

# GEF CReW

Caribbean Regional Fund for Wastewater

## **Institutional Financing Mechanism and Opportunities at Global Regional and National Levels – WCR Initiatives**

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# Outline



- The Global Context
- Regional Realities
- Changing the Storyline Linking Water and Waste Water
- The CReW Strategy
- The Project
- Project Objectives
- Testing Financial Mechanisms First Generation Projects
- Issues of Sustainability





# The Project



## CReW

- Caribbean Regional Fund in Wastewater Management

## Funding Agency

- Global Environment Facility

## Implementing Agencies

- IDB & UNEP

## Value

- US\$20 million

## Endorsing Countries

- 13 Countries (*Antigua and Barbuda, Barbados, Belize, Costa Rica, Jamaica, Guatemala, Jamaica, Guatemala, Guyana, Honduras, Panama, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago*)





# The Project



Antigua and Barbuda

Barbados

Belize

Costa Rica

Jamaica

Guatemala

Guyana

Honduras

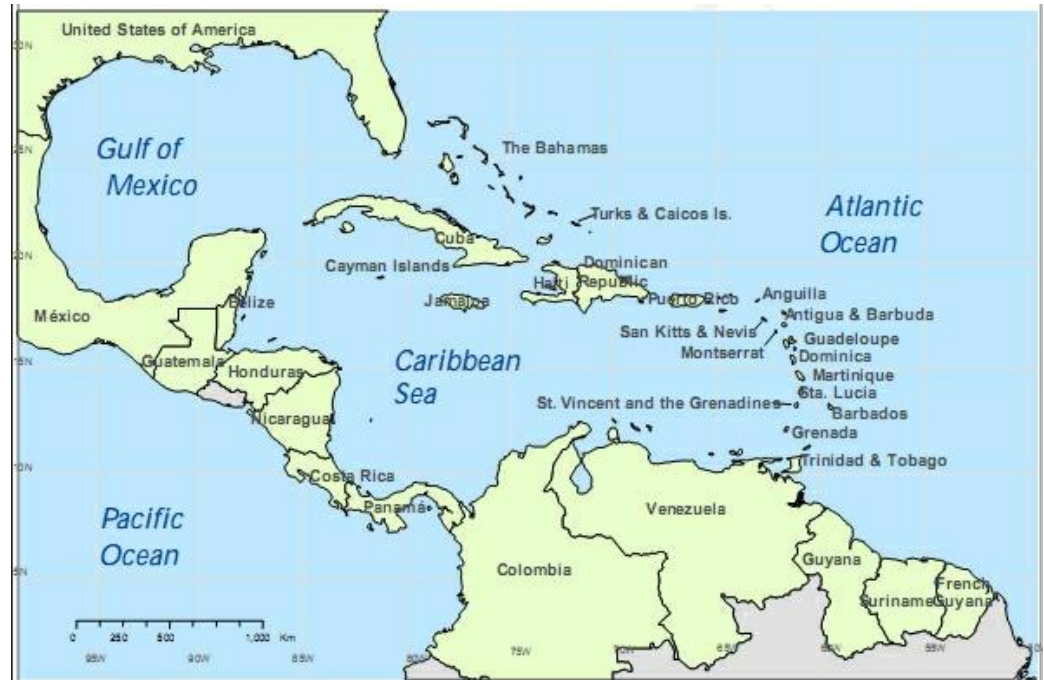
Panama

St Lucia

St Vincent and the Grenadines

Suriname

Trinidad and Tobago







# Project Objectives



1

Establish innovative financing mechanisms for cost-effective and sustainable financing of wastewater management in the WCR

2

Improve national and local capacity for wastewater management through strengthened policy, institutional & legislative frameworks

3

Facilitate regional dialogue and knowledge exchange with the key stakeholders in the WCR





# The Opportunity



- Waste is a **Resource Out of Place**
- Wastewater is a Resource – BUT requires treatment
- Business Opportunity





# Is There A Demand



- In 2012 the World Economic Forum, ranked the water supply crises as the second global risk after major systemic financial failure, and ahead of food shortage.
- By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be under water stress conditions shortage.





