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# GLOBAL SCIENTISTS CALL FOR ECONOMIC STIMULUS TO ADDRESS CLIMATE ADAPTATION AND COVID

## 22<sup>ND</sup> JANUARY 2021

**F**ive Nobel Laureates and more than 3,000 scientists from over 100 countries signed up to the “Groningen Science Declaration” calling on world leaders, decision-makers and investors, to change the way we understand, plan and invest for a changing climate to ensure we limit future damage. The signing took place ahead of the virtual Climate Adaptation Summit (CAS 2021) on 25-26 January 2021.

The statement, initiated by Prof. Patrick Verkooijen, CEO of Global Center on Adaptation (GCA), is released as figures from the first GCA “State and Trends in Adaptation 2020” report show that climate adaptation is likely to have suffered a single-digit percentage fall in 2020 and that global climate adaptation funding needs to increase ten-fold, to US\$300 billion a year, to meet estimates of what is needed to respond to escalating climate risks.

In the Groningen Science Declaration the scientists state that “our failure to adapt and mitigate Covid-19 parallels the disruption to come if we do not act immediately to mitigate and adapt our world in response to our changing climate [...] unless we step up and adapt now the results will be increasing poverty, water shortages, agricultural losses and soaring levels of migration with an enormous toll on human life.”

“Even if mitigation targets outlined in the Paris Agreement are reached, it still won’t be enough. Climate change is already happening and so we must adapt to its impacts. The Groningen Scientific Declaration makes it clear that we, as humans, have caused climate change and so we must accelerate adaptation to ensure we can all live in a

sustainable and resilient world that leaves no-one behind,” said **Ban Ki-moon**, 8th Secretary General of the United Nations and Chair of the Global Center on Adaptation, speaking during the launch.

“As a result of the pandemic we are facing interlinked health, economic and climate crises. We must implement interventions to support a resilient recovery and we must act now before climate change accelerates beyond the capabilities of nature and humans to adapt. The science community, in signing this declaration, know the stakes could not be higher,” said **Prof. Patrick Verkooijen**, CEO of the Global Center on Adaptation.

“Our climate emergency poses the severest threat to peace and security. As extreme weather events continue to accelerate and sea levels rise, people have to compete over scarce resources and deal with the accelerated degradation of the environment around them. If we don’t act and adapt and soon, we will inevitably see greater instability, conflict and increased migration,” said **Dr. Tawakkol Karman**, 2011 Nobel Peace Prize winner.

“The Covid-19 crisis has devastated our economies but it will soon be history; the climate-related disasters that are occurring with increasing frequency will only get worse, if we don’t do anything about it. Our economies are as vulnerable to them as they were to Covid-19. We need to improve the way we manage such disasters and take steps to reduce them. Investments in sustainability should be given priority: they should, and usually do, give higher returns in the longer term. We need to focus on inclusive green job creation, to help families in need and

prepare ourselves better for the future. It is of paramount importance that governments, through their Covid-19 recovery packages, invest in climate adaptation and resilience against multiple shocks, focused on green job creation and long-term sustainable growth,” said **Prof. Sir Christopher Pissarides**, The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2010

“Covid-19 has shown just how brittle our environment is – that our world and way of life can be upended so fundamentally and so quickly. But the pandemic has also shown governments all across the world can listen to science and expert advice, to protect their people and their societies. They are doing the same with the science of climate change. Now is the time to invest in and drive the innovative climate solutions we already have at our disposal to create new jobs, to stimulate our economies, to develop the industries and products of tomorrow, while at the same time building a climate resilient, a climate smart and a climate just future,” said **Prof. Brian Schmidt**, 2011 Nobel Prize winner in Physics.

“I believe that climate change adaptation requires the depth and breadth of expertise best achieved through interdisciplinary collaborations and engagement with policy-makers. Working with the Optical Society, together we have communicated to those in public policy the vital role optics can play in measuring the effects of climate change and the effectiveness of remediation efforts. If scientists and engineers worked together on developing innovative sensor technologies with the support of governments, the resulting innovation could be a milestone achievement in addressing climate change,” said **Prof. Donna Strickland**, 2018 Nobel Prize winner in Physics.

