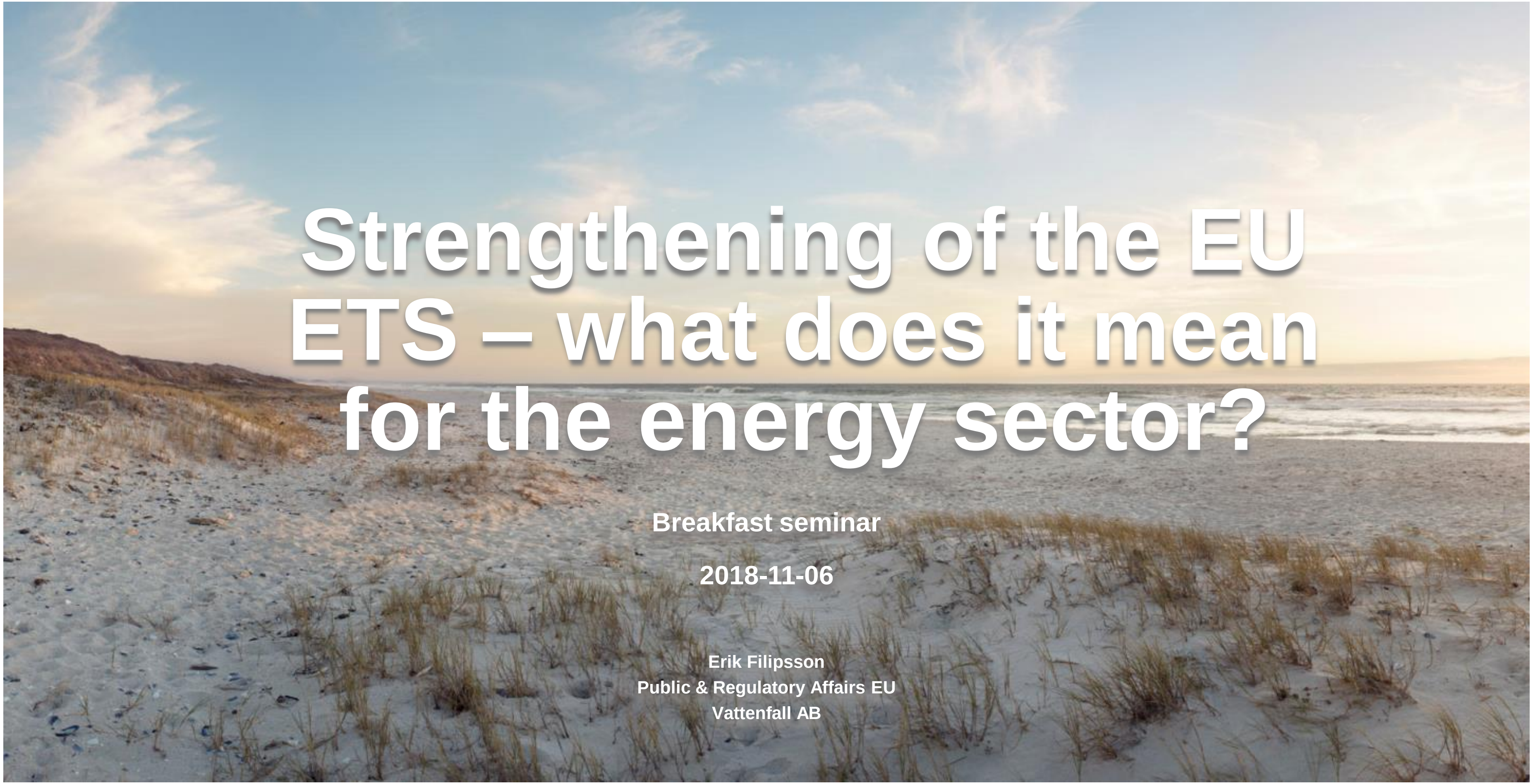

Strengthening of the EU ETS – what does it mean for the energy sector?

