Enabling Environment for Resource Recovery & Reuse

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The need to act on urban sanitation

Cities are growing fast!

2014

54% urban

Half of urban dwellers live in towns with fewer than 500,000 people

…by 2050

66% urban

(+2.5 billion people!)

Africa: 56% urban

Asia: 64% urban

Improving sanitation service delivery levels contributes to the following SDGs…

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Resource Recovery and Reuse can help tackle many challenges

Financial health of utilities is poor

Energy costs for treatment are high

Poor planning at the city and regional levels

Global food security threatened due to climate change

High nutrient loads to the environment – cause eutrophication

Increased variability of rainfall due to climate change

Increased water scarcity in many regions

Achieving SDG 6 and the other SDGs

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Investments in Resource Recovery and Reuse must be made in an enabling environment that includes…

Guiding Principles

- Government priority
- Stable/Strong Institution
- Adequate regulation
- Allocation of roles
- Growth of Economy
- SDGs

Policy Rules

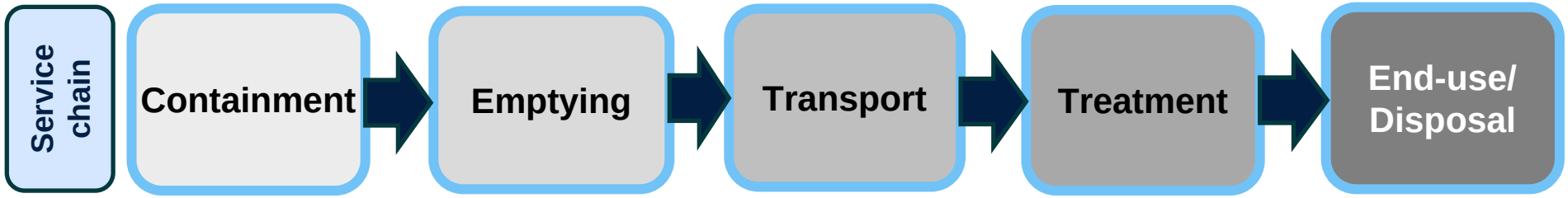
- Full-cycle approach
- Adequate legislation
- Resource recovery
- Adequate technology
- Industrial control
- RBF & PPP + Financing
- IWRM

Project Priorities

- Life-cycle analysis
- OpEx covered
- Clear effluent limits
- Project within IWRM
- Technology right

Issues: Consistency + Persistence + Alignment + Promotion

Citywide Inclusive Sanitation



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Enabling Environment Constraints

- Institutional
- Technical
- Environmental Regulation
- Economic Regulations & Incentives
- Engaging the Private Sector

Solutions

Examples of resource recovery and reuse

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Bringing in the Private Sector
Tunisia and Morocco

Tunisia's National Sanitation Office (ONAS)

Morocco's Water and Electricity Office (ONEE)

Photos courtesy of Jean-Martin Brault

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Technological Innovation
Durban, South Africa

- Durban Water Recycling treats wastewater for industrial reuse
  - Constant demand for effluent
  - Regular, reliable revenue stream
  - Treated wastewater is half the price of potable water
- Fecal sludge and septage (from pit latrines and septic tanks) is collected and treated to produce soil conditioner and animal feed

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Putting it all together
La Farfana, Chile

- Wastewater for 3 million HHs is treated
  - Sludge produced is used to generate biogas for 35,000 HHs
  - Final biosolids are safe for agricultural use

- PPP arrangements
  - Two private firms invested in the infrastructure
    - Metrogas – gas pipeline (14 km) and biogas final treatment
    - Grupo Aguas – improving the biogas catchment and initial treatment
  - Fixed price for the biogas, indexed to price of oil, minimum volume (MM BTU) guaranteed per trimester
  - Agreement is for 6 years, renewable

Source: PROYECTO DE BIOGÁS: NUEVA ENERGÍA PARA SANTIAGO. Aguas Andinas. 2010. http://www.expansiva.cl/media/archivos/20100819181526.pdf

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Key Takeaways

The need for a holistic approach and political decisiveness

Everyone must play their part

To think through the full supply chain for the end-use products

Thank you!

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