

Centre for International Governance Innovation (CIGI)  
Blockchain Governance Innovation Gym (BlockGIG)

**Discussion:** Legal, political and implementation  
challenges of the Paris Agreement on Climate  
Change

**The Potential of Blockchain Technology to Enhance Climate Action**

**Alexandre Gellert Paris**

Toronto, Canada, 24 June 2017





# The UNFCCC Secretariat

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In 1992, countries adopted the United Nations Framework Convention on Climate Change (UNFCCC) as a response to the problem of global warming. Five years later, they adopted the Kyoto Protocol, which strengthens the Convention by setting legally binding emission reduction requirements for 37 industrialized countries. **The ultimate objective of both treaties is to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system.**

In 1996, Governments decided to accept the offer of the German Government to locate the secretariat in the German city of Bonn. At the head of the secretariat is the Executive Secretary. This position is currently held by **Patricia Espinosa Cantellano**.



# UNFCCC Secretariat – Facts and Figures

Annual expenditures of  
aprox. USD 115 million



Supports up-to 30.000  
participants attending annual  
Conferences of Parties (COP)



Coordinates the work of 15  
constituted bodies and  
expert groups



Coordinates and supports on  
average 375 side events and  
exhibits at COPs



Organizes 80 conferences,  
workshops and meetings on  
average per year



Hosts and administers a dozen  
official registries, databases and  
systems related to adaptation,  
mitigation and finance



Strong social media  
presence: 270K follower  
@UNFCCC, 155K likes on  
Facebook



500 staff from 80 countries



To date has assessed, processed  
and certified approximately  
2 billion CDM Certified  
Emission Reductions.



