Digital Financial Services for Sustainable Smart Cities

Michelle Chivunga N
CEO Global Policy House
Green Financing

The Facts

• $38 trillion amount needed to deliver urban dimension of SDGs
• $3.48 trillion, projected global demand for smart cities by 2026
• $260 billion annual investment gap in agriculture in developing countries
• $600 billion needed in green investment in China
Global Financial System Limitations - Disadvantages

Current Global Financial System has limitations;

- Underdeveloped Digital Infrastructure Platforms
- Costly technology and software that can be inaccessible for cities
- Lack of interoperable digital systems needed to scale
- Limited quality data, poor data collection methodologies and poor use of data
- Poor collaborative initiatives between cities, nations and stakeholders
- Poor understanding and awareness of digital finance initiatives
- 5-10% of bank loans considered green / only 1% total bonds are green bonds
Why Digital Green Finance for Resilience

• **Digital Green Finance (DGF)** - critical to scale SDGs and enable the flow of funding to green projects through innovative technology platforms.

• **Private Finance** as main source of green and sustainable funding underutilised – Technology such as Blockchain can help mobilise private finance.

• **Access to finance** a global challenge that continues to set some countries back - limiting ability to build resilient and inclusive cities.

• **Mobilization of financing** is at a critical juncture, significant now more than ever given the economic pressures many countries especially developing countries will be facing post Covid.

• **Capital flows** need to shift from financing unsustainable development to focus on more green financing.

• To support **resilient and sustainable cities**, total infrastructure/SDG investment needed approx. $38 trillion between now and 2030.
Digital Green Finance deployment needs to be secure, efficient, inclusive and sustainable to support the rebuilding and strengthening of cities

Opportunities DGF:

- $4.2 trillion can be added in new deposits by digital finance
- Up to 90% cheaper to process digital transactions rather than traditional transactions
- 10% Global GDP will be stored on blockchain technology by 2025
- Growing and expanding mobile penetration leading to more mobile money subscribers worldwide has grown (from 2011-2015 60 million to 400 million)
- Move by 2025 1.6 billion people unbanked into formal financial system through DGF creating additional jobs (95 million) and $3.7 trillion added to GDP of emerging nations
- Build resilience of financial sector and widen investment opportunities
- Support the recovery of 1,430 cities in 210 countries affected by Covid
The City of tomorrow starts with people at the center of everything...
Smart city innovation is all around us...
But the innovation is still happening in digital silos!
The smart city is enabled by 3 transformational building blocks…

- **Internet of Things**
- **Blockchain**
- **Artificial Intelligence**
Data Driven DGF for Smart, Inclusive and Sustainable Cities

• **Data** - is key for the operational success and implementation of renewed business models, pandemic management and deployment of fast and secure digital financing.

• **Interconnectivity through data** - devices will power the collection and flow of data around the world, data being golden thread for global value chain optimisation and investment decisions.

• **Data auditability** - With Blockchain, can verify data, authenticate ‘green’ in finance as system transparent, secure and immutable which makes it hard for alterations, fraud and errors to be made. Enables greater trust, transparency and reduces costs, offering value for money.

• Data support cities provide more personalised services to citizens utilising data to understand spending patterns, progress and engagement on green projects.

• **Quality data** - is and will remain an important ingredient in value creation but even more important for green finance, economy resilience, recovery stimulus and sustainability gains.
Unlocking Digital Green Finance for Smart Cities

• **Digital Green Finance (DGF)** - unlocked through data, technology and innovation.

• DGF will push more inclusion and participation from citizens in finance system through decentralised financing models / crowdfunding with greater auditability.

• Opportunities for new innovations including Digital currencies could help resilient smart cities with liquidity flows between cities more efficiently with speed.

• Creation of digital marketplaces and platforms business activity will help cities connect players to sustainable business models and green financing projects.

• Greater degree of auditability, wealth management, risk assessments and reporting.

• Support sustainability in supply chains with access to faster, low cost and speedy access to working capital.

• Widen choices for consumers and incentivise use of green finance for sustainable and inclusive projects.
What is blockchain

Blockchain
- Digital book or ledger of records with related transactions
- Transactions are made up of Blocks of data organized in order and in blocks
- These blocks of data are linked together - one block linking the next - forming the 'Blockchain'
- Blockchains will have transactions from same time period - so time stamped
- Copy of Ledger will show same version of transactions
- Ultimately its a channel for exchange, storage and transfer value
- Engine trust and transparency to be created in multi-player transactions

Digital crypto-currencies based on Blockchain technology - option for raising finance e.g. energy tokens that represents energy
Blockchain

- Provide Sustainable Healthcare
- Optimize Non-profits
- Improve Governance and Democracy
- Expand Financial Inclusion
- Provide smart disaster preparation and relief solutions
- Allow Smart Recycling
- Allow Sustainable resource management
- Counter Climate change
- Open doors for Sustainable finance
Benefit of Blockchain

- Transparency
- Reduced transaction cost
- Faster transaction settlements, decentralization, user controlled network
- Efficiency, Auditability, Traceability
- Security
- Worldwide adoption
- Automated operations
- Open
- Distributed architecture
- Flexible
Digital Finance Services - Supporting Trade

