EMISSIONS TRADING IN PRACTICE
Step 1: Decide the Scope

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Taller de Capacitación en Mecanismos de Emisión Transables

Ministerio de Energía
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PRECIO AL CARBONO CHILE

pmr | PARTNERSHIP FOR MARKET READINESS

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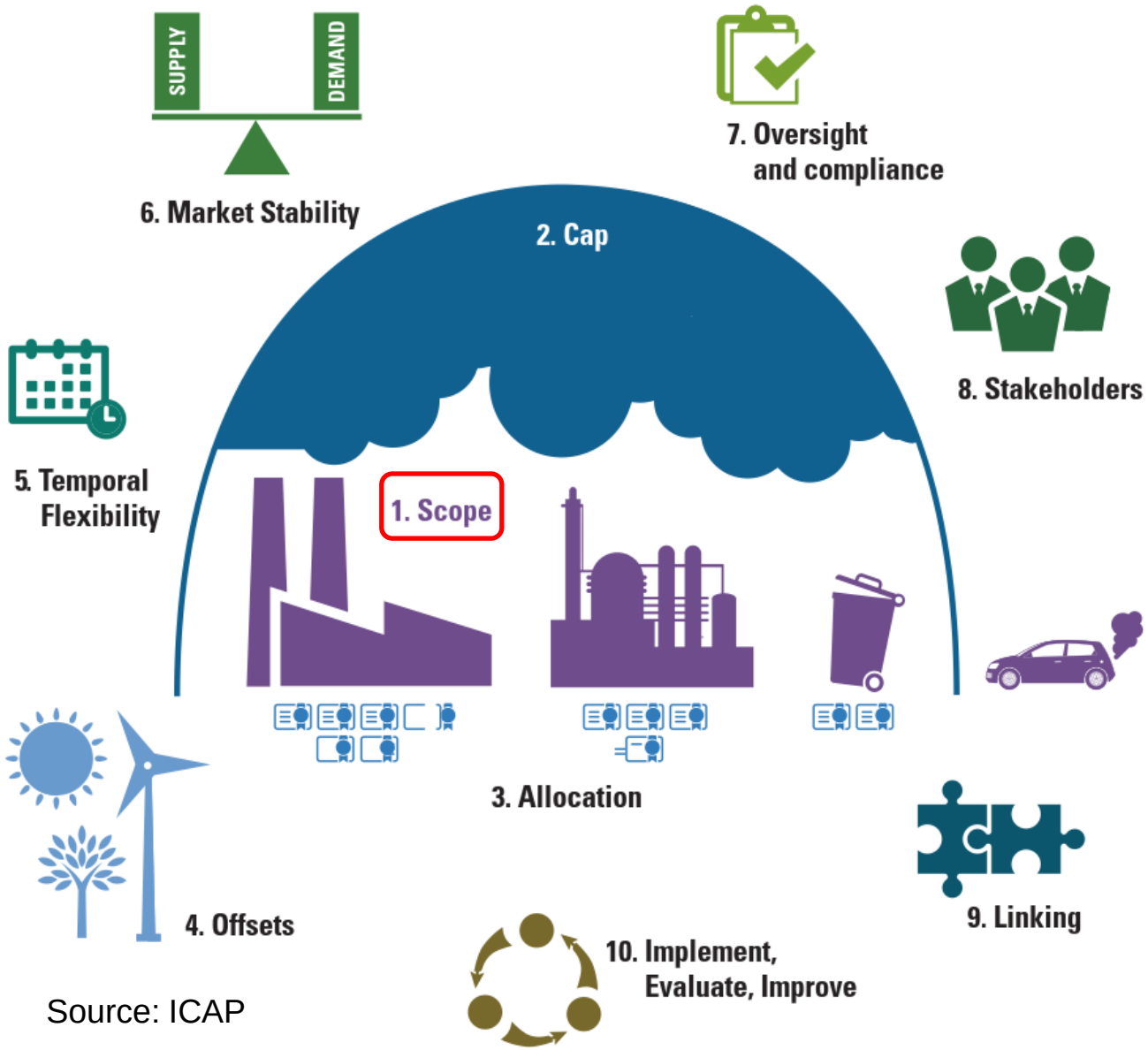
Por encargo de:

Ministerio Federal de Medio Ambiente, Protección de la Naturaleza y Seguridad Nuclear

de la República Federal de Alemania

STEP 1: DECIDE THE SCOPE



Source: ICAP

Outline

1. Breadth of the scope
2. Sectors and gases to be included
3. Point of regulation
4. Emissions thresholds
5. Level of reporting obligation

The scope defines the geographic area, sectors, emission sources, GHGs and entities that will be

What are the benefits or risks of broad coverage?

