The Worshipful Company of Water Conservators.

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COVID Lockdown Perspective, Climate Crisis and the Pandemic.

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Coping with any crisis like, major wars or climate change or the pandemic, requires shifts in the balance of liberty and personal choices, with restrictions imposed by the State. We have certainly seen a shift in the pandemic towards regulated control. The Government has used a wide range of tools ranging from soft 'nudging' of behavioural change through financial engineering to hard 'shoving' of tough regulation , but not without some angst. The CIWEM Past Presidents' Group (PPG) is looking at a matrix of what needs doing for climate change mitigation with these available tools and will be using the lessons of the pandemic.

A LinkedIn site, Climate Crisis and the Pandemic #crisislessons was established at the start of lockdown to look at the lessons of the pandemic and has some thoughts on these matters; it has been tracking the news and lessons as they emerge with the intention that these will feed into a project run by Pembroke College Corporate Partners Programme in which CIWEM will be participating. It is full of information distilled from the internet, newspapers and TV. The web is awash with articles which cover everything from 'it is all a conspiracy' to 'panic now over climate change'. There are views ranging between extreme doommongering to extreme gainsaying. But there are expressions of hope. There are many experts expressing views and analysing progress and speculating on the future. Some articles see a direct linkage between the two crises. Many groups, CIWEM PPG and the LinkedIn site, are looking for parallel practical lessons. But the most obvious of all is that there are consequential as well as parallel lessons for climate change and ecological diversity. Most of the lessons are a reinforcement of what we understood already; they are obvious and common-sense. One such reinforcement concerns communication.

The learning loops of foresight, insight, and hindsight are portrayed in the media as dithering and often used a false basis of criticism. One Professor on the Government Advisory Committee was asked - did he think with the benefit of hindsight that things should have been done differently – for instance did we lockdown too late? When he responded that with the benefit of experience and a lot more data, yes some things should have been one differently, but that the decisions were the best at the time, based on the data available, the media immediately portrayed this as an admission of failure.

Another fault line in communication is the lack of understanding of scientific debate. I observed in international committees that given the same set of data, scientists can come to different conclusions, all held honestly. The difference reflected the culture of the scientists. For example a Scandinavian scientist came to different more cautious

conclusions on the risks of using biosolids in agriculture than American scientists. This difference of culture can be as fine grained as differences between Universities. A popular example is the different theses developed for the origins of the Universe using the same observations. Debate and evolving consensus is how science moves forward. And this is what happened in the decisions about what to do best for the pandemic. This debate appeared in public, and indeed is ongoing. It is portrayed as chaotic by the media. Good argument makes good television. Particularly with a host who interferes. Good communication is an essential skill for modern scientists. The same will apply to climate change – not as to whether we have damaging changes or the need for mitigation, but in the methods of mitigation. Having furious debates in the media in artificially constructed circumstances does not aid public understanding.

The one thing that we must celebrate, is the recognition that science and evidence is a central contribution to pandemic mitigation decision making. Which is a thankful reneging of previous views by some Government Ministers. There must be a note of caution; with the caveats above, science must not become the fall guy if things go wrong for decision making. But more about communications later

One feature has been the emergence of statisticians as front line people. We have all been exposed to really quite sophisticated statistics. Clear explanation of risk in the pandemic remains a challenge even for experts like Sir David Spiegelhalter of Cambridge University.

It is clear that the crises have three practical elements: physical sciences, behavioural sciences and economics. And on top are politics.

The physical science of climate change has been given further evidence by the improvements in the environment during the pandemic. There silver lining of the pandemic is that we can now see what impact we were having in the 'Old Normal'. Air pollution is much reduced in the big cities for example. The pandemic has reinforced our understanding that our planet now works with global mechanisms of population movement and trade with all the consequences – without invoking any mystical concepts of Mother Gaia. It has helped spread the message about the challenges we face in climate change. And we have been reminded that solutions to global crises are global and local. One lesson is the importance of global co-operation. Boris Johnson said that getting a vaccine is the most essential shared endeavour of our lifetime. That sentiment must continue for climate change. It might well be that the UN needs to strengthen its Climate Change Secretariat and create an organisation comparable to the WHO (in spite of its funding and political crises during the pandemic).

