Importance of river basins in driving global growth to rocket: top ten basins' GDP set to exceed that of USA, Japan and Germany combined by 2050[i]

- **Universal access to water supply and sanitation would amount to $220bn global economic gain**
- **Against these findings, HSBC announces 5-year $100m global investment in water**

Today, HSBC Group Chairman, Douglas Flint, announced the launch of the **HSBC Water Programme**, a new $100 million, five-year partnership with WWF, WaterAid and Earthwatch to tackle water risks inriver basins; bring safe water and improved sanitation to over a million people; and raise awareness about the global water challenge.

The announcement comes as a new report from Frontier Economics for HSBC reveals that by 2050, the top ten river basins[ii] by population are expected to produce a quarter of global GDP - a figure greater than the combined future economies of the US, Japan and Germany - and a sharp increase from a current contribution of 10%. The nine most populous river basins are in growing and fast-growing markets:

World GDP share of ten most populated river basins

		Population in 2010		Basin GDP in 2010		Basin GDP in 2050	
River	**Country/Region**	(million)	(% world)	(billion USD)	(% world)	(billion USD)	(% world)
Ganges	India, Bangladesh, Nepal	528	7.7%	690	1.1%	5,776	3.0%
Yangtze (Chang Jiang)	China	407	5.9%	1796	2.9%	14,810	7.8%
Indus	India, China, Pakistan	254	3.7%	281	0.5%	1,522	0.8%
Nile	Northeastern Africa*	207	3.0%	304	0.5%	3,035	1.6%
Huang He (Yellow River)	China	170	2.5%	751	1.2%	6,187	3.3%
Huai He	China	103	1.5%	457	0.7%	3,766	2.0%
Niger	West Africa**	100	1.4%	105	0.2%	753	0.4%
Hai	China	96	1.4%	426	0.7%	3,511	1.9%
Krishna	India	89	1.3%	126	0.2%	1,052	0.6%
Danube	Central & Eastern Europe***	81	1.2%	1305	2.1%	6,432	3.4%
Total		**2,036**	**29.5%**	**6,240**	**10.1%**	**46,844**	**24.7%**

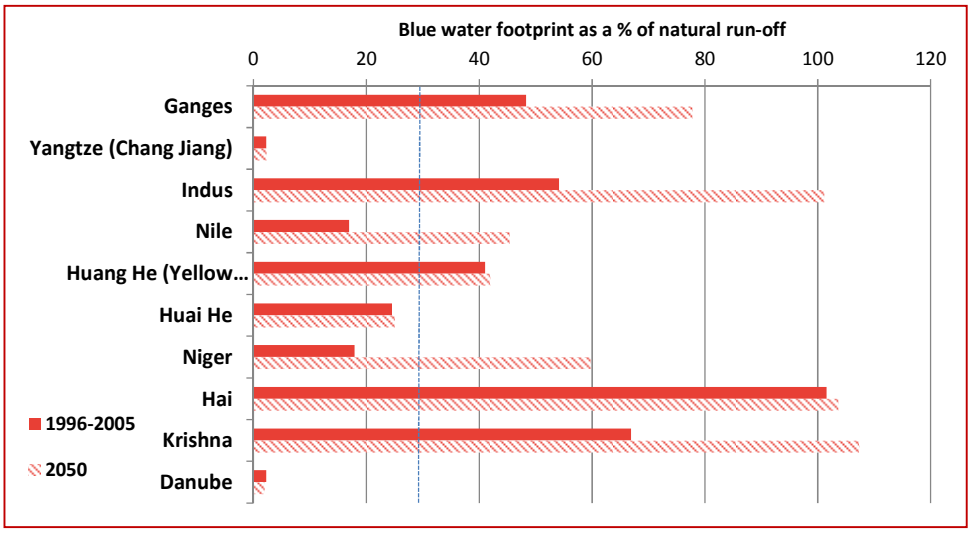
Source: Frontier Economics[iii]

However the report also forecasts that by 2050, without any improvement in water resource management[iv], seven of these basins will face unsustainable water consumption, with significant to severe water scarcity. This could mean the GDP growth expected in the river basins would not materialise. In addition, ecosystems home to a quarter of the global population would see further permanent damage, affecting communities' and businesses' ability to thrive.

HSBC Group Chairman Douglas Flint commented, "Today's findings show that the future of river basins is critical for global economic growth. Rapid, collaborative action worldwide is needed to improve water resource management in river basins. The report also highlights the powerful economic rationale for improving access to freshwater and sanitation, at a time when total aid for

water access and sanitation has actually declined[v]. The HSBC Water Programme will benefit communities in need, and enable economies to prosper."

