



## Mohammed Bin Rashid School Of Government

# POLICY BRIEF

Policy Brief No. 55

May 2020

### SUMMARY

The COVID-19 pandemic is an unprecedented crisis that is currently claiming lives and disrupting people's livelihoods. The pandemic has hindered progress towards sustainable development and exposed the prevalence of poverty, weakness of health systems and fragile global cooperation. It has also caused a drastic slowdown of global economic activity and mobility during the first quarter of 2020 which in turn impacts people's livelihoods. However, this economic slowdown has pushed down global energy demand and emissions to unprecedented low levels. This impact must not be a temporary reduction in emissions, but an opportunity for a low-carbon pathway. As countries prepare to roll out economic recovery plans, it is important to consider their impact on sustainable development. This policy brief addresses a range of policies that pave the way for a more resilient, sustainable, and low-carbon future in the UAE and other countries with similar socioeconomic conditions. Leadership and cooperation will play a crucial role in allowing for a climate friendly economic recovery from this crisis.

## Climate Action in a Post Covid-19 World

### Policy Directions for Sustainable Recovery in the UAE

In the last decade, the UAE has emerged as one of the regional leaders in terms of effort to tackle climate change. This leadership has resulted in bold and aspiring targets such as aiming for an increase in the share of renewable and nuclear energy in the total energy mix to 27% by 2021 and 50% by 2050<sup>1</sup>. However, there remains a misalignment between the UAE's aspirations and the strategies employed to hold global warming below 2°C<sup>2</sup>. In addition to that, the latest Arab Region Sustainable Development Report shows that Sustainable Development Goal (SDG) 13 focused on taking urgent action to combat climate change and its impacts is the only Sustainable development goal where the trend has been decreasing for the UAE<sup>3</sup>. One of the main indicators on the falling trend is the per capita carbon dioxide (CO<sub>2</sub>) emissions in the UAE which in 2014 was at 342% above the global average and remains to increase<sup>4</sup>.



1. UAE Ministry of Energy & Industry, UAE Fourth National Communication Report (2018).
2. Climate Action Tracker, UAE country profile [accessed 17 May 2020].
3. Luomi, M., Fuller, G., Dahan, L., Lisboa Båsdund, K., de la Mothe Karoubi, E. and Lafortune, G, 'Arab Region SDG Index and Dashboards Report 2019' (Abu Dhabi and New York, 2019), SDG Centre of Excellence for the Arab Region/Emirates Diplomatic Academy and Sustainable Development Solutions Network.
4. Louise Sarant, 'Changing CO<sub>2</sub> emission patterns in the Middle East', Nature Middle East, 7 December 2015.

The climate challenge today is escalated by a global pandemic and struggling economies and so, how can governments revive their economies without increasing their greenhouse gas emissions?

The COVID-19 outbreak has caused hundreds of thousands of fatalities and hospitalized millions of people while bringing the global economy to a halt. As a result, we are currently experiencing unprecedented social, political, environmental and economic repercussions. These are already affecting people's livelihoods and impacting mental and physical health due to strict social distancing measures taken in several countries. They also drive unprecedented trends in energy consumption (such as USA oil prices plunging below zero for the first time in history), demand and supply chains.<sup>5</sup> This has led to various impacts on the Sustainable development Goals (figure 1).

First and foremost, the pandemic has exposed the vulnerability of our global health systems. It is now clear that achieving SDG 3 (Good Health) by 2030 will require furthermore efforts to improve its capacity towards global health risks. The COVID- 19 impact on SDG 4 (Quality Education) is also evident. The UNESCO estimates that 1.3 billion students have

been affected by school and University closures<sup>6</sup>. At the same time, the economic shutdown has caused loss of jobs (SDG 8) and the World Bank estimates the pandemic will push about 40-60 million people into extreme poverty (SDG 1)<sup>7</sup> which will exacerbate entrenched inequalities (SDG 10). The pandemic also hinders efforts to achieve food insecurity (SDG 2) through food production disruptions and clean water and sanitation targets (SDG 6) due to supply interruption.

One silver lining has appeared since the start of this humanitarian crisis, as several expert studies confirm a notable reduction in greenhouse gas (GHG) emissions and pollution, as a direct consequence of decreased human and industrial activities and the dramatic reduction in fossil fuel energy consumption<sup>8</sup>. Estimates for 2020 as compared to the previous year expect global electricity demand to fall by 5% and global CO2 emissions to decline by 8%<sup>9</sup>. As a result, this crisis could trigger the largest ever annual fall in CO2 emissions in 2020, more than during any previous economic crisis or period of war (figure 2). Similar emission drops are required between global every year from 2020 to 2030 to keep temperature increases to less than 1.5°C<sup>10</sup>.

