

# State of the EU ETS 2018

June 13, Paris

Charlotte Vailles, I4CE  
Andrei Marcu, ICTSD/ERCST  
Emilie Alberola, EcoAct  
Jean Yves Caneill, ERCST

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. Economic efficiency
  5. Market functioning
  6. What is needed to make the EU ETS ‘fit for purpose’

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. **Introduction – EU ETS fit for purpose**
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. Economic efficiency
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# EU ETS 'fit for purpose'

What do we expect the EU ETS to deliver?

## 3 key deliveries

1. **Environmental delivery.** Does it deliver against absolute environmental targets?
2. **Economic delivery.** Macro-economic efficiency and cost effectiveness for compliance. Does it provide effective, and proportional, protection against the risk of carbon leakage? Is it a driver for change?
3. **Market functioning.** It is worth having a market only if it functions well and leads to good price delivery.

# EU ETS ‘fit for purpose’

What do we expect the EU ETS to deliver?

## A long-term (competitive) advantage for Europe?

- Channeling sufficient investments;
- Creating the premises for a low-carbon product market;
- Helping to address social impacts associated with the transition to a low-GHG economy;
- Ensuring the right level of protection for industry, both for direct and indirect costs;
- Incentivizing behavioral and systemic change.

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  - 2. Relevant Policy and Governance issues**
    - i. Phase 4 review
    - ii. Expectations after P4
    - iii. Relevant issues from the Energy Union and the new EU long-term decarbonization strategy
  3. Environmental delivery
  4. Economic efficiency
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# P4: Parameters - what is unchanged?

- Auctioning / free allocation share
- Inclusion rules for domestic aviation
- No inclusion (yet) of shipping emissions

# P4: Parameters - what has changed?

Parameter	Phase 3	Phase 4
<b>End-year cap</b>	1834mt in 2020	1372mt in 2030
<b>LRF</b>	1.74%	2.2%
<b>Flexibility of Auction Share (In light of CSCF avoidance)</b>	/	Reduction of up to 3% of the share of allowances to be auctioned
<b>Backloading</b>	Auction of 900m allowances postponed	The 900 million allowances that were backloaded in 2014-2016 will be transferred to the reserve rather than auctioned in 2019-2020, and consequently up for invalidation in 2023
<b>MSR</b>	12% intake rate from 2019	24% intake rate for the first 5 years (starting from 2019)
<b>Cancellation from MSR</b>	/	From 2023, yearly invalidation of allowances above the number of allowances auctioned the year before
<b>Voluntary cancellation of allowances by Member States</b>	/	Option for Member States to cancel allowances from their auction share to counteract the impact of closing down electricity generation, up to the average verified emissions over the last five years upon preceding the closure

NOT FOR CITATION OR DISTRIBUTION



# P4: Parameters - what has changed?

Parameter	Phase 3	Phase 4
<b>Carbon leakage list criteria (<i>Qualitative assessment limit</i>)</b>	<i>Carbon costs <math>\geq 5\%</math> AND Trade intensity <math>\geq 10\%</math> // Carbon costs <math>\geq 30\%</math> OR Trade intensity <math>\geq 30\%</math></i>	Intensity of trade * emissions intensity > 0.2 (> 0.15)
<b>Benchmark rates</b>	Ex-ante decided, as calculated by the Commission (fixed)	Will reflect actual intensity changes in the sector (annual reduction rates capped at 0.2% minimum, and 1.6% maximum) as calculated by the Commission. Benchmark values will be updated twice for P4
<b>Adjustment of free allocation based on change in production levels</b>	Only reduced when production levels decrease by a significant amount (50%, 75% and 90%)	Reflect actual changes in production level on the basis of a rolling average of 2 years. Changes above a 15% threshold with respect to the baseline period should be reflected in the amount of free allowances allocated
<b>Free allocation to sectors not deemed at risk (including for district heating)</b>	80%, linearly decreasing to 30% by 2020, with a view to reach 0% in 2027 (30% for district heating)	30% until 2026, linearly decreasing to 0% by 2030 (30% for district heating)

# P4: Parameters - what has changed?

Parameter	Phase 3	Phase 4
<b>Indirect costs compensation</b>	To be decided by Member States in accordance with State Aid guidelines	To be decided by Member States in accordance with State Aid guidelines, but a non-binding limit of 25% of auction revenues, including obligation to report reasons to go over this limit + enhanced transparency rules for use of auction revenues
<b>Carbon Market Report</b>	Functioning of the carbon market (including auctions, liquidity and the volumes traded)	Explicitly includes that the Commission shall report on 'other relevant climate and energy policies'
<b>New Entrants Reserve</b>	5% of total allowances ( <i>around 780m, of which 300m went to NER300</i> )	Non-allocated allowances from Phase 3 + 200m allowances placed in the MSR
<b>Modernization fund</b>	/	2% of total allowances. Can be increased by up to 0.5% if the full flexibility for avoiding the CSCF is not used

# P4: Parameters - what has changed?

Parameter	Phase 3	Phase 4
<b>Innovation fund</b>	NER300: 300m allowances	400m + 50 million unallocated allowances from the MSR + If less than 3% of the total quantity is needed to avoid CSCF, the size increases by a maximum of 50 + unspent allowances from NER300
<b>One-off flexibility from the EU ETS, included in the Effort Sharing Regulation</b>	/	A number of Member States are allowed to achieve their ESR targets by using a limited share of their ETS allowances that would otherwise be auctioned. There is a limit of 100mt CO2 at EU level over the P4 period
<b>Article 10c derogation on option for transitional free allocation for the modernization of the energy sector</b>	Certain Member States with GDP per capita below 50% of the EU average could give limited transitional free allowances to power sector installations in operation before 2009. Set to go to zero by 2020.	The scheme has been extended to 2030, for Member States with GDP per capita below 60% of the EU average. More limitations have been added, such as that the transitional free allowances cannot be used for highly emission-intensive electricity generation

# P4: Open issues

- Article 30
  - Review in light of the implementation of the Paris Agreement
    - 'Assess' 2018 Facilitative Dialogue
    - Report after each global stocktake (2023-2028)
    - Can both lead to the proposal of new policies or review of certain ETS parameters (e.g. the LRF)
  - Review in light of carbon market developments in other major economies
    - 'Should be kept under review' – implications for carbon leakage measures
- Market stability reserve
  - Reviews in 2021 and 2026

# P4: Open issues

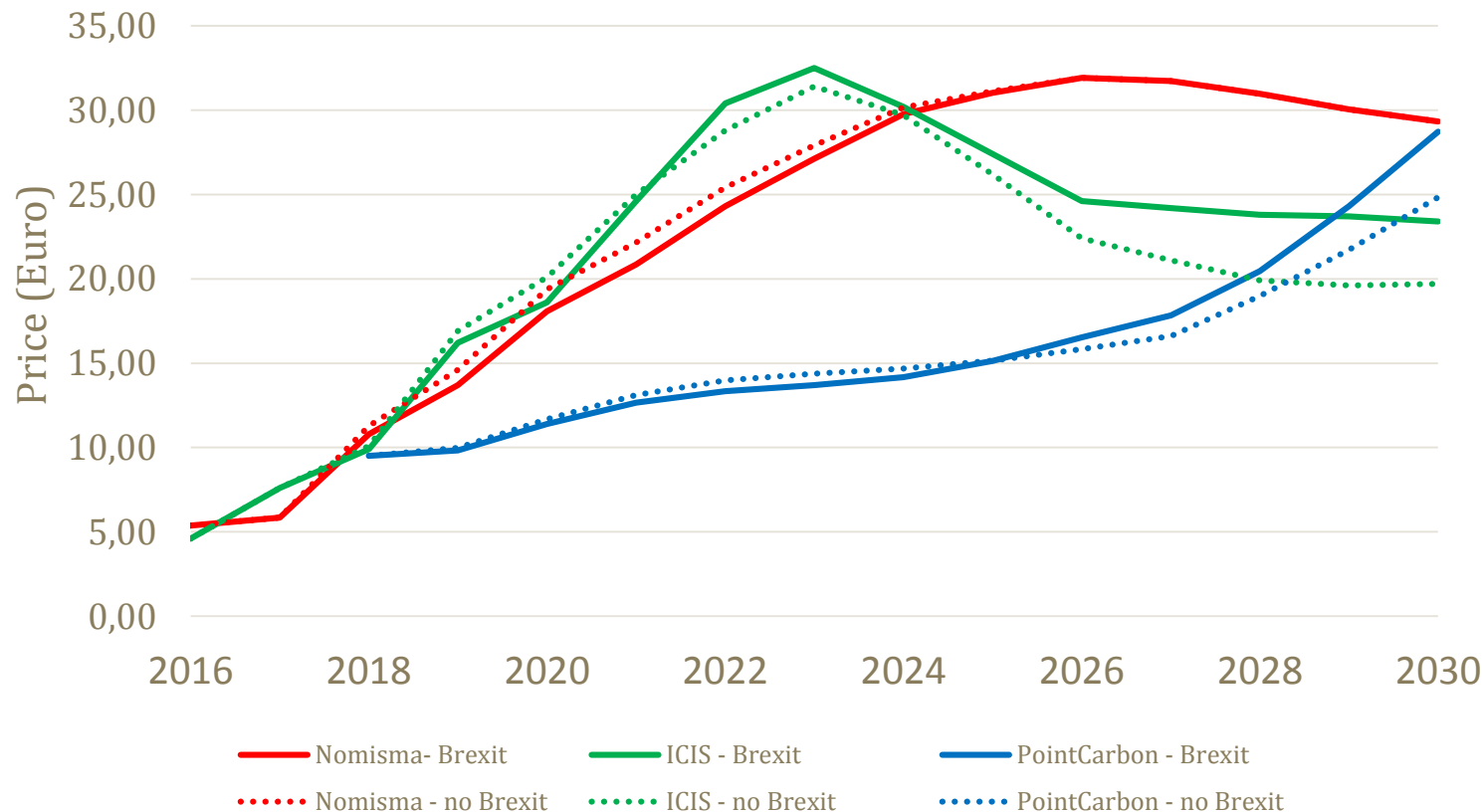
- Benchmarks
  - Initial setting for 2021-2025
  - Update for 2026-2030
- Carbon leakage list
  - 2019: 2021 – 2030 list
- Other important elements include:
  - (Adjustment for) Brexit
  - Inclusion of Aviation (depending on CORSIA)
  - Shipping: IMO or EU 'should start action' by 2023 (*scope unclear*)

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  - 2. Relevant Policy and Governance issues**
    - i. Phase 4 review
    - ii. Expectations after P4**
    - iii. Relevant issues from the Energy Union and the new EU long-term decarbonization strategy
  3. Environmental delivery
  4. Economic efficiency
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# P4: Price simulations

**Brexit or no Brexit, for EU targets of 30% Renewables and 30% Energy Efficiency by 2030**



*Note:  
PointCarbon  
projections for  
27% RES target*

*Source: Nomisma Energia, ICIS, PointCarbon*

# 'Sentiment' Survey

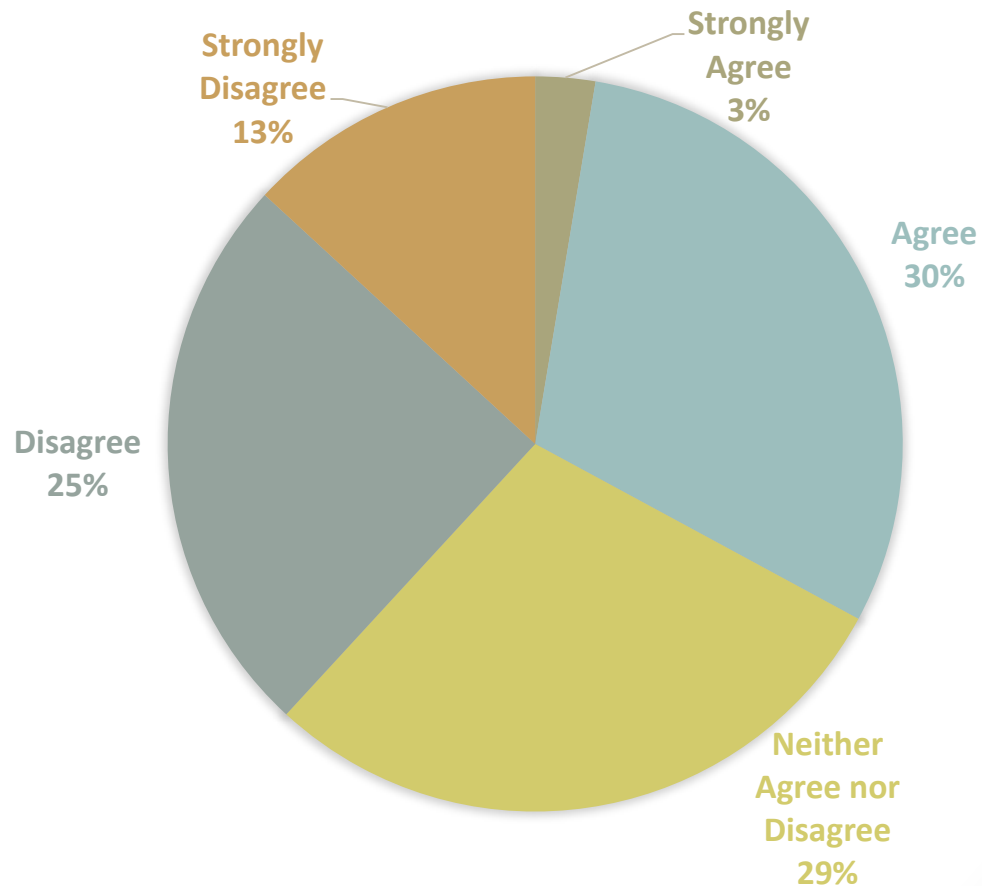
- Short survey, 6 statements on EU ETS, keeping in mind the recently agreed P4 revision
- Sent out to 118 selected stakeholders and experts working on the EU ETS
  - EU Member States
  - NGO, Industry and business representatives
  - Analysts and researchers
  - ...
- 75 respondents (response rate of 63,5%)



# 'Sentiment' Survey

## 1. The EU ETS governance will provide a stable and predictable framework for an investment signal.

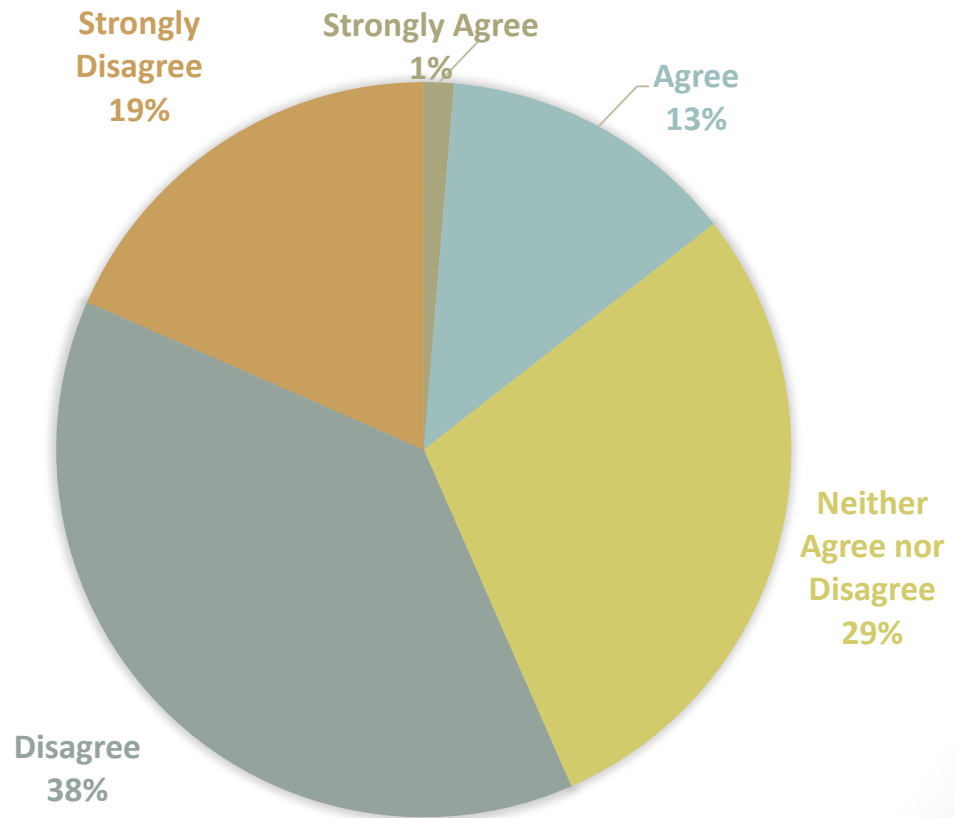
- Stakeholders divided – unclear for many whether or not governance will be sufficiently stable and predictable in P4.