How broad should your ETS be?

Broad Scope

Greater certainty over national emission targets and ETS cap trajectories

increased efficiency: through more abatement options and greater liquidity

more stable prices: with reduced exposure to shocks

Competitiveness impacts: Broad coverage reduces distortions between covered

Narrow Scope

Lower transaction and administrative costs when small emitters are excluded

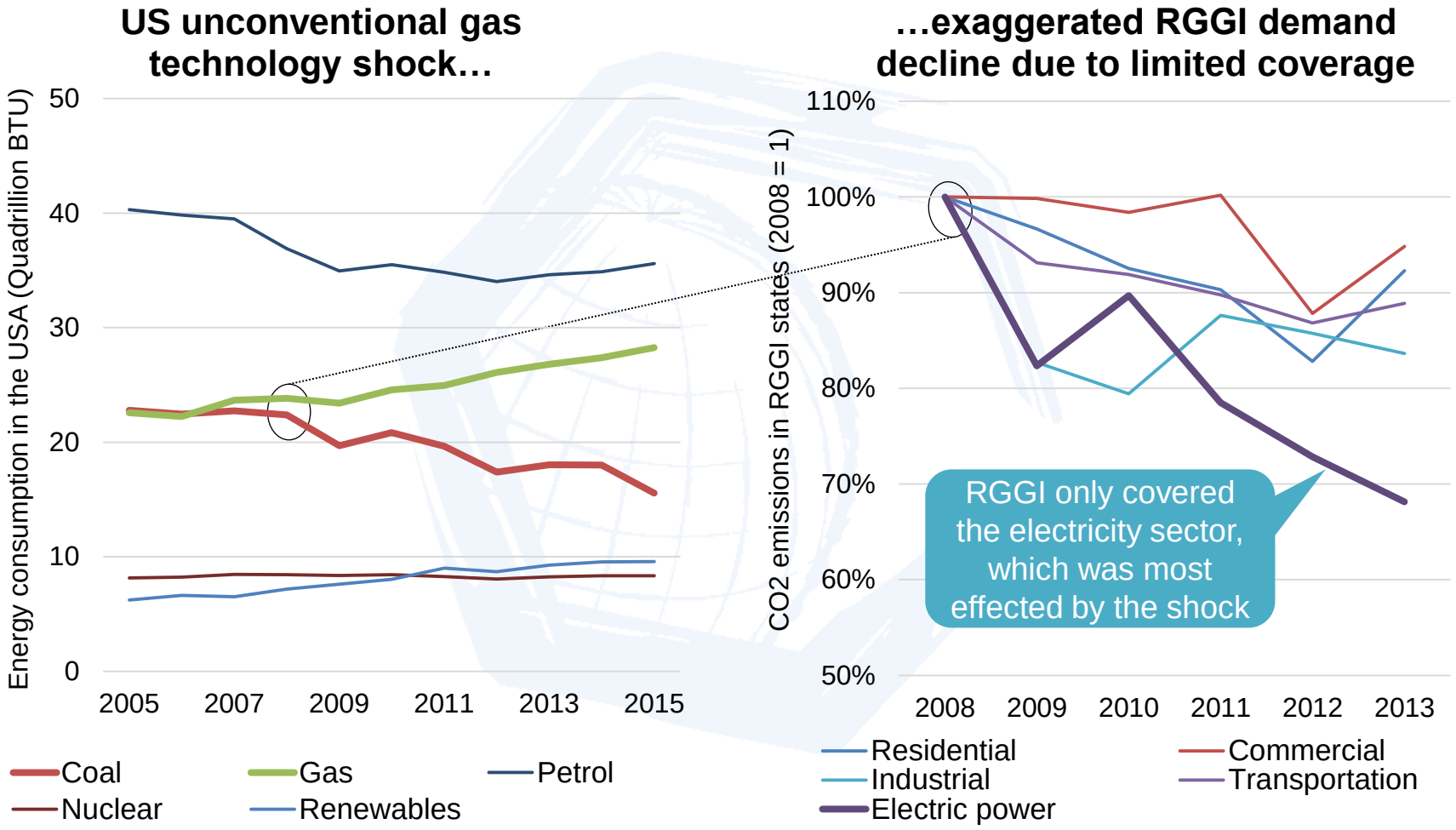
Distributional challenges: Inclusion of sectors with high marginal abatement costs may lead to a disproportionately high share of compliance costs being borne by them, especially if cost-pass through varies among sectors

Efficiency: scope and cost pass through determines potential sources of abatement

