Nexus Dialogue on Water Infrastructure Solutions

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The Dialogue
Partnerships for innovation in water, energy and food security

waternexussolutions.org
Nexus Dialogue on Infrastructure Solutions

AFRICA

LATIN AMERICA

ASIA
March 2014

Nexus Dialogue Workshop
Bogota, Colombia, 24-26 September 2013
Workshop Report

Nexus Dialogue on Water Infrastructure Solutions
Long Term Water Stress
(and the location of power plants, based on 2025 IPCC Scenario A1B)

Sources:
Water Stress: The Coca-Cola Company
Power Plant Locations: Carbon Monitoring for Action (CARMA) and ISciences L.L.C.
Power Plant Attributes: Platts, a Division of The McGraw-Hill Companies, Inc.
What is happening?

Globally, by 2050:

• Water demand is projected to increase by 55% over current levels
• Energy demand by 80%
• Demand for renewable energy will increase by 60%
• In 2008 – Kenya had an overall drop in GDP of 10% due to drought
• China’s electricity generation in 2035 will be 3 more times what it was in 2008
• In sub-Saharan Africa, levels of access to electricity in rural areas are typically much lower than coverage of water supply and sanitation (Burkina Faso, 1%; Kenya: 8%; Uganda 5%; Tanzania 4%, (SE4All, 2013)). Of the 1.3 billion people with no access to electricity, 95% of them are in sub-saharan Africa
• 2011-2030 – to close the energy poverty gap need US$980 billion
Water in the economy....

- Turkey: cotton and textiles represent 20% of export income
- Peru: asparagus largest export crop represents 40% of export revenue from agriculture – in one valley
- S. Africa the Western Cape – 12.5% of land area, responsible for high value crops, represents 55-60% agriculture exports – needing irrigation, and therefore energy
- Kafue in Zambia: Kafue Gorge power station produces 50% of total electricity
- France: 75% of surface water storage is for hydropower
- Gujarat........

*It's hard to keep on top of.....*
We silo ourselves

- Different objectives, frameworks, tactics
- IWRM plans (all of them) consider energy a user, or a beneficiary of an allocation, and not a water manager
- Cost recover of water use by energy sector is poor
- Energy operates differently
- Agriculture remains fairly silent ‘en masse’, but many solutions locally
Interactions between water, energy and food

Water
- What are energy efficient water-treatment technologies?
- What ways of operating dams sustain wetland fisheries?

Optimization
- How can water re-use reduce food-energy trade-offs?

Innovation
- What technologies make irrigation more water efficient?

Solutions
- How does watershed management help hydropower?

Food

Energy

Diagram:
- Water: What are energy efficient water-treatment technologies?
- How does watershed management help hydropower?
- How can water re-use reduce food-energy trade-offs?
- What ways of operating dams sustain wetland fisheries?
- What technologies make irrigation more water efficient?

Energy: How does watershed management help hydropower?
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Diagram connections:
- Water to Optimization
- Optimization to Solutions
- Solutions to Energy
- Energy to Water
International Conference  11-13 NOVEMBER 2014 BEIJING, CHINA

SOLUTIONS FOR THE NEXUS:
Building Partnerships to Optimise Infrastructure & Technology for Water, Energy & Food Security

Conference Themes:
- Using the nexus to accelerate development
- Cleantech nexus infrastructure and technology solutions
- Collaboration and institutional arrangements for a nexus approach
- Influencing pathways of investments for nexus infrastructure and technology

More information coming soon: waternexussolutions.org
Follow us on social media channels: @WaterNexus
• Energy needs to be in the room
• And, at times they need to lead....
• Overcome the Tyranny of Experts
• Appropriate technology and policy tools – common data (challenge)
• Integrated policy is ideal....but so was an IWRM plan...need policy connections and pointers ('indicators’ as a compass.....), non-coercive incentives
• The strength lies in the silos....use them more effectively to build a systemic response to the challenges ahead
Shared basin vision approach

Adaptive capacity increased through:

recognition and inclusion of ecosystem services provided by natural infrastructure in investment strategies for climate change adaptation and through optimisation with built infrastructure planning and development.
Thank you

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