# 'Sentiment' Survey

**2. The EU ETS Phase 4 parameters will lead to price patterns in 2020-2030 which are commensurate with investment trajectory necessary for 80-95% reduction by 2050.**

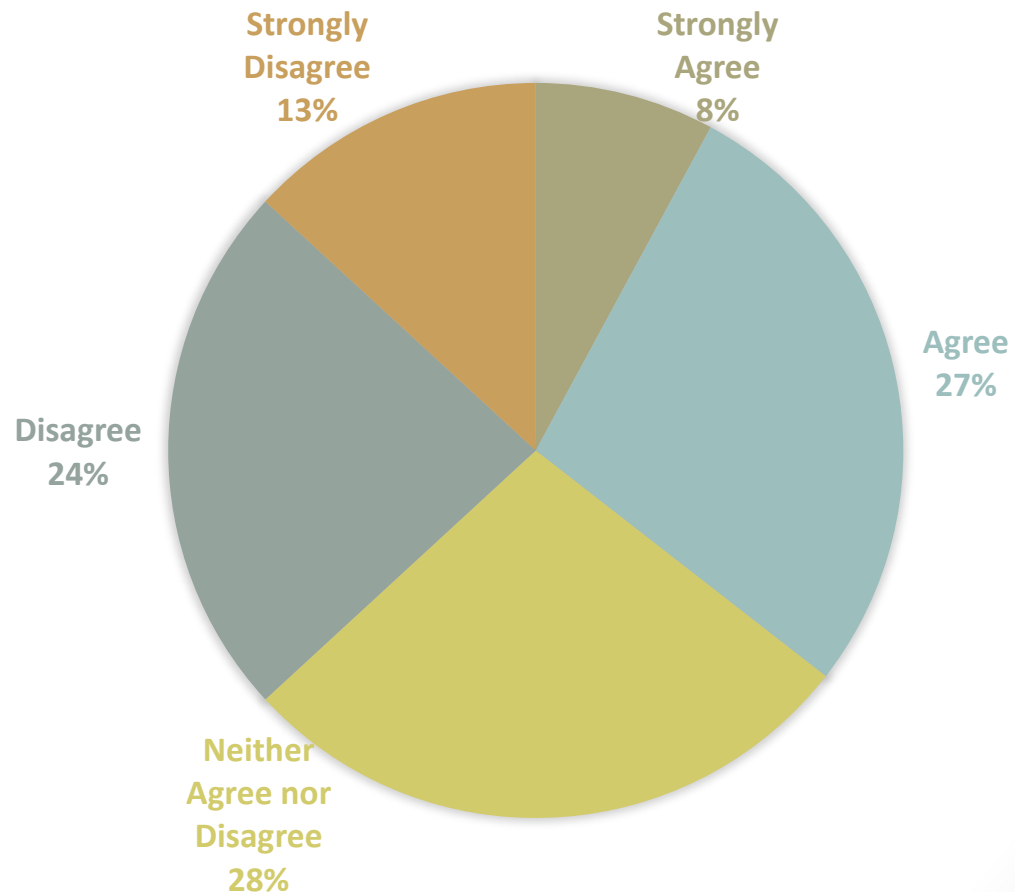
- Only 14% of stakeholders agrees that the EU ETS will provide price patterns compatible with an investment trajectory able to reach the mid-century climate goals of the EU.



# 'Sentiment' Survey

## 3. The EU ETS will provide an advantage for the EU business community.

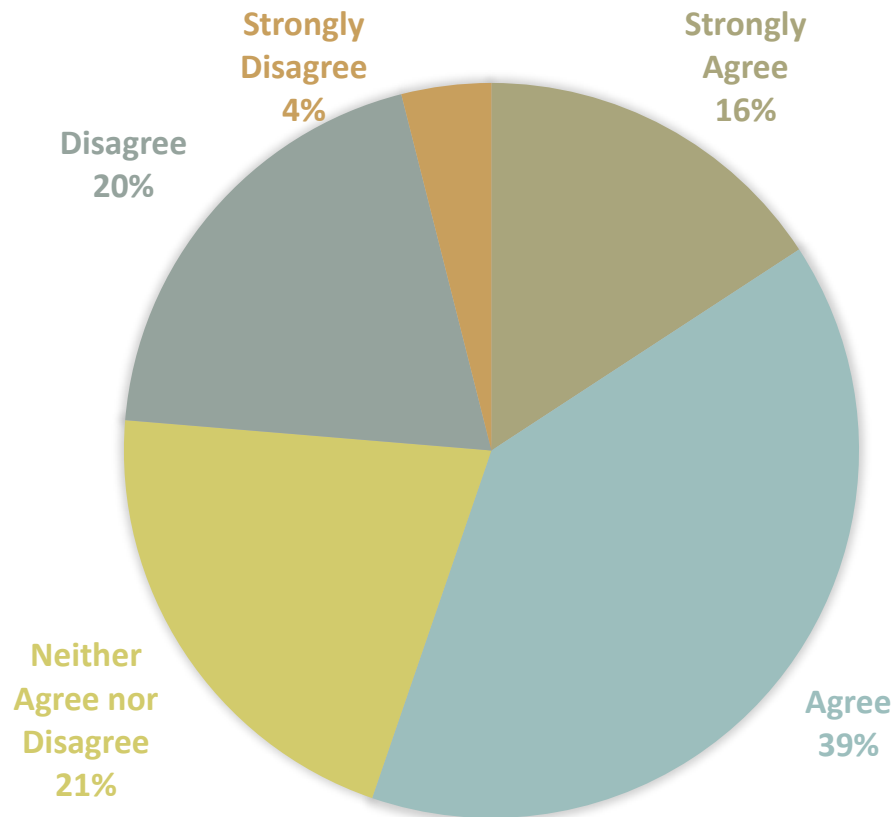
- Stakeholders divided – no consensus whether EU ETS is an advantage for the EU business community or not.



# 'Sentiment' Survey

## 4. The EU ETS will require significant changes to the MSR after the 2021 review.

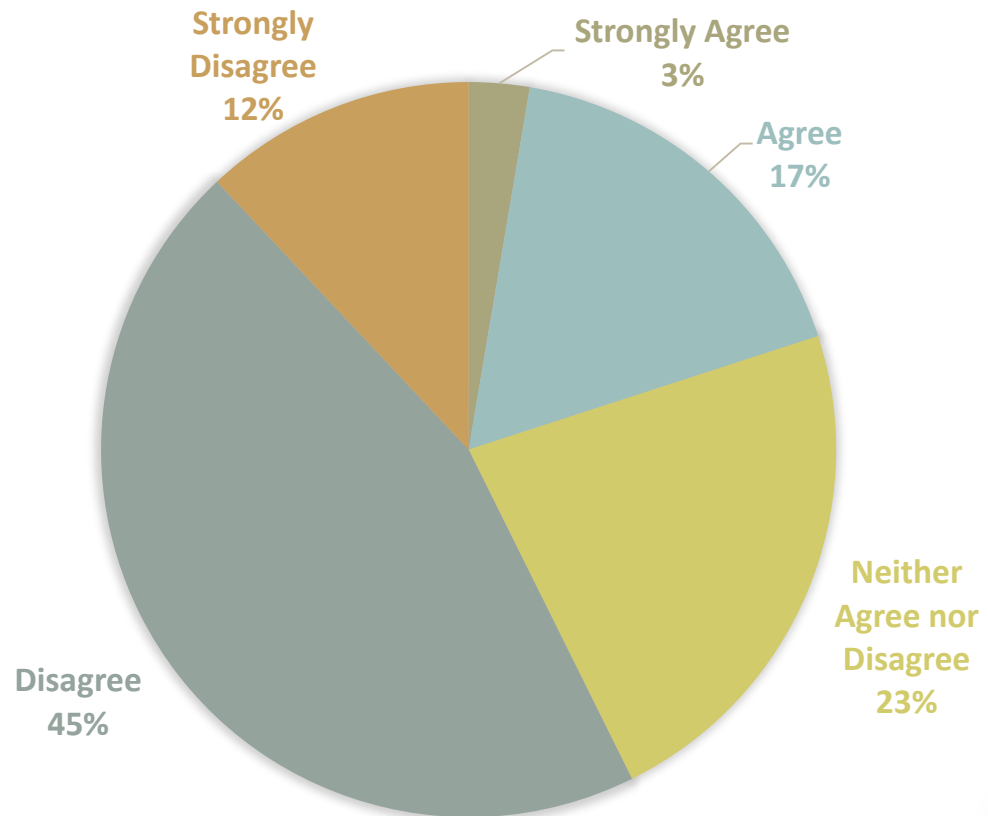
- Majority (55%) is of the opinion that the MSR will require significant changes in its first review.



# 'Sentiment' Survey

## 5. The mechanisms in place in the EU ETS are able to address the impacts of Member State policies that will overlap with the EU ETS.

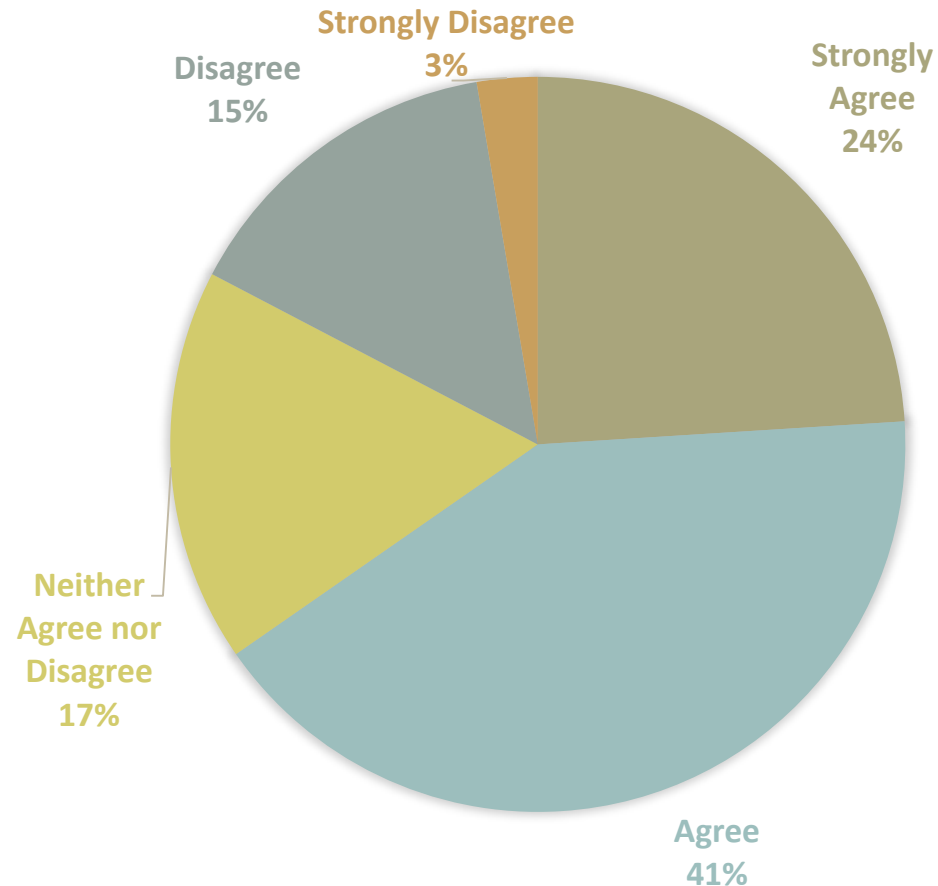
- Only 20% of stakeholders is of the opinion that the EU ETS will be able to address the impacts of overlapping climate policies.



# 'Sentiment' Survey

## 6. The new mid-century EU decarbonisation strategy will strongly impact the EU ETS.

- Large majority (65%) is of the opinion that the new mid-century decarbonization strategy for the EU will have a strong impact on the EU ETS.



# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  - 2. Relevant Policy and Governance issues**
    - i. Phase 4 review
    - ii. Expectations after P4
    - iii. Relevant issues from the Energy Union and the new EU long-term decarbonization strategy**
  3. Environmental delivery
  4. Economic efficiency
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# Energy Union

- Overlap between the EU ETS and other policies has been well established, and affects the EU ETS functioning.
- These overlaps need to be recognized, quantified, and managed. This should be done at the right policy level
- This would be at the level of the Energy Union – authority over all policies.



# Energy Union

- Current P4 legislation has some provisions to address overlap:
  - Voluntary cancellation of allowances by Member States
  - Market stability reserve
  - Functioning of the carbon market report
- Right level to address this is at the Energy Union
- Governance regulation proposal does not include any provisions to address overlap
  - EP did adopt amendments to address this - currently in Trilogue

# New EU long-term decarbonization strategy

- **Technology neutrality**

- Current 2050 roadmap is built on the assumption of technology neutrality + recognizes a market approach.
- If the new strategy deviates from this principle, will the EU ETS still be considered to be the main driver of decarbonization in the EU?

- **Long-term targets**

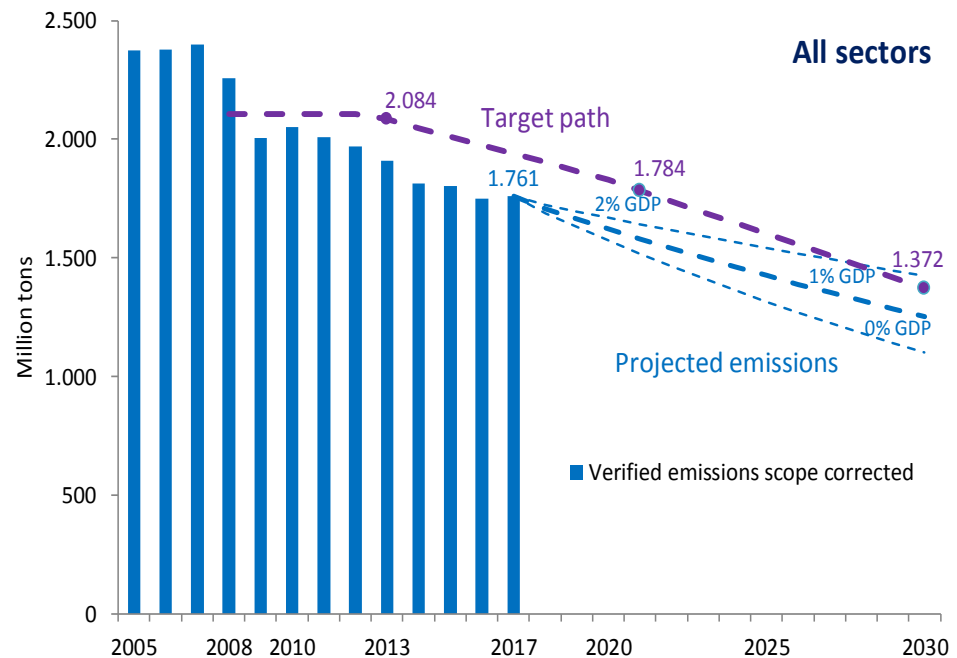
- To deliver on the 1.5°C and 2°C goal, the EU will have to go beyond the 80-95% by 2050 decarbonization scenarios it envisaged in 2011
- If carbon neutrality will be the goal by mid-century, this might have strong impacts on the ETS covered sectors.

