Report back:
Stream

5: The Role of the Private Sector

General remarks

- General tone is that there are solutions for challenges
- Challenges are diverse; solutions available and diverse
- Various roles for private sector: water user, can also be water service provider; can provide finance
- Appears as if major contribution of private sector can be in all phases of infrastructure life cycle
- Plenty of capacity in private sector for innovation and technical solutions
- Appears to be no shortage of funds in country and world; we need to source cheaper sources of money
- Sufficient funding is available but “follow best efficiencies”
- Need “boldness of taxi industry”
- Companies realise significant areas for best practices; significance of water risk in relation to their water value chain (need to manage water sustainably); water risks are elevated to board level in many companies; water as risk is becoming important in relation to survival of enterprises and jobs
- Requirement for guarantee of integrity of water supply
- Should not only seek solutions for South Africa, but for Africa – areas where there are plenty of water; think bigger to address water security

General remarks (cont)

- Examples of successful projects available nationally and internationally: Nestle's example in Western Cape ("necessity is mother of invention"); reduced water consumption by 50% under drought conditions
- Example of success of SWPN (concept initiated in World Economic Forum): neutral platform for government and private sector to find solutions; willingness and appetite for success: No Drop development; Anglo's treatment of water and then providing to communities; development of generic performance based contract for municipalities
- Increasing call for private companies to play deeper and more significant role in infrastructure; challenges not only financially and in construction, but also in fixing and maintaining infrastructure
- Sufficient motivation available for Public Private Partnerships (PPPs) through plans and strategies developed such as NDP and NWRS implementation
- Requirement for both public and private sector to jointly look for solutions
- Learn from international successes (our problems not unique): example integrated/independent projects in South America
- Example of problems in development of Millenium Dam; needed to harness Nile; Egypt encountered unrest; Ethiopian citizens through referendum indicated that each would contribute additional amount per month; now pay for their own dam
- How can private sector assist upcoming small scale farmers such as Ms Moroaswi?

The key challenges in the stream

- Risk associated with water is 4th in world
- Infrastructure funding requirement over 10 years of R700billion, probably already R1 trillion; shortfall of R390billion
- Limited sector and master planning and management at municipal level: shortfall specified in EWSETA skills plan 2011-2016
- Water losses (average 38%, but 90% in low capacity municipalities serving poor communities)
- Municipal under spending of conditional grants (40% of planned expenditure)
- Substantial portion of expenditure by local government on use of consultants as permanent “employees” resulted in wasteful and fruitless expenditure.
- Significant backlogs in water and sanitation provision (Water 14.9%; sanitation 28.6%)
- AMD: funding, ownership
- No turnaround plan for water and sanitation infrastructure
- Constructed infrastructure not operated and maintained properly: there are cases where infrastructure was built through private investment, but problems recurred almost immediately
- These are instances where prices of infrastructure and other project costs are inflated (rip-off); private sector needs to become part of solution not create it
- Infrastructure and technologies used sometimes 80 years old; need to investigate use of new technologies where appropriate

Key challenges in the stream (cont)

- Implementation of NDP; >R1 trillion per year needed for capital
- Users do not pay economic tariff for water; defer problem (that with time, will become more expensive to address), to children
- Cannot privatise water provision, but can privatise operation and maintenance; however need both good governance as well as an economic tariff
- Over-investment in infrastructure development can result in users not being able to afford resulting tariff – becomes unaffordable
- No capping on profits required in the public sector

The deficiencies in the enabling environment

Sometimes need to address solution at policy level and has to be agreed between government departments: issue for Eskom that needs to address air pollution but can detrimental to water usage

The knock-on effects of the challenges

Knock-on effect of disruption in water and energy supplies: companies: loss of revenue; loss of competitiveness; loss of market share; job losses; reduced production of products by irrigation farmers

