If we start today, every new building can be carbon neutral from tomorrow.

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Financing Smart Cities

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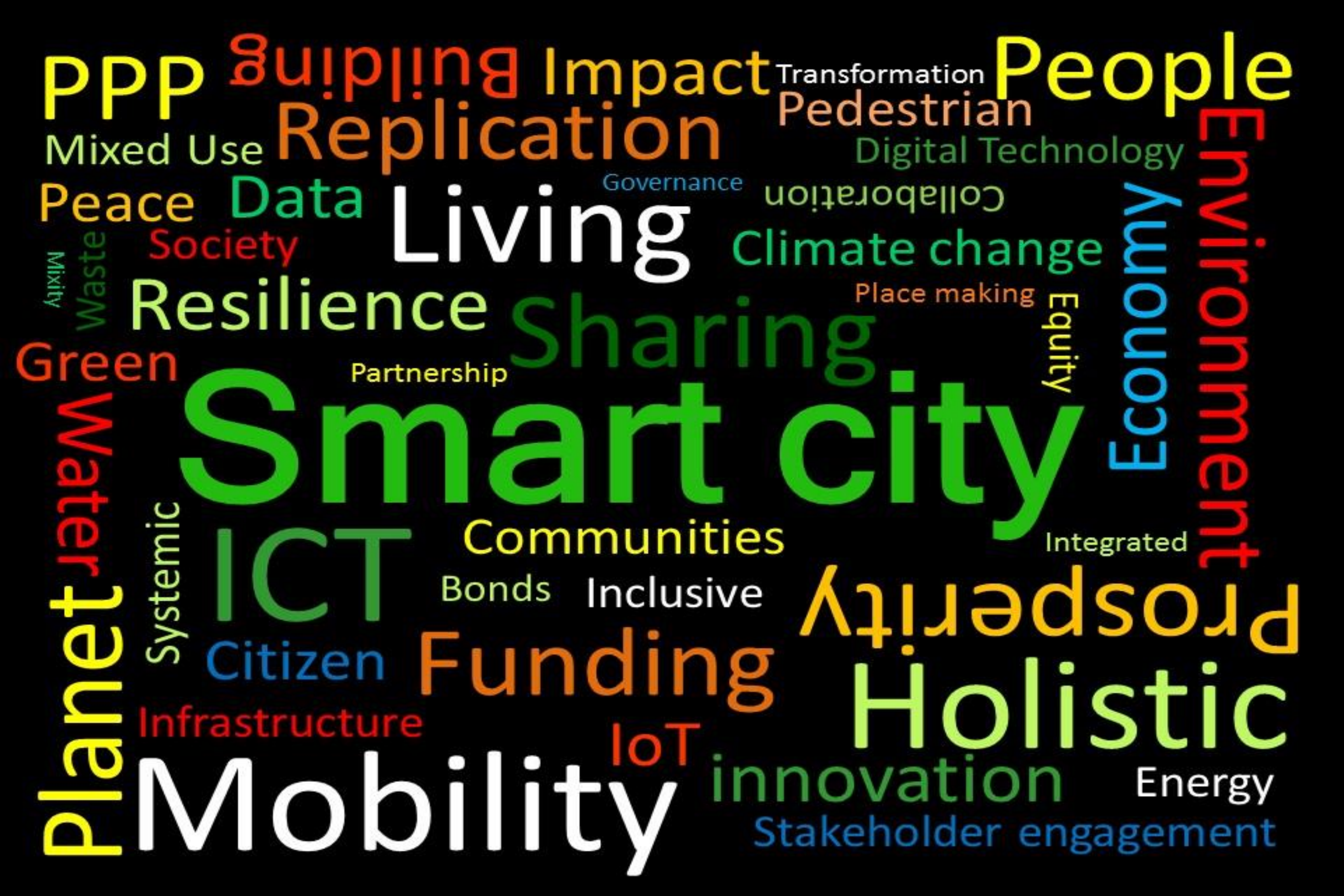
KENYA GREEN BUILDING SOCIETY
Build Green Save Kenya

