

# The future of carbon pricing & its scope

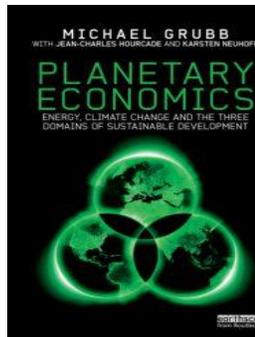
## Principles, evidence & expectations...

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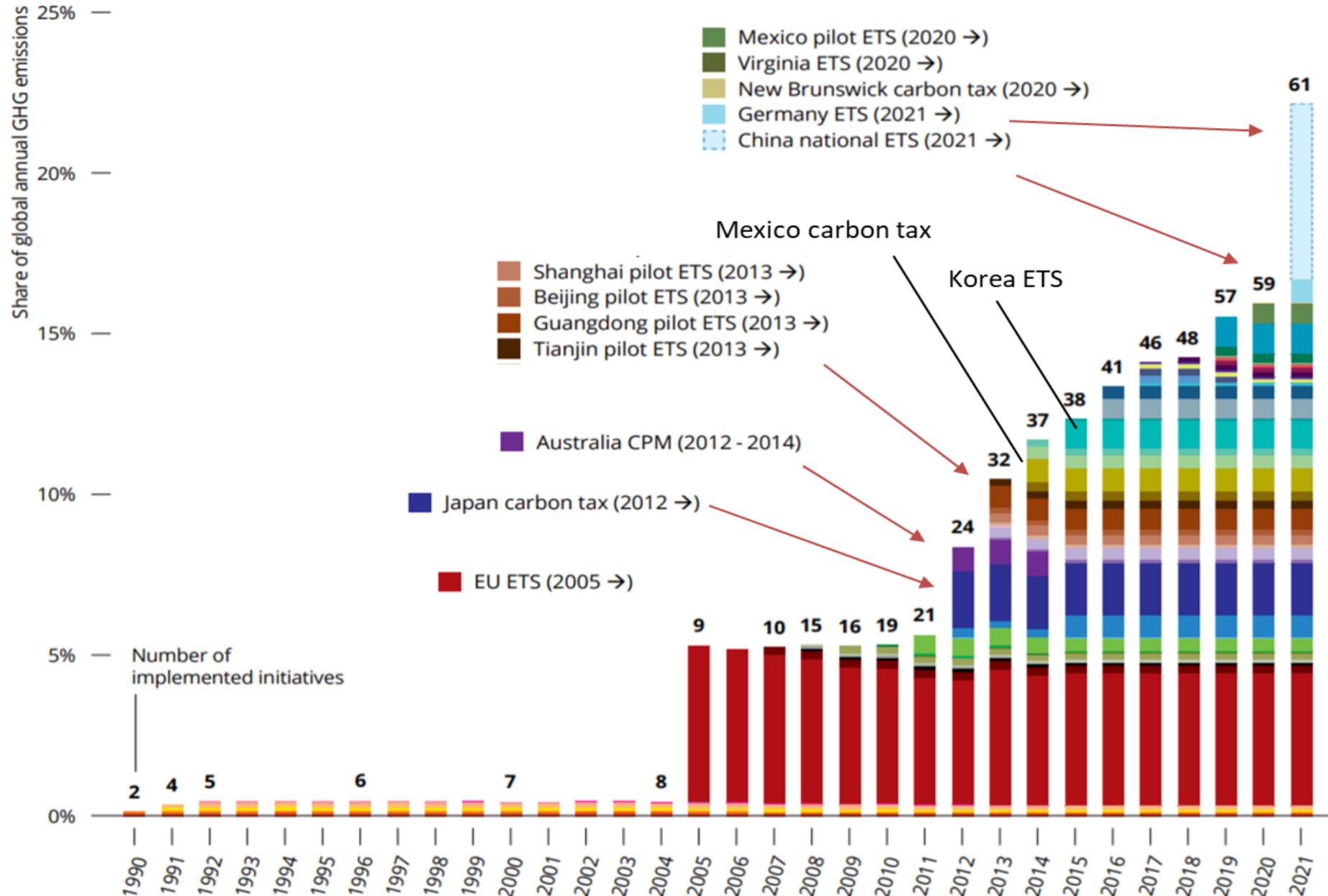
**Presentation to REKK conference,  
*Future of carbon pricing, Budapest, 8<sup>th</sup> June 2021***