**Market access**
- Custom duties
- Valuation issues
- Movement of people and goods
- Access to data

**Roles and Regulations**
- Intellectual property rights
- Protection of personal information
- Consumer protection
- Unsolicited commercial messages

**Facilitations**
- paperless trade
- E-signatures
- Digital authentication
- Trade Finance
Convergence opportunities

Internet of Things

IoT & Blockchain

- Blockchain can eliminate the data bottlenecks found in centralized systems.
- Blockchain can help harden the network, for instance by providing decentralized device logs, which are easier to audit and far harder to hack than centralized logs.
- The history of data can help with monitoring each device, making it easier, among other things.
- Proof of work algorithm can help to verify the authenticity of information being sent to the devices.
- Blockchain can help providing verifiable identities to the real-world actors in the network.
- Blockchain can facilitate autonomous machine-to-machine transactions.
Artificial Intelligence

AI & Blockchain

- Blockchain can help supporting the development of decentralised, open markets for AI training data.
- Blockchain can be used to identify and permanently record individual data points, making it possible for information owners or aggregators to package the data they generate.
- Blockchains could also be used to provide the wrapping around larger data sets, recording their provenance and securing them against tampering.
- Blockchain can be used to providing decentralised platforms for the development and dissemination of AI models, tools and services.
- Blockchains could provide a neutral collaborative environment that is shared by its users.
Enabling Digital Futures with Digital Green Finance

➔ Infrastructure
➔ Digital Platforms
➔ Talent/Skill
➔ Education
➔ E-commerce
➔ Investment
➔ Quality Data
➔ Convergence
What will drive smart cities - Digital Green Finance Futures?

- Green Financing
- Tech Ethics
- Connectivity
- New Markets
- Converged Innovations
- Demographics
- Business Model transformation
- Value creation
- Send to end Digitisation
- Collaboration
- Policy Coherence
- Post Covid Recovery - build back
Organisational & Cultural Enablers:
1. Political Will
2. Legal Framework
3. Regulatory Framework

Digital Journey for smart Governments enable flow green finance

**Basic eGovernment**
- Provision of Information available via desktop.

**Advanced eGovernment**
- Two-way transactions between citizens & govt via website e.g. payments, registrations
- Emergence of multi-channel

**Digital Government**
- Collaboration & co-creation between citizens & govt via website and social media e.g. consultations, mobile apps
- Shift to omni-channel.

**Cognitive Government**
- Ultimately, seamlessly blending into everyday life.

**Organisational & Cultural Enablers**
- Closed Architecture
- Citizen-Centric
- Citizen Driven
- Open Architecture

Adapted from the UN e-government survey
• Important to identify, learn and invest in technologies that can play a transformative role in mitigating against future pandemics, support green finance, invest in wide-scale education and research.
• Invest in strengthening the digital economy and diversification of economies with a focus on non-traditional sectors and channel green investment to these sectors.
• Support SMEs and digital entrepreneurs by providing green liquidity, building strong digital ecosystems.
• Emerging economies strengthen platform economy and physical/digital connectivity and financing.
• Invest in human capital to build skills and capacity that will help innovate and create sustainable cities.
• Unite/Policies coherence so there is greater collaboration and solidarity on key issues - climate, health, economy.
• Develop sandboxes in countries to create collaborative ecosystems for fintechs, governments, and others to develop green financing frameworks and design implementation strategies.
• Accelerate cross-border digital trade by digitising trade, pushing the flow of green finance.
We aim to bridge/close the global digital divide ensuring no one is left behind - Skilling up and Capacity Building for digital leaders of tomorrow.

POLICY ADVISORY
We provide specialist policy and technical support which helps in strategic planning, influencing government and formulating policies for inclusive growth.

BLOCKCHAIN/AI/Cyber/Data
We train public and private entities on blockchain and other emerging technologies. Build innovative and scalable digital solutions.

INVESTMENTS
We invest in innovative emerging technologies solutions and work with network global investors.
We train public and private groups on blockchain and other emerging technologies. Support Governments and businesses in their Digital Transformation Journey. Build innovative and scalable digital solutions for Inclusive and Sustainable Communities.

UPCOMING COURSES/ PROGRAMMES

Introduction to Blockchain Master Class

10 December 2020
17 December 2020

Digital Transformation Masterclass

18 January 2021
1 February 2021

Details: info@thepolicyhouse.com
CENTRAL BANK DIGITAL CURRENCY AFRICA CONFERENCE

THE POTENTIAL OF CBDC AS A CATALYST FOR FINANCIAL GROWTH IN AFRICA

THE POTENTIAL OF CBDC AS A CATALYST FOR FINANCIAL INCLUSION & GROWTH IN AFRICA

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Looking into the future of Fintech, CBDC on the African continent, how to support balanced regulation and capitalise on this.

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info@globalpolicyhouse.com

https://www.linkedin.com/in/michelle-chivunga-n-1795b128/

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Michelle Chivunga
Founder/CEO
Global Policy House
michelle@thepolicyhouse.com

Rewards and Awards:
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Board Positions:
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● WEI Forward - Women Empowerment Champion - Implementation group UN High level Panel Women Economic Empowerment Wilton

LinkedIn: Michelle Chivunga N
Twitter: @michellechivung