Financing Smart Cities

- What is a Smart City?
- Smart City programmes
- Financial instruments
- Funding models for Smart Cities
- Pay for success/Performance - Social Impact Bonds
- Investment vehicle - esco
- A crowdfunding option?
- Case Study - Mauritius Smart City Scheme
- Way forward - what we need

SMART CITY

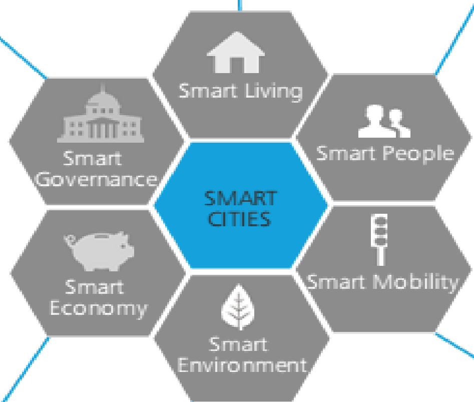

PPP
Building
Impact
Transformation
People
Pedestrian
Replication
Mixed Use
Digital Technology
Governance
Collaboration
Peace
Data
Living
Environment
Economy
Climate change
Society
Mixity
Waste
Resilience
Place making
Equity
Sharing
Green
Partnership
Smart city
Water
Planet
Systemic
ICT
Communities
Integrated
Bonds
Inclusive
Prosperity
Citizen
Funding
Holistic
Infrastructure
IoT
innovation
Energy
Mobility
Stakeholder engagement

Components of Smart Cities

SMART LIVING
- Sewerage & Sanitation
- Water Supply
- Electricity
- Storm Water Drainage
- Housing
- Citizen Safety

SMART GOVERNANCE
- Revenue Management
- Administration
- Grievance Management
- Policy

SMART PEOPLE
- Education
- Participation in public life
- Participation of communities/ Advocacy
- Health
- Inclusive Development



SMART MOBILITY
- Transport
- ICT

SMART ECONOMY
- Income levels
- Labour market
- Poverty level

SMART ENVIRONMENT
- Pollution
- Sustainable resource management

Source: Deloitte

Smart City Programme – Sharing Cities

HOLISTIC APPROACH

PEOPLE

by engaging with the people, we will develop participatory mechanisms for the co-design of smart city solutions

PLACE

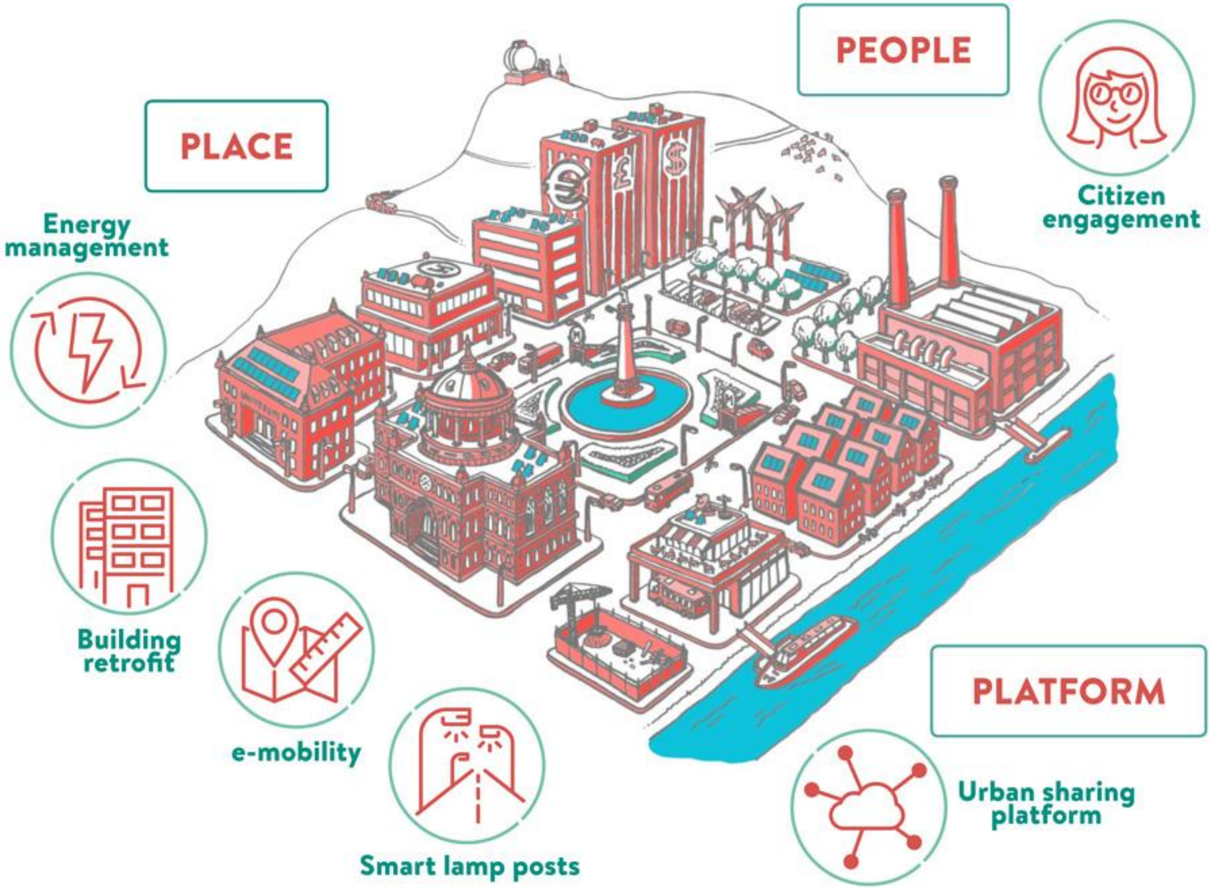
we will demonstrate the significant benefits of smart city concepts and solutions by focusing on the needs of low-energy neighbourhoods: retrofitting buildings, installing integrated energy management systems and smart lamp posts, and introducing shared-use electric vehicle services

