

CLIMATE CHANGE

03/2024

Fact Sheet

# Analysis of the role of Article 6 in Parties' NDCs

by:

Nicolas Kreibich

Wuppertal Institut, Wuppertal

**publisher:**

German Environment Agency



CLIMATE CHANGE 03/2024

Ressortforschungsplan of the Federal Ministry for the  
Environment, Nature Conservation and Nuclear Safety

Project No. (FKZ) 3721 42 501 0

Report No. (UBA-FB) FB001351/ENG

Fact Sheet

## **Analysis of the role of Article 6 in Parties' NDCs**

by

Nicolas Kreibich  
Wuppertal Institut, Wuppertal

On behalf of the German Environment Agency

## **Imprint**

### **Publisher**

Umweltbundesamt  
Wörlitzer Platz 1  
06844 Dessau-Roßlau  
Tel: +49 340-2103-0  
Fax: +49 340-2103-2285  
[buergerservice@uba.de](mailto:buergerservice@uba.de)  
Internet: [www.umweltbundesamt.de](http://www.umweltbundesamt.de)

### **Report performed by:**

Wuppertal Institute  
Döppersberg 19  
42103 Wuppertal  
Germany

### **Report completed in:**

July 2023

### **Edited by:**

Section V 2.6 Climate Protection Projects – Market Mechanisms UNFCCC  
Anne Göttinger (Fachbegleitung)

Publication as pdf:

<http://www.umweltbundesamt.de/publikationen>

ISSN 1862-4359

Dessau-Roßlau, January 2024

The responsibility for the content of this publication lies with the author(s).



**Abstract: Analysis of the role of Article 6 in Parties' NDCs**

This fact sheet surveys the role of Article 6 of the Paris Agreement (PA) in the Nationally Determined Contributions (NDCs) that Parties have submitted to the UNFCCC. The findings indicate that there is in general considerable openness towards Article 6, with the intention to buy ITMOs or A6.4ERs being much more limited than to sell such units. The distribution between sellers vs. buyers largely reflects the structure known from the Kyoto Protocol and its Clean Development Mechanism (CDM), indicating that the distribution of roles might persist under the Paris Agreement. The fact sheet finds that complementing the findings of the NDC analysis with country-specific research could provide a more complete picture about the role Article 6 could play in the implementation of the Paris Agreement.

**Kurzbeschreibung: Analyse der Rolle von Artikel 6 in den NDCs der Vertragsstaaten**

Dieses Factsheet untersucht die Rolle von Artikel 6 des Pariser Abkommens in den national festgelegten Beiträgen (engl. Nationally Determined Contributions (NDCs)), die die Vertragsstaaten bei der Klimarahmenkonvention eingereicht haben. Die Ergebnisse zeigen, dass im Allgemeinen eine beträchtliche Offenheit gegenüber Artikel 6 besteht, wobei die Absicht, ITMOs oder A6.4ERs zu kaufen, deutlich geringer ist als die Bereitschaft, solche Einheiten zu verkaufen. Die Verteilung zwischen Verkäufern und Käufern spiegelt weitgehend die Struktur wider, die aus dem Kyoto-Protokoll und dem Clean Development Mechanism (CDM) bekannt ist, was darauf hindeutet, dass diese Rollenverteilung auch im Rahmen des Pariser Abkommens bestehen bleiben könnte. Das Factsheet kommt zu dem Schluss, dass die Ergänzung der Ergebnisse der NDC-Analyse durch länderspezifische Untersuchungen ein umfassenderes Bild darüber liefern könnte, welche Rolle Artikel 6 bei der Umsetzung des Übereinkommens von Paris spielen könnte.

## Table of content

List of figures .....	7
List of tables .....	7
List of abbreviations .....	7
1 Background.....	8
2 Results of the analysis .....	9
2.1 Basic openness towards Article 6 .....	9
2.2 Type of voluntary cooperation mentioned in Article 6 section of Parties' NDC.....	10
2.3 Seller vs. buyer under Article 6 .....	11
2.4 Sectoral focus of Article 6 use.....	13
2.5 Conditionality of mitigation targets.....	16
3 Summary and key observations .....	17
4 References.....	18

## List of figures

Figure 1:	Basic openness towards Article 6 .....	9
Figure 2:	World map showing Parties basic openness towards Art. 6 ....	10
Figure 3:	Type of voluntary cooperation mentioned in Parties' NDCs.....	11
Figure 4:	Seller vs. buyer of units under market-based cooperation under Article 6 .....	12
Figure 5:	Indication of sectoral focus of Article 6 use .....	14
Figure 6:	Conditionality of targets.....	16

