

Modelling Article 6 – The Importance of International Cooperation

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About IETA



- Collective voice of business on carbon pricing, markets and finance
- Global non-profit association
- Policy design, thought leadership, best practices, global capacity building,
- Global Partnerships & Dialogues with UNFCCC, World Bank, OECD-IEA and many more



Vision of Net-zero Towards 1.5 °C

- * NDCs should extend economy-wide and decline to net zero
- * Some emissions will likely remain – so removals are key (natural + technological)
- * Opportunities for removals are not equal around the world
- * Article 6 transfer system needs to support large scale reductions and removals
- * Article 6 is essential part of Paris Agreement for private sector



What is Article 6 worth in meeting Paris goals?

Two questions

What is the **POTENTIAL** economic value of Article 6?

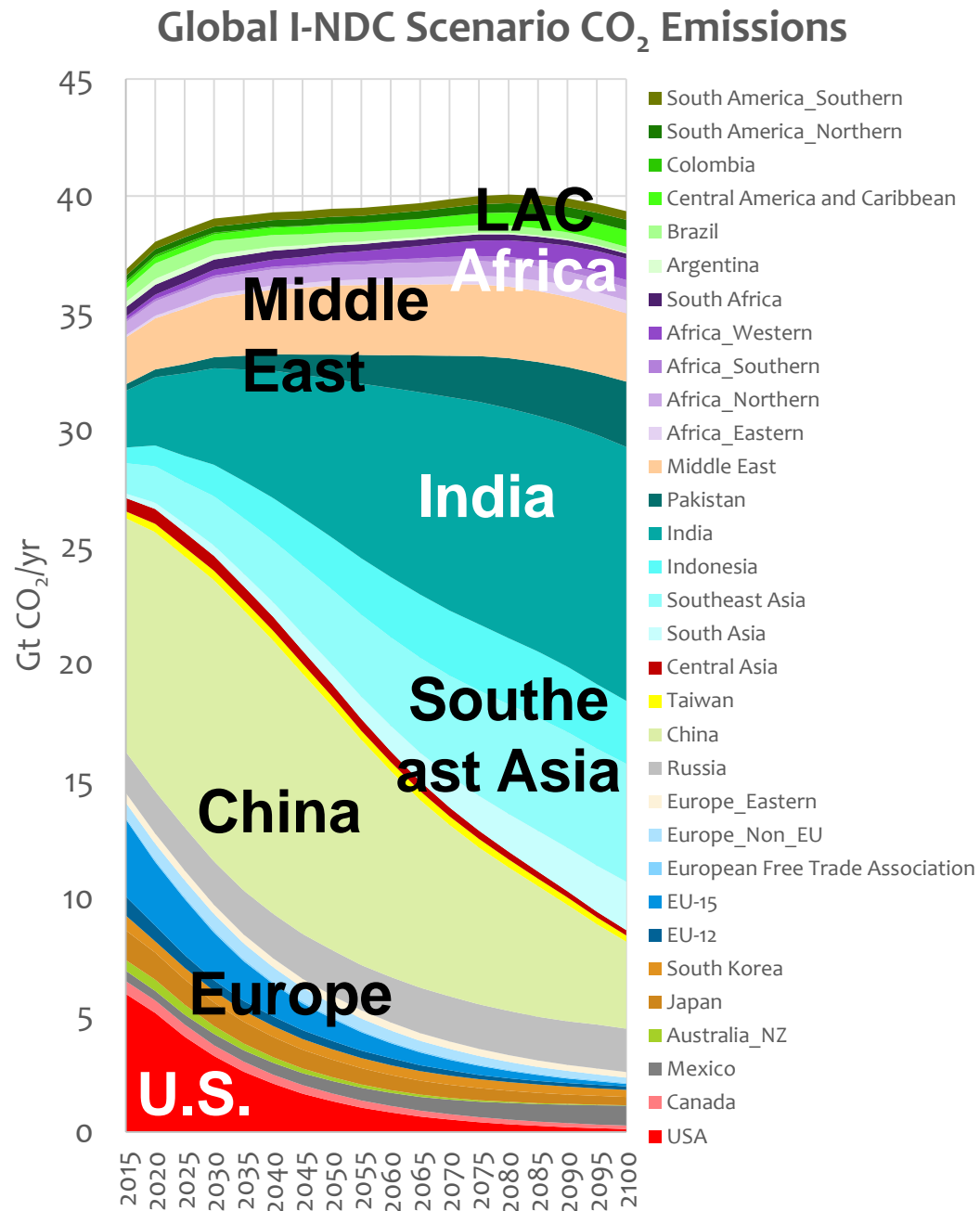
- * How much could costs be reduced?
- * Who benefits?
- * What is the potential size of the carbon market?
- * Who are the buyers and sellers?

How much additional ambition could be enabled?

- * How big is the potential?
- * Who increases their ambition?



