Regional Climate Week

Middle East and North Africa

Riyadh, Saudi Arabia – 8-12 October 2023

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

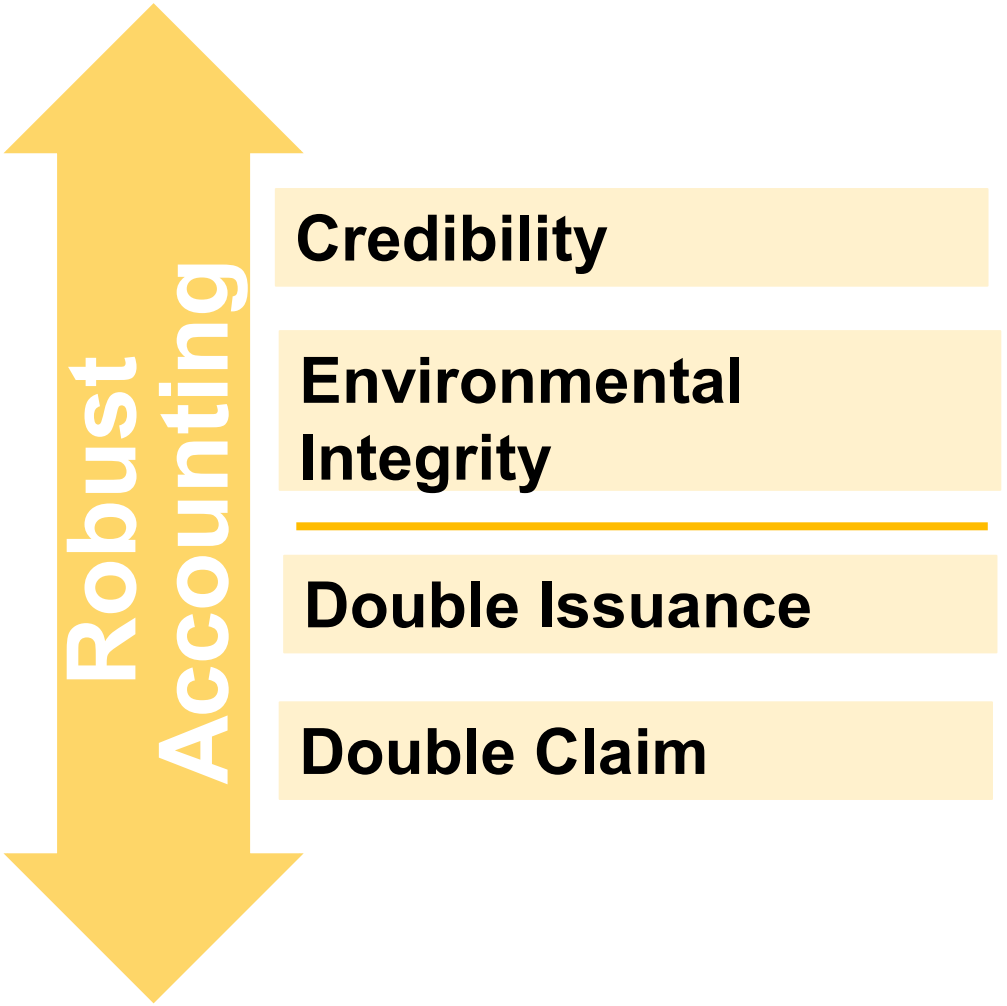
Introduction to Article 6 Accounting

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Paris Agreement Accounting

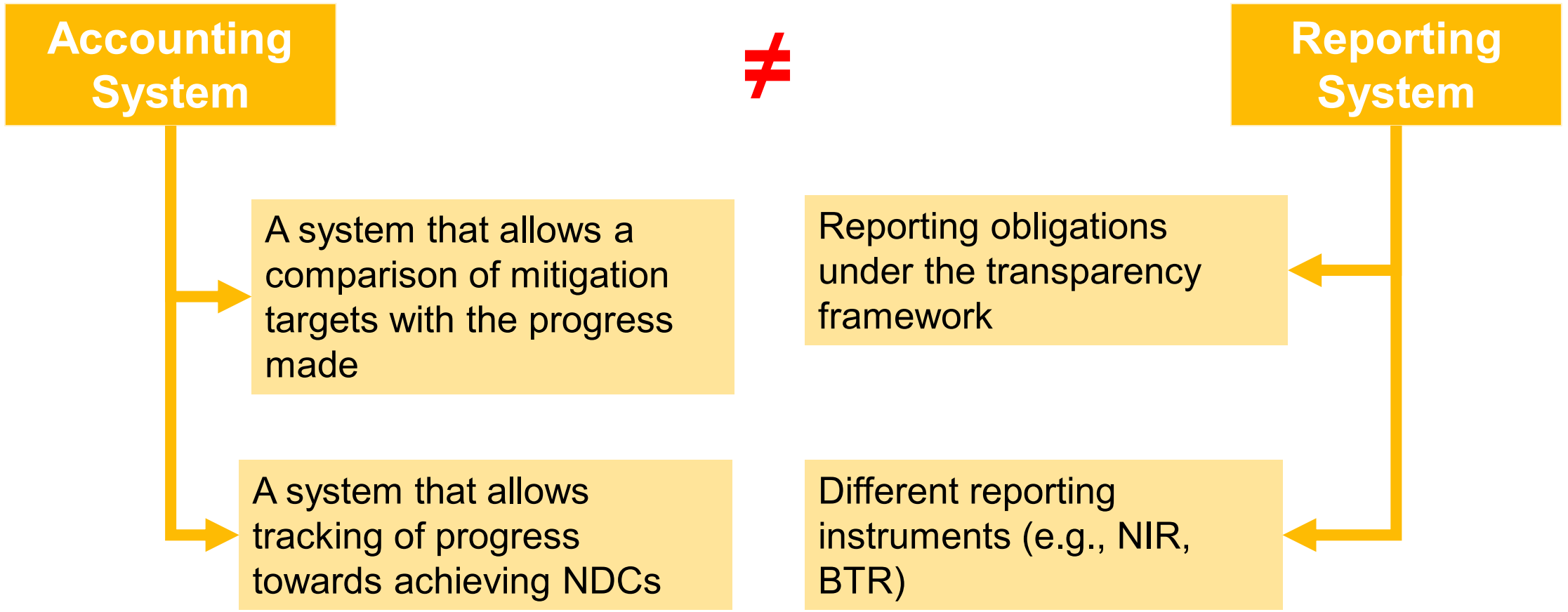
- An accounting system is a **set of rules** that details which emission reductions are, and which ones are not, allowed to be counted towards the fulfilment of a country's pledge to reduce greenhouse gas emissions / **use in NDC**.
- The PA includes several provisions that aim to ensure robust accounting for mitigation targets (NDCs accounting under Article 4 and Article 13 of PA).