Early on in the pandemic, experts were trying to explain differences in reaction to the pandemic and to climate change / emergency (words used interchangeably). In the former, the threat is fast and immediate, the solution identified (vaccination or therapeutics) and the vision of returning to a familiar, if not the same, normality ... the VE Day spirit. Whereas, as in the latter, the threat is not immediate (unless you have been flooded or burned out by bush fire for instance), so it is perceived as tomorrow's problem, and that the solution needs permanent changes to how we live, which may be unpalatable to some. The difference between the pandemic and the climate crisis is the speed and timescale of change. But if we listen to even the most temperate, voices we have to make changes to the way we live over the next 30 years if we want to avoid a permanent dystopian.

There are already some signs that there is crisis fatigue and, therefore, we might need to change the language we use on climate change. We need to use more positive syntax. One suggestion is that we talk about climate change rescue. The use of the 'rescue concept' is familiar and comforting. And whilst the notion of crisis has not been replaced, and 'rescue' is more a replacement for 'mitigation', the framework of the conversation may be less fatiguing. We need to speak up in favour of changing communication as a consequence of the pandemic, bearing in mind what I said earlier.

As scientists and engineers we understand the physical law of Young's Modulus by which we can measure the point at which a stretched material will not return to shape and will deform. There is also the concept of market pricing elasticity. So there must be a similar modulus in which the tolerance of the public to difficult change can be assessed. I suggest that there could be a similar' modulus of elasticity of tolerance to rapid social change'. How will we all react to taxation or rationing of meat and foreign holidays requiring ship or air transport, or the application of a Climate Rescue Added Tax, as examples amongst many (actually due to the rules of hypothecation this would require changes to the fiscal laws or the imposition of levies rather than taxes)?

There are already clear changes that will remain. We are all learning about the use of video-conferencing and this will change the way we work and where we live in relation to work. The Water Conservators Company is now holding webinars. The Government is investing in the extension of cycling to encourage people to cycle to work. But that only really works for cities and towns, and more is needed on its regulation to ensure safety for all including pedestrians. Will the resurgence of home grown vegetables last? Hopefully, understanding of the role of science is going to be better in future. What changes to water management will arise from the 'New Normal' way of living?

We must distinguish between short-term 'New Normal' of lockdown, the medium term 'New Normal' of lockdown emergence and the 'New Normal' of permanent changes to the way we live. Will face masks become part of all humankind culture much as it has become in the Far East? Prior to lockdown there was some emergence of vegan diets being more common as a contribution to climate change mitigation – will that survive the long term 'New Normal' and this picks up the point I made earlier on tolerance of rapid change.

We have seen that financial instruments can be used to manage and manipulate the confrontation of crisis and this will continue to be true for climate change. As the pandemic slows, and there is a focus on recovery, will the future be dystopian or utopian? Will there be an economic surge in which the environment is forgotten or will the economy be different in future? There is a miscellany, even a cacophony, of initiatives and we need more co-ordination, more of a chorus, more of a symphony in which the environmental needs are subsumed or will we be able to incorporate 'greenness' in the recovery .

In late April the UN Annual Petersburg Dialogue committed to concerted global action of green recovery with a lead being taken by the UK in anticipation of COP26, now scheduled for November 2021. I repeat what I wrote earlier ... is the current UN Climate Change secretariat enough?

We need the criteria for recovery investment to take account of climate change rescue. The Government's Covid recovery programme is not yet very green. But Project Birch (a

bailout plan to save strategically important companies by injecting state equity into companies in debt) is in place which needs some more sustainability criteria. World Environment Day created a plethora of initiatives... quite rightly. The Labour Party is out to consultation, Greenpeace has issued a Manifesto. The Buildbackbetter campaign, organised by Green New Deal UK is organising a petition. Prince Charles is leading in the Great Reset launched on 3 June on the virtual World Economic Forum COVID Action Platform. This has spring boarded a letter from a wide range of companies to government demanding a green recovery.

Two Parliamentary Select Committees are looking at the topic, first the Environment Audit Committee and second the BEIS Committee, which has a launched Super Inquiry. And all of the Government's Plans, Strategies and Frameworks will need to be calibrated.