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  - 3. Environmental delivery**
    - i. Delivery against the trading period**
    - ii. Delivery against EU long-term domestic environmental commitments
    - iii. Delivery against international commitments
  4. Economic efficiency
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# Delivery against the trading period

- 2020 target is being reached ahead of time – in 2016, emissions have already decreased by 26% compared to 2005.
- Preliminary 2017 data shows that emissions were 0.6% higher than in 2016, constituting the first rise in 7 years.
- Regarding P4, projections show that only under high GDP growth rates actual emissions might exceed the target path.



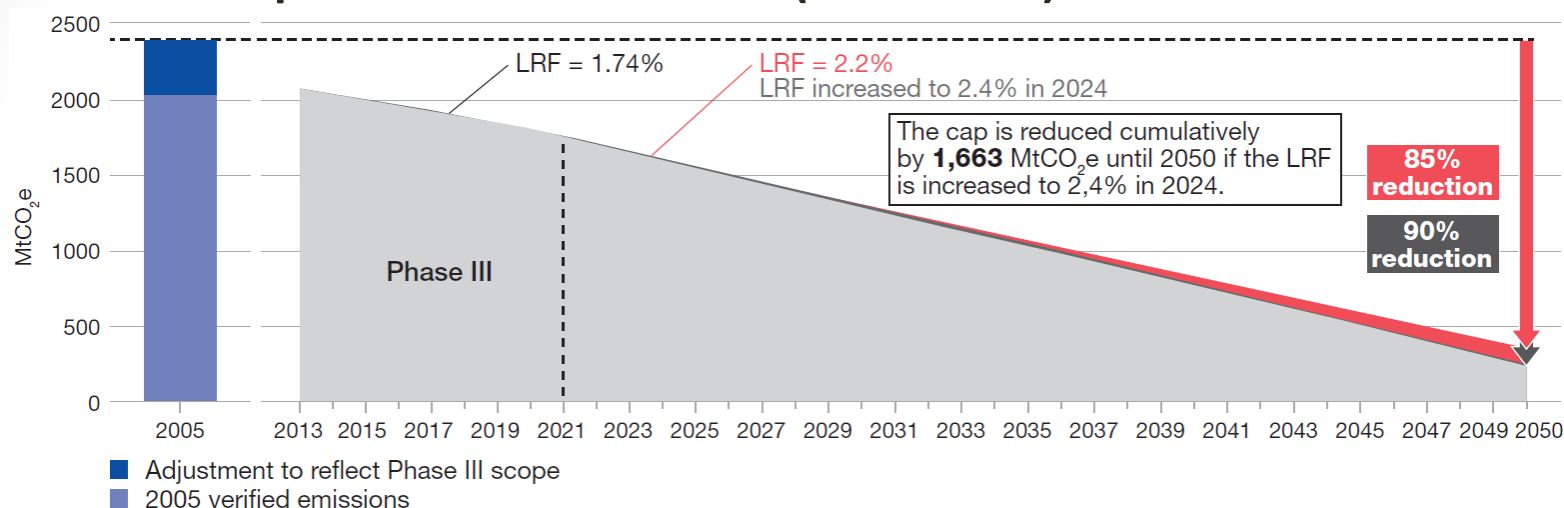
Source: Wegener center elaborations on EEA, 2018 and EU TL, 2018

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  - 3. Environmental delivery**
    - i. Delivery against the trading period
    - ii. Delivery against EU long-term domestic environmental commitments**
    - iii. Delivery against international commitments
  4. Economic efficiency
  5. Market functioning
  6. Making the EU ETS 'fit for purpose'

# EU ETS long-term trajectory

## EU ETS cap for fixed installations (2013-2050)



### Interpretation of the graph:

The grey area represents the EU ETS emissions cap in the case where the LRF is increased to 2.4% in 2024. The red area represents additional emissions in the cap in the case where the LRF is equal to 2.2% from 2021.

Source : I4CE, Enerdata, IFPEN, 2017

- A LRF of 2.2% from 2021 corresponds to a **85%** reduction in EU ETS GHG emissions in 2050/2005
- The 2050 Roadmap (drafted in 2011) projected an average reduction of **90%/2005** for ETS sectors

# State of the EU ETS 2018 – Outline

- Six Chapters

1. Introduction – EU ETS fit for purpose
2. Relevant Policy and Governance issues
- 3. Environmental delivery**
  - i. Delivery against the trading period
  - ii. Delivery against EU long-term domestic environmental commitments
  - iii. Delivery against international environmental commitments**
4. Economic efficiency
5. Market functioning
6. Making the EU ETS ‘fit for purpose’

# Delivery against international environmental commitments

## **Two events in 2018: IPCC 1.5°C Special Report approval and UNFCCC Facilitative Dialogue**

- IPCC special report will highlight the need for negative emissions and will underline the sense of urgency
- UNFCCC Facilitative Dialogue will be focused on reinforcing ambition constitute
  - A first step to frame mid-century strategies
  - Impact on NDCs?

## **Consequences for the EU ETS?**

- EU ETS market will probably not be influenced in 2018 by these processes but the conclusions of the 2018 processes could influence the first revision of the MSR in 2021 and possibly the ambition pre-2030?

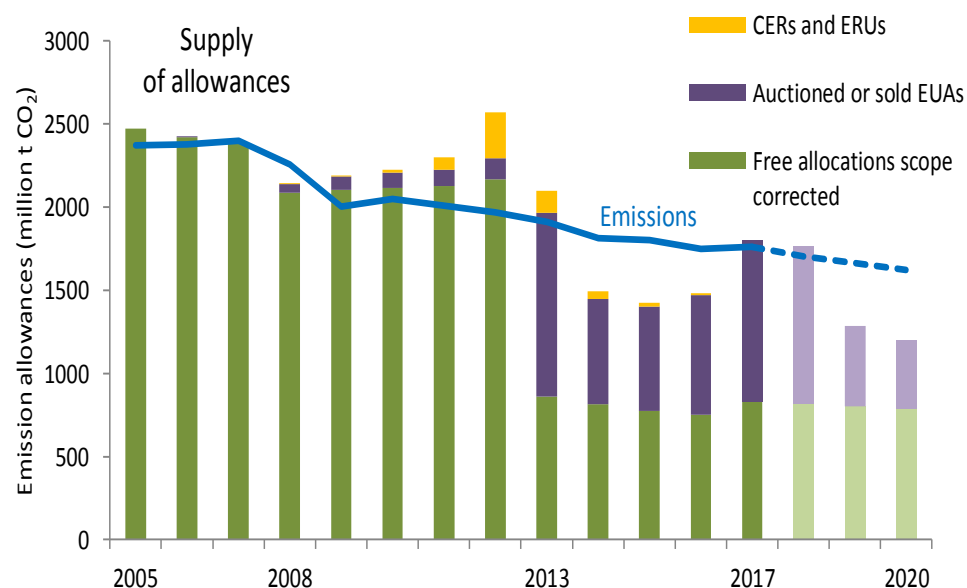


# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. **Economic efficiency**
    - i. **Emission and decarbonization trends**
    - ii. Is the EU ETS a driver for change?
    - iii. Impacts of the EU ETS
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# Emission trends

- Until last year, total emissions declined about 2.3% per year. (Combustion emissions by 3%, industry emissions by 0.3%)
- However, the rise of emissions in 2017 might signal that these trends are changing.
- In 2017, supply and demand was relatively balanced, after a number of short years due to backloading.
- Will change in 2019: shortage expected due to the functioning of the MSR.



Source: Wegener Center elaborations on EEA, 2017 and EU TL, 2017

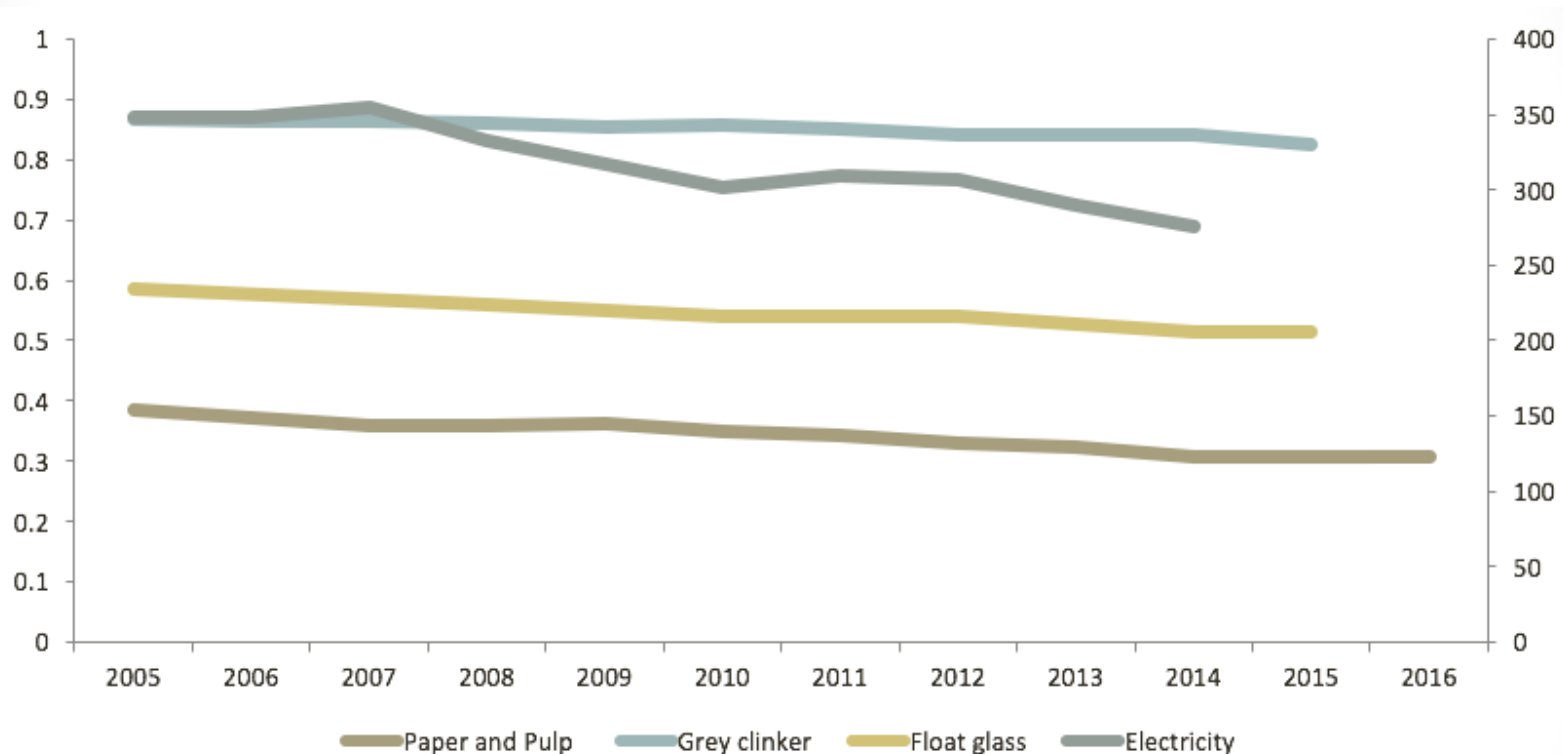
# Emission trends

Verified emissions [mt CO <sub>2</sub> ]	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>All stationary installations</b>	<b>2,120</b>	<b>1,880</b>	<b>1,939</b>	<b>1,904</b>	<b>1,867</b>	<b>1,908</b>	<b>1,814</b>	<b>1,803</b>	<b>1,750</b>	<b>1,761</b>
<i>Index</i>	100	89	91	90	88	90	86	85	83	83
<b>All combustion of fuels</b>	<b>1,512</b>	<b>1,385</b>	<b>1,419</b>	<b>1,389</b>	<b>1,378</b>	<b>1,333</b>	<b>1,238</b>	<b>1,226</b>	<b>1,179</b>	<b>1,179</b>
<i>Index</i>	100	92	94	92	91	88	82	81	78	78
<b>All industrial sectors</b>	<b>608</b>	<b>495</b>	<b>520</b>	<b>515</b>	<b>489</b>	<b>575</b>	<b>576</b>	<b>577</b>	<b>571</b>	<b>582</b>
<i>Index</i>	100	81	86	85	81	95	95	95	94	96
<b>All refining of mineral oil</b>	<b>142</b>	<b>132</b>	<b>130</b>	<b>130</b>	<b>124</b>	<b>128</b>	<b>125</b>	<b>128</b>	<b>127</b>	<b>126</b>
<i>Index</i>	100	93	92	91	88	91	88	90	90	89
<b>Steel total</b>	<b>159</b>	<b>110</b>	<b>131</b>	<b>130</b>	<b>123</b>	<b>141</b>	<b>143</b>	<b>142</b>	<b>136</b>	<b>140</b>
<i>Index</i>	100	69	83	82	78	89	90	89	86	88
<b>All production of cement clinker</b>	<b>157</b>	<b>126</b>	<b>124</b>	<b>122</b>	<b>114</b>	<b>111</b>	<b>116</b>	<b>114</b>	<b>115</b>	<b>119</b>
<i>Index</i>	100	80	79	77	73	70	74	73	73	75
<b>Production of bulk chemicals</b>	<b>32</b>	<b>29</b>	<b>30</b>	<b>29</b>	<b>27</b>	<b>39</b>	<b>39</b>	<b>39</b>	<b>39</b>	<b>39</b>
<i>Index</i>	100	91	94	90	85	123	122	123	122	123
<b>Paper or cardboard</b>	<b>27</b>	<b>24</b>	<b>25</b>	<b>24</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>
<i>Index</i>	100	88	95	91	86	85	81	82	81	83
<b>Ceramics</b>	<b>18</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>12</b>	<b>15</b>	<b>15</b>	<b>16</b>	<b>16</b>	<b>17</b>
<i>Index</i>	100	72	72	73	65	87	86	88	90	94
<b>Other activities</b>	<b>74</b>	<b>62</b>	<b>67</b>	<b>68</b>	<b>66</b>	<b>117</b>	<b>117</b>	<b>116</b>	<b>116</b>	<b>120</b>
<i>Index</i>	100	84	91	93	89	160	159	158	158	163

Source: Wegener Center elaborations on EEA, 2017 and EU TL, 2017

- Clear downward trend during the crisis.
- Most big industrial sectors show a decrease in emissions compared to pre-crisis levels.

