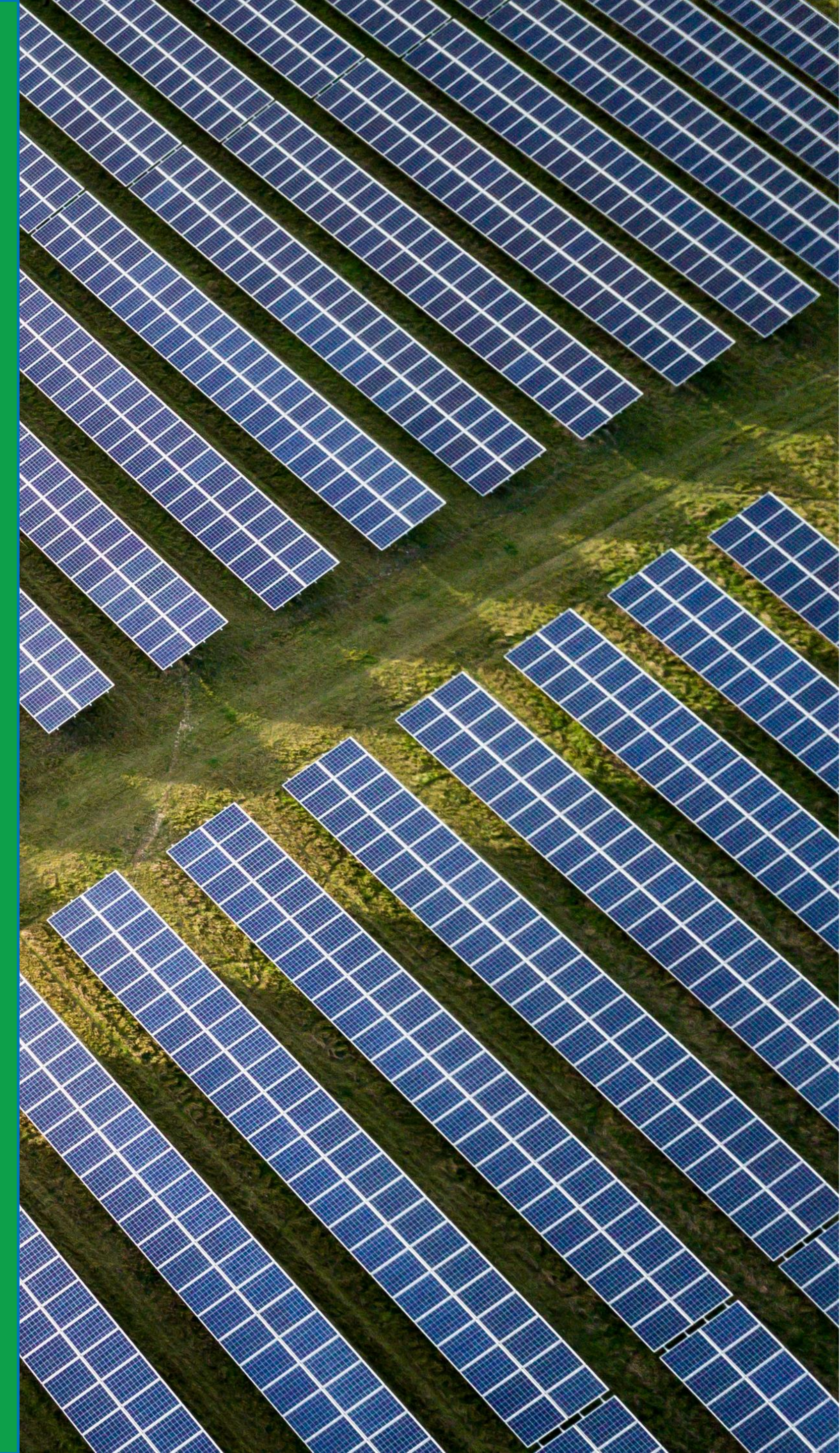




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## **Institutional Design and Governance of Carbon Markets**

Chris Shipley – Head of Global Carbon Markets  
UK Department for Energy Security and Net Zero

1. Global Carbon Market Landscape
2. Opportunities presented by carbon trading
3. Capacity building
4. Double counting: risks and mitigations
5. Digital technologies
6. Good governance and transparency



