Beyond Coal: Phase-Out Policies in the EU and Implications for the United States

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Introduction
Motivated in part by its commitment to the Paris Agreement, the European Union (EU) is currently attempting to achieve a difficult and ambitious target: weaning itself off coal power. Despite its large economy and diverse membership – each country has varying approaches to coal – the EU is making significant progress in eliminating this carbon intensive energy source. Its progress in this area is the product of a combination of policies adapted to specific hurdles.

Much like the United States, the European Union supports a large and decentralized economy – a tremendous challenge to surmount in reducing carbon emissions. The actions taken by the EU to reduce coal dependence could thus inform an American coal phase-out. It has created phase-out goals and introduced binding policies that make coal-fired energy production both prohibitively expensive and complicated, while also actively supporting renewables as a replacement. The US federal or state governments could replicate these policies in the form of stricter standards for coal industry emissions, a reduction of coal subsidies, and increased financial backing for renewables. Were it to pursue these steps, the US could replicate successful EU action toward phasing out coal and reducing CO₂ emissions.

Coal and the EU
In recent years, public support in Western Europe has shifted away from traditional, carbon-emitting energy sources such as coal and towards renewable energy.¹ In the wake of the Paris Agreement, the EU made significant efforts to reduce the consumption of coal-fueled energy and phase out its generation all together. To keep global average temperature increases below 2 degrees Celsius, EU coal emissions must fall by 8 percent per annum.² In order to adhere to the goals set out in Paris – that is, keeping temperature increases to 1.5 degrees – coal emissions would have to be cut even more dramatically.²
Though the consumption of coal in Europe decreased by over 40 percent between 1990 and 2014, the EU is still far from being coal-free. In fact, coal is the continent’s most abundant fossil fuel: forty-one regions across twelve EU states still mine coal, providing jobs to an estimated 240,000 people.\(^3\)

The Union is now seeking a hard exit from coal. Last month, the European Parliament voted for a total elimination of coal energy generation by 2030.\(^5\) Most Western European countries have either already phased out coal entirely (Belgium, Cyprus, Luxemburg, Malta, and the Baltics) or have agreed to do so within the next ten years (Austria, Denmark, Finland, Portugal, and the United Kingdom).\(^1\) This contrasts with the course pursued in the newer member states of Eastern Europe (such as Poland and Romania), which have either taken advantage of loopholes or ignored EU rules entirely in order to subsidize and continue coal-generation.\(^6\) The Union’s relative success in reducing coal use from 1990 levels—despite diverging member state priorities and holdover economic reliance—is the result of specific policies that marry rigid targets with flexible implementation strategies.

**The Phase-Out**

In transitioning to coal-free energy, the European Union has several policy tools at its disposal. These include market-based economic instruments (such as taxes, subsidies, or tradeable allowances); regulatory non-market-based approaches (standards, non-compliance penalties); and complementary policy instruments (essentially the government provision of goods and services).\(^1\)

Nevertheless, various coal phase-out policy scenarios have been met with skepticism as previous coal sector restructuring programs have failed to create alternative jobs and resulted in high unemployment for former coal workers.\(^1\) Among other worries is the political messiness related to discerning the current profitability of coal and calculating its economic impact. This is because coal burning is often subsidized while the externalized costs associated with it (pollution, health risks) are externalized, distorting profitability comparisons between coal and renewables.\(^8\) The EU has crafted specific policies to address these issues, some of which have proved very effective.
Significantly, in 2012 the EU adopted a set of binding measures to reduce overall energy consumption by at least 20 percent below 1990 levels by 2020. This was subsequently reinforced by a 2014 directive setting a target reduction of at 30 percent by 2030, with additional measures to ensure that the target is met. Reduction in coal use is a necessary part of meeting these goals, which the EU has been working towards in various ways. One such method was the Emissions Trading Scheme, but this has produced mixed results. After prices for the credits collapsed, the system ceased to motivate low-carbon investment. Reforms to the system have been introduced and are due to take effect this year, so the final effectiveness of the ETS has yet to be determined. It is possible that, despite its low prices, the ETS – coupled with increasing coal and decreasing renewable energy prices – has contributed to reducing overall coal consumption.

Meanwhile, policies directly aimed at shutting down coal plants and funding renewable energy have proven particularly effective. A decrease in subsidies for coal, combined with increased air quality legislation, has succeeded in making the operation of coal-fired power plants prohibitively expensive. The European Commission’s “Platform On Coal Regions in Transition,” launched in December 2017, connects national and local politicians in an effort to ensure that plants set to close are replaced by renewable energy, alongside the fostering of local economic opportunities to avoid increases in unemployment or decreases in tax revenue. Projects that could create jobs and generate revenue might include building geothermal and hydro plants in former coal mines; building new local energy infrastructure; and developing tourism and agricultural activities. Similar programs currently exist in member states such as Germany, Portugal, and the United Kingdom. Platform-related projects on coal plant closures are already underway in fourteen regions across seven member states.

The necessary counterpart of policies targeted at increasing the cost of burning coal is greater support for renewables. In its Renewable Energy Directive, the EU set binding targets of 20 percent of energy consumption from renewables in 2020 and 32 percent by 2030, specifying national targets for each country in relation to their starting point and overall potential for renewables. Europe’s overall transition to renewable energy is further bolstered by various other schemes, including financial support to help make renewables more competitive on the market while remaining flexible and responding to falling production costs. Plant closures and renewable energy policies thereby
work in tandem, and their collective impact can be seen in the changing profile of European energy production.

**Results**

Renewables overtook coal in the European Union for the first time in 2017, constituting 20.9 versus 20.6 percent of total EU electricity generation. In 2018, this percentage rose to 32.3 percent as coal generation fell by 6 percent – 30 percent below 2012 levels. Dave Jones, an analyst at Sandbag (a climate policy think tank) explained that “Europe is proving that replacing coal generation with renewables is the fastest way to cut emissions. In just six years, between 2012 and 2018, Europe’s annual CO₂ emissions from coal power plants have fallen by 250 million tons with no increase in emissions from power generation with natural gas.”

Renewable energy is becoming plentiful and affordable, largely thanks to EU support measures and subsidies. Combined with the closure of coal plants across Western Europe as a result of varied factors including economic policy, this forms the basis of a successful phase-out. Europe still has work to do to meet its binding targets, but its progress in phasing out coal has implications that extend beyond its own borders.

**Implications for the EU and US**

Perhaps the greatest challenge faced by the European Union in its elimination of coal power is its large and diverse economy, which includes sectors that remain devoted to the energy source. In this sense the EU resembles the United States, whose continued reliance on coal has been the result of extensive lobbying efforts and agitation by relatively small, coal-reliant regions where miners worry about their job prospects in a post-coal economy. As in Europe, Americans fear that coal plant closures will result in unemployment, poverty, and decreased tax revenues. They can, however, now look to the EU model for a managed transition-based coal phase-out. There, coal use has simply become too expensive and complicated when compared with alternative energy sources.
Although US President Donald Trump has pulled out of the Paris Agreement, and it is unlikely that the federal government will pass binding emissions targets along the lines of those adopted in Europe, the focus on shifting subsidies from coal to renewable energy – and the idea of coordinating projects to transition coal-reliant regions to alternative, sustainable economic engines – is one the United States could emulate. Just as EU regulations customized requirements to suit individual countries, an American coal phase-out could be adapted to specific states – their economic conditions and renewable generation capacities, local air quality standards, financial supports, and development of renewable energy infrastructure.

**Conclusion**

Despite the economic and social challenges presented by its sometimes sharply divergent membership – some EU states continue to value coal – the European Union is succeeding in reducing its reliance on coal. The United States, meanwhile, remains torn between increasingly bolder action on climate change in certain sectors and continued, steadfast reliance on fossil fuels in others. A controlled shift there toward sustainable energy in conjunction with employment-generating projects could be a safe way forward, both for the environment and for individual livelihoods. The EU’s measures have shown that this can be achieved by making coal burning expensive, complicated, and impractical, thereby prompting the closure of plants. These steps to discourage the consumption of coal has financially incentivized its phase-out.

Support for renewable energy – so that it is readily available when coal plants are shut down – is likewise essential, both for the successful elimination of coal and the attainment of sweeping CO₂ reductions. While it may be hard to imagine the United States going down the route pursued by Belgium or Luxembourg in terms of a coal phase-out and clean energy generation over the next few years, attempting to follow the European Union’s path in broad and customized policy decisions is a realistic and arguably effective strategy. By replicating the EU’s economic and social policies in this area on the federal or state levels, the US could see successes similar to those achieved in Europe over the past decade, effectively moving itself away from destructive coal-fired pollution and towards truly sustainable and clean generation.
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Notes


