities for finance stakeholders requires further assessment.

**In the short term the finance sector has a strong role to play in setting the corporate reporting agenda**, and working with clients in high-risk sectors to use water footprinting and disclose findings and responses. **For the longer term, finance stakeholders can use their influence to encourage governments and multilateral organisations to support the development of robust, equitable and sustainable water management regimes.**

There is also **scope for a venture capital approach to innovative schemes for “soft” water management projects**, e.g. to test how realistic it is to expect a return from financing stronger water licensing regimes. First movers in this field will incur a risk – as does any venture

capital investor – but would have the advantage if such projects prove to be workable. There is a role for action learning in this space, and for leading on wider change through innovation and development. **The area of “soft” water investments is one where WWF plans to focus its efforts, and hopes to collaborate with finance stakeholders in order to explore profitable “soft” solutions for lending and investment.**

WWF believes that if societies, governments and industry work together to solve water issues, much can be achieved. Water is a complex resource, and by its very nature and the way in which it touches our lives and economies, it presents us all with significant challenges for the 21<sup>st</sup> century. Progress will be made, but public awareness and media diligence will highlight and hold to account those who get this wrong. Some businesses have already suffered the consequences of water-related risks becoming material. If we continue to wait for risks to emerge, it will be too late. Only those who proactively explore the wider issues of water and respond to these present challenges will be prepared to survive in a water-constrained world. Most importantly, those who are proactive will be enabling opportunities that support healthy freshwater ecosystems upon which society, business and the economy depends.

# PART D:

## Annex

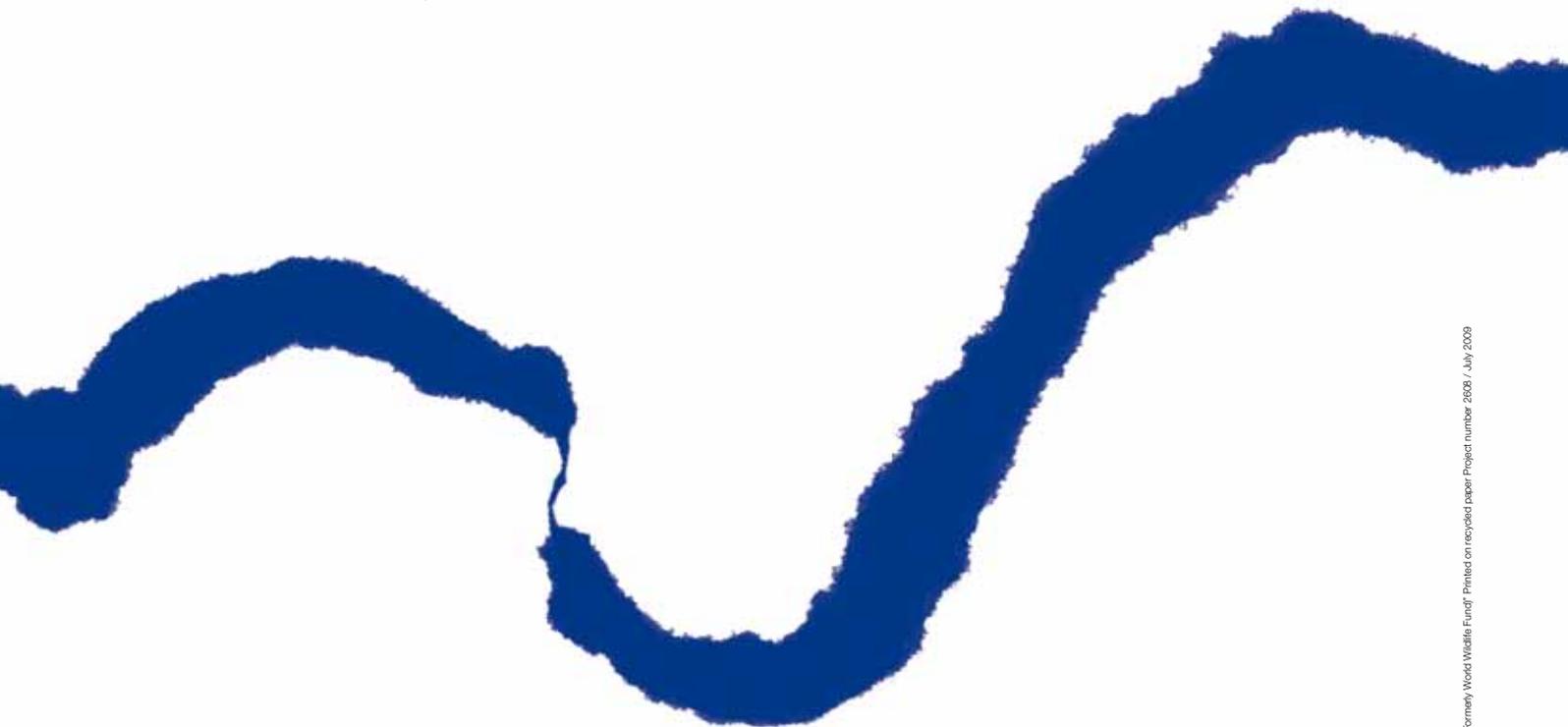
### Questionnaire

- 1 What does **“water”** mean to you and your company, given the complexities of this resource?
- 2 Who are in your view the stakeholders when it comes to water management? What conditions would be necessary to achieve sustainable water management? (who should be involved, how should they interact, etc)
- 3 Does your company take water issues into consideration within its decision making processes, financial analysis or product development?
- 4 If so:
  - a **Why?** What are the motivations for this?
  - b **How** do you assess “water”?
- 5 What does **“water risk”** mean to you?
  - a Is water an issue you consider in assessing risk to your investments?
  - b What information do you need in order to understand and assess water risk?
  - c What are the barriers and incentives in assessing water risk?
- 6 What does **“water opportunity”** mean to you?
  - a Is water an issue you consider in assessing new business opportunities for your company?
  - b What information do you need in order to understand and assess opportunities linked to water?
  - c What are the barriers and incentives in assessing water opportunity?
- 7 What would a sustainably managed water resource look like? How do you think water will be managed in 10 – 15 years’ time?
- 8 What is the urgency of this issue to your business? When do you think it will become an important issue for business and finance?

Now / in 3 years / in 5 years / in 20 years / Never

## About WWF

With a global network covering more than 100 countries and nearly 50 years of conservation work behind us, WWF is one of the most experienced environmental organisations in the world, actively contributing to delivering freshwater projects and programmes around the world.



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The mission of WWF is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable resources is sustainable
- reducing pollution and wasteful consumption

[wwf.org.uk/freshwater](http://wwf.org.uk/freshwater)

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