## List of tables

Table 1:	Regional distribution of type of voluntary cooperation mentioned .....	11
Table 2:	Regional distribution of seller vs. buyer of units.....	13
Table 3:	Sectoral focus of Article 6 participation .....	14
Table 4:	Sectoral focus of Article 6 use – mention of sectors by region	15

## List of abbreviations

<b>Annex 1</b>	Countries that are listed in Annex 1 to the UNFCCC
<b>A6.4ERs</b>	Emission Reductions through Activities under Article 6.4
<b>CDM</b>	Clean Development Mechanism
<b>CORSIA</b>	Carbon Offsetting and Reduction Scheme for International Aviation
<b>ITMOs</b>	Internationally Transferred Mitigation Outcomes
<b>NDCs</b>	Nationally Determined Contributions
<b>PA</b>	Paris Agreement
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change

## 1 Background

Article 6 of the Paris Agreement allows Parties to voluntarily cooperate in the implementation of their Nationally Determined Contributions (NDCs), by offering three different avenues: market-based approaches under Article 6.2 (cooperative approaches) and Article 6.4 (the mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development – Art. 6.4 mechanism) as well as non-market approaches under Article 6.8 of the Paris Agreement. Under Article 6.2 and Article 6.4 of the Agreement, Parties can transfer internationally transferred mitigation outcomes (ITMOs) or A6.4ERs, respectively. No such transfers are envisaged for Article 6.8.

Article 4.2 of the Paris Agreement requires each Party to “prepare, communicate and maintain successive nationally determined contributions that it intends to achieve” (Art. 4.2 PA, UNFCCC, 2016). When submitting their NDCs, Parties can also provide information on how they intend to use Article 6. This fact sheet surveys the 195 latest Nationally Determined Contributions (NDCs) that Parties have submitted to the UNFCCC until 30 September 2022 focusing on the role of Article 6. The analysis builds on and expands the work by Brandemann et al. (2021) and uses publicly available information published in the databases by IGES (2021) and Climate Watch (2022). These information sources compile and analyze the NDCs submitted to the UNFCCC Secretariat's NDC Registry (UNFCCC Secretariat, 2022), which we have also used for closing gaps in the existing data sets.

It should be noted, though, that findings must be interpreted with some caution. The Article 6 rulebook has only recently been adopted and the implications of using Article 6 are still uncertain as further details regarding its operationalisation are still subject to the negotiations. Many NDCs have been submitted while the Article 6 rulebook was still being negotiated. Therefore, Parties' statements in their NDCs can only serve as a first indication of their stance towards Article 6 at the time of NDC submission. The analysis is solely based on submitted NDC texts and does not take into account other related information sources such as implementation plans, national legislation or other domestic policy documents.

## 2 Results of the analysis

### 2.1 Basic openness towards Article 6

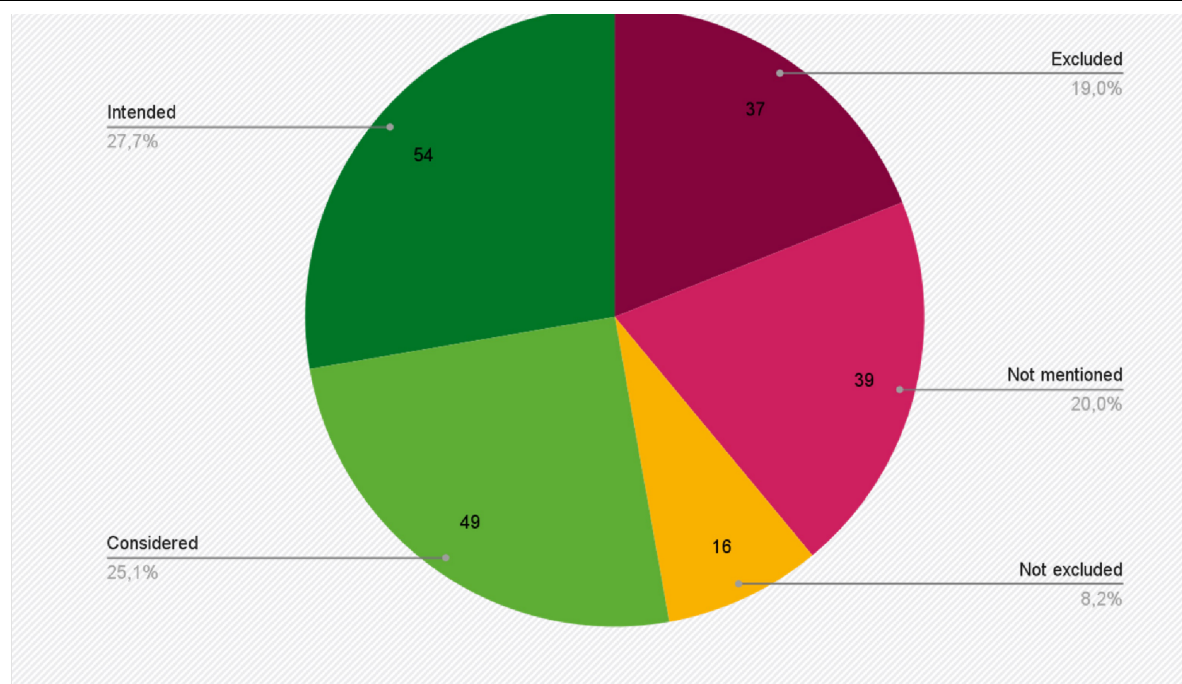
Article 6 has been introduced as one of the last chapters of the Paris Agreement and market-based cooperation has been a contentious topic among Parties ever since (Marcu, 2021). Therefore, the question about Parties' basic openness towards Article 6 is particularly relevant. We assessed the Parties' basic openness towards Article 6 and classified Parties along five categories. The following five categories were used (from low to strong):

