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Alex Bowen, Josh Burke, Sam Fankhauser

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# Business & Economics

## Cutting Carbon in the Time of COVID

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**T**he COP26 in Glasgow—the 26<sup>th</sup> Conference of the Parties to the UN Framework Convention on Climate Change—is the most important global climate summit since the 2015 Paris conference, which led to the eponymous Paris Agreement.

Unlike in Paris, where consensus had to be forged around a common climate objective and countries' contribution toward it, there is not actually that much to negotiate in Glasgow. With the notable exception of the rules on international cooperation and carbon trading, the global governance architecture on climate change is largely in place.

The Glasgow summit is important because it is the first formal opportunity for countries to review their nationally determined contributions (NDCs) to the Paris Agreement. Unlike the earlier Kyoto Protocol, the Paris Agreement does not impose top-down emission reduction commitments on parties. Instead, countries determine for themselves what their contribution should be. Over a series of ratcheting-up

rounds, it is hoped that these bottom-up pledges can be brought in line with the Paris objective of limiting the rise in global temperature to well below 2°C and preferably below 1.5°C.

At the moment this is far from the case. The first round of NDCs is estimated to result in a global mean temperature increase in excess of 3°C.<sup>1</sup> The sharp drop in 2020 emissions due to COVID-19 will not change this.<sup>2</sup> Emissions are likely to rebound, as they did after the 2008 global financial crisis, unless stronger mitigation measures are put in place. Environmentalists are, therefore, looking for a significant tightening of NDCs as part of the Glasgow summit.

The diplomatic process of securing more ambitious climate commitments will largely be completed before Glasgow, and the signs are good. At his April 2021 climate summit, President Biden pledged to reduce U.S. greenhouse gas emissions to net zero by no later than 2050. This means that the world's three largest emitters—China, the European Union, and the United States—are now all committed to a net-zero balance between the release of greenhouse gases and their removal into sinks. At their June 2021 meeting, the leaders of the G7 group of industrialized countries reiterated their commitment to net-zero emissions and to halving their emissions by 2030.<sup>3</sup> Almost two-thirds of global emissions and a slightly higher share of global GDP are now subject to a net-zero target.<sup>4</sup>

The more difficult task of implementing these commitments will start after Glasgow, and here the signs are less good. Even before the COVID-19 pandemic struck, there was a disconnect between countries' emissions reduction targets and the policies that were in place to meet them. The United Kingdom, as the host of the COP26, is a case in point. Britain's emis-

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Alex Bowen is a Senior Advisor at the Grantham Research Institute on Climate Change and the Environment and the ESRC Centre for Climate Change Economics and Policy at the London School of Economics.

Josh Burke is a Senior Policy Fellow at the Grantham Research Institute on Climate Change and the Environment and the ESRC Centre for Climate Change Economics and Policy at the London School of Economics.

Sam Fankhauser is Professor of Climate Economics and Policy at the Smith School of Enterprise and the Environment, University of Oxford. He is also Co-Director of the ESRC-sponsored Place-based Climate Action Network (PCAN).

sions targets are among the strictest in the world, and they are set in law. However, the Government's official advisor, the Climate Change Committee, has repeatedly warned that the country is not on track to meet these statutory targets.<sup>5</sup> Globally, there are now over 2,000 climate change laws and related policies, but they reduce global annual carbon emissions by only about 15 percent, or about the annual carbon output of the United States.<sup>6</sup>

**The economic slowdown triggered by COVID-19 could make it harder to close the gap between climate objectives and actual carbon policy.**

The economic slowdown triggered by COVID-19 could make it harder to close the gap between climate objectives and actual carbon policy. A statistical analysis of the time when those 2,000 climate laws were passed shows that lawmakers are demonstrably less willing to act on climate change in difficult economic times.<sup>7</sup>

There has been no shortage of exhortations to use the COVID-19 recovery for a "great reset" and to "build back better," that is, to align recovery packages with the Paris Agreement.<sup>8</sup> However, to date, only a small fraction of the massive fiscal support packages to cushion the impact of the pandemic is Paris aligned.<sup>9</sup> Many governments are using post-COVID recovery measures to roll back existing environmental regulations and to increase fossil-fuel intensive infrastructure and electricity.<sup>10</sup>

It is clear, therefore, that national policies to implement the Paris Agreement and the post-COVID economic recovery need to be brought in line. But how?