“The climate is already changing, and we will have to adapt to address the further global warming that is coming because of past emissions of greenhouse gases. But we must also understand that there are limits to adaptation, and the more we can limit future warming the greater the scope for successful adaptation measures,” said **Prof. Hoesung Lee**, Chair of the Intergovernmental Panel on Climate Change (IPCC), also present at the virtual launch event

“Our University and the city of Groningen are proud to host the Science Declaration and the launch event with Nobel Laureates and other distinguished guests. Our professors, researchers, educators and students work tirelessly with national and international partners towards the local, regional and global Green Transition. It is clear that mitigation of climate change goes hand-in-hand with adaptation, and our research and Master Degree programs reflect this, with a focus on human health, behavioural sciences, climate law and clean energy,” said **Prof. Jouke de Vries**, President of the University of Groningen

**Prof. Joseph Stiglitz**, The Sveriges Riksbank Prize awardee in Economic Sciences in Memory of Alfred Nobel 2001 also signed the Groningen Science Declaration during the virtual launch.



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# GRONINGEN SCIENCE DECLARATION

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The world is in a growing climate emergency that requires immediate action<sup>1</sup>. With global greenhouse gas emissions rapidly increasing, our fast-warming world is already experiencing major disruptions from more intense droughts, fires, heatwaves, floods, destructive tropical cyclones and other extreme events. Climate science has now attributed the rising intensity of observed extreme climatic events to human influences<sup>2</sup>. We have demonstrated that greenhouse-gas emissions have intensified heat waves and mortality across all continents. We have the evidence that global warming has increased the flooding risk of intense hurricanes across the Caribbean and the southeast of the United States, as well as typhoons across the western Pacific. We know that human influences have increased both observed droughts and extreme precipitation events on all continents.

Over the past three years, climate-related disasters have cost the world \$650 billion – more than 0.25 percent of global GDP for those years<sup>3</sup>. The UN has warned that by 2040 damages associated with climate change could soar to \$54 trillion<sup>4</sup>.

We must continue to mitigate rapidly with ambitious emissions reductions and increased removals by natural systems. It is clear that business as usual is no longer an option. We can no longer “avoid dangerous anthropogenic interference with the climate system”<sup>5</sup>. We are experiencing the adverse consequences of that interference now. Our failure to adapt and mitigate COVID-19 parallels the disruption to come if we do not act immediately to mitigate and adapt our world in response to our changing climate.

The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as “the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities”<sup>6</sup>. Throughout history, people have adapted to change. But as our failed

response to the Covid-19 pandemic has demonstrated the world is simply not ready to face the inevitable impacts of our climate emergency. Unless we step up and adapt now, the results will be increasing poverty, water shortages, agricultural losses and soaring levels of migration with an enormous toll on human life. We must avoid inaction where those who are not rich lose out, and cannot react in the timeframe necessary and without resources to make the required changes.

The pandemic combined with intensification of extreme weather events has shown how unprepared we are and that we must heal nature in order to heal ourselves. As governments around the world prepare massive stimulus plans to repair the damage of Covid-19 shutdowns, they must also repair the damage to nature, because of its important role in resilience to climate change. If we continue with the unfettered destruction of our natural environment, Covid-19 will not be the last pandemic to upend our lives, and climate change will accelerate beyond the capabilities of nature and humans to adapt.

The twin threats of Covid-19 and climate change are, above all, caused by human actions. We must do everything in our power to ensure our response to both is coordinated and becomes a watershed moment for investment in a more sustainable world. The sooner we act the better off we will be.

This means taking urgent steps to help communities adjust to the world they are living in today. A world in which millions of people struggle on a daily basis.

Without adaptation, a changing climate may depress growth in global food production by up to 30 percent by 2050. The 500 million small farms around the world will be most affected<sup>7</sup>. The number of people who may lack sufficient water, at least one month per year, is projected to

soar from 3.6 billion today to more than 5 billion by 2050<sup>7</sup>. Rising seas and greater storm surges could destroy urban economies and force hundreds of millions of people in coastal cities from their homes, with a total cost of more than \$1 trillion each year by 2050<sup>7</sup>. More than 100 million people will be unable to sustain themselves by 2030<sup>8</sup>.

We must do everything we can to protect nature using practical and positive solutions to assure and maintain a sustainable environment, society, and economy. If we act now, we have the opportunity to plan ahead and prosper. If we delay, we will pay.

**T**here must be a revolution in understanding the risks nature, societies and economies face if they cannot adapt to climate change. We conclude that four revolutions need to take place to accelerate adaptation action to the pace and scale required.