5. Catherine Ngai, Olivia Raimonde, and Alex Longley, 'Oil Plunges Below Zero for First Time in Unprecedented Wipeout', Bloomberg, 20 April 2020.

6. 1.3 billion learners are still affected by school or university closures, as educational institutions start reopening around the world, says UNESCO', UNESCO, 29 April 2020.

7. Daniel Gerszon Mahler, Christoph Lakner, R. Andres Castaneda Aguilar and Haoyu Wu, 'The impact of COVID-19 (Coronavirus) on global poverty: Why Sub-Saharan Africa might be the region hardest hit', World Bank Blogs, 20 April 2020.

8. Simon Evans, 'Analysis: Coronavirus set to cause largest ever annual fall in CO2 emissions', Carbon Brief, 9 April 2020.

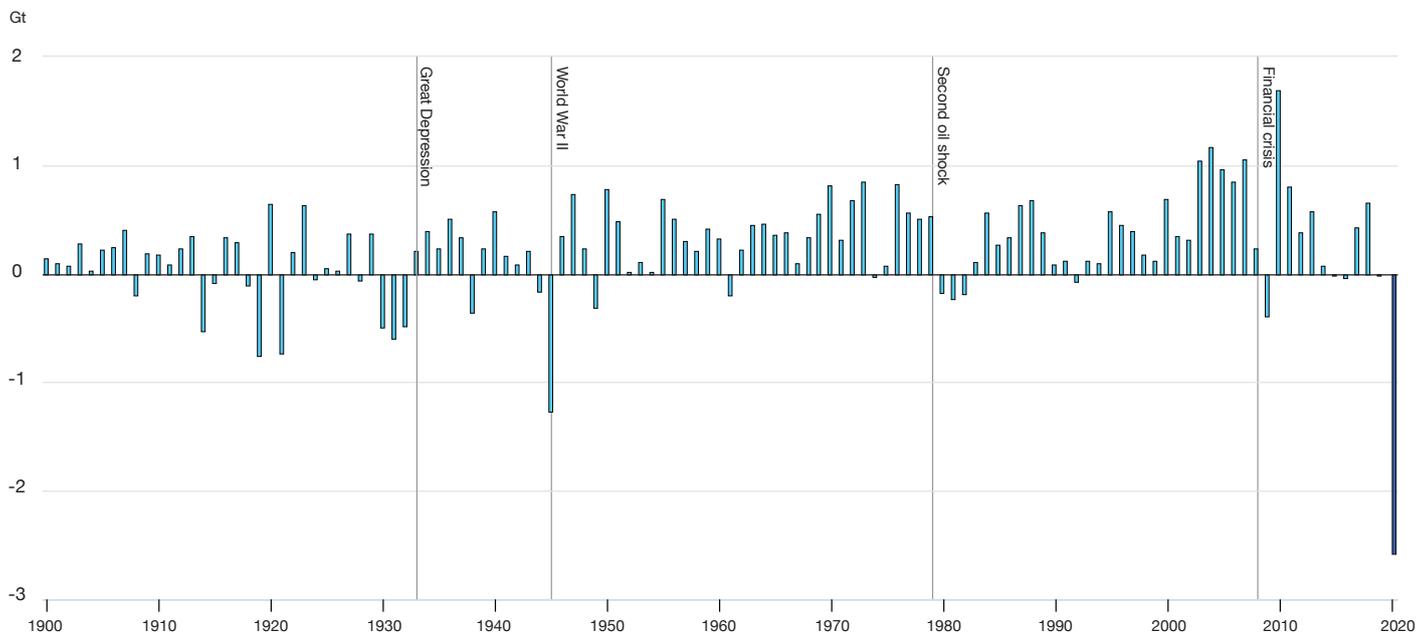
9. IEA, Global Energy Review 2020 (Paris, 2020).