# Emission intensity of EU industry



Paper and pulp (left axis): ton of CO2/ton of product. *Source: CEPI*

Grey clinker (left axis): ton of CO2/ton of grey clinker. Excludes on site power generation *Source: GNR*

Float glass (left axis): ton of CO2/ton of melted glass. *Source: Glass for Europe*

Electricity (right hand axis): gCO2/kWh ratio of CO2 emissions from public electricity production (as share of CO2 emissions from public electricity and heat production related to electricity production), and gross electricity production. *Source: EEA*

# State of the EU ETS 2018 – Outline

- Six Chapters

1. Introduction – EU ETS fit for purpose
2. Relevant Policy and Governance issues
3. Environmental delivery
4. **Economic efficiency**
  - i. Emission and decarbonisation trends
  - ii. **Is the EU ETS a driver for change?**
    - **Overlapping Policies**
    - Deployment of new technologies
    - Use of revenues
  - iii. Impacts of the EU ETS
5. Market functioning
6. Making the EU ETS ‘fit for purpose’

# Interaction with EU-level climate and energy policies

Objectives \ Sectors	Energy		Industry	Aviation	Transport	Road	Residential and commercial	Agriculture and forestry	Waste
	Utilities	Refineries			Shipping				
GHG emissions reduction	EU ETS								
			ESR		Effort sharing Regulation (ESR)				
	Industrial Emissions Directive (IED)								IED
			F-gases regulation				F-gases regulation	LULUCF regulation	
		Fuel Quality directive				Fuel Quality directive			
Deployment of renewable energy sources	Renewable Energy Directive (RED)								
Increase in energy efficiency			Ecodesign directive				EPBD*		
	Energy Efficiency Directive (EED)								
							Energy Labelling regulation		

Governance Regulation

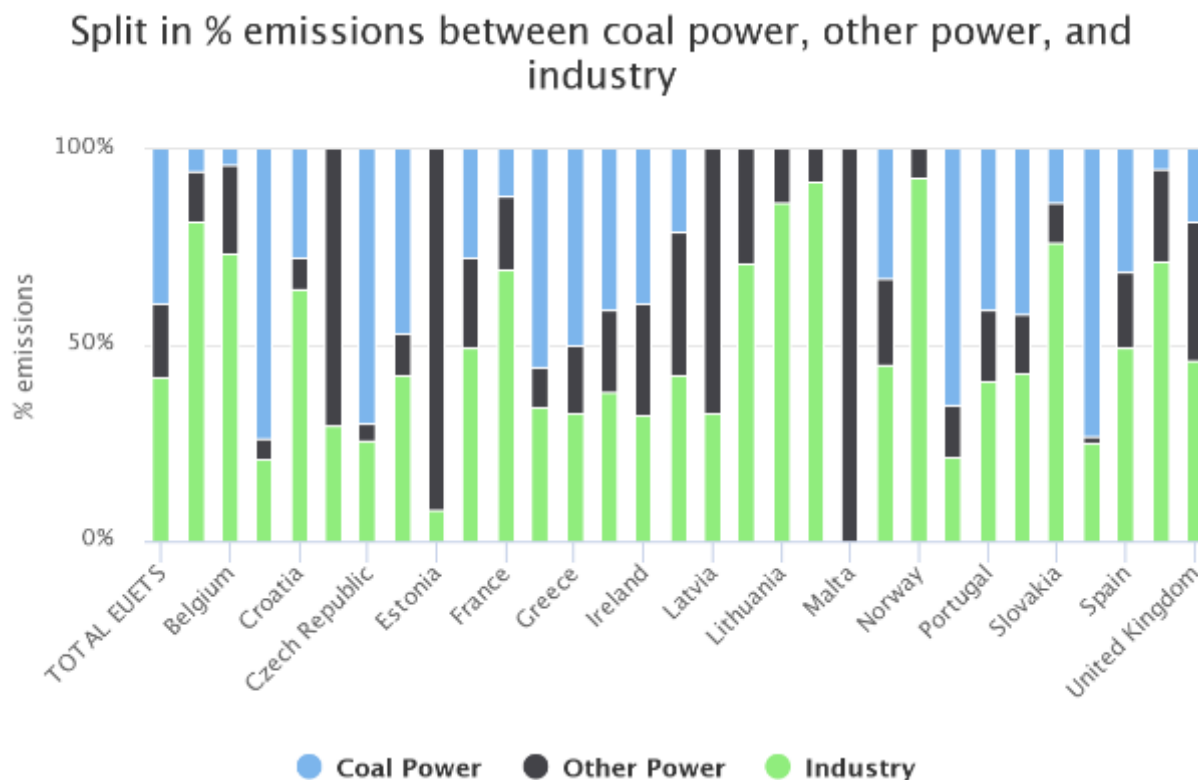
Legend: In revision or revised as part of 2030 climate and energy framework In force

\* EPBD: Energy performance of buildings directive

**Interpretation of the graph:** The different objectives in the left-end column are to be achieved through the legislative texts in the frame with the same color. Those legislative texts apply in the sectors in the respective columns.

# Interaction with national policies

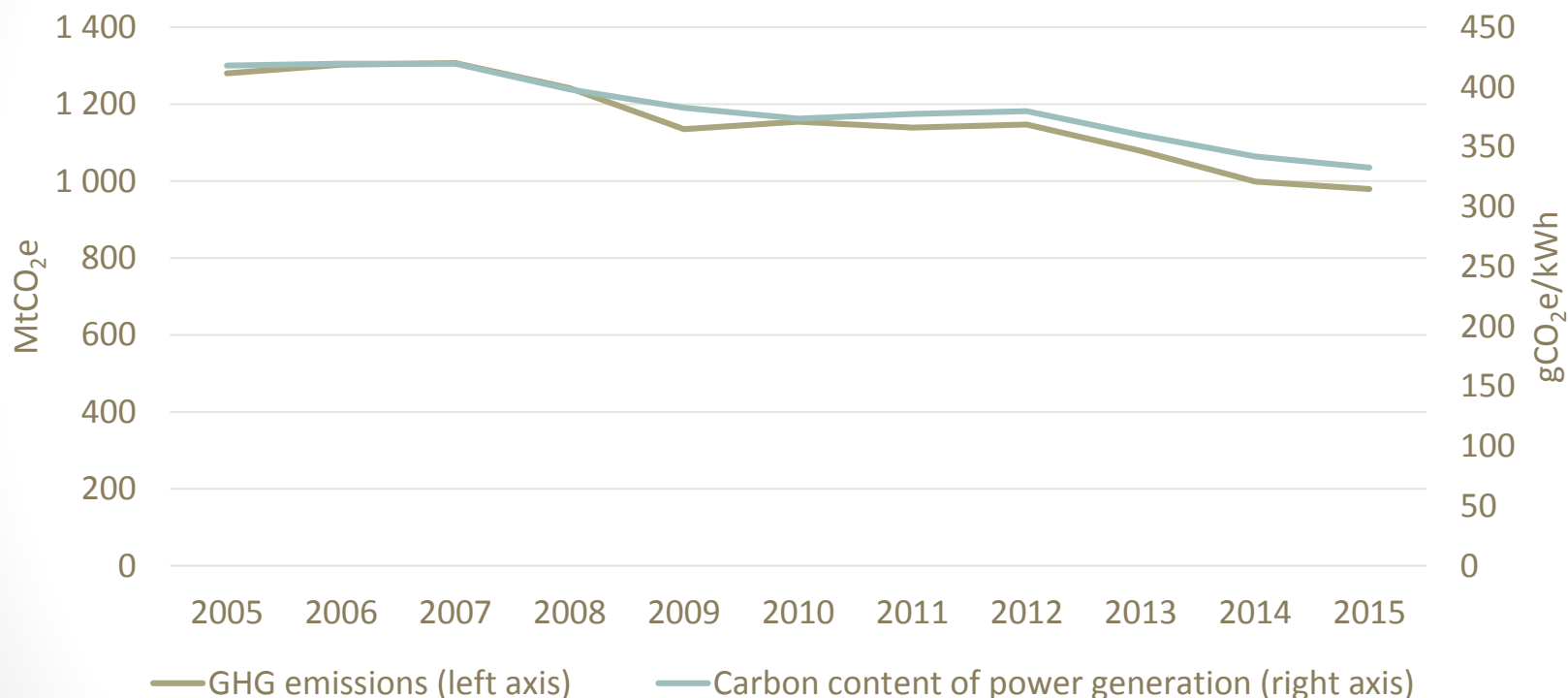
- Coal-phase outs? (increasing number of commitments)
- National carbon price floors? (UK initiative in 2011)



# Focus on GHG emissions in the power sector

## GHG emissions from the power sector and carbon content of power generation (2005-2015)

Source : I4CE elaborations on Eurostat, 2017

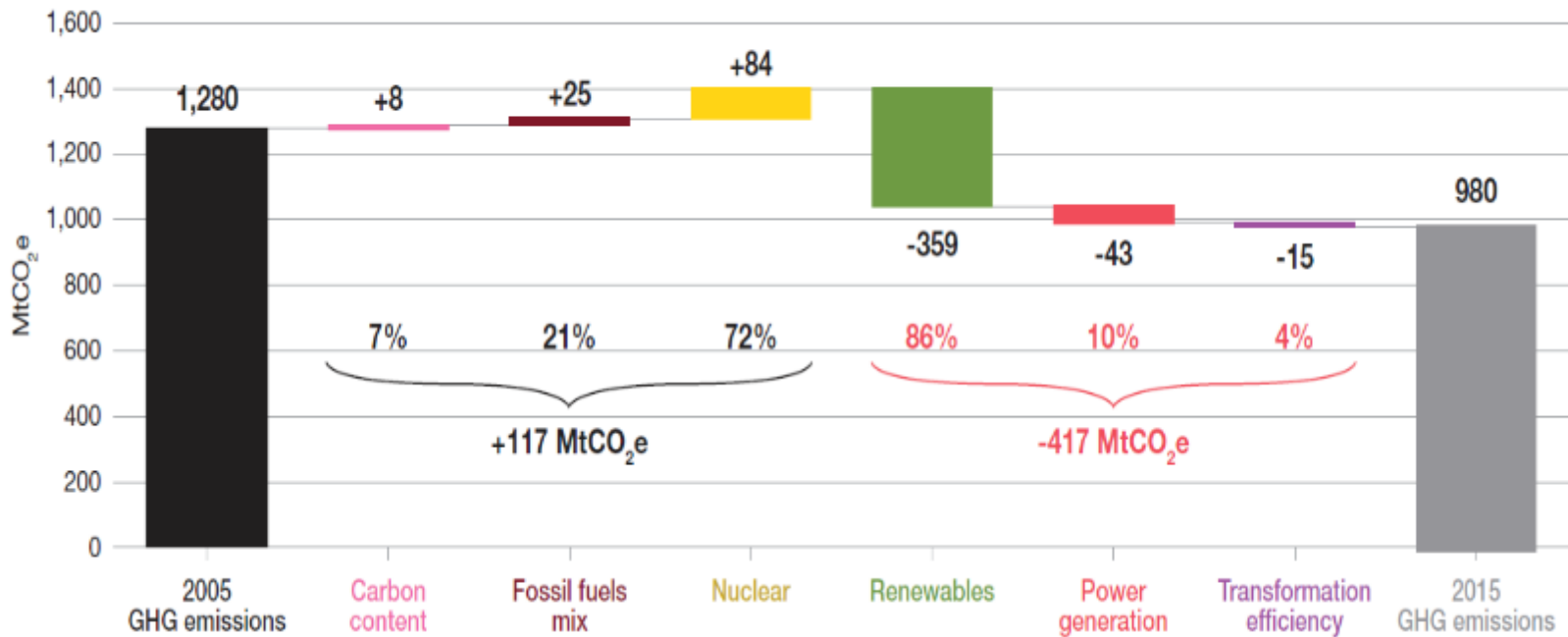


- Between 2005 and 2015, GHG emissions from the power sector decreased by 300 MtCO<sub>2</sub>e (23%).
- In the same period, the carbon content of power generation decreased by 20%.



# Historical drivers of GHG emissions variations in the power sector

## Drivers of emissions variations in the power sector in the EU (2005-2015)

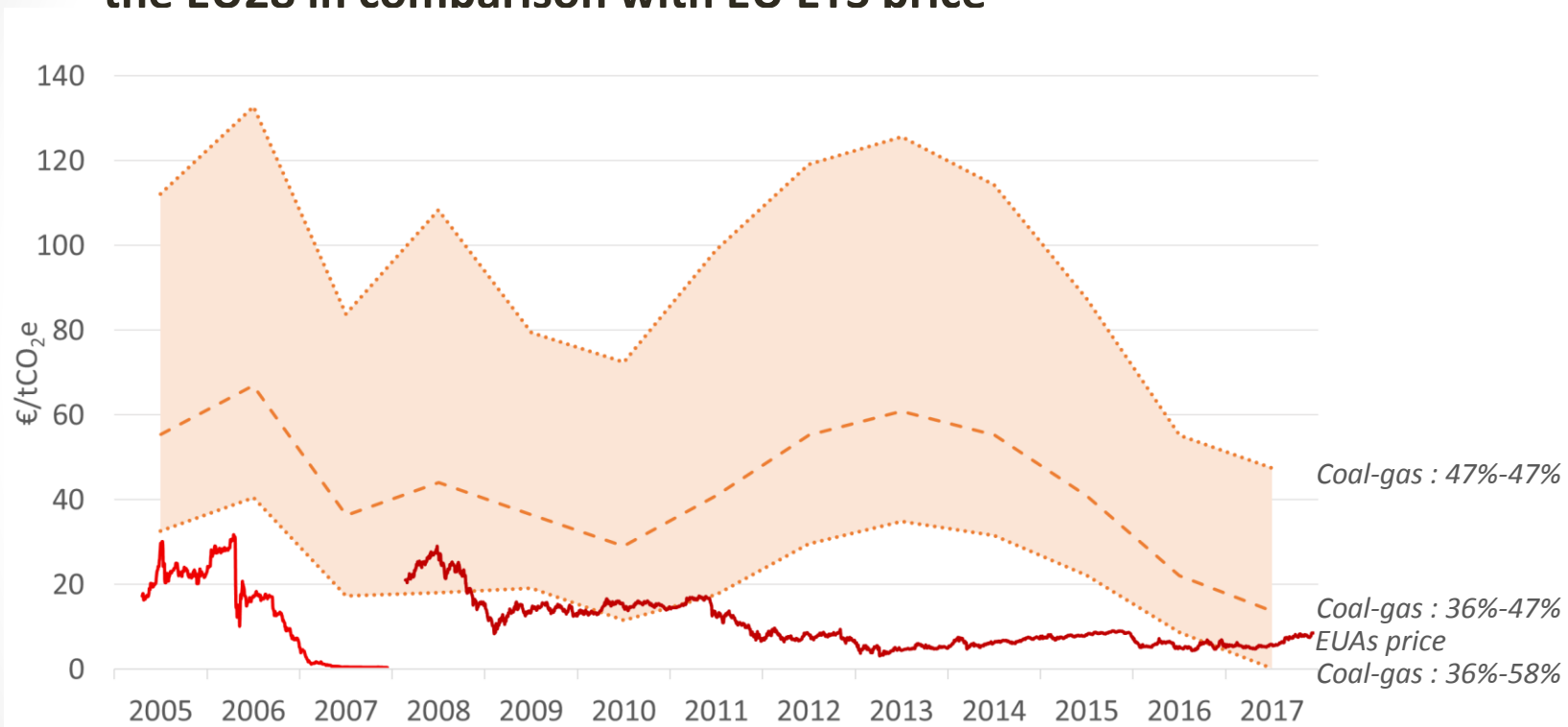


Source : I4CE, 2017

- The **deployment of renewable sources of energy** was the most important driver in decreasing GHG emissions in the power sector over 2005-2015: **-359 MtCO<sub>2</sub>e** over the period

# Coal-to-gas switching price in comparison with the EU ETS price

**CO<sub>2</sub> switching price for different coal and gas generation efficiency in the EU28 in comparison with EU ETS price**



Source : IACE, with data from Nomisma Energia for coal and gas prices (respectively API2 and TTF) and from ICE Futures Europe for EUAs price (forward dec 2007 for phase I ; spot price for phases II & III)

- Between 2011 and 2016, the price of EUAs was well below the price level which would have triggered a coal-to-gas switch for power generation.