Source: https://unfccc.int/files/focus/long-term_strategies/application/pdf/mid_century_strategy_report-final_red.pdf



Approach

UMD runs of Global Change Assessment Model (GCAM)

- A state of the art integrated assessment model of economy, energy, land, water and climate
- Used by the IPCC to develop scenarios

Nationally Determined Contributions (NDCs)

- Taken from country submissions
- Post-2030 projections extend trends
- Used the same method as in the Fawcett, et al. (2015) *Science* paper

Source: IETA /World Bank CPLC / UMD September 2019

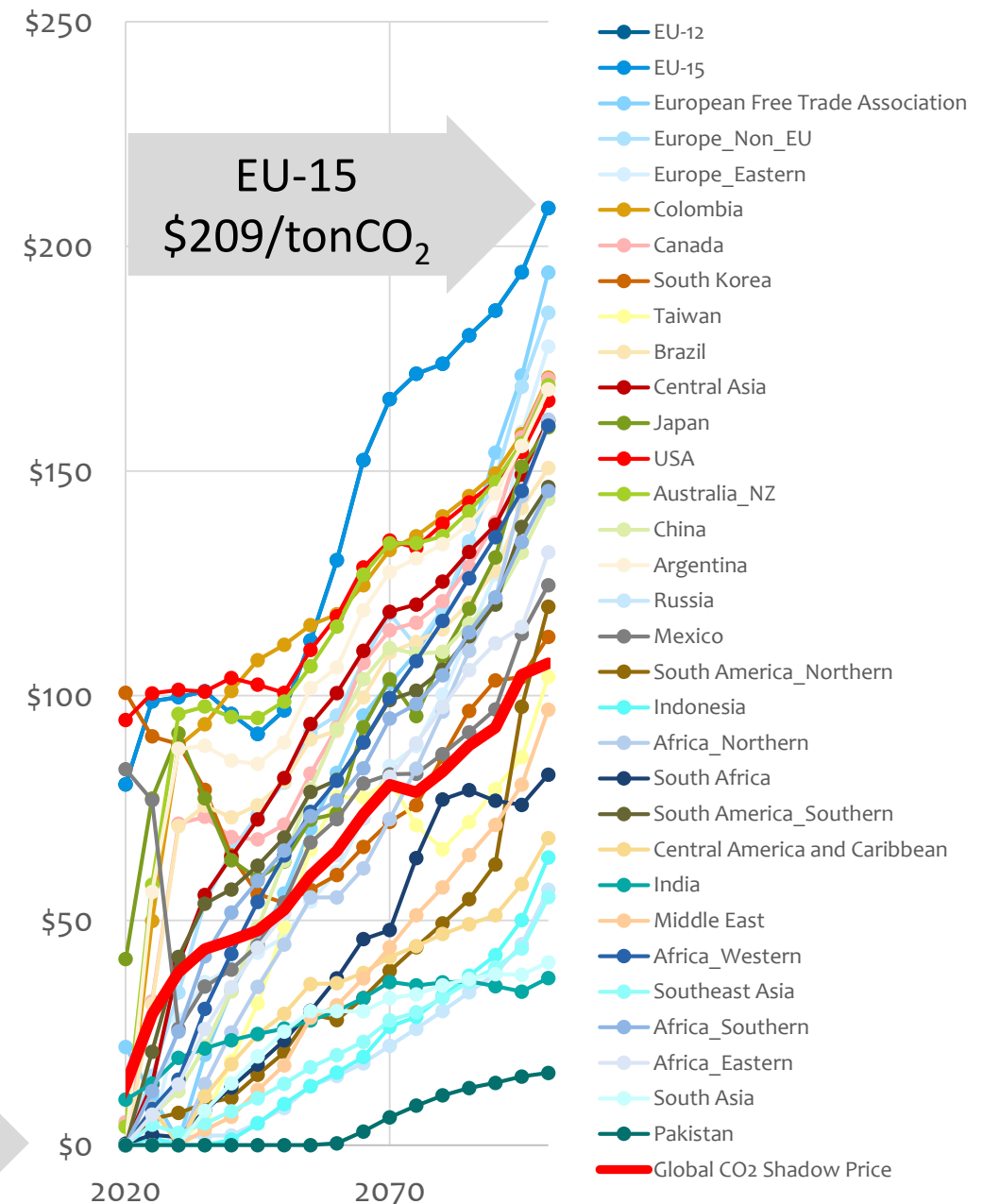
NDC Shadow Prices: Independent vs. Cooperative Implementation

- I-NDCs show wide range in shadow prices
- Cooperative NDC implementation cuts costs in half

	2030	2050	2100
I-NDC Range	\$0 to \$101/tonCO ₂	\$0 to \$111/tonCO ₂	\$16 to \$209/tonCO ₂
J-NDC	\$38/tonCO₂	\$52/tonCO₂	\$107/tonCO₂