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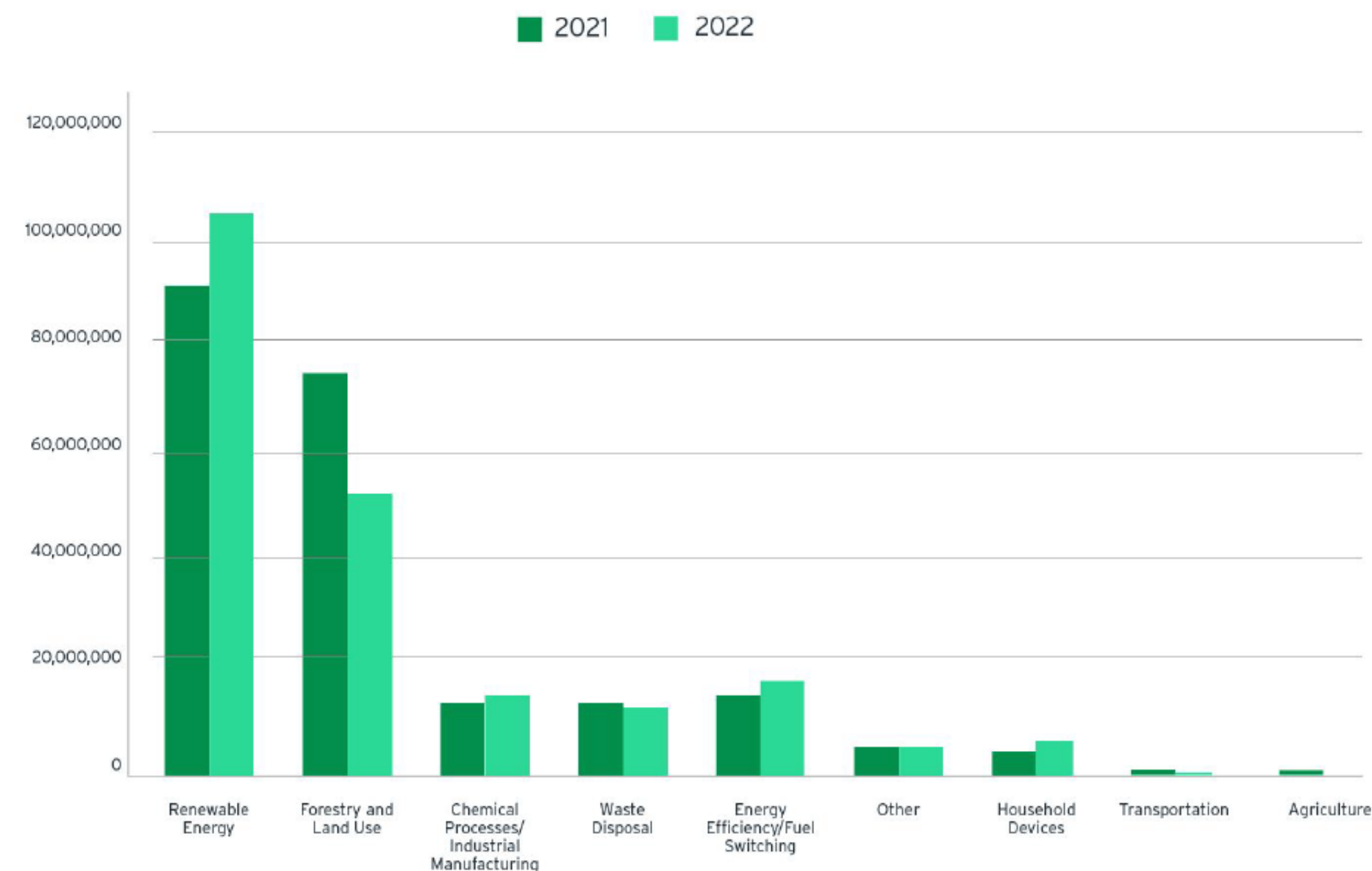
