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Energy Agency

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What works and what doesn't: International experience in carbon pricing

*Conférence Prix Plancher du CO₂ et Réforme de l'EU ETS
Université Paris Dauphine, 14 June 2016*

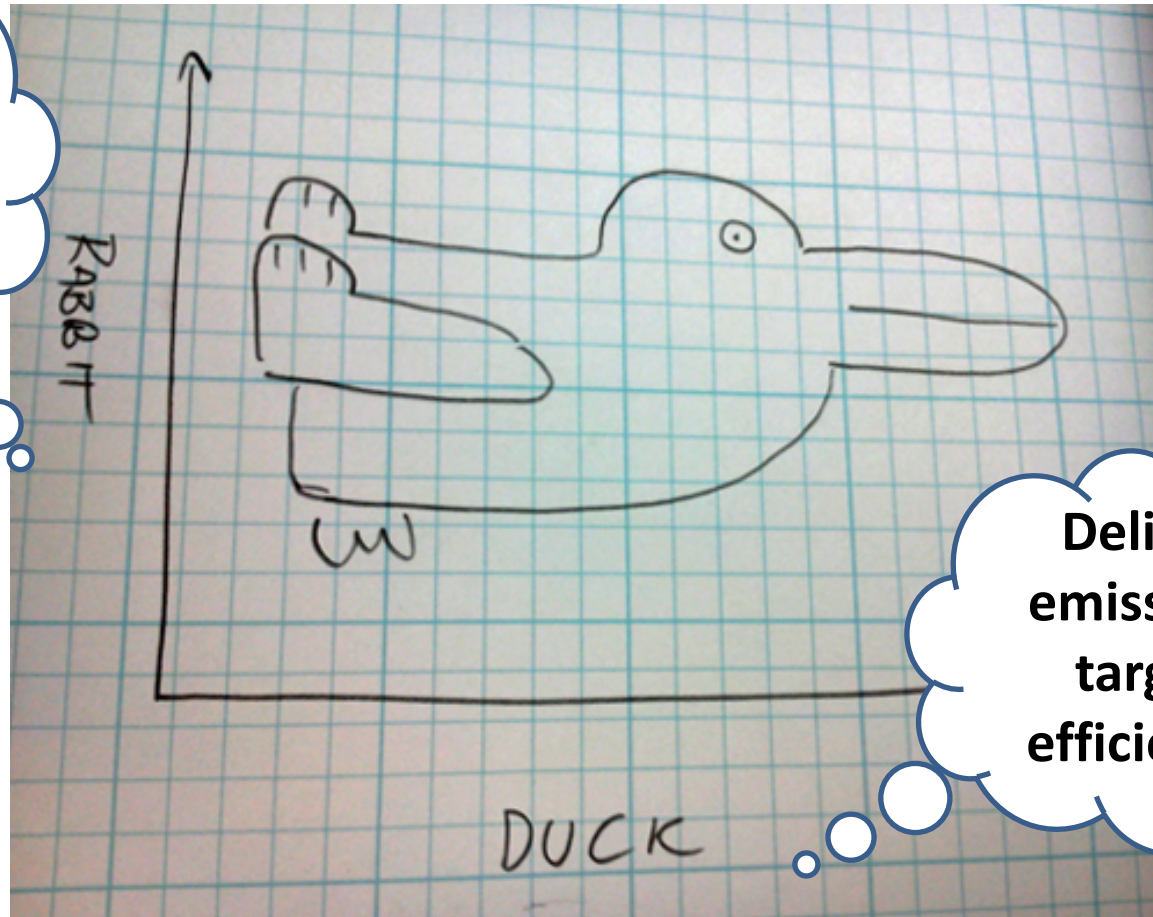
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- 1. What does it mean for carbon pricing to “work”?**
 - Being clear about policy objectives
 - The role of “imperfect” carbon pricing
- 2. Implementations of carbon pricing around the world (with a focus on price stabilisation)**
- 3. Conclusions**

