

0.618...

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The golden ratio... building quantity without sacrificing quality

Common Waters

Globally, an increasing number of financial service institutions are awakening to the seeming conundrum of the complex challenges and opportunities that water presents. For those banks, insurers and investors focused on the sector, the promise that water markets hold is becoming self-evident. This is balanced, however, against a reality that sees uncertainty over the best forms of public-private interaction that will enable us to deliver on the goal of "clean water for all". Water polarizes opinion like few other natural resources. Clean water: a tradable commodity or an undisputed human right? A hard asset to be sliced and diced through the latest financial engineering or a gift imbued with a spiritual value as the fundamental source of life that cannot be quantified?

This edition of 0.618... will not pretend to address the deep philosophical questions that surround water but what it does do is to bring together global thought leaders from the financial world, academia and NGOs to explore the common ground between water, broader sustainability issues, finance and capital markets. This edition of UNEP Finance Initiative's newsletter ranges widely, from food security in Africa, to the climate change induced drought in Australia and water supply and sanitation schemes in Eastern Europe, to cast some light on the issues financial service organizations need to take into consideration when it comes to water. Running through this 0.618... is the assertion that climate change may be the biggest environmental challenge of the coming decades but its effects on business will mostly manifest themselves via water. Circumstances of too little, too much or inadequate timing and quality of supply will expose businesses to considerable stress throughout the next decades, be it in Canada, the Mediterranean basin, Bangladesh or Australia. On top of that, strong economic growth and demographic trends especially in emerging economies are increasing global water consumption at twice the speed of global population growth. Still, half of the global population in developing and emerging economies lacks access to safe water supply and sanitation. How will financial institutions play the deadly serious water game in the decades to come?

Paul Clements-Hunt,
Head of Unit, United Nations Environment
Programme Finance Initiative

The Promise of an African Green Revolution

Note from the Editor

The contribution by Prof. Jeffrey Sachs, Director of the Earth Institute at Columbia University, spotlights the multidimensional implications of "water" for the economic tissue and human well-being in many parts of the world. The article was originally written in 2006, and consequently, its thrust was based on a situation of drought throughout Africa's Sahel zone and sub-Saharan regions. Twelve months later, in summer 2007, many of the same regions are once again under severe water pressure. This time, however, the problem is not too little water, but too much of it.

Prof. Jeffrey Sachs

Director, Earth Institute at Columbia University

Yet again, large parts of Africa are in famine, and yet again, drought is one of the contributing factors. The farming situation in Africa is complex and varied.

Soil nutrient depletion is taking its toll across much of the continent, as impoverished farmers for decades have been unable to afford fertilizers, and have thereby been removing vast amounts of soil nutrients with each harvest. Climate instability is surely an additional factor, however. Recent research has even suggested an anthropogenic (human-induced) dimension to the apparent shortfall of rain in the Sahel in the past quarter century.

Whatever the precise causes, the most urgent challenge is to do something about the risks of famine in the future. Here, the evidence suggests that a combination of good science, ingenuity, and increased financial resources at a modest but real scale, could turn the tide. Despite the real and deep food crisis underway in much of Africa, the good news is that Africa could feed itself with a well-designed and implemented Green Revolution that builds on





<http://projects.ox-y.org>

Wanted: A Convergence of Mindsets

To a large extent, the international discussion around water in recent years has ideologically centred on whether to privatize or not. Now it is becoming increasingly clear that this might not have been the most fruitful of discussions as the arguments brought up by each side are as valid as they could ever be: hence, none of them will ever be able to actually outweigh the other. In order to solve the dramatic water crises around the globe, especially in developing countries, both “mindsets” will, in the end, have nothing left to do but to move towards each other. And no one other than the global financial system will have a higher interest and ability to orchestrate that convergence - convergence that is bitterly needed in the perpetual confrontation between the demands for cost-recovery and resource efficiency versus water as a human right.

It was this demand for corporate efficiency that in 2000 led to the privatization of SEMAPA, the USD 30 million-indebted public water utility in the Bolivian city of Cochamba. The promise was to finally improve and expand the impoverished infrastructure in order to provide

drinking water to all of the city’s inhabitants. For that, investment was needed and, by means of a concession clause guaranteeing an ROI of 15% p.a., it was easily secured, from a private consortium of multinational companies. Certainly, both the promise of enhanced and wider coverage as well as the anticipated margins had to be financed somehow and, therefore, the newly established company had to do what most companies would do in that situation: it adjusted the price of its product. In this case, however, the tariff increases had to reflect all the increases that had never been implemented before: rates were swiftly augmented by an average of 35% to about \$20 a month. While these figures may have been insignificant in the developed nations that the Consortium’s staff had come from, many of their new clients only earned about \$100 a month and \$20 was more than they spent on food. This faux-pas eventually erupted into a chainreaction of dramatic protests and riots across the whole country, leading, in the end, to the death of a number of protesters, police men and soldiers as well as the nationwide declaration of a state of emergency. All in all, due to the public pressure for the interpretation of water as a human right, the concession contract with the consortium was revoked and SEMAPA put back in place again.

But what’s the situation today? In the end, water tariffs were reduced to their pre-2000 levels. As late as 2005, half of the 600,000 people of Cochabamba remained without water and those with it only received intermittent service (some as little as three hours a day). The New Yorker reports “in Cochabamba, those who are not on the network and who have no well, pay ten times as much for their water as the relatively wealthy residents who are hooked up”, and with no new capital the situation cannot be improved. The Cochabamba example clearly shows that the interpretation of water as a human right does not necessarily lead to water supply actually being a reality. At the same time, striving unconditionally for cost-recovery and stubborn profitability can finally lead to red numbers and even bankruptcy. How ironic: if safe water and sanitation are to become a reality as a human right, what is mostly needed is finance, which, according to the Camdessus Panel will, at least partially, have to come from the private sector and capital markets; on the other hand, if companies, banks and investors want to develop financially sustainable business models in such a delicate sector, they will be ultimately forced to design them in an as socially inclusive manner as possible. And who has both the power to push for ESG-inclusion in corporate behaviour as well as the

interest in successful business models not only in the short-term?

What becomes clear is that the real discussion is not about privatization or non-privatization. In order to be successful, water utilities, no matter whether private or public, need to be both financially efficient and socially inclusive. Only then will they be able to raise the funds that capital markets and the banking sector have to offer and with them deliver the services they are expected to; both in developed as well as in developing countries.

Under intelligent concessions and real market scenarios with many competitive bidders, private companies can do more than a good job in preserving this balance. Examples like Manila Water have demonstrated this in the past. This holds true for many public utilities as well, especially when they are exposed to the necessity of being economically self-sustained

and not reliant on tax subsidies.

Public water authorities around the globe are progressively becoming aware of the win-win constellation of enhanced funding for more investments on the one hand and an external pressure for more efficient plus transparent public operations on the other. This is one of the reasons why public finance activities by private banks as well as mechanisms for sub-sovereign capital-market-access have started to thrive into a promising future. As one of the focus areas of its Water Work-stream, UNEP FI will make sure to deliver to key financial players and their markets the capacity and tools needed to make that future come rather sooner than later.

Remco Fischer

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For more information, please go to page 8 or visit:
http://www.uneppi.org/work_streams/water/index.html.

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breakthroughs in African agriculture, ecological management, and financial engineering.

A Green Revolution is a package of technologies and institutions that can raise food productivity and income security markedly in a short period of time. In Asia in the 1960s and 1970s, the Green Revolution was a package of high-yield dwarf variety rice and wheat, combined with increased inputs of fertilizer and irrigation. This package did not apply directly to Africa, because of ecological and agronomic differences. Even when the science for an African Green Revolution came into place in the 1980s, the fiscal squeeze and “structural adjustment policies” of the IMF and World Bank blocked its implementation.

Now we can do much better. High-yield seed varieties exist for cassava, upland rice, maize, and other African crops. Soil nutrients can be replenished if impoverished smallholder farmers are given vouchers to buy vitally needed chemical fertilizers, and if improved agro-forestry and animal husbandry methods are integrated into smallholder farm systems. Perhaps the toughest challenge is water management in rain-fed agriculture in an unstable and perhaps increasingly hostile climate system. Even here, some good options exist.

First, breakthroughs led by hydrologists, soil scientists, landscape ecologists, and others, have shown how rainwater can be much more effectively harvested, to produce significantly more “crop per drop” of rainfall. Techniques such as farm ponds and supplemental irrigation, backed by low-cost and appropriate technologies such as treadle pumps, can make the difference of famine and successful crop.

Drip irrigation can provide an economic and agronomic breakthrough for highly profitable cash crops in arid and semi-arid environments.