10. United Nations Environment Programme, Emissions Gap Report (Nairobi, 2019).



Figure 1: COVID-19 impacts on the Sustainable Development Goals

Source: UNDESA



**Figure 2:** Annual change in global energy-related CO<sub>2</sub> emissions, 1900-2020

Source: IEA Global Energy review 2020

The first studies in China suggested that this economic slowdown due to the pandemic had temporarily cut CO<sub>2</sub> emissions in by 25%<sup>11</sup>. For the EU, emissions are predicted to fall by as much as 389 million metric tons this year<sup>12</sup>. This amount is more than the annual emissions of France and close to 9 percent of the EU's targeted cumulative emissions for 2020. India, on the other hand, has recorded the lowest average level of nitrogen dioxide pollution ever in spring<sup>13</sup>. At the same time, heavily polluted megacities such as Bangkok, Beijing and Bogotá, where varying coronavirus restrictions have been imposed, all reported unprecedented decline in air pollution levels. The USA is also expected to witness similar trends as states impose further restrictions. The USA Energy Information Administration estimates energy-related CO<sub>2</sub> emissions will decrease by 11% (572 million metric tons) in 2020<sup>14</sup>.

The UAE is no exception to this trend as Abu Dhabi has seen a 50% decrease in average nitrogen dioxide emissions following the implementation of strict traffic and movement restrictions<sup>15</sup> (figure 3). Similar patterns are noticed in Dubai<sup>16</sup>, which last year was considered by Greenpeace as the most heavily polluted city in the region and the 10th worldwide. On May the 14th 2020, Dubai saw a 41% drop in traffic congestion compared to the 2019 average<sup>17</sup> (figure 4).

The GHG reduction represents an important gain towards climate change mitigation as well as in reducing health impacts from air pollution. According to the World Health Organization, air pollution kills an estimated seven million people worldwide every year<sup>18</sup>. In 2017, a report by the Abu Dhabi Environment Agency suggested that air pollution is the biggest environmental factor behind respiratory

11. Lauri Myllyvirta, 'Coronavirus temporarily reduced China's CO<sub>2</sub> emissions by a quarter', Carbon Brief, 19 February 2020.

12. Marcus Ferdinand, 'European power and carbon markets affected by COVID-19 – an early impact assessment', ICIS, March 2020.

13. Lauri Myllyvirta and Sunil Dahiya, 'Air quality improvements due to COVID 19 lock-down In India', Centre for Research on Energy and Clean Air, 16 April 2020.

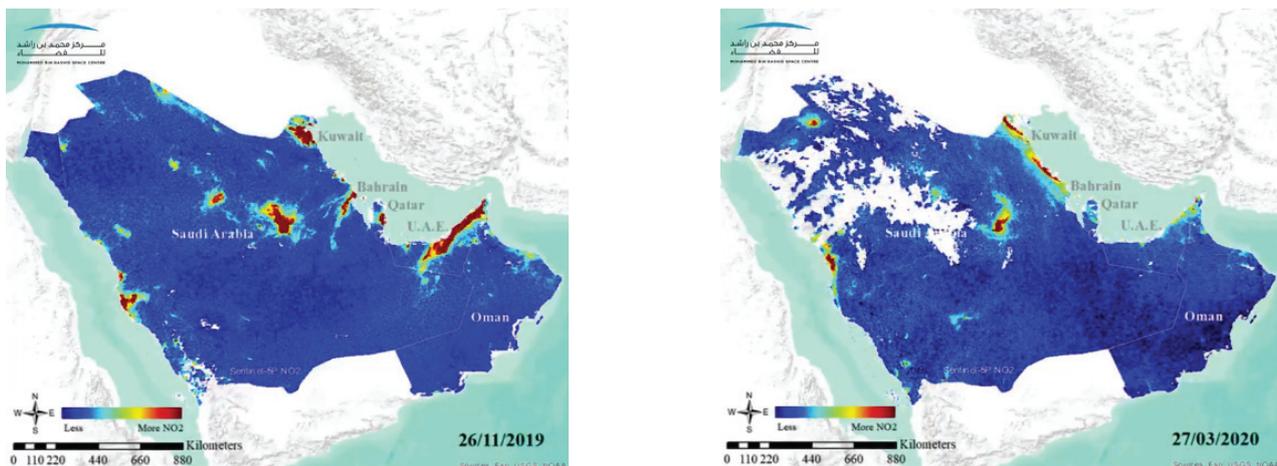
14. US Energy Information Administration, SHORT-TERM ENERGY OUTLOOK May 2020 (2020).

15. Mohammed Bin Rashid Space Centre (MBRSC) Data as quoted in 'Coronavirus: Abu Dhabi air quality improves as pollution levels drop', The National UAE, 2 April 2020.