United Nations Climate Change

REGIONAL CLIMATE WEEKS

Paris Agreement. Accounting vs Reporting



United Nations
Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting

- **Article 4.13** of the Paris Agreement, "Parties shall **account** for their nationally determined contributions"

- **Chapter III of the Modalities Procedure Guidelines (MPGs)** provides the requirements relevant to accounting for NDCs

National Circumstances and Institutional Arrangements (Section A)

Description of NDC (Section B)

Information to track NDC (Section C)

Mitigation Policies (Section D)

Directly relates to NDC Accounting

Summary of GHG emissions and removals (Section E)

Projection of GHG emissions and removals (Section F)

United Nations Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting.

National Circumstances and Institutional Arrangements (Section A)

- The MPGs require Parties to provide
  - information **on national circumstances** and how those circumstances **affect GHG emissions and removals** over time
  - Information **on institutional set-up to track progress** made towards implementing and achieving NDC (including for tracking ITMOs)
  - Information on legal, institutional, administrative and procedural arrangements for domestic implementation, monitoring, reporting archiving of information and stakeholder engagement and achievement of NDC

Government Structure

Climate Profile

Economic Profile

Population Profile

Geographic Profile

Sectoral Details

United Nations Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting.

Description of NDC (Section B)

Specify the NDC target (s)

Target (s) and Description

Target Types

- Economy-wide absolute emission reduction
- Emission intensity reduction
- Emission reduction below projected baseline
- Policy and Measures

Target year(s) or period(s)

- Single-year
- Multi-year

Reference point(s), level(s), baseline (s), base year(s) or starting point (s) and their respective value(s)

Time frame(s) and/or period(s) for implementation

Intention to use cooperative approaches that involve ITMOs under Article 6 towards NDC

Scope and Coverage

- Sectors
- Categories
- Activities
- Sources and Sinks
- Pools and Gases

United Nations Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting

Information to track NDC (Section C)

Parties shall identify **indicator(s) to track progress** made in the implementation and achievement of the NDC (para. 65)

1. Identification of Indicator (s)
   - Qualitative or Quantitative
2. Provision of **Reference Value**(s) for the **indicator**(s)
3. Provision of a **time series** of the Indicator value(s) and comparison of the most recent indicator value with the reference value
4. Assessment of the target achievement