- ▶ 'excluded',
- ▶ 'not mentioned',
- ▶ 'not excluded',
- ▶ 'considered', and
- ▶ 'intended'

The main difference between "considered" and "intended" lies in stronger wording and more concrete actions in the latter case.

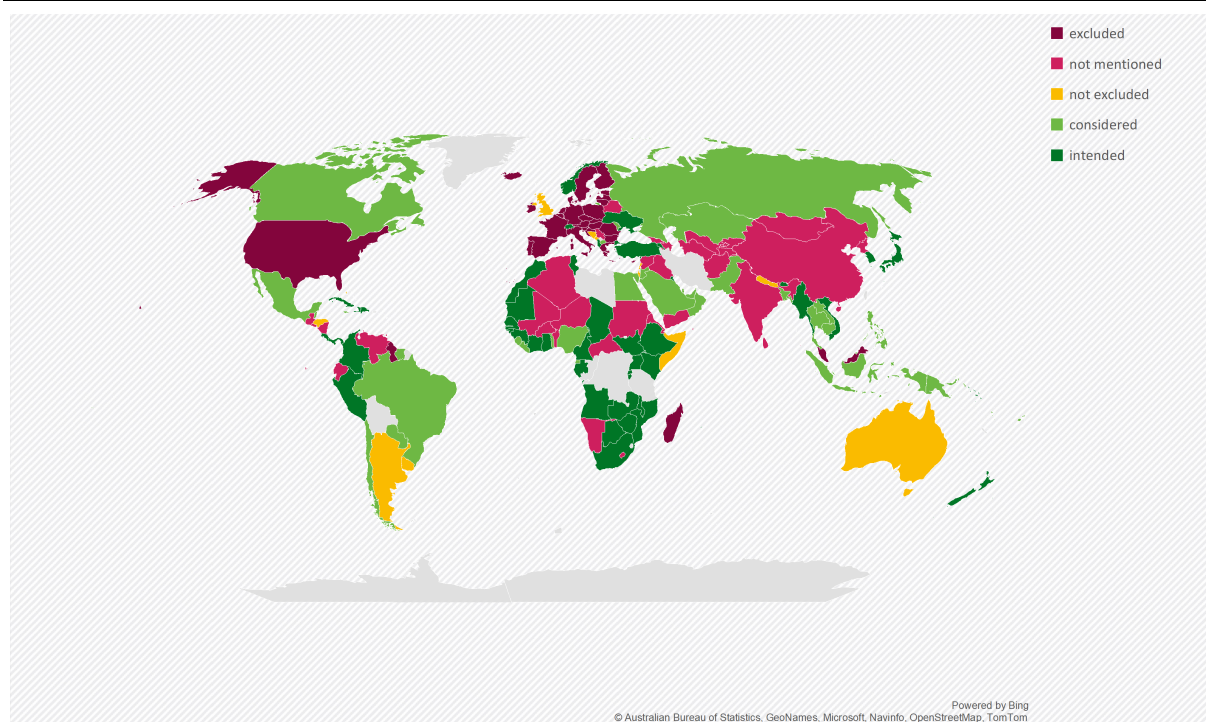
The findings displayed in Figure 1 below indicate that there is considerable openness towards the use of Article 6. More than half of the 195 NDCs analyzed intend or consider using Article 6, while around eight per cent do not exclude this. Less than 20 per cent of the NDCs analyzed explicitly exclude the use of Article 6 while a similar share does not mention it. The world map shown in Figure 2 indicates Parties' basic openness towards Article 6.

