

Delivering Environmental Benefits Using Markets

What are the lessons and opportunities for policy makers and regulators?



Building Competence. Crossing Borders.

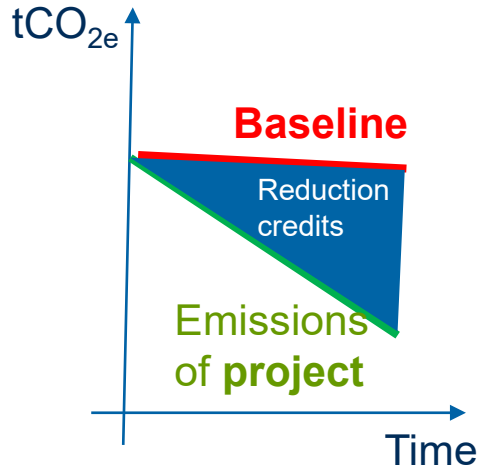
Two Types of Markets + some hybrids – Different Challenges

	Baseline and credit	Australian Safeguard Mechanism	Cap and trade
Tradable Unit	Only emissions reduction compared to baseline are tradable	Emissions reductions below the limit of covered entities, called Safeguard Mechanism Credits (SMCs)	Allocated allowances are tradable
Issuance	Ex-post Units are reduction credits and are generated ex-post after verification (and certification)	Ex-post Units are issued if emissions are below the set limit (which will be reduced by 4.9 % each year until 2030, from 2030 to zero in 2049/50)	Ex-ante Units are allowances and ex-ante freely allocated/auctioned
Coverage	Wide participation in unit generation Overall reduction not ensured	Sectors covered: Mining, gas production and processing, manufacturing, and transport facilities Overall reduction not ensured	Tradable surplus of units can only be created by regulated entities Overall reduction ensured if cap binding
Implementation	Often system needs to be integrated and linked to other types of policies (demand)	System needs own implementation allows ACCUs to be used for compliance	System needs own implementation , may be linked to <u>baseline</u> and credit
Examples	Joint Implementation / Kyoto Protocol Clean Development Mechanism / Kyoto Article 6.4 / Paris Agreement Swiss compensation projects / CH <u>Klik</u> Emissions Reduction Fund/Australian Carbon Credit Units (ACCUs)		Article 17 / Kyoto Protocol European Emissions Trading Swiss Emissions Trading New Zealand Emissions Trading California and RGGI (US state schemes)

Tradable Units

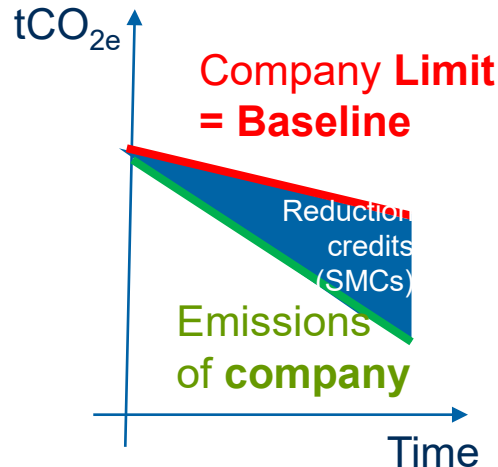
Baseline and Credit

Volume depends on number of projects and on how **baselines are determined**



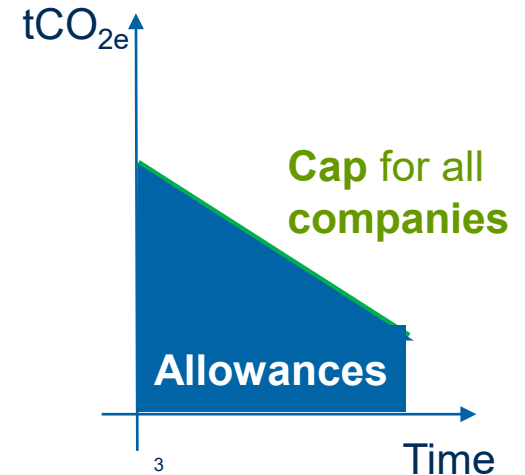
Australian Safeguard Mechanism

Volume depends on emissions of covered companies and on how **stringent limits** are set



Cap and Trade

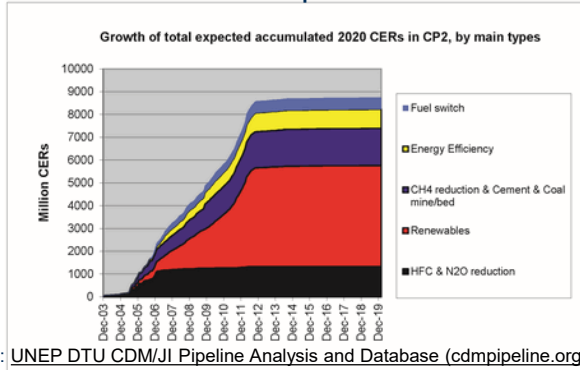
Volume depends on number of covered companies and how **stringent cap** is set



Have Carbon Markets Delivered?