United Nations Climate Change

REGIONAL CLIMATE WEEKS

The Article 6 accounting

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Article 6 Accounting

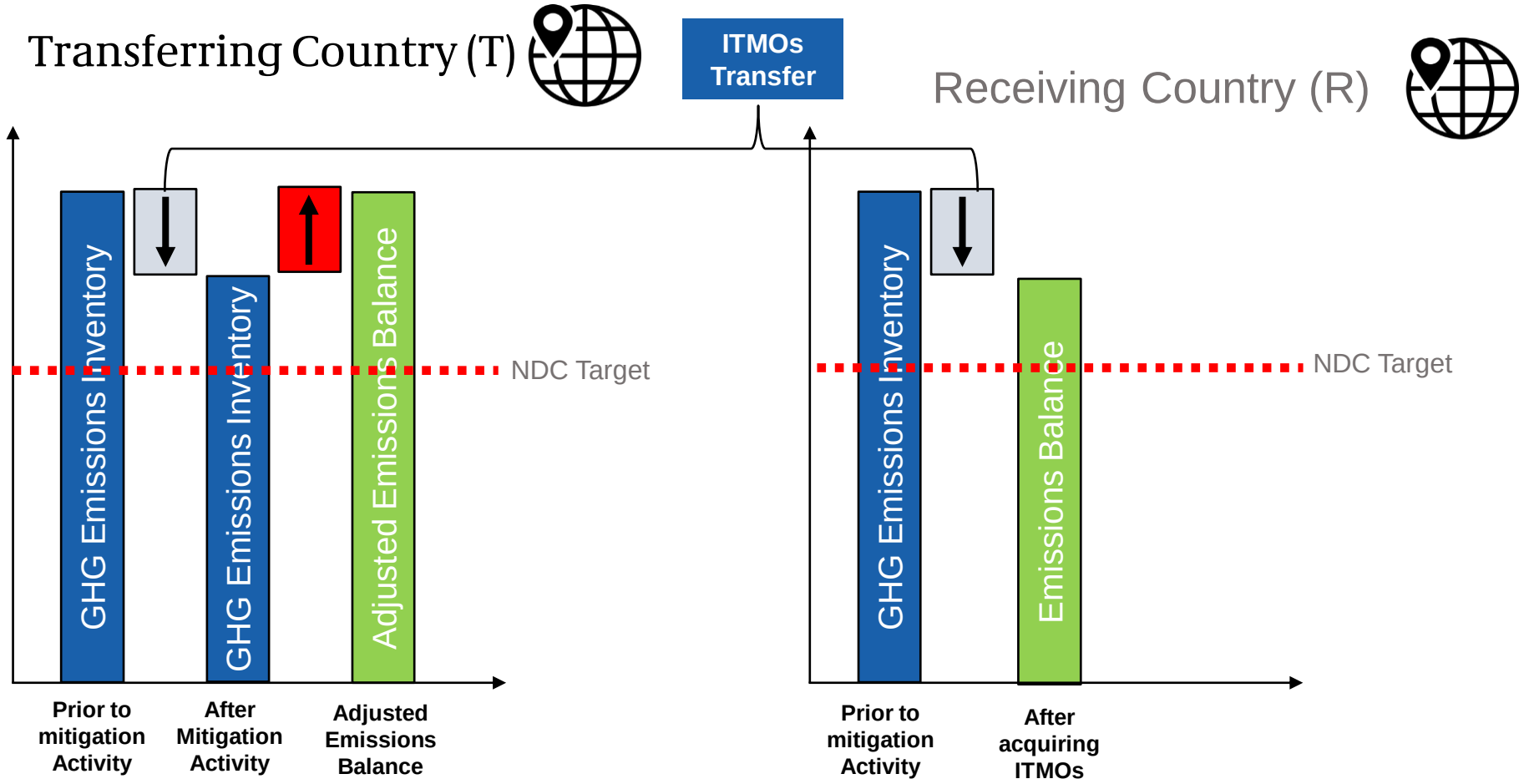
- Challenge: different types of NDCs
  - Not all of them expressed in tCO_2e
  - Not all of them with a multi-year carbon budget
- Corresponding adjustments to be applied to all ITMOs
  - Including activities out of scope of NDC
  - Transferrer: adjust the quantity of ITMOs in which the mitigation occurred (=vintage year of ITMOs)
  - Recipient: can choose the year of ITMO use – but NDC implementation period has to be the same as when mitigation outcomes occurred

United Nations Climate Change

REGIONAL CLIMATE WEEKS

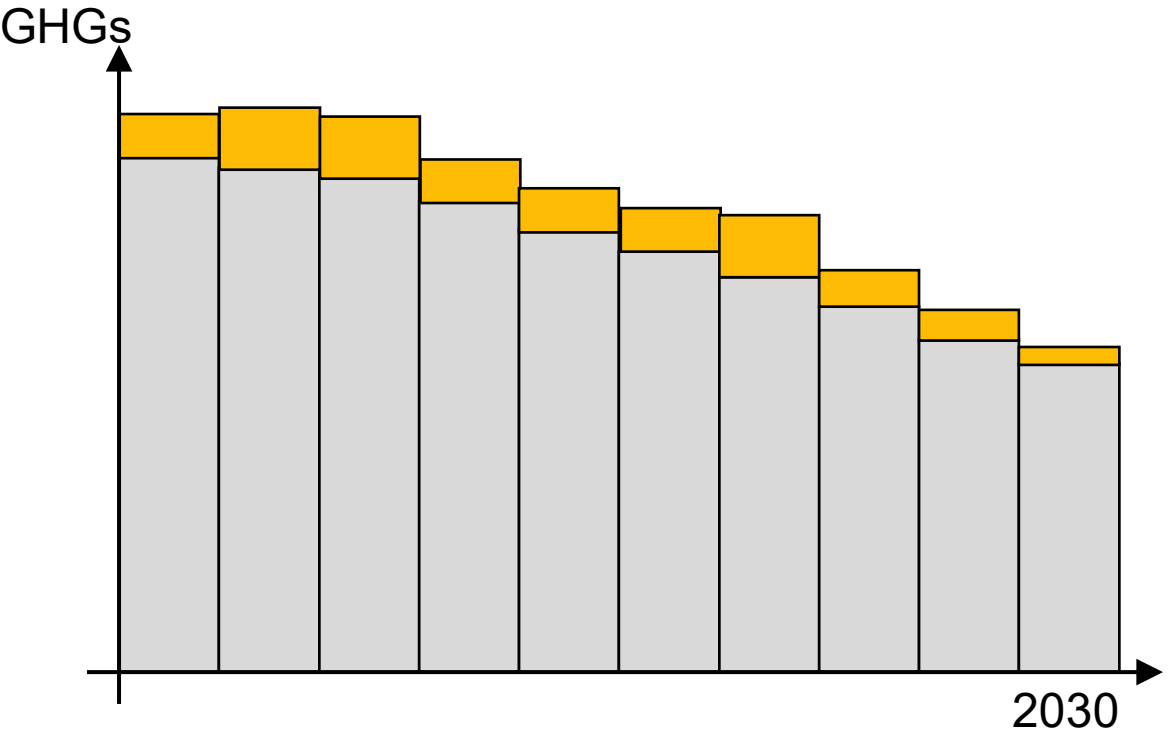
Article 6.2 - Key Concepts & Participation Requirements