**Figure 1: Basic openness towards Article 6**



Source: Own illustration (Wuppertal Institute)

Source: Own illustration (Wuppertal Institute)

**Figure 2: World map showing Parties basic openness towards Art. 6**

Source: Own illustration (Wuppertal Institute)

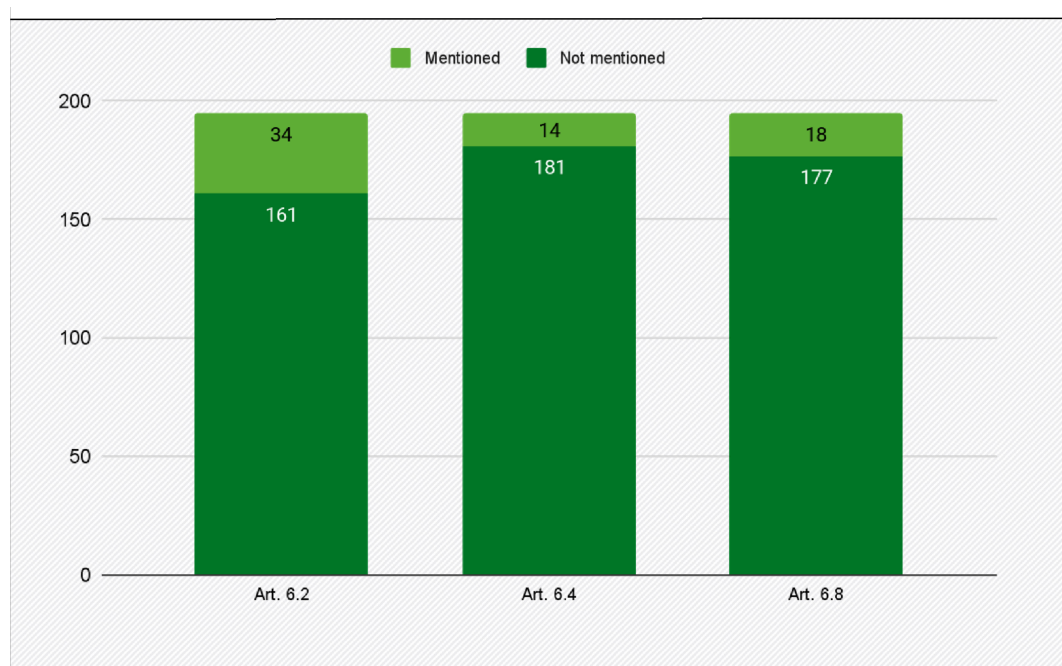
## 2.2 Type of voluntary cooperation mentioned in Article 6 section of Parties' NDC

This assessment covers the entire scope of voluntary cooperation under Article 6. The analysis is carried out with the help of keyword search in the Article 6 section of Parties' NDCs that are corroborated in the databases of IGES and Climate Watch.<sup>1</sup>

The findings displayed in Figure 3 indicate that the NDCs include little information regarding the specific type of voluntary cooperation that Parties are considering. Cooperative approaches under Article 6.2 of the Paris Agreement is the type of cooperation that is mentioned by 34 Parties. It should be noted, however, that some Parties use the term cooperative approaches to refer to any type of voluntary cooperation under Article 6. The actual number of countries being open to the development of cooperative approaches under Article 6.2 could therefore be even lower. 14 out of 195 NDCs explicitly mention the Article 6.4 mechanism in their NDC, while 18 mention non-market cooperation.

<sup>1</sup> The following keywords were used: For Article 6.2: 'cooperative approaches', '6.2', 'ITMO', 'internationally transferred mitigation outcome'. For Article 6.4: '6.4', 'paragraph 4', 'mechanism to contribute to'. For Article 6.8: '6.8', 'non-market'.



**Figure 3: Type of voluntary cooperation mentioned in Parties' NDCs**

Source: Own illustration (Wuppertal Institute)

With regard to regional distribution, the analysis finds that Africa is the continent with the largest number of Parties that have included in their NDC a reference to the specific type of voluntary cooperation. This relates to market-based cooperation under Article 6.2 and Article 6.4 as well as to non-market approaches under Article 6.8. Europe, in contrast, is the continent with the lowest number of NDCs with explicit references to a specific type of voluntary cooperation. The Americas, Asia and Oceania lie between these two regions, as can be seen from **Table 1** below.