- Trends and status
- Principles
- Examples
- Conclusions



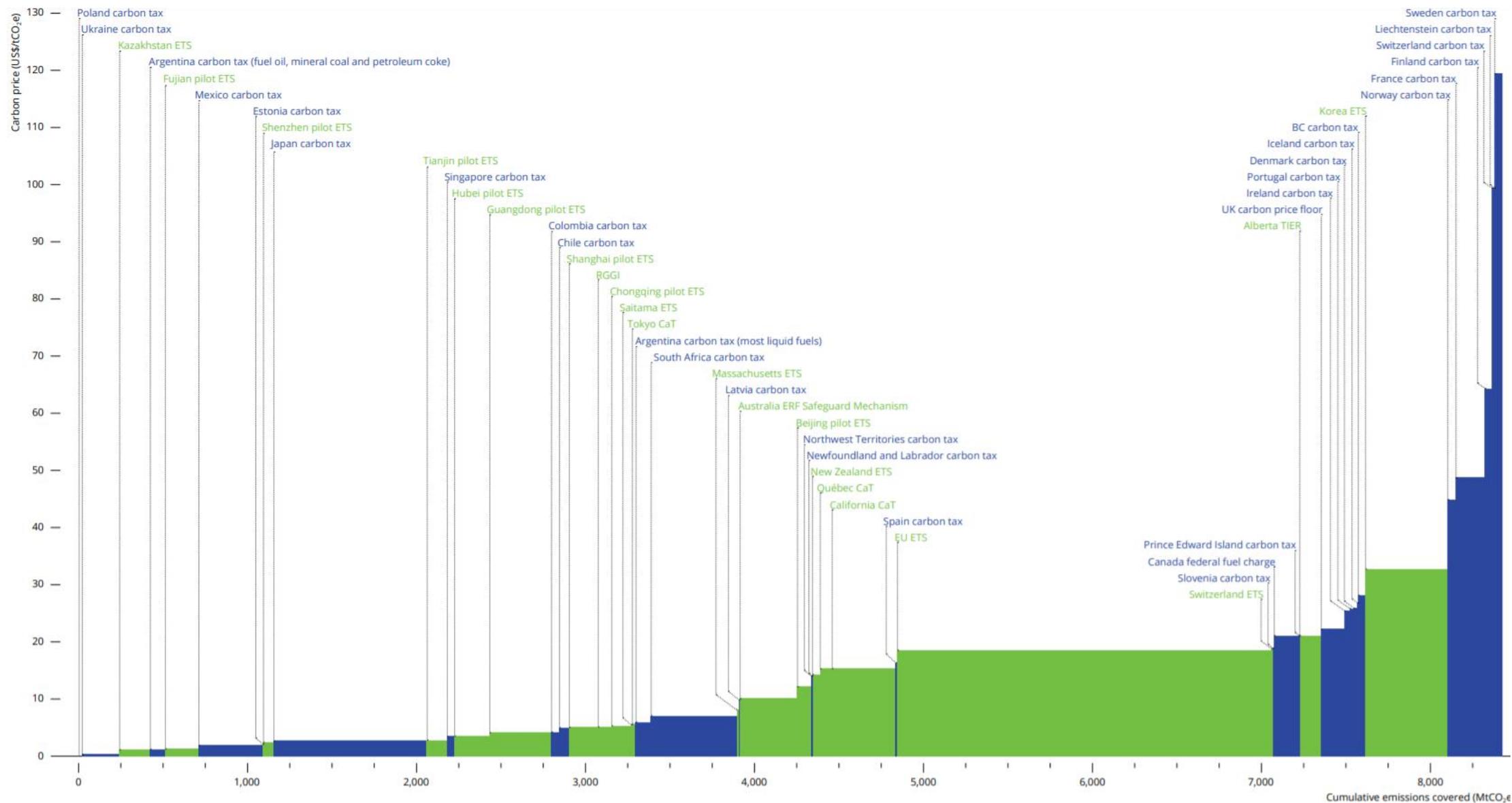
# “Half empty, half full?”

