

of these gases and there is little doubt that such emissions are on the rise. However many would argue that these human-caused emissions are negligible against the background of natural emissions of these same gases, citing that for instance CO₂ emissions are estimated to be less than 10% of natural emissions. Proponents of global warming argue that this minor difference is enough to upset the balance of our global carbon cycle and tip the scales towards climate change. There is however no sure scientific evidence to support this claim.

CRITICISMS OF KYOTO AND THE IPCC

There are two primary areas of controversy surrounding the Kyoto Protocol. The first is centered on the science supporting Kyoto and the many serious objections raised against the IPCC's numbers, which have never been refuted in detail by the UN or IPCC or any national government. The science apparently does not support the vast costs [2 % of global GDP] to implement Kyoto to effect at best a 0.15 C reduction by in temperature by 2100.⁶⁶⁹ These costs would necessitate a shift in trade patterns, national economic policy and energy consumption as well as warranting increasing tax and regulatory levels. Further it is also possible that at some future point even national governments that signed the protocol will selectively implement it citing unsound or uncertain science as necessitating a more 'prudent' approach to emissions control. Such posturing would seriously undermine the credibility of the entire exercise and is in fact illegal under the articles of the Vienna Convention on international treaties and agreements.⁶⁷⁰

The second main criticism targets the obvious contradiction between Kyoto and WTO rules and processes. Many countries that did not sign Kyoto such as the USA or Australia are members of the WTO. How then to resolve disputes over trade that involve environmental services and products? Further how can the WTO prevent the imposition of non-tariff barriers from impeding world trade when such barriers can be cited to fall under the Kyoto protocol of emissions reductions or environmental protection? These areas are not covered implicitly under the WTO and could lead to

environmentally based protectionism. In fact many opponents of Kyoto view it as first and foremost a trade limiting treaty and secondly, as a massive redistribution of money from relatively clean burning northern countries to poor, dirtier and less environmentally aware former Soviet Bloc nations and the Third World. In this scenario Kyoto does nothing to address climate change or emissions reductions.

SCIENCE AND MODELS

In the recent past there have been various models developed to help predict climate change scenarios. Each model presents its own assumptions, calculations and logic to understand how climate and temperatures are formed. The problem with models is they are only as good as the accuracy of the underlying assumptions and algorithms. A major problem for the IPCC lies in the adequate modeling of an incredibly complex process. The collection of vast amounts of data to sufficiently replicate the earth's climate over decades and centuries is what some would call an impossible task. This is why even model makers themselves openly express doubt about the certainty of their models predictions. It is important to be aware that predictions from climate models are always subject to uncertainty because of limitations on our knowledge of how the climate system works and on the computing resources available.⁶⁷¹ Complex mathematical models are still open to query and overly simplified assumptions that may or may not correlate with observed data.⁶⁷² It is very dangerous to state categorically as the IPCC has repeatedly done that, 'There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.'⁶⁷³

The IPCC states that the evidence for anthropogenic climate change is clear yet their evidence is largely premised upon computer models.⁶⁷⁴ The IPCC has never proven that its models are correct. For example there is no consensus that IPCC model assumptions are corroborated by recorded data. If one analyses the IPCC's CO₂ assumptions we can see a great disparity between the model and reality. IPCC modeling assumes that CO₂ concentration will grow by 0.64% per year between 1990-2010. However during the 1990s it