**Table 1: Regional distribution of type of voluntary cooperation mentioned**

Continent	Article 6.2	Article 6.4	Article 6.8
Africa (53)	13	9	8
Americas (35)	10	2	2
Asia (46)	8	3	6
Oceania (16)	2	0	2
Europe (45)	1	0	0

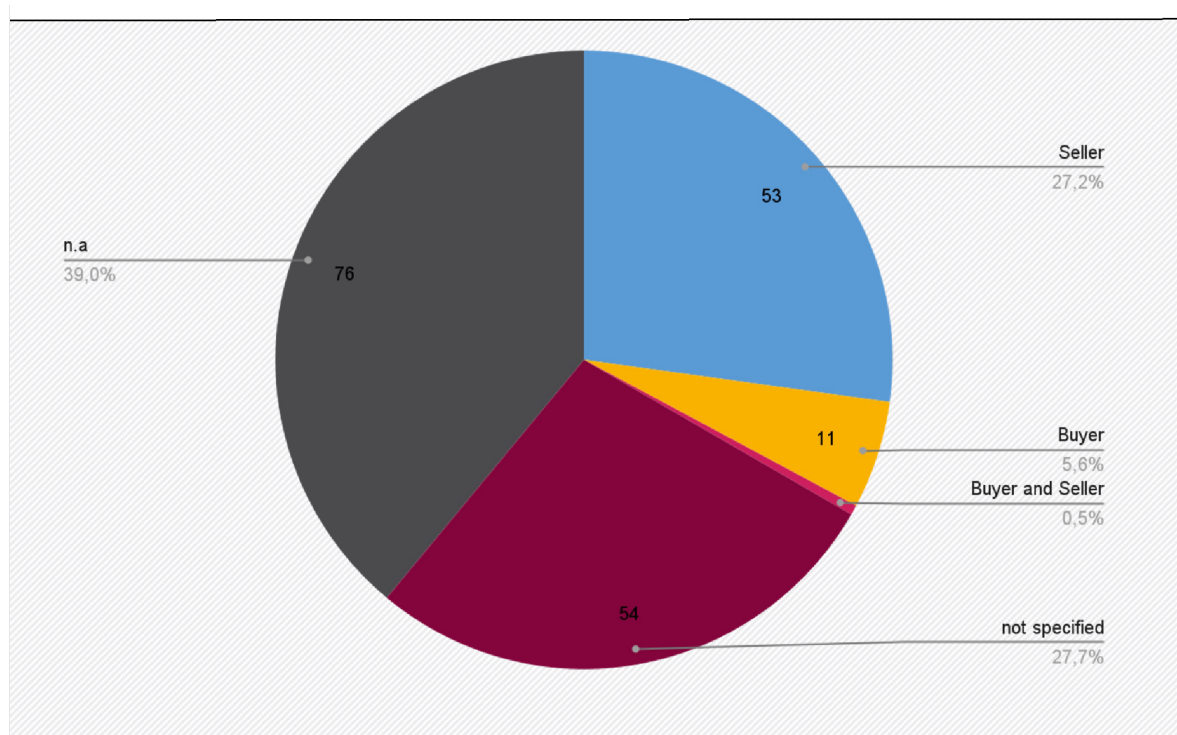
## 2.3 Seller vs. buyer under Article 6

Parties' positioning as sellers and buyers of ITMOs and A6.4ERs can provide an indication of the relationship between demand and supply on the global carbon market. It should be noted, though, that the demand for ITMOs and A6.4ERs may also come from sources outside the UNFCCC, such as the ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) or the voluntary carbon market. To assess whether Parties consider themselves as

seller or buyer of ITMOs a qualitative analysis of the Article 6 section in Parties' NDCs was conducted.

The findings displayed in Figure 4 below indicate that Parties' willingness to buy ITMOs under Article 6.2 or A6.4ERs is limited: Only 11 Parties have indicated their intention to act as a buyer, while a much larger number of countries (53) see themselves as potential sellers. It should be noted, though, that this does not automatically translate into an actual market imbalance, as this will depend on the volumes traded and not on the numbers of Parties involved. In addition, almost one third of the NDCs analysed do not specify whether the respective Party intends to buy or sell ITMOs and/or A6.4ERs. Furthermore, 76 NDCs have been excluded from the analysis, as these NDCs had either not contained information on Article 6 or explicitly excluded its use. One country intends to participate in the market as a seller and buyer.