Second, financial engineering in the form of rain and crop insurance look to be techniques of the future to mitigate seasonal and inter-annual risks that farmers now face. Many worthy attempts to improve agriculture production in Africa have floundered because financial contracts have been quite primitive – typically a one-season, high-interest rate loan. When the rains have failed, or food prices have collapsed in a glut, indebted smallholder farmers have been pushed into financial distress. New financial techniques for risk management, for example insurance contracts against droughts, can put an end to boom-bust cycles, and allow farmers to improve their conditions even when crops occasionally fail because of extreme meteorological shocks.

The UN Millennium Project and the Earth Institute at Columbia University have recommended a strategy for producing an African Green Revolution, and the non-governmental organization Millennium Promise is implementing those recommendations in Millennium Villages in 10 countries in sub-Saharan Africa. Major scientific partners such as the International Water Management Institute and the Stockholm Environment Institute will add to the scientific management of rainwater for agricultural production, ecosystem maintenance and household use. These organizations will partner with financial institutions as well to show how state-of-the-art financial management can play an important complementary role with agronomy in fostering the escape from poverty.

For more information, please visit:
<http://www.earthinstitute.columbia.edu>



Cash flows where water does

Getting Wall Street Wound up about Water

The world is facing a three-fold water crisis: in consumption, which is increasing even faster than population growth hence exacerbating existing shortages; in water pollution which puts availability of freshwater even further under stress; and in finance, with a looming funding gap between the needs of expanding infrastructure – let alone maintaining existing capacity – and the capability of existing owners to invest.

Although a person can survive on about 2.5 litres per day, we consume significantly more through food production and other economic activities. While the UN estimates that 15 litres per day is the minimum “survival ration”, the production of 1kg of meat requires about 16,000 litres of water, 1,300 litres are needed for the production of 1 kg of wheat, and it can take up to 400,000 litres to manufacture a car.

One in five human beings currently suffers from water shortages and to make things worse, the global consumption of water is growing at twice the rate of population growth. Climate change will contribute to a further deterioration of the situation, causing more droughts and floods. By 2025, as much as two-thirds of the world’s population will be living in conditions of serious water shortage of whom one third will be living in conditions of absolute water scarcity.

Furthermore, we are increasingly contaminating our limited fresh water resources with waste water from industrial process and cities and with the intensive use of pesticides and fertilisers. Levels of industrial waste-water production are set to double by 2025, and health standards are already now regularly exceeded locally in Europe and the US.

Last but not least, the water sector faces a crisis in its funding. In the European Union, between \$150 billion and \$215 billion are required for investments in sanitation infrastructure by 2010. The US needs to invest \$700 billion in water and sanitation over the next 20 years. Globally, some \$4,500 billion are needed over the next 25 years just for capacity extension, without taking into account renovation and rehabilitation needs.

It is unlikely that the current main investments in water infrastructure – typically from the public sector – will meet these financial demands by themselves. Thus, in order to

bridge the financing gap, but also to guarantee the financial sustainability of water solutions the private sector in general and financial institutions in particular have to become involved and come up with new, innovative ways to tackle the sector’s thirst for capital.

The intention of this article is not, however, to generate a feeling of pessimism. For the first time in mankind’s history we have both a significant understanding of the causes and effects of the looming water crisis, and the actual means to implement a variety of solutions. The necessary technology to address water and sanitation problems is already available at this time and hour; the bottlenecks lie in ensuring appropriate implementation and maintenance of technology, good management and governance and, most importantly, serious stakeholder engagement.

Interested in investing in a large and expanding market that will not go out of fashion?

From an investor’s perspective, increasing water scarcity and the challenges of a sustainable water future present business opportunities and high potential for growth – both directly in the water industry (which, with oil and gas and electricity, is one of the three largest industrial sectors worldwide), and via related industries such as agriculture, forestry, food, beverages, manufacturing, technology, construction and infrastructure, etc.

Nevertheless, globally speaking, the water sector presents a number of challenges for investors and the financial sector as a whole. Risks include:

- **Creditworthiness and customer ownership:** Given that many buyers of water company products or services are local government entities, companies face high non-payment risks, especially in developing countries. The carrying capacity and acceptance by the end-user is a critical factor. Host country governments must put in place statutory and regulatory frameworks conducive to enhancing private capital flows into the sector. Stakeholder management should also be stressed as a critical success factor.

■ **Foreign exchange risks:** Regions with high levels of water stress are unfortunately often also subject to high currency risks. Foreign exchange hedges could be an option to insulate against fluctuations in currency. However, it depends very much on specific situations in terms of payback periods, the scope of a given country's "water portfolio", its liquidity and economic stability, whether hedging is an attractive solution for exchange risks. Guarantee funds would act as an incentive for increased private sector investment.

■ **High transaction costs:** The aspects mentioned above can increase transaction costs significantly. Compensation of transaction costs with higher returns on investment demands is not always a feasible and sustainable solution. The trick is to keep transaction costs on a practical level by looking for efficient and creative approaches. Increasing efficiency via enhanced cooperation and the application of more appropriate, context-adapted solutions could be an answer.

■ **Political risks:** Raising the cost of capital could make tariffs less affordable to the local people. The political situation in some states makes it difficult to evaluate the public's willingness to pay. Water supply is a politically complex issue, still dominated by government control and by the public misperception that water supply is for free. A broad political consensus is needed for water to be paid for. Stakeholder engagement is needed in order to determine appropriate prices and to define a cross-subsidy system. This point is a particularly important one for potential investors in the sector to consider. The idea that water is principally a 'gift of God or nature' can lead to the perception that it is

an unlimited resource. This can undermine sustainable development. The key question is how the economic aspects of investments – fluctuations in supply and demand, the efficiency of the system (for example, due to leakage and illegal tapping), access, production, and distribution costs – are balanced with social demands and environmental concerns. The political and social components of water investing are crucial factors. In the same way, financial institutions that do not directly invest in companies, but finance activities through lending to water-intensive enterprises, or enterprises with a strong water footprint, may be exposed to water-related risks. Financial institutions can mitigate their exposure to risks, such as financial risk or reputation risk, by financing companies that have integrated water considerations into their products and operations.

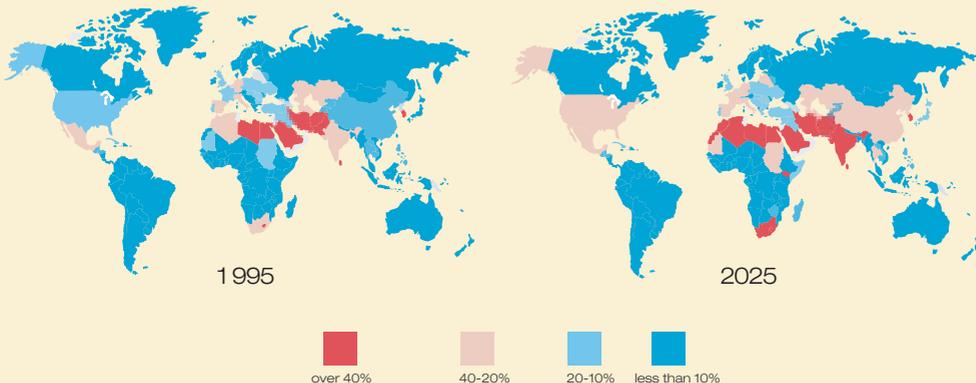
The investment opportunity

Keeping the above in mind, market perspectives for the water sector are good, driven by: increasing world population and welfare growth; the migration of people from rural areas into cities; increasing globalisation; the privatisation of government-owned water companies; and the growing trend towards outsourcing specific activities, such as contract management operations and services, to private companies. Due to the need for a steady supply, water is a stable investment, unaffected by cyclical influences. In turbulent economic times, utilities are a relatively safe investment.

But water investments are also influenced by a number of other themes, whether

Fresh water stress

The following map projects how much water will be withdrawn with respect to the amount that is naturally available.



positively or negatively. These include climate change, health, population growth, food and drink, energy, pollution, capacity building/ knowledge development, innovation, engineering and infrastructure. From a portfolio management point of view, the sector provides a diverse spectrum of investment opportunities. Investments in water can be made across the following range of sectors and sub-sectors: water supply and distribution; waste-water (industrial and household); water management, irrigation and drainage; water construction, and water-related energy systems such as hydropower, tidal, geothermic and electrolytic energy systems.

The sector also offers a diverse nature of investment instruments, whether via listed equities, bonds, private equity (venture capital), public entities (municipalities) and direct project finance (loans).

■ **Listed equities:** In recent years, a number of water funds have been launched to invest in listed companies. The Pictet Water Fund was the first in Europe, set up by the Swiss private banking group in 2001. Since then, Zurich based Sustainable Asset Management, Dutch asset manager Maxx Water Management, Belgium's KBC Bank, Deutsche Bank and the Netherlands' ASN Bank have all launched funds to invest in the sector. Areas of particular focus include membranes, UV disinfection, metering, leak detection, filtration and storm water management.