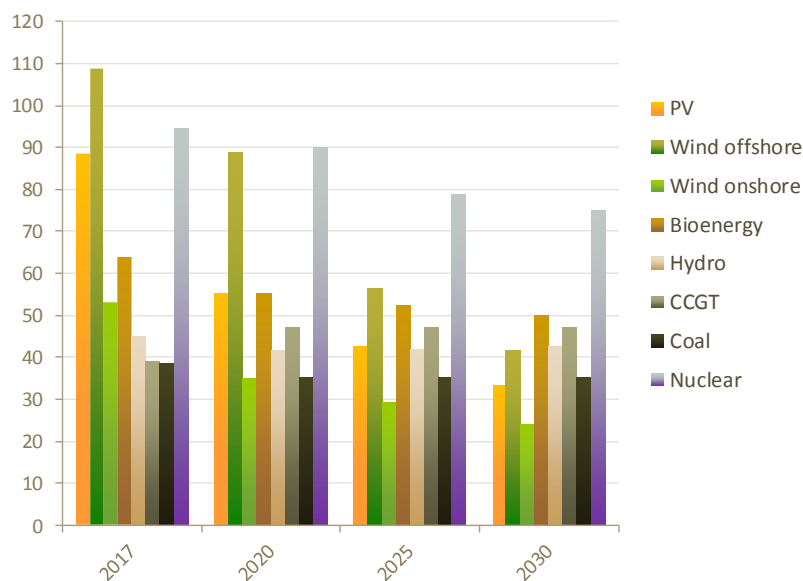
# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. **Economic efficiency**
    - i. Emission and decarbonisation trends
    - ii. **Is the EU ETS a driver for change?**
      - **Overlapping Policies**
      - **Deployment of new technologies**
      - Use of revenues
    - iii. Impacts of the EU ETS
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

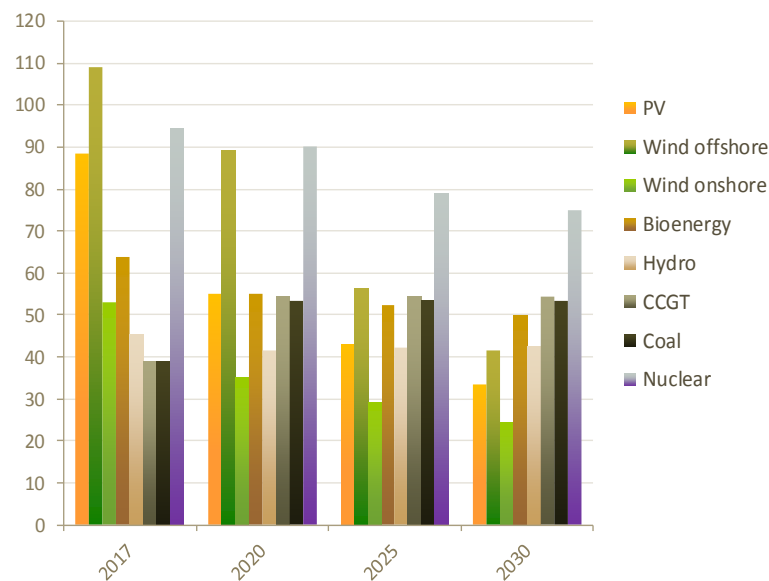
# Deployment of new technologies

Dynamic analysis for prices of 10€/ton and 30 €/ton CO<sub>2</sub>

RES costs vs Conventional - EUA = 10 €/ton  
€/MWh



RES costs vs Conventional - EUA = 30 €/ton  
€/MWh



Source : NE Nomisma Energia on IRENA, BEIS auctions, Bundesnetzagentur, McKinsey,  
It was assumed a price of coal and gas constant over the period and equal to the average of the last five years

Onshore wind (already in 2020-2025) and PV (by 2030) will become less costly than coal. Switch from coal to gas may not occur

Onshore wind and PV may happen relatively soon. Hydropower and offshore wind will also become cheaper than coal. Switch from coal to gas remains uncertain.

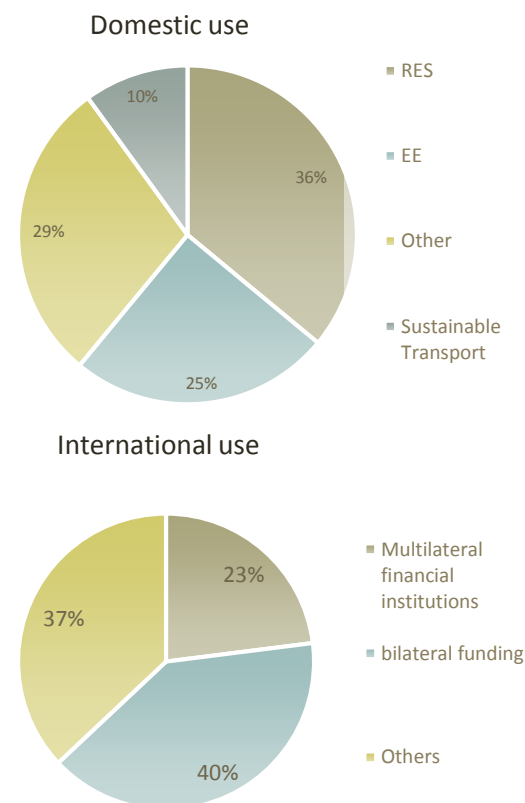
# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. **Economic efficiency**
    - i. Emission and decarbonisation trends
    - ii. **Is the EU ETS a driver for change?**
      - Overlapping Policies
      - Driver for deployment of new technologies?
      - Driver for new R&D?
      - **Use of revenues**
    - iii. Impacts of the EU ETS
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# Use of auction revenues

**75% of auctioning revenues for climate and energy purposes, amounting to €8.8 billion over 2013-2015**

- Projects and their categories are self-reported by Member States – sometimes unclear what they cover
- The Commission performed checks to validate the reported information, the report highlighted important issues:
- This €8.8 billion can be further divided between domestic use (90%) and international use (10%).
- Putting the numbers in perspective:
  - Domestic use – 6.6% of total investments in domestic climate action
  - International use – 2.9% in 2013 and 0.5% in 2014 of total international climate finance from EU



Source: EU Commission, Analysis of the use of Auction Revenues by the Member States Report, 2017.

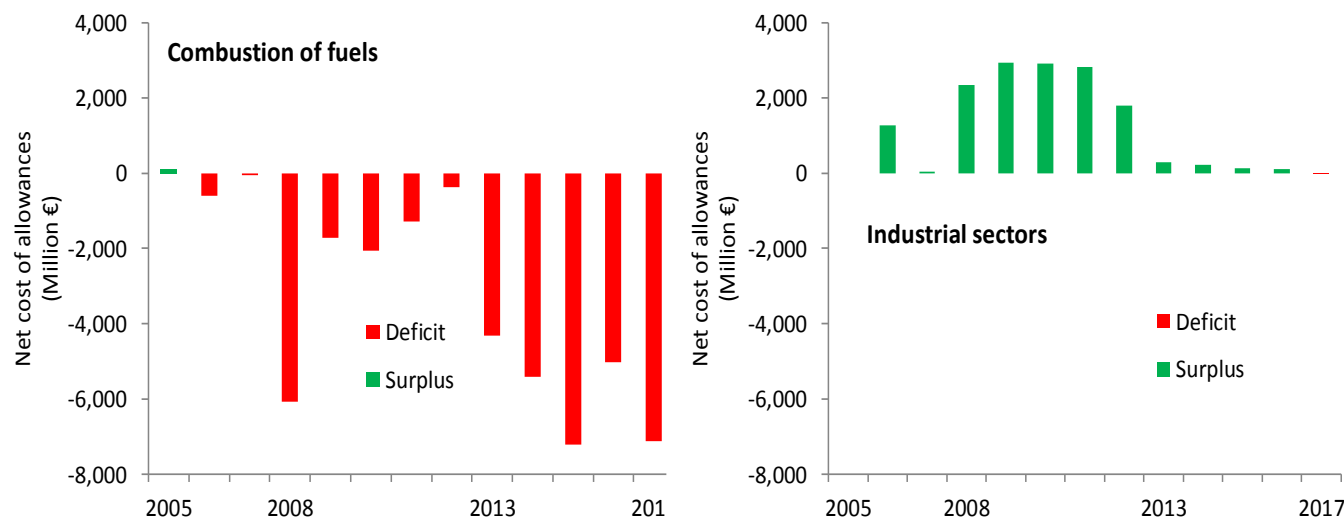
Source: EU Commission, Analysis of the use of Auction Revenues by the Member States Report, March 2017

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. **Economic efficiency**
    - i. Emission and decarbonisation trends
    - ii. Is the EU ETS a driver for change?
    - iii. **Impacts of the EU ETS**
      - **Monetary Impacts**
      - Carbon Leakage – direct costs
      - Carbon Leakage – Indirect costs
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# Net costs of allowances

## Combustion and Industry



An estimation of the net costs of allowances, separated for combustion and industry (as defined by EU TL activity codes), indicates that combustion installations has been short since 2006, while industry sectors have been long.

Source: Wegener Center elaborations on EEA, 2017

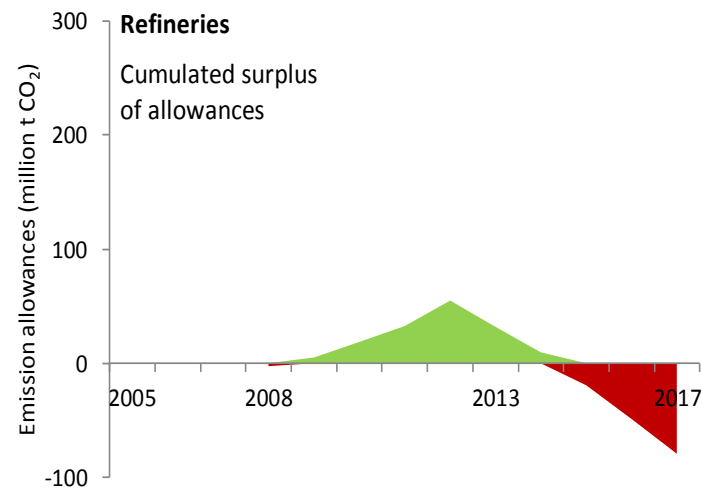
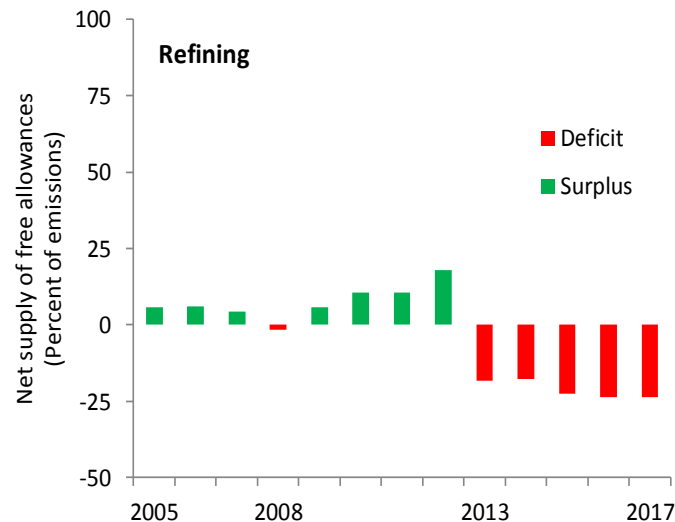


# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. **Economic efficiency**
    - i. Emission and decarbonisation trends
    - ii. Is the EU ETS a driver for change?
    - iii. **Impacts of the EU ETS**
      - Monetary Impacts
      - **Carbon Leakage – direct costs**
      - Carbon Leakage – Indirect costs
  5. Market functioning
  6. Making the EU ETS ‘fit for purpose’

# Refining of mineral oil

## Activity 21

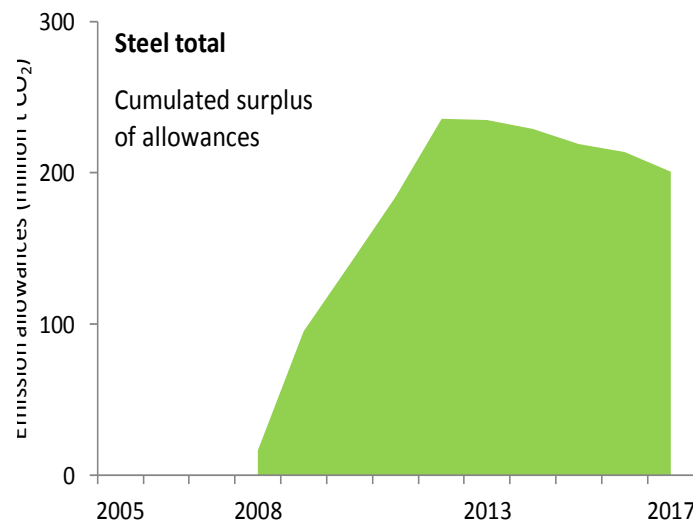
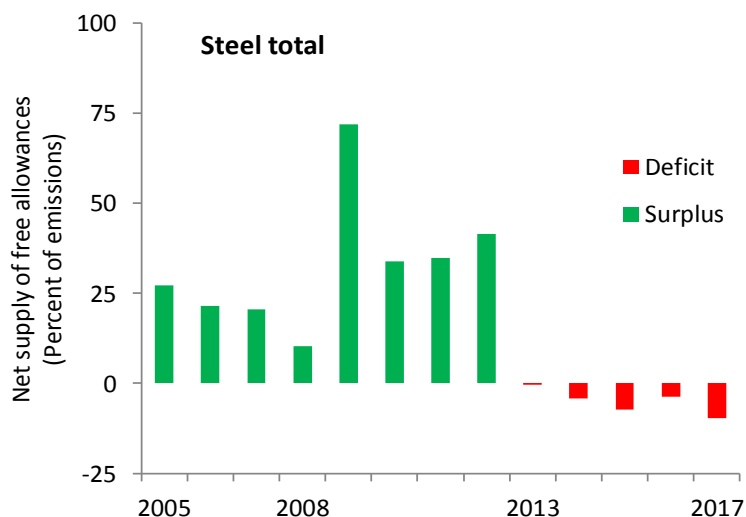


Source: Wegener Center elaborations on EEA, 2017 and EU TL, 2018

For refineries, the net surpluses cumulated in P2 were quickly used up by net deficits during P3

# Steel

## Activity 22, 23, 24, 25 and flue gas

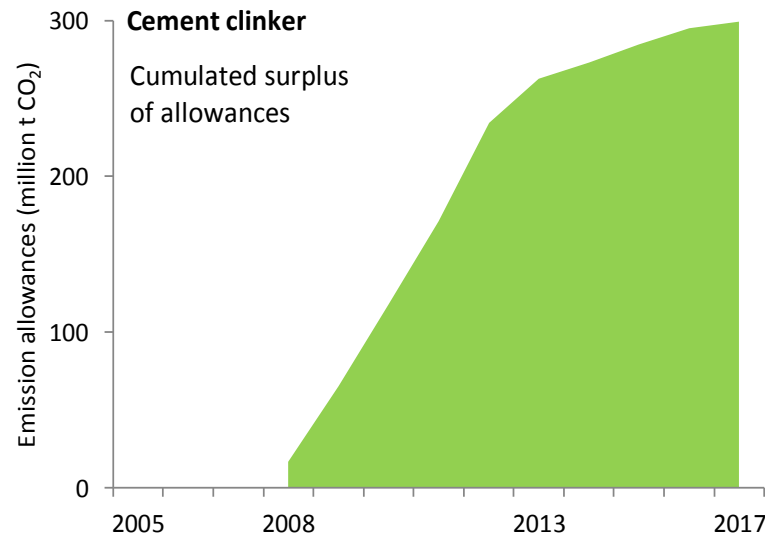
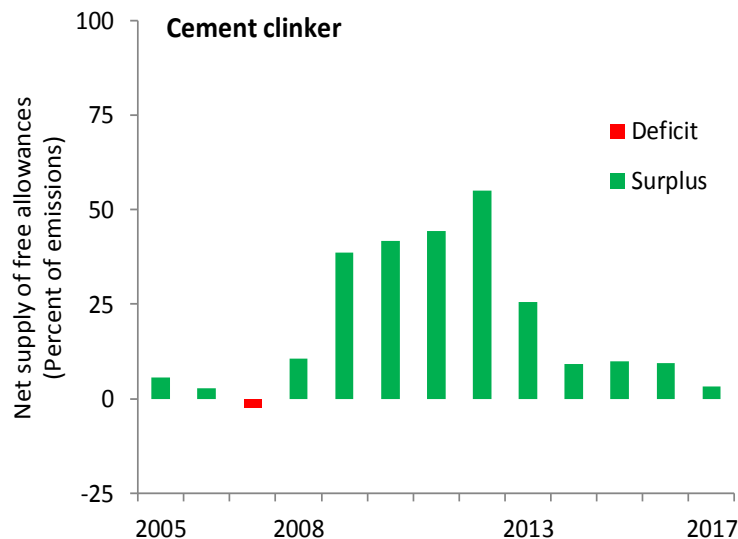


Source: Wegener Center elaborations on EEA, 2017 and EU TL, 2018

For steel, the considerable net surplus of free allowances in P2 is still sufficient to compensate for the net deficits in the allocation of free allowances in P3.