Corresponding adjustments - countries' emissions levels, as reported when they track the progress towards achieving the NDC, should be adjusted to reflect the transfer (export) or receipt (import) of mitigation outcomes.

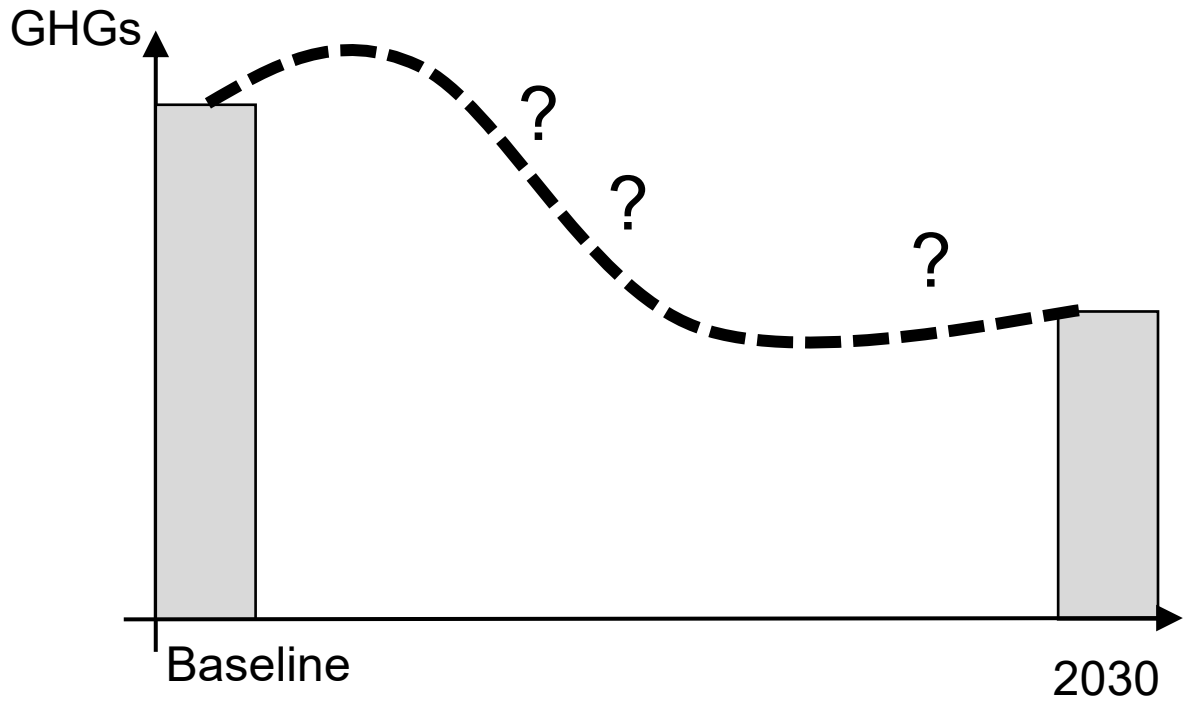


Article 6 Accounting (for the transferring country)

MULTI-YEAR TARGET: clear carbon budget – easiest case of applying corresponding adjustments



SINGLE YEAR TARGET: how to apply corresponding adjustments?



United Nations Climate Change

REGIONAL CLIMATE WEEKS

Article 6 Accounting

(a) (ii) **Single year target NDC** — **2 Methods**	(a) (i)	**Multi-year target NDC** — **1 Method** (b)
Calculating the average annual amount of ITMOs first transferred and used over the NDC implementation period by taking the cumulative amount and dividing by the number of the NDC implementation period and applying adjustments equal to the average amount for each year in the NDC implementation period and applying corresponding adjustments equal to this average amount in the NDC year	Providing indicative…	Calculating….
	multi-year emissions trajectory, trajectories or budget for the NDC implementation period	
	that is consistent with implementation and achievement of the NDC	that is consistent with the NDC
	annually applying corresponding adjustments for the total amount of ITMOs first transferred and used for each year in the NDC implementation period;	
		and cumulatively at the end of the NDC implementation period.

See the math (example)

United Nations Climate Change

REGIONAL CLIMATE WEEKS

Article 6 Accounting

- Challenge: different types of ITMOs
  - tCO_2e or absolute metrics
  - non-GHG metric consistent with NDC of participating Parties

Implications that the metric has consistency with the NDC of (ALL) participating Parties: e.g., Party A can only transfer an achievement in kWh renewable energy if Party B has a target in kWh renewable energy

- Questions: who should subtract? Who should add? How is the math done?
- Guidance: *Each participating Party shall apply corresponding adjustments in a manner that ensures transparency, accuracy, completeness, comparability and consistency; that participation in cooperative approaches does not lead to a net increase in emissions across participating Parties within and between NDC implementation periods; and that corresponding adjustments shall be representative and consistent with the participating Party's NDC implementation and achievement.*

United Nations Climate Change

REGIONAL CLIMATE WEEKS

Article 6 Accounting

- Adding or subtracting?

