The amount polluters pay for emitting carbon in the EU has hit a 10-year high, in a blow for coal power station owners and a boost for renewable energy.
The price of carbon in the bloc's emissions trading scheme reached €18 (£16) per tonne on Monday, triple the level a year ago.
About 12,000 factories and power stations have to pay for every tonne of carbon they emit under the scheme, but for years an oversupply of permits has meant the cost has languished at about €5 per tonne. That is too low to spur companies to lower emissions.
However, observers said the carbon price rises and further anticipated increases would begin to hurt coal operators' profit margins and influence investment decisions.
Phil MacDonald, the head of communications at Sandbag, a group that monitors the carbon market, said: "It will already be cutting into coal profits … Renewables get a big win from this and so does nuclear."
Mark Lewis, the head of research at the Carbon Tracker thinktank, said although coal plant owners were bearing the brunt of the higher carbon price, they would pass it straight through to consumers.
The price of carbon would need to go much higher, to as much as €30 (£27) per tonne, to trigger large-scale switches from coal to gas and renewables, he argued. "I don't think we are at the stage yet where the carbon price will have a major effect."
Sandrine Ferrand, a market analyst at Engie Global Markets, said the extra cost would be significant for coal, at about €11-12 extra per megawatt hour. But the incentive to switch fuels would be limited because gas prices had also increased, alongside oil prices.
"So far, the carbon price is not high enough to trigger a large switch from coal-fired power generation to less polluting gas-fired power generation," she said.
Coal companies are also insulated temporarily as they hedge when buying carbon permits and have benefited from recent increases in wholesale power prices.
The dramatic increase in the carbon price has been driven up partly by European commission reforms to cut the supply of carbon permits from January. The heatwave affecting large parts of Europe this summer is also seen as having a bullish effect.
The hot weather bolstered fossil fuel burning as people turned to fans and air conditioning to keep cool, while generation from hydro and windfarms has been down because of low river levels and wind speeds.
Continued growth in the carbon price would strengthen progressive members of Germany's newly formed "coal exit commission", which is due to issue a plan this year.
One wild card is Brexit and whether the UK quits the carbon market if and when it leaves the EU. Chris Piabiatek, a carbon trader at Vertis Environmental Finance, which expects a

tonne of carbon to cost just under €19 next year, said a no-deal Brexit that involves the UK crashing out of the carbon market would be “super bearish” for carbon prices.
Source: theguardian