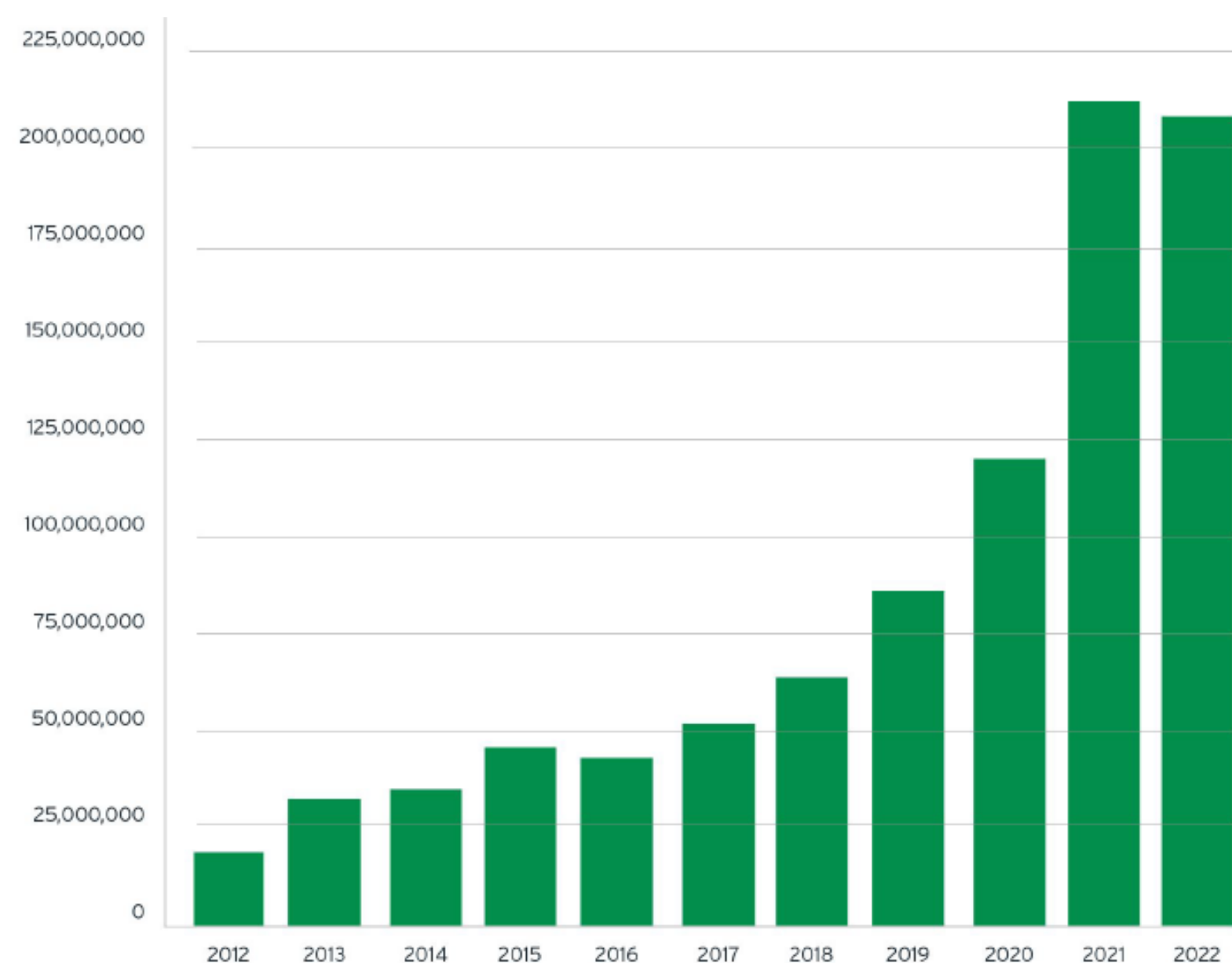
# Compliance: Article 6 mostly agreed, projects emerging