**Volume:**  
Growing global GHG emissions being priced



# ... but carbon prices *very varied* & in most markets *very low*

Source: World Bank (2020), State & Trends of carbon pricing



## A. Clarify the fundamental purpose:-

- **To internalise external costs?**

⇒ *Similar prices internationally* (maybe, and only if adequate financial transfers)

OR

- **To deliver an emissions goal at least cost “along the cost curve” ?**

⇒ *Different prices across countries reflecting different levels of ambition*

OR

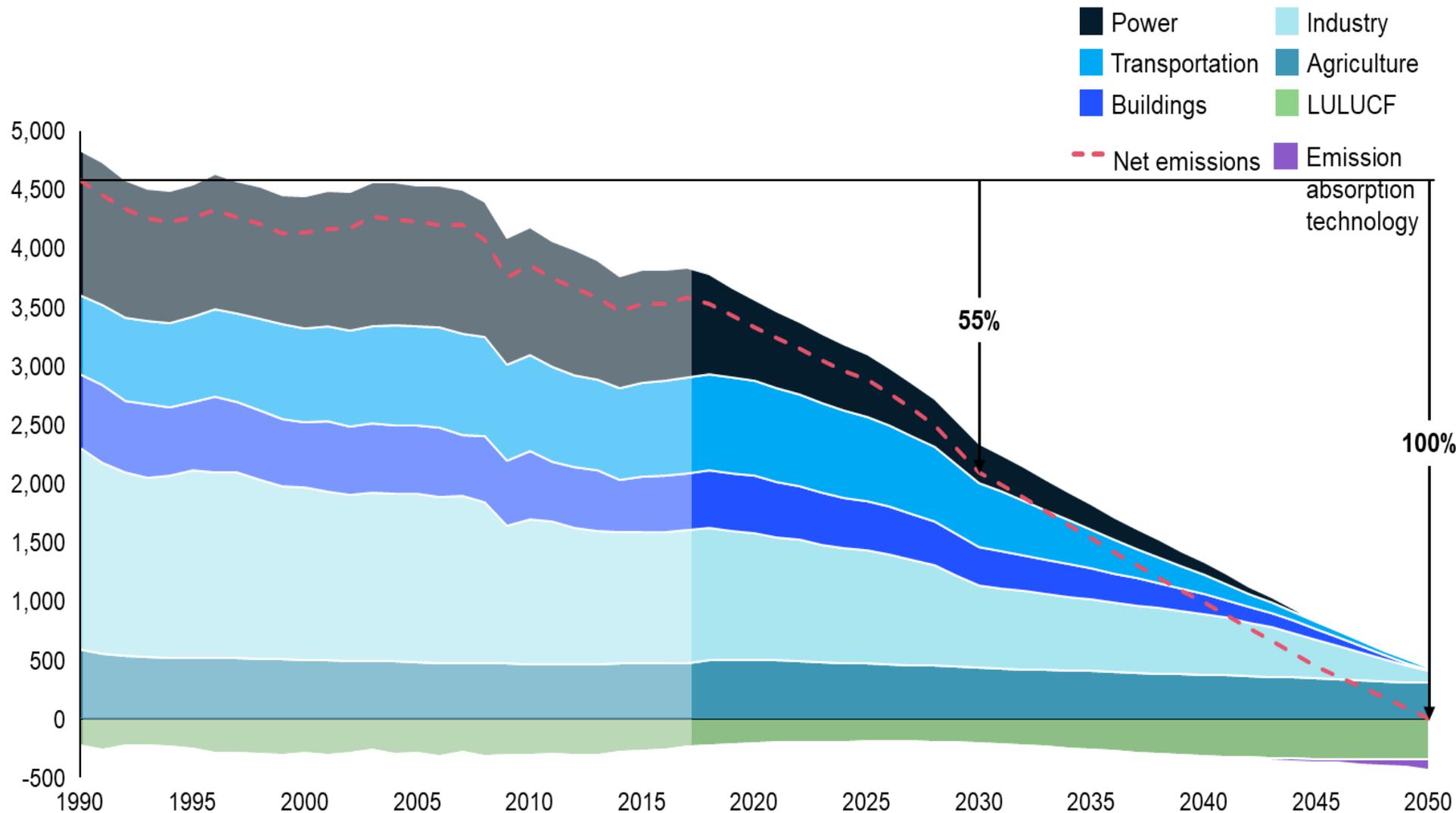
- **Support processes of technological and sectoral transformation ?**

⇒ Different prices across different sectors,

⇒ Maybe adapting with technological development and stage of transition



# Mitigation clearly needs to extend beyond electricity, transport, buildings, & all industry not just energy-intensives..



A. *Fundamental Purpose*

B. Distributional impacts, revenues & Earmarking (/”Hypothecation”)

- General public revenue?
- National or international “equitable” lump-sum redistribution (cap/tax & dividend, etc)?
- Other earmarking eg. technology funds (eg. EU ETS set-aside)?

(=> **Heating** example)

C. What is the “baseline” level?

- Pure resource cost?
- Part of general taxation / levelized (eg. coal vs gas vs elec ..)?
- Including pre-existing subsidies and taxes (=> **Transport** example) ?

