Sustainability and climate change - why is the science sidelined?

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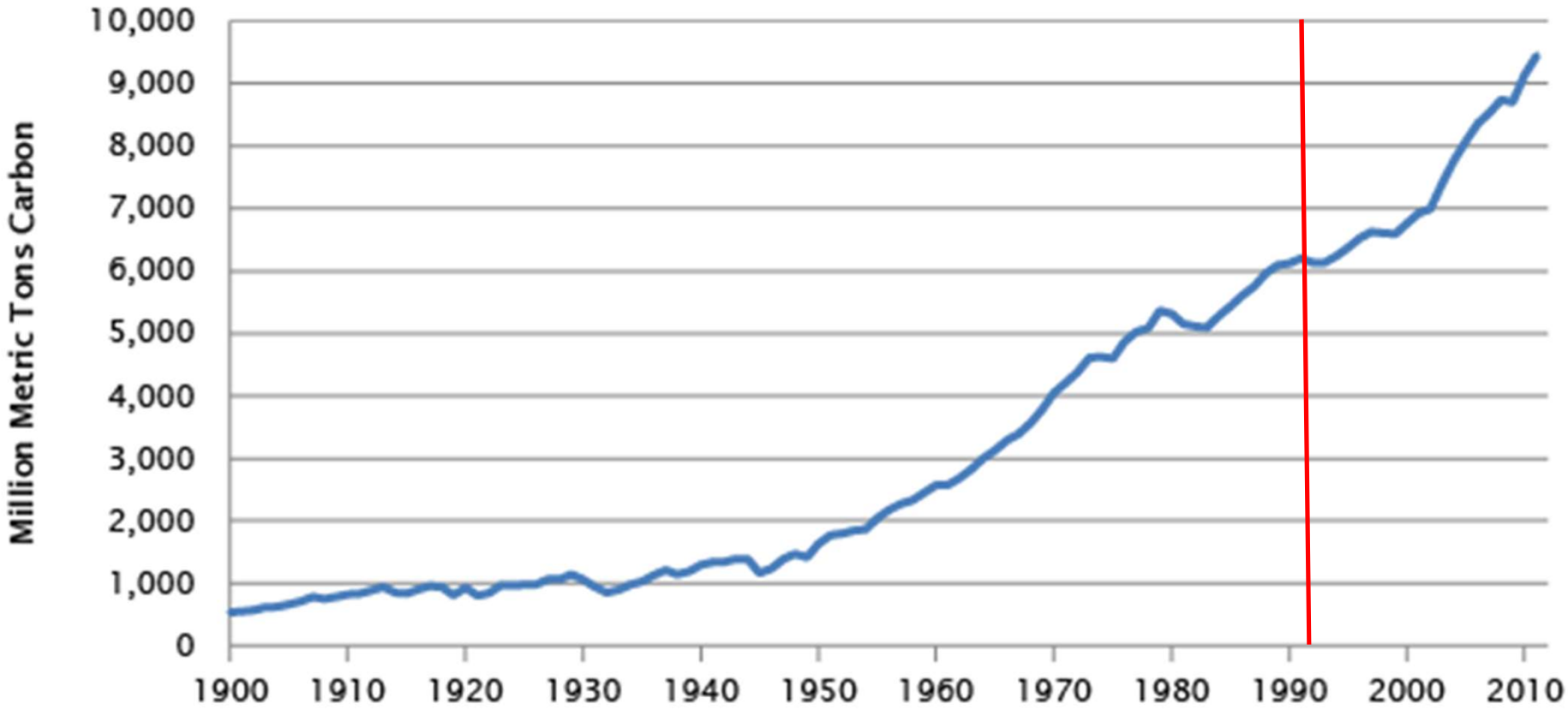
Overview

- *1960s: Concerns about the state of the environment*
- *1970s: New environment agencies & laws, international summit & agreements, creation of UNEP*
- *1980s: Rise of sustainable development & creation of Intergovernmental Panel on Climate Change*
- *1992: Rio Earth Summit: Agenda 21, Framework Convention on Climate Change, Biodiversity Convention*
- *2000: Millennium Development Goals – some success*
- *2012: Rio+20: Progress slow & patchy*
- *2015: UN Sustainable Development Goals & Paris Accord on climate change*