The key elements of the solution tree in the 30 year time-frame

- Financial shortfall: deficit can only come from private sector combined with finance from local and international DFIs – on- and off-balance sheet solutions have to be proposed for water boards and municipalities
- Savings in municipal sector on wasteful and fruitless expenditure (substantial portion classified as such for payment of consultants as permanent “employees”), could be used to address some of problems experienced
- WCWDM: innovative funding solutions from institutions such as DBSA and private sector to help reduce water losses (would reduce cost of providing water and could generate billions in additional revenue).
- Technical and financial skills:
    - short term: secondment and skills development through placement at private companies
    - Longer term: cooperation between government and private sector; examples: partnership between DHET and SAICA placed qualified CAs at Technical and Vocational Education and Training College as chief financial officers; place retired engineers to teach at colleges to help increase artisans and technicians

The key elements of the solution tree in the 30 year time-frame

- Use of smaller municipalities as springboard to address water loss – smaller, easier to address problem
- Same solutions can't necessarily be used: not one size fits all
- Projects need to be attractive to international donors. Need properly constructed solutions
- Importance of spatial planning and involvement of all in that

The key elements of solutions (continue)

- Companies can provide innovative financial and risk sharing solutions especially to municipalities under administration (ABSA Rustenburg example)
- Companies can play a role in building the capacity of underperforming municipalities, shoring up revenue streams for municipality (Business Adopt A Municipality)
- Companies can co-invest in large scale water infrastructure (Sasol pipeline)
- SWPN No Drop initiative on water efficiency
- Companies can support research – work as partners with science councils and academia to advance research: examples Sasol, Santam and others in Eden district)
- Look at reporting and measuring of ways in which companies use water
- Consider using example of Independent Power Producers (IPPs) in water provision – IPPs: wind and solar; payment stream secured over life cycle – design, develop, finance; water more complex BUT should consider
- Difficulties encountered in projects could be overcome by structuring of projects – projects should be viable

4 THEMES

1. Ensuring water security for the economy and business
2. Private sector water stewardship and good citizenship
3. Private sector and its commercial relationship with public sector
4. Financing and pricing of water

THEME 1:
ENSURING WATER SECURITY FOR THE ECONOMY AND BUSINESS

Provide private sector perspective on amongst other and **deliberate** on:

- Within business: are water risks receiving sufficient attention and at the right levels (e.g. Boards)
- What can be done to improve on infrastructure delivery (e.g. SIP on water and sanitation)
- Technology & innovation in providing solutions
- Policy issues that need to be resolved
- Any other perspective

- The demands for freshwater, energy and food will continue to increase significantly over the coming decades to meet the needs of growing populations and economies, changing lifestyles and evolving consumption patterns, greatly amplifying the existing pressures on limited natural resources and on ecosystems. We need to become smarter and innovative in our decision-making and the choices we make and change our behaviour and mind-sets to address the challenges and risks facing the domains of water- energy-food nexus in an increasingly polluted and climate changing world.
- Every human being has a right of access to water, energy and food and at the centre of this nexus will be the acceleration of access to basic water, energy services and food to all especially the poor at affordable prices. What are the strategies for urban environments vs. rural areas? Off-grid energy generation such as wind and solar and biogas and groundwater and rainwater harvesting for rural areas.

- “Smart” natural resources management is required to take us to 2030 and beyond which calls for rethinking water use, energy use, reducing waste and losses, and improving water and energy efficiency and productivity and becoming resilient to the impacts of pollution and climate change.
- Integrating water policies with other key sustainable development issues, most notably energy, agriculture/food, and climate change. This should be done in order to bring freshwater withdrawals back in line with natural renewal.
- Develop policies and incentives to improve water productivity and efficiency in all sectors, especially agriculture.
- Focus on producing cleaner energy with less natural resources and less impact on the planet and the environment. Shift in attitudes and habits required in order to increase efficiency of resource use and change consumption patterns.
- Inadequate financing of the water sector remains a challenge over and above the budgetary allocations from the National Fiscus. Actual cost recovery of water delivered, appropriate water tariffs across the water value chain, protection for the poor, long term financial planning, funding plan (taxes, transfers or tariffs), incentives for private sector participation, basic water economics.
- Focus on reducing and eliminating energy and water wastage.
- A nexus approach to sectoral management, through enhanced dialogue, collaboration and coordination, is needed to ensure that co-benefits and trade-offs are considered and mitigation measures put in place.
- Water and Energy awareness: focus on importance, footprints and scarcity value and wastage (energy, water and food)
- Finally, leading practitioners of Corporate Water Sustainability emphasize the need to integrate water policies into other key sustainability and development issues, such as energy and climate change, food and agriculture, and human rights generally.

