

John Hugh Carey

EDUCATION:

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| Ph. D. (Chem) | Carleton University, 1974. Inorganic Photochemistry |
| M. Sc. (Chem) | University of Windsor, 1971. Inorganic Chemistry |
| B. Sc. (Chem) | University of Windsor, 1969. |

CAREER HISTORY:

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| Jan – July 2010 | Special Advisor to the Assistant Deputy Minister, Science and Technology Branch, Environment Canada |
| 2008 – Jan 2010 | Director General, Water Science and Technology Directorate, Environment Canada |
| 2007 - 2008 | Acting Assistant Deputy Minister, Science and Technology Branch, Environment Canada |
| 2005 – 2007 | Director General, Water Science and Technology Directorate, Environment Canada |
| 1996 - 2005 | Executive Director and then Director General, National Water Research Institute, Environment Canada |
| 1993 - 2003 | Adjunct Professor, Department of Chemical Engineering and Applied Chemistry, University of Toronto |
| 1989 - 2005 | Adjunct Professor, Department of Environmental Biology, University of Guelph |
| 1991 -1996 | Director, Aquatic Ecosystem Conservation Branch and then Rivers Research Branch, National Water Research Institute |
| 1978 - 1991 | Research Scientist, National Water Research Institute |
| 1976 - 1978 | Environmental consultant, Burlington, Ontario. |
| 1974 - 1976 | NRCC Post-doctoral Fellow, Environment Canada, Burlington, Ontario. |

BIOGRAPHICAL SUMMARY

Dr. John Carey retired from the Public Service of Canada in July, 2010. At the time he retired, he was Special Advisor to the Assistant Deputy Minister of Environment Canada's Science and Technology Branch. Previously he was Director General of the department's Water Science and Technology Directorate (WSTD), the largest freshwater science group in Canada. WSTD had 760 full-time staff located in 14 locations throughout Canada and a total budget of \$55M. The Directorate conducts aquatic research and monitoring, providing scientific knowledge that supports the development of government policies and programs and public decisions concerning freshwater ecosystems. As Director General, John was responsible for overseeing the management of the science, establishing program directions, ensuring that the directorate's science capacity was appropriate to meet the department's needs and its science well respected.

Dr. Carey returned to his Director General position after completing a 15 month acting assignment as Assistant Deputy Minister for Science and Technology for Environment Canada. During that assignment, he was responsible for Environment Canada's 1500-person science program encompassing water, wildlife, weather prediction, climate and toxicology of environmental contaminants.

John has been involved in environmental science first as a researcher and then in progressively more senior management positions since obtaining a Ph.D. in Inorganic Photochemistry in 1973. His research interests have included the toxicology and ecosystem dynamics of environmental contaminants, photochemical processes in the aquatic environment, and photochemical methods of wastewater treatment and disinfection. Highlights of his research studies include: ecosystem fate of the lampricide TFM in the Great Lakes; identity, fate and transport of contaminants in the Niagara River and Lake Ontario; the transport, fate and effects of pesticides, hydrocarbons and chlorophenolics in Canadian river systems; identification of the contaminants in the St. Clair River "BLOB"; and the use of ultra-violet light and of semi-conductors as photocatalysts in wastewater treatment.

Dr. Carey is best known for his studies of the environmental impacts of pulp mill effluent, in which he led a multidisciplinary team involving industry, academic and government scientists in support of the development of new federal regulations for that sector. His research, leadership and advice were influential in the Canadian government's assessment of the environmental impacts of pulp mill effluents that led to the policy decision by the federal government not to use parameters of limited toxicological relevance as a basis for regulation. This decision was controversial at the time and Dr. Carey was very active as a government spokesman, explaining and defending the decision domestically and internationally, for example conducting lecture tours and debates in Europe organized by the Department of Foreign Affairs and International Trade. At the request of the governments of Ontario and British Columbia, he chaired expert panels to review and make recommendations concerning their regulations which led them to modify their regulations to follow the federal lead. In 1998, in recognition of his leadership on the issue, John was awarded the Public Service of Canada Outstanding Achievement Award (the highest award in the Canadian Public Service, also known as the Prime Minister's Award). In addition to influencing decisions in Canada, the reviews have served as reference documents to other jurisdictions making similar regulatory decisions, for example Australia
<http://www.environment.gov.au/epbc/notices/assessments/2007/3385/pubs/20dioxins.pdf>

Dr. Carey has appeared as an expert witness before numerous panels and Parliamentary committees investigating science-policy interactions and he has also been directly involved in other activities regarding the provision of scientific advice for the setting of environmental policy.