Prepares around 450  
UN documents and legal texts  
a year



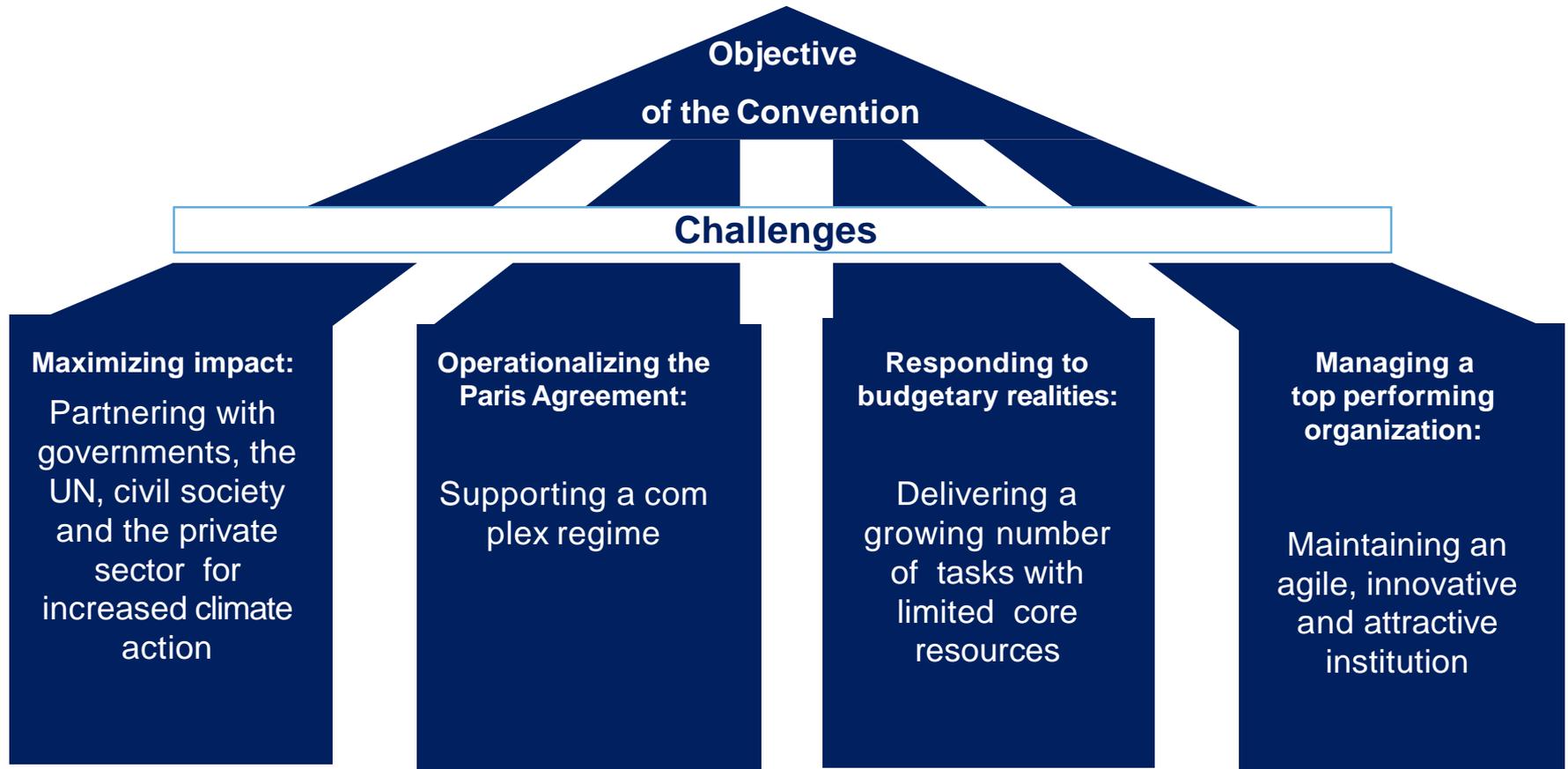
# The UNFCCC Secretariat

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The UNFCCC secretariat is a UN agency whose mission is to **support cooperative action by States and non-State actors to combat climate change** and its impact on humanity and ecosystems. This is a contribution to a sustainable world and to realizing the vision of peace, security and human dignity on which the UN is founded.







# The Paris Agreement

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# The Paris Agreement



Parties aim to **reach global peaking of greenhouse gas emissions as soon as possible**, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to **achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases** in the second half of this century (Article 4)

# The one word that almost sank the climate talks

It took a last-minute tweak to the text and a huge coalition to help pressure China and India to get a deal.

By **ANDREW RESTUCCIA** | 12/13/15, 11:40 AM CET



Laurent Fabius, who presided the COP21 summit, looks at the draft texts at his office | MARTIN BUREAU/AFP/Getty



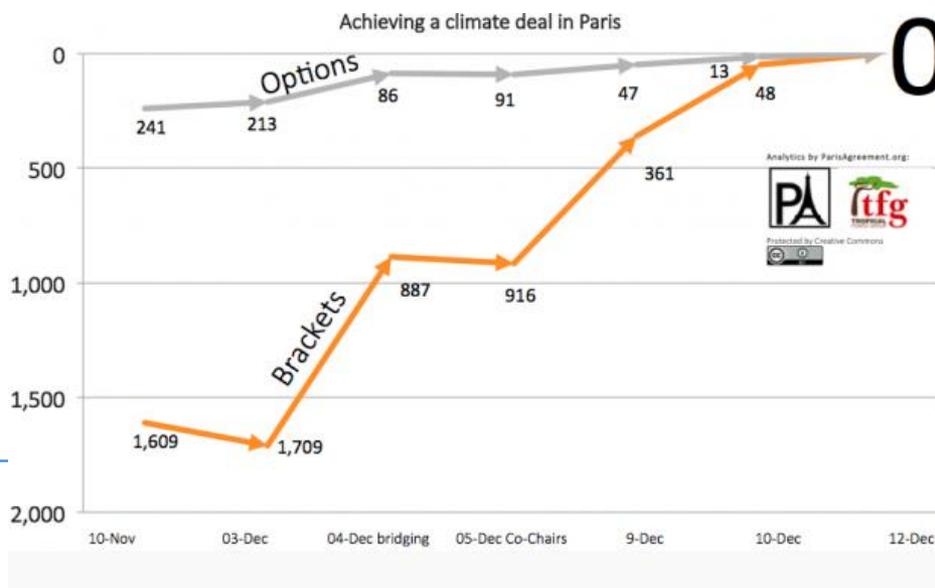
# You shall not pass

Dec 12 Draft Agreement																		
Article	Preamble	1: Definitions	2: Purpose	3: NDCs	4: Mitigation	5: Forests	6: ITMO and new mech	7: Adaptation	8: Loss and Damage	9: Finance	10: Technology	11: Capacity Building	12: Public Education	13: Transparency	14: Global Stocktake	15: Implementation	Art: 16-29	Total
Shalls	0	1	0	0	15	0	9	6	2	6	5	3	1	15	4	4	47	118

Dec 12 Draft Decision																		
Section	Preamble	I. Adoption	II. INDC	III. Decision To Give Effect	Mitigation	Adaptation	Loss and Damage	Finance	Tech Dev and Transfer	Capacity Building	Transparency	Global Stocktake	Facilitating Implementation	Final Clauses	IV. Enhanced Action Prior to 2020	V. Non Party Stakeholder	VI. Admin and Budgeting	Total
Shalls	0	3	0	n/a	7	1	0	6	1	0	5	0	1	0	1	0	0	25

...and the path to zero disagreement.