Water for an improved quality of life

- Empower people, especially women, to better manage their own water resources
- Promote access to clean drinking water and sanitation as a key to poverty alleviation, public health and quality of life
- Build resilience among watershed communities to cope with water-related disasters

Policy and governance issues that consider nexus trade-offs to minimise risks and maximise nexus opportunities

- Development of coherent national policies (energy mix, hydraulic fracturing etc.), strategies, regulations, licences affecting the different domains of water, energy and agriculture. Understand and manage the trade-offs and maximise the co-benefits and quantify the risks and impacts and consequences on multiple sectors, society, economy and the environment.
- Promote integration, co-operation and co-ordinated planning and discussions between the sectors, government departments, regulators etc. Need new political and economic frameworks, innovative policies and institutional reform to promote cooperation among sectors and integrated planning.
- Water, energy and land practitioners (such as hydrologists), planners and decision-makers involved in assessing the water, energy and food needs requires a suitable level of knowledge of the resource implications and requirements to produce water, energy and food. Managers need to engage and understand each other and overcome the barriers that exist between their domains.
- Place water at the heart of decision-making in all water dependent sectors including energy and agriculture and land
- Key success factor is the need for reliable data, statistics and sound technical, environmental and economic information to make informed decisions at all levels (policy, strategic, planning, technological, operations etc.) This information should address issues on the availability and suitability of natural resources as well as socio-economic costs and benefits. An integrated approach includes:
    - An in depth understanding of synergies and trade-offs in the use of natural resources, while taking into consideration the role of ecosystem services, for the energy and agricultural sector
    - An enabling policy and institutional environment, with sound and flexible policies and effective instruments to implement these policies to enforce good practices
    - Proper impact monitoring, evaluation, reporting and policy response mechanisms
- Identify and map R&D roadmap that will determine the trade-offs and negative impacts through technology development and choices e.g. biofuels as a renewable energy source drives the demand for agricultural production but biofuels requires more water than fossil fuels, wastewater as a potential source of energy (combined heat and power plants, biogas plants etc.), use of slightly polluted water or partially treated wastewater for industries and agriculture thus reducing energy consumption and costs associated with treatment,

Protection and conservation of water resources, ecosystems and biodiversity

- The availability of adequate quantities of water, of sufficient quality, depends on healthy ecosystems and can be considered an ecosystem service. Natural or green infrastructure can complement, augment or replace the services provided by traditional engineered infrastructure.
- Increasing investment in the research and development of new and enhanced technologies for water and energy productivity and efficiency and zero waste across sectors. In recent years a range of new or enhanced technologies have been developed to increase water-use efficiency and waste-water management, including: advanced recycling systems at factories; on-site waste-water treatment facilities; and, in agriculture, new-generation drip-irrigation systems and the introduction of water-efficient crops.
- Developing water-sensitive products and providing water-sensitive services. Increasingly sophisticated water foot-printing methodologies are allowing companies to better understand the full extent of their direct and indirect water use, creating opportunities to offer water-sensitive products
- Performing research and data analysis with respect to water. Using sophisticated hydrological models, some companies have developed or are developing comprehensive databases that capture water trends to better understand where water stress and scarcity may be most acute thus helping companies better understand how they can manage water risks in specific river basins and watersheds, and how they can contribute to solutions.

