Paris Agreement: Challenges and Opportunities

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Paris Agreement

- The Paris Agreement represents a turning point in global climate governance and strengthens rules-based multilateralism
- The Agreement does not rewrite or reinterpret the UN Framework Convention on Climate Change (UNFCCC)
- The Agreement now considered a model for consensus based multilateral decision making
- The Paris Agreement opened for signature from the 22 April 2016 and was supposed to be ratified by Parties between 21 April 2017 and 2020
 - Entry into force is 30 days after 55 Parties covering 55% of the total global greenhouse gas emissions have ratified it
- Surprisingly that mark was surpassed in record time
 - 74 ratifications on 05 Oct 2016 (accounting for 58.82% of global GHG emissions)
 - Entry into force on 04 Nov 2016
- Indefinite duration
- Key elements: NDCs, ambition cycle and transparency/accountability

Paris Climate Agreement in a nutshell



Expectation: Meeting long-term climate objectives

- Avoidance of dangerous anthropogenic interference with the climate system
- Net zero global GHG emissions by 2060
- Paris Agreements a clear deviation from the Kyoto Protocol
 - comprehensive participation
 - voluntary (bottom-up) commitments
 - ambition cycle
 - universal, legal framework to 'strengthen the global response to the threat of climate change' obligating all Parties to contribute to climate change mitigation and adaptation
- PA is a truly "new beginning" if
- Parties live up to their commitments, i.e.,
 - NDC pledges and adaptation plans are implemented and
 - Finance, technology transfer and capacity building are forthcoming

UNFCCC's reality check



CO₂ concentration is 40% higher than in pre-industrial times



Human activity caused most of the warming since 1950



Earth's surface warmed 0.85°C since 1850



Heat waves and heavy rains have become more frequent since the 1950s



Arctic ice has declined on average 3.8% per decade since 1979



Global sea level is expected to rise between 26 cm and 82 cm by 2100



Only aggressive mitigation can keep global temperature rise below 2°C

Challenge: Meeting climate and security concerns simultaneously

- Ambitious climate intentions necessary but not sufficient
- Security concerns often take precedence (at least in the short run)
 - Food security
 - Water security
 - Energy security
- Security issues are interlinked
 - trade-offs
- Climate change is not the only challenge for the 21st century
- Is there an actor of last resort to reach the 2°C or 1.5°C goals?



Timeline for the Paris Agreement Ambition Mechanism

2060





Ambition mechanism – cause for cautious optimism?

- All countries have the legally binding obligation
 - To make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them
 - To report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and
 - To undergo international review
- The principal of "differentiated responsibilities and respective capabilities" is maintained
- Nonetheless all countries should take action albeit at different degrees and speeds
- Industrialized countries to report every two years the support provided to developing countries
- Adaptation and development of climate resilience now global goals

An ambitious and universal agreement

A stated common goal: it establishes the target of holding the rise in temperature to well below 2°C, and pursuing efforts to limit it to 1.5°C

It takes the form of a global emissions pathway: peaking of emissions as soon as possible, and a target of emissions neutrality in the second half of the century

Nationally determined contributions submitted by all, and a dynamic mechanism to move towards this long-term perspective:

- A first event in 2018 to assess collective progress
- Every 5 years from 2023, a global stocktake to raise ambition
- Every 5 years, NDC pledges become more ambitious

An enhanced transparency framework that is universal and flexible so as to ensure effectiveness of the agreement and build confidence between countries

A dynamic agreement and its ratchet mechanism



Nationally determined contributions (NDCs)

- Technology recognized as key to mitigation and adaptation
- Partnerships & cooperation & technology transfer (N-S and S-S)
- Implementation: Voluntary cooperation explicitly foreseen
- No mentioning of market mechanisms
- Mechanisms should be robust and avoid double counting
- Unlike CDM & JI, NDCs should result in real global emission reductions
- AFOLU¹⁾ is critical:
 - Accounts for 23% of global GHG emissions
 - Close to 25% of NDCs submitted



Clear rules for transparency required (sources versus sinks)

¹⁾ AFOLU = Agriculture, forestry and other land use

Potential down-sides...