PLATFORM

we will rely on urban sharing platforms to manage data from a wide range of sources, including sensors

Source: Sharing cities

Smart city programme : City Zen



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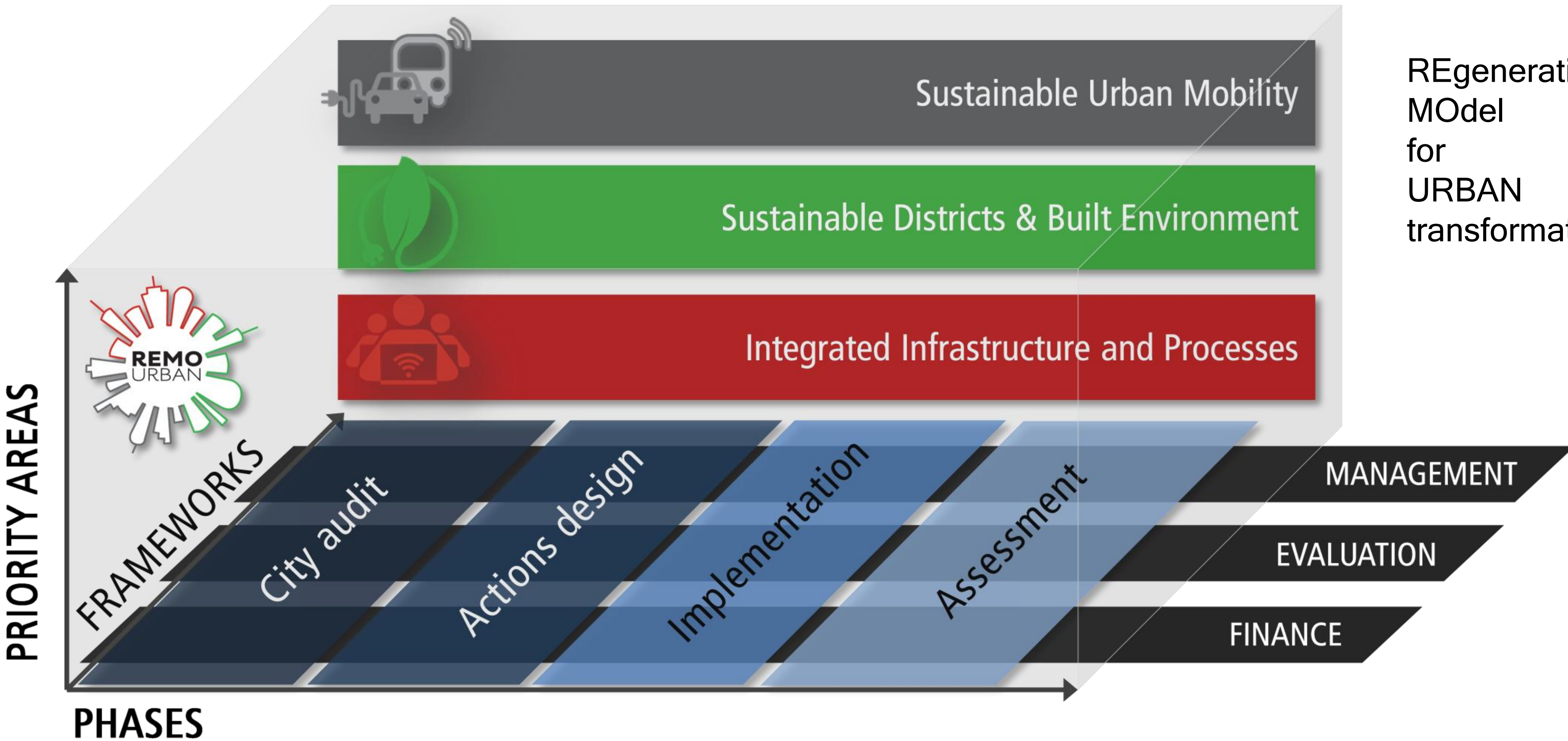
Smart city programme : Remourban