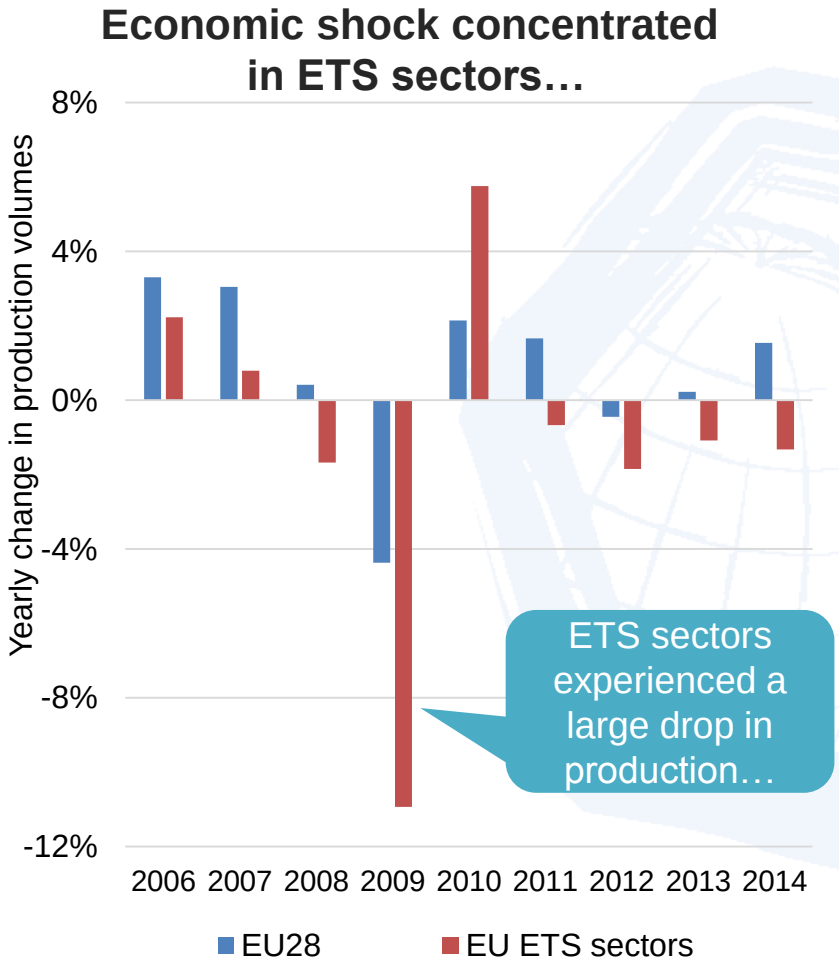
Cost pass through to:

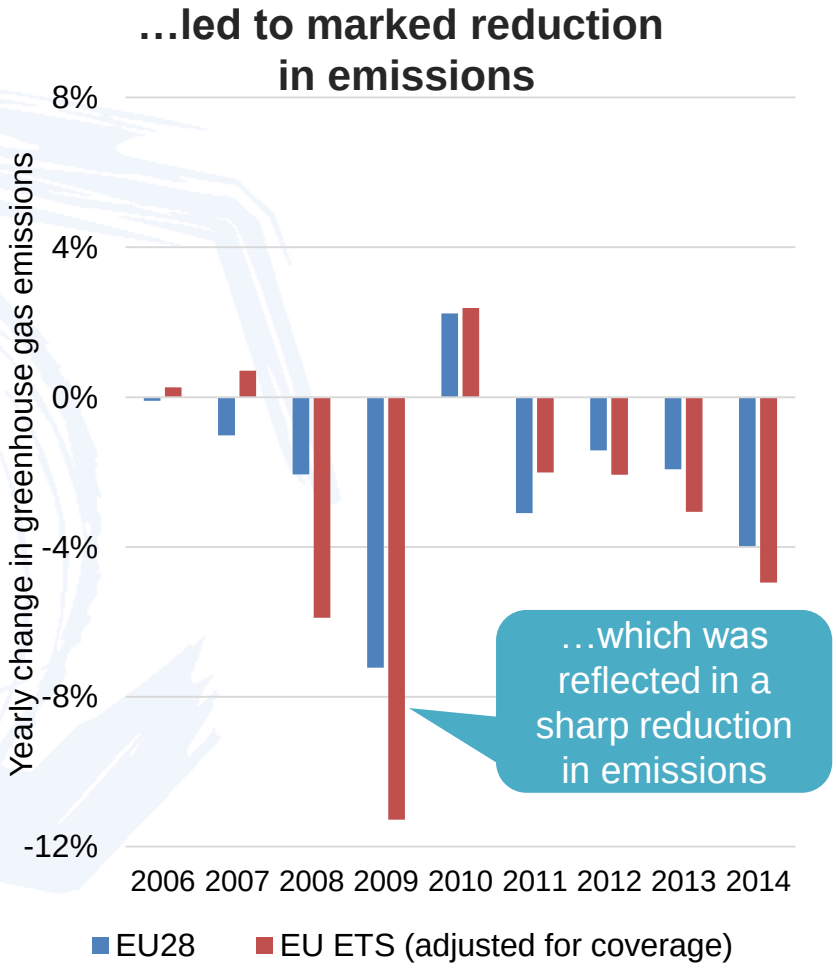
Coverage of:	Suppliers	Distributors	Consumers
Electricity	*Abatement option:* Changed generation mix	Reduced distribution losses	Reduced consumption and increased energy efficiency
Industry	Efficient resource extraction	Cleaner production processes	Changed consumption choices
Transport	Vehicle technology	Vehicle mix	Less driving, more public transport