	The "bads" tCO2e (emissions) Deforestation (e.g., km^2/year) ETS emission allowances	The "goods" Km^2 afforested MWh green electricity Number of E-Vehicles tCO_2e reduction / removal
A - Transferrer	↑ Add	↓ Subtract
B - Recipient	↓ Subtract	↑ Add

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Article 6 Accounting

- Adding or subtracting?

	The "bads" tCO2e (emissions) Deforestation (e.g., km^2/year) ETS emission allowances	The "goods" Km^2 afforested MWh green electricity Number of E-Vehicles tCO_2e reduction / removal
A - Transferrer	↑ Add	↓ Subtract
B - Recipient	↓ Subtract	↑ Add

- Note: if A sells to B and A has a target of emission reduction, B has a target of absolute emissions, A needs to subtract (less emission reductions achieved as part of them are sold), and B will also subtract (less emissions caused).

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Hands-on Exercise

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Example 1:

- Party A sells ITMOs
- Party A has a single year target
  - It can use the (a) (ii) averaging approach or
  - It can use the (a) (i) trajectory approach

Reminder of some rules:

- Transferring Party (seller): the corresponding adjustment needs to be applied for the vintage year of the ITMOs
- Acquiring Party (buyer): can apply the adjustment for any year of the NDC during which the ITMOs are used (but has to be in the same NDC period)

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 1: Averaging approach

Country A sells ITMOs: does it achieve its target to emit only 2600 $ktCO_2e$ in its target year (2025) ?

A	Year	2021	2022	2023	2024	2025
B	Year (n)	1	2	3	4	5
C	Gross emissions ($ktCO_2e$)	2800	2700	2600	2500	2400
D	ITMOS transfers ($ktCO_2e$)	400	300	300	200	200
E	Cumulated ITMO transfers					
F	CA to be made ($ktCO_2e$)					
G	Adjusted emission balance					?

United Nations Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 1: Averaging approach

Calculating the average annual amount of ITMOs first transferred and used over the NDC implementation period (E), by taking the cumulative amount of ITMOs (D) and dividing by the number of elapsed years in the NDC implementation period (B) and annually applying indicative corresponding adjustments equal to this average amount for each year in the NDC implementation period and applying corresponding adjustments equal to this average amount in the NDC year

A	Year	2021	2022	2023	2024	2025
B	Year (n)	1	2	3	4	5
C	Gross emissions ($ktCO_2e$)	2800	2700	2600	2500	2400
D	ITMOS transfers ($ktCO_2e$)	400	300	300	200	200
E	Cumulated ITMO transfers	400	700	1000	1200	1400
F	CA to be made ($ktCO_2e$)					
G	Adjusted emission balance					?

$$F = \frac{E}{B} = \frac{\text{Cumulative amount of ITMOs up to year (n)}}{\text{Number of elapsed years (n)}}$$

NDC Accounting - Example

Exercise 1: Averaging approach

Calculating the average annual amount of ITMOs first transferred and used over the NDC implementation period (E), by taking the cumulative amount of ITMOs (D) and dividing by the number of elapsed years in the NDC implementation period (B) and annually applying indicative corresponding adjustments equal to this average amount for each year in the NDC implementation period and applying corresponding adjustments equal to this average amount in the NDC year

A	Year	2021	2022	2023	2024	2025
B	Year (n)	1	2	3	4	5
C	Gross emissions ($ktCO_2e$)	2800	2700	2600	2500	2400
D	ITMOS transfers ($ktCO_2e$)	400	300	300	200	200
E	Cumulated ITMO transfers	400	700	1000	1200	1400
F	CA to be made ($ktCO_2e$)	=400/1	=700/2	=1000/3	=1200/4	=1400/5
G	Adjusted emission balance					?

$$F = \frac{E}{B} = \frac{\text{Cumulative amount of ITMOs up to year (n)}}{\text{Number of elapsed years (n)}}$$

NDC Accounting - Example

Exercise 1: Averaging approach

Calculating the average annual amount of ITMOs first transferred and used over the NDC implementation period (E), by taking the cumulative amount of ITMOs (D) and dividing by the number of elapsed years in the NDC implementation period (B) and annually applying indicative corresponding adjustments equal to this average amount for each year in the NDC implementation period and applying corresponding adjustments equal to this average amount in the NDC year

A	Year	2021	2022	2023	2024	2025
B	Year (n)	1	2	3	4	5
C	Gross emissions ($ktCO_2e$)	2800	2700	2600	2500	2400
D	ITMOS transfers ($ktCO_2e$)	400	300	300	200	200
E	Cumulated ITMO transfers	400	700	1000	1200	1400
F	CA to be made ($ktCO_2e$)	400	350	333	300	280
G	Adjusted emission balance					?

$$F = \frac{E}{B} = \frac{\text{Cumulative amount of ITMOs up to year (n)}}{\text{Number of elapsed years (n)}}$$

NDC Accounting - Example

Exercise 1: Averaging approach

Country A sells ITMOs: does it achieve its target to emit only 2600 $ktCO_2e$ in its target year (2025) ?