D. Allocation and regulation as well as price matters

- E.g. electricity regulation
- free allocation influences both effectiveness and comparability

(=> **Korea** example)

E. “All politics is local” (and usually conservative)

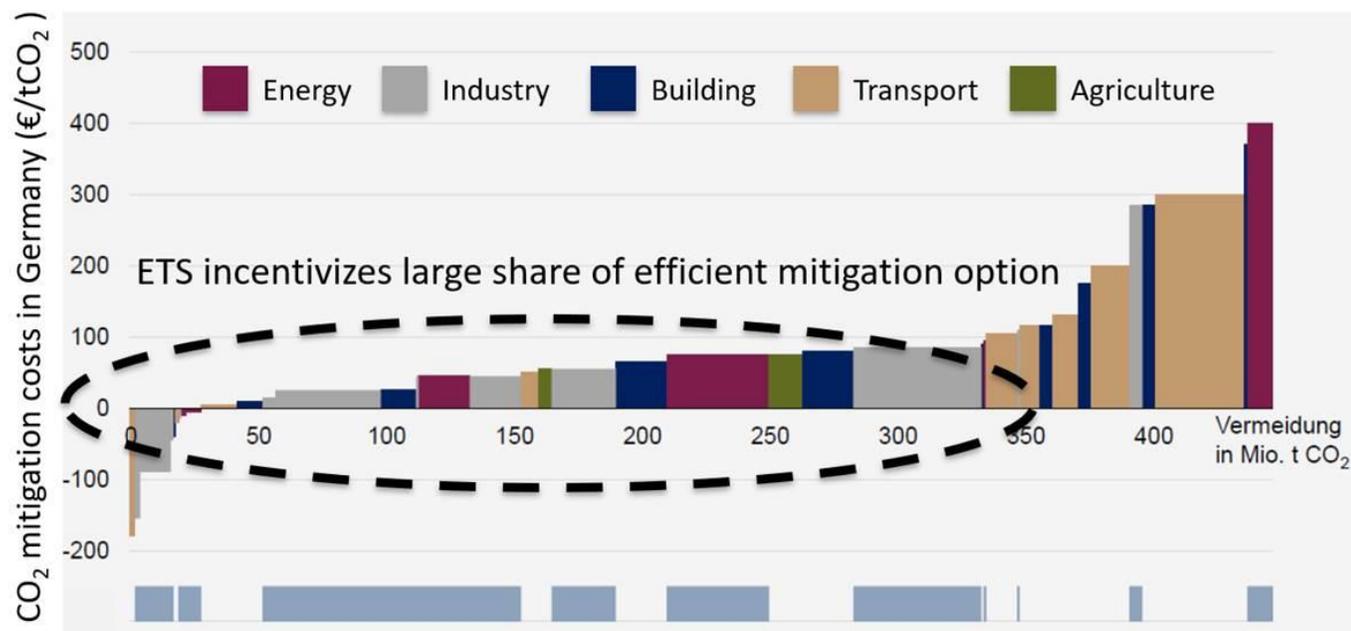
(=> **UK ETS** example)



# Pricing and its extension in principle important

– consider heating, in domestic, commercial and industrial buildings & light manufacturing

## Carbon pricing and complementary instruments



Source: BDEW (2019) based on BDI (2018)

