

# Coal in a hole

Coal is increasingly falling out of favour in the face of cheaper alternatives and concerns about health.

In May, Great Britain had its first coal-free electricity week since the first coal-fired power station was opened in London in 1882. The 193 hours and 25 minutes measured by the National Grid Electricity System Operator marks another milestone in the continued decline of coal's prominence in the UK power system. The first 24-hour period without coal occurred in April 2017, while the proportion of coal-powered electricity has dropped from 40% in 2012 to just 5% in 2018<sup>1</sup>. The decline is expected to continue ahead of the planned phase out of coal plants by 2025. The Electricity System Operator increasingly views periods like these as the new normal — indeed, at the time of writing, Britain had just completed a further two weeks without coal — and is confident that it can operate Great Britain's electricity system carbon-free by 2025<sup>2</sup>.

This is encouraging news, especially in the wake of the UK government's declaration of a climate emergency and the recommendation from the Committee on Climate Change of net-zero emissions for the UK by 2050. It's also part of a wider story of coal decline across the globe, as power plants retire and the economics of energy continue to shift. Global investment figures released by the International Energy Agency in May<sup>3</sup> show that final-investment decisions for coal-fired power generation have dropped substantially, from some 88 GW in 2015 to around just 22 GW in 2018. This also represents a 30% drop compared to 2017. Meanwhile, coal power investment overall fell by 3% from 2017 to 2018 and India spent more on solar power than coal power for the first time. Although more investment in electricity is needed to meet sustainability targets, coal's future now seems increasingly clear.

The picture isn't all rosy, though. The UK may be increasingly coal-free, but, despite the growing use of renewables, much of this transition has arisen from switching to gas, which will still need to be decarbonized to meet targets. While investment decisions on coal plants are shrinking, there are still plants with the capability of producing 236 GW under construction worldwide<sup>4</sup>, with fleet growth

in developing Asian countries remaining strong. Investment in coal supply also increased globally by 2%.

Coal continues to find itself embedded in political debates. In Australia, Bloomberg New Energy Finance have stated that a tipping point has now been reached, with renewables now being cheaper to build than new coal or gas stations<sup>5</sup>. Yet the coalition win in last month's Australian elections was helped by their pro-coal stance and support for the controversial Carmichael mine. In something of an echo of the 2016 US elections, employment in this sector was a critical issue. It may well loom large again following the bankruptcy filing of Cloud Peak Energy in Wyoming, USA<sup>6</sup>. Cloud Peak is the third-largest coal company in the US by production volume and is now the fourth major coal producer to file for bankruptcy in Wyoming.

These examples serve as another stark reminder of the need to balance equity concerns as the energy transition continues. Germany recently took active steps in this direction that may offer a useful model<sup>7</sup>. The country has struggled with its coal dependence in recent years, but has proposed closing its coal-fired power stations by 2038. Anticipating the impact this will have, the government plans to commit €40 billion for projects to generate new jobs ahead of the shut downs.

Amid all this turbulence, it's important to remember that moving away from coal isn't just about climate change. Coal is a major contributor to other types of pollution and is severely damaging to human health. This remains a particular problem for households that depend on coal for heating and cooking. A policy focus on shifting households away from solid fuels is thus an important tool to improve public health and welfare and to clean up the environment.

An *Analysis* in last month's issue evaluates the impact of one such approach in China. Christopher Barrington-Leigh and team examined the impacts of a coal-to-electricity programme in the Beijing municipality, which introduced coal bans in certain areas while also providing subsidies on night-time electricity rates and purchases of electric heat pumps to

replace coal-heating stoves. Although coal use in less affluent areas wasn't fully eliminated, the programme nonetheless demonstrated lower indoor air pollution levels and an increase in comfort and subjective well-being. The study highlighted the benefits of transitioning away from coal, as well as pitfalls that also recur elsewhere, demonstrating the importance of providing greater and more targeted support in less affluent areas to avoid negative impacts.

It's also worth reflecting on the financial cost of continued coal usage. As detailed in a recent working paper from the International Monetary Fund<sup>8</sup>, damages from climate change and local air pollution caused by coal are significant. The study is still in progress and subject to review, but shows that the scale of these post-tax subsidies — which are estimated at around US\$2 trillion globally — is enormous. Finding ways around them, while far from simple, can help lower carbon emissions and air pollution, improve health, increase tax revenues and have a net economic benefit.

Weaning societies away from coal will continue to present many challenges — not least around employment and livelihoods. Coal is not going to vanish imminently, but its disappearance as a fuel source in the coming decades is inevitable. We must work together to ensure that it happens in line with climate, environmental and health goals, and without leaving people behind. □

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