■ **Bonds are issued by utilities,** for example companies like Suez, Veolia and RWE, or municipalities (see below). The business model of water utilities is pretty robust in good and bad times, since water demand is persistent and unsubstitutable. Investments in water-specific bonds have a long-term perspective and are relatively safe, due to utilities' often monopolistic positions and stable cash flows.

■ **Municipalities:** Similarly, states, cities, counties and other governmental entities can use debt obligations (bonds) to raise money for their water and sewer systems. The aspects mentioned above on bonds are also applicable to municipality debt. A principal difference is that municipalities tend to own the water resources and other valuable fixed assets, in contrast to private utilities which are often the manager, rather than the owner, of the water resources and other assets (via concession contracts with the municipality). In general, public waterworks and sanitary sewer utilities are characterised by stable and high credit ratings. Because these investments are seen

as relatively low risk, they also provide lower returns.

■ **Private equity and project finance:** It is in these segments that investment gaps between investors and investees are widest.

Start-up companies and smaller-scale projects lack access to finance, despite their often more innovative approaches, and their potential to provide customised or sustainable solutions to the challenges facing the sector.

Conclusion

Global water stress is increasing while the available freshwater volume on earth is scarce. Water is set to become a resource more important than oil is now. It is time for investors to take up the challenge and to look for innovative approaches to these new opportunities. Ignoring the situation is neither a realistic nor affordable option, since water is a key factor for the economy, society and the environment, and thus a serious driver for sustainable development and standards of living.

Along with innovative technologies for the efficient and effective supply and use of water and sanitation there is a pressing need for more appropriate financing structures, especially in entrepreneurs and smaller / medium-sized water projects. Such approaches can be linked to the "Base of the Pyramid" model and a number of successful mechanisms that are currently applied in microfinance schemes.

There is a pressing need for the introduction of more appropriate financing structures, especially for entrepreneurs and smaller and medium-sized water projects. Possibilities should be explored for financial engineering, such as bringing together commercial and donor money and mobilising local finance backed by bonds, funds or guarantees.

Kajetan Hetzer

Sustainability Analyst and Fund Manager, SNS Asset Management¹

¹ The SNS REAAL Water Fund recognises the challenges of water stress and urges stakeholder engagement in addressing these. SNS REAAL's motivation is not only based on corporate social responsibility, but also on the desire to encourage other stakeholders to make use of business opportunities as part of development. The approach of the SNS REAAL Water Fund is based on a bottom-up approach and stakeholder management that integrates people, planet and profit aspects. Sustainable values and profits should be generated with and for the stakeholders. To achieve this, it takes time and knowledge, in order to find creative solutions and to cooperate with various stakeholders such as governments, NGOs, companies, local banks and, last but not least, water-users themselves.



360° water overview



Planet Calling Banker

Water is essential to life and also to business. With the increasing stress on water resources worldwide, financial institutions are facing increased risk through their business operations. However, it is not only water scarcity that is becoming a problem: poor water quality, caused partly by the effects of business pollution, is a growing problem, particularly in the developing world. On the other side of the coin, financial institutions are facing the risks of too much water; increasingly we are reading about “the worst flooding in years...” The impact of such risk, particularly on the insurance industry, but also on commercial banks and investment activities, is increasing dramatically.

Water scarcity and quality has significantly impacted society for many years. However, the demands on water by growing populations and developing industries, coupled with changing weather patterns, appear to be exacerbating the problem further.

■ On issues around water-consumption and water as an input for production, financial institutions need to understand the borrower's dependency on water and the impacts that water-related issues can bring. Not only the reputation of financial institutions is on the line: one needs to consider the risks that changing water availability could have on the success of a water-intensive project and its ability to meet repayments, or the potential impact the backing of heavy polluters can have on

public opinion and overall market standing. The financial relevance of water-related risks is increasingly becoming evident and has started to root itself among bankers and investors following negative headlines around, for instance, Coca Cola in India. In 2005 the company's national sales dropped by approx. 14% after the alleged involvement in a water pollution scandal in the province of Kerala.

■ On issues around water-supply and sanitation, Financial Institutions should recognise the strategic significance: By 2015 1.5 billion additional people will have to be provided with water-supply- and 2 billion people with basic-sanitation-facilities relative to 2000 levels, if the Water and Sanitation Target of the Millennium development Goals is to be achieved. From a developmental macro-perspective the biggest challenge consists in overcoming a resulting funding gap of USD 10 to USD 25 billion per year. From the business-type micro-perspective of a financial institution this challenge becomes one of the biggest investment opportunities of the coming decades. However, until now, the sector has barely got involved, especially in developing countries.

So, is it all doom and gloom? Not necessarily. Read on, the industry is starting to take note.

360° water overview

**WATER & FINANCE @
UNEP FI****The journey has begun**

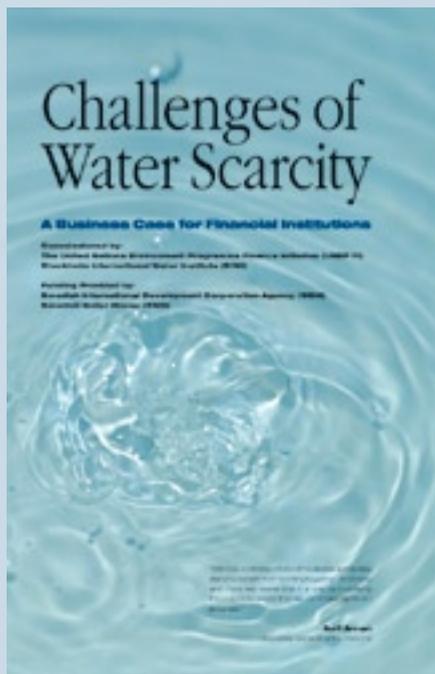
In 2004, UNEPFI together with the Stockholm International Water Institute commissioned a report: "Challenges of Water Scarcity – A Business Case for Financial Institutions". This report set out to provide financial institutions with a framework for acknowledging risks related to water scarcity and the social conflicts that may arise under respective scenarios. Building on this work, a group of financial institutions and specialists met in June 2006 under the auspices of UNEP FI to brainstorm on the issues facing the industry.

The aim of the meeting was to identify not only the risks, but also the opportunities for the financial community to make a real difference. The group considered the risks emanating from infrastructure and water services, water-intensive industries, suppliers to the water industry, and other sectors that may have a water footprint. It also looked at how these risks impacted on different finance players (e.g. lenders, asset managers, insurers), how/if the risks were assessed and, if possible, mitigated by these.

A key part of the session was spent looking at the opportunities available for the financial community to address these challenges. Core business opportunities such as providing finance for cleaner production methods, water trading and weather derivatives were identified, while another route was seen to be through philanthropic actions such as providing boreholes or subsidised micro finance.

How can a financial institution promote change through its interaction with customers or its investment strategies? This is precisely the question UNEP FI has been striving to respond to since 2004 through its Water & Finance Workstream, with respect to both the sphere of water supply / sanitation schemes as well as water-intensive businesses downstream.

In the last few months UNEP FIs efforts have been concentrated on the development of a set of broad guidelines that will be an indicative tool for different types of financial institutions - ranging from project financiers to venture capital vehicles - on how to identify, assess and manage risks related to all of their water-



exposed operations. The tool, to be launched at UNEP FI's Global Roundtable in Melbourne this year, will, however, go beyond risks and identify today's and tomorrow's biggest opportunities – the opportunities that achieve to align profitability with water sustainability.

In 2008/2009 these Guidelines will be complemented by more focused and practical add-on products:

- With respect to water as a production-input and –effluent, a series of sector-specific and geographic benchmarking frameworks on the environmental performance of water-intensive companies will be developed.
- In the sphere of Water Supply and Sanitation, the aim will be to deliver a capacity building platform and mechanism for private sector financial intermediaries and investors on how to design business operations and channel finance into the sector - finance that is urgently needed if the Water and Sanitation Target of the UN Millennium Development Goals is to be achieved.

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GOING, GOING, ALMOST GONE?

Water Scarcity

Severe climate conditions, high population density, along with poor water management, invariably result in water shortages. This is a scenario experienced by countries around the globe, North and South. In London, a city not usually known for low precipitation levels, the crumbling water infrastructure coupled with increasingly dry winters have led to British citizens now being asked to save water. Up to 30% of the water that flows in the distribution system (the piping network dates back to the Victorian Age and is in particularly bad shape) is lost on the way to the consumer. In Mexico City up to 40% of water is similarly lost on its way through the distribution system. At the same time the city is growing at the stunning rate of about 200,000 people each year and suffers other worrying water-related problems: the over-extraction of water from groundwater resources means that those parts of the city which are located on what used to be a lake are subsiding by as much as 30 cm a year.