Different perspectives on what a carbon price should deliver

Drive low-carbon investment



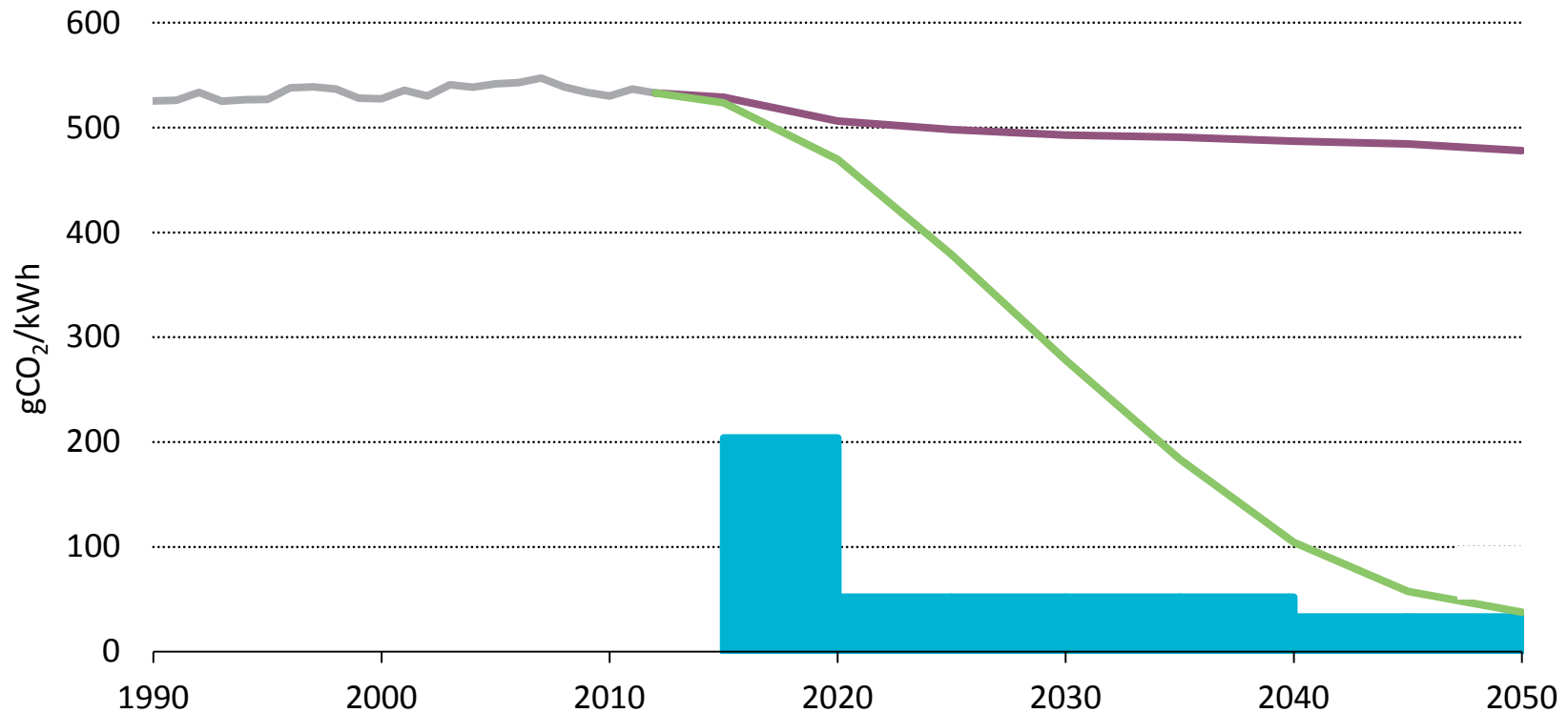
Deliver emissions target efficiently

Source: unknown

To assess whether a carbon pricing system “works”, need to be clear on its objectives

The investment challenge: e.g. power sector

Global fleet average and new-build plants emissions intensity of power generation in IEA scenarios



*Extremely rapid shift in new investment needed
for consistency with below-2C scenario*