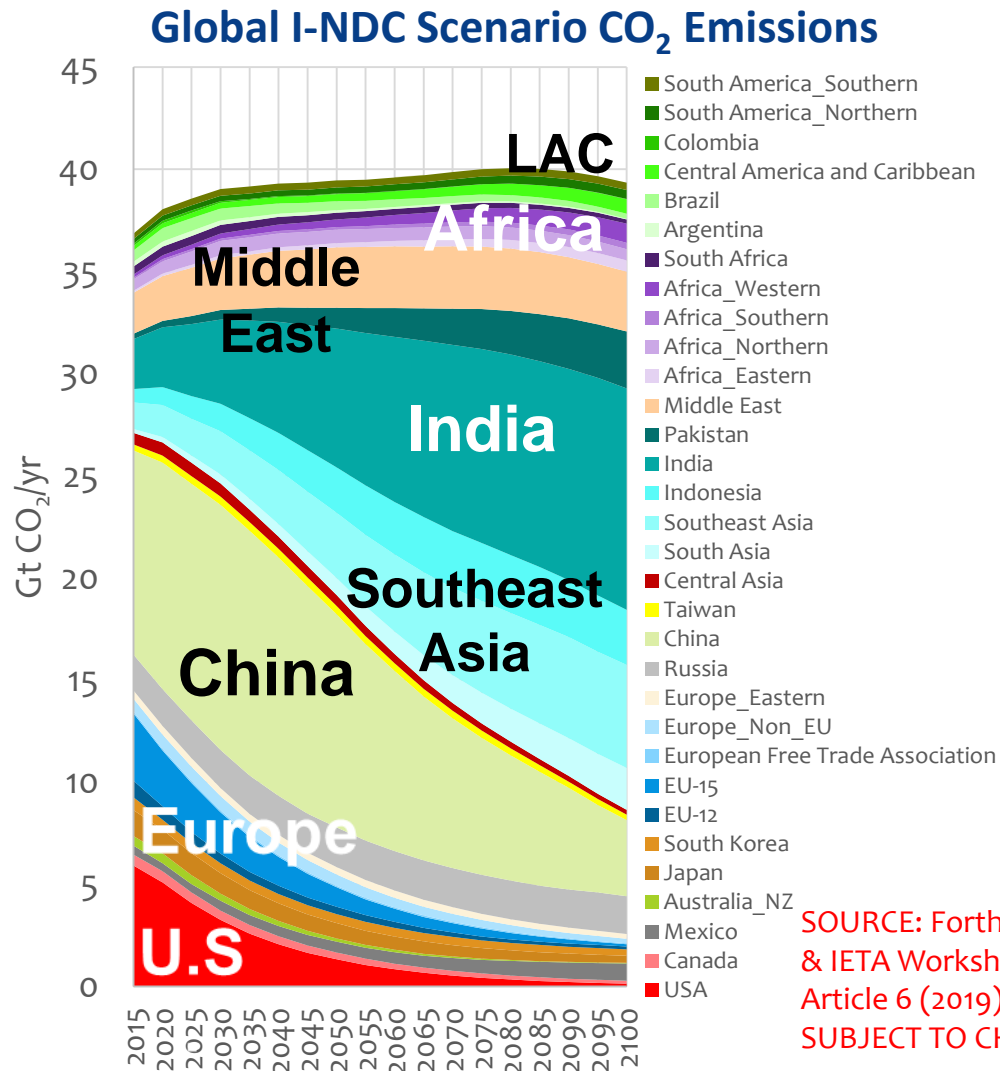
Source: IETA /World Bank CPLC / UMD September 2019