REgeneration
MOdel
for
URBAN
transformation

Process example – Sharing Cities

1. Aggregate demand and deploy smart city solutions
89 cities engaged and 50 cities using products

2. Deliver common and replicable innovative models
10 replicable solutions

3. Attract external investment
€500 million in external investment

4. Accelerate take-up of smart city solutions
identify three business models that prove the acceleration of uptake (e.g. refurbishment, smart lamp posts)

5. Pilot energy efficient districts
reduce energy bills by €600,000 per annum for 15,000 district residents

6. Shift thinking irreversibly to local renewable energy sources
100 cities engaged and 50 cities using products

7. Promote new models of e-mobility
make at least 10% of local citizens choose electric over fossil fuel vehicles

8. Successfully engage with citizens
Prove the active participation of at least half of the 15,000 locals affected by the building renovations

9. Exploit city data to maximum effect
Demonstrate the real value of city data for users, including SMEs and startups. Achieve a twofold increase in datastore use by 2020

10. Foster innovation at local level, promote the creation of new businesses and jobs
Create at least 100 jobs in three districts

Source : Sharing Cities

Financial instruments

Government-based Finance Options	Development Exactions	Public and Private Options	Private Sector Leveraging
General Obligation Bonds	Dedication Requirements	Public-Private Partnerships	Loan Loss Reserve Funds
Revenue Bonds	Tap Fees	Pay for Performance	Debt Service Reserves
Industrial Revenue Bonds	Linkage Fees	Securitization and Structured Finance	Loan Guarantees
Green Bonds	Impact Fees	Catastrophe Bonds	On-Bill Financing
Qualified Energy Conservation Bonds			Pooled Bond Financing
Social Impact Bonds			Pooled Lease-Purchasing Finance
Public Benefit Funds			Value Capture
Linked Deposit Programs			Tax Increment Financing
Energy Efficiency Loans			
Property-Assessed Clean Energy Programs			
Greenhouse Emissions Allowance Auctions			
User Fees			