*Projected marginal abatement cost curve for Germany, 2030*

← Current EU ETS coverage

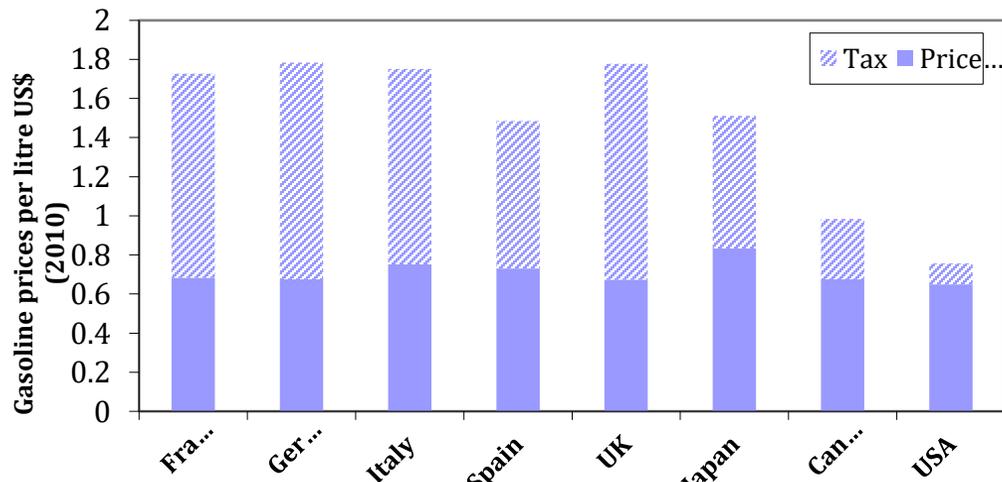
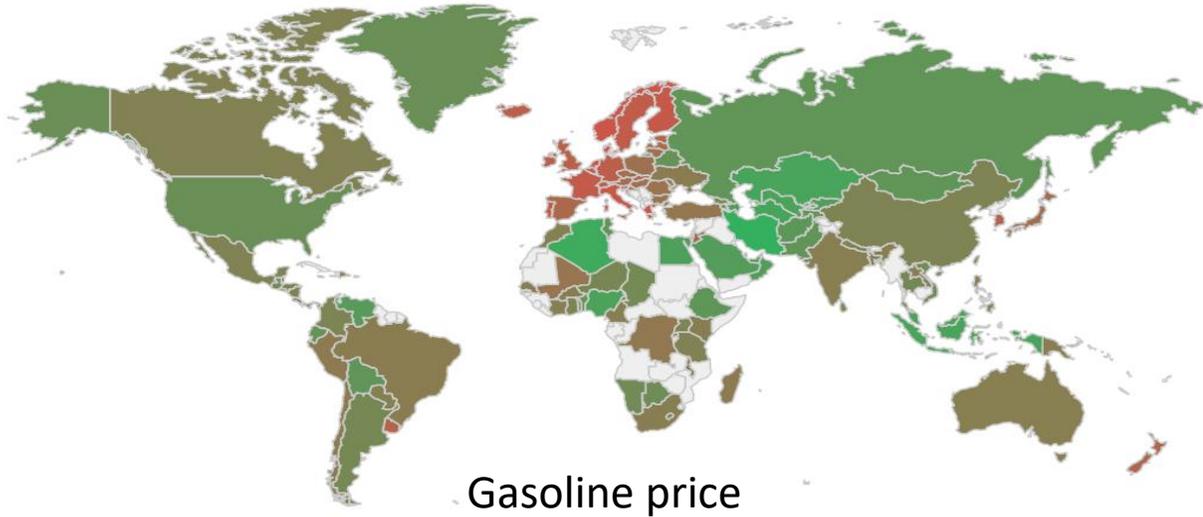
## Extending ETS to heating & cooling has potential to

- Add significantly to mitigation efforts, if other factors are addressed – low current taxation in most EU countries
- Remove or reduce major intersectoral distortions. With high EU ETS price in current coverage,
  - *disincentive* for any electrification eg. heat pumps
  - Increased incentive for fossil fuel heating, and no incentive to move to low-carbon gas
- *But* will require close attention to distributional impacts on fuel poor, including (and maybe particularly) in eastern Europe
- Incentivise public attention to major barriers eg. tenant-landlord, etc
- **Raise funding for essential complementary measures**
  - ‘winter fuel payments’?
  - public-led building refurbishment
  - Hydrogen-proofing gas pipelines
- *Implementation:* probably at level of suppliers, but downstream could be explored?

