

Playing games with the climate

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Gábor Kutasi of the Corvinus University of Budapest, Hungary, has applied game theory to the problem of climate change to help him analyse the relationships between international players on the world stage, occurrence and effects, attitude towards carbon emissions, the power struggles taking place and the negotiations that are under way between nations, energy companies and the public.

As [atmospheric carbon dioxide](#) levels rise, it is likely too that the average temperature of the planet's surface through the [effects of global warming](#). There may be localised effects that mitigate against this [temperature rise](#), but these small-scale effects do not detract from the problems we face as environments at the extremes, the Poles and sub-tropical zones feel the effects and climate change becomes a fact of life in even the temperate parts of the globe.

There are uncertainties in the precise impact on specific regions, ecosystems and human health and lifestyles. However, Kutasi asserts that climate change will be a long-term challenge for humanity and the world around us and that preventive action must be taken soon before its effects become irreversible. He points out that worst-case scenarios have been plotted and action plans to ameliorate or halt their effects have even been developed. Unfortunately, such positive actions are often stymied by political reluctance, socioeconomic inactivity and the inhibitory propaganda of the multinational industrial complex. It is almost a given that we can somehow ignore the long term for the sake of avoiding a short-term detrimental impact on our lifestyles, election results and the bottom line on company profits.

The inherent uncertainties of timescale and net impact have led many so-called stakeholders to hold back their planned actions and for others to see such hesitancy as a reason to put their own plans on hold too. Thus the concept of [game theory](#) strongly underpins the interactions, responses and parrying of many parties with a role to play in what should be a concerted, worldwide effort to address the problems of [carbon emissions](#) and climate change.

Kutasi's review of the state-of-the-art in game theory in the context of climate change, suggests that, despite the limitations and complexities of applying it to such a complex issue, there are benefits to that can be derived. "Through game theory, it is possible to illustrate the dilemmas and strategic options of a group of actors, thus making the very complex relationship of industrial activity, carbon emission, climate change, ecological and economic damages transparent for decision-makers at the levels of economic diplomacy, public policy, or private business," he suggests. By changing the rules of the game and playing more openly and more fairly it might even be possible that we can devise workable strategies and recommendations for mitigating and adapting to [climate change](#), he concludes.

More information: "Climate change in game theory context" in *Interdisciplinary Environmental Review*, 2013, 13, 42-63

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