On the road and forgot the roadmap?

We may not be following it, but the roadmap is clear enough. During the World Summit on Sustainable Development in Johannesburg 2002, the international community decided to halve the number of people without access to safe drinking water and without access to sanitation by 2015. These goals were already set in the UN Millennium Development Goals (MDGs). The so-called “Camdessus” Report issued in 2003 outlined the cost of achieving these goals. To cut a long story short: the report concludes that the current level of investments (10-30 Billion US\$ p.a) in water infrastructure would have to be doubled at the very least.

What exactly have we achieved since then? Recent conferences like the 4th World Water Forum in Mexico that took place in March 2006 or the last annual World Water Week that took place in August 2007 did not provide a clear picture. Although many countries, especially in Southeast Asia, are making good progress, most African countries are falling behind.

Climate change still overlooked in development strategies

Scarcely any development plans take the impact of climate change into account. Studies by The Netherlands’ DGIS aid agency had shown that, in some countries, up to half of ongoing projects were threatened by the effects of climate change. Some of the conclusions drawn by the first water and climate day during the World Water Week 2007



Nuttan, Xochiman, Shi, Reuters

again demonstrated that, as well as affecting the water balance, climate change has far-reaching consequences in terms of economic development and poverty. It is, accordingly, imperative that future strategies look beyond 2015, the deadline for achieving the Millennium Development Goals. We also have to ensure that projects remain viable despite changes in climate conditions. Finally, participants urged that climate and water take greater precedence in international political and economic summits.

How can it be done?

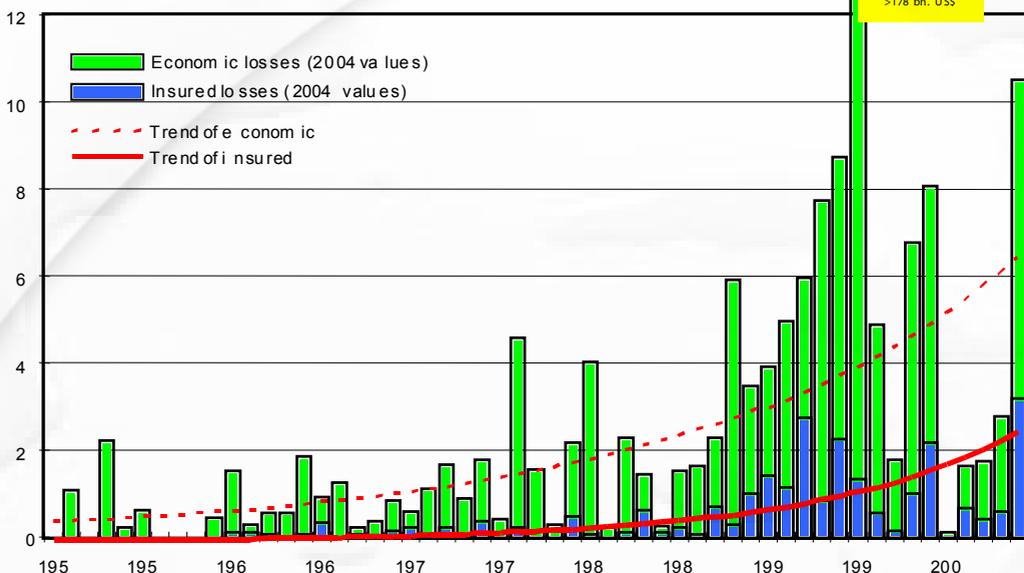
Lack of finance is not the only problem. Water resources need to be managed along the pipeline, from the resource to the customer. Only integrated water resource management (IWRM)¹ can do that. Moreover, providing water for all is first and foremost the responsibility of local governments.

¹ IWRM is a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (Philippine Water Partnership).

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Water-related financial losses



Yet water still is not a top priority. Scarce financial resources are many times rather spent for defence than to meet the basic needs of the population.

To date poor people generally pay a higher price per litre than anyone else. The privatisation of water resources and distribution has long been discussed, but although people are willing to pay for water, so far this has not proved to be the solution.

The only solution has to be cooperation between local governments and the private sector. The latter can provide management and technical skills. Governments need to ensure that the water supply system is managed with long-term perspectives and not just in function of quarterly results. Without such Private-Public Partnerships (PPP), lack of investment in infrastructure maintenance and water quality will mean that more water supply systems in the world will suffer water losses such as those of London's Victorian pipelines and fewer people especially in the developing world will get the basic water supply they desperately need.

Dirk Reinhard
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NATURAL DISASTERS, FINANCIAL CRISES?

Financial sector engagement dampens impact of water-related catastrophes

Business banks on just-in-time delivery of key inputs and services carefully planning and investing in reliable, timely availability of the material and tools needed for smooth operations. Yet it is often surprising when water—a fundamental resource for business

and society—is too early, too late, too much, or too little.

The world over, businesses and society struggle with too much or too little water—more powerful storms and flooding, as well as hotter, longer dry periods (IPCC 4th Assessment Report). In Africa's large catchment basins of Niger, Lake Chad, and Senegal, total available water has decreased by 40 to 60 per cent, and desertification has been worsened by lower average annual rainfall, runoff, and soil moisture, especially in southern, northern, and western Africa. The hurricane season of 2005 brought unprecedented losses including Hurricanes Katrina and Rita, which devastated large swaths of the Gulf of Mexico and the Caribbean, including New Orleans. Such extremes can cause massive losses—estimated to reach as high as \$100 billion a year in the course of the next century—and interrupt development plans as well as normal business activities.

Increasing losses from water-related disasters¹ make it ever more difficult for disaster-prone nations to finance economic recovery from their own budget revenues or from special government disaster funds. Losses during the 2004 hurricane season amounted to 183 and 212 percent of GNP in the Cayman Islands and Grenada, respectively. Growing water-related risk makes a good case for active rather than passive engagement of the investment, banking, and insurance sectors.

In spite of these climate challenges, the financial sector can help manage the surprises that affect water availability and quality. The sector has a strong potential to steer its

¹ In this article, the definition of water-related disasters includes such events as heat waves, droughts, bush fires, tropical and extra tropical cyclones, tornadoes, hailstorms, floods and storm surges.

business partners into adapting good practices and to channel investments towards water. Banks, financial institutions and insurance companies cannot stop water-related disasters, but—with the rising economic and social costs—the financial sector may play a leading role in linking risk reduction and finance in water.

Koko Warner

Academic Officer and Section Head for Social Vulnerability and Environmental Change, United Nations University, Institute for Environment and Human Security (UNU-EHS)

UNEP FI and ICF make green banks go blue at World Water Week

A new set of guidelines will bring the issue of water-related risk management into the mainstream. It could force water funds to re-evaluate their holdings.

In amongst the international and nonprofit organisations at Stockholm's World Water Week in August, a group of bankers met to discuss why water matters to them, and to develop a set of guidelines that will help them manage the growing risks from water shortages and water pollution.

The insurance industry has been thinking about risks from flooding for a long time, and a select group of asset managers running specialized water funds has recognized the commercial potential in the sector, but the issue is only just beginning to come onto the radar of mainstream corporate financiers and, perhaps surprisingly, to find its place in the sustainable finance corner.

The new guidelines, being established by ICF International under the aegis of UNEP FI, are due to be launched in Melbourne in October and mark a growing recognition of the materiality of water-related risks. Australian banks such as Westpac and ANZ are in the vanguard, having seen default rates among their clients in the power and agri-business sectors rise as a result of the country's long drought. These banks are playing a proactive role, quantifying water risks themselves and using the evidence to get clients to take steps to mitigate them.

Their efforts will be aided by the World Business Council for Sustainable Development's new Water Tool, launched in Stockholm, which allows companies to assess the level of water resource risks at their production facilities around the world.

Water shortages are not the only issue worrying financial institutions. In 2005, investors in Petro-China braced themselves to see whether

the pollution spill that poisoned water supplies to the city of Harbin would take on the proportions of Union Carbide's Bhopal disaster. It didn't, but risk-averse bankers want to see their clients take more steps to prevent these incidents from happening in the future.

On the asset management side, water-related opportunities are attracting attention from a range of mainstream investors, from Danish pension funds to technology funds, but there is nothing inherently 'green' about investing in companies with exposure to water. Some of the best known water funds include bottled water companies in their portfolios, despite a history of poor environmental credentials. Only a small handful of water funds, like those of Zurich-based SAM Group, and SNS Reaal, the Dutch bank, are committed to following social and environmental principles while keeping a single-sector focus.