# Cement clinker

## Activity 29



Source: Wegener Center elaborations on EEA, 2017  
and EU TL, 2018

The cement industry still holds about 270  
million tons of CO<sub>2</sub>.

# State of the EU ETS 2018 – Outline

- Six Chapters

1. Introduction – EU ETS fit for purpose
2. Relevant Policy and Governance issues
3. Environmental delivery

- 4. Economic efficiency**

- i. Emission and decarbonisation trends
- ii. Is the EU ETS a driver for change?

- iii. Impacts of the EU ETS**

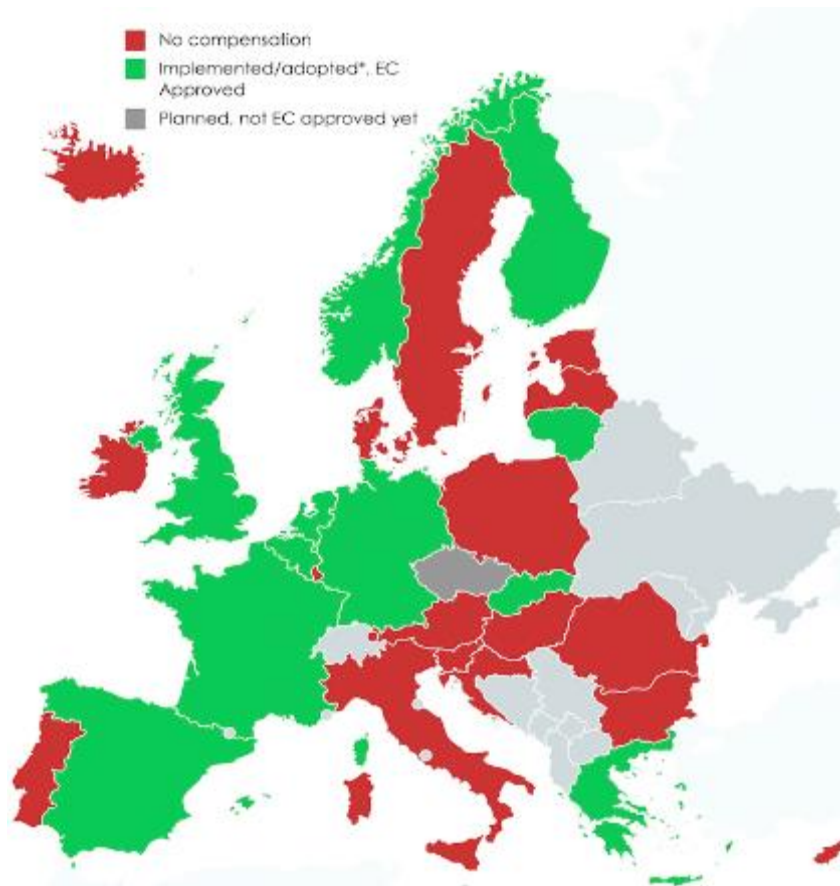
- Monetary Impacts
- Carbon Leakage – direct costs
- **Carbon Leakage – Indirect costs**

5. Market functioning

6. What is needed to make the EU ETS ‘fit for purpose’

# Indirect Costs

- No harmonized approach approach
  - only a third of Member States provide compensation, creating a distortion across Europe
- Even where compensation schemes exist, indirect costs are not fully compensated due to regressive aid intensity levels (in accordance with state aid guidelines)
  - Will the regressive aspect of aid intensity continue in P4?



Source: European Commission, 2018

# Indirect Costs

## Compensation of indirect costs in 6 Member States (2016)

Member State	Total compensation indirect costs	Auction Revenues	Percentage of auction revenues used
France	140,339,677.00	234,683,755	59.80%
Germany	288,723,308.06	850,000,000	33.97%
The Netherlands	45,000,000.00	142,610,000	31.55%
Finland	36,300,000.00	71,220,000	50.97%
Greece	3,845,242.00	148,050,000	2.60%
Flanders	39,383,616.43	56,917,488	69.19%

*Source: Data obtained from Member States, Tieben and in 't Veld, 2017, & Maximiser, 2018*

- Most Member States used more than 25% of their auction revenues
  - Given the soft limit of 25% for P4, this might prove to be problematic in the future.

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. Economic efficiency
  - 5. Market functioning**
    - i. Key performance indicators**
  6. Making the EU ETS ‘fit for purpose’



# Market functioning tracker

## Market is functioning well and showing signs of improvement

- The market functioned slightly better compared to last year: three out of the eight tracked KPIs exhibited an improvement, while only two KPIs showed a worsening performance. The current rise in prices can in this case also be seen as a positive development.

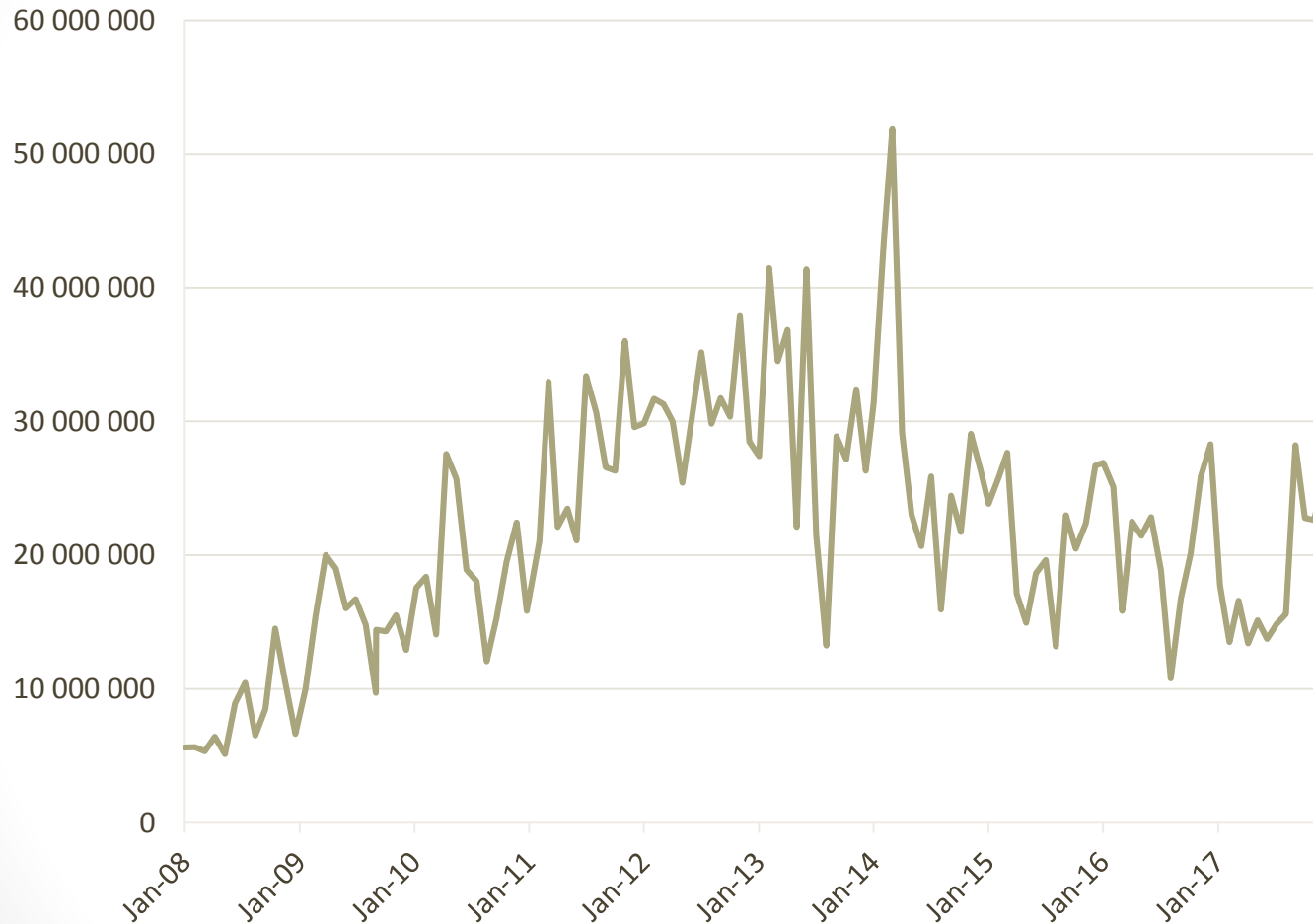
KPI	2017/2016
<i>Volumes</i>	↑
<i>Open Interest</i>	▬
<i>Auction participation</i>	↑
<i>Auction coverage</i>	▬
<i>Auction vs Spot spread</i>	↑
<i>Bid-ask spread</i>	↑
<i>Cost of carry</i>	▬
<i>Volatility</i>	↓

