Article 6 pilots and ambition raising – Opportunities and safeguards

» **Introduction and Greetings**: Franke Wolke, German Emissions Trading Authority (DEHST)

» **Ambition raising through Article 6 – Opportunities, Considerations and Safeguards**: Aki Kachi, NewClimate Institute

» **NZEB Article 6 Pilot in Colombia**: Jakob Graichen, Öko-Institut

» **Considerations for ITMO export**: Felipe de Leon, Costa Rica

» **Reactions**
  - Laurence Mortier, Switzerland
  - Gilles Dufrasne, Carbon Market Watch
  - Naoki Torii, Programme Manager, Climate and Energy, IGES
Article 6 pilots and ambition raising – Opportunities and safeguards

Frank Wolke, Head of German DNA/DFP Section
Activities of the German Federal Environment Agency

» Scientific advisory agency for the federal government of Germany

» Conducting research activities with regard to international market approaches

» Here: Identification of potential pilot activities for approaches under Article 6 Paris Agreement
Why choosing Colombia?

Colombia has a long track record in climate change policy making

- demonstrated regional leadership
  - development and implementation of carbon pricing instruments

- unconditional INDC
  - single year target of 20% emission reduction across all sectors by 2030 compared to BAU
  - increase of target to 30% with international support
  - use of market-based mechanisms

- lack of capacities on the construction side (architects, firms) as well as on the enforcement side (local governments and verifiers)

Pilot activities like Net-Zero Energy Buildings (NZEB) could path the way for a sector-wide decarbonisation.
Why choosing the Building Sector?

Building sector faces a number of challenges, e.g.:

• rapidly growing and urbanising population
• radical improvement of the sector is urgent
  → global sector emissions must fall by 77% resp. 90%
    (by 2050 compared to 2°C resp. 1,5°C)
• sector represents 26% of total energy consumption
• sector is highly fragmented (varying rules in different areas, large number of market participants, …)
• lack of capacities on the construction side (architects, firms) as well as on the enforcement side (local governments and verifiers)
Thank you for your attention!

Frank Wolke
E-Mail: emissionstrading@dehst.de
Internet: www.dehst.de
Opportunities and safeguards for ambition raising through Article 6
The perspective of countries transferring mitigation outcomes

Aki Kachi, NewClimate Institute
IETA Pavilion, COP24, 12 December 2018
Ambition raising in the PA

» Fundamental difference to the Kyoto Protocol: all Parties are now expected to contribute to the global effort, peak their own emissions as soon as possible, reduce emissions thereafter, and decarbonize by around mid-century

» Current NDCs insufficient to limit temperature increase to well below 2°C/1.5°C

» Ambition raising measures in the Paris Agreement meant to close this gap (e.g. Articles 3, 4, 14)
A “progression” of countries’ efforts over time (Article 3 and 4.3)

Each contribution should reflect a country’s “highest possible ambition” (Article 4.3)

Each successive NDC should go “beyond” the previous NDC (Article 4.3)

Countries can update and improve their NDCs at any time (Article 4.11)

Are expected to communicate a new NDC at least every five years (Article 4.9)
Voluntary cooperation should lead to “... the implementation of their NDCs to allow for higher ambition in their mitigation and adaptation actions...” (Article 6.1)

Therefore, Article 6 should help enable host countries to reach and overachieve current mitigation efforts, without jeopardising current and future ambition in domestic mitigation efforts

- Kyoto focused on flexibility
- Paris focuses on ambition

NDCs should already consider accessible abatement options; ITMO transfer requires corresponding adjustments while transferring countries have own mitigation targets now or in the future

Article 6 could enhance ambition by driving mitigation in inaccessible abatement options
Opportunities to raise ambition

» Challenge to define (a) measures reserved for domestic action and (b) scope for measures internationally supported through Article 6 cooperation

» Use of carbon markets (e.g. for “grey zone technologies”) must be assessed against opportunities to domestically overcome barriers and other opportunities for international cooperation under the PA
  • (e.g. climate finance, technology framework, capacity building)

» Governments should take an active role in identifying activities eligible for Article 6 and/or define exclusion lists

» Support should last for a limited time with regular reassessment of inaccessibility
In accessible technologies