Blue water consumption in ten most populated river basins



Blue water footprint is the consumptive use of ground- and surface water flows. When the blue water footprint in a river basin is between 30 and 40% of natural run-off, water scarcity is considered to be significant; if the water footprint exceeds 40% of natural run-off, water scarcity is severe. Source: Frontier Economics using data reported in Hoekstra and Mekonnen (2011)[vi] and Hoekstra et al. (2012)[vii]

The HSBC Water Programme will tackle water supply and sanitation. In 2010 nearly 800 million people were without access to safe water, and 2.5 billion without access to basic sanitation.

The report found that achieving the Millennium Development Goals (MDG) on water supply and sanitation worldwide would amount to an equivalent of more than $56 billion per annum in potential economic gains between now and 2015; and that providing universal access to safe water and sanitation would imply potential economic gain of $220 billion per annum. Providing universal access in Brazil, India, and China alone would amount to an equivalent of more than $113 billion.

Frontier Economics also found that globally the average return on each dollar invested in universal access was just under $5, even after taking maintenance costs into account. In Latin America the figure is $16 while in some African countries, the capital investment would be paid back in only three years. Several countries in Africa and Latin America would stand to gain an average of more than 15% of their annual GDP from achieving universal access.

Throughout the HSBC Water Programme, HSBC will share findings and insight to contribute to global understanding and best practice among NGOs, policymakers and businesses, as well as engaging its own employees.

With more than 2,000 rivers of over 10 km length each, sustainable water resource management is a key issue for Vietnam. The rapid growth of hydroelectric plants and industrialisation of the country are heavily affecting the environment, ecosystems, water and in turn the people living in river basins. According to the United Nations in Vietnam, the freshwater consumption of people in many areas is unsustainable and pollution has threatened safe water supply. A report of Ministry of Agriculture and Rural Development also revealed that in 2011, 22% of people living in rural areas (estimated 13.3 million people) could not have access to safe water and 45% (estimated 27.3 million people) could not have access to hygiene and sanitation. The two key things that the HSBC Water Programme will tackle are water supply and sanitation, which are in line with issues that Vietnamese Government is putting into plan to improve. With these findings, improved access to safe water and sanitation plays a very important role in promoting a better life for people, GDP growth and economic growth.

To offer opportunities for more countries like Vietnam to participate in the Programme, more local involvement is envisaged. A part of the global funding will be allocated for local projects that echo to this theme. Not-for-profit or charitable organisations can apply for funding from the HSBC Water Programme through their local HSBC offices to support local programmes. They should be water-related projects which benefit local community groups. The benefits may include improving access to fresh drinking water, sanitation, water conservation, environmental protection or pollution reduction.

WWF Chief Executive David Nussbaum commented “Recent figures from WWF show that freshwater ecosystems have declined by 70% since 1970 and that, already, 2.7 billion people are living in river basins that experience water shortages at least one month a year – these figures, alongside the research commissioned by HSBC, demonstrate why it is so important for us to take action to protect our freshwater resources now. As part of the new HSBC Water Programme we’ll be working with over a thousand businesses and over a hundred thousand fishers and farmers to promote more efficient use of water in their practices, while working with governments across the globe to advise on better river basin management which will help to secure water supplies for the future needs of both the human population and the environment.”

Eve Carpenter, COO of Earthwatch commented, “The HSBC Water Programme will enable Earthwatch to set up research projects in over 20 cities worldwide, working with local conservation partners to address urban water management issues. Thousands of HSBC employees and their wider local communities will take part in this global citizen science programme, collecting robust scientific data using innovative technology. These data will support, inform and transform policymakers' water resource management plans.”

Barbara Frost, CE of WaterAid commented, “The HSBC Water Programme will transform lives through its support of WaterAid’s work. This exciting 5 year partnership will result in 1.1 million people gaining access to safe water and 1.9 million to improved hygiene and sanitation in Bangladesh, India, Nepal, Pakistan, Nigeria and Ghana.”

- End –

Organisations interested in applying for the bidding can contact Tran Ngoc Anh Thu - Email: thunatran@hsbc.com.hk. Proposal submission deadline is 31 August 2012

For media enquiries or to request an interview, please contact Mai Phan To Uyen – Email: uyenmai@hsbc.com.vn

Editor's Notes

About HSBC Water Programme

The HSBC Water Programme is a five year, $100 million programme in partnership with three NGOs that rank amongst the world's most respected NGOs - WWF, WaterAid and Earthwatch. This will provide the necessary scale to deliver the powerful combination of water provision, protection and education; resulting in the most ground breaking water programme committed to by a financial organisation. Earthwatch will be engaging over 100,000 HSBC employees in monitoring and research of freshwater resources worldwide. WaterAid will be providing clean water to over a million people in Bangladesh, India, Nepal, Pakistan, Nigeria and Ghana. WWF will be working with local authorities on policy and protection of five key river basins, the Yangtze, Ganges, Mekong, Pantanal and Rift Valley.

