QJEGH
Quarterly Journal of Engineering Geology and Hydrogeology
Vol. 50 | 2017 | p. 368

Pollution and the Atmosphere. Designs for Reduced Emissions. Edited by *Marco Ragazzi*. Apple Academic Press, Waretown, NJ, USA, 2017, $149.5, hardback, 295 p., ISBN: 9781771885133

It seems logical that the issue of poor air quality caused by fossil fuel combustion should be more integral to the struggle to address climate change. Global energy forcings, atmospheric greenhouse gas concentrations and the decadal movement of isotherms are esoteric, but a walk down London's Oxford Street at rush hour, or a view out over Beijing or Los Angeles on a smoggy winter's morning, can easily focus attention on atmospheric pollution. A headline in the online version of *The Guardian* newspaper in January 2017 warned 'London breaches annual air pollution limit for 2017 in just five days'. The situation in many developing cities, including the mega-cities of China and India, is worse, with particulates, oxides of nitrogen and other air pollutants regularly reaching harmful levels. The recent scandal involving the falsification of vehicle emissions tests by one of the world's largest automobile manufacturers adds fuel to the fire, pushing the issue still higher in the public eye.

Most people would like cleaner air in the towns they live in, and lower emissions from cars, lorries, factories and buses. Even if there is no agreement on how to resolve urban air pollution, most concur that action of some kind is needed. Climate change, on the other hand, although seen as extremely serious by almost all atmospheric scientists, remains a low priority with many voters, as evidenced by the fence-sitting of political representatives and the healthy sales of SUVs. So why not tie the pressing issue of urban air pollution more closely to its looming relative, anthropogenic climate change?

The recent publication *Pollution and the Atmosphere. Designs for Reduced Emissions* edited by Marco Ragazzi appears to promise such a cross-disciplinary and holistic approach. The book is divided into five parts (with 11 chapters in total): 'Introduction: Where We Came From and Where We're Headed'; 'Waste Incineration'; 'Vehicle and Transportation Emissions'; Emissions from Fuel and Electricity Production'; and 'Residential Emissions'.

The single chapter making up the first part briefly discusses aspects of air pollution in Italy and in Europe, referring to a poster (not provided) listing relevant EU legislation. Little mention is made of global trends, or of where the world may be headed. The second part, 'Waste Incineration', consists of two chapters discussing air pollution aspects of waste incineration, using case studies in Italy. The third part is made up of three chapters examining aspects of vehicle emissions under field and theoretical conditions. The fourth part contains a chapter comparing total greenhouse gas emissions for different modes of electricity generation in Australia, a chapter describing energy use and air quality implications in Jamaica, and a chapter describing fracking-related methane emissions that is a response to an earlier paper (not included). The final part, 'Residential Emissions', includes a chapter on household waste management in Kyoto, and a last chapter entitled 'Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature'.

This final chapter, by a distinguished group of scientists and policy experts, provides the global overview that the reader anticipates given the title and structure of the book. It is a lucid explanation of the mechanisms and implications of anthropogenic global climate change, and it includes possible practical interventions, as well as discussion of the moral and intergenerational dimensions of climate change.

All of the chapters are papers that have already been published elsewhere, mostly between 2012 and 2014, and some, including the final chapter, are open-access. Despite the groupings into parts, it is hard to discern how the papers relate to each other, or why they were selected over other possible contributions, apart from the fact that they all have something to do with air pollution. There is no serious attempt to link them into a coherent narrative, for example by specifying common units or terminology throughout, by showing how the contributions fit together, or by discussing evolving policy implications or key scientific landmarks. The reader is left feeling rather baffled by the material, as if after reading a collection of papers randomly selected by entering a keyword and date range into an academic database. Experts will find this collection old hat, and neophytes may be confused.

Those who had hoped that the silos separating atmospheric pollution sub-disciplines would be broached will be disappointed, and this is a lost opportunity. The final paper sits uneasily in this collection, a call for logic and coherence in the midst of a hurried or even careless assemblage.

J. E. Cobbing
Consultant, USA
jcobbing@gmail.com
https://doi.org/10.1144/qjegh2017-024