A	Year	2021	2022	2023	2024	2025
B	Year (n)	1	2	3	4	5
C	Gross emissions ($ktCO_2e$)	2800	2700	2600	2500	2400
D	ITMOS transfers ($ktCO_2e$)	400	300	300	200	200
E	Cumulated ITMO transfers	400	700	1000	1200	1400
F	CA to be made ($ktCO_2e$)	400	350	333	300	280
G	Adjusted emission balance	=2800+400	=2700+350	=2600+333	=2500+300	=2400+280

United Nations Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 1: Averaging approach

Country A sells ITMOs: does it achieve its target to emit only 2600 $ktCO_2e$ in its target year (2025) ?

A	Year	2021	2022	2023	2024	2025
B	Year (n)	1	2	3	4	5
C	Gross emissions ($ktCO_2e$)	2800	2700	2600	2500	2400
D	ITMOS transfers ($ktCO_2e$)	400	300	300	200	200
E	Cumulated ITMO transfers	400	700	1000	1200	1400
F	CA to be made ($ktCO_2e$)	400	350	333	300	280
G	Adjusted emission balance	3200	3050	2933	2800	2680

United Nations Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 1: Averaging approach

Country A sells ITMOs: does it achieve its target to emit only 2600 $ktCO_2e$ in its target year (2025) ?

A	Year	2021	2022	2023	2024	2025	Total
B	Year (n)	1	2	3	4	5	
C	Gross emissions ($ktCO_2e$)	2800	2700	2600	2500	2400	
D	ITMOS transfers ($ktCO_2e$)	400	300	300	200	200	1400
E	Cumulated ITMO transfers	400	700	1000	1200	1400	
F	CA to be made ($ktCO_2e$)	400	350	333	300	280	1663
G	Adjusted emission balance	3200	3050	2933	2800	2680	

United Nations Climate Change

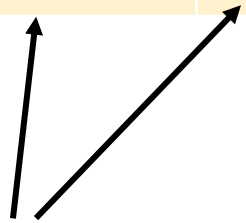
REGIONAL CLIMATE WEEKS

The adjusted emission balance exceeds the target: the NDC is not achieved !!!

NDC Accounting - Example

Example 1: Averaging approach

A	Year	BL	2021	2022	2023	2024	2025	Target
B	Year (n)		1	2	3	4	5	
C	ITMOS transfers ($ktCO_2e$)		400	300	300	200	200	
D	Cumulated ITMO transfers		400	700	1000	1200	1400	
E	CA to be made ($ktCO_2e$)		400	350	333	300	280	
F	Gross emissions	3200	2800	2700	2600	2500	2400	
G	Adjusted emission balance	3200	3200	3050	2933	2800	2680	2600



The adjusted emission balance exceeds the target: the NDC is not achieved !!!

United Nations Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Example 1:

- Party A sells ITMOs
- Party A has a single year target
  - It can use the (a) (ii) averaging approach or
  - It can use the (a) (i) trajectory approach

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 2: Trajectory approach

	Year	BL	2021	2022	2023	2024	2025	cumulated
	Year (n)		1	2	3	4	5	
	Trajectory	3200	3200	3050	2900	2750	2600	
	ITMOS transfers ($ktCO_2e$)		400	300	300	200	200	
	Gross emissions	3200	2800	2700	2600	2500	2400	
	Adjusted emission balance	3200						

Is the NDC achieved for each year? and in aggregate?

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 2: Trajectory approach

	Year	BL	2021	2022	2023	2024	2025	cumulated
	Year (n)		1	2	3	4	5	
	Trajectory	3200	3200	3050	2900	2750	2600	14500
	ITMOS transfers ($ktCO_2e$)		400	300	300	200	200	1400
	Gross emissions	3200	2800	2700	2600	2500	2400	13000
	Adjusted emission balance	3200	3200	3000	2900	2700	2600	14300

The NDC is achieved <u>for each year</u> and <u>in aggregate</u>

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 3: Trajectory approach

	Year	BL	2021	2022	2023	2024	2025	cumulated
	Year (n)		1	2	3	4	5	
	Trajectory	3200	3200	3050	2900	2750	2600	
	ITMOS transfers ($ktCO_2e$)		400	300	300	300	300	
	Gross emissions	3200	2800	2700	2600	2500	2400	
	Adjusted emission balance	3200						

Is the NDC achieved for each year? and in aggregate?