Carbon prices in IEA scenarios

Carbon price USD\$2014/tCO ₂	Region	2020	2030	2040
New Policies Scenario (NPS)	EU	22	37	50
	Chile	6	12	20
	Korea	22	37	50
	China	10	23	35
	South Africa	7	15	34
450 Scenario	United States and Canada	20	100	140
	EU	22	100	140
	Japan	20	100	140
	Korea	22	100	140
	Australia and New Zealand	20	100	140
	China, Russia, Brazil and South Africa	10	75	125

NPS-level carbon prices will not drive well-below-2C investment

What “modest” carbon prices can (and cannot) contribute

■ Can:

- Lead to some fuel-switching in existing operations
- Make near-to-market low-carbon technologies cost-effective
- Backstop other low-carbon support policies

■ Cannot:

- Drive all necessary low-carbon investment
- Force early retirement of high-carbon assets
- Give strong signal for electrification of heat and transport
- [Overcome non-price market barriers]

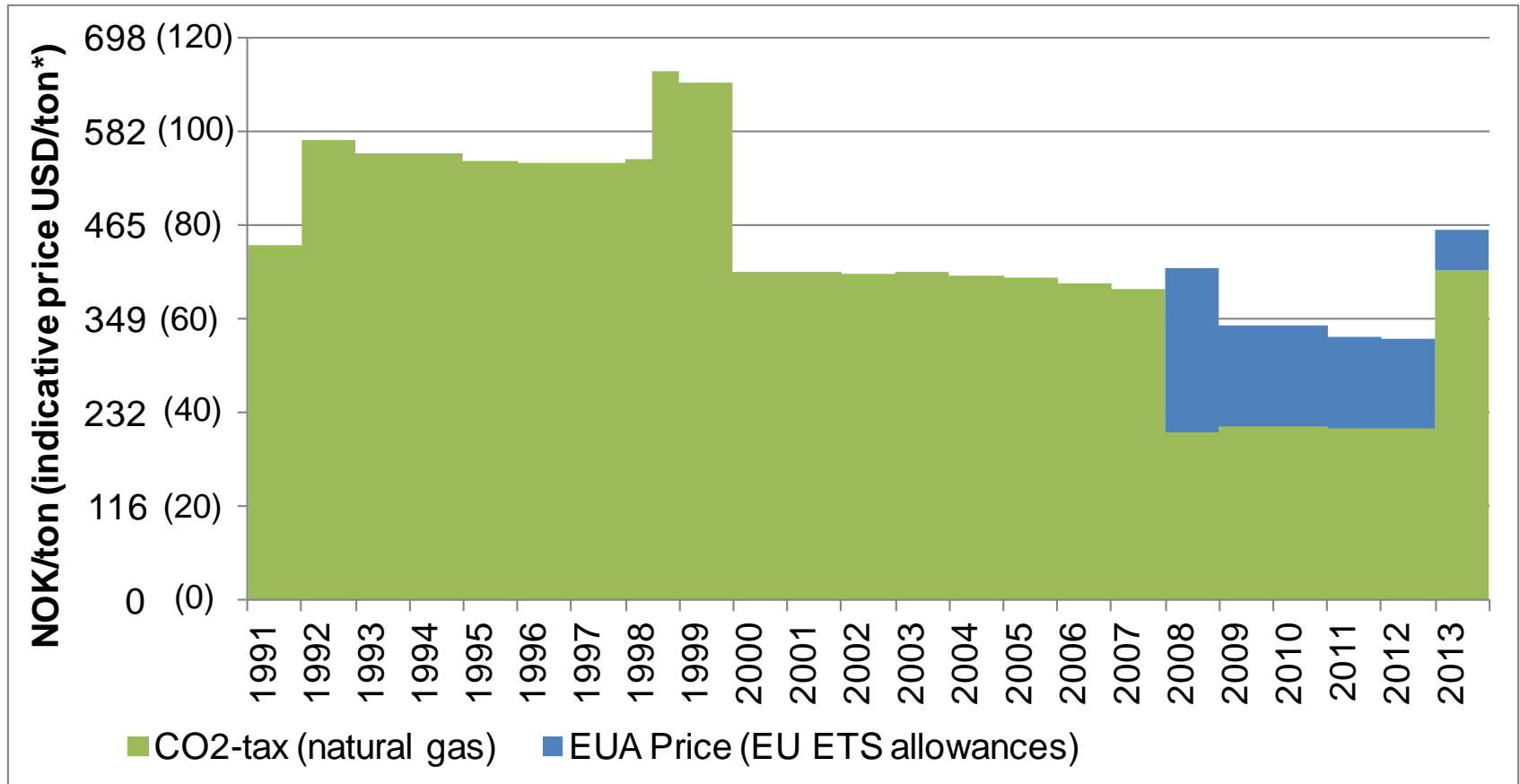
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Carbon pricing around the world