- NDCs entirely discretionary
- No obligation of Parties to implement their NDCs
- Lack of accountability for delivery
- No quantitative and time-bound GHG emission restrictions
- No overall carbon budget
- No explicit carbon market mechanisms
- Historical responsibility diluted NDC does not ensure adequate ANNEX I mitigation action
- Some question the agreement's legal commitment
- Current climate policies insufficient
- Climate finance at \$100 billion by 2020 and extension to 2025 too little
- Finance for adaptation is the step child compared to mitigation
- No definitive or clear outcome

Note: Many of the above issues are still up for negotiation



Challenges

- Equitable and fair burden sharing
 - recognizing rights of vulnerable populations
 - operationalization of loss & damage
 - balanced approach between mitigation and adaptation
- Assign emission reduction targets and mitigation burden on the premise both of effectiveness and justice
- Financing and support
 - poor countries to cope with the impacts of climate change
 - transition away from polluting sources of power
 - removal of fossil fuel subsidies
- Scaling up action over time

Challenges

- Capacity building
 - Some countries submitted (I)NDC that are larger than current GHG emissions
- Mainstreaming mitigation and adaptation at all levels of policy and decision making
- The link to, or rather the trade-offs with, the 2030 Agenda for Sustainable Development and the SDGs
- Fundamental systems transformation (not merely incremental tweaks)
- Technology choice and future innovation
- The economic impact of large-scale reduction of reliance on fossil fuels is untested and not clear
- Clarity on the future of fossil energy and its end of use after 2050
 - Aren't we running out of fossil fuels anyway?

Fossil reserves, carbon contents & emission budget



Fossil resources, carbon contents & emission budget



Cumulative CO₂ emissions with the goal of keeping global average temperature rise below

	2°C with >50% probability		2°C with >66% probability	
As at 2015	2 018 Gt CO ₂	1 172 Gt CO ₂	2 018 Gt CO ₂	872
		_		
As at 2025	2 018 Gt CO ₂	<mark>425</mark> 747	2 018 Gt CO ₂	425 447
As at 2030	2 018 Gt CO ₂	<mark>611</mark> 561	2 018 Gt CO ₂	611 261

1.5°C with >50% probability by 2100

As at 2015	2 018 Gt CO ₂	425	
As at 2025	2 018 Gt CO ₂	425	
As at 2030	2 018 Gt CO ₂	611	Exceedance: 186 Gt CO ₂

Business as usual GHG emissions



Source: Adapted from IPCC AR5, 2014

Lower ambition mitigation goals require similar reductions of GHG emissions



Opportunities – energy system transformation

- Paris Agreement is the crucial catalyst
- Obliges governments to set national climate targets
- Developed countries
 - Quasi stagnant demand growth plus aging plant & equipment
 - Natural capital replacement with low-GHG infrastructure
- Developing countries
 - Accelerated demand and infrastructure growth
 - Technology leap-frogging avoid the lock-in trap and stranded assets
- By 2030, the world will have invested more in infrastructure than the entire current stock
- To ensure this new infrastructure is compatible with international climate goals does not necessarily cost much more than businessas-usual

Efficiency plays key role in decoupling emissions & GDP growth

Change in global energy-related CO₂ emissions by driver



Improved energy intensity has significantly slowed growth in CO₂ emissions in recent years

Source: Adapted from Energy and Climate Change, IEA (2015)

Transforming our world: 2030 Agenda

- Inclusive and sustainable development
- Several layers of decoupling



Architecture of the Energy System



Architecture of the Energy System



Global GHG abatement cost curve for 2030



Abatement potential (GtCO₂e per year)

Source: Adapted and simplified from McKinsey & Company, 2009.

Opportunities

- Elimination of fossil fuel subsidies
- The additional upfront costs can be largely offset by efficiency gains, fuel savings and carbon finance
- Internalizing externalities revenue neutral
- Integrated policy approaches
- Carbon finance and trade
- Fundamental market reform
- Technology transfer
- Governments to create level playing fields
- Public-private partnerships
- Planning certainty for the private sector



Benefits of integrated policy approaches



Source: McCollum et. al 2012; IPCC 2014

Transforming our world: The 2030 Agenda and the Paris Agreement

- Fundamental energy system transformation
- Human settlement patterns
- Internalizing externalities
 - Energy system
 - Throughout the economic production & consumption process
- Overhaul of compensation in electricity markets
 - Capacity markets
 - Firm supply obligations
- New GDP accounting
 - Human development index
 - Leisure time & happiness
- And much more

Concluding remarks

- The Paris Agreement represents a turning point in global climate governance
 - rules-based multilateralism
 - model for consensus based multilateral decision making.
- Hybrid climate policy architecture:
 - bottom-up elements in the form NDCs
 - top--down elements for oversight, reporting, guidance and coordination
 - necessary leadership of developed countries commitment to absolute emissions reduction targets
 - developing countries to gradually converge towards this type of commitments
- Quasi universal participation
- The "bottom up" approach has reduced the chances of failure
- Paris was the best possible outcome given the global geopolitical climate at the time

But it does not solve the climate problem!

There are always a few naysayers

