

A Monthly Look at Successful Sustainability Initiatives

# Green Light Water for Growth, People and the Environment

Global Agenda Council on Governance for Sustainability

August 2013



Green Light is published by the World Economic Forum's Global Agenda Council on Governance for Sustainability.

**About Green Light**

Green Light is a new publication highlighting innovative partnerships and concepts for collaboration which offer solutions at scale from the bottom-up to the world's most pressing sustainability challenges.

**About the World Economic Forum**

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Published by World Economic Forum,  
Geneva, Switzerland, 2013

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## Foreword



James Bacchus  
World Economic  
Forum's Global  
Agenda Council on  
Governance for  
Sustainability

Welcome to the first edition of *Green Light*, a monthly newsletter from the Global Agenda Council on Governance for Sustainability aimed at highlighting promising environmental initiatives. The Council was established by the World Economic Forum to help identify and promote new ways to serve both people and the planet through sustainable development.

Our goal is not only to share green ideas, especially those on collaboration and public-private partnerships, but also to inspire people to replicate and even scale up similar initiatives wherever they are.

We are driven by a common belief in the importance of sustainable development. Worldwide, there is an increasingly urgent need to bring about more prosperity and equality, while preserving a planet imperilled by climate change and a host of other environmental challenges.

In this first edition of *Green Light*, we look at the 2030 Water Resources Group, a new and innovative partnership model that was developed to catalyse a new development approach to tackling the world's water crisis. Launched in 2010, the initiative brought together companies, expert organizations and NGOs to help decision-makers address the water stress challenge. Since then, it has provided tangible outcomes and helped the governments of Jordan, Karnataka (India) and South Africa ensure water security for their country's continued economic growth, social development and environmental protection.

We are pleased to feature the 2030 Water Resources Group in this first edition as it serves as a practical example of how a cross-sector effort can address one of today's most crucial issues. Two years after being challenged by the United Nations Secretary-General Ban Ki-moon, chief executives of large companies, presidents of international organizations, heads of development agencies and heads of environmental NGOs worked together on practical actions that will make a difference in the future.

We also draw on the ideas of other Global Agenda Councils working on issues related to sustainable development, such as food, water, energy, trade, oceans, supply chains and the rule of law. Importantly, we make use of the practical experience of many successful local, regional and sectoral sustainability initiatives resulting from creative collaboration transcending all traditional lines of interest.

We hope you enjoy *Green Light* and that you will find it a source of inspiration for your work.

*James Bacchus is Chairman of the World Economic Forum's Global Agenda Council on Governance for Sustainability. He chairs the global practice group of the Greenberg Traurig law firm, and is an honorary professor at the University of International Business and Economics in Beijing.*

*James Bacchus*

# A New Partnership Model



Five years ago at Davos 2008, the United Nations Secretary General Ban Ki-moon warned business, NGOs and government leaders gathered at the World Economic Forum's Annual Meeting about the impending water crisis in many developing countries. «Economic growth is a thirsty business» he said, before challenging his audience to form new cross-sector partnerships to enable more food to be grown, more energy to be created and greater industrial and manufacturing output to be delivered - all with less water. Often, such speeches do not lead to practical action. However, this one did.

Listening were the chief executives of several large water-using companies, including the Coca-Cola Company, Nestlé, PepsiCo and SABMiller; the presidents of international organizations such as the International Finance Corporation and the Intra-American Development Bank; the heads of German, Swiss and United States development agencies among others; and the heads of environmental NGOs such as WWF. Government officials from many fast-growing countries with water security challenges - such as India, Mexico, Mongolia, Jordan and South Africa - also nodded in agreement. One Indian official noted on a panel at the same Davos meeting that for a politician to tackle water reform on his or her own would be a form of political suicide - new partnerships, such as those the Secretary-General asked for, would be the key.

Since this Davos challenge, a new partnership model for water was developed. In collaboration with the International Finance Corporation, company chief executives went on to develop a set of new analytics that could identify the economic “choke points” to national growth that water shortages would create by 2030, if there was no change in current inefficient uses of water.