Source: Smart Cities Council

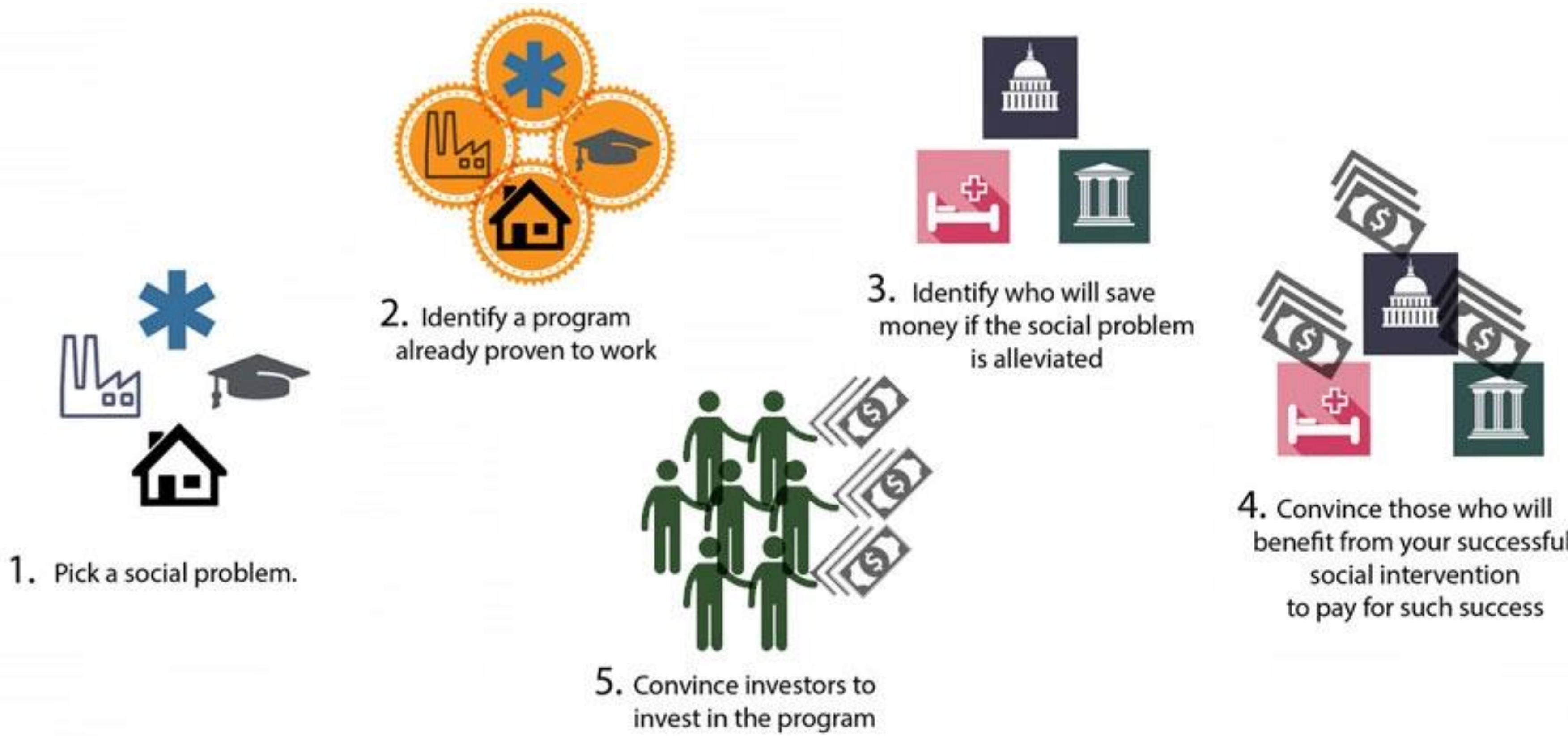
Funding Models

Smart City Funding Models

- Tap into multilateral institutions
- Partner with private enterprises
- Angel Investors
- Impact investment funds
- Public Private Partnerships (PPPs)
- Performance contracts
- Shared revenue models
- Philanthropic investors
- Expand existing revenue sources

