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# Influences from the European Parliament on EU emissions prices

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## HIGHLIGHTS

- Specific types of EP decisions lead to reduced carbon prices and increased volatility.
- Decisions proposed by non-party-political groups have a significant effect.
- There is a similar impact when market sentiment or news exposure is low.
- Recommendation for some form of forward guidance.

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## ABSTRACT

The decisions of the European Parliament (EP) are shown to influence both EU emission allowance (EUA) prices and volatility. Reductions in price and increases in volatility are observed when EP decisions are (i) not "party-political" in origin, (ii) made during times of low market sentiment, or (iii) made during times of low market attention. Daily EUA prices from 2007 to 2014 are used in the study, with decisions analysed using an event study approach for price impact, and a GARCH specification for volatility impact. Our findings suggest the need for policymakers to improve communication of long-term strategies for the EUA market. This aims to reduce the evident ongoing uncertainty experienced by traders around each decision made by the EP. The finding that sentiment and market attention at the time of an EP decision influences the market's reaction indicates a need to consider market dynamics in terms of decision timing, so that market turbulence is not an unintended by-product of an EP decision. Some form of medium term forward guidance may be called for.



## 1. Introduction

In April 2013 the European Parliament was expected to pass a European Commission legislative proposal to fix the recognised oversupply issue in the EU Emissions Trading Scheme (EU ETS) (Koch et al., 2014). The Commission's proposal[1] involved postponing until 2019–2020 the release of 900 million EU emissions allowances (EUAs) – each allowance granting permission to a regulated installation to emit one tonne of $CO_2$ equivalent – that were originally due to be released into the market in 2013–2015. The hope of the Commission was that this would support the declining price of allowances already trading in the emissions market and thus act as an incentive towards meeting the overall goals of the EU ETS, namely: encouraging investment in and consumption of cleaner energy production, incentivising more efficient energy use and production processes, and reducing emissions across the EU. On 16 April 2013, however, the European Parliament narrowly voted against the proposal. There was an immediate impact on EUA prices, which dropped by over a third. The futures price of an EUA permitting the emission of one tonne of $CO_2$, which had cost €4.76 at close of business on 15 April, fell to €3.09 on 16 April.

This is one example where legislation passed by the European Parliament (EP), which holds legislative authority over the EU ETS, impacted on EUA prices. Prior research supports a wider argument that EUA prices are influenced by regulatory actions (Daskalakis et al., 2009; Koch et al., 2014; Kossoy and Guigon, 2012). Missing from prior studies though is a systematic investigation of the overall impact of emissions market specific and related legislation and resolutions passed by the EP, thus leaving a number of open

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[1] European Commission Press Release accessed on 9 June 2015 at http://europa.eu/rapid/press-release_MEMO-13-343_en.htm.

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questions. Do the legislative efforts of the EP move the EUA market? Are particular types of legislation and resolutions more influential? Are there conditional effects under which legislation and resolutions have a greater market impact? These are important questions. It is clear from Blyth et al. (2007), Fuss et al. (2008) and Yang et al. (2008) that there is considerable regulatory risk in the EU ETS and the resulting uncertainty in the price of carbon, has major implications for investment decisions in the power sector. Indeed the uncertainty regarding the implementation of measures to combat climate change makes possible the contradictory opinions regarding the existence of a carbon bubble and a projected higher demand for fossil fuels.[2]

Our study addresses these issues by tracking 29 relevant decisions made by the EP over Phase II and Phase III (to date) of the EU ETS, and examining how the origin of each decision, the level of market sentiment and the level of market attention all have an influence on EUA price behaviour. The decisions made by the EP act, on average, to reduce emission allowance prices. This is quite striking given that the success of the trading scheme requires prices of emission allowances to be at a sufficiently high level so as to act as a disincentive to traditional high emission energy production and energy-intensive business practices. We contrast "party-political" decisions brought to the EP by the seven political groups of MEPs,[3] with "non-party-political" decisions brought from other sources. The other sources are the committees of the European Parliament, the European Commission and the European Council; these are official bureaucratic organisations rather the seven political groups of MEPs that respond to voters' concerns. The classification of each decision is carried out by the EP itself. An example of a non-party-political decision would be that brought forward by the EP Committee on Transport and Tourism on 11 March 2008 concerning the inclusion of airlines in the EU ETS. An example of a party-political decision would be that brought before the parliament by five of the political groups[4] on 5 June 2008 concerning US emissions and climate change policy. When we analyse resolutions categorised as "non-party-political" and those termed "party-political", we find that it is the non-party-political initiatives which are the particular drivers of these negative returns. We also find that there is heightened volatility around key legislative decision dates when we incorporate this information in an appropriately designed GARCH volatility model, indicating that market uncertainty is a feature of prices around these dates. It may be the case that some form of *forward guidance* such as is used by central banks would be beneficial in communicating, in advance, the nature of complex legislative decisions to the market . This action might reduce volatility in the market, as has been found to be the case by Campbell et al. (2012) and Kool and Thornton (2012) who analyse the macroeconomic effects of Federal Reserve forward guidance.[5] The main challenge though with this policy solution is that the EP is subject to many competing influences, and does not have the independence and targeted focus of a central bank.