About WWF

WWF is one of the world's largest and most respected independent conservation organizations, with over 5 million supporters and a global network active in over 100 countries. WWF's mission is to stop the degradation of the earth's natural environment and to build a future in which humans live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

About WaterAid

WaterAid's vision is of a world where everyone has access to safe water and sanitation. The international organisation works in 27 countries across Africa, Asia, Central America and the Pacific region to transform lives by improving access to safe water, hygiene and sanitation in some of the world's poorest communities. Over the past 30 years, WaterAid has reached 15.9 million people with safe water and, since 2004, 11 million people with sanitation. For more information, visit www.wateraid.org, follow @wateraid on Twitter or visit us on Facebook at www.facebook.com/wateraid

Earthwatch

Since 1971, Earthwatch has pioneered the involvement of laypeople in peer-reviewed scientific research worldwide, and inspired changes in mindset and organizational culture based on hands-on field research experiences. Earthwatch works collaboratively with multi-national organizations that share our commitment to facing global environmental challenges head-on. We provide high-quality programs that immerse employees in hands-on research and learning experiencesand generate robust scientific data at scale. For more information visit: www.earthwatch.org

Notes on report methodology

The calculations on improved access to water supply and sanitation use three main data sources:

- Data on the number of people (in absolute terms and as a share of each country's population) with access to improved sources by UNICEF (2012);
- The UN's (2012) population growth forecast to 2050 (medium growth scenario);
- Estimates on the economic benefits of improved water supply and sanitation by WHO (2006); and
- The costs for investment in the provision of improved facilities and their maintenance by WHO (2008).

The analysis of river basins draws on the following main data sources:

- A list of the world's 400+ largest river basins (in terms of population and water run-off) from Hoekstra et al. (2011) including data on population and the water footprint in the river basins for 1996 - 2005;
- Historic population growth statistics and population growth forecasts from the UN (2012);
- Historic GDP data from the World Bank (2012); and
- GDP per capita growth rates from the HSBC "The World in 2050" study (2012).

The calculations are based on three relevant assumptions:

- Per-capita GDP in the river basin is equal to per-capita GDP in the country the basin is located in (or the river-basin-population-weighted average of all the countries the river basin is located in); and
- Population growth in the river basin is equal to population growth in the country the basin is located in (or the river-basin-population-weighted average of all the countries the river basin is located in); which implies that
- The share of a countries population living a river basin does not change over time, i.e. there is no migration.

[i] The % of world GDP for the ten river basins will go from an estimated 10.1% in 2010 to an estimated 24.7% in 2050 , that is an **increase** of 14.6 percentage points. The % of world GDP for (USA+Japan+Germany) will go from an estimated 36.9.X% in 2010 to an estimated 23.6% in 2050 , that is an **decrease** of 13.3 percentage points

[ii] A river basin is defined as the area of land from which all surface water run-off flows, through a sequence of streams, rivers and lakes into the sea at a single river mouth, estuary or delta. Population in 2050 in the top ten river basins will be over 2.7 billion, while (US + Japan + Germany) will be less than 0.6 billion. The surface areas are roughly the same: 11.5 million km2 for the ten most populated river basins and 10.4 million km2 for (USA+Japan+Germany)

[iii] Data sources: World Bank (GDP), United Nations (Population), Water Footprint Network Database (Population in river basins); Assumptions:GDP per head per river basin equal to average GDP per capita in country where largest share of river basins is located; River basin population as share of country population remains constant at 2005 levels

[iv] A sustainable water resource management framework needs to address both water quantity and water quality considerations to provide a safe, secure and environmentally sustainable supply of water.

[v] In the past two decades, total aid for water supply and sanitation has declined in relative terms from 8% to about 5% of all development aid investment (Frontier Economics)

[vi] Hoekstra, A.Y. and Mekonnen, M.M. (2011) Global water scarcity: monthly blue water footprint compared to blue water availability for the world's major river basins, Value of Water Research Report Series No.53, UNESCO-IHE

[vii] Hoekstra AY, Mekonnen MM, ChapagainAK, Mathews RE, Richter BD (2012) Global Monthly Water Scarcity: Blue Water Footprints versus Blue Water Availability. PLoS ONE 7(2): e32688. doi:10.1371/journal.pone.0032688