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Exercise 3: Trajectory approach

	Year	BL	2021	2022	2023	2024	2025	cumulated
	Year (n)		1	2	3	4	5	
	Trajectory	3200	3200	3050	2900	2750	2600	14500
	ITMOS transfers ($ktCO_2e$)		400	300	300	300	300	1600
	Gross emissions	3200	2800	2700	2600	2500	2400	13000
	Adjusted emission balance	3200	3200	3000	2900	2800	2700	14600

The NDC is NOT achieved for each year and is also NOT achieved in aggregate

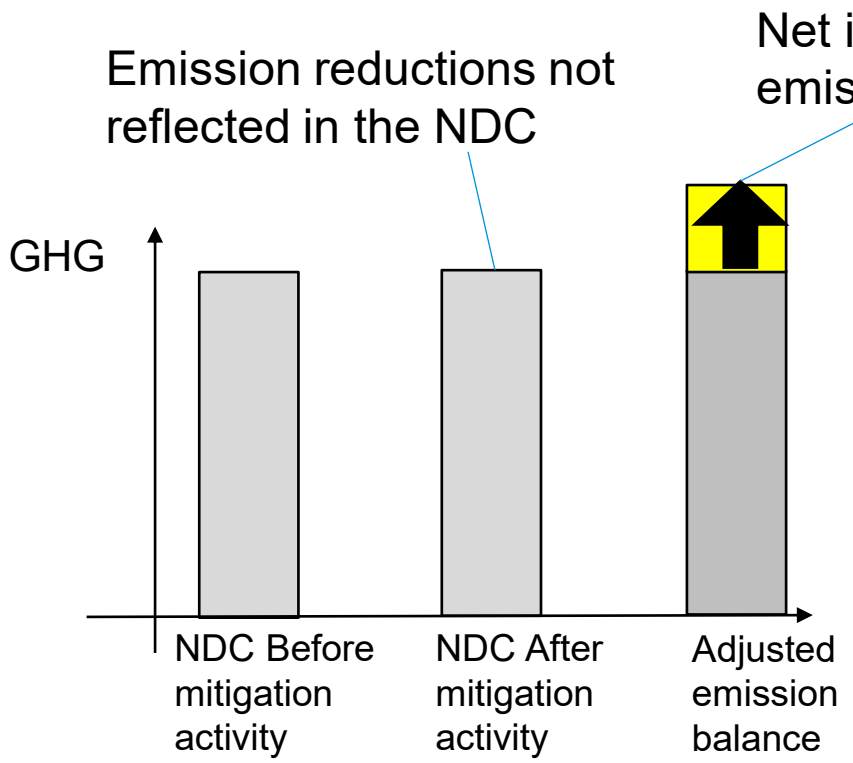
United Nations
Climate Change

REGIONAL CLIMATE WEEKS

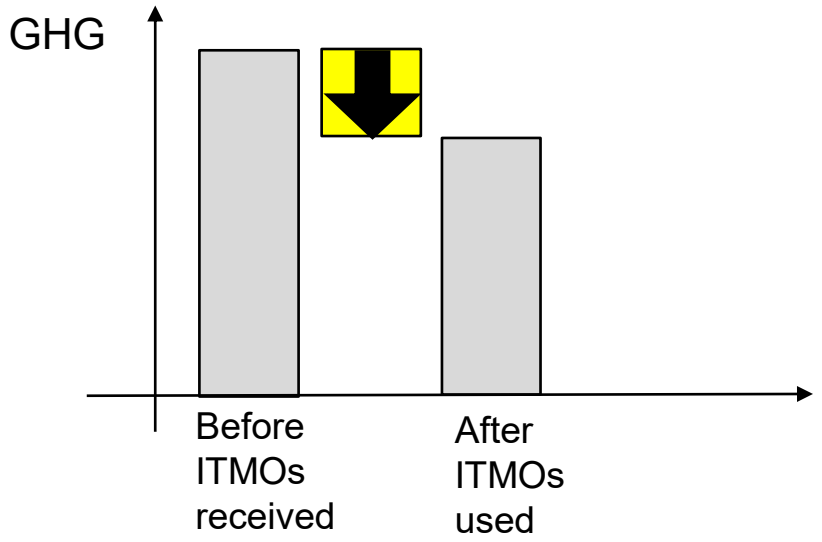
NDC Accounting - Example

Example 3: Mitigation action occurring outside the NDC

Transfering Country (T)



Receiving Country (R)