**Making polluters pay**

We have learned a lot about the best institutional frameworks and the most effective policy packages to combat climate change.<sup>11</sup> Central to all of these recommendations is the need to put a price on carbon, either by taxing emissions or by forcing polluters to buy emissions permits.<sup>12</sup> Just over a fifth of global greenhouse gas emissions are currently subject to a carbon price.<sup>13</sup>

**Pricing carbon will begin to correct the fundamental market failure at the core of the climate problem, namely that the emitters of greenhouse gases are not confronted with the environmental costs caused by their actions.**

Pricing carbon will begin to correct the fundamental market failure at the core of the climate problem, namely that the emitters of greenhouse gases are not confronted with the environmental costs caused by their actions. Pricing carbon is consistent with the notion that the polluter should pay, and it allows individual emitters to identify the best ways to reduce their carbon output, meaning emissions targets might be met more cheaply.

These arguments continue to hold in the face of COVID-19. The fundamental climate change externality persists, and physical climate risks, which depend on cumulative emissions, are unaltered. If the external costs are not internalized, environmentally harmful behavior will continue, and the post-COVID recovery may be distorted in favor of a high-carbon economy.

While the generic case for carbon pricing remains unchanged, the optimal price level may be different. Macroeconomic changes in aggregate supply (as workers self-isolate or fall ill) and aggregate demand (as lockdowns keep consumers away) have changed the marginal costs of emissions abatement and, therefore, the optimal carbon price.

Economic downturns are also a time when production patterns that were previously locked-in behaviors are in flux and when marginal capital stocks are scrapped or written off. For example, this scenario is currently playing out in the air travel sector, which has been hit hard by the pandemic. It makes it easier, temporarily, to redirect economic systems in a zero-carbon direction.

The net result of these considerations is that the socially optimal carbon price is likely to be different from what it was before COVID-19. Studies of carbon pricing over the business cycle

conclude that an unanticipated economic downturn warrants both a tougher target for cumulative emissions (the scope for cutting emissions is higher, since the shock has done some of the work already) and a lower carbon price (lower marginal abatement costs are expected in future, again given the reductions already “banked”).<sup>14</sup>

In practice, the politics of carbon pricing are highly complex, and carbon prices before COVID-19 were not high enough to be “Paris compliant.”<sup>15</sup> The right direction for most countries to take, therefore, is still for higher carbon prices and broader schemes that cover more emissions. However, prices should rise more slowly than what might otherwise have been the case, and there may be a greater focus initially on removing associated barriers to the zero-carbon transition.

### **Addressing low-carbon barriers**

The failure to internalize the climate externality is not the only barrier holding back the transition to a zero-carbon economy. There is a long list of associated problems, including failures in capital markets, network issues (e.g. in the build-up of an electric vehicle charging infrastructure), and largely un-monetized side benefits such as better air quality and healthier lifestyles.<sup>16</sup> There are also policy distortions, not least the widespread subsidization of fossil fuels and the underpricing of energy.<sup>17</sup>

Carbon policy has focused particularly heavily on market failures in two areas: clean technology support and energy conservation. Support for clean technology is justified by the additional societal benefits from innovation, which exceed the private return to the inventor by a factor of around four.<sup>18</sup> Energy conservation policies are motivated by the fact that observed energy efficiency levels tend to lag behind the technical potential. Some of this difference can be explained by hidden costs (e.g. the costs of obtaining energy efficiency information), which are not included in engineering estimates.<sup>19</sup> However, a large part of the gap is the result of market and policy barriers, such as split incentives between landlords and tenants.<sup>20</sup>

Interest in these policies could increase as a consequence of COVID-19. The desire for a swift economic recovery puts the emphasis on government spending, and many climate policies are potentially attractive stimulus measures. Effective stimulus packages have to be timely (ready to be deployed immediately) and targeted (tapping into underused pools of labor and capital) to maximize the economic multiplier effect of the intervention.<sup>21</sup> To varying degrees, zero-carbon interventions like clean energy investment, building energy efficiency upgrades, and clean R&D spending all meet these requirements.<sup>22</sup> According to the International Monetary Fund (IMF), the multipliers associated with green spending are two to seven times larger than those associated with non-eco-friendly expenditure, depending on sectors, technologies, and time horizons.<sup>23</sup>