# Is There A Demand



- Given the current trends, future demands on water to feed growing human populations, for intensive production of goods and to support growing economies will not be met.
- Nutrients - nitrogen and phosphorous - are key for maintenance of soil health to grow crops and thus ensuring world food security
- Food security of two-thirds of the world's population depends on availability and use nutrients in the form of fertilizers.
- Nearly 75% of added nutrients is lost to the environment, causing pollution -losses of nitrates ( $\text{NO}_3$ ), phosphate and organic N and P compounds to water.



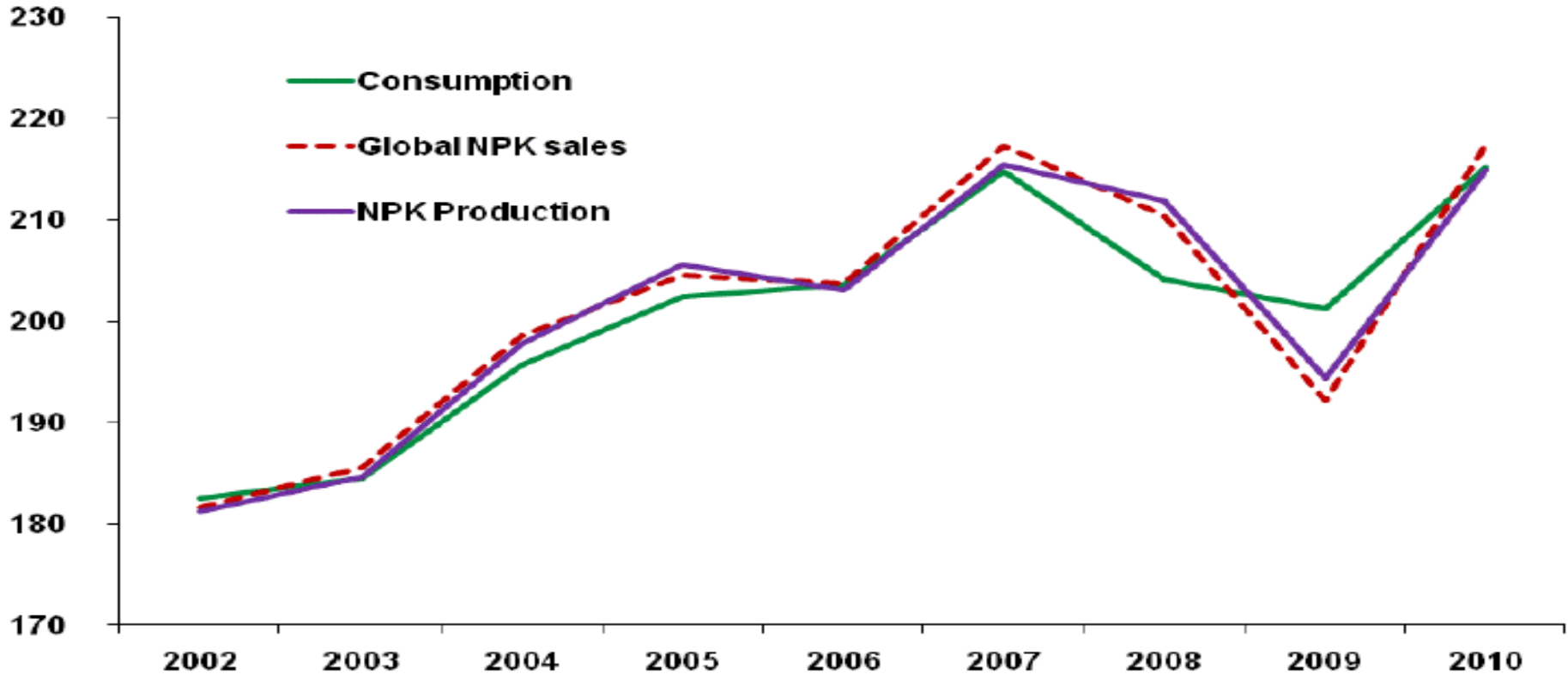




# Is There A Demand



Mt nutrients



IFA PIT Committee, 2010



GLOC-2 October 2-4, 2013



# Changing the Storyline



## Increase of prices of fertilizers: 2005 to 2010

- ✚ Urea: 90%
- ✚ Phosphate rock: 156%
- ✚ Potassium Chloride: 113.5%
- ✚ Di-ammonium Phosphate (DAP): 113.5%
- ✚ Triple superphosphate (TSP): 108.7%