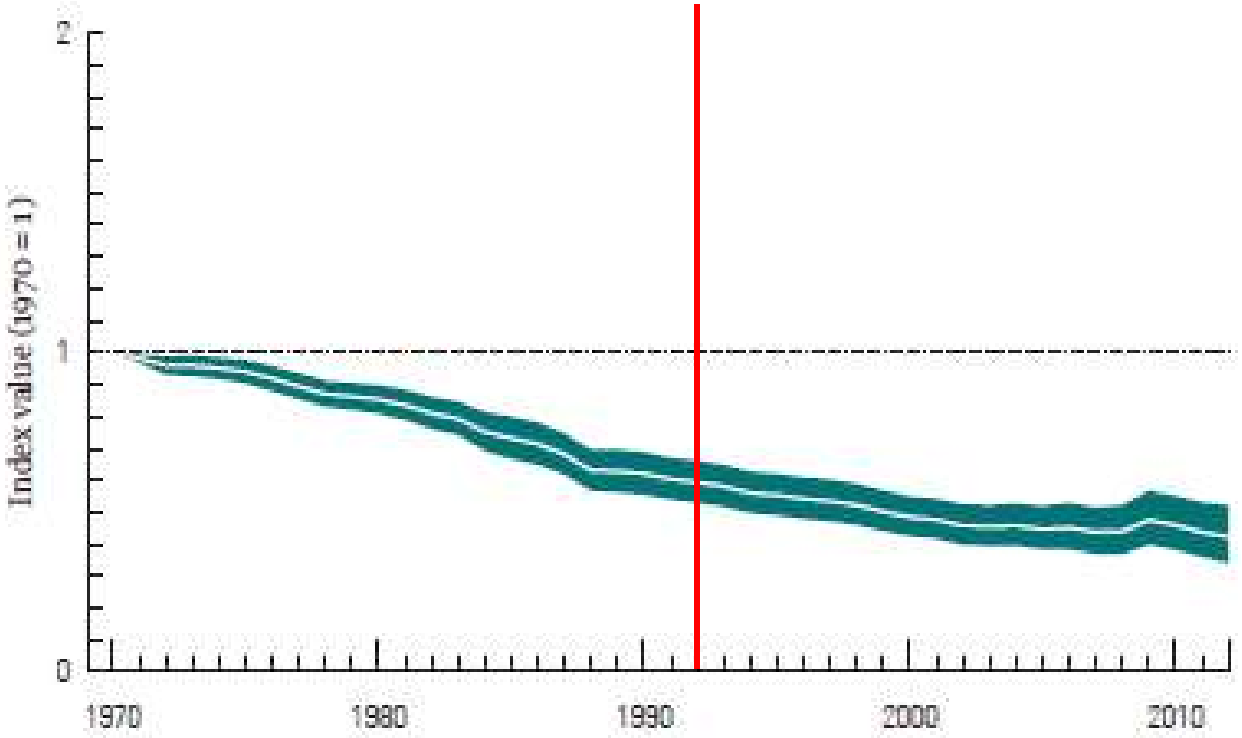
Source: United Nations Environment Programme