- A framework now agreed under Article 6
- Over 100 countries intend to sell, but few buyers – so far:
- CORISA could be a significant source of demand and finance

Buyer	Budget (USD)	Volume (MtCO <sub>2</sub> e)	Average cost p.t. <small>per tonne</small>
Switzerland	\$1.3bn <sup>1</sup>	50 by 2030 (2022)	\$23.50
Japan	\$109m 2023-25 <sup>2</sup>	100 by 2030 <sup>3</sup>	
Norway			
Sweden			
Singapore		<5% of tax obligation	
CORSIA		600-2100 by 2035 <sup>4</sup>	\$1.90-32 <sup>5</sup>



# Voluntary: Trending upwards, some exceptions

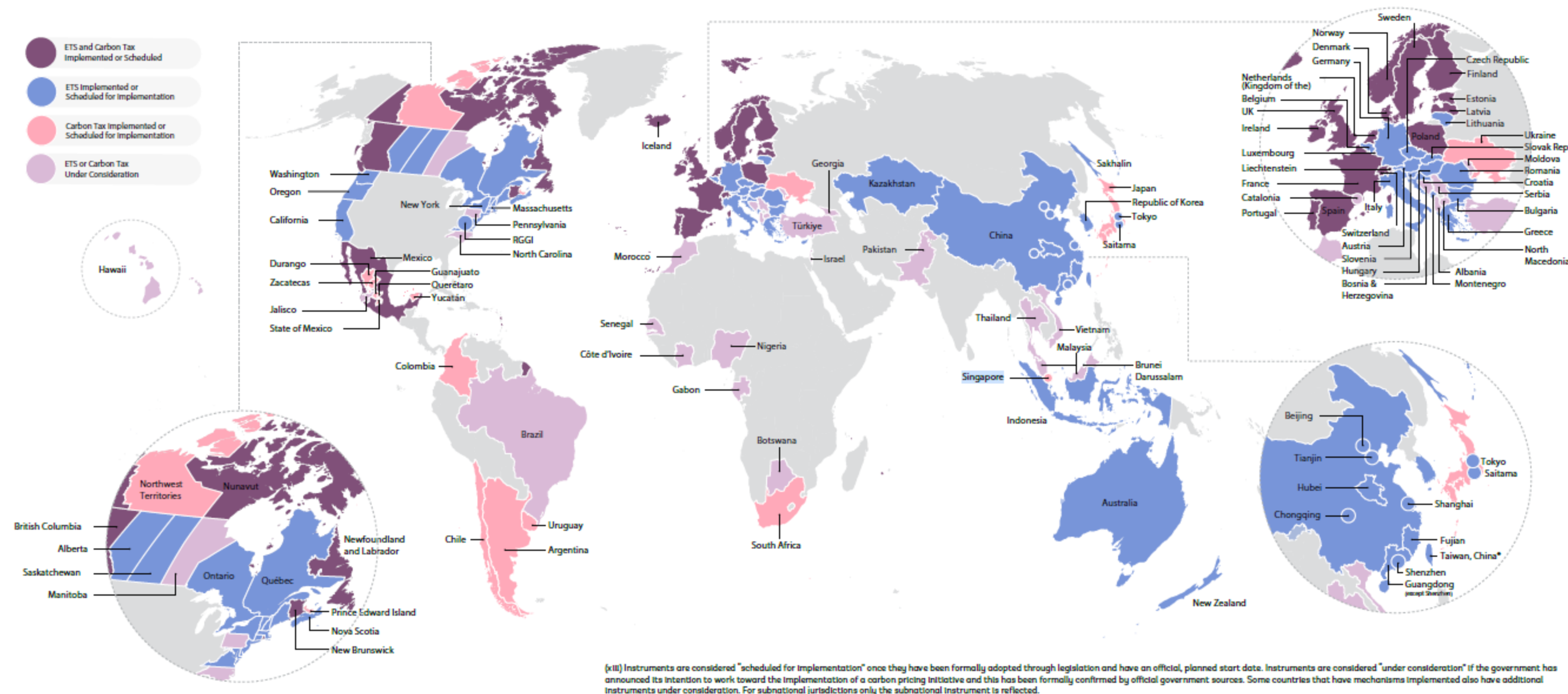


Left side figure: annual retirements (MtCO<sub>2</sub>e). Middle figure: Annual retirements (MtCO<sub>2</sub>e, 2021 and 2022) by sector. Source: AlliedOffsets' *VCM 2022 Recap and 2023 Forecast* (Jan 2023).  
Right side figure: VCM size by value of traded credits. Red line shows cumulative value from 2005-end of 2021. Source: Ecosystem Marketplaces' *State of Voluntary Carbon Markets* (Aug 2022)



# ETS and tax: GHG coverage and revenue increasing

FIGURE 5  
MAP OF CARBON TAXES AND ETS<sup>(1)</sup>



- Revenue reached almost \$100bn in 2022, covering 23% of global emissions; continuing recent trends.
- Almost 40% of revenue is marked for green spending, with 10% compensating households and business.