Breakfast seminar

2018-11-06

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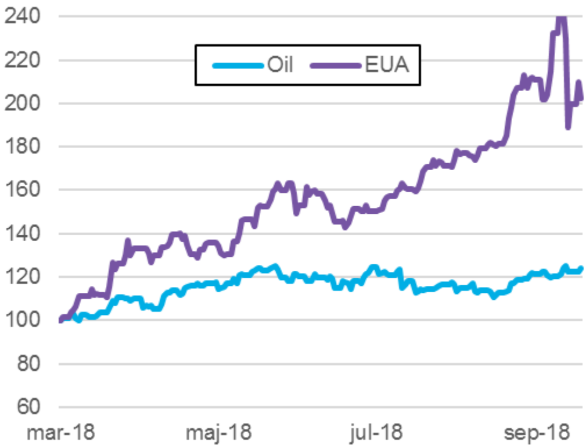
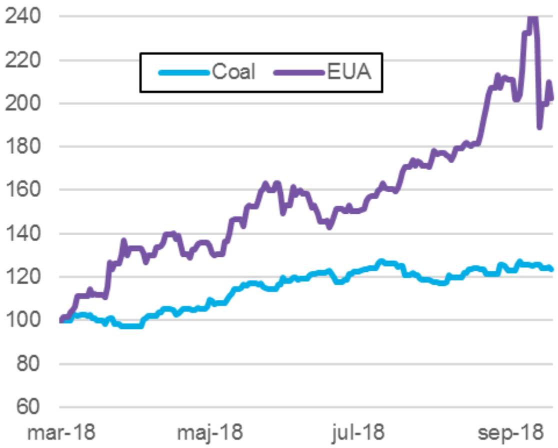
Public & Regulatory Affairs EU
Vattenfall AB

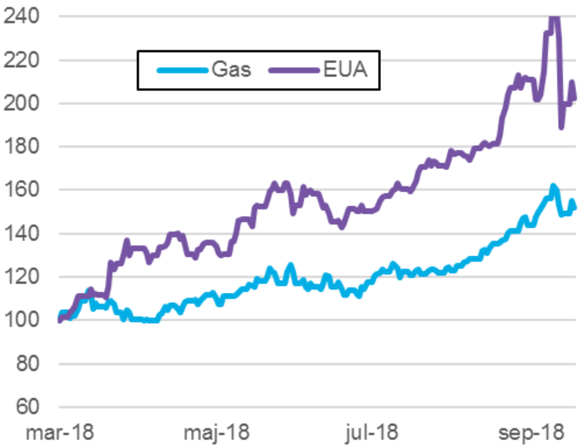
Summary

- The 2017 ETS reform delivered, particularly on the pledge to address the huge EUA market surplus. Largest improvement of the policy since 2009.
- The EU ETS policy has become more complex (not a pure “cap-and-trade” system), but in general the reform measures have been clearly justified.
- Market prices in the EU ETS have performed strongly in 2018. Thereby restoring confidence in the policy to some extent, and improving the economic rationale for market-driven CO2 emission abatements.
- The recent EUA price rally is not a sign that the EU ETS is ”fixed” once and for all.
  - EU ETS market is still highly oversupplied. Steep EUA price drops last month.
  - Plenty of uncertainties remain (Brexit, Art. 29a, overlapping policies, etc.)
- Further ETS reforms are needed to make the policy ”Paris proof” and resilient against the impact of overlapping policies.

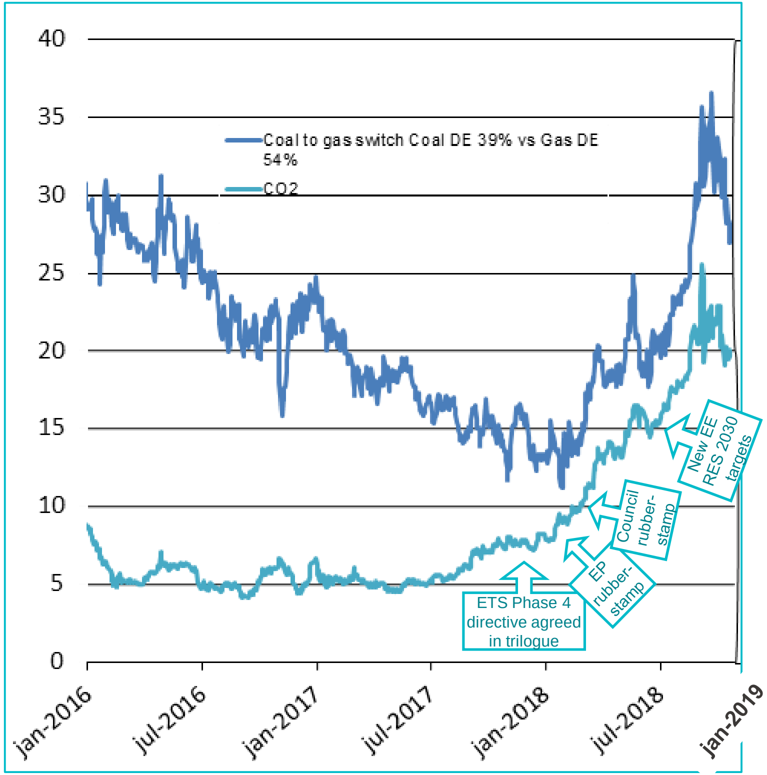
EUA is the commodity which has seen the strongest price development in 2018