# The Paris Agreement

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## 148 Parties have ratified of 197 Parties to the Convention

On 5 October 2016, the threshold for entry into force of the Paris Agreement was achieved. The Paris Agreement entered into force on 4 November 2016. The first session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA 1) took place in Marrakech, Morocco from 15-18 November 2016.

[More information](#)

# The Paris Agreement

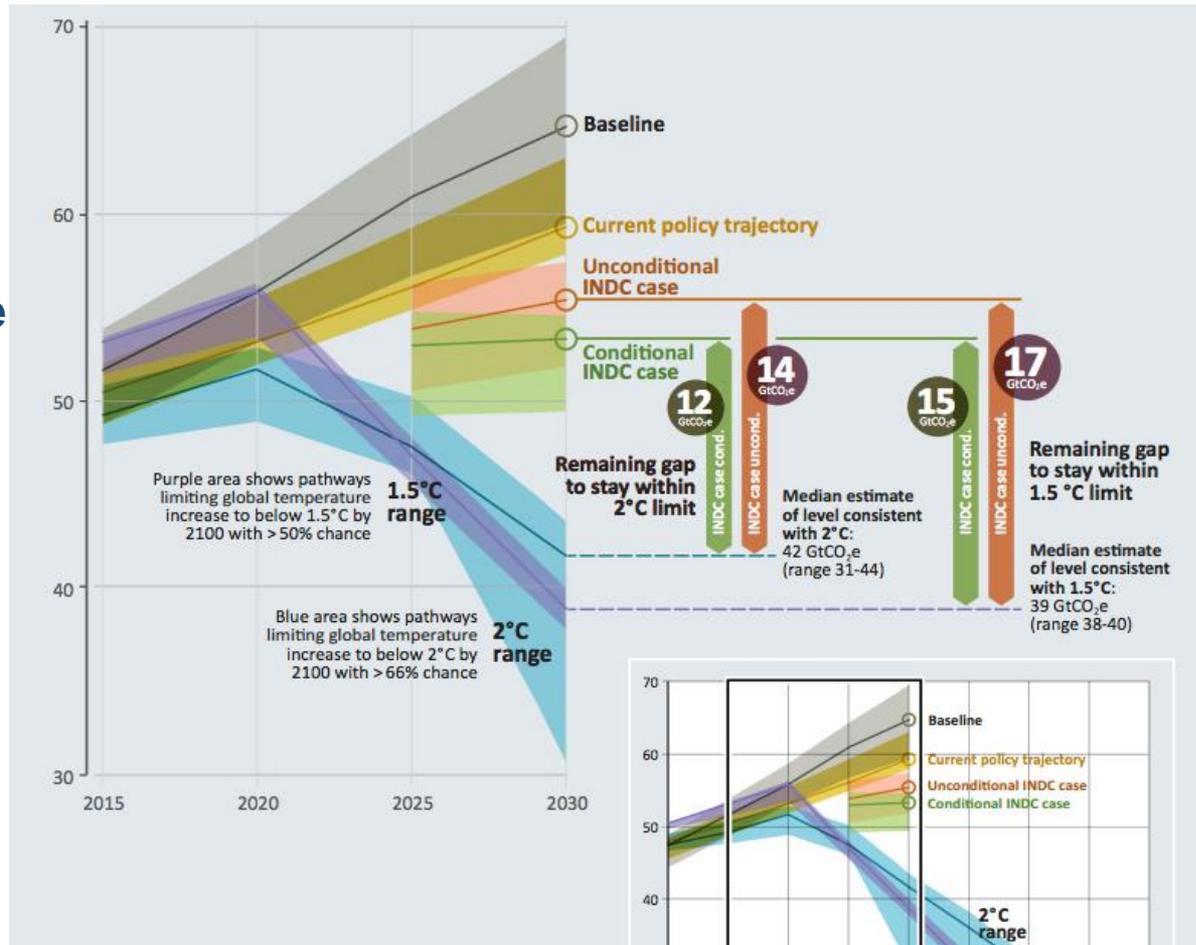
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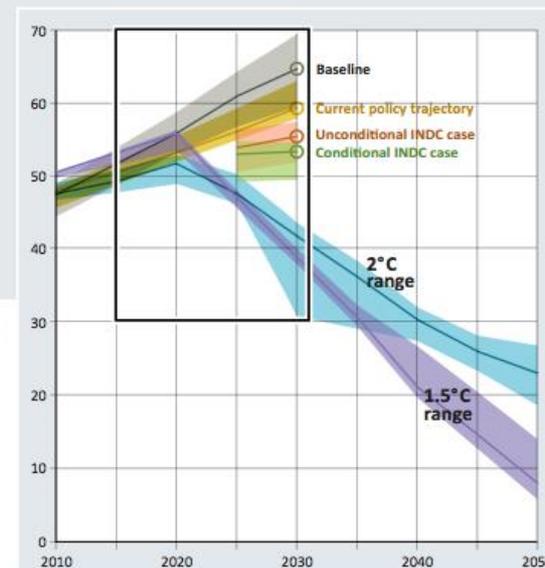
- ✓ Implementation of NDCs
- ✓ Higher ambitions
- ✓ MRV
- ✓ Collaborative actions