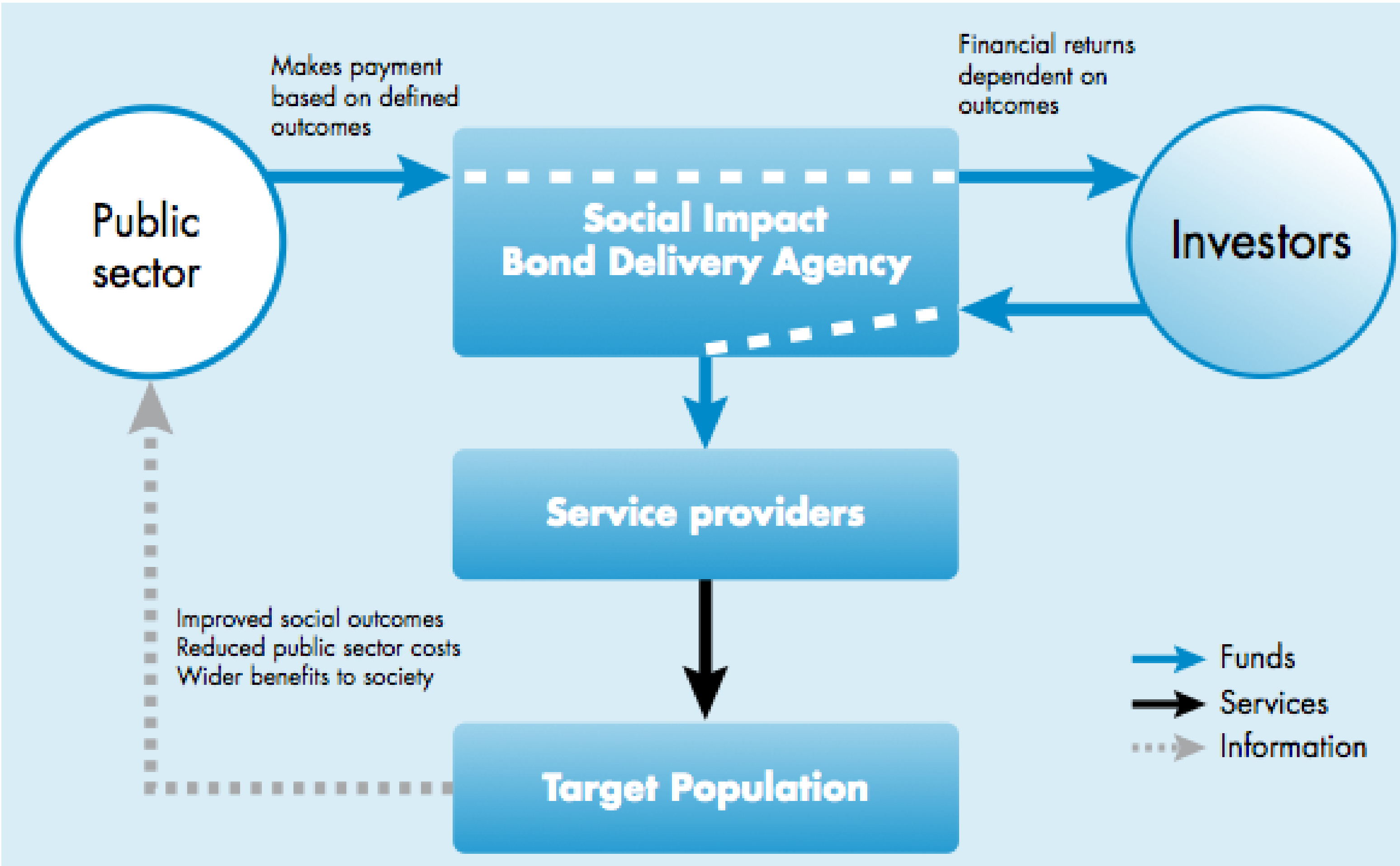
Source: Wharton School

Pay for success/Pay for performance



Source: Richmond Community Foundation

Social Impact Bonds/Green bonds



(Social Finance, [Towards a New Social Economy](), 2010)