**Figure 4: Seller vs. buyer of units under market-based cooperation under Article 6**



Source: Own illustration (Wuppertal Institute)

**Table 2** shows the distribution of sellers and buyers across regions. Africa is the continent where the largest number of Parties has indicated in their NDC the intention to act as a seller of Article 6.4 ERs or ITMOs, followed by Asia, the Americas and Oceania/Europe. While the total number of Parties indicating their willingness to buy units is low overall, the largest share is located in Europe.



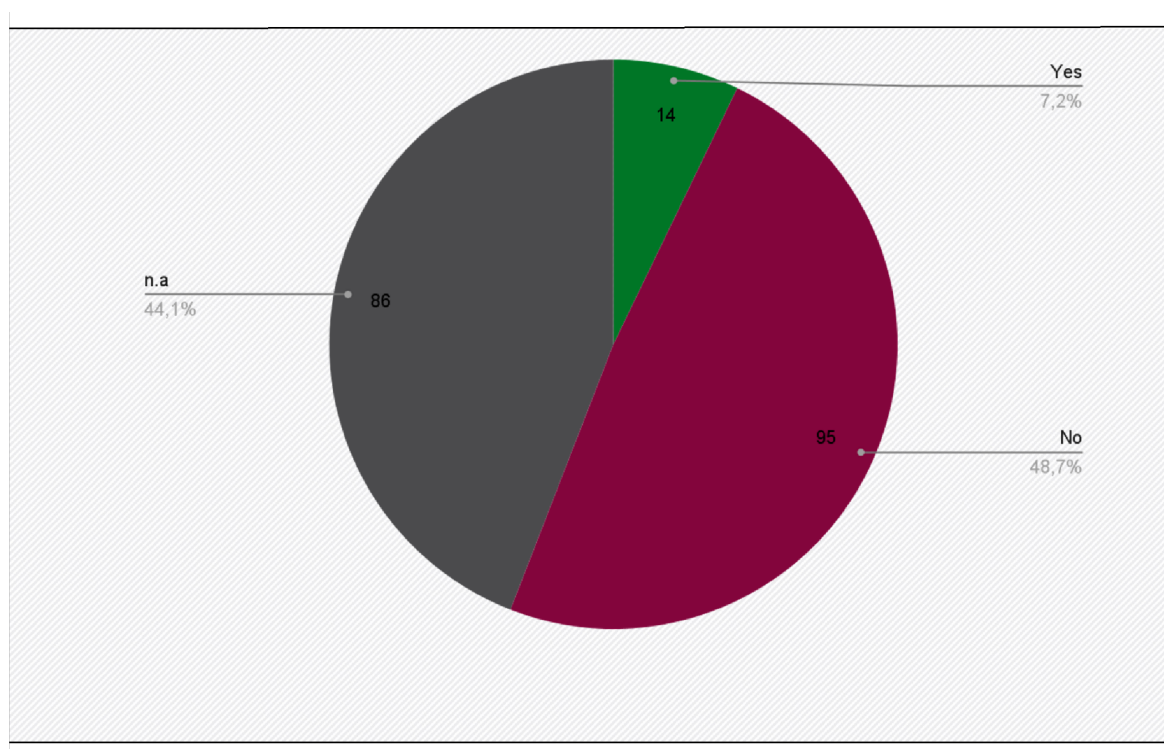
**Table 2: Regional distribution of seller vs. buyer of units**

Continent	Seller	Buyer	Buyer and Seller	Not specified	Not applicable
Africa (53)	30	0	0	10	13
Americas (35)	8	1	0	17	9
Asia (46)	9	3	1	16	17
Oceania (16)	3	0	0	6	7
Europe (45)	3	7	0	5	30

## 2.4 Sectoral focus of Article 6 use

Market-based activities can be implemented in a large variety of sectors. As this requires respective methodologies and tools to be elaborated, an indication of the sectors in which Parties intend to implement Article 6 activities is of high relevance. Against this background a qualitative analysis of the Article 6 section in Parties' NDCs was conducted to identify the sectors in which Parties intend to generate ITMOs or A6.4ERs. We have also explored the NDCs of Parties that consider to buy units. However, the NDCs contained no information on the sectoral focus of the activities from which units will possibly be bought. Parties that did not mention Article 6 in their NDCs or excluded the use of Article 6 were excluded from the analysis.

The findings displayed in Figure 5 show that only a small share of 14 NDCs include information on the sectors where Article 6 could be used to source ITMOs or A6.4ERs. All 14 NDCs are from non-Annex 1 Parties. For almost half of the NDCs analyzed, no information on the sectoral focus of Article 6 use was found.