CEPAL/FAO/IICA, 2011



Fuente: Fertilizer Week



GLOC-2 October 2-4, 2013



# Regional Realities



- ✦ 7% of the world coral reefs are located in the Caribbean (CARSEA, 2007)
- ✦ In the Caribbean, less than 20% of wastewater is treated before entering the ocean (Burke and Maidens, 2004)
- ✦ Coral reefs develop in waters with low levels of nutrients
- ✦ Untreated wastewater is a major source of nutrients in coastal waters that would not normally contain them
- ✦ These nutrients foster the growth of algae at the expense of coral (Souter and Linden, 2000), since coral reefs develop in waters with low concentrations of nutrients



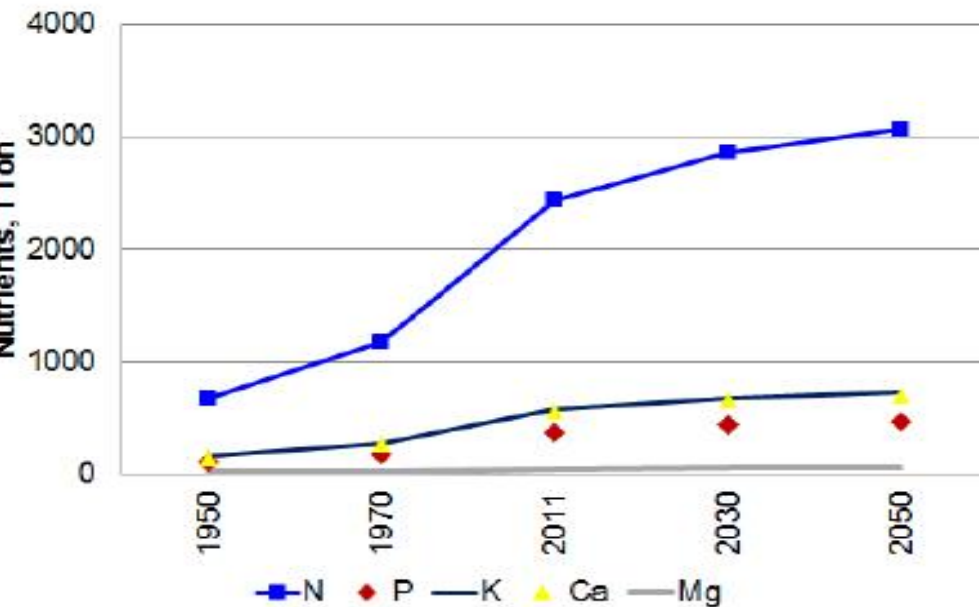




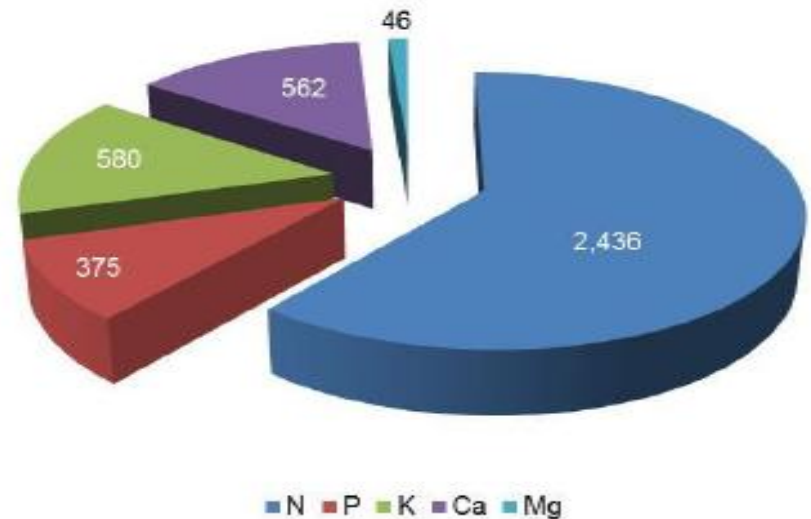
# Regional Realities



In Latin America, 86% of domestic wastewater is discharged, untreated, into rivers and oceans. In the Caribbean, this figure could be 90% (UNEP, 2007)



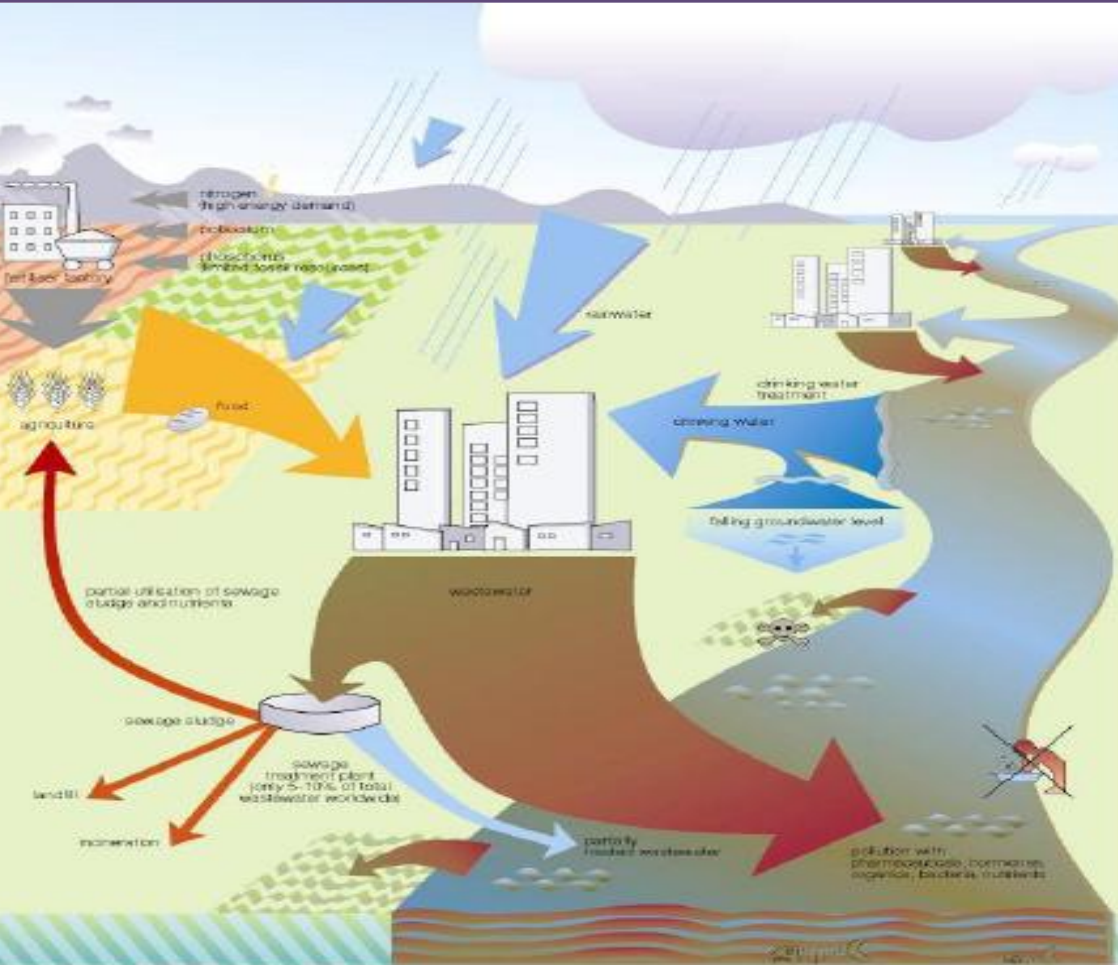
Discharge of nutrients in LAC in 2011: Tton