Source: World Bank *State and Trends of Carbon Pricing* (Jun 2023)



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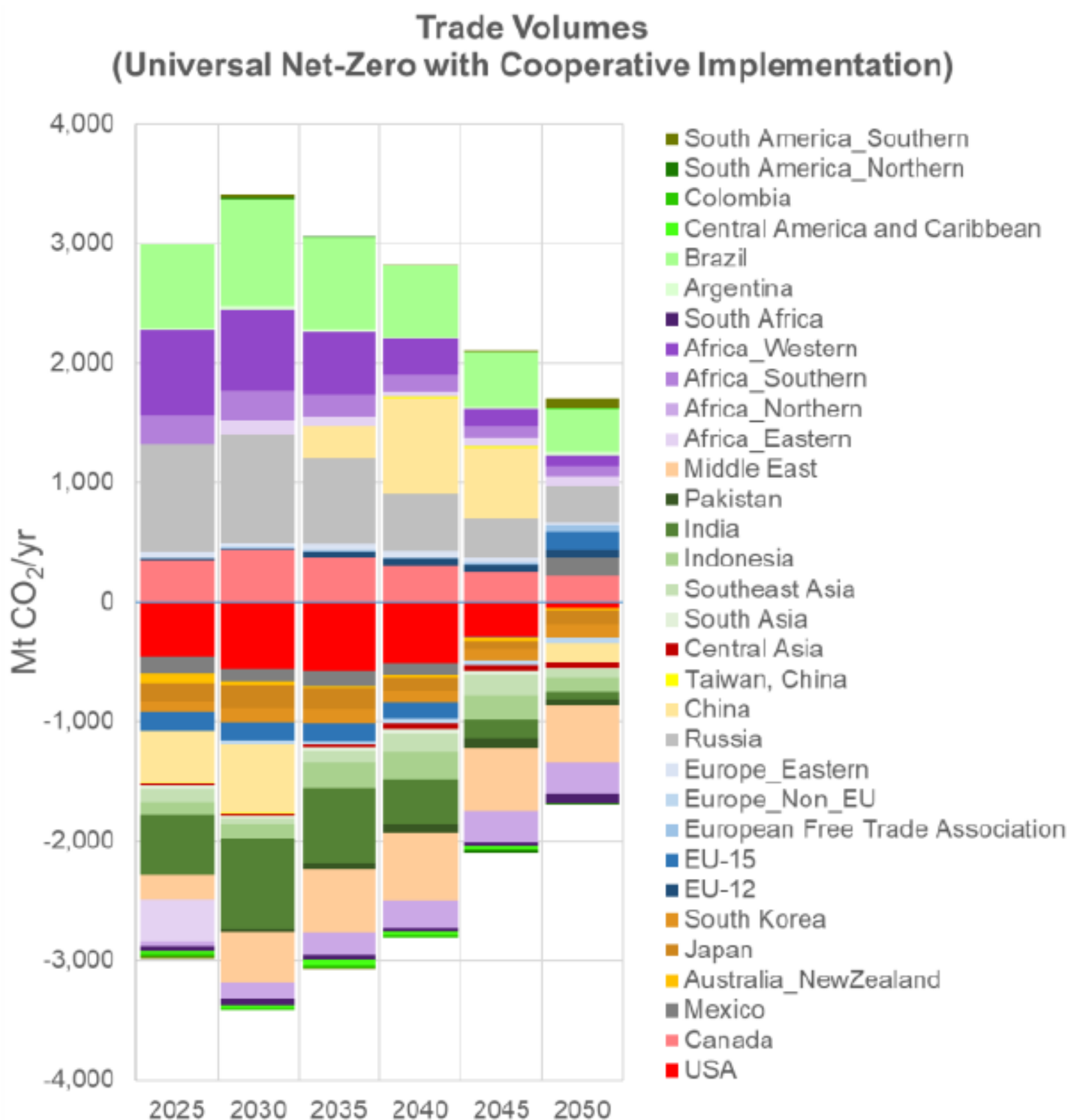