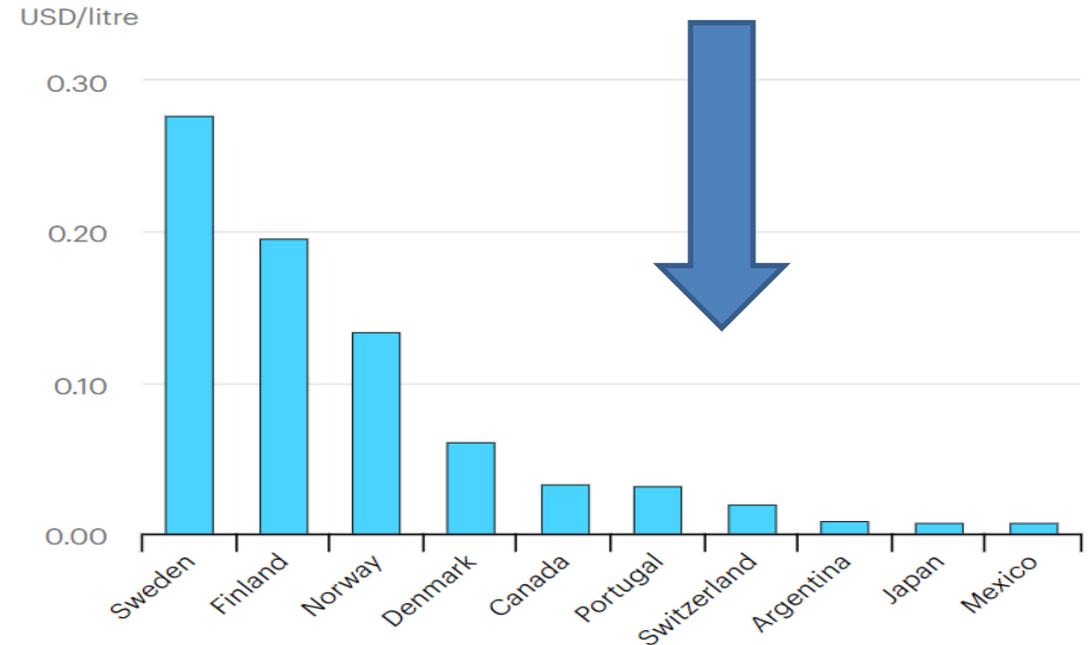


# Transport: Very diverse gasoline prices

- Excise duties in EU & Japan equate to *several hundred \$/tCO<sub>2</sub>*, others explicitly environmental