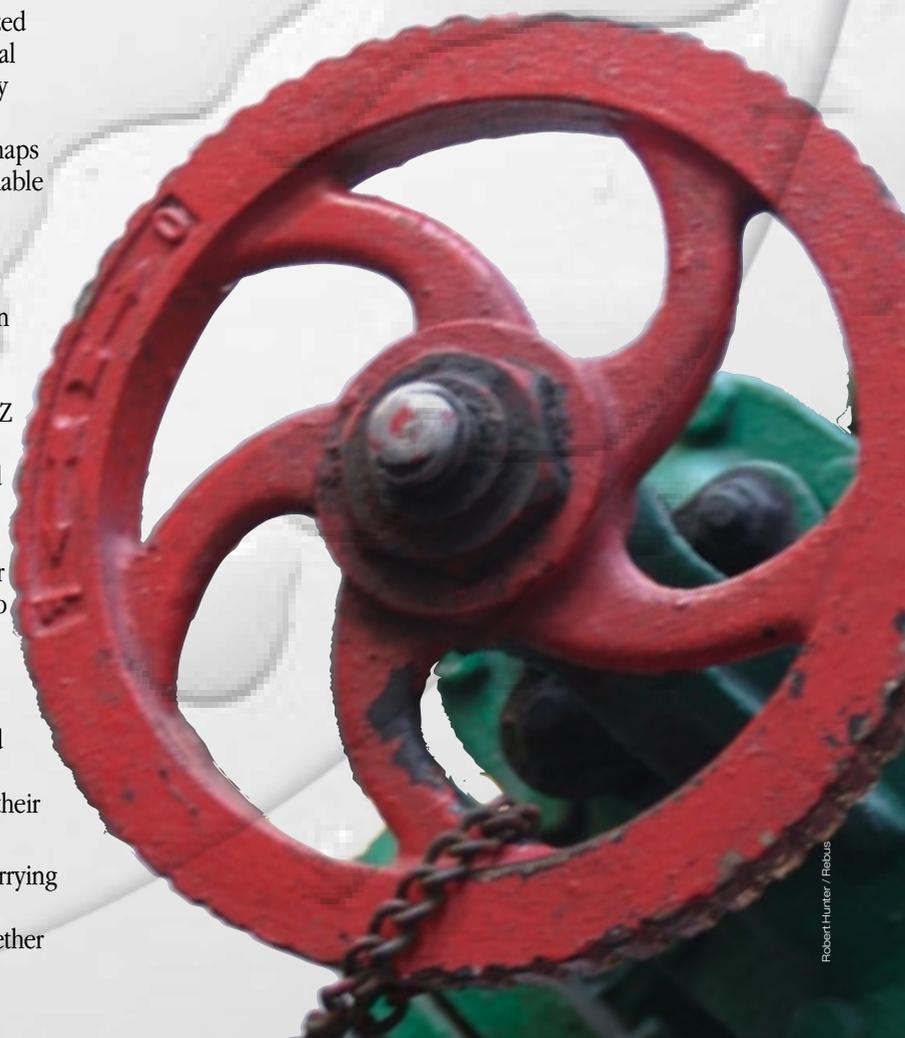
There are few obvious investments for these blue-green sustainable water funds, but their managers are convinced they have found a strategy that will deliver long-term and above-average returns, both of financial as well as of social and environmental nature.

Source: Global water Intelligence, September 2007 Issue

Dr. Olivia Jensen

Senior Consultant
ICF International, Water Markets Practice London

360° water overview



Looming Liquidity

Through a different lens.

Two perspectives in focus: not so conflictive after all

The effects of water shortages are becoming increasingly prominent, both in qualitative and quantitative terms. Often perceived as a development issue, water scarcity has today become a global problem, where increases in consumption, aging infrastructures, pollution, and the effects of climate change are all factors in the escalating depletion of water resources.

With the increasing stresses on water resources worldwide, financial institutions (FIs) are facing increased exposure in their operations through the businesses and industries they support. However, with these challenges come opportunities for FIs to steer their business partners to adopt best practices in water management. Increasing investment in water, through private-public partnerships and innovative financing mechanisms, are just two examples of how FIs are taking the opportunity to address these challenges.

Martin Hancock
Chair, UNEP FI Steering Committee

Dave Tickner Head of Freshwater Programme WWF

When considering the risks and opportunities in water, to what extent can financial institutions play a role in addressing water related issues as significant actors of economic systems?

FIs have a key role to play in addressing water issues. In doing so, they should recognise that sustainability – in economic, social and environmental terms – is key to successful returns from investments.

Significant new investment is needed in water resources management, infrastructure, water supply and sanitation, industrial processes, and institutional building. In particular, much investment is needed in countries that are the least attractive for lending, e.g. sub-Saharan Africa, which means that innovative financing

solutions are required, including ways of accepting higher risks. Water has already been identified as an attractive investment opportunity by FIs such as SAM and Dexia, where water has in fact become a key growth area.

In terms of risk management, applying criteria based on the World Commission on Dams report for large scale infrastructure will help screen out bad investments. Furthermore, conditions in lending and investment should be used to promote efficiency of water use, recycling and reuse to the maximum extent possible, e.g. in the manufacturing industry to ensure that appropriate environmental technology is used.

Institutional development e.g. to develop effective river basin planning and management, needs to be an integral part of water sector lending to provide the framework for economic, social and environmental sustainability. Indeed, FIs should support public and private solutions for water services (and combinations thereof), depending on policy in the recipient nation.

Another avenue FIs could explore is developing innovative financing models (e.g. micro credit) for the promotion of small scale solutions to the water crisis (e.g. rainwater harvesting, community hydropower)

With regards to the opportunities for financial sector investment in water, can water be considered a commodity to be traded in future markets?

Water is suitable for trading within a river basin and conceivably between neighbouring basins under certain circumstances. In such cases it is not the water itself that would be traded but rather the right to withdraw and use quantities of it. The river system itself and/or infrastructure enhancements, e.g. an irrigation system, would then serve to deliver the physical substance to those with the right to use it. Where delivery infrastructure is involved, users would generally also be required to pay a service charge for the right to use the water (or these could be combined).

Setting up systems to be able to undertake this kind of water trade is challenging and requires significant legal and institutional development (as noted above), including, for example, ensuring that traditional water rights will be

Crisis?

recognised, that the needs of the poor with no or low purchasing power are met, and that limits are set to the total number and volume of rights so that the freshwater ecosystem and resources remain within their renewable limits.

Water trading of this sort can help scarce resources to be used for the most economically valuable activity while providing benefits to communities, e.g. farmers may decide to sell (or lease) their water right to an industry, on the grounds that the profit to be made in this way is greater than from using it to grow crops themselves. This benefits the farmer, the industry concerned and the economy overall.

In cases where river basins cross borders such trading could – in principle – also be carried-out internationally, although the legal and institutional arrangements would be much more complicated. Water is not, however, a suitable product to be traded on international futures markets as commodities such as minerals, metals, and agricultural products. This is largely due to the physical characteristics of water and its low price to weight/volume ratio.

Hans Porter Investment Manager, Pictet Water Fund

The Pictet Water Fund has clearly illustrated water-related industries as high return opportunities. What does the future hold for water as a commodity? Could water become a globally priced commodity in the way that oil or gas are?

Since its inception the Fund's performance is below the long-term growth rate of the water industry by roughly 6%. While it is true that the fund provided returns of 25% on average over the last three years, performance was negative in 2002 and 2003. During this period, global utility stocks were badly hit by the spill-over effects of the Enron scandal. The Fund's investments were not overvalued when it was launched in January 2000, given that at the time the water industry was still largely neglected by the financial industry focussing on TMT stocks. As a result, we believe that the water industry still trades below its fundamental value. We expect investments in the global water industry to continue to deliver above average returns.

As water transportation costs are comparatively high in relation to the price of the commodity itself (on average \$0.75/m³), it does not make a lot of economic sense to transport water over long distances. Hence water is a local market. One of the big differences between oil and water is that water is a renewable resource that can be produced (e.g. desalination). That is why the cost of desalination will be the upper floor for water prices in the future. We do not expect a price surge for water as has been the case for oil.

Nearly 50% of investments in the Pictet Water Fund are in water supply and treatment. To what extent do you see the Fund acting as a catalyst in addressing water scarcity issues globally?

The current situation of water scarcity reflects the fact that we are witnessing under-investment in water infrastructure worldwide. There is enough water on the planet, but unfortunately not with the right quality at the right places. Privately held water utilities invest a lot of money to improve or build the necessary infrastructure, however their market share is still quite low as only 9% of the world population is supplied by a water utility from the private sector. Due to the fact that many municipalities lack the financial means to build or improve water infrastructure we expect private sector participation to increase to 16% by the year 2015.

Sustainable water management will be key for water-intensive industries if they are to mitigate the risks of water scarcity. Are water-intensive industries factoring these risks and how can best practice be promoted?