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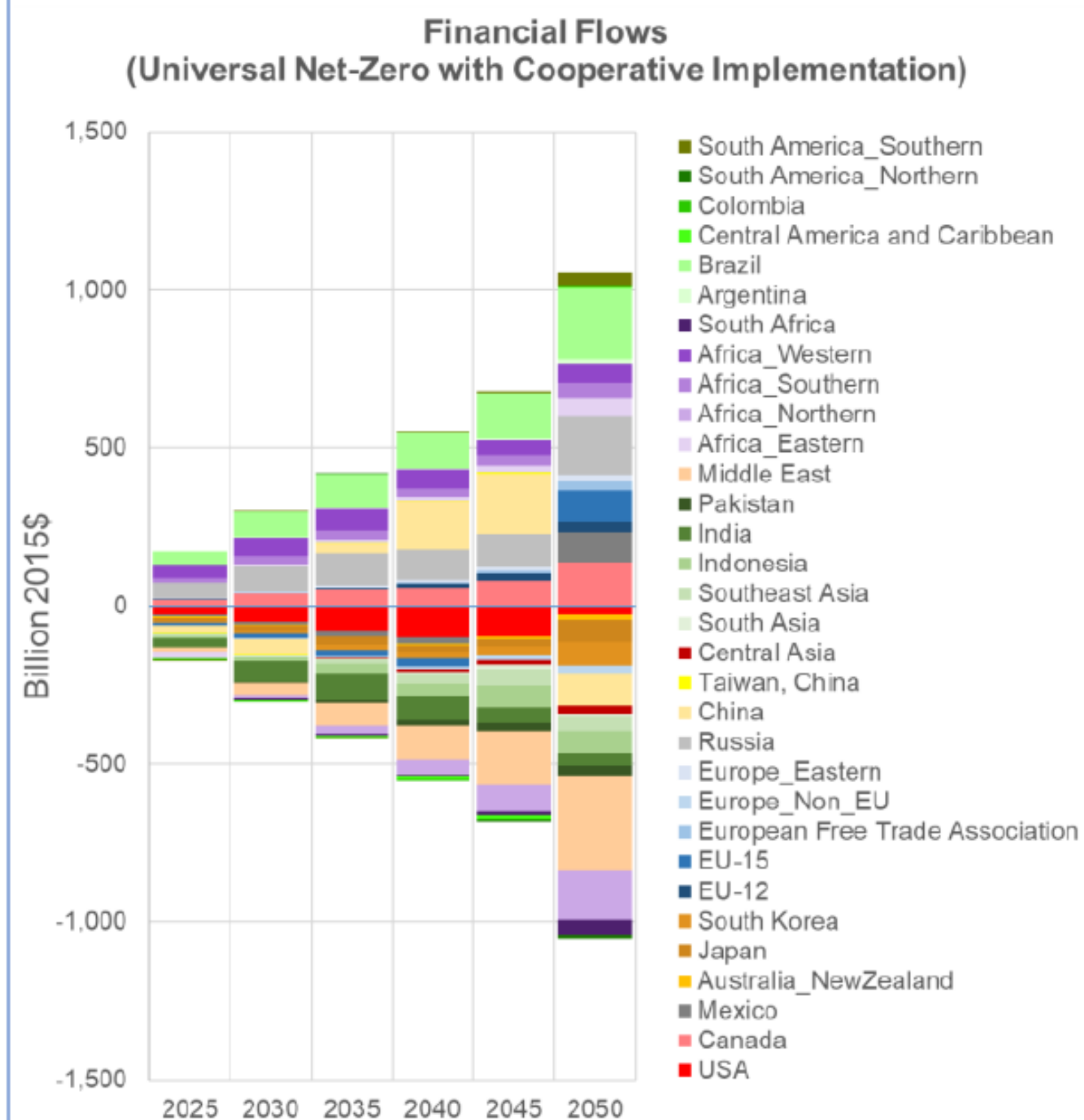
- **Compliance markets** have huge theoretical potential: (\$1tn per year by 2050)
- But friction will very significantly reduce this, e.g. policy choices, entry costs, taxes, imperfect knowledge.

Figure 2: Universal Net-Zero potential Article 6 market: physical and financial transfers

Panel a: Emissions transfers by year  
(Seller >0; Buyer <0)



Panel b: Financial transfers by year  
(Seller >0; Buyer <0)