## Annual Global Total Greenhouse Gas Emissions (GtCO<sub>2e</sub>)



Sources: The 20<sup>th</sup>–80<sup>th</sup>-percentile ranges are shown for the baseline and the 2°C and 1.5°C scenarios. For current-policy and INDC scenarios, the minimum–maximum and 10<sup>th</sup>–90<sup>th</sup>-percentile range across all assessed studies are given, respectively.



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



Since the invention of double-entry bookkeeping in the seventh century, **innovation in accounting was limited by the tedious process of reconciling ledgers**

But with the advent of **blockchain's distributed ledger** system, the action of reconciling, along with many other processes categorized as "post-trade" can be rendered largely redundant

Rob Nail, CEO of Singularity University

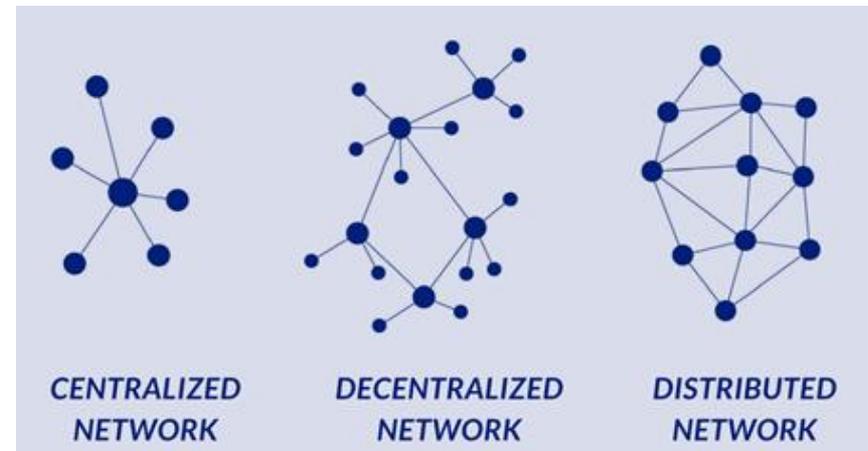


# The Blockchain

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



# 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



**UNOPS, UNDP, UNICEF, UN Women** and **UNHCR** are all investigating the application of blockchain in different areas

The **ITU** has created a new Focus Group to analyze the standardization demands of applications and services built on distributed ledger technologies such as blockchain.

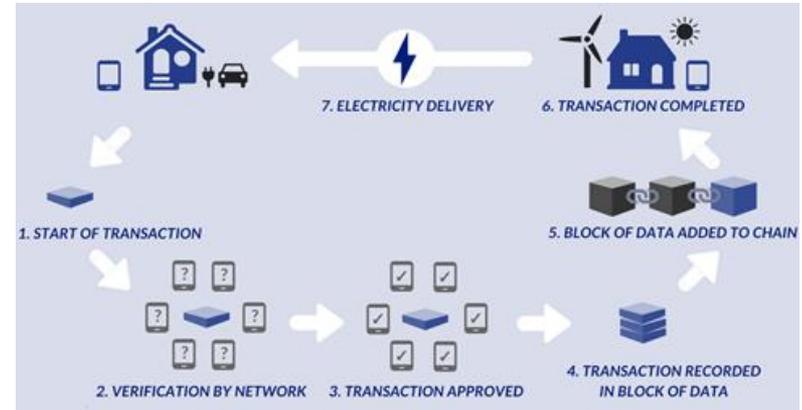
The **WFP is the first UN agency** to experiment with blockchain technology. The agency is using blockchain technology to distribute humanitarian aid to those in need. A pilot for cash-based transfers is ongoing in Jordan, where WFP authenticates 10K beneficiaries on the blockchain



## 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 (commons)**

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



The secretariat will be:

- ✓ Convening (together with partners) key stakeholders to highlight their work related to blockchain technology in the margin of COP23 (side event + booth + hackathon)
- ✓ Enhancing the **NAZCA = Non-State Actor Zone for Climate Action** platform under the Marrakech Partnership for Global Climate Action
- ✓ Exploring blockchain applications to corporates under the Gold Standard Partnership





COP23 | FIJI

UN CLIMATE CHANGE CONFERENCE

BONN 2017