- As Chair of Environment Canada's *Smart Regulation Project on Improving the Effectiveness and Efficiency of Pulp and Paper Environmental Effects Monitoring* he led a group of policy experts from the federal government, industry, and the Aboriginal and environmental communities to think creatively about common concerns and innovative solutions to improve the Environment Effects Monitoring Program.
http://www.ec.gc.ca/eem/pdf_publications/english/EEM_Smart_Regulation.pdf
- As a member of the Canada Centre for Management Development's *Roundtable on Science and Public Policy* to he participated in the development of a practical resource to help scientists and policy analysts work more effectively together, and ultimately improve how science is used in public policy. http://www.cspsefpc.gc.ca/pbp/pub/pdfs/P107_e.pdf

In addition to many international science collaborations, John has also been involved in the management and advice aspects of international science.

- Served as Canadian Co-Chair of the Great Lakes Science Advisory Board of the Canada-U.S. International Joint Commission and previously served several terms as a member of that Board.
- Served as a member Great Lakes Water Quality Board of the International Joint Commission
- Managed the Collaborating Centre of the United Nations Environment Program (UNEP) that leads the Global Environmental Monitoring System – Water Quality on behalf of UNEP
- Completed a five year term as Canadian Co-Chair of the Canada-Germany Science & Technology Cooperation Agreement. During his time as Co-Chair, he worked with his German counterpart to reorient the direction of the collaborative activities from bottom-up academic activities to strategic collaborations in national priority areas such as photonics, genomics, biotechnology and pandemic preparedness.
- Participated in a leadership capacity for federal technical advisory teams attempting to resolve contentious bi-national water issues such as the Devils Lake outlet and the Red River Valley Water Supply Project.

Dr. Carey has also been involved in the governance and decision making of major national research funding programs:

- As Co-Chair of the Canadian government's Toxic Substances Research Initiative (TSRI), he led a committee of senior scientists from industry, academia, private sector, non-government organizations and six federal departments to provide strategic direction to the program and oversee the allocation of more than \$35M in research funding <http://www.hc-sc.gc.ca/sr-sr/finance/tsri-irst/index-eng.php>
- As a member from 2002-2004 of the federal government's Chemical, Biological, Radiological, and Nuclear (CBRN) Research and Technology Initiative (CRTI), he participated in the selection of investments in Science & Technology to strengthen Canada's preparedness for, prevention of, and response to a CBRN terrorist attack. As the first Leader of the Chemical Laboratory Cluster of the CRTI initiative, he helped establish a unique forum in the federal S&T community, focusing on the joint needs of scientific labs and the operational community with respect to addressing CBRN terrorist attacks. <http://www.css.drddc-rddc.gc.ca/crti/index-eng.asp>

- Served as a member and Chair of the Interdisciplinary Grant Selection Committee of the Natural Sciences and Engineering Research Council of Canada

Dr. Carey has also been involved in the governance and decision making of non-governmental organizations:

- member of the Research Advisory Board of the World Wildlife Fund's Wildlife Toxicology Program
- member of the Board of Directors and Vice-President of the Canadian Association on Water Quality
- member of the original Board of Directors of the Canadian Water Network, one of the Networks of Centres of Excellence established by the Natural Sciences and Engineering Research Council of Canada
- member of the Expert Advisory Committee of the Canadian Network of Toxicology Centres.

Within the academic sphere, Dr. Carey has supervised successful graduate student through past appointments as Adjunct Professor in the Department of Environmental Biology at the University of Guelph, and in the Department of Chemical Engineering and Applied Chemistry at the University of Toronto.

- Kathryn J. Stuttaford, Ph. D., 2003, Department of Chemistry, University of Guelph.
- Wenshan Zhuang. Ph. D., 2002, Department of Chemical Engineering and Applied Chemistry, University of Toronto
- Helga Sonnenberg, M. Sc., 1998, Department of Environmental Biology, University of Guelph
- Kathryn J. Stuttaford, M. Sc., 1995, Department of Chemistry, University of Guelph
- Richard D. Robinson, Ph. D., 1994, Department of Environmental Biology, University of Guelph
- Todd G. Williams, M. Sc., 1993, Department of Biology, University of Waterloo
- L. Mark. Hewitt, M. Sc., 1993, Department of Biology, University of Waterloo

Dr. Carey is the author or co-author of more than 100 professional papers and reports. He has co-edited two scientific books.