The analysis was prepared by McKinsey & Company. It showed that under current approaches, there would likely be an average 40% gap between required demand and safe global supply of freshwater. This figure ranged from 17% in South Africa and 23% in Mexico to 50% in India. It was a stark warning of the scale of the economic and environmental challenge.

Senior decision-makers at various World Economic Forum events took notice. In Mexico, for example, the analysis indicated that irrigated crops worth US\$ 5.3 billion could be affected from water stress by 2030. For the first time, a clear economic value of the risk was pinpointed. It ran like a thread through national economic plans for agriculture, energy, industry and urbanization.

When the threat of climate change was added into the mix, the water forecasts went from bad to worse. Analysis prepared by McKinsey & Company for the 2030 Water Resources Group (2030 WRG) in 2010 indicated that the projected gap between Mexico's demand and supply of safe freshwater rose to more than 36% by 2030 (a 60% increase on a no-climate change scenario). And this was for a world with just a 1C rise in temperature.

This analysis and its stark warnings of the economic impact of future water shortages prompted the emergence and formal establishment of the 2030 WRG as a new water partnership. The 2030 WRG brought together companies, expert organizations and NGOs that could help governments facing water stress to undertake an economic analysis of the likely scale of the problem to 2030 and then convene key decision-makers to do something about it.

The 2030 WRG was launched at the Annual Meeting 2010 in Davos. For two years it was incubated within the World Economic Forum. In early 2012 the World Economic Forum showed that such a partnership could provide tangible outcomes and the partners involved agreed to formalize its status, hosted by the World Bank Group International Finance Corporation. More than US\$ 12 million was raised from public and private sources to finance this next phase and an official governing council was created.

## Economic growth is a thirsty business

# Partnership Results

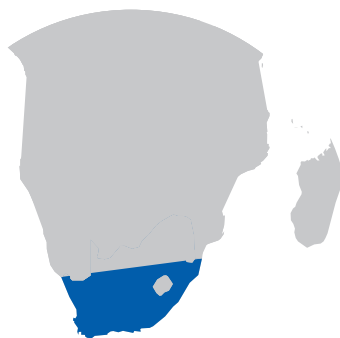


## Jordan

In Jordan - one of the most water-stressed countries in the world - a key 2030 WRG recommendation was to establish a cross-ministerial council to become a forum for debates and strategic advice, to help ensure water security for the country's continued economic growth, social development and environmental protection. This body, called Jordan's National Water Council, has been set up and endorsed by the King of Jordan.

**"We are working with the 2030 WRG to help us understand demands for water across the economy and with this type of knowledge we will review and revise our national Water for Life strategy, and find it easier to plan for the solutions to meet the country's national agenda aspirations."**

HRH Prince Feisal of Jordan  
and Chairman of the Jordan Royal Water Commission



## South Africa

In South Africa, under the leadership of the Minister of Water and Environmental Affairs, the 2030 WRG has launched the Strategic Water Partners Network of South Africa (SWPN). The group represents a progressive collaboration for water resources management chaired by the South African Department of Water Affairs and co-chaired by South African Breweries, representing the private sector. This diverse public-private collaboration includes the Coca-Cola Company, Anglo American, Nestlé, the Development Bank of South Africa, the South African Water Research Commission, WWF, and the South African Local Government Association. The network provides practical ideas to help deliver sustainable water supplies and, to date, the network has identified three key national projects on water conservation and efficiency and on effluent partnerships, now under development.

**"South Africa recognizes the need for better and smarter ways to manage our water resources and in particular the need to collaborate with all stakeholders. I am delighted to announce the declaration of Partnership between my department of Water Affairs and the 2030 WRG."**

Edna Molewa  
Minister of Water and Environmental Affairs of South Africa



## Mexico

**"By combining the analytical framework of the 2030 WRG with the conAGUA's own expertise, we have been able to gain a deeper understanding of Mexico's current and projected water situation."**

José Luis Luege Tamargo  
Former Director General, CONAGUA



## India

In the state of Karnataka in India (whose capital is Bangalore, the hub of India's high-tech industry), the 2030 WRG estimated that future water requirements were set to grow at more than 7% a year. The analysis was buttressed by field observations and stakeholder meetings with farmers, state and federal officials and private companies. The 2030 WRG is now a member of the state's Advanced Centre for Integrated Water Resources Management, a semi-governmental think tank that advises various ministries, conducts policy research and analysis and is helping the water resources department to implement its new water vision 2030.