Shadow Price of CO₂

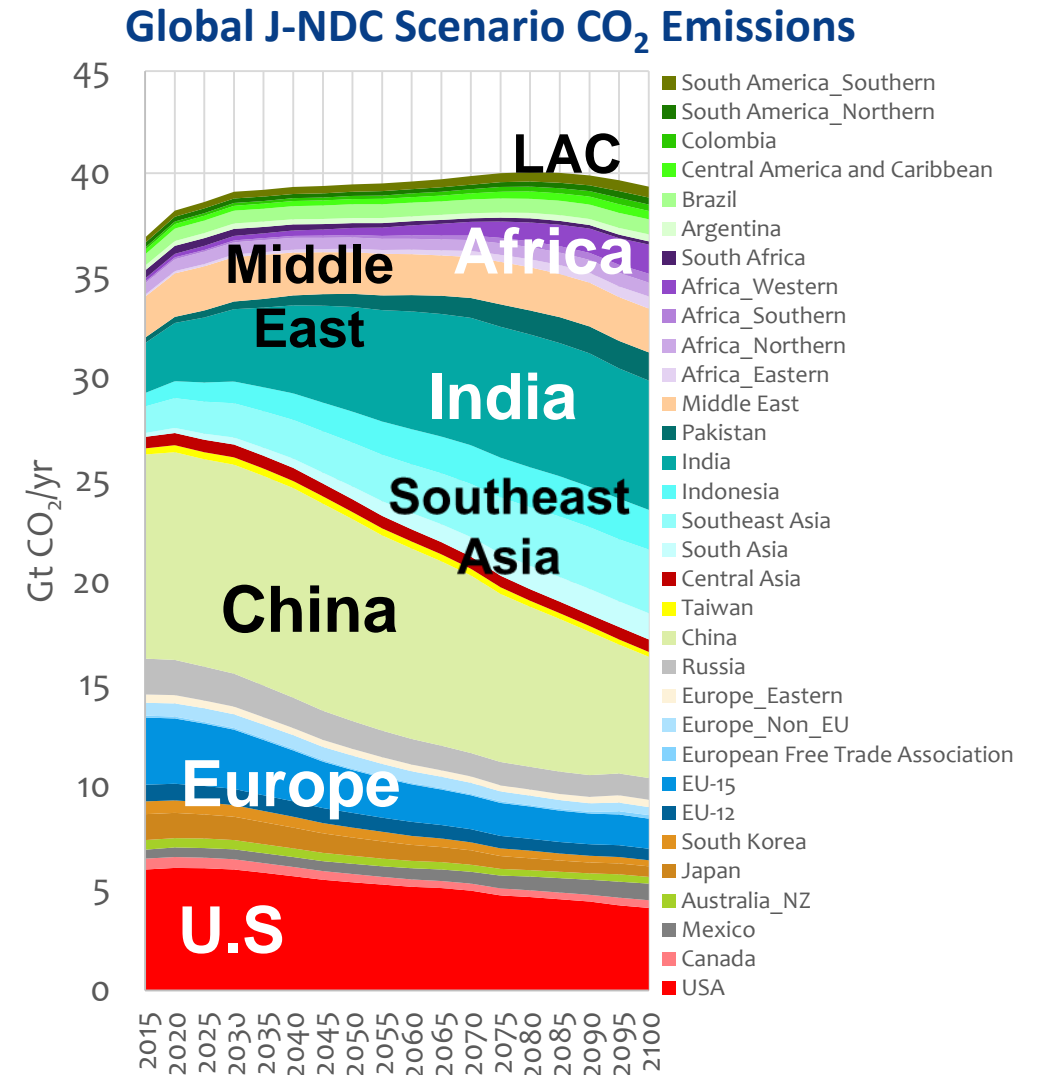


\$0/tonCO₂

NDC Emissions: Independent vs. Joint Implementation



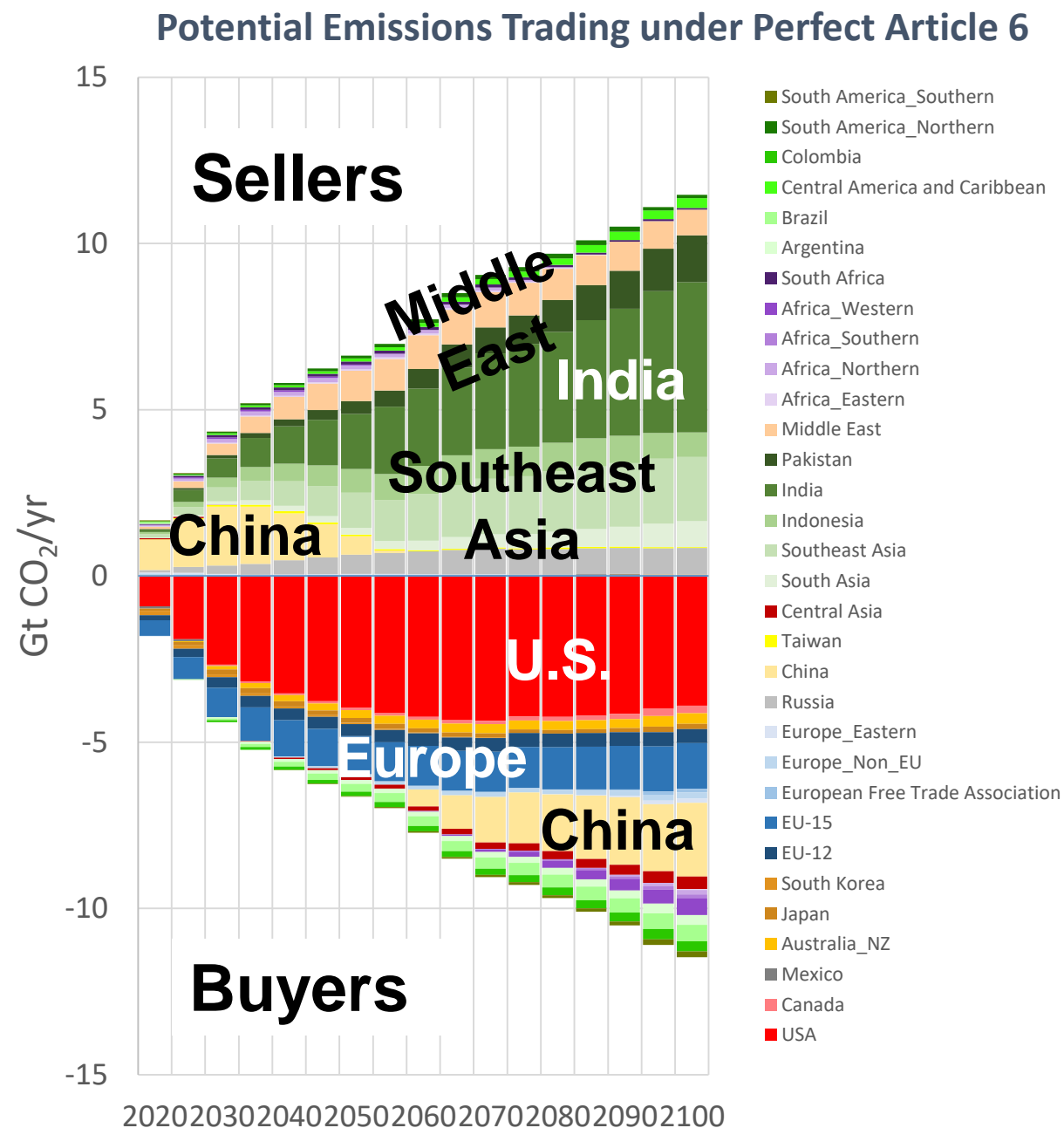
SOURCE: Forthcoming JGCRP
& IETA Workshop on Value of
Article 6 (2019) – DRAFT –
SUBJECT TO CHANGE