**Figure 5: Indication of sectoral focus of Article 6 use**

Source: Own illustration (Wuppertal Institute)

Table 1 below displays the sectors mentioned by those 14 Parties that have provided information on where to source ITMOs or A6.4ERs. As can be seen, Parties have not used a systematic approach to include this information, but instead indicated different sectors and activities, leading to considerable overlaps between categories (for instance: forestry and REDD+). The sectors most commonly mentioned by Parties are forestry, renewable energy and waste.

**Table 3: Sectoral focus of Article 6 participation**

Sector	Mention in NDCs
Forestry	5
Renewable Energy	3
Waste	3
Energy	2
Transport	2
Energy Efficiency	2
Industry	1
Energy Supply	1
Cookstoves	1
Hydropower	1

Sector	Mention in NDCs
Increase sink capacity	1
RE electricity generation	1
Process Sector	1
Agriculture and Land use	1
Geothermal Energy	1
REDD+	1

Note: Sectors indicated by Parties in their NDC may overlap.

In terms of the geographic distribution, the findings show that the sectoral focus of Article 6 use was specified by a larger number of Parties from Africa (seven) and Asia (five), while only one Party from Asia and Europe respectively provided such information. **Table 4** displays the sectors mentioned by Parties in their NDCs, differentiated by the region of Parties.

**Table 4: Sectoral focus of Article 6 use – mention of sectors by region**

Sector	Africa	Americas	Asia	Europe
Forestry	2	3		
Renewable Energy	3			
Waste	3			
Energy	1	1		
Transport	2	1		
Energy Efficiency	2			
Industry		1		
Energy Supply	1			
Cookstoves	1			
Hydropower			1	
Increase sink capacity				1
RE electricity generation	1			
Process Sector	1			
Agriculture and Land use	1			
Geothermal Energy		1		
REDD+		1		

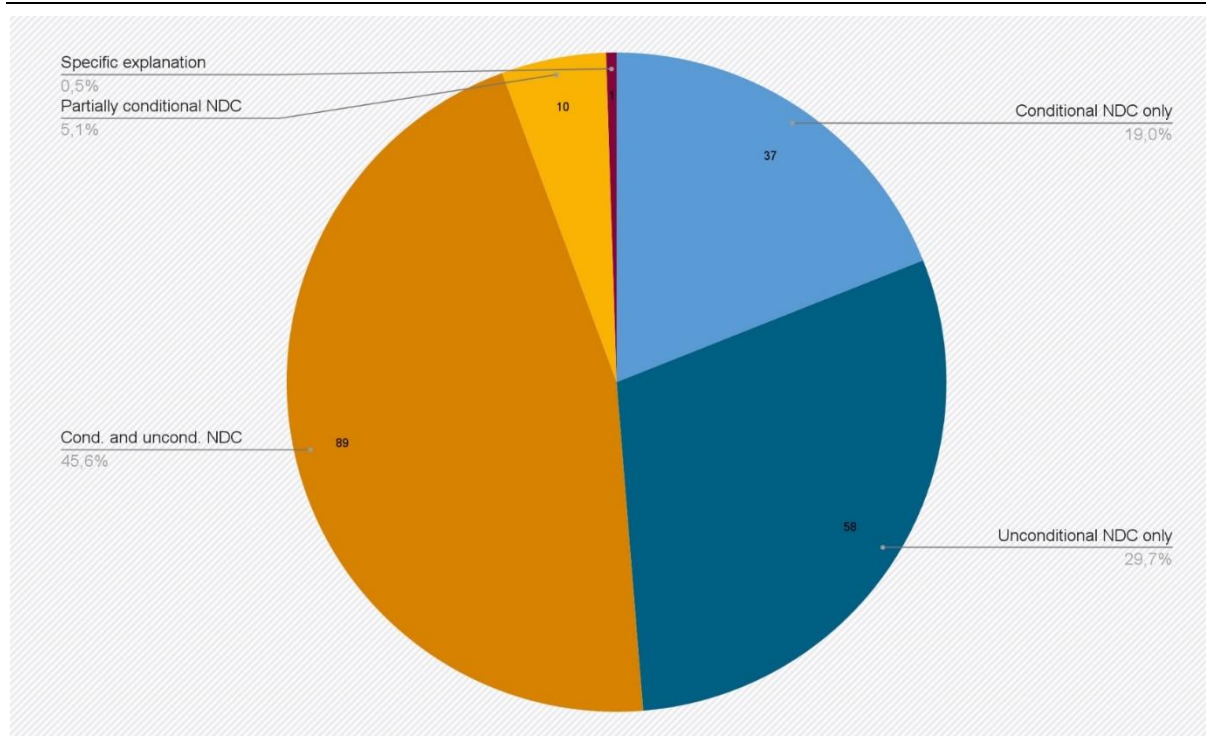
Note: Sectors indicated by Parties in their NDC may overlap.