Price stability: limited coverage can expose a market to sector specific shocks



Price stability: the impact of Europe's recession on the EU ETS





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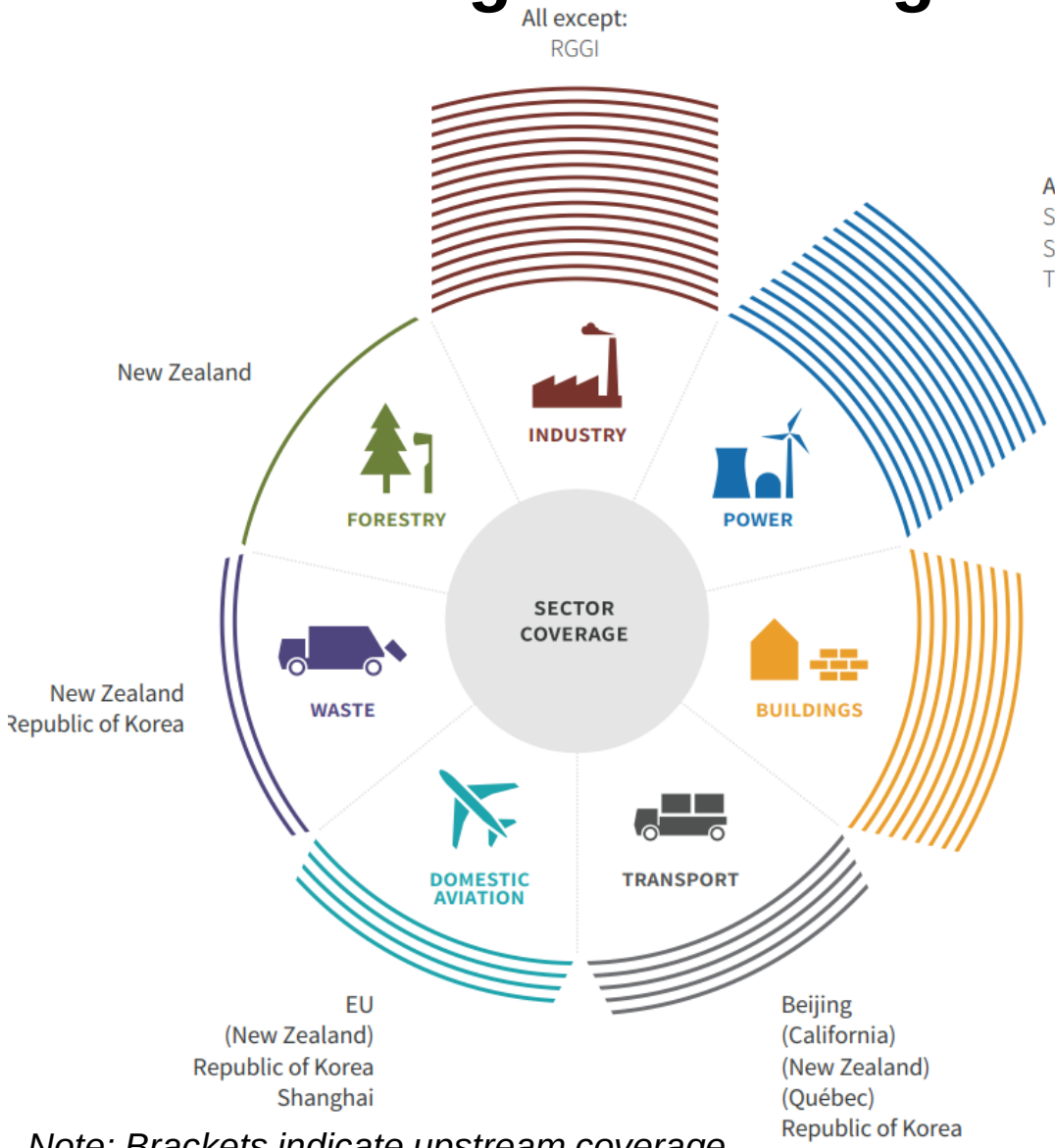
Which sectors and gases should be included?