Building efficiency upgrades, for example, have high employment effects, low deadweight costs (i.e., they would not have happened anyway), high social (fuel poverty) benefits, and they tackle a hard-to-treat source of carbon emissions. Other popular green stimulus measures include clean transport and energy infrastructure. Globally, about a fifth of long-term recovery spending (as opposed to short-term rescue spending) has been classified as “green.” In Denmark, Finland, Germany, Norway, Switzerland, and Turkey, the ratio is over 50 percent.<sup>24</sup>

### **Ensuring a fair transition**

The transition to zero-carbon emissions entails structural change across the global economy, including in the value of assets, in relative prices, in real incomes, and in employment. Many of these changes simply reflect the response to the carbon constraint by a well-functioning market economy. However, they may be affected by structural rigidities that make the redeployment of capital and labor in a low-carbon direction difficult in the short term.<sup>25</sup>

The delicate politics of industrial regeneration make the structural costs of the zero-carbon transition a paramount policy concern, and COVID-19 has further aggravated its political

and economic significance. The precipitous rise in unemployment and company failures around the world is a stark illustration of the difficulties posed by a sharp and unexpected shock. The impact on workers and firms during the pandemic has, therefore, been an overriding concern. The tendency has been for governments to protect and preserve existing jobs through wage subsidies and furlough schemes. The risk is that these employment interventions hinder, rather than help, the structural changes that are now needed.

Some of the businesses that have been hit hardest by the pandemic, such as air travel and passenger car production, could, if ill-prepared, also find the zero-carbon transition difficult. But there is an opportunity for governments to encourage more sustainable growth by focusing their COVID support on low-carbon sectors and businesses promising to deliver significant carbon emission reductions. Conditional liquidity support to high-carbon firms, such as airlines, could be linked to the implementation of credible decarbonization plans. Initial analysis of the COVID impact on air travel emissions suggests that large emission reductions could be maintained with little impact on consumer welfare.<sup>26</sup>

**The pandemic has demonstrated that radical, far-reaching changes in working methods can be achieved extraordinarily quickly if the necessary public support can be generated.**

COVID-19 is expected to accelerate economic changes that were already under way, which will require flexibility in the labor market. The pandemic has demonstrated that radical, far-reaching changes in working methods can be achieved extraordinarily quickly if the necessary public support can be generated. However, it is too early to predict to what extent these behavioral adjustments will persist.<sup>27</sup> What is clear is that active labor-market policies that connect people to jobs—such as re-skilling programs,

vocational training, and assistance in the job search—will have an important role to play.<sup>28</sup>

## Conclusions

The COVID-19 pandemic has disrupted the implementation of the Paris Agreement. The crucial Glasgow summit was delayed, and countries have been slow to update their NDCs. The return of the United States to the climate change fold, and the determination of the Biden administration to play a leadership role, have reignited some of the momentum lost through the pandemic.

Recovering momentum is essential, since the urgency of the climate crisis has not changed. Indeed, COVID 19 has demonstrated the human cost of letting global hazards go unchecked.

But national and international climate policy has to respond to the new post-COVID realities. This probably means more emphasis on public spending than might otherwise have been the case, although the need to price carbon to disincentivize a high-carbon recovery remains. Policy makers can take advantage of the fact that many urgent climate interventions are also attractive post-COVID stimulus measures.

COVID-19 also increases the importance of safeguards to mitigate the impact of decarbonization on industrial competitiveness and jobs. The emphasis must be on policies that facilitate structural change, rather than preserve existing economic structures.

In all this, it is worth remembering that implementing the Paris Agreement is a long-term, structural challenge. It will take thirty years, and perhaps longer, to reach net-zero emissions. Cutting emissions requires a multi-decadal time horizon and a sustained policy effort that transcend the business cycle. Emissions need to be cut in good economic times and bad.

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