**Legend**

- ↑ Improving
- ▬ Stable
- ↑ Worsening

# Volumes

## Daily average

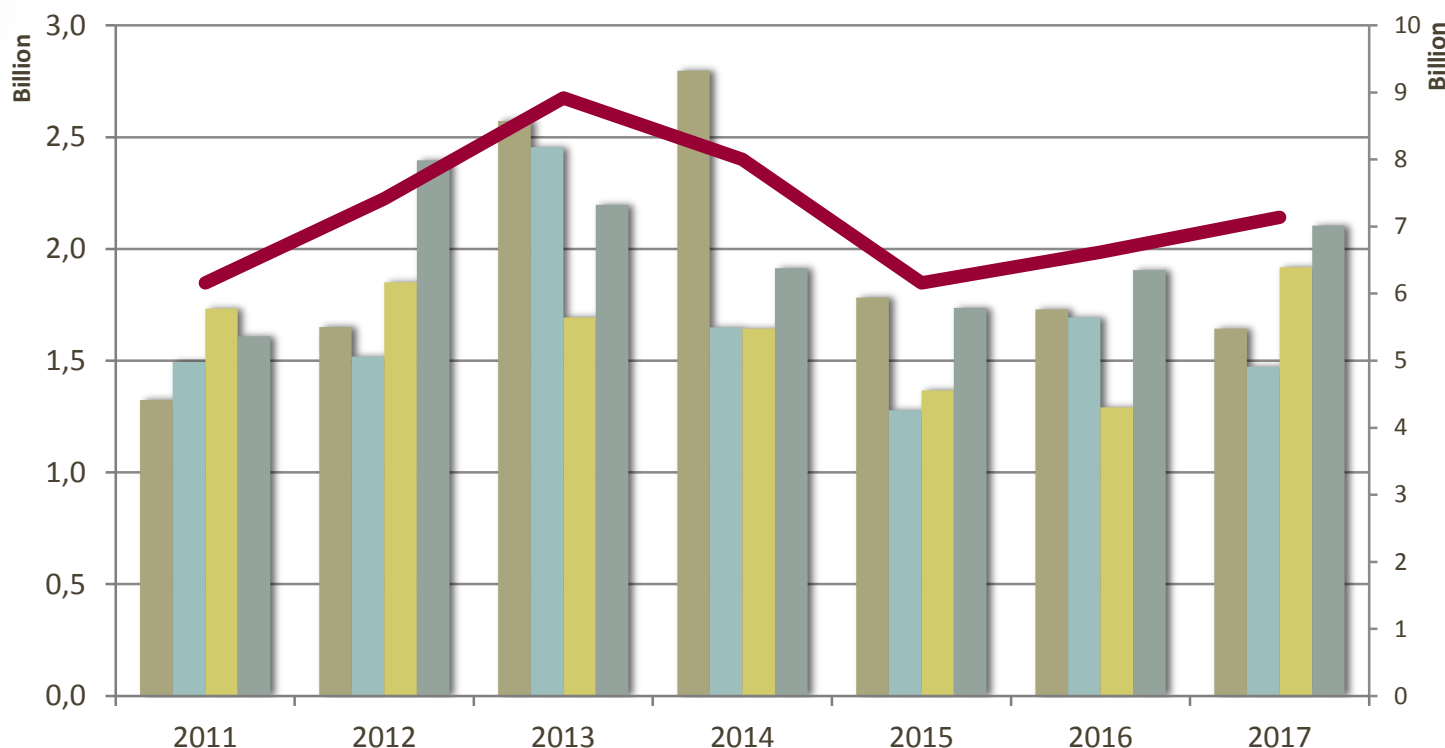


Source: ICE, 2018

NOT FOR CITATION OR DISTRIBUTION

# Volumes

## quarterly and annual



**Quarterly (bars): left hand axis**

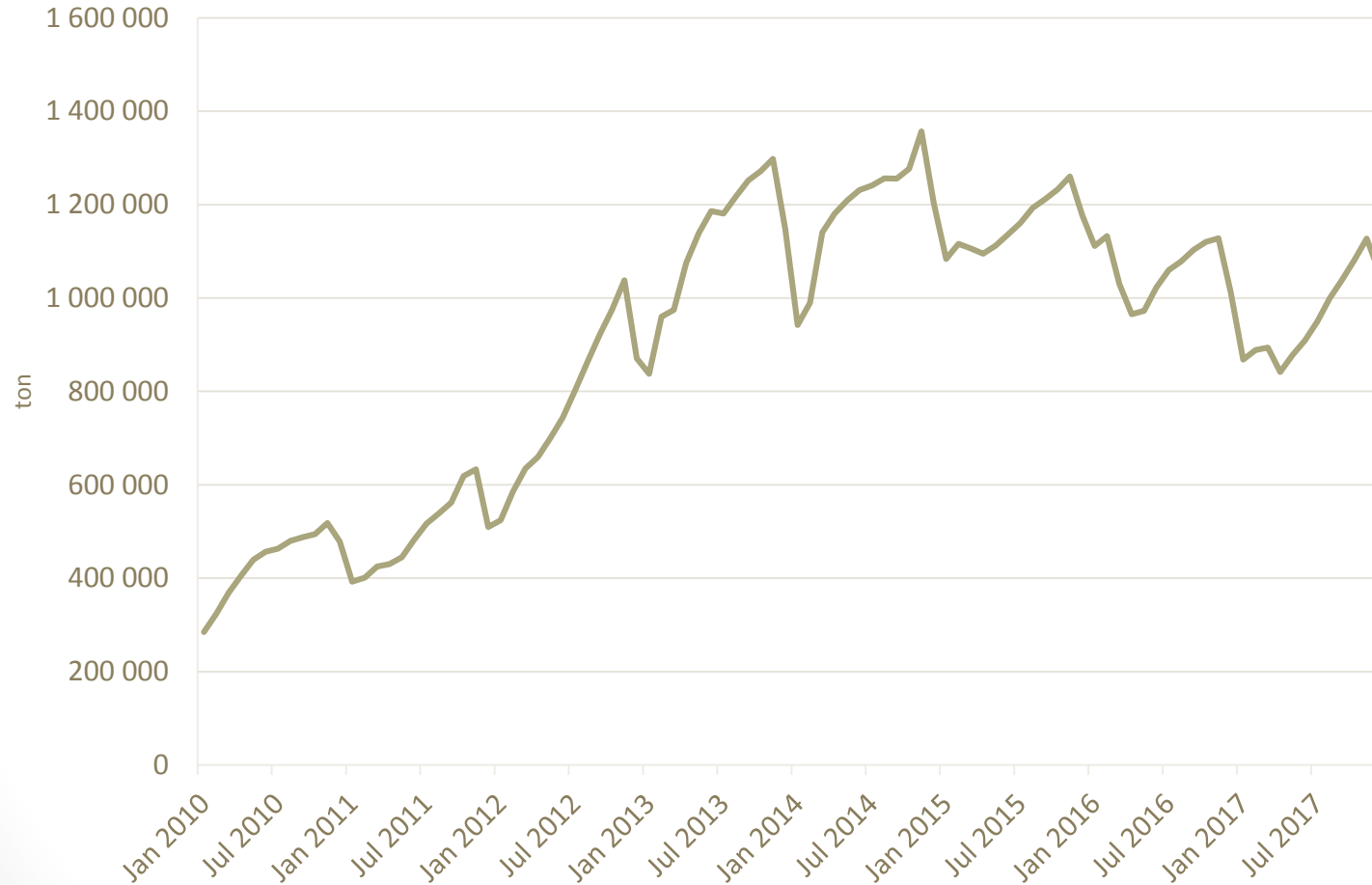
**Annual (line): right hand axis**

Volumes include: EEX and ICE executed, broker  
bilateral, broker cleared

*Source: Trayport, 2018*

NOT FOR CITATION OR DISTRIBUTION

# Open interest contracts (prev. day)

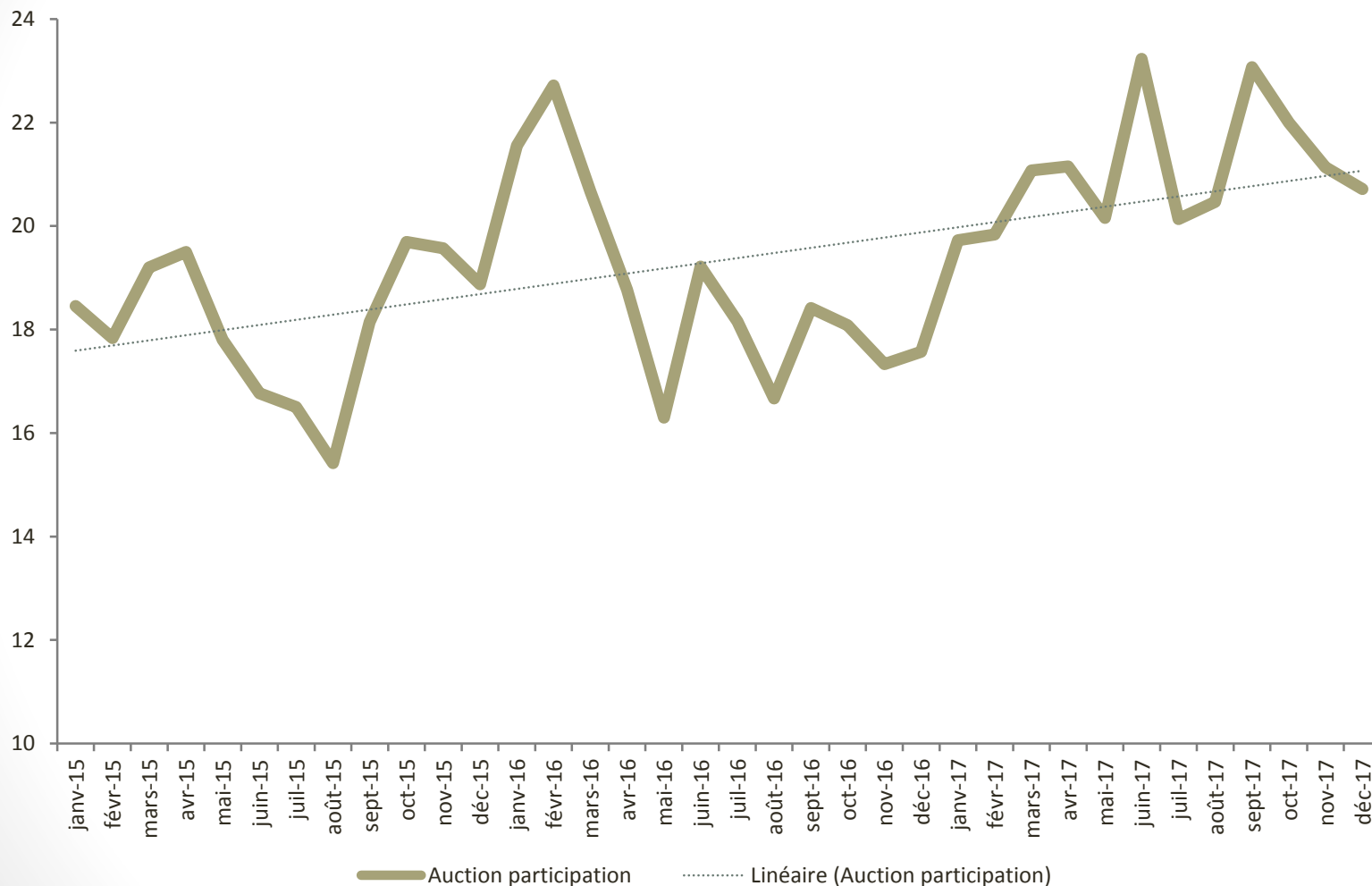


Source: ICE, 2018

NOT FOR CITATION OR DISTRIBUTION

# Auction participation (EEX)

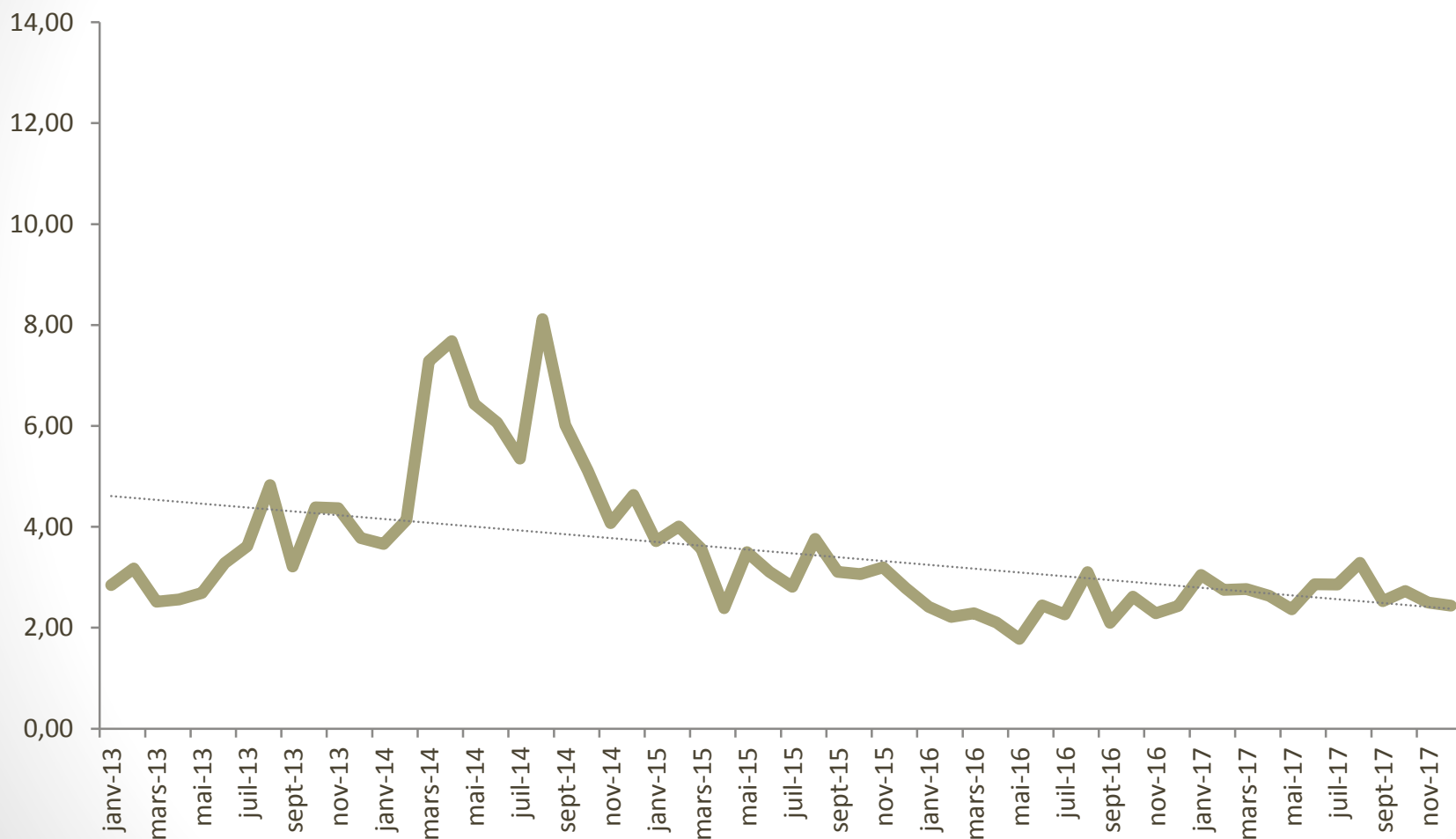
## Monthly average auction participation



Source: EEX, 2018

# Auction coverage (EEX)

## Monthly auction coverage

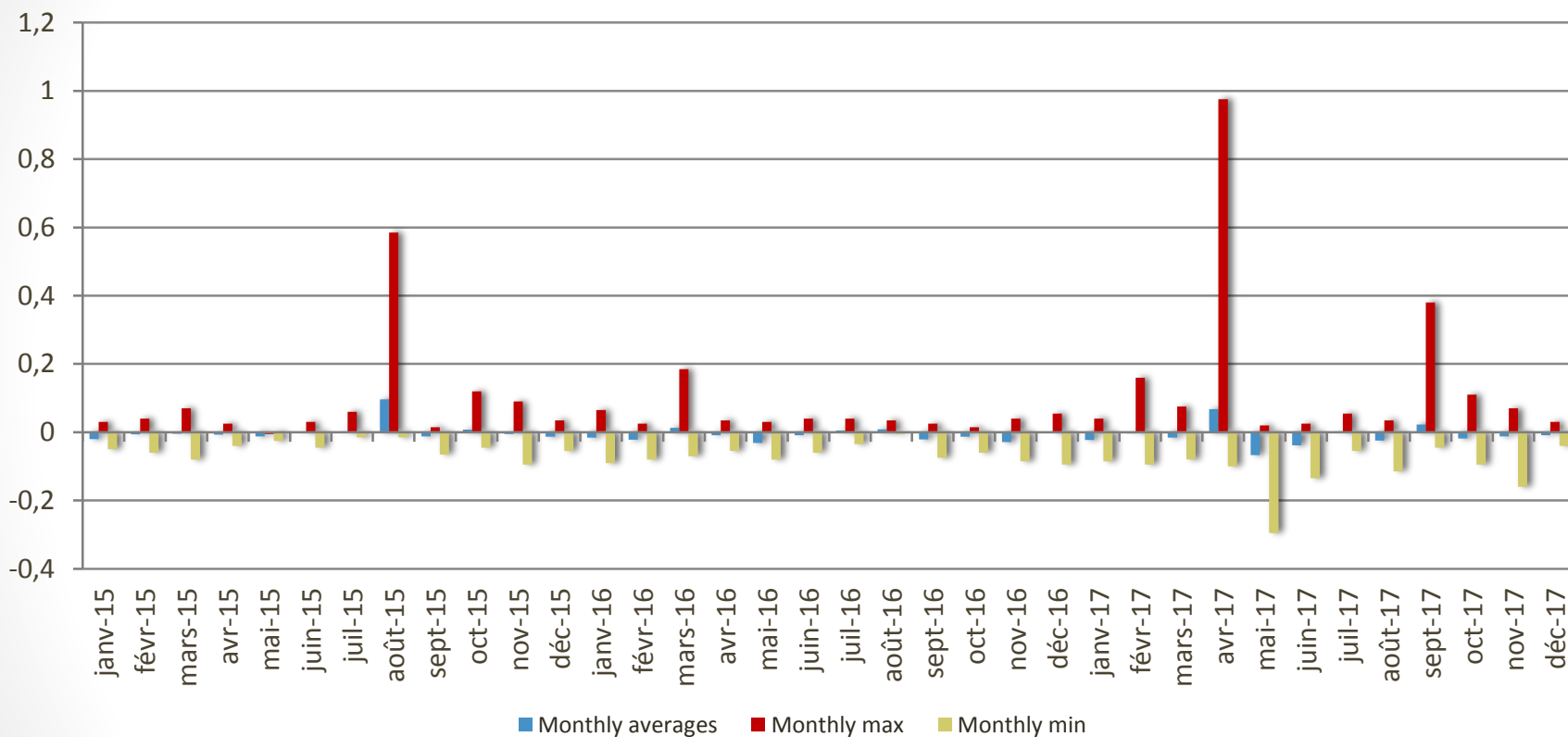


Source: EEX, 2018

NOT FOR CITATION OR DISTRIBUTION

# Auction vs. Spot spread

Auction price minus secondary market price (€)



Auction: auction price

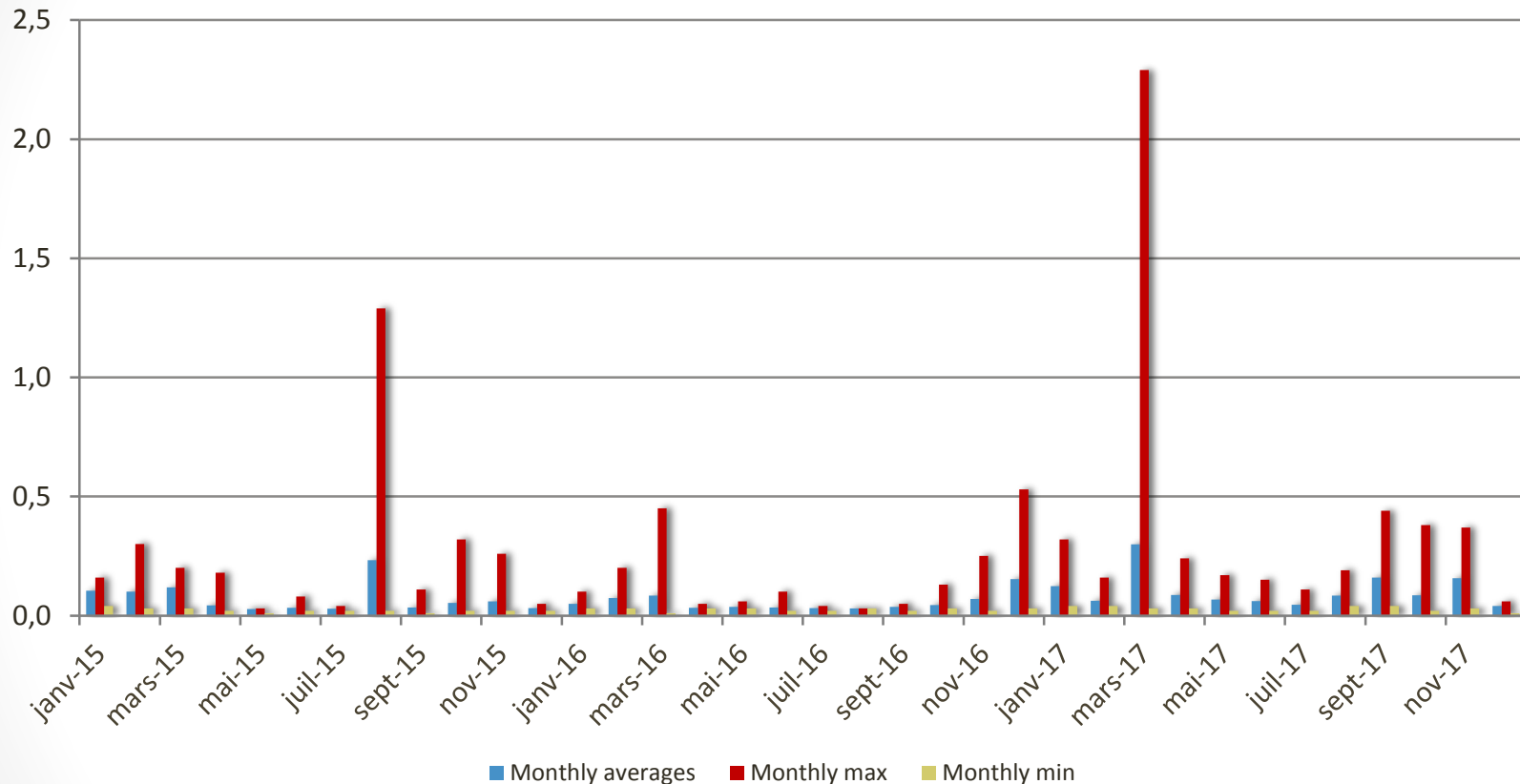
Spot: Mean of best bid/best ask before 11 AM on auction day