Which sectors should be covered?

- **Contribution** of the sector to **national GHG emissions**?
- Are there already **other climate policies** in place?
- What is the **composition of the sector**?
  - Small number of large emitters?
  - Many small, diffuse or remote emitters?
  - How hard is it to measure emissions?
  - How much mitigation potential and at what cost?
- What are possible **co-benefits** from including the sector?

Sector coverage in existing ETS

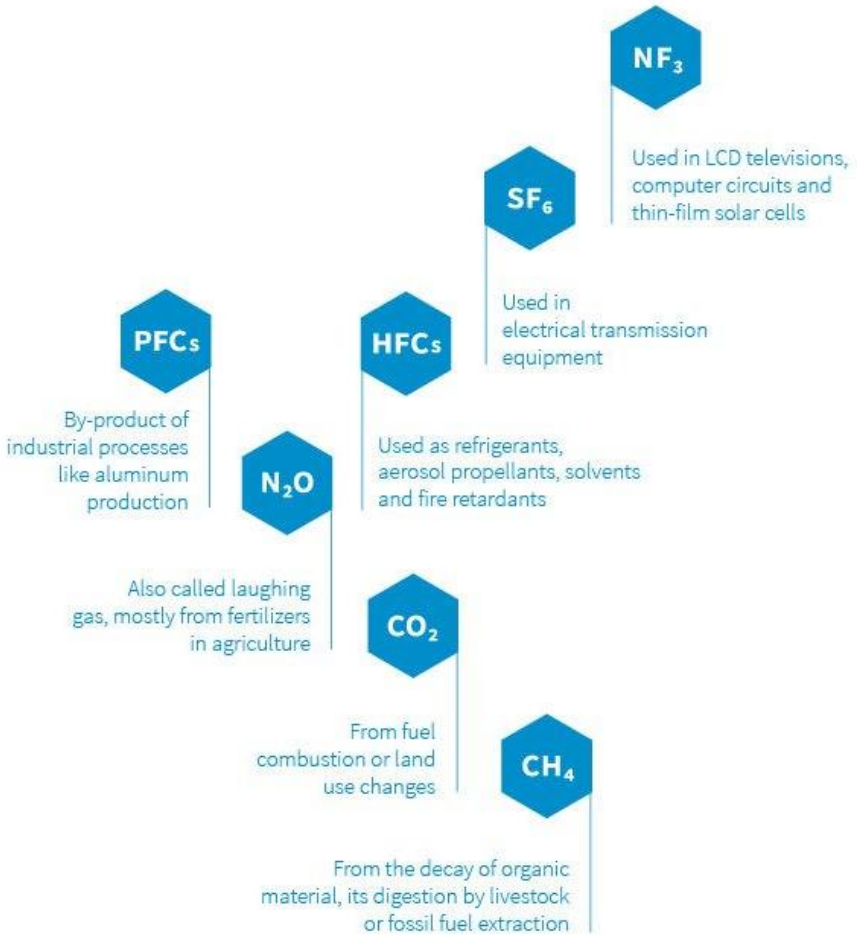


Note: Brackets indicate upstream coverage

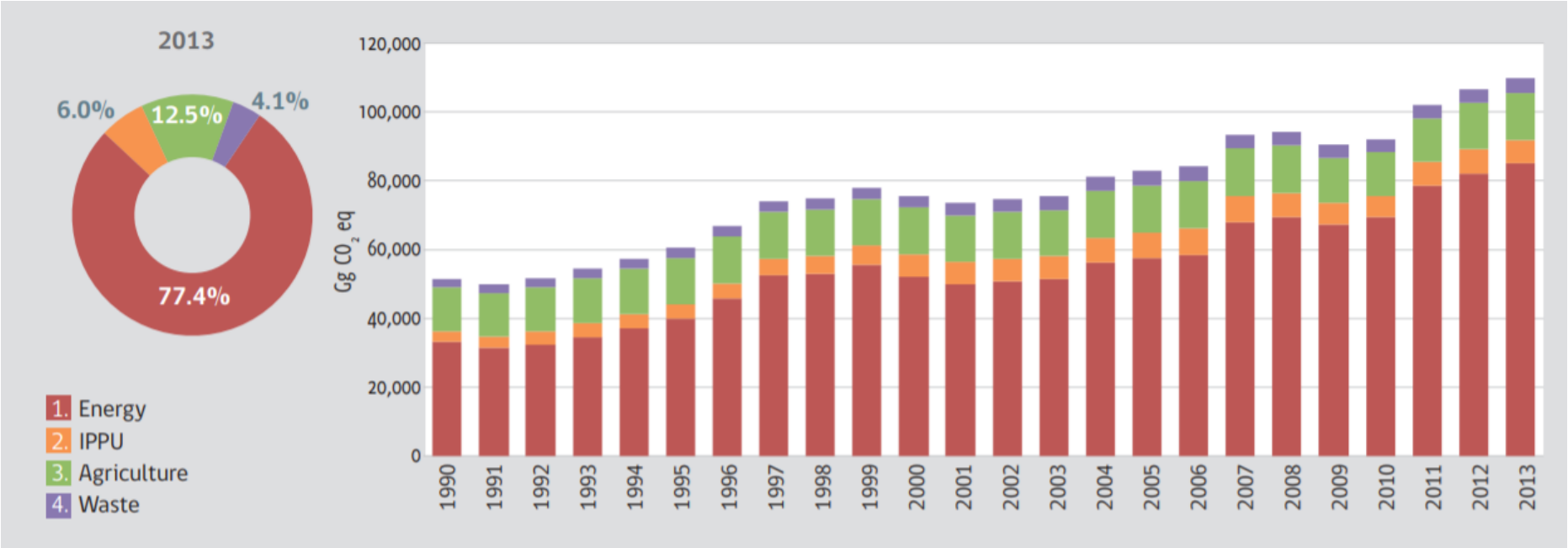
- Most systems cover power and industry sectors
- An increasing number of systems are covering buildings and transport
- Only NZ covers the forestry sector

Which GHG should be covered?

- Consider jurisdiction's emissions profile.
- The more gases you cover, the more **comprehensive** your ETS will be.
