Does Covid-19 provide a litmus test to help tackle the climate crisis?

As the saying goes … ‘every dark cloud has a silver lining’ (and we certainly could do with some silver lining as this Covid-19 bug envelopes the globe). So, bombarded daily with new statistics – infections and deaths up, stock markets prices down – could there also be a positive take-away from the pandemic?

Well in fact, yes, there could be!

Maps using data from the North American Space Agency (NASA) and The European Space Agency (ESA) show a significant drop in air pollution across China through Jan-Feb this year, compared to the same timeframe in 2019. Close-up maps of the Covid-19 epicentre in Wuhan illustrate an even more dramatic difference.

The maps reflect presence in the air of nitrogen dioxide, a dangerous gas which forms as a result of exhaust emissions from fuel-burning vehicles, such as cars, trucks and buses. This tells us, quite simply, that a marked reduction in air pollution has occurred due to restrictions on the movement of people and goods (in January and February 2020) as a means of controlling the spread of Covid-19, by Chinese authorities.

This is a major finding: such a remarkable drop in levels of nitrogen dioxide – a gas especially damaging to our Earth’s atmosphere – suggests an urgent need for better monitoring to support more stringent controls on vehicles and their emissions. If we could put stronger actions in place to assess and react to air pollution caused by vehicles, this would have a significant and positive impact on global heating, thus helping to tackle the looming climate crisis.

The satellite maps of reduced air pollution becomes even more meaningful when we consider that nitrogen, in its various forms – nitric oxide, nitrous oxide, nitrogen dioxide, etc. - can have

very damaging effects not only on the air that surrounds us, but also the ecology we depend on and our personal health. In short, these emissions cause acid rains which destroy the natural balance of flora and fauna and can have a toxic effect on human respiratory systems.

If we focus on nitrogen dioxide as one of the most serious pollutants of air, land and people, then we can only view the maps of China and Wuhan - comparing 2020 with 2019 - as a huge wake-up call for authorities and industry to get more serious about correcting this man-made catastrophe. It's an opportunity to utilize the information coming to us, almost by chance as a result of Covid-19, and turn it to good use, as one means amongst many of tackling the climate crisis, a much greater and ultimately more dangerous long-term challenge.

China of course is not an isolated example of nitrogen dioxide pollution. Anywhere on the globe which has a dense population, and thus a heavy demand for transport and travel, will face the same sort of issue. Some deal with it better than others, related in the main to their stage of industrial development: recently emerging industrial powers, such as China and India, will in general have less control measures in place than say Europe or North America, while pollution 'hot-spots', such as Nairobi in Africa and Rio in Latin America can, in comparison, be much more limited in response to pollution problems.

So, the key question then becomes: can we move from the Chinese example of satellite imagery, to a global assessment of nitrogen dioxide levels in other regions of the world impacted by Covid-19 and where authorities have put in place travel and transport restrictions to control spread of the virus? If so, we will have in effect developed a litmus test of air pollution levels that would be an extremely useful tool to assist in the massive task of tackling the climate crisis, with innumerable side benefits related to environmental sustainability and human well-being. We can only hope and assume that NASA and ESA are already involved in this vital exercise, as country after country around the world - following China's example - move into lockdown mode.

This information on relative emissions, with and without traffic, could contribute to positive outcomes that promotes more rigorous controls on vehicle numbers and fossil fuel use (particularly If the monitoring of emission levels can be extended to quantify the impact on surrounding environments). With such information to support their case, regions affected could

then move to inject new methodologies into the mix, such as electric vehicles, better public transport systems and even *free* public transport networks.

The good news is that there are already a multitude of examples around the world where improved methods and new technologies are being introduced to ease traffic congestion and control emissions that result from burning of fossil fuels. These include Mumbai in India (one of the world's most polluted cities) building a totally new underground train network; the tiny principality of Luxembourg introducing the world's first *free* transport system; and innumerable places with electrically-powered trains, trams, buses, cars and tuk-tuks, etc. (which, assuming the electrical power is derived from renewable sources, is a great step forward).

But we need much, much more of the same to be put in place by clear-thinking authorities, aided and abetted by forward-thinking business sectors - predominantly in urban and industrial areas – supported by informed and action-oriented people, who demand positive change.

The Covid-19 Litmus Test is formed around the idea that we have been given a one-time window of opportunity, albeit brought about by a global pandemic. This is one tool we can employ to help us achieve a positive result in our ongoing struggle against the climate crisis. The tools we have to hand are very limited, so when we get one that works, we need to use it!

It sounds like something up there and beyond our reach, but in reality, it isn't. We can be involved by helping to push our local authorities and business sectors to change transport systems, so we end up with less toxic gases around us. And of course, we can change personal habits too, by walking to the local shops and perhaps by taking a train instead of the car to work; or we could change our gas-guzzling V8 motor for something small and cute … or electric.

I remember a Nairobi-based friend saying she used her Toyota Landcruiser to drive the kids to school. And my immediate response: *"So, where's your kid's school then; in the Masaai Mara?"* Unkind perhaps, but really, we do need to think through these things a little bit more than we have done in the past … for our children's sake!
