

RESUME

HELEN KAY TOPE AO

Helen Kay Tope, Ph.D.

Planet Futures
Principal Consultant
Montreal Protocol & Climate Change

Nationality: Australian

Languages: English

Qualifications

Ph.D. (Chemistry), Monash University, 1992

Bachelor of Science (Hons.) (Chemistry), First Class, Monash University, 1984

Summary of Experience

Over 30 years' experience in environmental policy development, and scientific, technical, and analytical studies:

- Leadership in synthesising policy-relevant technical advice for the Montreal Protocol and other treaty bodies, such as the Kyoto Protocol, as a member of the Montreal Protocol's Technology and Economic Assessment Panel and co-chair of its Medical and Chemical Technical Options Committee (MCTOC). Acknowledged with international awards and by the Australian Government.
- Policy development in areas of ozone layer protection, climate change, air quality, and chemicals and hazardous wastes management, with extensive background in strategic policy, regulatory and legislative development, and public policy processes.
- Policy-relevant scientific, technical and data analysis, including managing the development of an inventory of air pollutant emissions for the city of Brisbane.
- Project management and delivery.
- Post-graduate research specialising in synthetic organic chemistry: Ph.D. (Chemistry); Bachelor of Science (Hons.)(Chemistry), First Class.
- Completed Swinburne University of Technology's Carbon Accounting short course.

Planet Futures (previously Energy International Australia), 2006 – present

Initially with Energy International Australia and now with Planet Futures, a small consulting company, I am an independent environmental consultant providing strategic, policy and technical advice and services to government and non-governmental organisations on ozone-depleting substances, climate change, and other environmental issues, with highlights below.

- Provides advisory and administrative services to the Ozone Secretariat, the Montreal Protocol parties, the Technology and Economic Assessment Panel and its Medical and Chemical Technical Options Committee, under contract to the United Nations Environment Programme (UNEP) (2016-present). Author of public information posted on UNEP's Montreal Protocol website.

- Participated as unpaid contributor and joint senior author to a position statement published by the Thoracic Society of Australia and New Zealand on the Environmental Impact of Inhaled Medicines (2021-2025).
- Conducted a review for the Australian Government's Department of Agriculture, Water and the Environment on non-defence halon uses to estimate future domestic non-defence halon demand, with Michael Atkinson, as Planet Futures (2019-2020).
- Conducted a review for the Australian Government's then Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) of Australia's halon essential uses requirements in the civilian sector, with Michael Atkinson, then as Energy International Australia (2012).
- Co-author, with Dr Stephen Andersen and Michael Atkinson, on a project for the United Nations Environment Programme (UNEP) on metrics for identifying technology that minimizes climate and other impacts when replacing ozone-depleting and high global warming potential substances (2010).
- Provided specialist assistance to A-Gas P/L in the preparation of its tender for the relocation and operation of the National Halon Bank to gain an understanding of EPA Victoria's statutory requirements (2010).
- Undertook a high-level review of the roles and activities of the Environment Protection Authority (EPA Victoria) with the dairy production industry in Victoria (2009).
- Worked with the U.S. EPA, the Washington based Institute for Governance and Sustainable Development, and the Australian Departments of Defence and Environment to coordinate and co-author an Australian case study for a book (unpublished) on military leadership in climate change (2008).

Adjunct Professor, Office of the Executive Dean, Faculty of Health, Deakin University, December, December 2022-present

- As Adjunct Professor, I provide input to Deakin University's Sustainable Health Network, including presentation to the Sustainable Research Symposium (October 2023), and general advice and contributions, such as to the development of the National Sustainable Asthma Care Roadmap, Roundtable Report, September 2024.

Advisory Board, Development of Advanced Radiochemical Technologies, ARC Industrial Transformation Training Centre, 2025-present

- As Member of the Advisory Board, I provide advice to the Centre's Director (Professor Andrea Robinson, Department of Chemistry, Monash University) and Executive Committee to facilitate optimal performance of the Centre. The Centre provides high-quality training of scientists, who will drive innovation in radiochemistry and transformative technologies essential to Australia's manufacture of biologically active radiochemical agents and radiopharmaceuticals, through mentorship and training by academics and government and industry partners.

Montreal Protocol Technical Options Committee and Technology and Economic Assessment Panel, 1995-present

Under the auspices of the United Nations Environment Programme, I am a member of the Montreal Protocol's Technology and Economic Assessment Panel (TEAP), and co-chair of its Medical and Chemical Technical Options Committee (MCTOC), and previously its Aerosols,

Sterilants, Miscellaneous Uses and Carbon Tetrachloride Technical Options Committee (ATOC), Medical Technical Options Committee (MTOC), with highlights below.