# Regional Realities



- ✦ Pollution of waters by organics, **nutrients**, hazardous substances, pathogens, pharmaceutical residues, hormones, etc.
- ✦ Unbearable health risks and spread of disease
- ✦ Severe environmental damage and **eutrophication** of the water cycle
- ✦ Consumption of precious water for transport of waste (water carriage waste disposal system)
- ✦ High investment, energy, operating and maintenance costs
- ✦ Frequent subsidization of prosperous areas and neglect of poorer settlements
- ✦ Loss of valuable nutrients and trace elements contained in excrements due to discharge into waters
- ✦ Impoverishment of agricultural soils, increased dependence on chemical fertilizers





# Changing the Storyline



- What is water “reuse”?
- **Water Reuse:** The sustainable use of effluent from wastewater treatment plants for beneficial purposes.









# Changing the Storyline



- OPPORTUNITY - Linking effective wastewater treatment with water reuse for these products :

–ENERGY

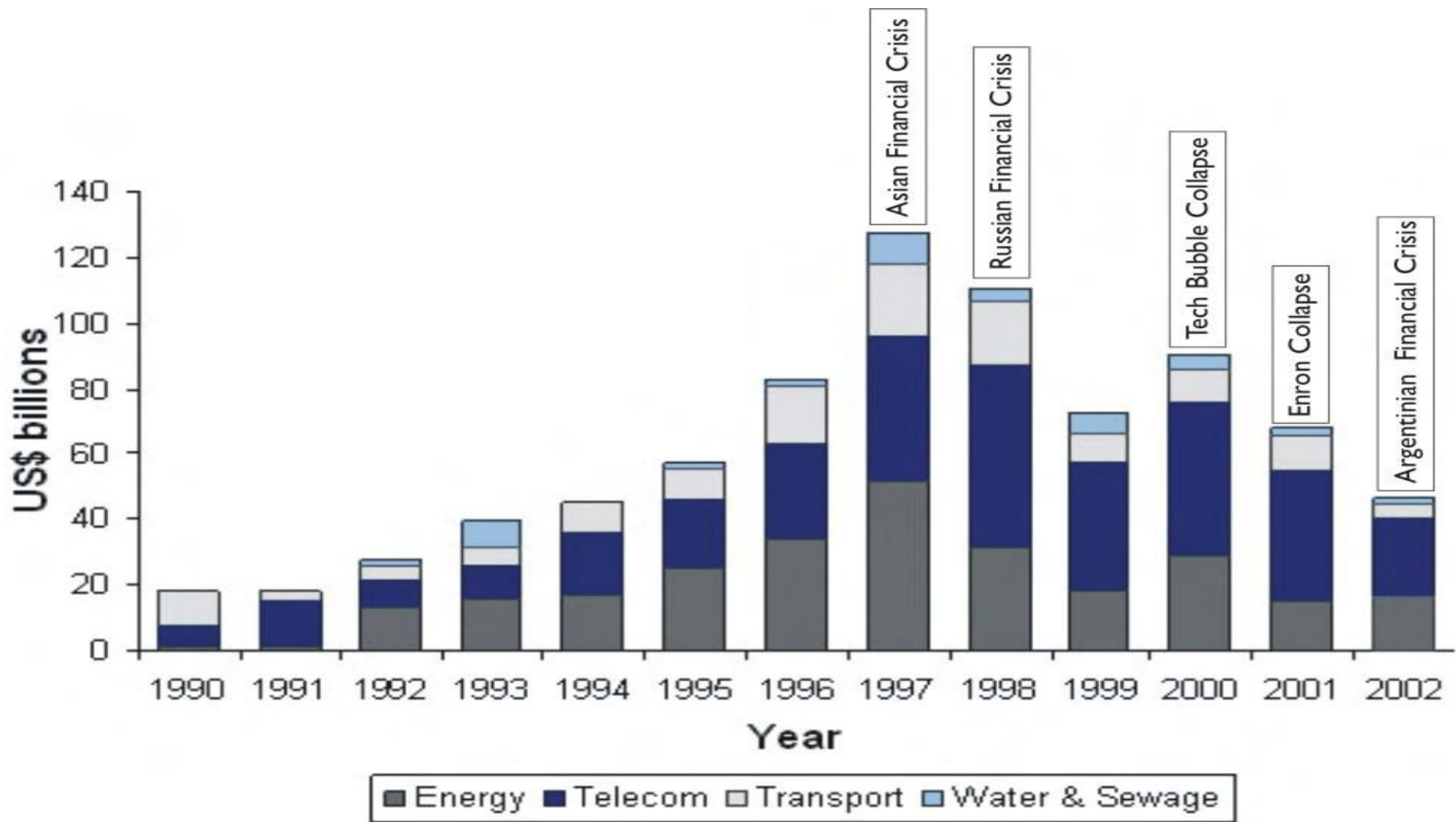
–WATER

–NUTRIENTS





# Financing Wastewater





# Financing Wastewater



- Utilities in English Speaking Caribbean low expenditure on wastewater.
- For example in Jamaica only seven percent of the NWC's total average annual capital expenditure account for investments in wastewater systems.
- Some utilities such as WASA in Trinidad and Tobago have not carried out any substantial investments in wastewater.





# The CReW Strategy



## Change Management Project –Funding Infrastructure in Wastewater Sector

- Testing approaches to sustainably finance wastewater treatment systems sector at low/competitive market rates
- Developing enabling environment to support the development of such financial mechanisms