## 2.5 Conditionality of mitigation targets

In their NDCs, Parties can make their contributions conditional upon receiving some type of international support, in particular financial support. How market-based cooperation under Article 6 relates to the conditionality of NDCs is unclear and there might be different interpretations among Parties, as highlighted by Fuessler et al. (2019). From a buyer's perspective, Article 6 is usually intended to allow the host Party to implement its conditional target or to go beyond its unconditional target. Therefore, the conditionality of targets is a relevant feature for market-based cooperation.

The findings displayed in Figure 6 below show that around 45 per cent of the NDCs contain conditional and unconditional targets. Almost 30 per cent of the NDCs do only unconditional elements, while 19 per cent are fully conditional. Some countries (around 5 per cent) have submitted partially conditional NDCs by combining domestic and international resources. It is still unclear what role Article 6 can play under these circumstances and how NDC conditionality can be reflected in the design of the specific Article 6 mitigation activities.

**Figure 6: Conditionality of targets**



Source: Own illustration (Wuppertal Institute)

### 3 Summary and key observations

The findings show that Parties' NDCs can serve as a first indication regarding their positioning towards Article 6. This is particularly true for Parties that have specified their intention to make use of voluntary cooperation under Article 6 or explicitly excluded such use.

The analysis indicates that there is in general **considerable openness towards Article 6**, with many Parties intending or considering to use this instrument. In terms of different types of voluntary cooperation considered, the NDCs only provided limited insights as specific references to cooperative approaches under Art. 6.2, to the 6.4 mechanism and non-market approaches under Art. 6.8 were scarce. The analysis of whether Parties consider themselves as buyers or sellers has shown that the **intention to buy ITMOs or A6.4ERs is much more limited than to sell** such units, suggesting a possible demand and supply imbalance. It should be noted, though, that an actual market imbalance will depend on the volumes traded and not on the numbers of Parties involved. Furthermore, demand from actors outside the UNFCCC can be expected to play a significant role in the future, potentially mitigating this effect.

To assess whether Parties might be open to adopt new roles in the future, more in-depth analysis of individual countries is needed. This also holds for understanding the potential for Article 6 in specific sectors and the role that this policy instrument might play in the context of the conditional and unconditional elements of Parties' NDC. Due to the dynamic developments of the international climate negotiations and evolving domestic politics, the latest positioning of a Party might not always be included in its NDC. These gaps could be closed by complementing the findings of the global NDC analysis with country-specific research allowing for a more complete picture about the role Article 6 could play in the future.

## 4 References

- Brandemann, V., Kreibich, N., & Obergassel, W. (2021). Implementing Paris Cooperatively—Update on market mechanisms in the latest NDC submissions. Wuppertal Institute for Climate, Environment and Energy. [https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/Policy\\_Paper/Market\\_Mechanisms\\_updated\\_NDC.pdf](https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/Policy_Paper/Market_Mechanisms_updated_NDC.pdf)
- Climate Watch. (2022). Climate Watch NDC - Data Explorer. World Resources Institute. <https://www.climatewatchdata.org/ndcs-explore>
- Fuessler, J., Kansy, T., & Spalding-Fecher, R. (2019). Blending climate finance and carbon market mechanisms—Options for the attribution of mitigation outcomes [CPF/TCAF Discussion Paper]. [https://cpf.wbcarbonfinance.org/sites/cpf\\_new/files/Documents/Blending%20climate%20finance%20and%20carbon%20market%20mechanisms\\_FINAL%28Clean%29\\_March.2019.pdf](https://cpf.wbcarbonfinance.org/sites/cpf_new/files/Documents/Blending%20climate%20finance%20and%20carbon%20market%20mechanisms_FINAL%28Clean%29_March.2019.pdf)
- IGES. (2021). IGES NDC Database [Version 7.6 (October 2021)]. Institute for Global Environmental Strategies. <https://www.iges.or.jp/en/pub/iges-indc-ndc-database/en>
- Marcu, A. (2021). Article 6 rule book—A post COP26 assessment. 13.
- UNFCCC. (2016). Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015, Addendum, Part two: Action taken by the Conference of the Parties at its twenty-first session, FCCC/CP/2015/10/Add.1, 29 January 2016 (FCCC/CP/2015/10/Add.1). UNFCCC.
- UNFCCC Secretariat. (2022). NDC Registry (interim). <https://www4.unfccc.int/sites/NDCStaging/Pages/Home.aspx>