Potential changes in emissions—CO₂

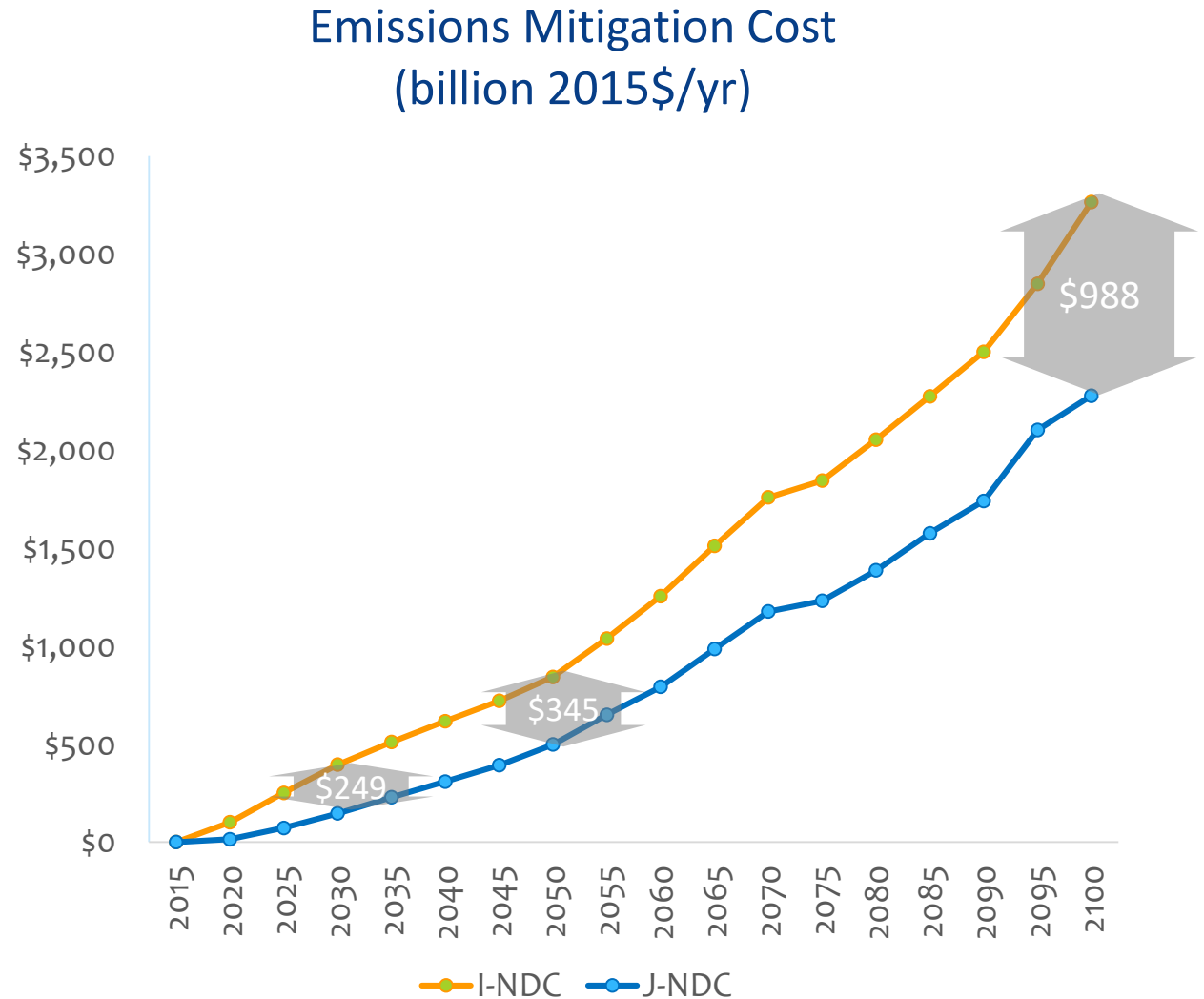
- Seller (11 regions)
- Buyer (4 regions)
- Seller to buyer (15 regions)
- Buyer to seller (2 regions)

SOURCE: Forthcoming JGCRP & IETA Workshop on Value of Article 6 (2019) – DRAFT – SUBJECT TO CHANGE