# Testing Financial Mechanisms



## Jamaica

Credit  
Enhancement  
Facility

US\$3 million

Rehabilitation  
of 13 existing  
WWTP

## Belize

Belize  
Wastewater  
Revolving Fund

US\$5 million

WWTP  
Belmopan &  
Placencia

## Guyana

Guyana  
Wastewater  
Revolving Fund

US\$3 million

Public Private  
Partnership

## Trinidad & Tobago

T&T  
Revolving  
Fund

US\$2 million

Rehabilitation  
of Scarborough  
WWTP



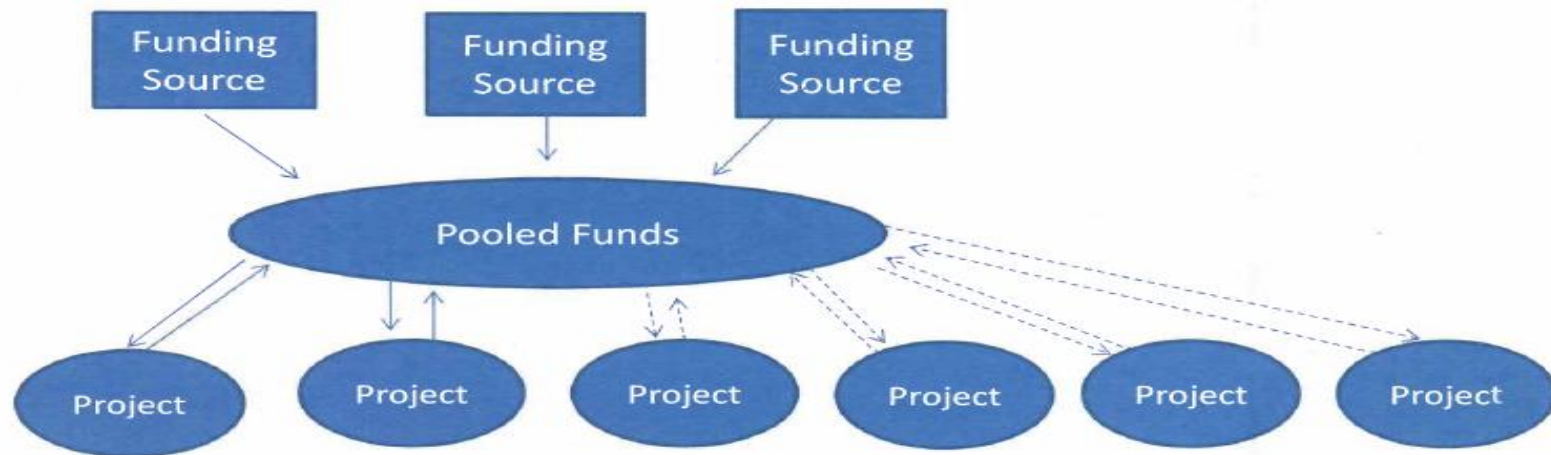




# Testing Financial Mechanisms



## Revolving Fund Structure



- As project borrowers repay the loan to the pool, the money is then available to lend for new projects.