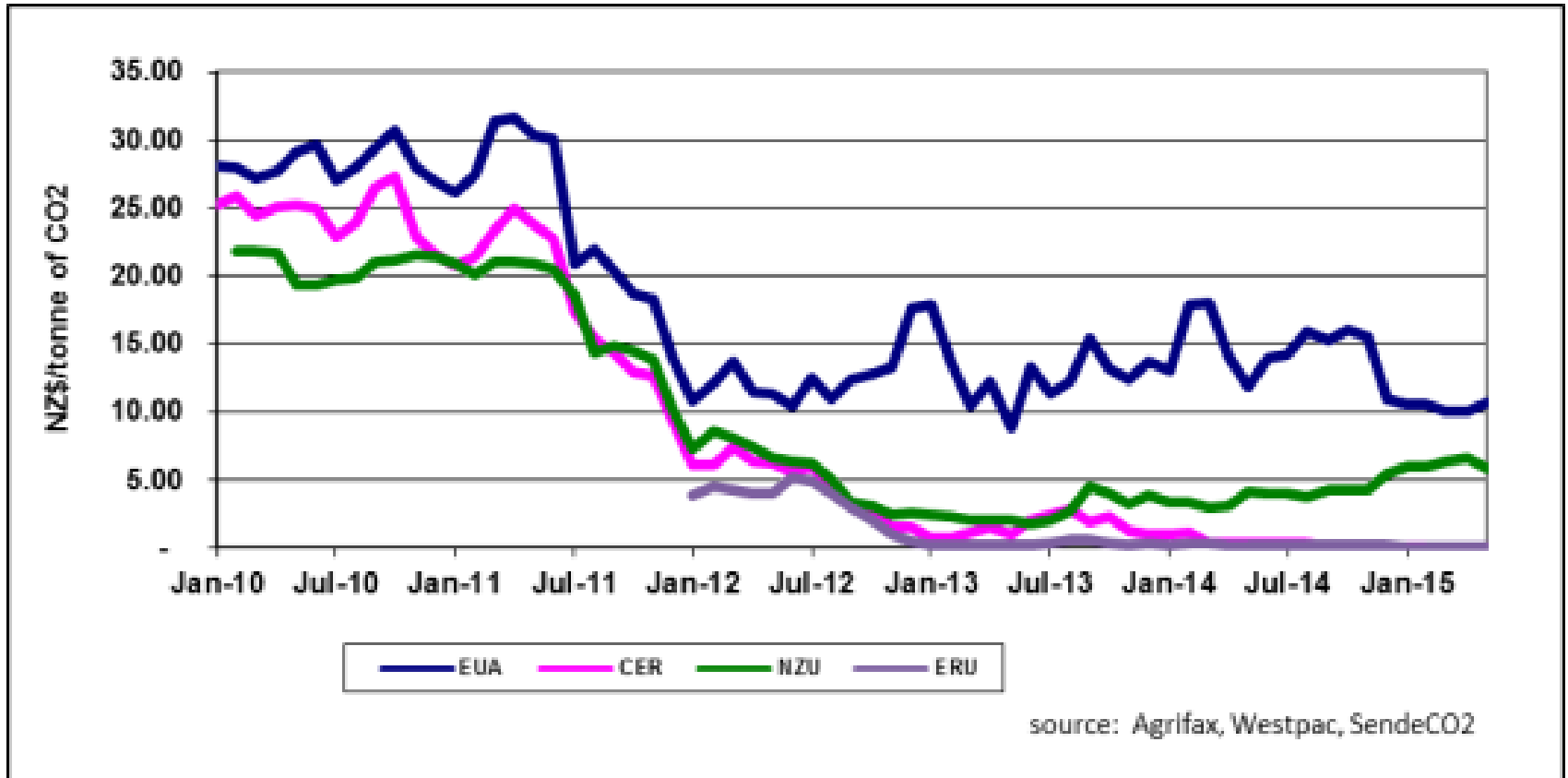


Source: World Bank State and Trends of Carbon Pricing 2015

Norway (offshore petroleum) carbon tax + EU ETS



*) Using 2012 exchange rate



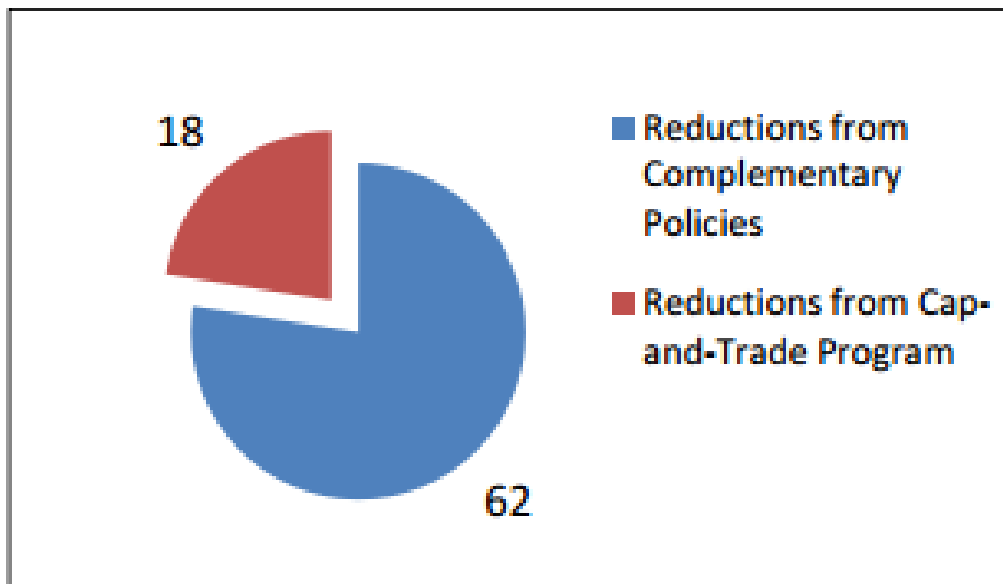
Source: <http://nz.pfolsen.com>