The efficiency of production processes for goods such as paper, food or semiconductors relies heavily on the quality water supply. However, as the companies involved in these activities do not consider the water supply as part of their core competence, an increasing number of industrial companies can be seen to delegate water-related services to water utilities. This is precisely why GE has started to invest heavily in the water market. We are in the early days of a major trend for industrial companies to delegate water-related services to specialised private sector firms.

Water scarcity is set to become one of the highest-priority factors conditioning human development and the life of our ecosystems, over the next few years.

Mónica Chao Janeiro

Head, Environment and Quality Department, MAPFRE



Asia Pacific

AUSTRALIA. From 2003 until now a long, severe drought, the worst on record, is being experienced in many parts of the continent.

Prime Minister John Howard announced in April 2007 that, unless substantial rain occurred in following six weeks, no water would be allocated to irrigators in the Murray-Darling basin, Australia's food-bowl, for the coming year, resulting in catastrophic situations for farmers and the overall economy.

Australia

Protecting the environment and conserving water starts at home

From Australia, the driest continent on earth, comes an example of how even retail banks can innovate financial products geared towards energy efficiency and water conservation therefore contributing, in their very own way and with their own means, to overall sustainable development.

Consider these 3 simple facts:

- Australians use 1 million litres of fresh water per person per year.
- The worst drought in Australia's history was man-made. In 2002, the temperature across Australia was 1.6°C higher than the long-term average which scientists attribute to human-induced climate change.

(Source: WWF 2006)

It is these sorts of concerns that prompted mecu Limited, one of Australia's largest credit unions, to become a Signatory to UNEP FI in 2003. Since then it has begun to carve out a niche in the emerging Australian sustainable finance sector, by offering a range of everyday sustainable banking products to consumers.

Sustainable housing is, for instance, about designing and building homes that are economic to construct and maintain, comfortable and secure to live in and cause the least possible impact on the environment, especially with respect to energy efficiency.

"Recognising the connection between energy efficiency and water conservation may not be immediate" says Rowan Dowland, General Manager Development. "However some 80% of all electricity in Australia is generated from burning black and brown coal both of which need vast amounts of water". Unlike

many renewable sources of energy, coal fired electricity uses 1.9 litres of water for every kilowatt generated.

For the foreseeable future Australia will produce electricity from coal so it is essential for households to become more energy efficient and by doing so we will conserve water in what is the world's driest continent and a country most vulnerable to a changing climate.

All state governments in Australia have now implemented minimum thermal, or energy performance standards for new home construction. These requirements are designed to reduce the amount of fossil fuels burned to produce energy for homes. Whilst governments have determined minimum standards for new homes, mortgage banks can play an equally important role in encouraging even greater numbers of people to build homes which achieve higher levels of energy efficiency and water conservation:

mecu's new goGreen Home Loan product is available to finance the purchase, construction or renovation of homes, which exceed the minimum levels of energy efficiency mandated by government.

This innovative approach basis itself on the existing Australian Nationwide House Energy Ratings Scheme (NatHERS) <http://www.nathers.gov.au/index.html>, which uses computer simulations to assess the potential energy efficiency of Australian homes on a scale of zero to ten stars. The more stars, the less likely the residents need heating or cooling to stay comfortable.

Houses built in Australia during 1990 averaged about 1 star. Before the introduction of national energy efficiency standards for homes in 2003, less than 1% of Australian houses achieved 5 stars. "Now we are beginning to see houses being built above 6 stars and mecu wants to do its bit to further encourage this trend" says Dowland.

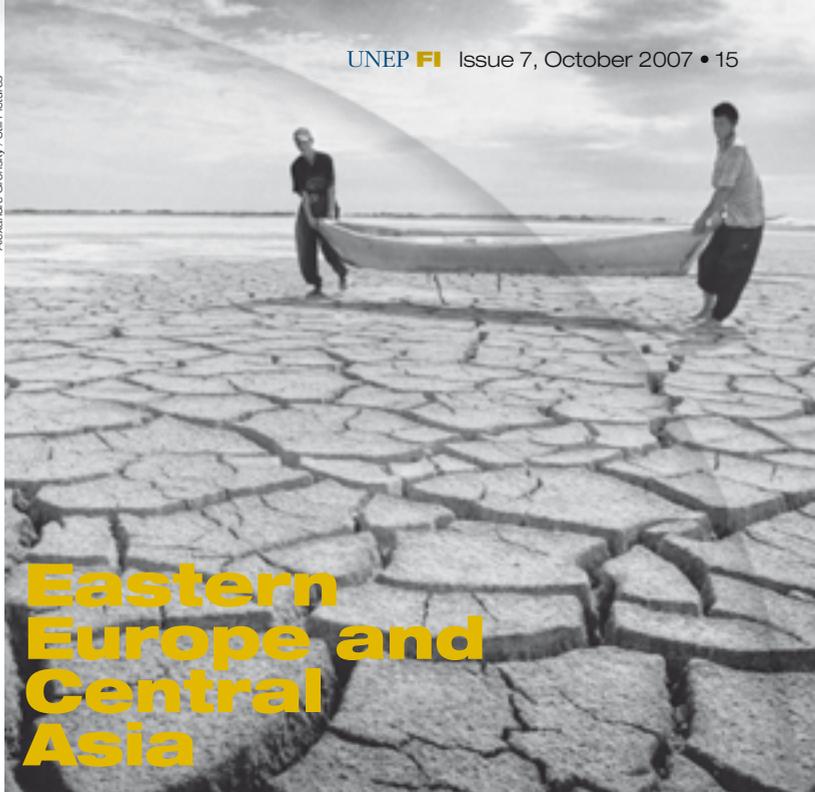
Borrowers are offered an interest rate discount of 0.80% for a standard home loan when the home financed achieves a satisfactory energy efficiency star rating.

Damien Walsh
Group Manager Corporate Services
mecu Limited

India

Water Scarcity in India - Crisis in Real Time

As an emerging economy, India is increasingly growing in stature on the world stage. Widespread gains notwithstanding, water remains a critical socio-economic resource. The situation is exemplified by the fact that over the



Eastern Europe and Central Asia

Prospects for financial markets to finance water related investment in EECCA¹

ARAL SEA, KAZAKHSTAN. Fishermen Carrying Boat to Water. Overexploitation of water resources has led to desertification causing many problems: increasing salinisation and decreasing agricultural yields, extinctions of wildlife, decreasing income from fisheries and lack of drinking water.

In order to overcome the dire consequences of inadequate maintenance and under-investment in water-related infrastructure in Eastern Europe, Caucasus and Central Asia (EECCA), it is necessary to accompany the decentralisation of water responsibilities that has already started to take place in most EECCA countries by ensuring that local jurisdictions have access to the necessary financial resources to implement their new mandates.

As is already the case in OECD economies, the most important mechanism for accessing private savings is likely to be borrowing by public authorities, either from the capital market or through intermediary financing institutions like banks or special infrastructure funds. Therefore the question is how to create markets that generate the financing of long-term credits, from the perspective of local authorities? Governments in EECCA are taking different routes.

In Kazakhstan, the government's position is that future investments in the water sector should be financed primarily from direct national and sub-national budget expenditures, and enterprises' own resources. Policy does, however, appear to allow for growth in lending activity to local utilities. In Russia, the priority seems to be transferring the task of obtaining credit financing to private investors, to the extent possible. It remains to be seen to what extent private sector participation can diminish local public

¹ This paper is based on a report from the OECD, produced under the auspices of the EAP Task Force. George Peterson, from the Institute for Urban Economics in Washington DC, USA, was commissioned as lead author (see <http://www.oecd.org/env/finance>).

next two decades India will be severely water stressed, despite the fact that India has more water on a per capita basis than many Asian countries (e.g. South Korea).

In general, the limited availability of water resources for industrial use and inadequate recycling and treatment of wastewater, are major issues in industrial water supply. Also, as per the National Water Policy 2002, water for industrial use is allocated non-preferential priority, after drinking water, irrigation, and agricultural use. There is therefore, an urgent need to address water scarcity as inherent to business sustainability. Indeed, rapid globalisation within the supply chain and increasing water stress strengthen the business case to address water challenges. As a result, water scarcity is an emerging risk to businesses and thereby also to financial institutions.

India's water resources need to be optimised. It has been estimated that the investment requirements in the water sector (excluding irrigation) in India are of the order of USD 3 billion. A number of opportunities exist for sustainable investments in the water sector. Financial institutions, especially banks, can play a catalytic role in enhancing sustainability in the water sector by augmenting investments in water conservation technologies such as rain water harvesting. In June 2004, the State Bank of Travancore introduced a scheme to finance farmers for rainwater harvesting in Kerala and the erstwhile Travancore areas in Tamil Nadu. Farmers with land holdings of no less than 0.5 acres are eligible for the loan, which will account for 75 per cent of the project cost, up to a maximum of approximately USD 2000. The borrower bears 25 per cent of the cost as margin money.