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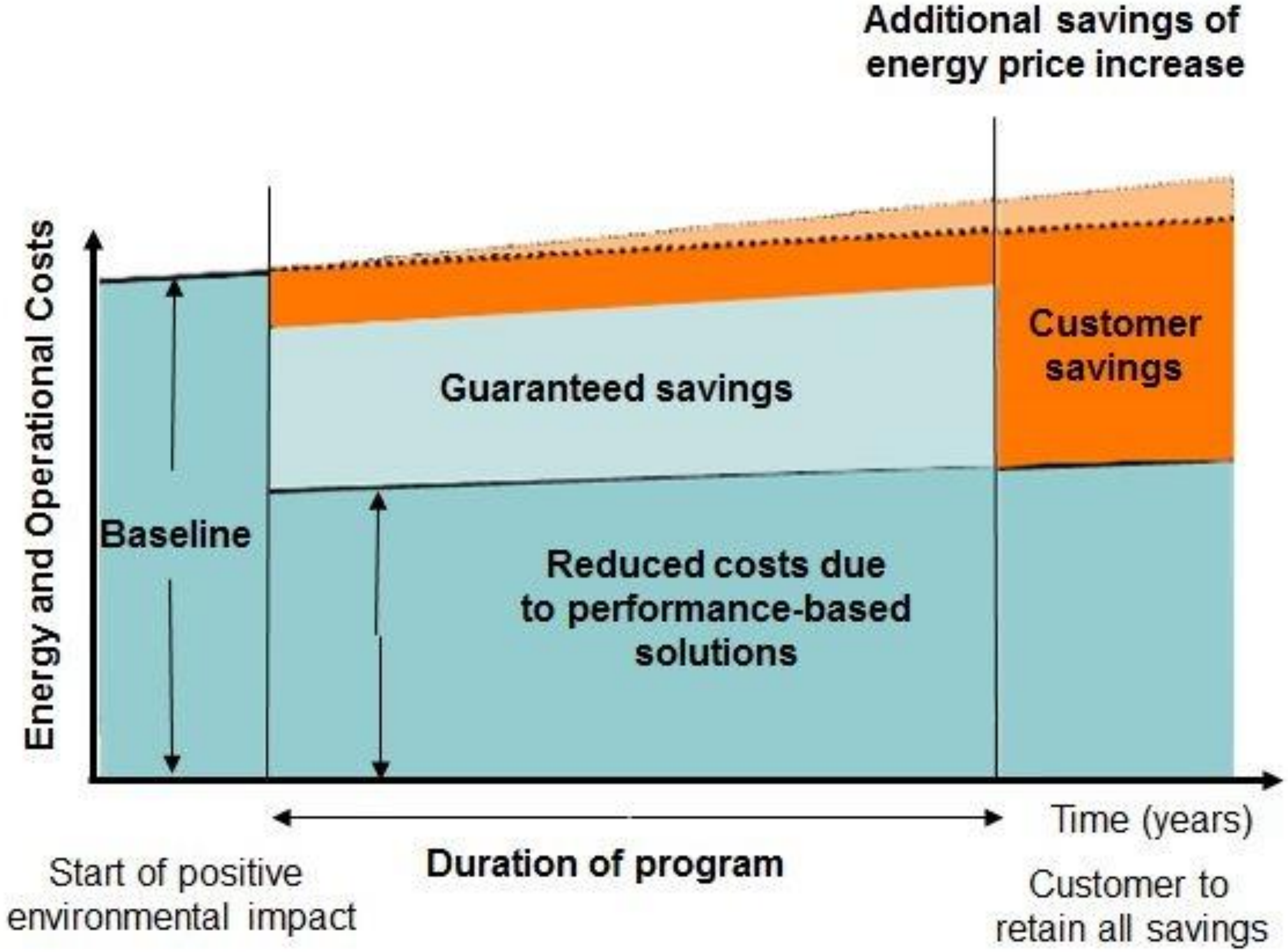
Investment vehicle – ESCO model



Negative impact offsetting – Carbon model

A crowdfunding option?

- People invest in projects delivering public/social goods
- What if?
  - The money crowdfunded is your tax? (or a new tax – in case where there is a decision to create a new tax)
  - You choose where the tax goes?
  - You reap returns from your tax? (like for impact bonds) Tax contribution as an investment