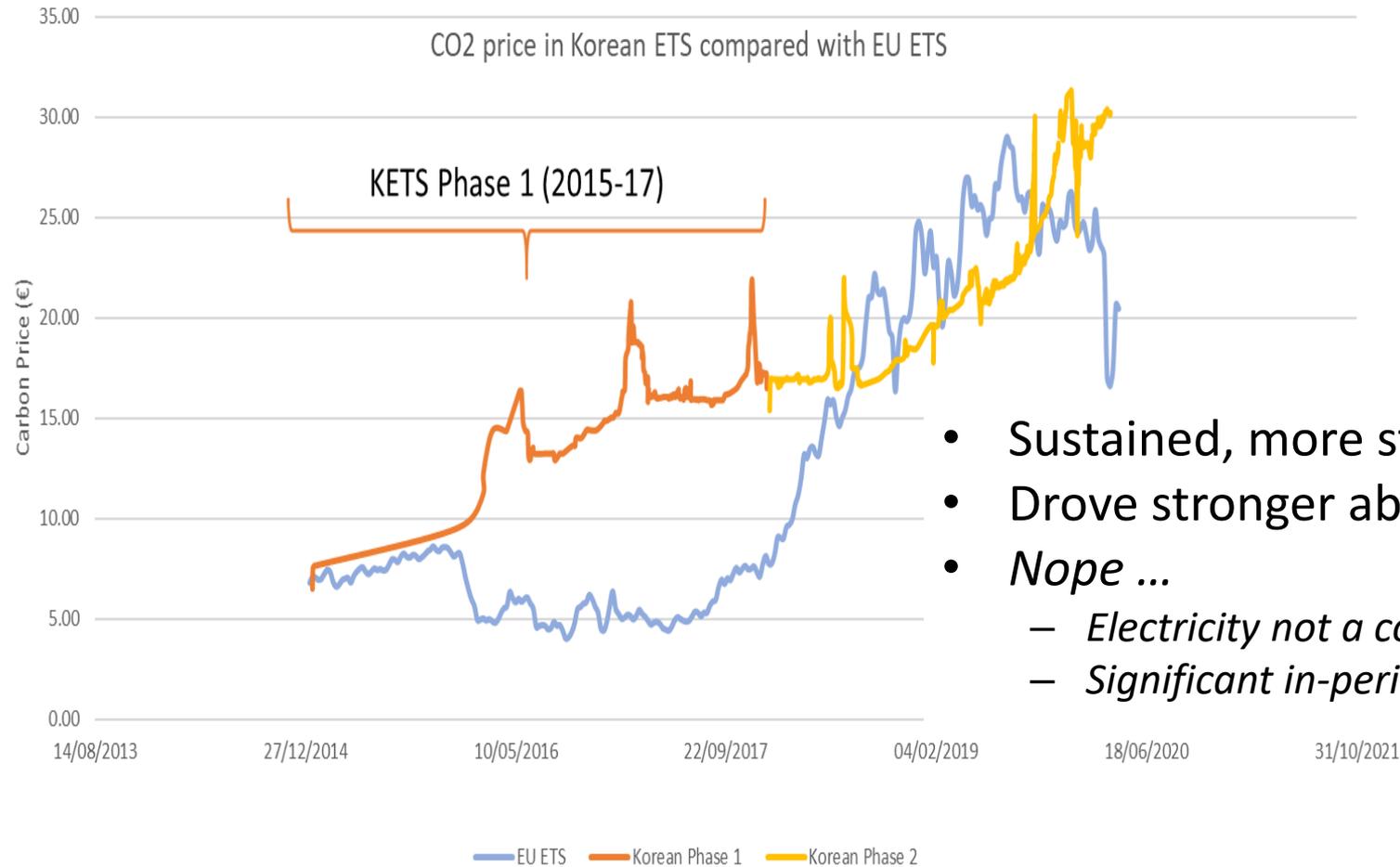


- Price of crude oil for different countries is fairly consistent
- Variation of gasoline prices due to varying taxes
- Only a small part of those taxes are explicitly environmental



c. 2400 gCO<sub>2</sub> per litre of petrol: 1€/l = c. 418 €/tCO<sub>2</sub>

“Environmental” taxes on gasoline for selected countries, 2019.  
New German ETS will add 25=>60 €/tCO<sub>2</sub> to c. €180 existing duties



- Sustained, more stable & significant carbon price in KETS
- Drove stronger abatement esp in elec?
- *Nope ...*
  - *Electricity not a competitive market, largely internal transfers*
  - *Significant in-period adjustments and skewed allocation*



Allocation (total, and manufacturing), before and after adjustments

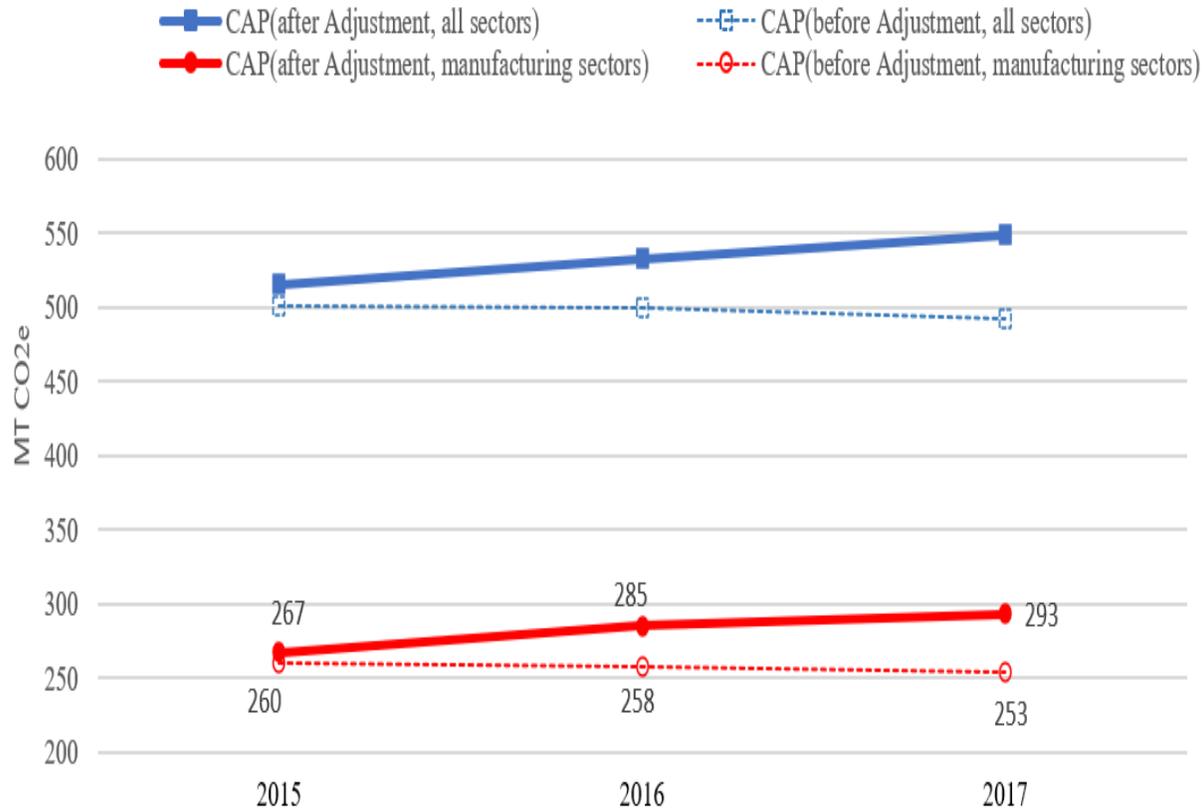
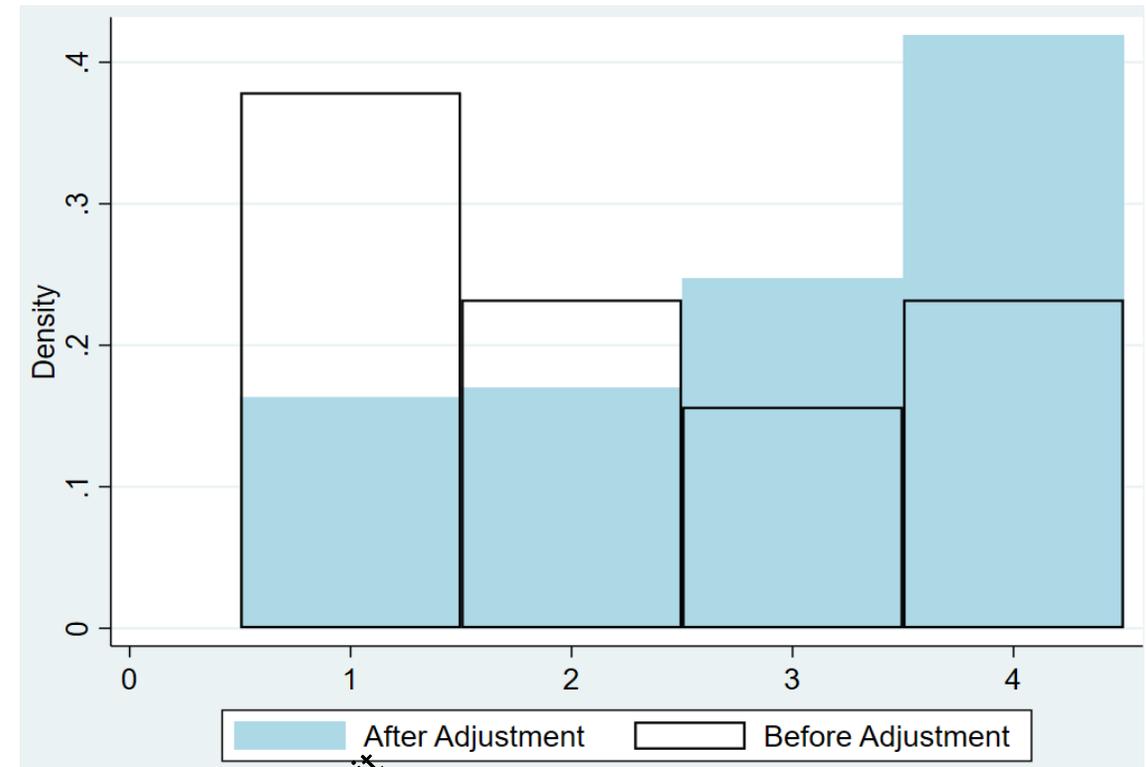