United Nations Climate Change

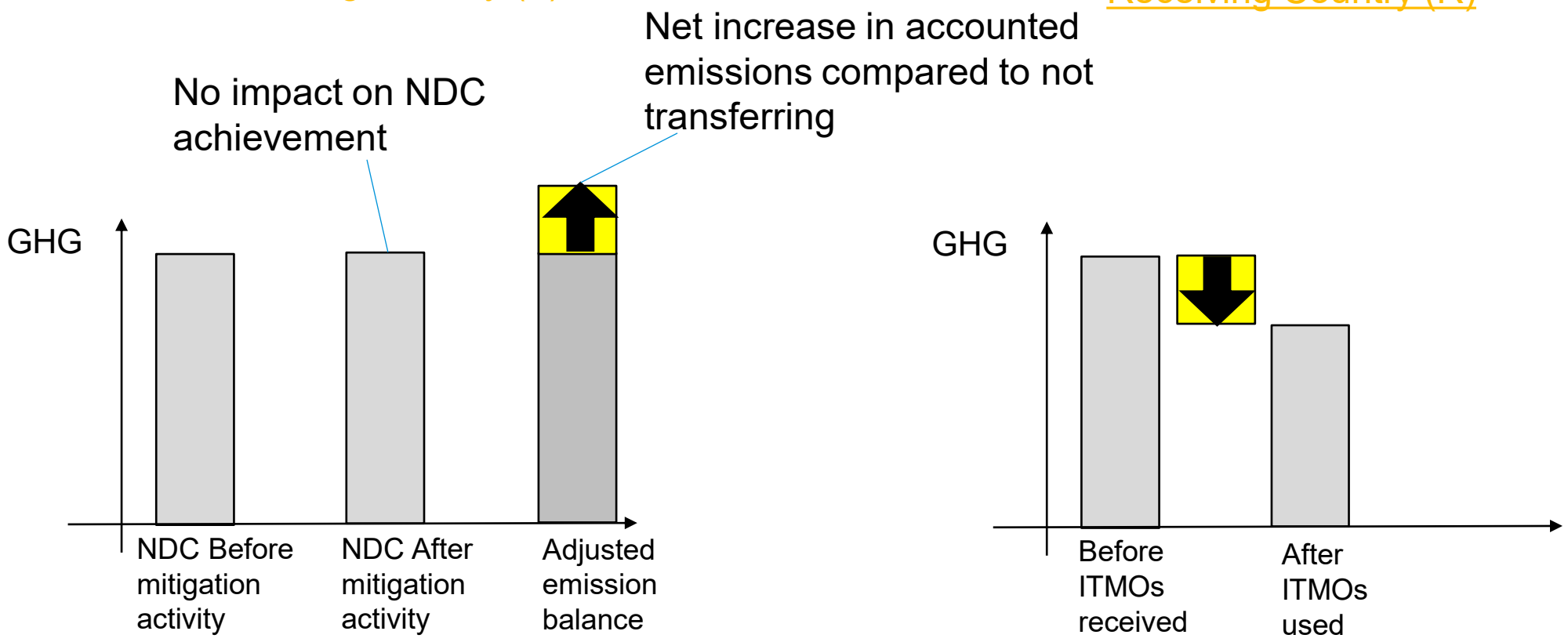
REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Example 4: Mitigation action which is not additional to the NDC

Transfering Country (T)

Receiving Country (R)



United Nations Climate Change

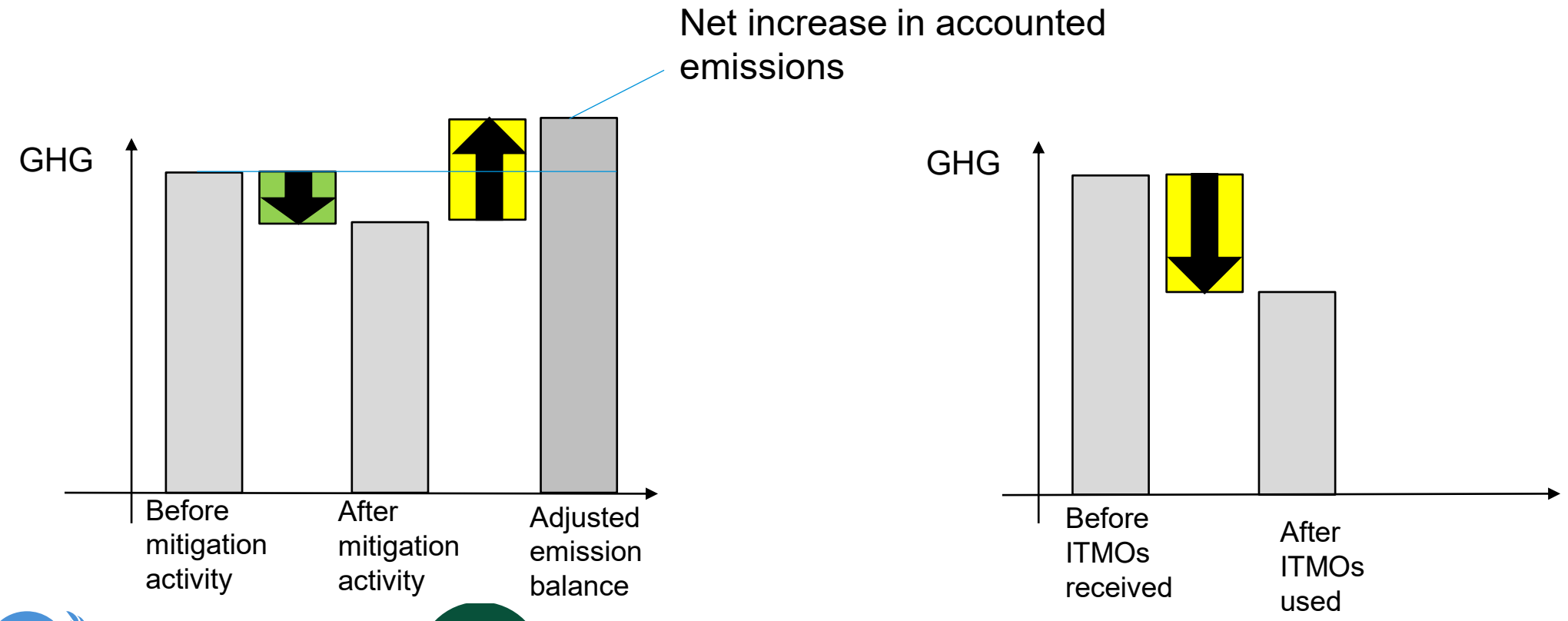
REGIONAL CLIMATE WEEKS

NDC Accounting - Example

Example 5: Selling more ITMOs than mitigation actually occured

Transfering Country (T)

Receiving Country (R)



United Nations Climate Change

REGIONAL CLIMATE WEEKS

THANK YOU FOR ATTENDING

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS