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King Abdullah Petroleum Studies and Research Center

Data Insight

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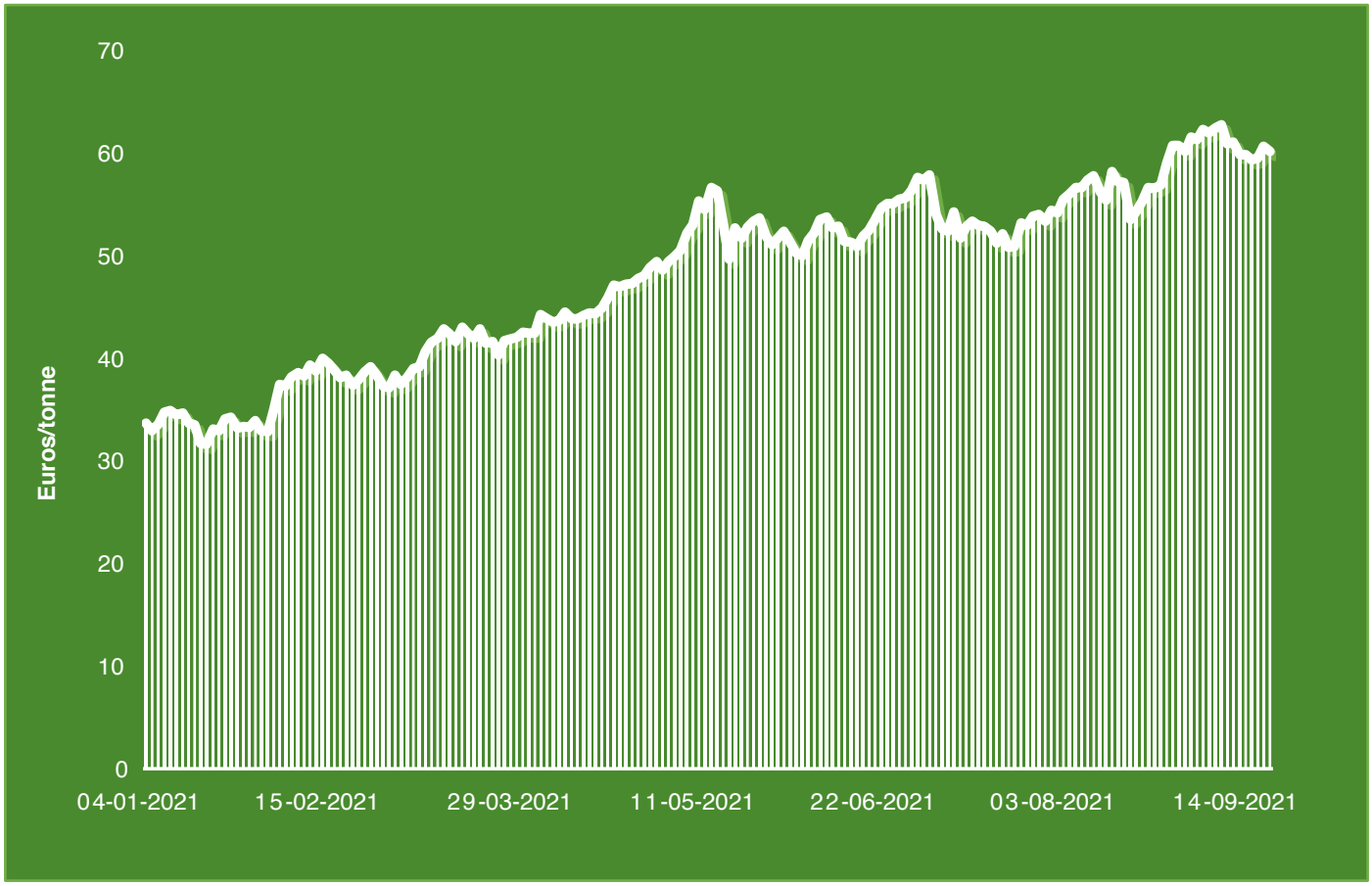
Why is the EU Carbon Price at a Record €60 per Tonne?