Source: EEX, 2018

NOT FOR CITATION OR DISTRIBUTION

# Ask-Bid spread

Best ask minus best bid (€)



Bid: best bid at secondary market before 11 AM

Ask: best ask at secondary market before 11 AM

Source: EEX, 2018



# EUA Prices



*Source: ICE closing prices, Dec delivery of the same year, 2018*

# Cost of Carry

Dec20-front year spread



Source: ICE, 2018

NOT FOR CITATION OR DISTRIBUTION

# Cost of Carry

## EUA vs AAA 5year-EU Bonds

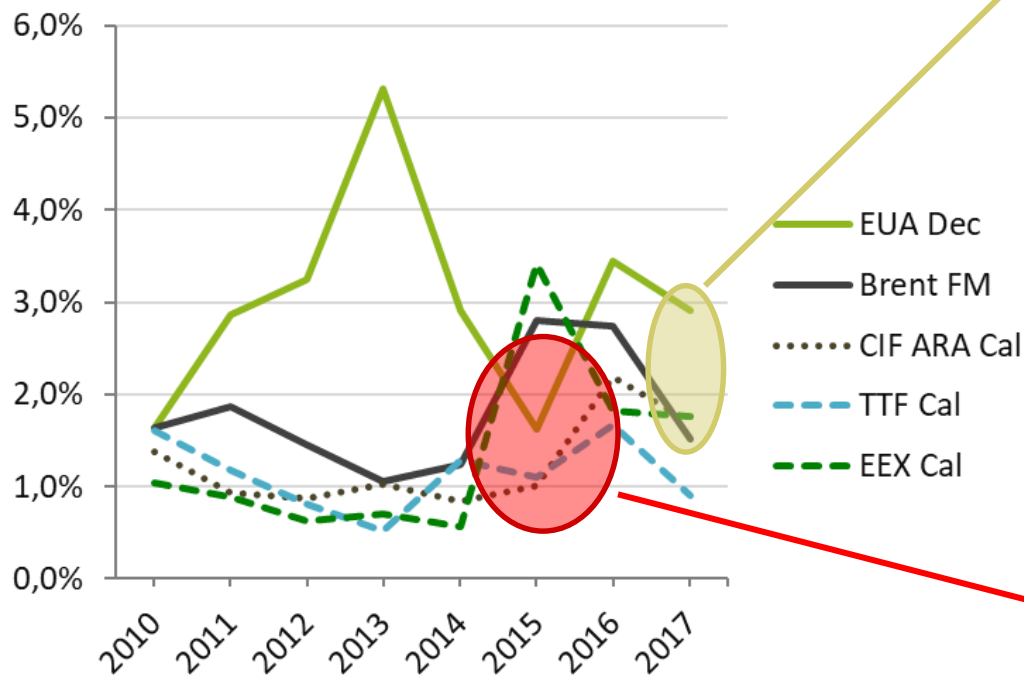


Source: ICE, 2018

NOT FOR CITATION OR DISTRIBUTION

# Impact of volatility on economic efficiency

## Day-to-day volatility



EUA's day-to-day volatility remains above all other energy commodities

EU ETS Day-to-day volatility decreased in correspondence of the double overhaul (backloading + MSR) while the other energy commodities experienced an opposite trend

# Market Functioning

**Looking ahead, there are 3 major points that will require increasingly more attention:**

- The likely increase in volatility connected with the kick-off of the MSR, which, looking at the market in the first quarter of 2018, seems already starting to show a different pattern that may become even more pronounced in future;
- The impact the MSR will have on auctions, in terms of participation and coverage;
- The changes in the hedging strategies of utilities and industries, which will inevitably affect the liquidity of the market.

# State of the EU ETS 2018 – Outline

- Six Chapters
  1. Introduction – EU ETS fit for purpose
  2. Relevant Policy and Governance issues
  3. Environmental delivery
  4. Economic efficiency
  5. Market functioning
  6. **Making the EU ETS ‘fit for purpose’**

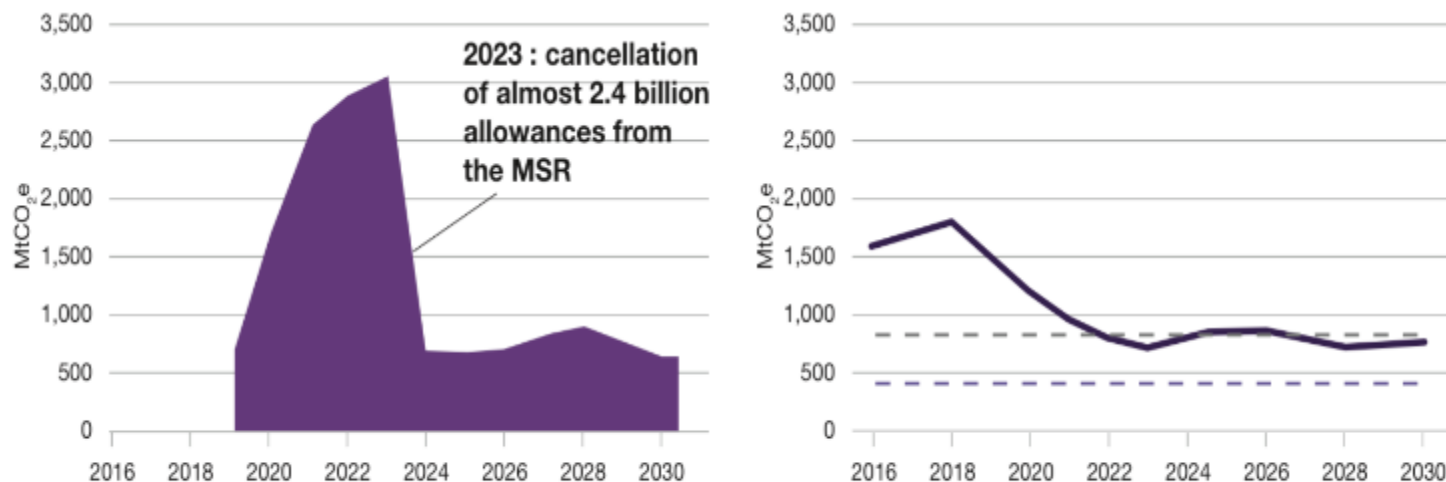
# Making the EU ETS ‘fit for purpose’

## **The EU ETS has several key areas we need to monitor and pay attention to in the next years:**

1. Restore the short-term scarcity through the Market Stability Reserve;
2. Make the EU ETS resilient to policy interactions and policy uncertainty;
3. Make the EU ETS governance operational;
4. Manage carbon leakage risks;
5. Align the EU ETS with the long-term EU climate ambition, compatible with the Paris Agreement goal;
6. Provide financial support for low-carbon competitiveness of EU industry and the transition towards a low-carbon economy

# 1. Restoring the short-term scarcity through the MSR

**The MSR provides a strong medium-term support by reducing drastically the EUA surplus before 2024**



Notes: The "2017 Baseline" scenario represents the deal on the EU ETS reform agreed on in November 2017 and the Commission's proposals from November 2016 on 2030 targets for renewable energy and energy efficiency.

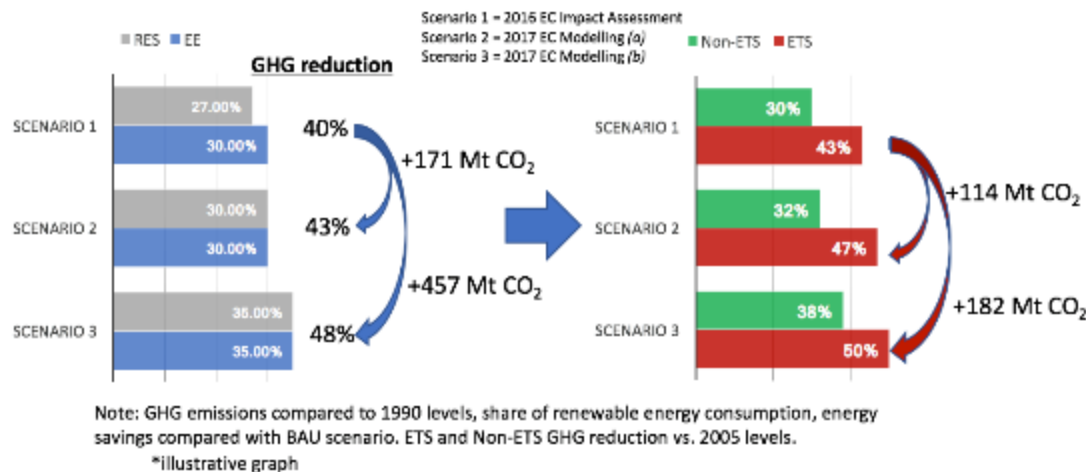
The performance of the MSR is critical to the well-functioning of the EU ETS. However, the parameters have not been tested, and many were put in place a while ago.



## 2. Dealing with policy interactions and uncertainty

**Other climate policies will continue to drive emissions, effectively ‘overlapping’ with the EU ETS.**

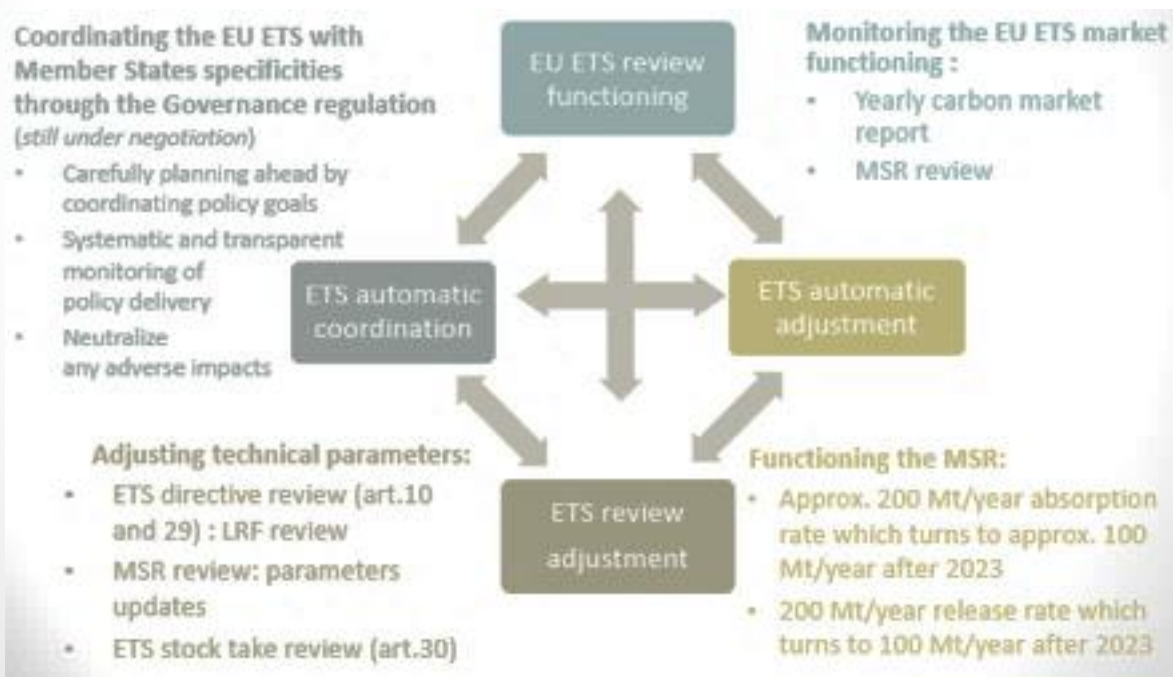
- During P4 of the EU ETS, achieving the EE (30%) and RES (27%) targets could on their own be sufficient to respect the EU ETS's emission constraints
- An increase in the EE and RES targets, which is the position of the European Parliament, would lead to additional CO<sub>2</sub> reductions in EU ETS sectors and will further impact its supply-demand balance
- Will the MSR, under certain conditions be able to mitigate the impact of all other potential policies on the EU ETS during P4?



- In addition, the EU ETS faces policy uncertainty coming from Member States and both EU and international policy developments (e.g. Brexit / PA)
- Can create uncertainty among market players.

### 3. Making the EU ETS governance operational

- The EU ETS Directive, the MSR Decision and the Governance of the Energy Union Regulation can be seen as complementary elements in making the EU ETS 'fit for purpose', by monitoring, reviewing, assessing and adjusting the parameters of the EU ETS.



- MSR review: scheduled in 2021 and 2026
- The LRF is a possible variable to be adjusted in case of a review of the EU ETS
- Impact assessments for adjusting the MSR parameters, and/or increasing the LRF in line with the Paris Agreement goal would be welcome.

## 4. Managing carbon leakage risk

**Direct costs under control during its Phase 4,  
what about indirect costs?**

- The P4 review includes a number of provisions aimed at protecting industry against the risk of carbon leakage – flexibility to avoid CSCF.
- Development of carbon pricing in EU competitor countries is not being taken into account (yet) for the calculation of carbon leakage risks.
- While the direct costs are expected to be mitigated in P4, there is still no harmonized compensation scheme for indirect costs. This is an issue that will require monitoring, especially as it relates to the review of the State Aid guidelines.

# 5. Aligning the EU ETS with the EU long-term ambition consistent with the Paris Agreement

## **The EU ETS trajectory is only aligned to the low- end of the Roadmap 2050 ambition**

- The Commission proposal for the EU ETS review in July 2015 did not consider the ambition of the Paris Agreement. The current LRF is only aligned with the low end of the EU's 2050 climate ambition as mentioned in the 2050 Roadmap.
- If the EU ETS is to be aligned to the long-term EU climate ambition, its parameters will require enhancements: the Impact Assessment of the EU 2030 climate and energy framework in November 2016 states that a further increase of the LRF is required by 2050.
- Other potential pathways? But probably insufficient as a stand-alone measure.
  - The review of MSR parameters scheduled in 2021 and 2026,
  - Voluntary cancellation by Member States, are other potential pathways to align the EU ETS with the EU long-term climate ambition.
- The new EU long-term climate strategy will also be an important factor, as it will likely stipulate the relative effort the EU ETS will have to deliver to help reach the overall goals of the EU

## 6. Provide financial support

**‘double dividend’ of the EU ETS – supporting the transition to a low-carbon economy in broad terms.**

- Increasing EUA prices may provide stronger incentives for Member States to invest in their low-carbon transition in the future.
- **The EU ETS Innovation and Modernization funds** will fund low-carbon technologies innovation projects and Modernization efforts – public consultations for the Innovation fund are ongoing
- **ETS funding for a Just Transition?** the EU ETS could also address the short-term socio-economic aspects associated with the transition to a low-carbon economy, by providing funding for compensation schemes for affected stakeholders and communities