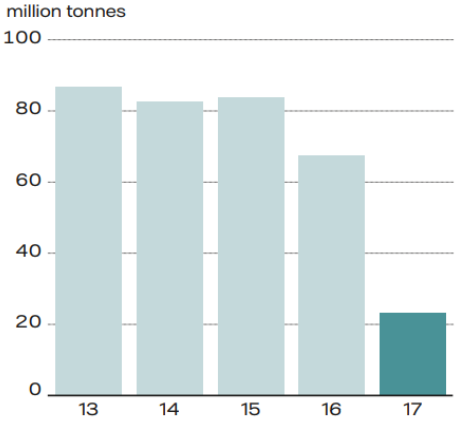
Increased correlation between EU ETS price and fuel-switching costs in 2018



- EUA market price started to increase on the back of the 2017 recast of the ETS directive agreed one year ago.
- Tightening of the EU ETS market strengthens the case for CO2 abatment by fuel-switching in the existing fleet.
- Gas prices have increased more than coal prices in 2018, thereby requiring a higher EUA price for fuel switching.
- Also other factors contributed to the increase of EUA prices (e.g. a warm & dry summer, low wind power output, return of non-compliance buyers).

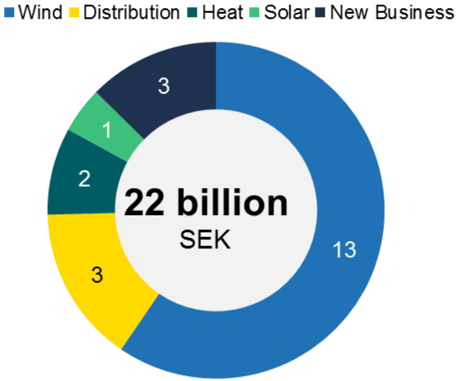
Vattenfall's new strategy – full speed towards a low-CO2 economy

Annual CO2 emissions



Growth per technology

2018-2019



Research project for a carbon dioxide-free steel industry

Cooperation in large scale bio-diesel production

Study on electrified cement production

Market place for energy sharing

Support of a major enterprise for battery production in Sweden

Northern Europe's largest charging network for e-vehicles

Attract industries to Sweden

Three main EU ETS reform areas
- further measures to be considered

Reduce the large oversupply of EUAs which has prevented the EU ETS from delivering a strong CO2 price signal

Align the EU ETS allowance cap with the EU's long-term climate goals and the Paris Agreement

Introduce a mechanism which avoids that overlapping policies weaken the EU ETS price signal

TODAY

Policy measures which remain to be done:

- The stronger **MSR rules**, with a doubling of the annual intake rate from 12 to **24 %**, and automatic cancellation of the most excessive ETS surplus in the Reseve, **should be kept also after 2023/2024**.
- The EU's **2030/2050 climate targets** (+a new target for 2040) should be **aligned with the Paris Agreement**'s 1.5 °C objective and the IPCC's trajectories of GHG reductions needed globally.
- The **Linear Reduction Factor (LRF) should be increased further** (i.e. beyond 2.2 %) to reflect a more ambitious EU long-term climate strategy / EU 2050 energy roadmap.
- A **Policy Coherence Mechanism** should be introduced, to directly reduce the supply of EUAs in relation to the effect which **overlapping policies** have on the CO2 emissions.