Water Conservation and Water Demand Management

- The NWRS2 provides for priority water use sectors for targeted WCWDM intervention (e.g. irrigation, power generation, mining and industry, municipal sector); it does not, however, provide for any benchmarking of relative costs associated to various interventions. WCWDM will be considered for all water users in the issuing of water use licences.
- All sectors, agricultural irrigation schemes, local government, industry, mining and power generation should monitor and report, on a regular basis, on water loss and water efficiency improvements, such as water balances and measures implemented.
- All Sectors to commit to internal water saving and energy savings targets thus resulting in benefits for savings in water and energy. Role of private sector to raise water consciousness and awareness at Company level reaching out to employees, families, communities and their customers and suppliers.
- Focus required on reducing Non Revenue Water through WCDM measures at municipalities and all other sectors including agriculture. NRW leads to the need for new bulk water infrastructure to make up the losses and new water demands.
- Compliance, monitoring and enforcement of illegal abstraction and pollution of water resources required by the Regulator and Public citizenship to report such activities.
- Technology providers are key to introduce smart metering, cost efficient desalination and innovative water re-use technologies.
- No Drop Certification Programme (new regulatory programme to address water and energy efficiency and leakage reduction) to be rolled out
- Adopt a package of economic instruments, including demand management and incentives for recycling and reuse of water
- Encourage awareness through education, training and public media to encourage energy and water conservation and drive the efficient use of water and energy and minimise wastage. Consumers and policymakers to be mindful of direct and indirect water and energy associated with producing goods and services.
- Focus on producing cleaner energy with less natural resources and less impact on the planet and the environment. Shift in attitudes and habits required in order to increase efficiency of resource use and change consumption patterns.
- Promote technology transfer and invest in innovative tools to improve water and energy efficiency. Promote incentives and technology subsidies to increase efficiency across the domains: due to the low price of water and due to its inelasticity there is no incentive for some sectors to increase efficiency. Recent electricity price increases have focussed attention on cost savings, efficient use of electricity and reduction in electricity use and minimise wastage.
- Promote water off-setting policy to incentivise the business and industry to get involved in water efficiency and waste water treatment projects outside their factory fence
- Focus required on the supply chain (to produce fuels such as coal, gas, oil, corn and sugar cane for ethanol and biomass) and suppliers to improve efficient water use and protection of water resources. Customer has the power to change the behaviour and practices of companies. Regulator enforces monitoring, compliance and enforcement and licence to operate.
- Focus on producing more food, cleaner energy with less natural resources and less impact on the planet and the environment. Shift in attitudes and habits required in order to increase efficiency of resource use and change consumption patterns.
- Supporting development of a standardized cross-industry framework for measuring and reporting water use and impacts. All companies to develop a Water Accounting Framework to account for water use and report such to the Regulator and as part of their Annual Integrated Reporting requirements
- International water transfers and desalination should be pursued as a last resort due to the impact on water and energy costs and tariffs.

Integrated Water Resources Management that incorporates the Water-Energy-Food Nexus and includes integrated risk management pertaining to waste and climate changes impacts on water resources

- Systems Management focus required on risk management, performance management and operations and maintenance: technical/engineering and operational decisions (technology/equipment purchases, production versus other sustainability indicators, energy and water efficiency and performance targets and measures), Municipalities to focus on water losses reduction, leakage reduction, water treatment, metering and billing, etc, capacity building and training and education and awareness programmes,
- Most Climate Change related risks – urban heat waves, melting snowpack, longer droughts, increased wildfires, drying reservoirs, rising sea levels, desiccating soils - involve water. Increased climate variability means increased water variability, and developing countries are most vulnerable. Water is also critical for climate change mitigation, as many efforts to reduce carbon emissions and to sustain carbon storage in plants and soil rely on water availability. **Water managers can work with the right mix of adaptation and mitigation efforts, share knowledge, and build long-term resilience by investing in appropriate infrastructure.**