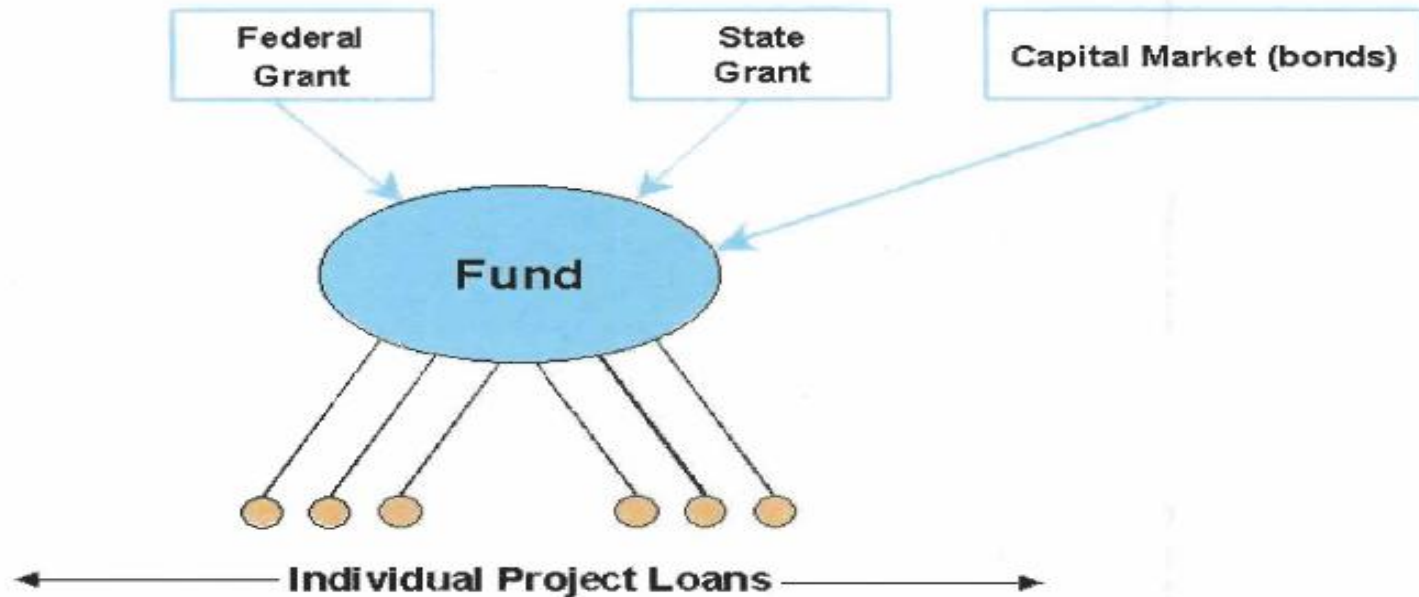


# Issues for Sustainability



Structures Used Around the World - 3

## The Cash Flow Model





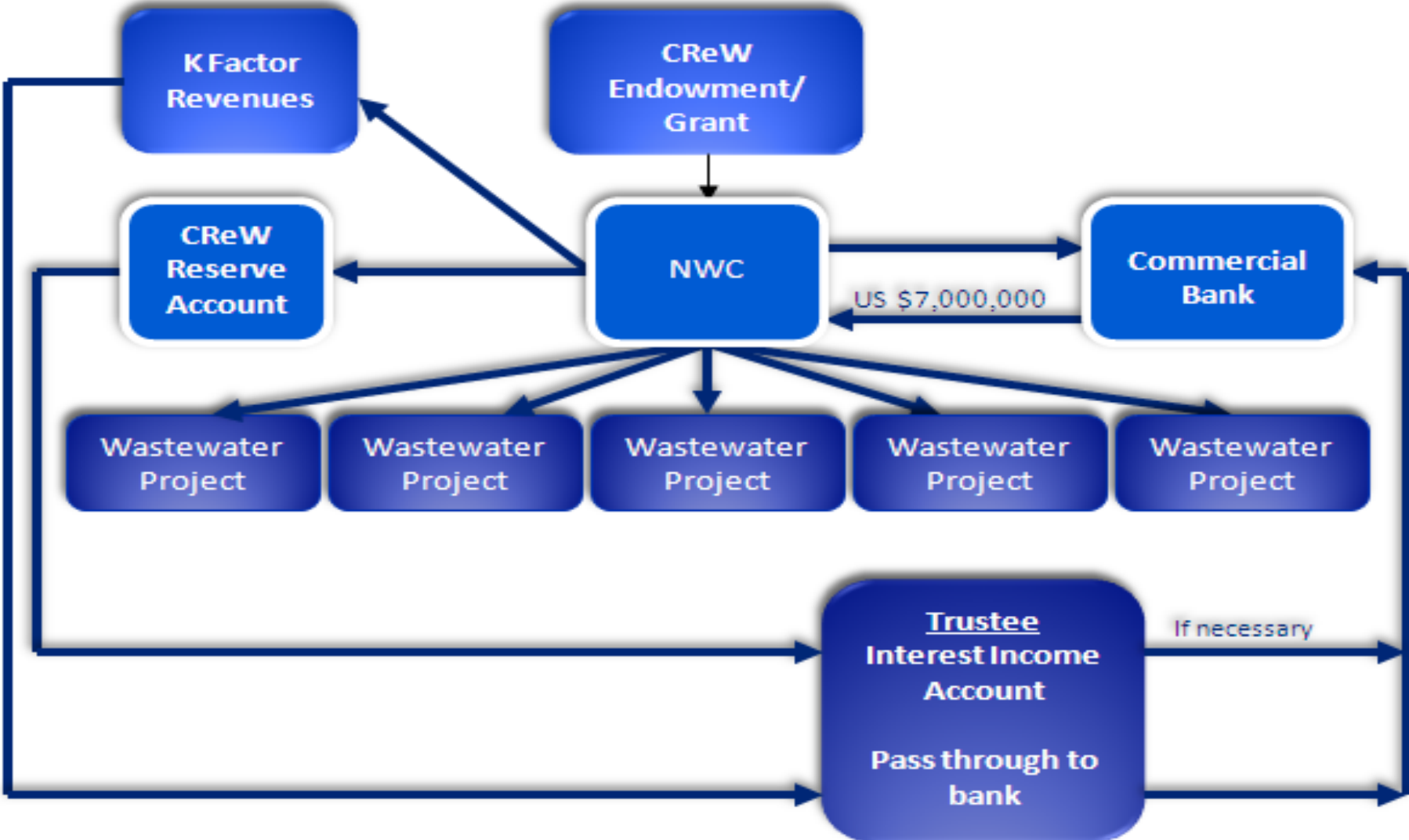
# Testing Financial Mechanisms



- Structure of fund
  - Capitalization
  - Source(s) of capitalization?
    - – Initial
    - – Long-term
  - Amount(s) of capitalization?
  - Match requirements?
  - Leverage possibilities?
  - Protecting the corpus



# Testing Financial Mechanisms







# Issues for Sustainability



- Change the paradigm
  - waste as a resource
  - thinking of investors, users, govts
- Enabling environment – policy, laws, standards, tariff structures etc.
- Active engagement private sector
- Public Education
- Growing the fund - Sourcing capital to grow the fund
- Pipeline of projects





# Acknowledgements



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# THANK YOU

