



Additional risk of end-of-the-pipe geoengineering technologies

Martin Bohle

European Commission, Research and Innovation, Brussels, Belgium (martin.bohle@skynet.be)

Humans are engineers, even the artists who engineer the surface of the globe. Should humans endeavour to engineer the Earth to counter climate change hazards? Striving towards “global sustainability” will require to adjust the current production and consumption patterns. Contrary to an approach of global sustainability, “geoengineering” deploys a “technology fix” for the same purpose. Humans are much inclined to look for technological fixes for problems because well engineered technological methods have created modern societies. Thus, it seems obvious to apply an engineering solution to climate change issues too. In particular, as air pollution causing acid rains has been reduced by cleaner combustion processes or ozone destructing chemical coolants have been replaced by other substances. Common to these approaches was to reduce inputs into global or regional systems by withholding emission, replacing substances or limiting use cases for certain substances. Thus, the selected approach was a technological fix or regulatory measure targeting the “start of the pipe”. However applying a “start of the pipe” approach to climate change faces the issue that mankind should reduce inputs were its hurts, namely reducing radically energy that is produced from burning fossil fuels. Capping burning of fossil fuels would be disruptive for the economic structures or the consumption pattern of the developed and developing industrialised societies. Facing that dilemma, affordable geoengineering looks tempting for some. However geoengineering technologies, which counter climate change by other means than carbon capture at combustion, are of a different nature than the technological fixes and negotiated regulatory actions, which so far have been applied to limit threats to regional and global systems. Most of the proposed technologies target other parts of the climate system but the carbon-dioxide input into the atmosphere. Therefore, many geoengineering technologies differ qualitatively from the known successes. They do not tackle the initial cause, namely the carbon-dioxide inputs that are too high. This is their additional specific risk. “The acceptability of geoengineering will be determined as much by social, legal and political issues as by scientific and technical factors”, conclude Adam Corner and Nick Pidgeon (2010) when reviewing social and ethical implications of geoengineering the climate. It is to debate in that context that most geoengineering technologies are “end of the pipe technologies”, what involves an additional specific risk. Should these technologies be part of the toolbox to tackle anthropogenic climate change?

Adam Corner and Nick Pidgeon 2010, Geoengineering the climate: The social and ethical implications, Environment Vol. 52.