CARBON PRICE

\$/Tonne CO₂e



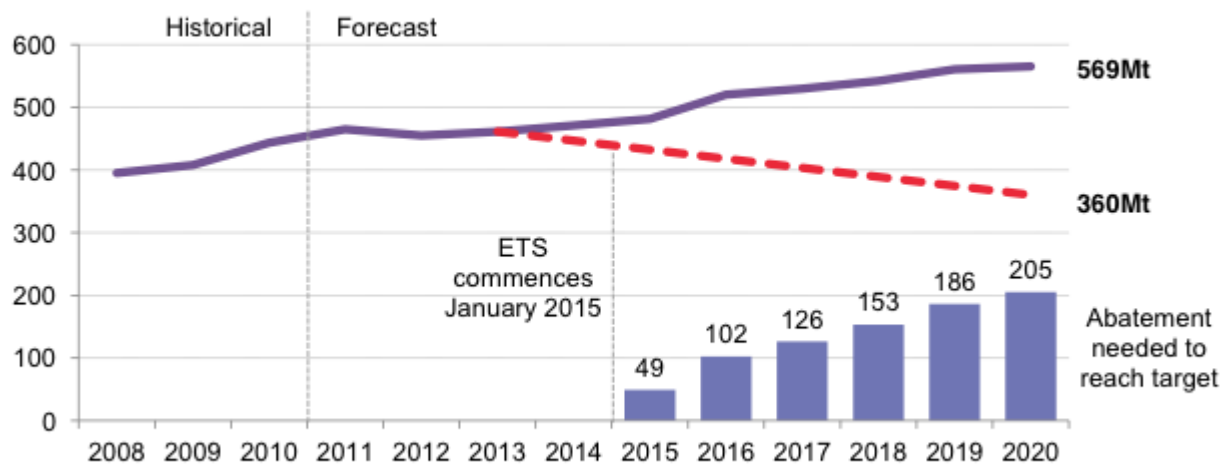
Price of California Carbon Allowance Futures over time from ICE End of Day Reports. Daily trading volume units are 1000 allowance futures. [Download source data.](#)