Global Carbon Emissions from Fossil Fuels, 1900-2011

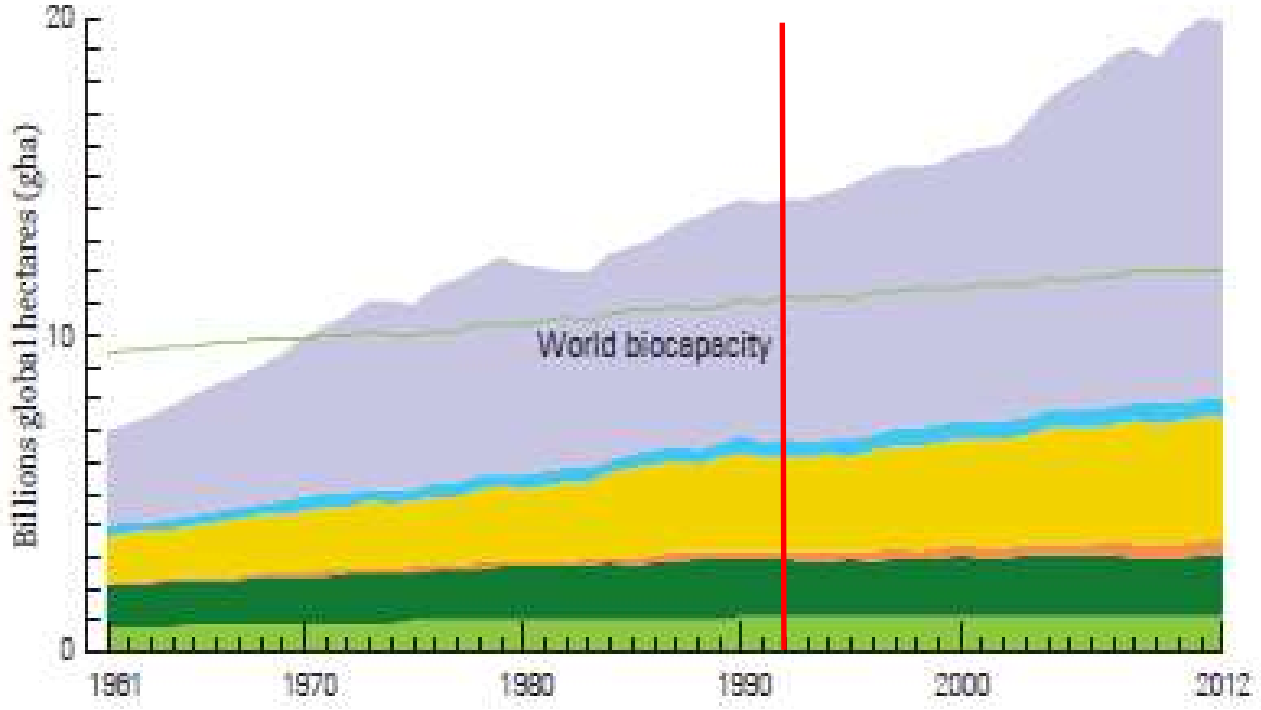


Source: Boden, T.A., Marland, G., and Andres, R.J. (2017). Global, Regional, and National Fossil-Fuel CO2Emissions. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A. doi 10.3334/CDIAC/00001_V2017.

Figure 2: The Global Living Planet Index shows a decline of 58 per cent (range: -48 to -66 per cent) between 1970 and 2012
Trend in population abundance for 14,152 populations of 3,706 species monitored across the globe between 1970 and 2012. The white line shows the index values and the shaded areas represent the 95 per cent confidence limits surrounding the trend (WWF/ZSL, 2016).



Source: WWF 2016. *Living Planet Report*.



Source: WWF 2016. *Living Planet Report*.

Figure 32: Global Ecological Footprint by component vs Earth's biocapacity, 1961-2012
Carbon is the dominant component of humanity's Ecological Footprint (ranging from 43 per cent in 1961 to 60 per cent in 2012). It is the largest Footprint component at the global level as well as for 145 of the 233 countries and territories tracked in 2012. Its primary cause has been the burning of fossil fuels – coal, oil and natural gas. The green line represents the Earth's capacity to produce resources and ecological services (i.e., the biocapacity). It has been upward trending slightly, mainly due to increased productivities in agriculture (Global Footprint Network, 2016). Data are given in global hectares (gha).

Governments, businesses & the public have been informed about the problems

- ***UNEP has produced 5 Global Environmental Outlook Reports since 1997***
- ***Australian Department of Environment has produced 5 State of the Environment reports since 1996***
- ***IPCC has produced 5 Assessment Reports since 1990***
- ***The Bureau of Meteorology and CSIRO have produced 4 State of the Climate reports since 2010***
- ***Australian Academy of Science has produced 2 reports on The Science of Climate Change (2010 & 2015)***

But all this science has been sidelined in Australia when it comes to policymaking - why?

- ***Economics: some fossil fuel firms & lobby groups have questioned the science, sponsored environmental skeptics & climate deniers, & campaigned hard on costs to economy & jobs***
- ***Politics: some politicians have exploited the debate to gain political advantage***
- ***Philosophy: climate change challenges three core conservative beliefs by asserting: that the market has failed; that government should intervene; & that some environmental concerns were correct***

Faced with these economic, political & philosophical drivers, politicians have:

- ***Refused to accept the evidence (e.g. Tony Abbott's 'sacrificing goats')***
- ***Attacked the scientists & reduced their funding (e.g. cuts to CSIRO climate program)***
- ***Stalled policy action (e.g. delay over Clean Energy Targets)***
- ***Backtracked on previous policies (e.g. removed the ETS & relaxed land clearing restrictions)***
- ***Focused on the costs of action (e.g. energy bills)***

Despite this :

- ***The majority of the public is concerned about the state of the environment, accepts the reality of climate change, supports renewable energy, & wants government to act***
- ***The energy sector has accepted that the transition to a low carbon economy is inevitable & wants policy certainty***
- ***Most state governments have set more ambitious renewable energy targets***
- ***Other conservative governments (e.g. UK & Germany) have pursued more ambitious environmental & climate policies***

Summary

- ***We understand the problems, we have all the technology we need, & we can afford to make the transition to a sustainable society as well as address climate change***
- ***Unfortunately the unreasonableness of a small group of powerful decision makers is holding things up***
- ***This unreasonableness is based on economic, political & philosophical failings that are generally not shared by the broader population***