- Contributed to and/or coordinated more than 30 reports of the TEAP, its Technical Options Committees, or Task Forces for the Montreal Protocol. As a member of TEAP, served on several Task Forces as co-chair or member, including those concerning unexpected emissions of CFC-11 (2019-2021), destruction technologies (2018), hydrochlorofluorocarbons, process agents, and hydrofluorocarbons. As co-chair, coordinated and guided TEAP's advice to the Montreal Protocol on unexpected emissions of CFC-11, which concluded that those emissions likely resulted from illegal production of CFC-11 and its use in insulating foams.
- Contributed valuable analysis and perspective to the phase-out of metered dose inhalers (MDIs) containing chlorofluorocarbons (CFCs), using policy skills to help craft the original concept of a national transition strategy for the global transition from CFC MDIs to CFC-free alternatives under the Montreal Protocol. Negotiated consensus among expert stakeholders, including the international pharmaceutical industry, to achieve positive environmental outcomes with significant global economic implications, within a complex mix of competing needs relating to patient health, commercial interests, and ozone layer protection.
- Review editor of the SPARC Report on the Mystery of Carbon Tetrachloride (2016) developed under the auspices of Stratosphere-Troposphere Processes And their Role in Climate (SPARC) project, a core project of the World Climate Research Programme (WCRP).
- Technical reviewer of the Intergovernmental Panel on Climate Change/TEAP *Special Report on Safeguarding the Ozone Layer and Global Climate System*.

Recognition

- Officer of the Order of Australia in the General Division (AO), "For distinguished service to environmental protection, particularly of the ozone layer, through leadership, research and policy development". Australia Day Honours List, January 2023.
- 2023 Planetary Guardians Ozone Award, acknowledging contributions to protecting the Earth's stratospheric ozone layer. Planetary Guardians, Virgin Group Founder and Executive Richard Branson and partners, September 2023.
- United Nations Environment Programme Personal Leadership Award, for valuable contributions towards protection of the ozone layer, 30th Anniversary of the Montreal Protocol (2017)
- United Nations Environment Programme Technical Leadership Award, jointly as a member of the Technology and Economic Assessment Panel (2017)
- United Nations Environment Programme Personal Leadership Award, for valuable contributions towards protection of the ozone layer, 25th Anniversary of the Montreal Protocol (2012)
- On the 25th Anniversary of the Montreal Protocol, one of only 7 individuals acknowledged by the Australian Government "for her international leadership on helping countries to transition from using ozone-depleting substances to alternatives for medical purposes, and for her domestic leadership on ozone protection policies while at the Victorian Environment Protection Authority" (2012)

- Acknowledgement from the United Nations Environment Programme for contributions to the scientific and technical reports that earned the Intergovernmental Panel on Climate Change the Nobel Peace Prize shared with Al Gore (2007)
- United Nations Environment Programme TEAP Champions Award (2007), in recognition of extraordinary service to the Parties to the Montreal Protocol and the global effort to protect the ozone layer.
- US EPA Best-of the Best Stratospheric Ozone Layer Protection Award (2007)
- US EPA Stratospheric Ozone Layer Protection Award (1997)

Environment Protection Authority (EPA Victoria), 1991-2006

- Senior team leader for strategic global issues from 2005-2006, responsible for climate change and ozone layer protection policy development.
- Managed Victoria's ozone layer protection program from 1999-2006, overseeing a review of Victoria's statutory policy for ozone layer protection and introducing innovative statutory measures to control emissions of methyl bromide.
- Managed the review of Victoria's Industrial Waste Strategy, which provided the strategic policy framework for hazardous industrial wastes in Victoria, with a new strategy released in 1998, *Zeroing in on Waste – Pathways to Cleaner Production for Victorian Industries*.
- Managed the statutory reviews of Prescribed Waste and Transport Regulations (1997-1998, 2000), requiring the management of complex public consultation processes with competing interests and sensitive negotiations.
- Represented EPA Victoria in numerous national policy development processes, including National Ozone Protection Program Review, PCB Management Plan Review, National Profile on Chemicals Management Infrastructure in Australia.
- Acted in management roles, including as Acting Manager Office of the Chairman, Acting Manager Waste Management, and Acting Manager Policy Coordination Unit.
- Managed the development of inventories of air pollutant emissions for the cities of Brisbane (1994-1995) and Auckland, New Zealand (1995-1996) and as advisor to an emissions inventory developed for Hong Kong, as examples of experience in policy-relevant scientific, technical and data analysis.

