United Nations Framework Convention on Climate Change

COP23 – SIDE EVENT – Climate Ledger Initiative (CLI): Research & Innovation at the intersection of Climate & Blockchain

Blockchain technology and climate action

Alexandre Gellert Paris

Bonn, Germany, 06 November 2017

UNFCCC Secretariat
EDM programme

A Brave New World?

"[…] *it may not be wise to dismiss virtual currencies*."

Christine Lagarde, IMF Managing Director, *Central Banking and Fintech – A Brave New World?*
https://www.imf.org/en/News/Articles/2017/09/28/sp092917-central-banking-and-fintech-a-brave-new-world

Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
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Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending.

Blockchain applications

Moody's Investors Service (MIS) explored how blockchain tech potentially can improve record-keeping and transactional efficiencies across many different processes and industries Moody's found that many companies are assessing how blockchain technology could affect their businesses and identified over **120 ongoing projects** among the issuers that it rates

Selected Potential Blockchain Use Cases

Financial Institutions	Corporates	Governments	Cross-industry
International payments	Supply chain management	Record management	Financial management & accounting
Capital markets	Healthcare	Identity management	Shareholders' voting
Trade finance	Real estate	Voting	Record management
Regulatory compliance & audit	Media	Taxes	Cybersecurity
Anti-money laundering & know your customer	Energy	Government & non-profit transparency	Big data
Insurance		Legislation, compliance & regulatory oversight	Data storage
Peer-to-peer transactions			Internet of Things

The United Nations gradually embracing Blockchain

16 UN entities carrying out blockchain initiatives

United Nations Office of Information and Communications Technology

Blockchain within the UN System

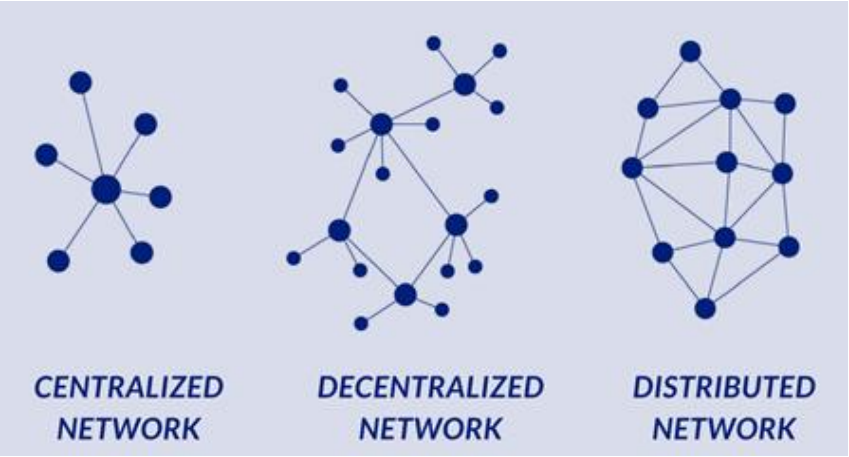
UN Entity	Type of Involvement	Description
UNDP	Proof of Concept	Remittances, Car Fleet Mgmt., considering fund transfers and tracking
UNEP	Publication	Fintech and Sustainable Development Assessing the Implications
UNICEF	Investment	Internal cash transactions and monitoring, Identity tracking, communication
WFP	Proof of Concept	Refugees using it for food purchases
UN/CEFACT	Publication	Blockchain White Paper
UNCTAD	Proof of Concept	Teamed up with Alibaba Group co-founder for planned “e-Trade for All” application
UNOPS	Request for Information	Unite all UN Agencies, Funds and Programmes working on their own Blockchain projects
UN Women	Events & Workshops	Blockchain Hackathon event
ECLAC	Publication	Prospects for Blockchain-based Settlement Frameworks as a Resolution to the Threat of De-risking to Caribbean Financial Systems
UNICRI	Course	Emerging Technology & Security
UNRISD	Publication	How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance?
ITU	Events & Workshops	Security Aspects of Blockchain
DESA	Events & Workshops	RemTech Awards
OCHA	Publication	Blockchain for Humanitarian Sector: Future Opportunities
UNODC	Training	Cryptocurrency Investigation Train-the-Trainers
UNFCCC	Events & Workshops	Support to initiatives at the intersection of blockchain and climate action (COP 23)

Accelerating, encouraging and enabling **innovation** is critical for an **effective, long-term global response to climate change** and promoting economic growth and **sustainable development**

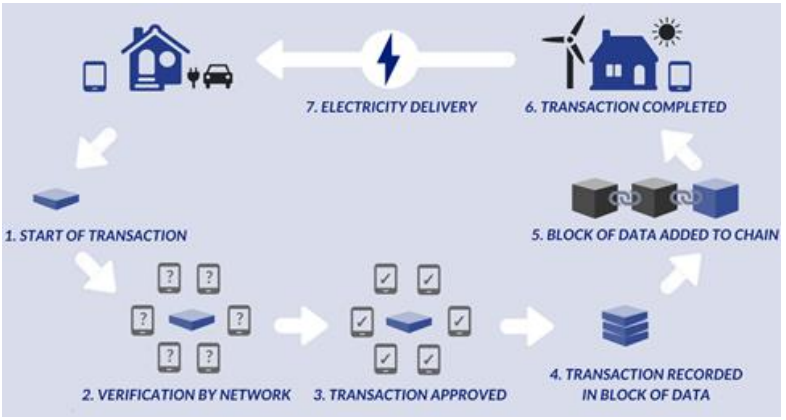
Article 10, the Paris Agreement

The Blockchain

Blockchain technology is based on a distributed network, which allows for **high-level trust among users** and better monitoring over the stored data



Blockchain technology for climate action



Potential applications:

- ✓ Improved carbon emission trading;
- ✓ Peer-to-peer renewable energy trading;
- ✓ Enhanced climate finance flows;
- ✓ Better tracking and reporting of GHG emissions reduction and avoidance of double counting;
- ✓ Supply chain management;
- ✓ Land titling; etc…

The UNFCCC secretariat recognizes potential of **blockchain technology**. Key aspects:

- ✓ Transparency;
- ✓ Cost-effectiveness;
- ✓ Efficiency;
- ✓ Stakeholder integration; and
- ✓ Enhanced creation of **global public goods**

The secretariat supports initiatives that lead to **innovation at the intersection of blockchain and climate change**.