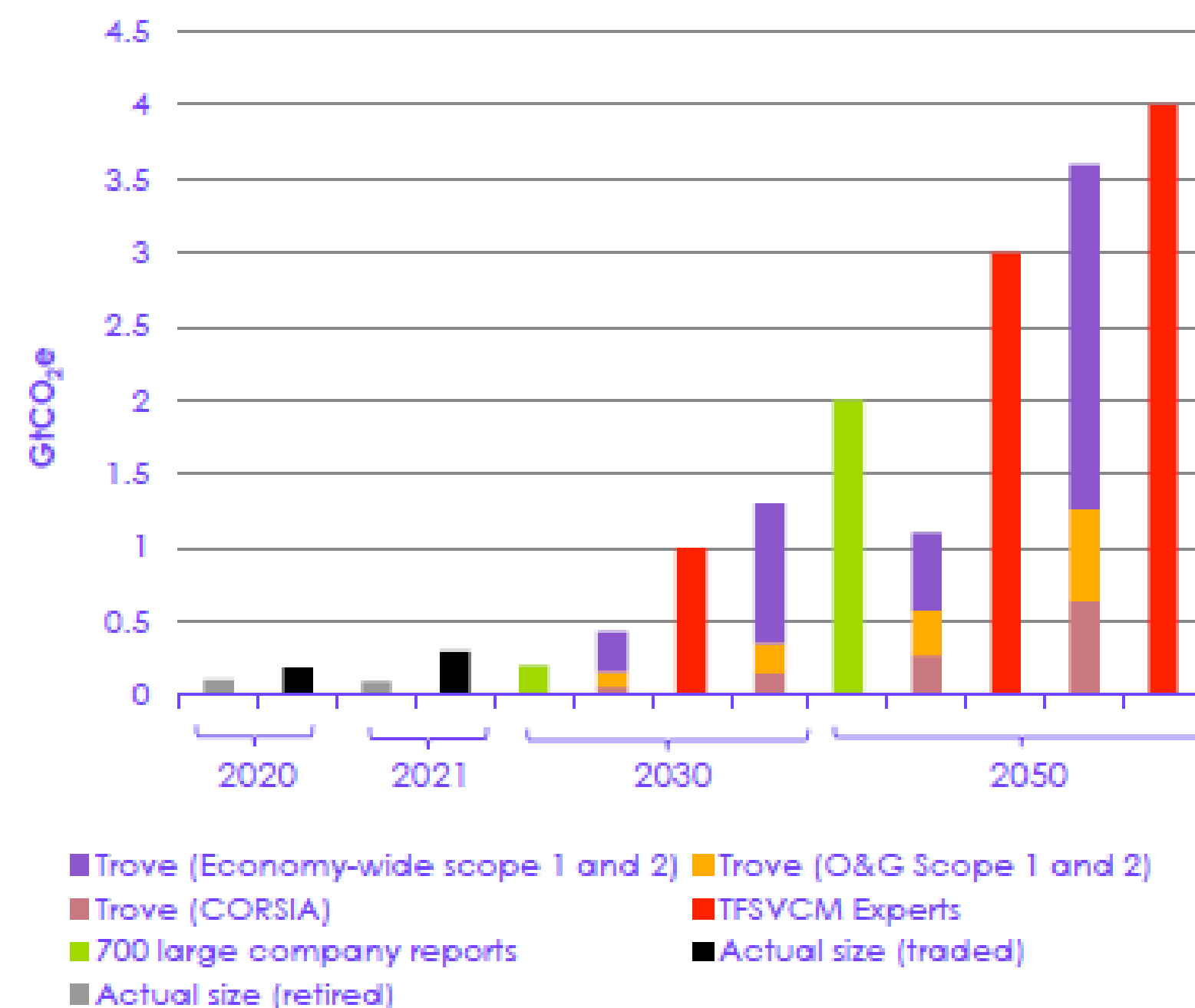
Source: IETA and University of Maryland's: *The Potential Role of Article 6 Compatible Carbon Markets in Reaching Net Zero* (2021)





- **Voluntary markets** could have an important role to play, though forecasts vary.
- Value will depend on unit price, seller country ambition, the expansion of compliance systems, and other factors.

Figure 1.4 Published projections of future range of global demand for carbon credits for 'offsetting' to 2050



Source: UK Climate Change Committee, *Voluntary Carbon Markets and Offsetting* (Oct 2022)





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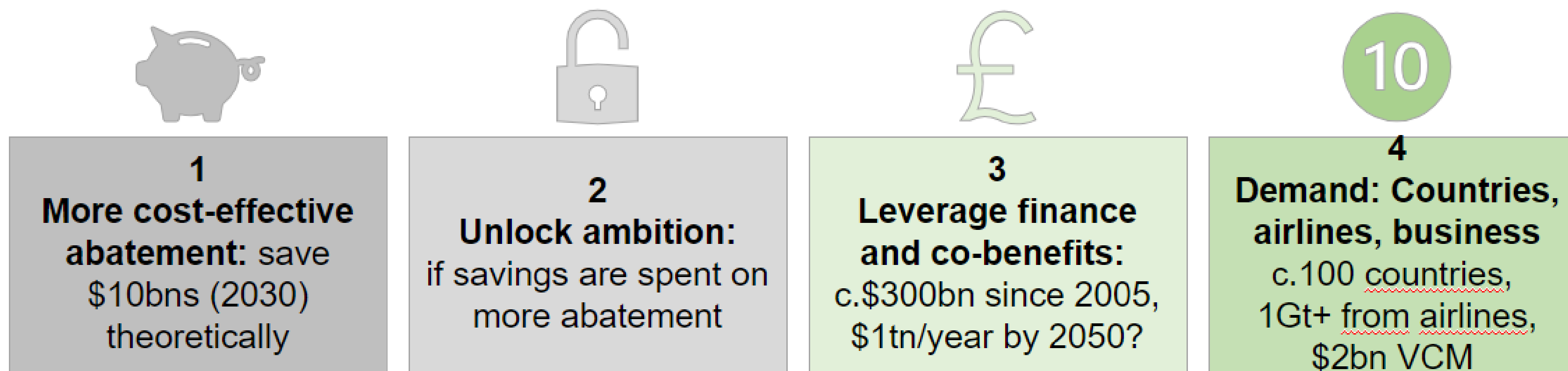
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# UK is strengthening markets as a global public good...