Advisory Committee Member, Centre for Green Chemistry, Monash University, 2002, 2004-2011

- As Member of the Advisory Committee, provided strategic advice on sustainability and environmental issues for the Centre for Green Chemistry, which until 2011 had been the leading academic and research focus for green and sustainable chemistry in Australia.

Korovian Club Committee, Korowa Anglican Girls' School, 2014-present

- The Korovian Club is the Alumni Association of Korowa Anglican Girls' School, representing former students; President (2020-present), Korovian Club Committee, initiating a strategic review of the Club's roles and functions within the school community, organising alumni activities, assisting the school with reunions and other functions for past students, and representing past students in school matters; member (2014-2019).

Selection of Publications:

Wurzel DF, Montgomery BD, Anderson N, Schneider-Futschik EK, George J, Bosnic-Anticevich S, et al. Environmental impact of inhaled medicines: A Thoracic Society of Australia and New Zealand position statement. *Respirology*. 2025;30(2):101–12.

<https://doi.org/10.1111/resp.14852>.

Woodcock A, Beeh K M, Sagara H, Aumônier S, Addo-Yobo E, Khan J, Vestbo J, and Tope H, The environmental impact of inhaled therapy: making informed treatment choices, *Eur Respir J*, 2022; 60: 2102106 [DOI: 10.1183/13993003.02106-2021].

2022, 2018, 2014, 2010, 2006, 2002 and 1998 Assessment Reports of the Medical and Chemicals (and its predecessors, the Medical, and the Aerosols, Sterilants, Miscellaneous Uses and Carbon Tetrachloride) Technical Options Committees, United Nations Environment Programme (<https://ozone.unep.org/science/assessment/teap>).

Progress Reports of the Technology and Economic Assessment Panel (contributed to these reports from 1993 to present).

2024 Report of the Technology and Economic Assessment Panel, September 2024, Volume 5: Response to Decision XXXV/7: Emissions of HFC-23.

2023 Report of the Technology and Economic Assessment Panel September 2023 Volume 6 Response to Decision XXXIV/7: Strengthening Institutional Processes with Respect to Information on HFC-23 By-Product Emissions.

2021 Report of the Technology and Economic Assessment Panel, May 2021, Volume 3: Decision XXXI/3 TEAP Task Force Report on Unexpected Emissions of Trichlorofluoromethane (CFC-11).

2019 Report of the Technology and Economic Assessment Panel, September 2019, Volume 1: Decision XXX/3 TEAP Task Force Report on Unexpected Emissions of Trichlorofluoromethane (CFC-11), Final Report.

2018 Report of the Technology and Economic Assessment Panel, Volume 2: Decision XXIX/4 TEAP Task Force Report on Destruction Technologies for Controlled Substances.

SPARC (2016), SPARC Report on the Mystery of Carbon Tetrachloride. Q. Liang, P.A. Newman, S. Reimann (Eds.), SPARC Report No. 7, WCRP-13/2016.

Available at: www.sparc-climate.org/publications/sparc-reports/sparc-report-no7.

2015 Report of the Technology and Economic Assessment Panel, September 2015, Decision XXVI/9 Update Task Force Report, Additional Information on Alternatives to Ozone-Depleting Substances.

Contributor to *Industry Genius: Inventions and People Protecting the Climate and Fragile Ozone Layer*, Stephen O Andersen and Durwood Zaelke, Greenleaf Publishing Limited, 2003.

Contributor to *Protecting the Ozone Layer: The United Nations History*, Stephen O Andersen and K Madhava Sarma, published in association with United Nations Environment Programme, Earthscan, 2002.

1999 Report of the HFC and PFC Task Force of the Technology and Economic Assessment Panel: The Implications to the Montreal Protocol of the Inclusion of HFCs and PFCs in the Kyoto Protocol, United Nations Environment Programme.

Contributor to *Protecting the Ozone Layer: Lessons, Models, and Prospects*, edited by Le Prestre, P.G., Reid, J.D., Morehouse, E.T. Jr., Kluwer Academic Publishers, 1998.

Brown, R.F.C., Perlmutter, P., Tope, H.K., *Aust. J. Chem.*, 1995, **48**, 1447-1452.

Arnold, D.P., Brown, R.F.C., Nitschinsk, L.J., Perlmutter, P., Tope, H.K., *Aust. J. Chem.*, 1994, **47**, 975-978.