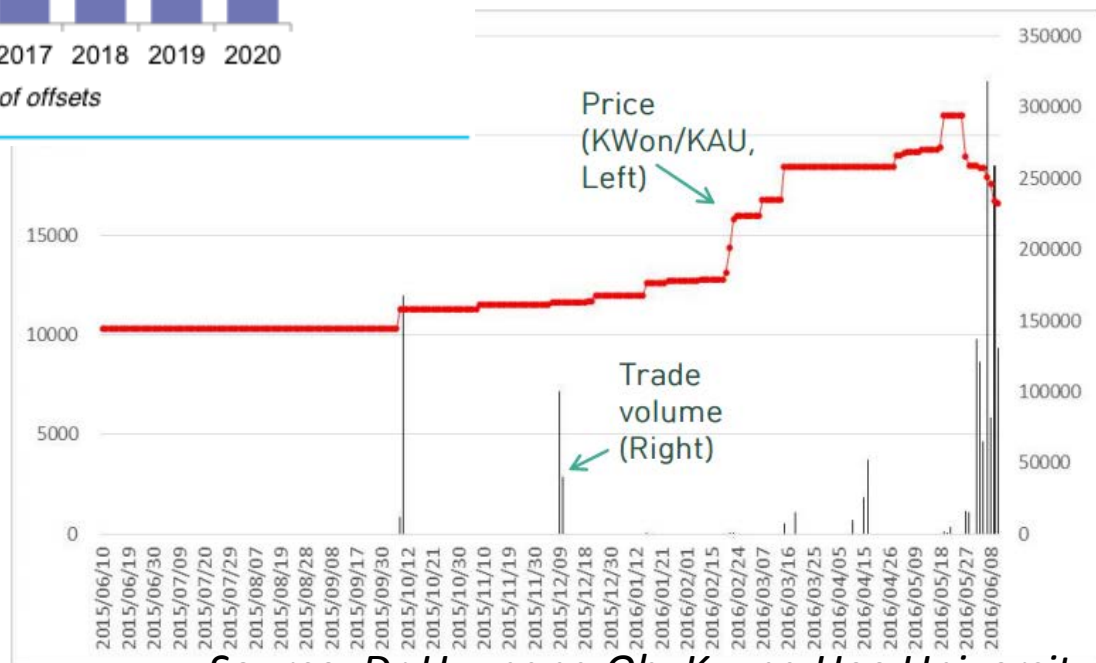
Source: EPRI, 2013

Source: <http://calcarbodash.org>

Figure 7: Traded sector emissions, 2020 target and abatement required to reach target, 2008-20 (MtCO₂e)



Source: Bloomberg New Energy Finance. Note: Assumes no usage of offsets



Source: Dr Hyungna Oh, Kyung Hee University

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3. Conclusions

- **Carbon prices are (mostly) far from levels that would drive low-carbon transition**
 - Aim for as much carbon pricing as possible, as much regulation as necessary?
- **Different carbon pricing systems have different objectives and designs - what “works” depends on your perspective**
- **Price stabilisation a common feature of ETS systems implemented**



**Thank you for your
attention**

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