A possible explanation for the strong effect of EP decisions on EUA prices during times of low media exposure can be found in the Investor Attention Hypothesis (Barber and Odean, 2008; Da et al., 2011; Hirshleifer et al., 2009, 2013; Vozlyublennaia, 2014). In an equity context this proposes that since attention is a limited resource, investors will make decisions about firms to which their attention has first been drawn, and that until their attention is drawn to a stock its price will only slowly reflect new information due to lack of trading interest. We draw on this line of argument and adopt the theory for emissions markets. The amount of attention given to emissions trading is normally small as it is only a very small part of the energy market. To illustrate this point from 2010 to 2014 the value of the trades of the most liquid EUA futures contracts (prompt December) was 0.88% of the value of trades of the most liquid futures contracts of Brent oil (prompt month); in 2012 the value of the trades in EUAs was $73 billion while the total value of the world's oil production that year was $3.27 trillion.[6] When attention is focused on emissions by the media or by the actions of MEPs, the market in turn pays attention and anticipates the decisions made by the European Parliament. When the European Parliament makes decisions about the emissions market when there is low media coverage or when the decision arises from non-party-political sources within the EU (namely, the European Parliament committees, the European Commission or the European Council), then market inattention will lead to a lagged corrective price adjustment and increase in volatility.

We also test for differences in behaviour when sentiment is relatively high compared with times when it is low. We find that EP decisions made when sentiment is low have a negative impact on returns and are associated with an increase in volatility. The impact on returns is determined by an event study which shows that on days on which the EP makes a decision there are, on average, significant negative returns, and these negative returns become cumulatively greater in the following week. An explanation for the cumulative reduction in prices is that this may be similar to the post earnings announcement drift (Bernard and Thomas, 1989; Hirshleifer et al., 2009). After an earnings announcement it is common to find that the price of the stock continues moving in the same direction due to a lack of investor attention. This effect is more pronounced when news affecting the price of the stock is difficult to interpret (Song and Schwarz, 2010). We find that there is a similar continued movement of EUA prices after the announcement of an EP regulatory decision. We posit that this is due to similar investor inattention in the emissions markets. The implications of many of these decisions are more difficult to interpret than straightforward messages like earnings announcements and so the effect is extended. This offers an explanation for the continued slow movement of prices after an EP announcement.

This study is similar in intent to a recent investigation by Lin and Tamvakis (2010) which examined the impact of OPEC output decisions on crude oil prices. Based on an argument, that OPEC had the ability to affect the volume of oil produced and was thus a major actor in the market, a systematic investigation was carried out of each OPEC meeting where a quota decision was made. In the case of the EUA market the major player, the EP, has even greater power as it can alter the structure of the market's operation, affect supply through adjusting allowances available in the market, and

[2] The Telegraph, The Guardian and Carbon Tracker accessed on 6 June 2015 display differing perspectives on the prospect of a carbon bubble. http://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/11615079/Shell-CEO-carbon-bubble-campaigners-ignores-reality.html http://www.theguardian.com/environment/2013/apr/19/carbon-bubble-financial-crash-crisishttp://www.carbontracker.org/resources/.

[3] The groups of MEPs for the present Eighth European Parliament are the European People's Party (EPP), the Progressive Alliance of Socialists and Democrats (S&D) containing the Party of European Socialists (PES), the Alliance of Liberals and Democrats for Europe (ALDE), the European Conservatives and Reformists, the European United Left – Nordic Green Left, the Greens/European Free Alliance (Greens-EFA) or the Europe of Freedom and Direct Democracy. Accessed on 6 June 2015 at http://www.europarl.europa.eu/aboutparliament/en/20150201PVL00010/Organisation.

[4] The groups were EPP, PES, ALDE, Greens-EFA and the UEN. The Union for Europe of the Nations (UEN) was an active political group in the European Parliament from 1999 to 2009.

[5] The authors would like to thank an anonymous referee for this helpful comment.

[6] Data from Bloomberg, EU ETS Factsheet at http://ec.europa.eu/clima/publications/docs/factsheet_ets_en.pdf, and the Energy Information Administration EIA at http://www.eia.gov/ all accessed on 9 June 2015.