16. Mariam M. Al Serkal, 'Coronavirus: Dubai Sat image proves NO<sub>2</sub> decline in GCC', Gulf News, 2 April 2020.

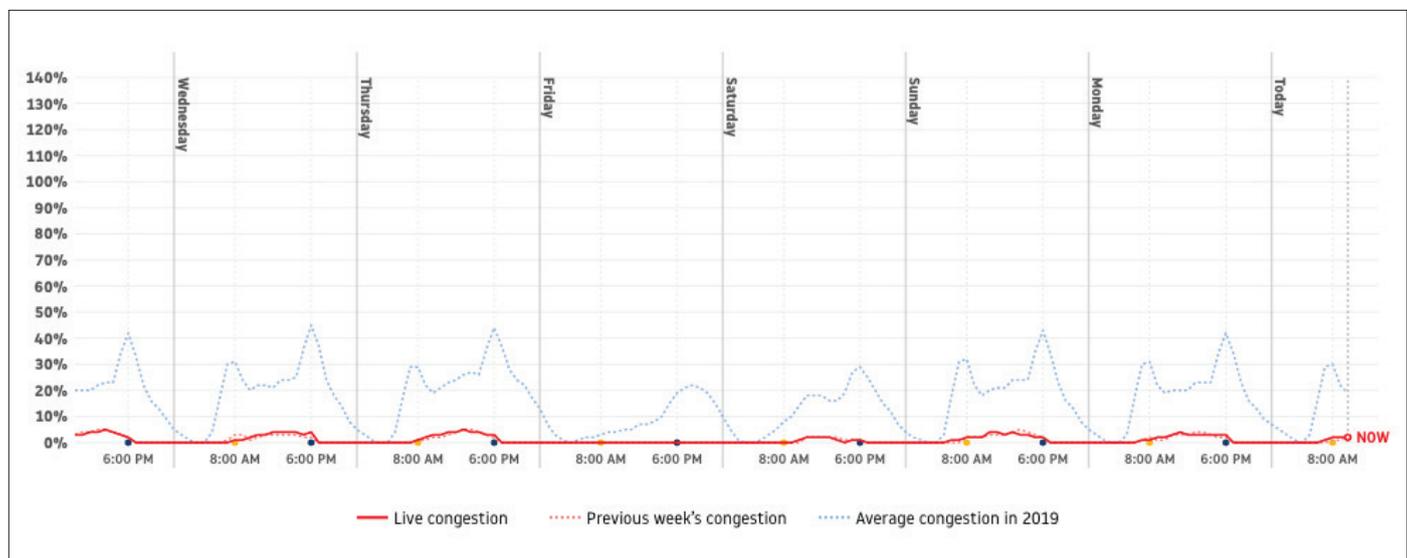
17. TomTom Traffic Index, Dubai Traffic [accessed 15 May 2020].

18. World Health Organization, Air Pollution [accessed 17 May 2020].



**Figure 3:** Significant decreases in Nitrogen Dioxide emissions between November 2019 and March 2020

Source: Mohammed Bin Rashid Space Centre



**Figure 4:** Congestion levels in Dubai between 9-15 May 2020 as compared to average congestion in 2019

Source: TomTom Traffic Index

and cardiovascular diseases in the UAE<sup>19</sup>. Another research highlighted that air pollution in the UAE is the leading contributor to mortality when compared to other environmental pollution exposures<sup>20</sup>.

However, the dangers of high pollution levels are steadily unraveling during the COVID-19 pandemic. According to a research by Harvard University, a small

increase in long-term air pollution exposure leads to a large increase in the COVID-19 death rate<sup>21</sup>. Other research from Italy, Denmark and the Philippines seem in line with linking air pollution to increased death risk from COVID-19<sup>22</sup>. These finding add to earlier evidence of climate change effects on public health and has led to calls for the WHO to recognize climate change as a public health emergency, the

19. Environment Agency Abu Dhabi, ABU DHABI STATE OF ENVIRONMENT REPORT 2017: AIR QUALITY.

20. MacDonald Gibson J, Thomsen J, Launay F, Harder E, and DeFelice N, 'Deaths and Medical Visits Attributable to Environmental Pollution in the United Arab Emirates', PLoS ONE 8(3): e57536 (2013).

21. Exposure to air pollution and COVID-19 mortality in the United States manuscript', Harvard University, 24 April 2020.

22. Navin Singh Khadka, 'Air pollution linked to raised Covid-19 death risk', BBC, 20 April 2020.

same way as global threats from specific diseases<sup>23</sup>. However, as with the decline in global emissions due to the 2008-2009 financial crisis, this should not be considered as a positive achievement as it has brought devastation and hardship for millions of people and will have profound and lasting economic and social consequences around the globe. In addition to that, a rebound effect is expected as people return to their normal lives, emissions are expected to rise again.