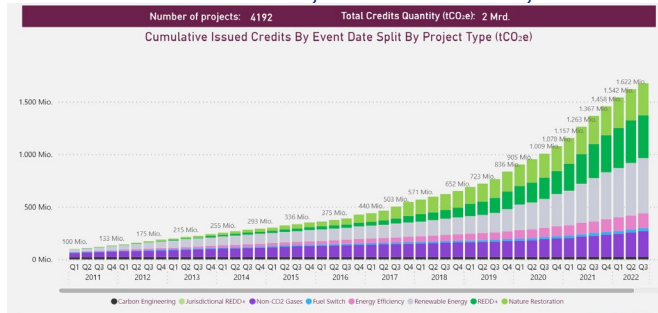
Baseline and Credit

Compliance Market: Clean Development Mechanism (Kyoto Protocol)



Source: [UNEP DTU CDM/JI Pipeline Analysis and Database \(cdmpipeline.org\)](#)

Voluntary Carbon Market: Verra, Goldstandard, CAR



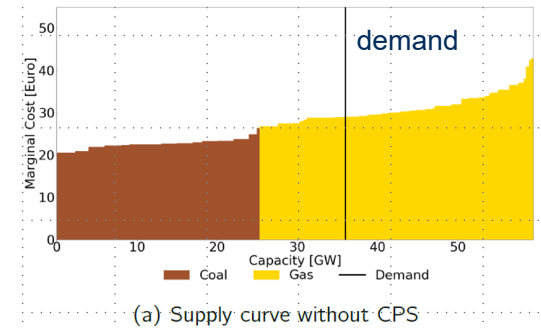
Source: [Carbon Credits - Trove Intelligence \(trove-intelligence.com\)](#)

Nature Restoration

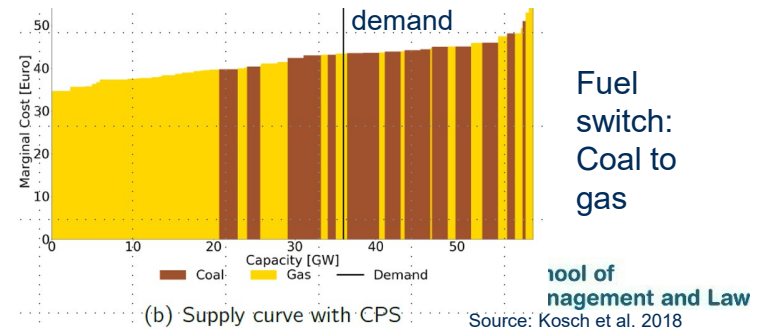
REDD+

Cap and Trade

UK Merit-Order 19 December 2016 at 17.00



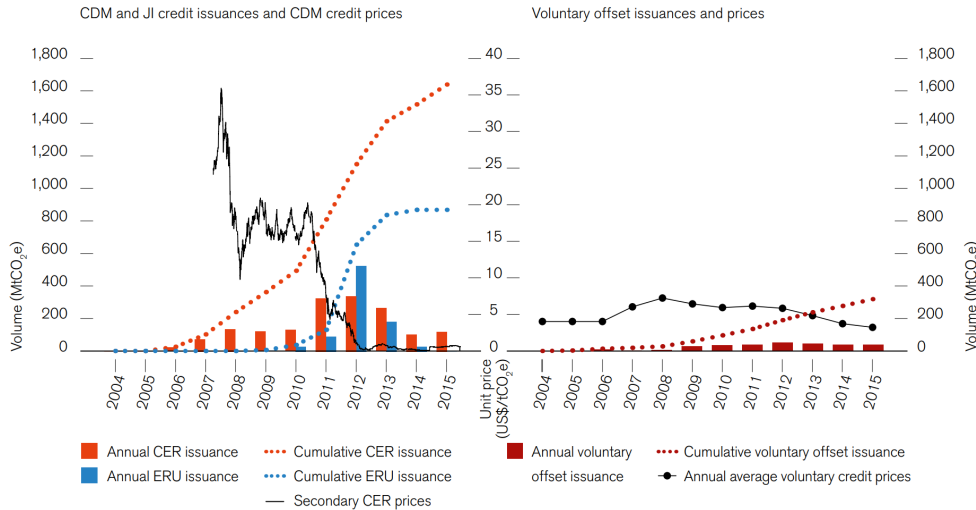
From 2013: Carbon Price forced to be at least 23.8 €/t CO₂



Did Carbon Markets Deliver Real, Measurable Reductions?