Financial institutions can influence investment and management decisions to mainstream sustainability in the water sector. This can be facilitated by addressing risk mitigation platforms to identify cases and scenarios where water scarcity has increased risk, to determine risks from projects and investments, and to provide a framework for risk identification, mitigation and monitoring. In the context of larger sustainable development, financial institutions are in a unique position to augment 'total water' innovative financial solutions to address the challenges of water scarcity.

Viraal Balsari

Sustainability and Corporate Responsibility Expert

authorities' borrowing needs. Ukraine has specifically identified the sub-national credit market as an instrument it intends to develop. The World Bank has supported the creation of a Municipal Development Loan Fund that would provide commercial banks with access to long-term lines of credit, for on-lending at commercial rates to local authorities to finance infrastructure projects. USAID is supporting a complementary program to further develop the local bond market as an instrument for environmental infrastructure finance.

Public policy will play a determining role to attract the financial sector in financing

environmental projects. The institutional and regulatory frameworks will need to provide clarity on questions such as: Who is the borrower? Who bears contingent liability? What revenue streams can be mobilised and what collateral can be pledged? How can national controls on local borrowing be organised in order to mitigate the risks of excessive or misused debt?

EECCA countries would benefit from the experience of other regions on these matters.

Xavier Leflaive

Environmental Finance Program Manager
OECD

Making it Real

Materiality Research at Goldman Sachs

Environmental, Social and Governance analysis: Key to identifying investment opportunities.

Goldman Sachs' environmental, social and governance (ESG) research work has sought to integrate ESG issues within industrial analysis and valuation on a sector-by-sector basis, while also seeking to identify investment opportunities related to alternative energy, carbon finance, and other emerging ESG issues.

These ESG framework sector studies have been driven by increased investor interest in sustainability and governance issues, potential materiality to company performance, and impact on equity valuation. Through the development of objective, quantifiable metrics and a rigorous analytical framework to conduct ESG analysis, Goldman Sachs is aiming to integrate environmental, social and governance issues with fundamental equity analysis across all sectors of global investment research.

One of Sachs' first sector studies, on the global energy industry, was published as part of UNEP FI's Asset Management Working Group (AMWG) first report on materiality: *The Materiality of Environmental, Social and Governance Issues to Equity Pricing*, in February 2004. The piece, called *Global Energy: Integrating ESG*, was then expanded in August 2005. *Global Energy: Integrating ESG*, explores the relationship between ESG performance, access to new legacy assets (the key driver to sustainable incremental returns), and economic returns – the key driver of valuation in the oil and gas industry. As such, Sachs' ESG framework assesses company performance based on 42 objective and quantifiable ESG criteria. A strong correlation was found between ESG performance and exposure to new legacy assets, while leaders on both

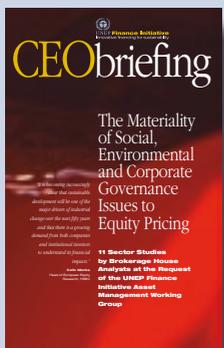
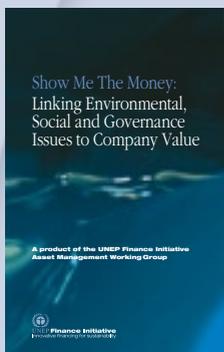
measures have demonstrated outperformance versus their peers.

Europe Media: Integrating ESG is the second Goldman Sachs sector study, published as part of the AMWG's second materiality report, "*Show Me the Money*" in February 2006. Using the same methodology developed for *Global Energy*, Sachs' media ESG framework assesses companies based on 31 criteria, industry thematic leadership and cash returns, with a heightened focus on the role of corporate governance in a highly acquisitive sector and the importance of human and intellectual capital to respond to a dynamically changing business environment through innovation, and the development of media-specific issues such as responsible marketing and independence of content. A clear link can be observed between leadership on environmental, social and governance issues and long-term financial performance as measured by cash returns.

In addition to producing ESG framework studies, Goldman Sachs' London-based ESG Research Team also serves as a hub for research focused on alternative energy, carbon finance and water sector opportunities produced by our global sector analysts. A prime example is Sachs' *Water utility survey: Growth flows steady*,¹ which highlights companies best-positioned to succeed in the growing global market for higher-technology water treatment, such as ultraviolet disinfection (UV), ultra filtration, and desalination as utilities upgrade existing water infrastructure.

Sarah Forrest

Head of ESG Research, Goldman Sachs International



¹ Deane Dray, Financial Analyst, Goldman Sachs International

Responsible Property Finance: Do Well by Doing Good

Investors in property are becoming increasingly aware of environmental and social issues both in terms of how the value and performance of their investments are being affected, and how their actions contribute to the problems observed.

As our televisions demonstrate daily, properties often take the brunt of severe winds, flash floods and subsidence associated with the extreme weather conditions which occur ever-more frequently. These direct impacts on property investments are accompanied by increasing policy and regulatory controls on properties which, some suggest, are the source for 40% of CO2 emissions.

As the attitudes of governments, investors and property users change with respect to these issues, the relative attractiveness (and, therefore, value) of one property against another will change. Therefore, at the very least, it is the fiduciary responsibility of property investors to understand these issues and their effects. However, it is increasingly clear that property investors do not need to remain mere passive interpreters of these changes but can act positively to improve the environmental and social performance of their assets whilst enhancing their investment performance. By doing so, property investors can potentially “do well by doing good.”

With this in mind UNEP FI has established a new Property Working Group (PWG) with a mission to “encourage property investment and management practices that achieve

the best possible environmental, social and financial goals, as consistent with fiduciary responsibilities”.

The PWG is very focussed on finding ways to improve the environmental and social performance of the existing built stock. As such, it is distinct from (but will work closely with) UNEP’s Sustainable Building and Construction Initiative, which focuses on the crucial area of new development. The PWG is also clear about assembling and expressing information and evidence on how to ‘do well by doing good’ in financial terms best understood by investors as the community with the power to make a real step-change in property performance. Investors rightly have investment performance at heart. Wrongly many hold a mindset that sees environmental and other improvements as automatically diluting that performance.

Two formal meetings have been held to lay the groundwork for the PWG and there have been strong expressions of interest from financial institutions across the globe. Amongst other objectives, an initial project gathering and promoting solid evidence of property investment and management practices, that also improve investment performance, will be released at the UNEP FI Global Roundtable in October 2007.

Dr Paul McNamara

Co-Chair UNEP FI PWG
Head of Research OBE, Prudential Property Investment Managers Ltd (PRUPIIM)

For more information, please visit:
www.unepfi.org/property
Contact: property@unepfi.org

RESPONSIBLE PROPERTY INVESTMENT FOR DUMMIES

RPI – Responsible Property Investment: seeks to maximise the positive effects while minimising the negative effects of property ownership, management and development on society and the natural environment in a way that is consistent with investor goals and fiduciary responsibilities. Green / sustainable buildings – refers to a range of values pertaining to the environmental and social impact of a building and its use throughout its life-cycle.

Building carbon footprint – a measure of the impact that a building and its use have on the environment in terms of the amount of green house gases produced, measured in units of carbon dioxide.

REIT – Real Estate Investment Trust: a company that buys, develops, manages and sells real estate assets.

REITs allow participants to invest in a professionally-managed portfolio of real estate properties that reduces or eliminates corporate income taxes. Designed to provide for investment in real estate, a similar structure as mutual funds provide for investment in stocks.

REITs can be publicly or privately held and listed on stock exchanges. Exists particularly in the USA, the UK, Germany and Japan. The entire REIT equity market capitalization in the U.S. alone, was around \$300 billion at the end of 2004.

Urban Environmental Accords (UEA) – signed by mayors from around the world on the occasion of the UNEP’s 2005 World Environment Day. Recognising the environmental challenges and opportunities associated with the fact that the majority of the planet’s population lives in fast-growing urban areas, the UEA builds on past efforts to create an “ecologically sustainable, economically dynamic, and socially equitable future for our urban citizens,” and proposes 21 actions that cities can take to improve themselves.

Further Reading

Gary Pivo, Fall 2005, *Is there a Future for Socially Responsible Property Investing?*, Real Estate Issues. Available online at: <http://www.allbusiness.com/periodicals/article/844915-1.html>



Climate Change

CEO Briefing - Adaptation and Vulnerability to Climate Change: The Role of the Finance Sector (2006)

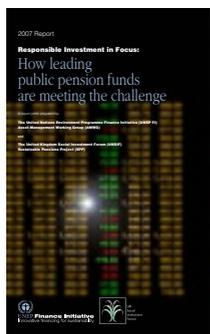


The UNEP FI Climate Change Working Group report, launched at the UNFCCC COP 12 in Nairobi, calls for a new approach on part of governments and the private sector to address the physical changes that climate change will bring,

integrating adaptation with sustainable economic development and disaster management.