**"Water is not only life, not only food, not only environment. It is also a vital contributor to economic growth. We want to move from the era of challenges to the era of solutions in the water sector, that we can showcase to the world."**

Basavaraj S. Bommai  
Minister of Water Resources,  
State of Karnataka, India



## Mongolia

In Mongolia a similar national partnership is under way. Under the leadership of the country's president, it will focus on two key issues: mining in the south Gobi desert, and water supply in the capital, Ulaanbaatar.

**"Managing our future water needs is key to sustaining Mongolia's economic growth. We must ensure fast and effective implementation of our national Water Plan. We will benefit from the international networks and experience of the 2030 WRG to help us do so."**

Elbegdorj Tsakhia  
President of Mongolia

# Next Steps

In addition to India, Mexico, Mongolia and South Africa, the governments of Peru and Tanzania have recently asked for support from the 2030 WRG. Other countries across Latin America, sub-Saharan Africa and Asia are also expressing interest.

The 2030 WRG would like to showcase its new partnership approach in about seven or eight countries by the end of 2014. In this way it can help to catalyse a new development approach to support governments in their management of water for growth, people and the environment.

Partnership has also been formed with important regional development finance actors, such as the Intra-American Development Bank and the African Development Bank; 2030 WRG has featured at important regional water networks such as the African Ministers Council on Water.

Under the leadership of its Executive Director, Anders Berntell, the former head of the Stockholm International Water Institute, the 2030 WRG is building its international reputation for providing practical economic analysis and public-private support to governments to help them address their water-for-growth challenges.

A catalogue of global best practice in water resource management and partnership, "Managing Water Use In Scarce Environment. A Catalogue of Case Studies", will be published by 2030 WRG in August 2013.

This builds on a 2010 World Economic Forum publication, *Water Security: the Water-Food-Energy-Climate Nexus*, which featured insights from academic, business, NGO and government leaders on the integrated challenge of water management.

**The 2030 WRG would like to showcase its new partnership approach in about seven or eight countries by the end of 2014**

## A Nexus of Water Challenges

This water-for-food vs water-for-energy dilemma the United States faces is similar to the "nexus" challenge which many fast-growing economies will have to tackle soon: how to simultaneously manage water for food, energy, people and the environment?

For example, as much of Asia becomes more urbanized and industrialized, more water will be directed towards energy and away from agriculture. Modelling undertaken for the World Economic Forum suggests that a 76% increase in water demand for energy and industry will be required across Asia by 2030 compared with today. This will occur at exactly the same time as these countries will need to almost double their food production. Against a baseline of 70% of water already being used for agriculture, how can these competing challenges be squared?

In addition, changing climatic conditions will accelerate freshwater security challenges. Unlike options in energy, there are no substitutes or alternatives to water. We will simply have to adapt. This is not only a problem for the poorest nations. Water security will affect people in Australia, the Balkans, California, China, India, Jordan, Greece, Mexico, North Africa, Pakistan, Saudi Arabia, Spain, South Africa and Turkey among others. In fact, dryland areas represent more than 40% of the world's surface area, covering over 100 countries.