Mature technology

Focus of domestic actions

Low cost

High cost

Emerging technology

Potential areas for international cooperation – Article 6 / Technology Cooperation / Climate Finance
Assess use of carbon markets (e.g. for “grey zone technologies”) against opportunities for domestic ambition and alternatives for international cooperation (e.g. climate finance and technology framework)

Important to evaluate proposals eligible activities through Article 6 and/or define exclusion lists

Support should only last for a limited time in order to reassess inaccessibility in line with GST, more ambition
  • Technological progress

Markets automatically seek cheapest options within the defined technology scope
Disincentives and undesirable impacts for originating Parties must be overcome:

**Domestic target setting and policy enactment**

Incentives to increase domestic ambition and enact policies could be restricted due to an effective increase in the marginal abatement costs of domestic action, associated with the opportunity cost of foregoing ITMO use.

**NDC scope extension**

Incentives for originating Parties to extend the scope of their NDCs to economy-wide targets could be restricted.

**Baseline inflation**

Parties may face perverse incentives to inflate projected emission baselines in NDCs.
## Safeguards for participation

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<th>Safeguards</th>
<th>Opportunities and risks safeguarded</th>
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<td><strong>Rule based safeguards for participation-eligibility</strong></td>
<td></td>
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<tr>
<td>• Participation for those with long term decarbonization strategies</td>
<td>Ensures that Parties approach to Article 6 strategically maximises opportunities and have awareness of all relevant implications.</td>
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<tr>
<td>• Participation for those with economy-wide targets</td>
<td>Avoid potential disincentives for future NDC scope extensions; provide concrete incentive to expand to economy wide NDCs</td>
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## Safeguards for ITMO-eligibility

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<tr>
<td>Rule based safeguards for ITMO-eligibility</td>
<td>Ensure targeting of high-hanging fruit, to maximise the potential ambition raising opportunities and avoid perverse incentives to not take action on low hanging fruit</td>
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<tr>
<td>- Criteria to identify inaccessible technology / activities</td>
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<td>- International benchmarks for eligibility in the “grey zone”</td>
<td></td>
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<tr>
<td>- Finite time period for crediting, aligned with the period of NDC cycles</td>
<td>Ensure that crediting does not continue to target mitigation options longer than needed</td>
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## Safeguards through capacity building and exchange

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<td>Safeguarding ambition through international support for capacity building and exchange</td>
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<tr>
<td>• International support for Article 6 readiness could assist countries to build the information and evidence to support ambition target setting.</td>
<td>Improve the enabling conditions for originating Parties to set ambitious NDC targets.</td>
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<tr>
<td>• International support for Article 6 readiness could assist countries in identifying domestically inaccessible technologies and activities</td>
<td>Improve enabling conditions to effectively identify high hanging fruit that support national ambition raising</td>
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Conclusions

» Parties need to create frameworks make markets contribute to more ambition / NDC progression

» Important to limit Article 6 use to technologies/abatement options that are genuinely inaccessible

» Robust implementation of safeguards are needed to avoid ambition disincentives

» Ambition raising through targeting of inaccessible options is in the interest of host countries and the international community as a whole
Thank you for your attention!

Aki Kaci
NewClimate Institute
aki@newclimate.org
www.newclimate.org

newclimate.org/2018/05/09/opportunities-and-safeguards-for-ambition-raising-through-article-6/
Net Zero Energy Building Art 6 Pilot in Colombia

Side Event IETA Pavilion, COP 24

Jakob Graichen, Öko-Institut

Katowice, 12 December 2018
Project: Incentives for GHG emission reductions in developing countries financed by the German Emission Trading Authority (DEHSt)

Objective: Pilot concept for raising ambition through sectoral benchmarks and market mechanisms

Pilot sector: social housing in Colombia

Developed in coordination with the Colombian Ministry of Housing and the Ministry for the Environment

Output (to be published on DEHSt website)
- Two policy briefs
- Background document on the housing sector in Colombia
- Guidance for developing a sectoral market mechanism
Building sector decarbonisation

- For “a likely—or very likely—chance of limiting warming to less than 2°C require a 70–80% reduction of emissions from the building sector by 2050. To remain below 1.5°C, steeper reductions of 80-90% will be needed” (Rogelj et al., 2015)