- Different GHGs have different **global warming potentials.**
- How easy/costly is it to **monitor, report and verify** different gases?



Chile's NGHGI: emissions of GHG (Gg CO2 eq) by sector (excluding FOLU), series 1990-2013



- Energy accounts for over three quarters of Chile's emissions and has been the key driver in emissions growth.

Different gas coverages across existing ETS

TABLE 1.1 **Gas Coverage in Existing ETSs**

	CO_2	CH_4	N_2O	HFCs	PFCs	SF_6	NF_3
EU							
Alberta							
Switzerland							
NZ							
RGGI							
Tokyo							
California							
Kazakhstan							
Québec							
Beijing							
Guangdong							
Shanghai							
Shenzhen							
Tianjin							
Chongqing							
Hubei							
Republic of Korea							

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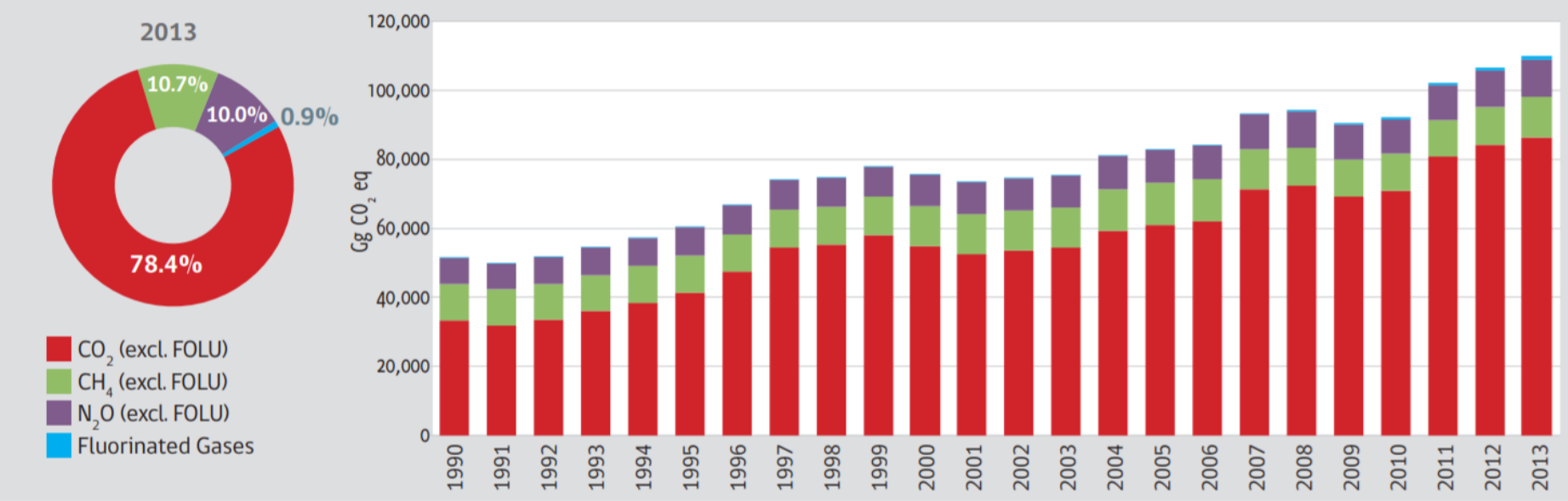

- CO2 is the major source of emissions in Chile and has also been the key driver of emissions growth.