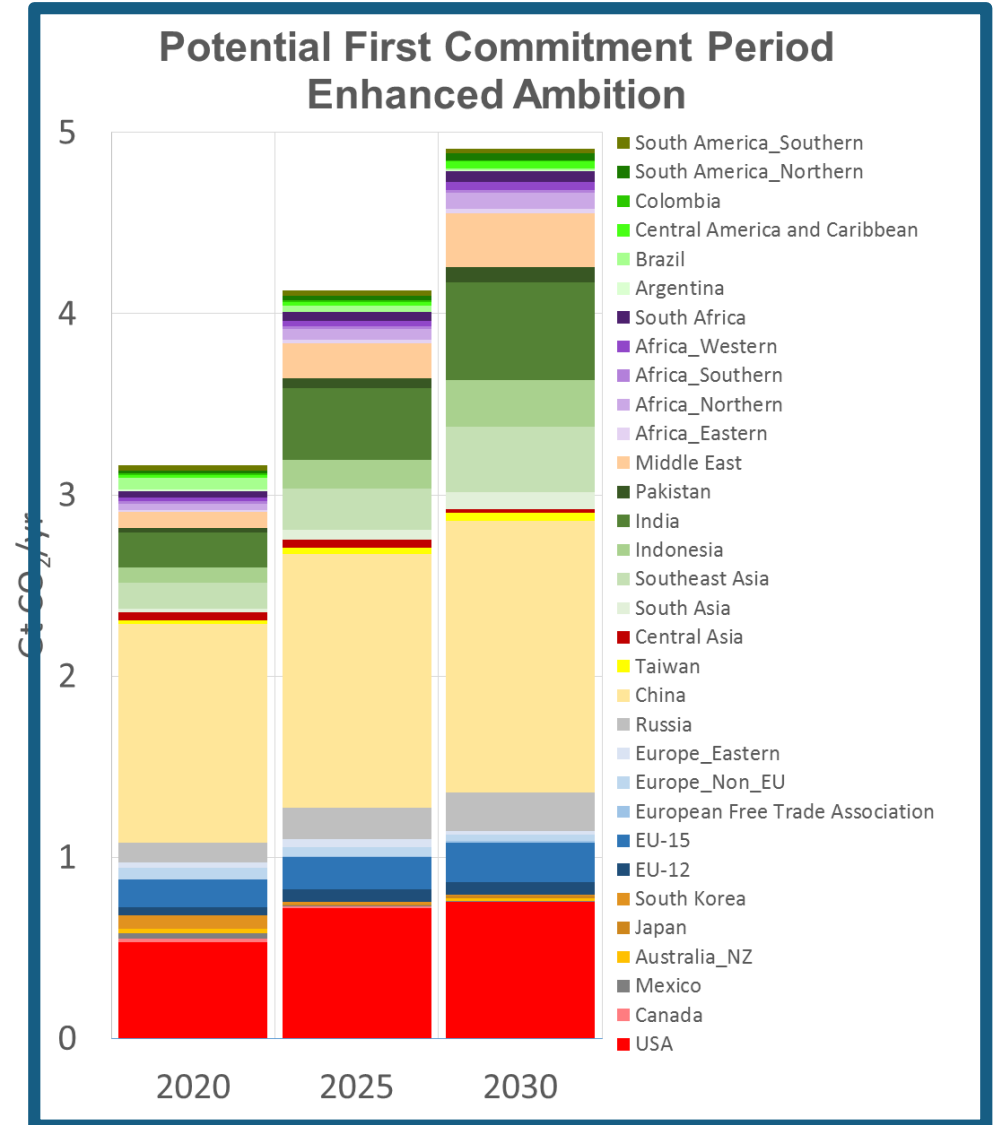
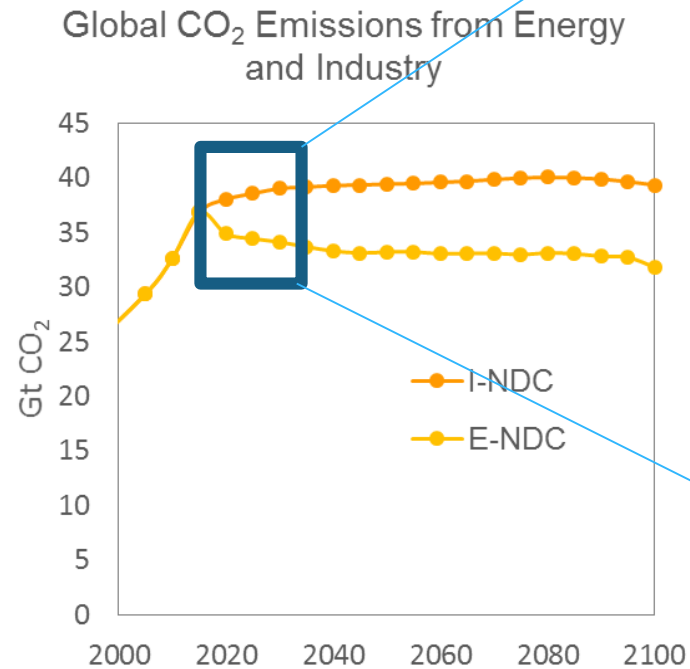
How Valuable is Article 6 to global GDP?

- * Article 6 holds significant potential to reduce cost and enhance ambition
 - * **2030 ~\$250 billion 2015 US\$**
- * Some countries would benefit more, but **everyone could be better off** through collaboration.



How Valuable is Article 6 for Ambition?

If we interpret the cost of achieving each country's NDC independently as a willingness to pay, **5 GtCO₂/year additional mitigation could be enabled in 2030.**



Land-based Mitigation Potential of Article 6

- * The economic potential available through Article 6 from extension to include **land use change** is significant.
- * Utilizing the economic efficiency gains to enhance ambition offers additional potential benefits
- * Realizing this potential is a major real-world challenge

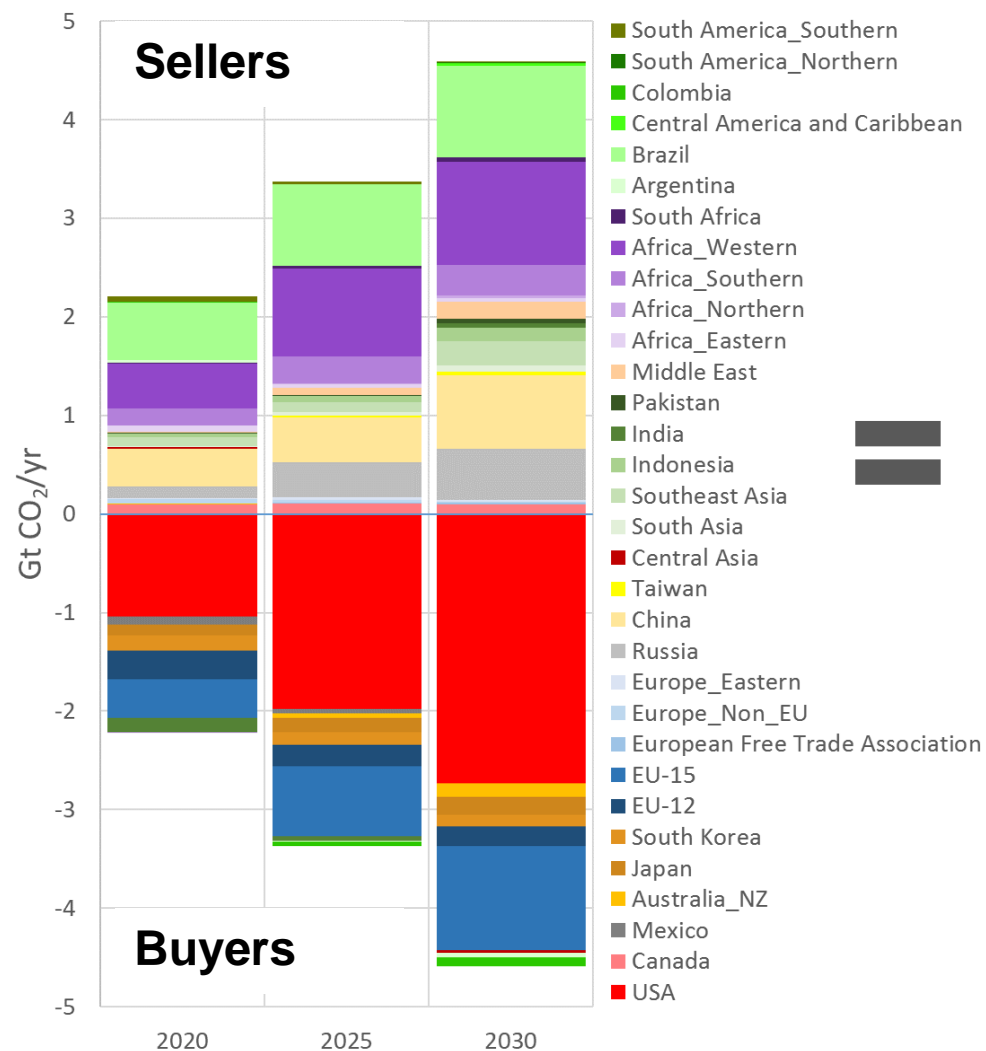
Forthcoming IETA-UMD Workshop Report 2019 - DRAFT
PRESENTATION—RESULTS MAY CHANGE - COMMENTS WELCOME

