



Post-pandemic recovery: use of scientific advice to achieve social equity, planetary health, and economic benefits

The spread of COVID-19 is continuing to present enormous challenges worldwide, affecting individuals, families, communities, health services, and economies. Much now depends on curbing the pandemic, combined with the gradual resumption of economic and social activity. Meanwhile, the world is in the middle of another crisis, the climate change emergency. There is a choice to be made in guiding the economic recovery from COVID-19.¹ Either societies continue high-carbon pathways that present considerable risks to health and development, or they seek low-carbon socioeconomic pathways to invest differently for the long term to protect and promote human health and to enhance the prospects for a recovery compatible with the commitments in the Paris Climate Agreement.

A Communique² from the InterAcademy Partnership, the global network of more than 140 academies of science, engineering, and medicine, builds on an earlier evaluation of the issues for climate change and human health³ to explore how science-based solutions and systemic interventions, adapted to match a country's circumstances, can help to effect a fundamental recovery transition with rapid decarbonisation. The InterAcademy Partnership's objective is to identify principles, priorities, and precepts that policy makers and other stakeholders worldwide should now take into account in designing the recovery from COVID-19 (panel). Policy makers are receiving advice from many sources; however, inevitably some of this is based on vested interests. To help to reduce the potential for misinformation and bias, the InterAcademy Partnership has made the case for use of robust, transparent, and science-based advice drawing on multidisciplinary and multilateral sources. We hope that this contribution, independent of political or commercial bias, will help to catalyse continuing discussion and commitment to action.

Health and sustainability should be central to the economic response following the pandemic, which should also be designed to improve the resilience of societies to cope with new shocks in an uncertain future.^{1,4} What should the scientific community, represented by the InterAcademy Partnership, now contribute to continue work on ways to deliver transformational,

evidence-based, differentiated, and well focused change? We identify two main tasks.

First, the scientific community should capitalise on the current strengths of the regional academy networks of the InterAcademy Partnership and continue to build their capacity so that issues at the country level

Panel: InterAcademy Partnership assessment of issues for recovery after COVID-19

The starting point for the InterAcademy Partnership analysis is the recognition that there should be rapid reduction in fossil fuel use and other sources of greenhouse gas emissions, together with an appreciation of the value of ecosystem services and the potential for mitigation policy to bring considerable benefits to human health. Among key conclusions from the sectoral analysis are:

Decarbonisation is compatible with economic recovery

- Zero-carbon projects create more jobs^{4,5} than do many fossil fuel-intensive investments, although policies for social equity should accompany the drive to decarbonisation⁶

Policy focus should encourage multiple wins

- Seek co-benefits for the environment and human health, and for the economy
- The most disadvantaged and vulnerable populations worldwide should be prioritised as part of the objectives to build adaptive capacity and equitable policies for a low-carbon recovery

Action is needed in multiple sectors

- Avoid activities that are responsible for high greenhouse gas emissions and excessive resource consumption
- Considerable health benefits are possible by mitigation policies in the sectors responsible for power generation, the built environment, transport, and food systems^{3,7}

Solutions based on science are already within reach

- The scientific community has a continuing responsibility to advise on how science can inform policy options, provide the resource for innovation, and guide practice; and on how to identify evidence gaps to fill by research

Science is also crucial to public acceptance of policy reform

- Country comparisons of the impact of the COVID-19 pandemic has provided insight on how successful political leadership depends on inviting and taking account of science advice
- Effectiveness in communicating science influences public trust in the resultant policy measures

Alignment in planning

- Actions for economic recovery should be integrated with planning for health recovery
- Even if successive waves of COVID-19 are avoided, long-term consequences need to be addressed, including: functional impairments in some survivors of COVID-19; mental health effects of societal disruption; negative health effects transmitted from other sectors, such as the weakening of food systems; and the consequences of disruptive effects on health service provision, such as delays to diagnosis, treatment, and childhood vaccination programmes

More details on these points and additional literature sources are provided in the Communique.²

are identified, examined, and communicated, locally and regionally. For example, in Africa, the Centres for Disease Prevention and Control expressed concern⁸ about Africa becoming an epicentre for COVID-19 and, as part of reviewing the multiple actions needed now, advised efforts to limit social disruption and economic consequences. Although various international bodies have launched economic initiatives in Africa, it is crucial that African countries come together to make their voices heard and to inform the choice of priorities. The Network of African Science Academies, the regional partner of the InterAcademy Partnership, provides a mechanism for this action. Earlier in the pandemic, a statement⁹ from this network outlined priorities for mobilising resources and partnerships, and objectives for risk assessment, preparedness, and responsiveness in managing COVID-19, while also providing the impetus for change. The InterAcademy Partnership is assisting by continuing to work with its regional academy networks in Asia, the Americas, Europe, and Africa, to foster linkages between local, regional, inter-regional and global levels at the science-policy interfaces. Accordingly, there is need for greater involvement of the science academies in supporting the Nationally Determined Contributions under the Paris Agreement to raise the profile of health in the areas in which it is currently overlooked, and for supporting the development of economic stimulus packages that would integrate health and environmental sustainability.

Second, the scientific community should catalyse inclusive action across the community with the aim to provide robust evidence to policy makers and others. This task requires wide engagement to capture all relevant disciplines in the physical, natural, and social sciences, as well as in the humanities¹⁰ and indigenous knowledge. Consequently, this action enables integrated and coherent inputs to the multiple intergovernmental bodies responsible for policy development, and to other practitioners and end-users. The global policy bodies to be targeted should include the UN High-level Political Forum on sustainable development, to facilitate alignment with the Sustainable Development Goals;¹⁰ the UN Framework Convention on Climate Change, to raise the ambition on the shift to the decarbonised economy; the UN Food Systems Summit, to explain how shifting environmentally unsustainable food intakes can also be expected to produce benefits for human

health;^{3,7} and the UN Convention on Biological Diversity, to highlight how the climate change crisis is also a biodiversity crisis, which in turn has implications for human health and the concept of One Health. Actions to be taken during economic recovery should not worsen the environmental damage that increases the likelihood of future pandemics.

2021 brings an unparalleled concatenation of openings for policy reform. For example, the UK hosts the United Nations Climate Change Conference COP26 and holds the presidency of the G7 group of nations, and Italy is co-host of the COP26 and chairs the G20 group of nations. The InterAcademy Partnership is striving to make the most of its participatory opportunities to help to ensure that evidence and perspectives from low-income and middle-income countries are also brought to the forefront in these events and that recovery measures intended to promote economic, environmental, and health benefits are founded on fair and equitable strategies.

We declare no competing interests.

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