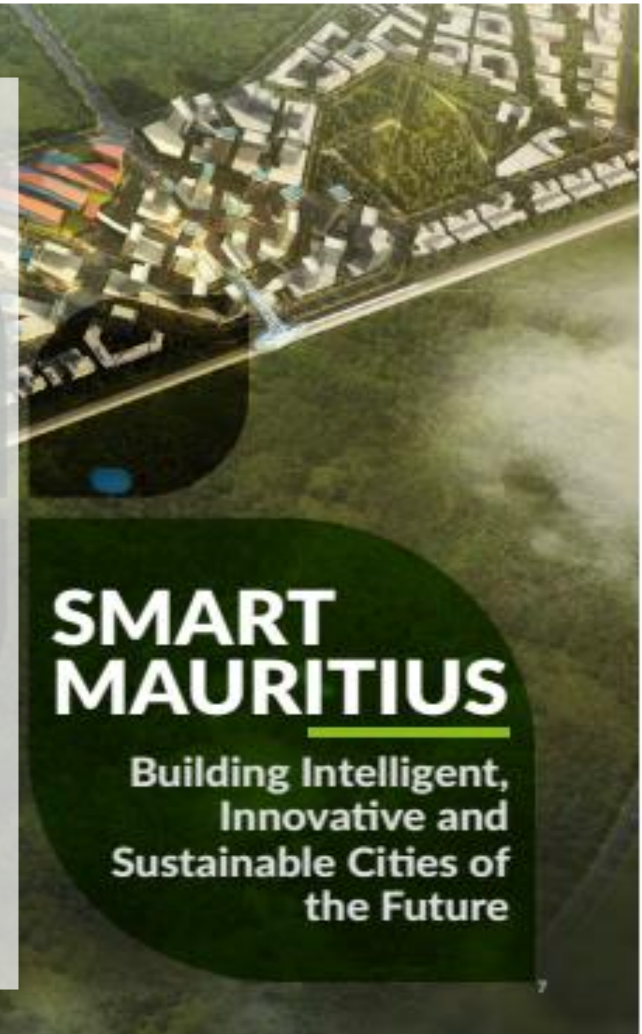
Mauritius SC Scheme – Fiscal Incentives

Taxes	General Rate Applicable/Value	Exemption for Smart City Companies & Developers
Income Tax	15%	Tax holiday for the first eight years of operation*, starting from the date of issuance of the SCS certificate by the Board of Investment
Land Transfer Tax	5%	No land transfer tax provided that the transferor holds shares equivalent to the value of immovable property transferred
Land Conversion Tax	Euro 40, 000/ha	Tax payable only for land area earmarked for residential development.
Registration Duty	5%	No registration duty provided that the transferor holds shares equivalent to the value of immovable property transferred
Morcellement Tax	Euro 2, 500/ha	No Morcellement tax
Customs Duty	Maximum 30%	No customs duty on import or purchase of any dutiable goods, other than material to be used in infrastructure work and construction of building

* *Provided that income is derived from an activity other than the supply of goods and services.*
This exemption is also application to the activities of the Smart City Management Company.

Mauritius Smart City Scheme

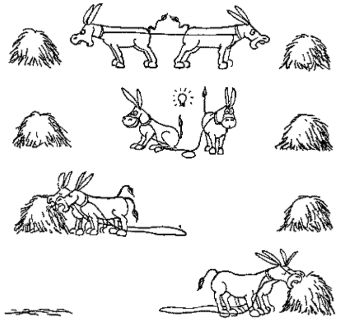
- Foreign Direct Investment
- Fiscal Incentives
- Greenfield projects
- Reliance on Private Sector to provide public/social goods
- Finance (first costs) to be covered by Private Sector
- Difficulty for Private Sector to attract Investment
- Infrastructure already difficult to be financed in general (Multilateral organisations do not finance private sector)
- Reliance on success of property development projects
- Possibility to tap into Green Loans - Preferred line of credits



Way forward - My two cents

- Throw the box away (Innovation/disruption)
  - Accept to revisit and redefine our roles and responsibilities organisational structures/way we do business/way we earn income
  - Accept to do things differently
  - Get with the programme – change/new technologies/data science/service economy/crowd
  - Develop new paradigms
- Use a systemic approach (to everything): Public/Private/People/Academia/etc
  - Think/design/develop/implement together
  - Learn how to work together
  - Bring stakeholders in that were previously not part of the conversation
  - Find common objectives
- Provide robust enabling frameworks and environments
- Think beyond the Self (Empathy, Consciousness)
- Do all the above FAST!

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FINANCING SUSTAINABLE DEVELOPMENT GOALS

22/24 MARCH 2017

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Thank you!

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