Figure 2: KETS emission caps (total allowances), before and after Adjustment

Distribution: about 65% entities ended up with surplus; less than 20% faced shortfall bigger than borrowing limit



1 = Under-allocation exceeding borrowing limit  
 2 = Under-allocation within borrowing limit  
 3 = Over-allocation within banking limit  
 4 = Over-allocation beyond banking limit

*Or, conservatism rules OK*

- Move to carbon tax considered, abandoned
- UK ETS broadly similar to EU ETS coverage
- Commitment to “stronger after (Br)exit”
- Somewhat higher price – EU ETS + risk premium?

ICE FUTURES EUROPE

## UKA Futures

CONTRACT

 DEC21

LAST

46.250

TIME(GMT)

6/7/2021  
3:34 PM

% CHANGE

1.093

VOLUME

157

INTRADAY

3 MONTHS

**1 YEAR**

2 YEARS

LAST UPDATE TIME: 06-07-2021 7:43 PM GMT



... which is not all bad: once systems are well rooted they exert a significant ‘gravitational pull...’



- Messy ....
- Constructed from the 'bottom up' between a few major nodal actors (EU ETS being the first)

- Widening (sectors)  
& Deepening (price)
- Broadening (countries)
- Converging ?

## International or inter-sectoral linkages

EU / national endeavours,  
with reference to ..

*Offsets (domestic, and  
international), wider context  
Paris finance & development  
(w.r.t. Paris Arts. 6.1, 6.4?)*

Develop 'minilateral' groups  
with rules for

*Targets/prices/Exchange rates,  
system management, treatment  
of carbon-intensive goods trade  
(with ref to Paris Art 6.2?)*