## Pandemic-triggered Stimulus Plans for Climate Action

The current drop in emission levels is likely to be temporary as the sources of emissions remain without any transformation in structures that could sustain an emission reduction pattern. Furthermore, experts argue that there could be an increase in emissions as governments adopt a wide range of stimulus measures aimed at reviving the economy<sup>24</sup>. This will be coupled with individuals tendency to have higher consumption patterns and travel demand once confinement measures are lifted.

The UAE has the opportunity to adopt a high quality and well-designed recovery package. A sustainable recovery could be achieved through an SDGs-centered approach with special focus on climate action. This would allow the government to meet post COVID- 19 demand with green packages of renewable energy investments, smart buildings, and green transport. One key aspect of the package needs to be building resilience towards large and sudden shocks which are expected to become more frequent in the future due to climate change. It is then crucial to put sustainable development at the center of any upcoming policy and

recovery packages. Investing today in climate change mitigation and adaptation could safeguard lives and livelihoods against future climate-related events. In addition to investing in infrastructure, governments should encourage and help maintain sustainable habits<sup>25</sup>. Research shows that interventions at times of change can introduce lasting habits . The ongoing coronavirus outbreak has introduced new behaviors that should be encouraged in the long run, in an effort to tackle climate change at an individual level. One example in the UAE, the pandemic has led to a major shift in attitudes towards food waste<sup>26</sup>. In the post COVID- 19 world, government intervention to support economic recovery will be essential. Its goal should be, however, twofold, whereby it supports and drives the economy while incentivizing activities and behavior that help achieve climate change targets.

## Policy Recommendations

It is now a given that the COVID- 19 outbreak will have a significant mark on the global economy. However, it can also be an opportunity to embrace the much-needed climate action that has been considered as a burden for a long time. Several countries and regions are putting out the recovery plans with climate action in mind. One example is the Lombardy region in Italy, one of the most polluted in Europe, has announced plans to transform 35km of Milan streets to cycling and pedestrians friendly space. The plan also includes electrification of the public transport network. The aim is to support making a switch from cars to collaborative and active modes of travel<sup>27</sup>. In Iceland, the government has included carbon sequestration, switching to sustainable energy sources and funding climate research in their economic stimulus package<sup>28</sup>.

23. Harmer Andrew, Eder Ben, Gepp Sophie, Leetz Anja, van de Pas Remco. WHO should declare climate change a public health emergency, *BMJ*; 368 :m797 (2020).

24. Simon Evans, 'Analysis: Coronavirus set to cause largest ever annual fall in CO2 emissions', *Carbon Brief*, 9 April 2020.

25. Corinne Moser, Yann Blumer and Stefanie Lena Hille, 'E-bike trials' potential to promote sustained changes in car owners' mobility habits', *Environmental Research Letters*, 13(4) (2018).

26. Kelly Clarke, 'Coronavirus: Outbreak leads to big shift in attitudes towards food waste', *The National UAE*, 10 May 2020.

27. Laura Laker, 'Milan announces ambitious scheme to reduce car use after lockdown', *The Guardian*, 21 April 2020.

28. Poppy Askham, 'Icelandic Government Makes Tentative Environmental Policy Progress', *The Reykjavik Grapevine*, 7 May 2020.

For the UAE, there is a window of opportunity for increased investments in economic diversification, renewable energy and an economic shift from a growth-centered economy to one focused on human and environmental prosperity. These measures could enhance the UAE's resilience towards future crises.

Alongside its swift and respectable response to the COVID-19 pandemic, the government should not sidetrack on its commitment to a sustainable economy that is aimed at improving air quality and combating the effects of climate change. Therefore the climate, energy and development focused government agencies in the UAE should:

- **Sustain pro-environmental behavioral changes beyond the current COVID- 19 pandemic.**

Government entities are encouraged to take advantage of some of the inevitable responses to coronavirus, such as less unnecessary air travel for business meetings and more home-working, reduced commuting, and better videoconferencing facilities. Also household patterns such as lower food waste should be supported through awareness campaigns. These behavioral changes are worth embedding for the longer-term challenge against climate change

- **Offer conditional support to heavily polluting industries.**

This would be reflected in the form a fiscal support based on improving environmental performance in high carbon sectors such as energy, transport, manufacturing and aviation. Public support given to large corporations should be conditional on verifiable improvement in their sustainable development performance in ways that have

positive impacts for workers, the environment and the real economy. One example could be supporting the aviation industry on the condition that they set clear emission reduction targets, and enact other environmental sustainability measures.