We all have various roles in our professional lives and we must ask ourselves if we can afford to stand by and say nothing. Perhaps this might entail taking an active role in our professional bodies. We need action, but it must be sensible and measured. All are welcome to join the LinkedIn site.

COVID Lockdown Perspective, Climate Crisis and the Pandemic - Addendum

At the end of the Perspective 11, I called on all of us as individuals to make a contribution on finding a 'green way' 'forward through the various roles in our professional lives

You might find it easier to do so, if you used the initiative and advice issued by the Committee for Climate Change, in May, to the Governments of the UK, as a basis. I have produced a summary of that advice as this Addendum to the Perspective I quote from the statements issued by the CCC.

"In letters to the Prime Minister and First Ministers in Scotland, Wales and Northern Ireland, in May the Committee on Climate Change set out six key principles to rebuild the nation following the COVID-19 pandemic whilst delivering a stronger, cleaner and more resilient economy. Reducing greenhouse gas emissions and adapting to climate change are integral to the UK's recovery package, the Committee said.

"Immediate steps are needed to support re-skilling, retraining and research; to build a climate-resilient economy; to scale up housing retrofits and build new homes that are fit for the future; to invest in low-carbon, resilient infrastructure such as improved broadband instead of new roads; to make it easy for people to work remotely, walk and cycle and to expand tree planting, peatland restoration, green spaces and green infrastructure.

CCC Chairman, Lord Deben, said: "The COVID-19 crisis has shown the importance of planning well for the risks the country faces. Recovery means investing in new jobs, cleaner air and improved health. The actions needed to tackle climate change are central to

rebuilding our economy. The Government must prioritise actions that reduce climate risks and avoid measures that lock-in higher emissions."

Chair of the CCC's Adaptation Committee, Baroness Brown of Cambridge, said: "This pandemic has shown that global risks need global solutions. As President of next year's pivotal COP26 climate summit, the UK now finds itself in a unique position to ramp-up climate action at home and supercharge the international response to climate change abroad. The risks we face as a globalised society are now in sharp focus – for their part, UK leaders must act decisively on a climate resilient recovery, and do so together."

Governments in all UK nations should prioritise actions to recover from the pandemic based on six resilience principles. These are:

- Use climate investments to support economic recovery and jobs. The CCC has
 previously identified a detailed set of investments to reduce emissions and manage
 the social, environmental and economic impacts of climate change. Many are
 labour-intensive, spread across the UK and ready to roll out as part of a targeted and
 timely stimulus package.
- Lead a shift towards positive, long-term behaviours. The Government can lead the
 way to new social norms that benefit wellbeing, improve productivity and reduce
 emissions. This includes actions to support home-working, remote medical
 consultations and improve safety for cyclists.
- 3. Tackle the wider 'resilience deficit' on climate change. Strong policies are needed to reduce the UK's vulnerability to the destructive risks of climate change and to avoid a disorderly transition to Net Zero. They must be implemented alongside the response to COVID-19 and will bring benefits to health, well-being and national security.
- 4. Embed fairness as a core principle. The benefits of acting on climate change must be shared widely, and the costs must not burden those who are least able to pay, or whose livelihoods are most at risk as the economy changes. Lost or threatened jobs of today should be replaced by those created by the new, resilient economy.
- 5. Ensure the recovery does not lock-in greenhouse gas emissions or increased risk. As it kick-starts the economy, the Government should avoid locking-in higher emissions or increased vulnerability to climate change in the longer-term. Support for carbonintensive sectors should be contingent on them taking real and lasting action on climate change, and all new investments need to be resilient to future climate risks.
- 6. Strengthen incentives to reduce emissions when considering tax changes. Revenue could be raised by setting or raising carbon prices for sectors of the economy which do not bear the full costs of emitting greenhouse gases. Low global oil prices provide an opportunity to increase carbon taxes without hurting consumers.

The Committee's letter details the steps that Governments can take as a priority, emerging from these six overarching principles.

It is heartening that what we, in the LinkedIn site and the CIWEM PPG, have been advocating is consistent with these principles.