**1** We must adapt in the way we manage and protect natural systems. We can no longer continue to clear our forests and degrade them. Coastal and freshwater wetlands, mangroves, grasslands and coral reefs must be protected and restored for climate resilience and to accumulate more carbon out of the atmosphere. Adaptive management of agricultural lands will ensure that our food system is more resilient and productive without encroaching on natural ecosystems. Understanding and identifying opportunities to benefit from natural ecosystems is key to planning and investing in adaptation.

**2** We need a revolution in long-term planning; a revolution that accounts for climate risk in the way we actually plan our cities, our infrastructure and our private investments. Investors and asset management companies are already starting to assess the environmental and climate risks related to the future worth of their investments. Looking at risk while incorporating future resilience is becoming mainstream. But this process needs to become more widespread and based upon a solid understanding of the consequences of our actions for their scientifically understood consequences.

**3** Policies that provide primary and secondary education to all are essential to having a society that can effectively adapt to a changed climate. Innovations are needed in all aspects of society and a resilient economy will require a highly educated population. More education is especially important for girls and young women as it has been shown to increase gender equity, standard of

living, and overall health and wellbeing, while decreasing fertility rates which is a major step in climate adaptation given potential food and water scarcity, and the uneven spatial distribution of climate impacts.

**4** There must be a revolution in the way finance is organised, so existing funds and resources can be targeted to accelerate adaptation. We need to think about financial returns in a completely different way. At the moment, business proposals are evaluated in the short term and do not capture societal benefits. Longer-term climate risks are often not considered because risk assessments are based upon historical data. The past is no longer a good proxy for the future in an increasingly warming world. And at the moment, public and private finance simply is not flowing fast enough.

Adaptation must be at the forefront of decision-making. Because, in addition to protecting the well-being of natural systems and humans, it makes economic sense. The Global Commission on Adaptation found that investing \$1.8 trillion globally in climate adaptation schemes over the next decade could generate \$7.1 trillion in total net benefits<sup>9</sup>. Or put another way: the World Bank estimates that an extra three per cent of adaptation investment upfront in resilient infrastructure would be offset by savings of up to four times the cost of the loss and damage that would have occurred without said investment<sup>10</sup>.

Work to help communities adapt has already started. There are many glimmers of hope; many pockets of innovative adaptation appearing around the world planting of drought-resistant crops; increasing soil carbon, protecting forests that hold the most carbon and those that are accumulating carbon most rapidly, positioning trees along riverbanks; restoring mangrove forests and wetlands; redesigning the way we build our cities reducing the deadly impact of soaring temperatures; building concrete cyclone shelters. Knowledge is being shared between cities, countries and continents.

Without leadership and commitment from the decision-makers, the financiers, the investors, and the world leaders to accelerate adaptation action the toll will be devastating. Long-term global economic prospects will be even more severely compromised than they are now. We need a massive effort now to adapt to the climate change to which the world is already committed and move rapidly to prevent it from becoming worse.

Ahead of the Climate Adaptation Summit, to be hosted by the Netherlands in January, we as a group of scientists call on world leaders, decision-makers and investors, to change the way we understand, plan and invest for a changing climate to ensure we limit future damage. We commit to supporting you to adapt boldly, to adapt fairly and adapt now. We must work together to act and adapt to our changing climate before it is too late.

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**ENDNOTES**

1 <https://doi.org/10.1093/biosci/biz088>

2 <https://doi.org/10.17226/21852>

3 <https://www.cnbc.com/2019/02/14/climate-disasters-cost-650-billion-over-3-years-morgan-stanley.html>

4 <https://www.ipcc.ch/sr15/chapter/chapter-3/>

5 <https://unfccc.int/resource/docs/convkp/conveng.pdf>

6 <https://www.ipcc.ch/sr15/chapter/glossary/#:~:text=See%20Adaptive%20capacity&text=In%20human%20systems%2C%20the%20process,harm%20or%20exploit%20beneficial%20opportunities>

7 <https://gca.org/global-commission-on-adaptation/report>

8 <https://www.worldbank.org/en/news/feature/2015/11/08/rapid-climate-informed-development-needed-to-keep-climate-change-from-pushing-more-than-100-million-people-into-poverty-by-2030>

9 <https://gca.org/global-commission-on-adaptation/commission-news/global-leaders-call-for-urgent-action-on-climate-adaptation-commission-finds-adaptation-can-deliver-7-1-trillion-in-benefits>

10 <https://www.worldbank.org/en/news/press-release/2019/06/19/42-trillion-can-be-saved-by-investing-in-more-resilient-infrastructure-new-world-bank-report-finds>



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