- **Rule out projects with future damage to the environment.**

These environmental impacts include greenhouse gas emissions, water and energy consumption, use of plastic and impact on biodiversity. As an example, the UAE is in the process of building its first coal-fired power plant Dubai. This is inconsistent with the need to phase out coal-based electricity production globally by 2040 in order to limit warming to 1.5°C<sup>29</sup>. Additionally, coal plants have high fixed costs and currently more than 60% of the world's coal plants are generating more expensive electricity than could be supplied by new wind or solar power plants<sup>30</sup>. Therefore, an alternative path is to invest in energy efficiency and clean technologies such as renewable energy. The UAE is considered one of the countries to have a large potential for a clean energy transition where 100% of renewable energy power generation is technically feasible as stated by Adnan Amin, director general of International Renewable Energy Agency to the National<sup>31</sup>.

- **Finance adaptation and resilience measures**

Low-carbon climate resilient large-scale projects such as smart buildings, renewable energy projects and multipurpose infrastructure should be prioritized in any recovery packages. Renewable energy investments particularly are attractive in recession scenarios. These investments generate many jobs in the short run when jobs are scarce

29. Paola A. Yanguas Parra, Gaurav Ganti, Robert Brecha, Bill Hare, Michiel Schaeffer, Ursula Fuentes, 'Global and regional coal phase-out requirements of the Paris Agreement: Insights from the IPCC Special Report on 1.5°C' (2019), Climate Analytics.

30. Simon Evans and Rosamund Pearce, 'The world's coal power plants', Carbon Brief, 26 March 2020.

31. John Dennehy, 'Renewables could generate 100 per cent of the UAE's power within 50 years', The National UAE, 24 March 2019.

which boosts spending and increases short-run GDP multipliers. In the long run, renewable energy conveniently requires less labor for operation and maintenance<sup>32</sup>. This frees up labor as the economy returns to capacity. In general, investment in sustainable infrastructure creates jobs today and social and economic benefits in the future while also improving resilience within communities towards the impacts of a changing climate.

- **Reduce fossil fuel subsidies**

The unprecedented drop in oil prices offers an opportunity for the UAE to lower or remove subsidies for fossil fuel consumption. The saving from the subsidy spending could be directed towards the societal struggles emerging due to the pandemic and towards improving resilience towards shocks.

- **Support public transport electrification**

Electrifying transport with electric buses and supporting electric vehicles and charging stations, would reduce air pollutants significantly within the UAE. However, the pollution reduction will depend on the source of electricity that powers the transport system.

It is clear that the COVID-19 pandemic threatens progress towards all the Sustainable Development Goals (SDGs)<sup>33</sup>. As governments move from crisis to recovery, the economic losses might leave them less inclined to focus on climate change, biodiversity loss, and other environmental aspects and with less commitment to fulfill international agreement and national standards. However, 'business as usual' recovery would imply temperature increases of over 3°C, implying great future uncertainty, instability and future weather-related disasters of exceptional magnitudes.

The recovery is an opportunity to emphasize sustainability within any post COVID-19 strategies. The year 2020 could be the year that global emissions peak if sustainable recovery plans are embraced. A restructuring of the economy to encourage low-carbon alternatives is needed more than ever. Recovery policies can deliver both economic and climate goals. There should be focus on policies where co-benefit exists while also planning for future systemic risks. This is a chance to provide solutions that are sustainable, technologically advanced and resilient. In the end, any recovery package will have to address the societal and concerns exacerbated by the pandemic such as unemployment and poverty. The Covid-19 is unlike any previous crisis. Action needs to be taken in order to guarantee preparedness for future shocks.

32. Blyth, W., Gross, R., Speirs, J., Sorrell, S., Nicholls, J., Dorgan, A. and Hughes, N. 'Low Carbon Jobs: The Evidence for Net Job Creation from Policy Support for Energy Efficiency and Renewable Energy' (2014), UK Energy Research Centre Report.

33. United Nations, 'SHARED RESPONSIBILITY, GLOBAL SOLIDARITY: Responding to the socio-economic impacts of COVID-19 Report' (2020).

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## Acknowledgements

The author(s) wishes to express personal appreciation to the following individuals for their input to the different stages of producing this report and for providing essential input and assistance into the report and its related materials:

Engy Shibl | Shuaib Kunnoth | TABEER.NET

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