UK supports markets (per CCC advice) as a public good; not a source of credits for our UN target  
Domestically: could reduce exchequer net zero costs (removals, Nature Service Framework)





## ...through **programmes** and **stakeholder dialogue**...

### **Carbon Initiative for Development (£50m)**

- 9 CDM Energy access projects in LDCs at community level
- Build capacity on the ground, and investor confidence
- Transition projects to Article 6

### **Transformative Carbon Asset Facility (£60m)**

- Scaled up Article 6 pilots in middle income countries
- First example of policy crediting in development

### **Partnership for Market Implementation (£20m)**

- Carbon pricing (taxes and ETSs) with scope for crediting

### **UK consultation: Voluntary Carbon and Nature Markets**

- This year: seek views on domestic and international issues
- How could the UK government strengthen integrity?

### **Voluntary Carbon Market Integrity Initiative**

- Wide membership with focus on demand side
- How could 'high integrity' use be defined?
- Code of Practice has set criteria (pre-requisites, volumes)

### **Integrity Council for the Voluntary Carbon Market**

- Focus on global quality thresholds
- Assessment framework published mid 2023





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# Double counting

- Risks: Safeguarding ambition means an individual unit is only counted towards one target type. Otherwise:
  - Enables increased ‘ambition’ through double/triple/etc use
  - Risk to buyers’ claims (public or private), and of legal challenge
  - Undermines trust in markets
- Mitigations:
  - Monitoring and reporting of Corresponding Adjustment (CA) when used towards NDC, CORSIA, and when Authorised for use in VCM.
- Open and vibrant debate about whether, or in what circumstances, CA should happen in VCM.
  - In favour: unique buyer claim, supports harmonized accounting, CA ‘promise’ promotes ambition
  - Against: capacity/equity issue, other factors like NDC ambition, matter more





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# Digital technologies – essential to remove friction:

- Advantages to digitization:
  - Blockchain entries are immutable
  - Automation possible through smart contracts
  - Speed, efficiency, accuracy
  - Enhanced trust and transparency (no third party)
  - More secure: transactions encrypted
  - Can allow linking of registries
- Examples include: Climate Action Data Trust (part of the World Bank Climate Warehouse), Climate Ledger Initiative, private sector innovation.





# Sectoral opportunities and barriers:

## Sectors with significant potential for blockchain/ DLT applications to support climate action



CLI Network Survey, July 2021. N:50, each participant had three votes. Source: CLI

## Obstacles to the dissemination of blockchain/ DLT applications that support climate action



CLI Network Survey, July 2021. N:50, each participant had three votes. Source: CLI



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# The Climate Action Data Trust



Climate Action  
Data Trust

- Aggregates and harmonizes registry data to improve transparency, connect registries, and build trust by using blockchain to avoid double counting.
- A global public good
- Fully operational dashboard coming in Q4 2023
- Part of the World Bank's Climate Warehouse, which aims for end-to-end digitization of carbon markets



Climate Warehouse





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# Governance: common objectives, local solutions

- Clear signals for domestic and international investors (eligible activities, environmental integrity demonstration, project development, registry procedures, independent validation, fees)
- Transparent roles and responsibilities between:
  - Host party government
  - Activity developer
  - Domestic or international carbon standard
  - Buyer
  - Validation and verification bodies
- Good outcomes for local communities (engagement, benefit sharing)

Examples include: Ghana's Framework on International Carbon Markets and Non-Market Approaches

**But each country will take their own approach**





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# Questions