2030 Potential Article 6 Reduction in Cost (Billions 2015 USD/year)

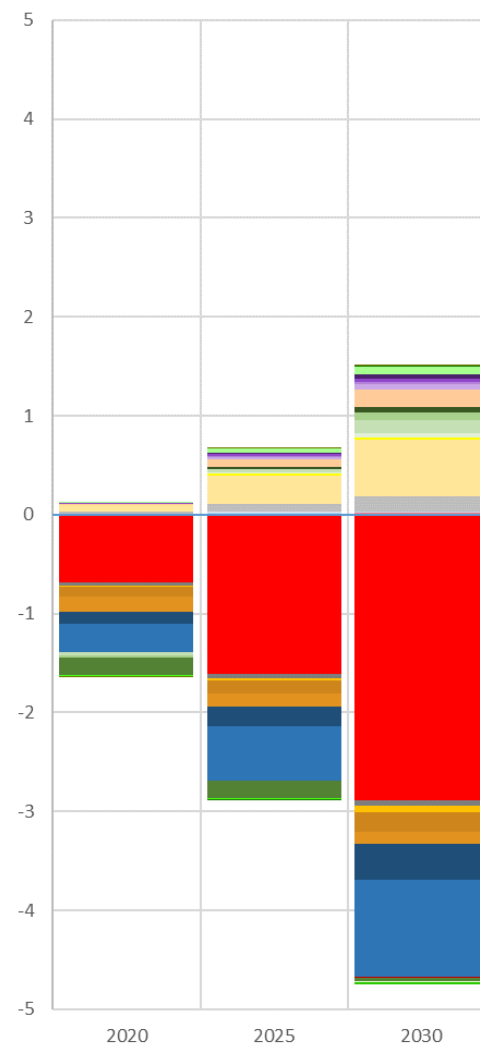
	Reduction in Cost	Increased Ambition
Fossil Fuels Only	~\$250 billion	5 GtCO ₂ per year
Land Use Only	~\$70 billion	4 GtCO ₂ per year
Combined	~\$320 billion	9 GtCO ₂ per year