Water Quality: Waste water and Effluent Re-use

- Deteriorating water quality increases water use consumption and dilution requirements and treatment (desalination) and waste (pollution loads) costs which increase energy consumption
- The National Strategy for Water Reuse provides a considered approach to the implementation of water reuse projects and a National desalination strategy.
- Various studies initiated to identify mine water recovery and effluent re-use from municipalities as alternate sources of water supply. Huge opportunity collaboration and involvement of the private sector to provide financial, technical and resourcing. Also opportunity for replication and up-scaling of projects to regional level
- Institutional, regulatory, funding and water pricing of AMD are challenges which need to be unblocked for such schemes to be developed and implemented.
- Green Drop Certification (waste water quality regulations to improve compliance to effluent quality standards) and Blue Drop Certification Programme (water quality regulations programme to manage and improve water quality from municipalities to household taps) to be intensified
- Eradicate the bucket toilet systems and backlogs and ensure 100% access to dignified sanitation to prevent water contamination. Encourage the role of private sector in providing quality and dignified sustainable sanitation services.

Groundwater

- Promote groundwater use and institutional rainwater harvesting across all sectors especially rural and urban developments

THEME 2:

PRIVATE SECTOR WATER STEWARDSHIP AND GOOD CITIZENSHIP

Deliberate on:

- How business and private sector can leverage its capabilities and resources to assist in local communities and municipalities.
- Opportunities for private sector CSI activities in delivery of water services (there are some 10 % of population who have no access to clean drinking water, there are cost effective systems that could service communities not serviced as an example, can CSI activities fund these)
- How does private sector limit its impact (through pollution, the AMD issue as an example) on water resources?
- How does private sector coordinate better given its diversity ?

1) Promotion of water conservation and water demand management, incl. Waste water optimisation and treatment.

2)

Promotion of life cycle thinking...through the value chain.

3)

Partnerships

3.1. National level partnerships. E.g SWPN (Strategic Water Partnership Network) and working groups introduction, possibly additional working group on capacity building...technical and administrative.

- Local level partnerships e.g. Emfuleni, informed by No Drop programme.

THEME 3:
PRIVATE SECTOR AND ITS COMMERCIAL RELATIONSHIP WITH PUBLIC SECTOR

Deliberate, amongst others on:

- Solutions to promote good ethics and elimination of uncompetitive practices.
- Pricing of goods and services (reflect on the point made about goods and services to government being some times over priced)
- Supply chain improvements required if any in order for government to get value for money and private sector to achieve its profit goals
- Provide a perspective on how PPPP mode is working, are there good examples (reflect on the renewables IPP's and any in the water sector). Are there improvements at policy level that are required? How do we ensure that other stakeholders who have anxiety that water infrastructure are being privatized, their concerns are adequately addressed.

1: The perceived **trust deficit** between the public - and private sector is probably because of a lack of understanding of the application of relevant “partnership” policies. The legislative and regulatory framework in South Africa, allowing the parties to collaborate/partner is well developed and provides significant certainty required for financing of such partnerships.

- Refinement of such regulatory provisions may well improve the understanding of practical processes to be followed for partnerships to be formalised.

Suggested way forward:

1.1 The parties need to spend more time with each other debating and seeking solutions to specific challenges. This could/should be facilitated taking cognisance of local and international best practises especially referring to such partnerships in South America and those developing in the rest of Africa

1.2 Organised business (general and water specific) should play a much bigger role in arranging / facilitating the debate

2: The serious **lack of planning and implementation capacity** within water utilities (Water Boards and municipal water departments) across South Africa need to be addressed urgently

Suggested way forward:

2.1 The process regarding the establishment of regional water utilities need to be fast tracked with the view of establishing economies of scale.

2.2 Cognisance should be taken of potential public private partnerships that may assist in creating sustainable utilities. Various risk sharing mechanisms are successfully being applied internationally i.e. sharing of governance , transferring of operational risks, long term take –off agreements from commercial – and or industrial companies and the sharing of benefits

3: Regulatory oversight is required to provide longer term certainty leading to improved planning in the water and sanitation sector. The lack of proper oversight has a significant impact on the sector

Suggested way forward:

3.1 Fast track the current process, open up the debate, communicate target dates and get such regulatory body operational as soon as practically possible

4:Not sufficient focus on private sector participation in delivery of services. We do have significant private sector participation but short term and very ineffective. Typically less than 3 years because not wanting NT oversight. We probably need longer term formal contracting focussing on the water and sanitation **value chain.**