Baseline and Credit

Figure 11 Annual and cumulative CER and ERU issuance, secondary CER prices (left), and voluntary offset issuance and prices (right)



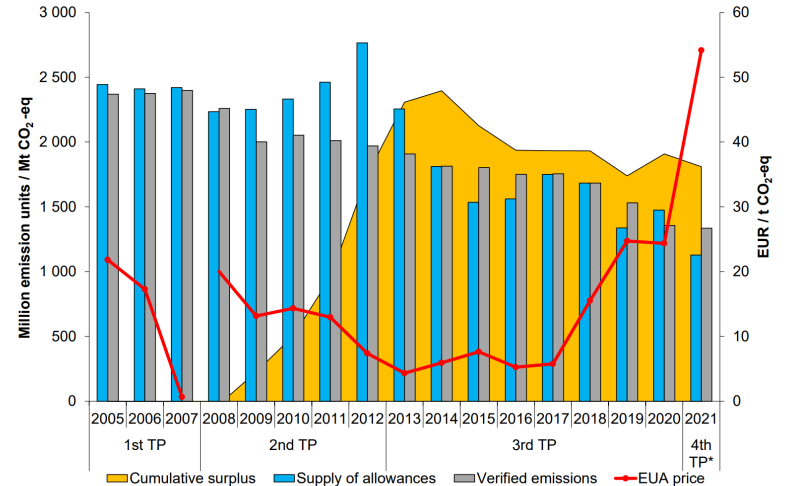
World Bank, Ecofys and Vivid Economics. 2016. State and Trends of Carbon Pricing 2016 (October), by World Bank, Washington, DC.

Doi: 10.1596/978-1-4648-1001-5

As lower the price as higher the risks for low quality projects

Cap and Trade

Figure ES.2 Emissions, allowances, surplus and prices in the EU ETS (w/o UK), 2005-2021



Note: The cumulative surplus represents the difference between allowances allocated for free, auctioned or sold plus international credits surrendered or exchanged from 2008 to date minus the cumulative emissions.

Sources: Point Carbon (2012), EEA (2022), EEX (2022), ICE (2021)

As higher the surplus, as lower the price and less incentive for reductions

Headlines on Carbon Markets

Baseline and Credit = Phantom Credits?

2023



Carbon Offsets: Last Week Tonight with John Oliver (HBO)

Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

Investigation into Verra carbon standard finds most are 'phantom credits' and may worsen global heating

Australia's carbon credit scheme 'largely a sham', says whistleblower who tried to rein it in

The Guardian

Cap and Trade = windfall profits, fraud?

The Guardian

European taxpayers lose €5bn in carbon trading fraud

- Europol says EU's Emission Trading System in peril
- Fraudsters could target gas and electricity markets next

2010

Sandbag on Arcelor Mittal:

By 2012 the company is set to have 80 million permits to pollute which it does not need and which it was given for free. If sold, these will make over £1 billion in windfall profits by 2012, paid for in part, by UK power consumers.

The Case of ArcelorMittal - Sandbag Climate Campaign

What are the Lessons and Opportunities for Policy makers and Regulators?

Baseline and Credit

- Strict rules on **additionality** testing
- Set **baselines** in line with net-zero target
- Robust **quantification** of emissions reductions (digitalisation may play a role)
- Avoid **double counting** (issuance, use)
- Address **non-permanence** risks
- Avoid **conflict of interests** (independent verification, involve environmental NGOs, use of sanctions)
- Ensure **transparency and oversight** of issuance, trading, holdings to create trust
- Regulate the **scheme end**

Australian Safeguard Mechanism

Cap and Trade

- Ensure **lobbying does not compromise** scheme effectiveness
- Ensure **cap stringency or set price floor**
- Avoid **overshooting the cap** (e.g. insolvency rules)
- Awareness of **distributional consequences** of free **allocation** and banking rules
- Avoid any kind of **fraud and market manipulation** (e.g. money laundering, VAT, tax evasion) by strict **oversight**
- Develop **robust registries** (IT security)

What will be the Challenges for the Future?

Baseline and Credit

- New initiatives for voluntary market to differentiate quality



- New standards to avoid greenwashing and double counting (speak of **climate contribution** instead of net-zero)
- Will there be a **separate market** for emissions removal and emissions reduction or will markets be integrated?

Cap and Trade

- How will an emissions trading scheme in a **net-zero world** look like?
- Will there be **separate caps** for emissions and removals?
- Will there be **qualitative and quantitative** restrictions?
- **Who** will be awarded the **removal** (capturer, transportation, storage provider)?
- How will **co-risks and co-benefits** be addressed (land conflicts, food security, enhanced biodiversity)?

My Recent Relevant Publications in this Area

Book



Open Access:

<https://doi.org/10.1017/9781009216500>

Policy Brief I

The Carbon Market
Challenge:
Preventing Abuse
Through Effective
Governance



Policy Brief II

Carbon Markets in
a Net-Zero World



Papers are available at www.snis.ch

Thank you for your attention!
Questions?