Figure 1. European Union Emissions Trading System (EU ETS) carbon market price.



Source: Authors using EMBER data - https://ember-climate.org/data/carbon-price-viewer/

Context

Carbon prices soared above €60/tonne for the first time on August 30, 2021, with the expectation of tightened environmental legislation. These prices made a new record on the European Union Emission Trading System (EU ETS), the European Union's carbon market. The stressed gas market and expectations of a tighter gas supply in Europe are also behind rising carbon prices. These factors spilled over into electricity prices, which also broke highs, hitting €140 per megawatt hour (MWh) in real-time trading on September 1, 2021.

Key insights:

- The European carbon market is experiencing a boom like never before. EU carbon prices almost doubled between January and September 2021, following the European Commission's disclosure of its new ambitious climate policy, including reforms to limit the number of available carbon emission permits. Although the EU ETS was trading at about €20 per tonne before the COVID-19 pandemic, it jumped from €33.69 (January 1, 2021) to €60.16 per tonne (January 21, 2021) (Figure 1).

- High gas prices in early winter could make coal prices more competitive. Consequently, Europe will probably consume more coal for heating, driving a further surge in demand for carbon allowances to compensate for the associated emissions.

- Electricity demand in Europe has rebounded to its pre-COVID-19 level. It increased by 6% in the first half of 2021 year-on-year. Nevertheless, fossil fuels and nuclear output are recovering rather slowly (EMBER 2021).

- Based on a study using data from a sample of 34 OECD countries, an average increase in the effective carbon rate of €1 per tonne of carbon dioxide (CO_2) is expected to generate a 0.73% drop in emissions in the long term (Sen and Vollebergh 2018).

- Economists have reached a remarkably high consensus regarding the most effective climate policy. As far back as Pigou's (1920), Nordhaus's (1977), and Schelling's (1992) work, climate change has been seen as a negative externality, and the related greenhouse gas (GHG) emissions should be priced and preferably taxed. However, in a very volatile market, it becomes challenging for decision-makers to deal with the consequences of a very high carbon price. This raises the question of whether current climate policy needs to be reviewed and justified by more accurate benefit-cost analyses.

- The popularity of carbon pricing is growing, and it is widely recognized that meeting the objectives of the Paris Agreement and effectively limiting warming to two degrees Celsius (°C) below pre-industrial levels will necessitate establishing minimum carbon prices at the global level. So far, the carbon market accounts for about 22% of the world's GHG emissions. During this year's G20, over 130 countries reached an agreement on a global minimum corporate tax of 15% (Carattini 2021). Further, in June the International Monetary Fund proposed introducing a minimum carbon price for large emitters to curb GHG emissions by 20% by 2030 (Carattini 2021). However, most existing studies show that carbon pricing has a limited impact on GHG emissions - ranging from between 0% to 2% per year (Green 2021).

- The present situation in Europe may provide valuable insights to accelerate the process toward a low-carbon future and help Saudi Arabia implement its ambitious climate policy. Specifically, it could help the Kingdom identify potential shortcomings to avoid when designing the framework for a more cost-effective climate policy.

- Before designing carbon price levels, the Kingdom must first start by redefining its emissions - reduction target, considering its other sustainability and economic goals. Then it is crucial to design an integrated and comprehensive framework to meet these objectives. Although carbon pricing could be an essential driver of the global policy agenda to implement these programs, its stringency and impact should be adjusted to the Kingdom's context and goals. Therefore, the carbon pricing plan should consider the following factors: the economic structure (e.g., the mix and importance of energy-intensive industries), social preferences, social protection system, vital natural resources, CO_2 emissions geological storage capacity, nuclear power development capacity. All these factors can potentially impact the country's emissions intensity and the marginal abatement cost.

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