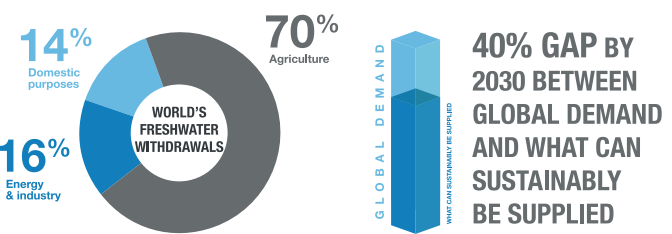
For all these reasons, business as usual is not an option. We cannot manage water into the future as we have in the past. The good news is that a transformation in management of the world's water is beginning. Unlike climate change, no one argues that the water security problem does not exist or that solutions are not urgently required. New technologies, new arrangements and new policies will be needed. The water services sector, water processing, water-recycling technologies and water policy links to the energy and agricultural sectors are fast becoming a busy space for business, financial and professional services firms, policy-makers and issue specialists.

# Facts and Figures

Currently about 70% of the world’s freshwater withdrawals are for agriculture, 16% are for energy and industry, and 14% are for domestic purposes. Recent work suggests that unless we change our historic approach to how we use water, we could face a 40% gap by 2030 between global demand and what can sustainably be supplied.

Many countries are extracting groundwater faster than it can be replenished (Mexico by 20%, China by 25% and India by 56%). More than 70 of the world’s major rivers now hardly reach the ocean because of the extensive diversion of water for human use. If current trends continue, by 2030 increasing water scarcity could cause annual grain losses equivalent to 30% of current world consumption (at the same time as the UN Food and Agriculture Organization says we will actually need 70% more food).

It is not only a question of more people requiring more water. In the 20th century, while population grew by a factor of four, freshwater withdrawals grew by a factor of nine. As we grow wealthier, the more freshwater we need to supply cities, power plants and factories and to produce higher protein food such as dairy, meat and fish.



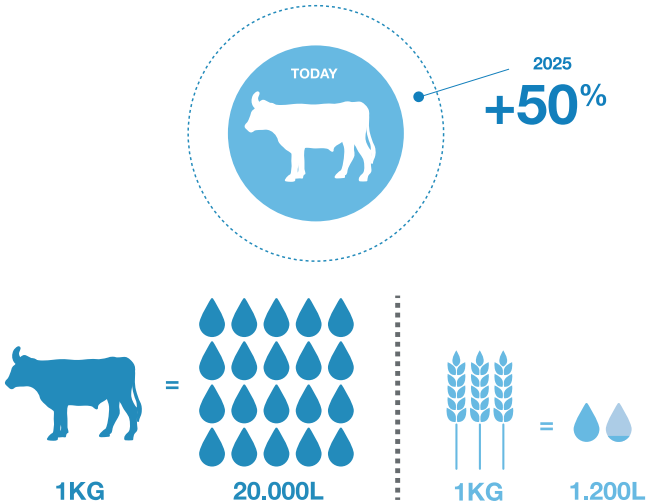
In the 20th century



## Water for Food

A kilogram of meat requires up to 20,000 litres of water to produce (compared with about 1,200 litres to produce a kilo of grain). Global demand for meat is forecast to increase 50% by 2025.

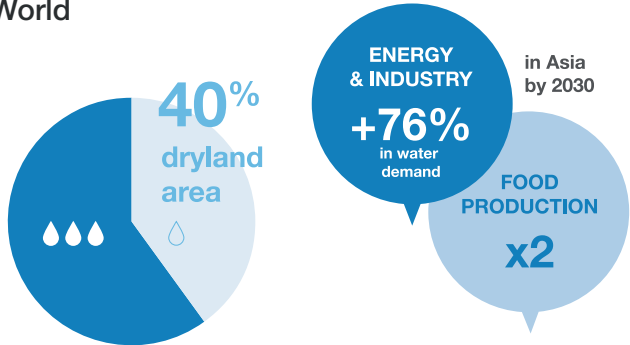
### Demand for meat



## Water for Energy

The United States Geological Survey estimates that to produce and burn the 1 billion tonnes of coal the country uses each year, the mining and utility industries withdraw 55 to 75 trillion imperial gallons of water annually. That’s about the equivalent to all the water that pours over Niagara Falls in five months. The International Energy Agency forecasts that the world economy will demand at least 40% more energy by 2030; for non-OECD countries where the increase in energy demand will be highest, coal remains an important energy option.

### World





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