Potential Changes in CO₂ Emissions

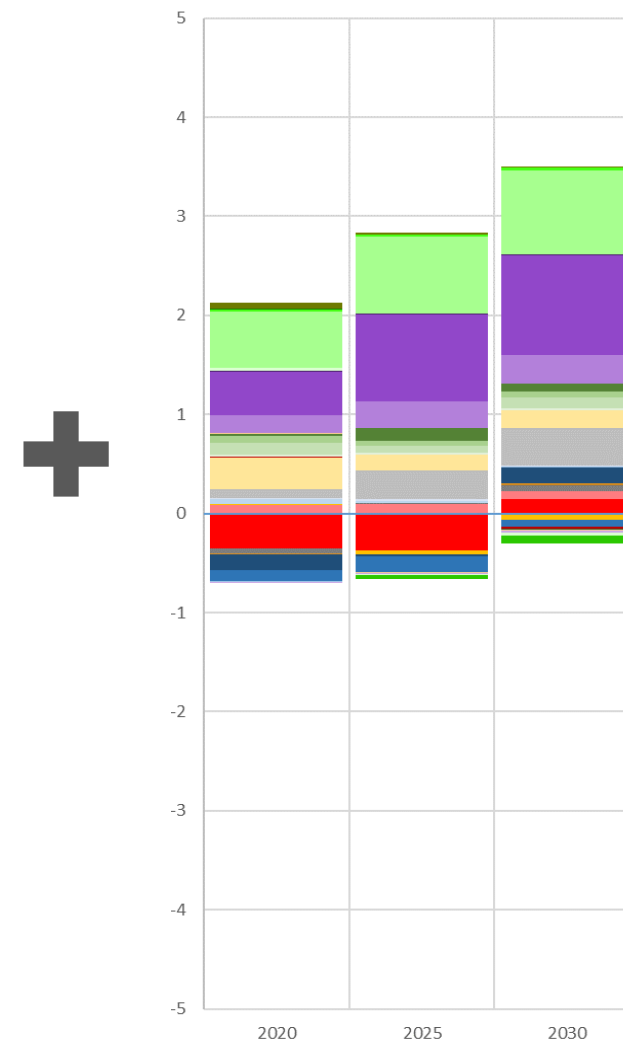
Buyers and Sellers under Article 6



Fossil Fuel and Industry



Land Use Change and Forestry

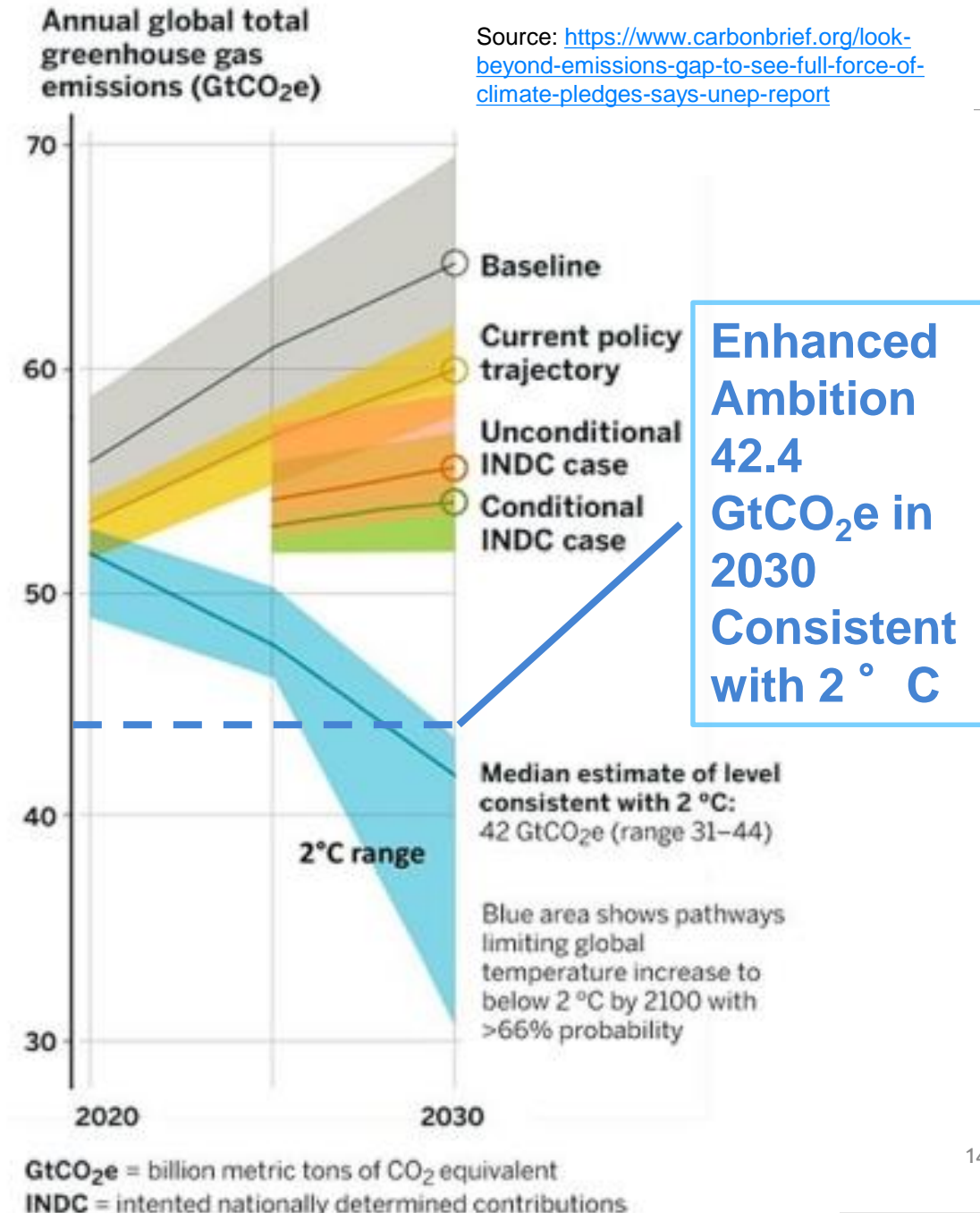


How Valuable is Article 6?

Article 6 holds significant potential to reduce cost and enhance ambition

- * Everyone could be better off through collaboration
- * Mitigation cost could be reduced by \$320 billion in 2030.
- * Mitigation could be enhanced by 9 GtCO₂/year in 2030

Source: Forthcoming IETA-UMD Workshop Report 2019 - DRAFT
PRESENTATION—RESULTS MAY CHANGE - COMMENTS WELCOME



How do we get these benefits?

This is just the theoretical potential...

... but there are always real-world challenges.

- * **Clearly the rules matter—need to develop sound rules at COP26**
 - * Key to environmental integrity is avoiding double counting
 - * Need to avoid restrictions or loopholes that could limit this potential
- * **Next, Parties need to establish plans for using Article 6**
 - * Translate heterogeneous NDCs into Article 6 approaches
 - * Future calls for 'Article 6 ready' NDCs
- * **What incentives would increase ambition in future NDCs?**

Thanks!



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PUBLIC POLICY
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SUSTAINABILITY



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety



Department for
Business, Energy
& Industrial Strategy



Thank you!

The full report is available at:

https://www.ieta.org/resources/International_WG/Article6/CLPC_A6%20report_no%20crops.pdf