‘New buildings’ must be zero net energy

- By 2020 in the OECD
- By 2025 in the non-OECD countries (Climate Action Tracker, 2016)
- From 2030 (World Green Building Council, 2017)

Deep renovation rates in existing buildings

- 5% floor space per year (in OECD)
- 3% floor space per year (in non-OECD) (Climate Action Tracker, 2016)

Local co-benefits are important
Long lived asset

- Investment decisions made now make a big difference for a long time
  - Fossil fuel lock-in?
The Housing Challenge in Colombia

- Qualitative and Quantitative Housing Deficit
- Urbanization trend
- 50% of all houses in Colombia built without a permit
Los subsidios al servicio de energía eléctrica se han incrementado en más del 150%.

**Evolución Subsidios y Contribuciones (2005 - 2015)**

- **Subsidios:**
  - 2005: 1 billón
  - 2015: 2,6 billones

- **Contribuciones:**
  Han caído desde 2011 como consecuencia del desmonte del pago de contribuciones de los industriales.

Source: DNP 2016
How to get to NZEB?

- Natural ventilation
- Efficient electric fans and appliances
- Remaining power demand compensated by on-site RE (Solar PV)

- Solar water heaters

- Use of LED lighting
- Building orientation and natural lighting
- Remaining power demand compensated through on-site RE (Solar PV)

- Complemented by the refrigeration NAMA

- Air conditioning 4%
- Water heating 7%
- Illumination 11%
- Refrigeration 24%
- Other uses 9%

Cooking 45%

Switch to induction based cooking
Use of energy-efficient cooking appliances
Remaining power demand compensated by on-site renewables (Solar PV)
+ building insulation
Article 6 of the Paris Agreement
Emissions and Housing

» Embedded emissions in the construction materials

» Emissions related to construction of the house

» Emissions of the house (use)
  • Direct – fuels burned (heating, cooking, hot water); other
  • Indirect – electricity (lighting, electronics, cooling, heating, cooking)

» Location, transport

» Demolishing
Theory of a Market Based Mechanism

BAU

emissions reductions by the sector

Crediting baseline

units/credits issued

Performance

GHG Emissions (tCO$_2$e)

Time
Reference case?
Energy performance benchmark

- **VIS/VIP house without Res 549**: 46.4 kWh/m² (example for Bogota as per Res. 549)
- **VIS/VIP with Res 549**: 37 kWh/m² (20% improvement)
- **VIS/VIP with amended Res 549**: xx kWh/m²
- **Net zero-energy housing unit**: ~0 Net kWh/m²

**BAU energy performance in Colombia**

**Benchmark based Crediting Baseline**

**Ambition trigger threshold**

Difference can be used to estimate Colombia’s contribution towards its NDC

A potential contribution to overall mitigation in global emissions

Difference can be used to estimate emission reduction credits
Reference level for the pilot

(1) Definition of the system boundary
(2) Identification of the key performance indicators
(3) Selection of peers for comparison
(4) Data collection from peers for defining the benchmark
(5) Define benchmark stringency
(6) Monitor and review relevance of benchmarks
(7) Initiate benchmark update plan

Dynamic benchmarking

benchmark development

benchmark update
Pilot Approach using ESCOs

**Reference Case**

- **VIS/VIP Homeowner**
  - Cost of property purchase
  - Cost of appliance purchase
  - Cost of gas use
  - Cost of electricity use

- **Real Estate Developer**
  - Appliance retailer

- **Electric / Gas Utility**
  - Government strata subsidies

**Alternative Model**

- **VIS/VIP Homeowner**
  - Cost of energy efficient property purchase
  - Cost of energy services (including appliance and electricity use)
  - No electricity cost from traditional utility
  - No appliance purchase cost
  - No gas cost

- **Pilot proponent / ESCO / Real Estate Developer Partnership**
  - Energy services revenue from residents
  - (Revenue from any excess energy sales back to grid)
  - Revenue from mitigation outcome sale

- **Possible support from Colombian government from avoided subsidy savings**

- **Electric utility**

- **Partner Country**

- **ITMO**

- **(No government strata subsidies)**

Date: 29/08/2018
Start small and scale up
Discussion