Investment

Report - Responsible Investment in Focus: How leading public pension funds are meeting the challenge



This report contains 15 case studies offering a snapshot of some of the most advanced approaches to responsible investment around the world. It is intended to serve as practical guidance for the institutional investment community,

particularly trustees of pension funds, foundations and life insurers, and their agents, on how and why leaders integrate environmental, social and governance considerations into their investment processes.

Report - Unlocking Value: The scope for environmental, social and governance issues in private banking



This publication addresses the question of why responsible investment has at best been modest in private banking compared to the surge it has experienced in institutional asset

management. It analyzes private clienteles' potential demand for responsible investment products, the special characteristics of the wealth management industry and the barriers to the further uptake of ESG-inclusive investment strategies in private banking.

Insurance

Report - Insuring for Sustainability: Why and how the leaders are doing it

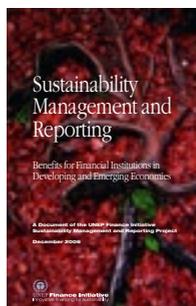


Today, the insurance industry faces the great challenge of coping with a rapidly changing risk landscape, one from which global sustainability issues have emerged, and continue to emerge.

The risks that these issues entail are serious, while the opportunities, largely untapped. It is therefore insightful, as a starting point, to look at what leading players are doing in addressing some of the most challenging global sustainability issues, and to recognise the vital role the insurance industry can play.

Sustainability Reporting

Report - Sustainability Management and Reporting: Benefits for Financial Institutions in Developing and Emerging Economies



The take up of SMR by financial institutions especially in developing countries is still low whilst the financial sector plays an important role in sustainable development as intermediaries to the

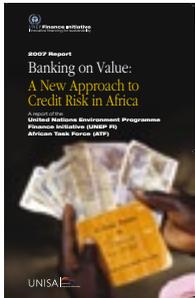
allocation of financial capital. UNEP FI identifies lack of awareness and capacity as the two main barriers hindering many financial institutions to implement SMR. The report aims to address both these barriers by first setting out a business case for SMR.

This summary document provides an overview and introduction to the structure and activities of UNEP FI — through its work streams and regional activities, and highlights key meetings and publications in 2006.

From the Regions

Africa

Report - Banking On Value: A New Approach to Credit Risk in Africa



This report assesses the extent and manner in which financial institutions in Africa's largest financial hubs - South Africa and Nigeria - currently integrate sustainability in their core financing activities.

North America

Green Financial Products and Services: Current Trends and Future Opportunities in North America



This latest report from the North American Taskforce is the most comprehensive study to date on green financial products and services. As well as covering the North American markets, the report examines best practice around the

globe, and covers a number of financial sectors including retail, corporate and investment banking, asset management, project finance and insurance.

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In this issue: integrating ESG considerations into institutional investment; The Principles of Responsible Investment (PRI); sustainability management and financial reporting; countering climate change; getting the balance right on the

sustainability highwire; climate – a core business issue; regional updates – Philippines, Central and Eastern Europe, South Africa, Ecuador: UNEP FI publications.

Also available:

UNEP FI Regional Task Force Brochures for Asia Pacific (APTF), Central and Eastern Europe (CEETF), and Latin America (LATF): describe the activities of these Task Forces in their respective regions.

Environmental & Social Risk Analysis: NEW E-learning Programme for Financial Institutions



No longer just an ideal, responsible social and environmental performance provides companies with a competitive advantage. UNEP FI's new E-Learning Programme on Environmental and Social Risk Analysis (ESRA) provides

guidance on how consideration of social and environmental risks in mainstream financial analysis can open up a wide range of opportunities both for the financial sector and for the promotion of sustainable development.

The ESRA E-Learning Programme is a product of the United Nations Environment Programme Finance Initiative (UNEP FI), Capacity Building International (InWent), and the INCAE Business School, with the support of the Ecobanking Project. Initially developed in Spanish in 2006 by the UNEP FI Latin American Regional Task Force, with the support of Bank of America, the English-language edition of the course was produced in 2007 thanks to the support of FMO. It will be officially launched at the UNEP FI Global Roundtable in Melbourne, in October 2007.

Designed for financial institution representatives, the course seeks to provide analysts with the necessary insights and tools to identify, analyse and manage environmental and social risk in their lending and investment decision-making processes.

The course provides in-depth and personalized training over a three-week period. Tutors engage with participants online on a daily basis, facilitating debates for maximum information-sharing and providing hands-on simulation of implementing environmental and social policies and guidelines and analysis of case studies involving clients' environmental and social impacts.

2007 Courses:

Africa: 5th – 23rd November

Asia-Pacific: 12th – 30th November

Central and Eastern Europe: 19th November – 7th December

Latin America (Spanish language): 8th – 26th October

Time Commitment: 2 hours on average per day from Monday to Friday

Schedule: flexible - participants establish their own login times

Languages: English, Spanish

For full details, please visit: <http://www.unepfi.org/training>

Contact & Registrations: risk-training@unepfi.org

Why 0.618...

The UNEP FI newsletter is named: 0.618.... Many readers will ask "Why?" The reason behind our choice of name for the newsletter is given in Peter L. Bernstein's book: *Against The Gods. The Remarkable Story of Risk.* In a fascinating section in chapter two – covering the very beginnings of our modern day understanding of risk – Bernstein explains: "The Greeks knew this proportion and called it "the golden mean." The golden mean defines the proportions of the Parthenon, the shape of playing cards and credit cards, and the proportions of the General Assembly Building at the United Nations in New York... The golden mean also appears throughout nature – in flower patterns, the leaves of an artichoke, and the leaf stubs on a palm tree". Also known as the Fibonacci ratio, after the 13th century Italian mathematician of that name, the ratio defines the shape of a spiral which appears in some galaxies, seashells and the coil of ocean waves. The journalist William Hoffer remarked: "the great golden spiral seems to be nature's way of building quantity without sacrificing quality." 0.618... believes that for financial institutions the challenges and opportunities posed by sustainable development centre around an ability to build wealth for shareholders and communities while contributing to the protection of the natural environment – in essence, building quantity without sacrificing quality.

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About UNEP FI**Innovative financing for sustainability**

The United Nations Environment Programme Finance Initiative (UNEP FI) is a unique public-private partnership between the United Nations and the financial sector.

Mission

To identify, promote, and realise the adoption of best environmental and sustainability practice at all levels of financial institution operations.

Background

The concept of UNEP FI was launched in 1991, when a small group of commercial banks joined forces with UNEP to catalyse the banking industry's awareness of the environmental agenda. In May 1992, the UNEP Financial Institutions Initiative was established, followed by the UNEP Insurance Industry Initiative in 1995. Both Initiatives were merged into the current, joint, Finance Initiative in 2003, following the first joint Annual General Meeting held in October 2003.

Today, UNEP FI is the largest global voluntary partnership of its kind, with over 175 signatories to the UNEP FI Statements. UNEP FI members include bankers, insurers and fund managers, all working together to understand the impacts of environmental and social considerations on financial performance.

Why Join UNEP FI?

Financial institutions are under closer scrutiny than ever before. Investors and regulators are increasingly asking challenging questions about corporate governance, the social and environmental impacts of operations and investments and how institutions support their local communities.

Answering these questions is not easy and requires organizations to change policies and practices. This may seem a daunting task. But membership of the United Nations Environment Programme Finance Initiative (UNEP FI) has proved invaluable, helping hundreds of signatories since 1992 to understand stakeholder concerns, exchange best practice and stay on top of the issues.

Membership in UNEP FI is about learning how to turn sustainable development into an opportunity for growth.

New UNEP FI Signatories

ASSET4 AG
Alcyone Finance
American International Group
Banco Itaú Holding Financeira
British Columbia Investment Management Corp.
CarbonRe
China Merchants Bank
ClearBridge Advisors, Legg Mason
The Co-operators Group
Daegu Bank
Development Partners Fund
Eurizon Capital
Fortis
Hana Bank
Infrastructure Leasing & Financial Services
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Intesa Sanpaolo
ING
Lloyd's
Midas Asset Management
Mitsubishi UFJ Trust and Banking Corporation
Mitsui Trust Financial Group
Mizuho Financial Group
Pax World Management Corp.
Piraeus Bank
RCM (UK)
Rowet Group
Samsung Investment Trust Management Co.
Sustainable Development Capital, LLP
Union Credit Bank
Wachovia Corporation
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**UNEP Finance Initiative**
Innovative financing for sustainability

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