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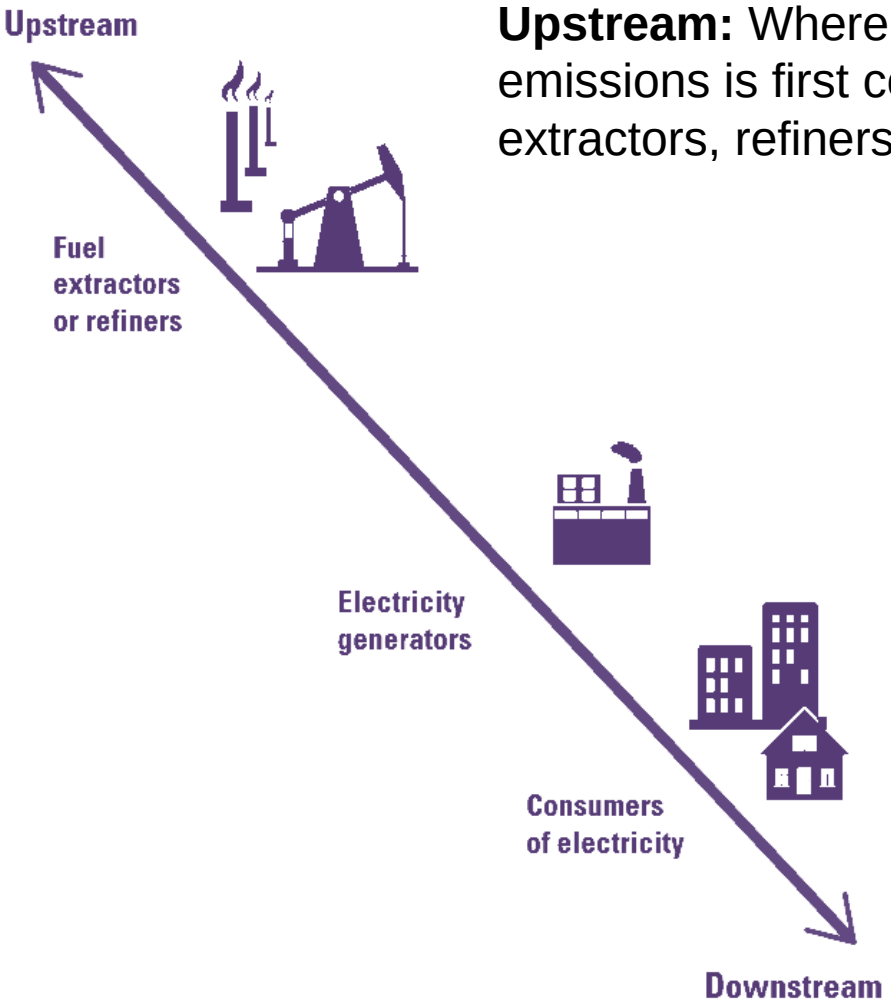
At which point along the production chain should emissions be regulated?

At which point should emissions be regulated?



Upstream: Where the source of emissions is first commercialized by extractors, refiners, or importers

Downstream: Where GHGs are physically released into the atmosphere. Emissions can instead or also be regulated at the point of consumption.

When to depart from regulating at the point of emission?

consider:

— **accuracy of implied emissions** at the point of regulation, as this will determine efficiency of price incentives

— **capacity for cost pass through** is needed to ensure carbon price incentives apply to the activity responsible for emissions, rather than just redistributing costs

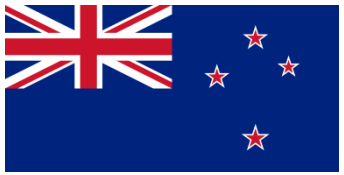
— **administrative cost savings** for liable entities and government, will determine whether it is worthwhile applying liabilities upstream or downstream of actual point of emission

Upstream Coverage

- Lower number of entities with large liabilities
- Lower administrative costs
- Thresholds are not required
- Higher coverage

Upstream coverage

51% of emissions



Hybrid coverage

85% of emissions

Downstream coverage

- Existing reporting practices favor downstream coverage
- Cost pass-through higher compared to upstream
- Higher carbon price visibility compared to upstream and more direct behavioural incentive to emitters
- Method of allocation – some allocation methods require downstream regulation (output based)

45%

>11,000 entities

68%

525 entities

Example: considering trade-offs between point of regulation, and cost of administration

