



HARVARD
Advanced Leadership Initiative

Executive Summary

Climate Change Deep Dive

February 23-25, 2022



Key Takeaways

- Climate change is a collective action problem that needs international corporation
- Upfront costs and delayed benefits bring about a political challenge
- Climate change has a disproportionate impact on some of the most vulnerable populations
- Net zero emissions is not viable without more and faster innovation
- Climate change policies need to reflect the new capabilities, processes, and institutions



The Advanced Leadership Initiative (ALI) is an innovative academic program designed to unleash the potential of experienced leaders to help solve society's most pressing challenges. Participants become part of a vibrant community of change-makers who continue learning, collaborating, and innovating for impact.

ALI Deep Dive sessions highlight one major global or community challenge where ALI Fellows might engage. Deep Dives include specialized readings, notable speakers including industry experts, and faculty from relevant cross-university Harvard programs. These highly interactive sessions focus on problem solving with practical applications of knowledge.

ALI Fellows contribute ideas based on their experience and knowledge to identify solutions. Fellows are able to learn from expert practitioners in the field and consider the needs and perspectives of affected constituencies.



2022 ALI Fellows participating in roundtable small group discussions during the Deep Dive on Climate Change

Key Takeaways

- **Climate change is a collective action problem that needs international cooperation**

Since greenhouse gases mix in the atmosphere, the impact of emissions is global. Individual countries take actions that contribute to climate change, but the consequences of these actions affect the entire world. While the United States and Europe are the two largest generators of carbon emissions, decarbonizing only these nations as quickly as possible is not the most efficient way to battle climate change.

Though the United States' and European leadership is important, getting other nations to adopt climate friendly policies is crucial. In 2021, at the COP26 Glasgow Summit, countries revisited climate pledges made under the 2015 Paris Agreement. The new agreement set a global agenda to further cut emissions of carbon dioxide, reduce or phase down the usage of coal, and increase money to help developing countries cope with the effects of climate change and switch to clean energy alternatives. Encouraging international cooperation on decarbonization is the only viable path forward.



Prof. Forest Reinhardt leading a session on energy supply economics

- **Upfront costs and delayed benefits created political challenges for climate action**

Governments have an important role in regulating the use of carbon. Economists favor carbon pricing because it is practical, feasible approach to meaningful emissions reductions. There are two types of carbon pricing: carbon taxes and emissions trading, also known as cap-and-trade. Carbon taxes place a tax on the carbon content of fossil fuels and revenue can be used for funding R&D, or compensating burdened parties. Cap-and-trade allocates allowances for the carbon content of fossil fuels. Today, there are six major CO2 emissions trading regimes in place worldwide including the European Union, New Zealand, and California. There are also 15 countries currently using carbon taxes, including Finland, Sweden, and Mexico.

Despite these positive examples, almost all political action on climate change is challenging because of long timescales. The main problem for policy makers is that the full impact of climate change is delayed, while the costs of taking action to mitigate climate change are immediate. Due to the long carbon cycle and how Earth's oceans store heat, the impact of warming and sea level rise from these emissions

are not immediately clear. Moreover, actions taken today will not reach their full effect for hundreds of years. This creates a challenge since the political incentive in democracies is to give benefits in the short-term to voters, while leaving the cost on future generations.

“ The global commons nature of the problem make climate change a very tough political challenge. ”

- Robert Stavins

The climate problem requires elected leaders to do the opposite—spend more now for future benefit.

- **Climate change has a disproportionate impact on some of the most vulnerable populations**

Climate change impacts different communities unequally across the world. Marginalized groups often experience the greatest impacts of climate change and lack the resources to combat any issues that arise. With debilitating sea level rise already pres



ent, businesses and individuals need to build more inclusive, sustainable, and resilient societies to withstand these effects. There needs to be targeted attention to support low-income populations affected by climate change.

- **Net zero emissions is not viable without more and faster innovation**

Technology has a critical role to play in creating climate change solutions, but many countries will not be able to access new technology. Technological innovation can help meet climate goals by either reducing global dependence on carbon-based energy or eliminating existing emissions from the atmosphere. Technology includes devices, methods, processes, and practices that can be used to fulfill certain human purposes in a reproducible way.

Governments have an important role in encouraging the development of new technologies. With well-designed incentives, government can drive demand for renewable energy sources and promote the development of more advanced technology.

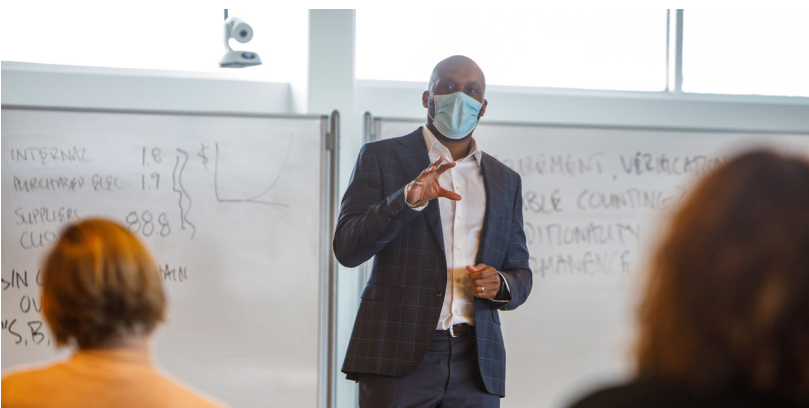


Prof. Laura Diaz Anadon joins from University of Cambridge to discuss ways to accelerate technology innovation

- **Climate change policies need to reflect evolving capabilities, processes, and institutions**

As we learn more about the sources of global emissions and the effects of climate change, climate change policies must adapt. The costs of getting affordable, clean technologies on the ground are high, and these costs often spill over to affect workers, businesses, and vulnerable communities. On the other hand, there are benefits to promoting “greener” businesses. With new industry comes increased competitiveness, and public policies can further help new actors counterbalance the power of incumbents.

One clear example of this is in the farming industry, where about one quarter of all global emissions comes from food production. Farmers are exposed to more risk because of the unpredictable effects of climate change on their crops. To adapt their practices to protect the environment while still meeting demand, farmers need the right incentives, technology, and policies. For example, Bunge is a company that realizes the importance of adapting farming practices to address climate concerns. It helps ensure farmers receive high quality service and move them to the markets that give them the most return for the quality of their goods, while at the same time creating new “greener” markets that factor carbon attribution into pricing.



Robert Coviello of Bunge focuses on how the current agricultural system can contribute to greenhouse gas mitigation



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