Suggested way forward:

- Make available standardised contract available for municipalities co-developed by the SWPN.
- Also ensure spread of knowledge re standardised Fidic contracts.
- Improved communication and knowledge sharing required

5: The many public role players in the water and sanitation sector, even now that we have the NDP and the NWRS2, do not always speak and act in unison especially when it comes to public private collaboration. The market is flooded with negativity with real challenges in service delivery and lack of decisive action. Whilst we are debating the sad state of affairs in the water sector we have the following wonderfully successful Program in another “utility driven” national government department?

- South Africa is in the midst of its Independent Power Programme (IPP) which is setting new international benchmarks in how public and private sector can work together. Feasible projects are structured and successfully brought to market.
- We accept that the IPP program cannot just be copied, that the water and sanitation sector is much more fragmented with smaller transaction values and pricing take off arrangements much more complex. Various lessons may be learned from established PPP markets wherein a grouped projects approach was developed and we may want to learn and apply certain of those principles.

Suggested way forward:

- Suggest serious attention be given to over the short term, establishing a IWP – Independent Water Program in South Africa with the key outcomes being generic guidance parameters within which IWP projects should/could be developed by either the municipal and or regional utilities. Standardised documentation (guidance) could be developed similar to what has happened in South Africa in the PPP market and elsewhere in the world.
- Such program to be developed and implemented by a team of dedicated specialists probably from within DWAS similar to the IPP team within the Department of Energy?

THEME 4:
FINANCING AND PRICING OF WATER

Deliberate on amongst other:

- Financing strategies for our water infrastructure.
- Are there innovative funding solutions we can come up with bearing in mind there may be different requirements if you are rural and small municipalities vs. a metro vs. national infrastructure such as building a dam or transfer scheme.
- Where do we raise the money required ?
- Pricing of water (do we need a water NERSA ?)

Key Issues

- Need to secure water resources in the first place (including potential imports)
- I.e. need water resources to have projects and investment in the first place
- Need to understand cost drivers across the water value chain (including sanitation services)
- Need to close the national funding gap for water and sanitation infrastructure

Closing the Funding Gap (1)

Funding gap can be closed by:

- Improved upstream activities and catchment management
- Addressing issues related to non-revenue water and water leakage
- Highlighting the role of saved water as an economic opportunity at the local level
- Improving water efficiency and minimising on any unnecessary or wasteful expenditure
- Improved billing, administration and revenue collection
- Assessing the costs savings through recycled water for human and other uses

Closing the Funding Gap (2)

Funding gap can be closed by:

- Attracting additional funding sources - private sector has key role here
- Accessing international finance
- A partnership approach, through PPPs and Corporate Social Responsibility (CSR)
- Ensuring that the water sector in South Africa is bankable
- Collecting further revenue through the fiscus, with additional revenue channelled to the water sector
- Increasing water tariffs for different categories of users

Promoting Private Sector Involvement

- Longer term purchasing contracts and cost-reflective tariffs will render projects more attractive, and promote private sector investment (e.g. 20 year purchasing agreement)

Pricing and Tariffs (1)

- Future water tariffs are key to the future of investment in the sector
- Tariffs and financing cannot be separated – they are deeply intertwined and connected
- If final tariff is not attractive to investors, this will hamper investment
- If the tariff is unaffordable for end users, then the project will experience non-payment

Pricing and Tariffs (2)

- The poor need to be carefully considered in water tariffs
- Arguable that larger water users will need to cover the investment cost for large-scale water projects – as they are the primary beneficiaries of these projects

Research Needs

- Need to understand cost drivers across the water value chain
- What is the willingness to pay for water and sanitation, across different categories of water users?

The key elements of the 5 year plan

- Role in infrastructure life cycle
- Role in WCWDM projects in municipalities
- Develop specific projects such as those of SWPN and other
- Consider implementing IPP example in water
- Expand ABSA Rustenburg and other existing projects
- “Adopt a Municipality”
- ……..