	Household natural gas / Petroleum for transport	Pastoral agriculture
Alternate point of regulation	Upstream (retailers or wholesalers)	Downstream (agricultural processors)
Accuracy of implied emissions	High, close link between estimated and actual emissions	Low, emissions vary widely due to farm practices and natural variability
Capacity for cost pass through	High, consumers have little option for substitution	Moderate, industry average cost passed on to farmers, driving product substitution
Relative administrative cost savings	High, regulating individual households and motorists not practical	High, direct measurement of agricultural emissions difficult and expensive

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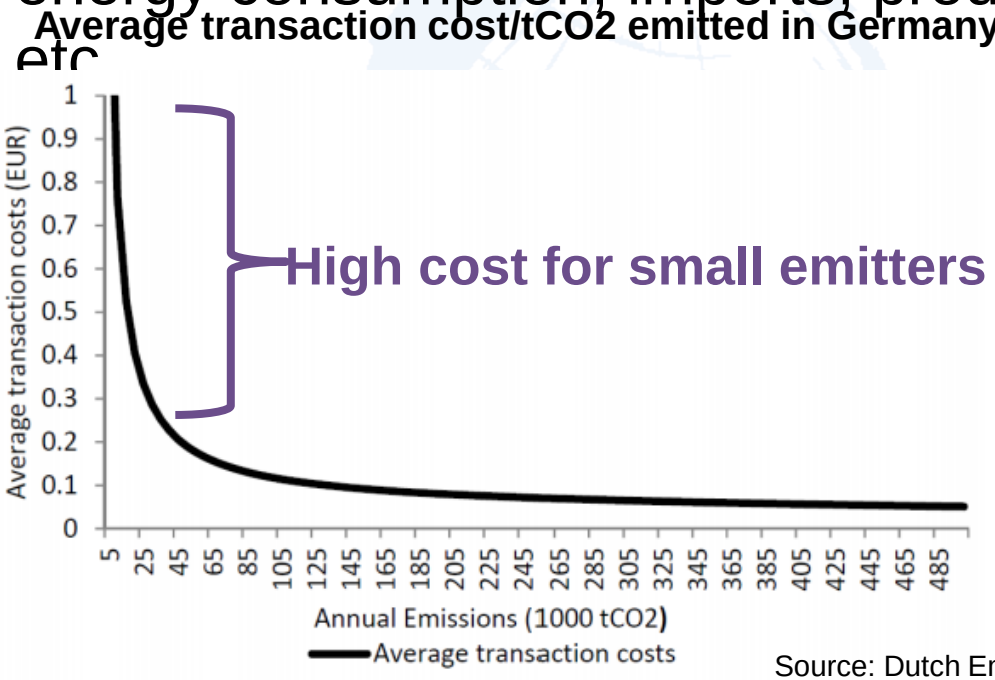
How can we avoid too many small entities in the ETS?

The use of thresholds

Exclude entities below a certain size from the ETS:

- Exclude participants without excluding many emissions
- Thresholds can be based on annual GHG emissions, energy consumption, imports, production, capacity, etc



Source: Dutch Emissions Authority (2015) 'A simple and effective EU ETS', based on Heindl, 2012

Considerations when setting thresholds

- **Number of small sources**: with many small sources of emissions, ETS threshold may need to be lower
- **Regulatory and firm capacities:** small firms may have limited financial and human capital to participate in ETS
- Ability to **implement other climate measures** for firms below threshold
- **Intrasectoral leakage:** Threshold may create competitive distortions between those above and below
- **Potential for gaming**: companies may split up to fall below the threshold

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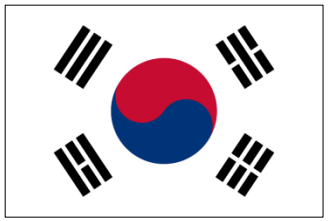
Level of reporting

The company



- **Lower administrative costs –** lower number of entities with large liabilities
- **Greater flexibility –** companies can manage emissions between installations without the need to trade

→ *Republic of Korea, Chinese pilots, Kazakhstan*

Level of reporting

The installation

- When multiple companies operate within the same installation, reporting at the installation level can be **simpler**
- **Double counting** can be avoided

→ *European Union, Tokyo*

-> Path dependency: consider the existing regulatory framework & point of reporting obligations

Conclusions

- Defining the scope requires deciding what sources and emissions should be covered, the point of regulation, emissions thresholds and the with whom the compliance responsibility lies
- Broader scope means inclusion of greater portion of emissions
- Generally, broader scope gives more certainty in reaching target, likely lowers compliance costs, and reduces competitiveness
- But a broader scope can involve high administration costs

Thank you for your attention

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