

IAN JARVIS BSc, PEng

President, Enerlife Consulting Inc., 2001 to present
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SUMMARY OF PROFESSIONAL EXPERIENCE

Enerlife's founder and president since 2001, Ian Jarvis is a recognized business leader and authority on energy conservation, green buildings and sustainable communities. Ian has been at the leading edge of practice and research of high-performance buildings for more than three decades. He was the founding Chair of the Canada Green Building Council and co-chair of Civic Action's Race to Reduce. Ian provides strategic and technical advice to Enerlife's projects and clients, forms and leads Integrated Building Performance Teams, and brings unique knowledge and experience of achieving and sustaining exceptional performance in individual buildings and portfolios. He is an expert witness in regulatory hearings and advises governments and utility companies on policy and program design and evaluation. He is an accomplished speaker and workshop leader.

Ian is the principal architect of Enerlife's evidence-based building performance diagnostic, management and reporting methodology, tools and online system. His knowledge is grounded in over 30 years of experience designing, implementing and measuring savings in energy efficiency projects in a wide range of building types for clients in the municipal, commercial, school board, healthcare, and multi-unit residential sectors.

Ian co-chaired the working group for Civic Action's Race to Reduce from 2013-2016, a large-scale, collaborative program among landlords and tenants which is substantially improving the energy and environmental performance of office buildings. He has served as an adjudicator of the NAIOP REX Green Award for commercial buildings. In 2015, he received the Leader Award from the Canada Green Building Council's Greater Toronto Chapter.

From 1992 to 1999 Ian was CEO of a leading energy performance contractor responsible for many of the largest energy retrofit projects in North America. Ian served as founding chair of the Canada Green Building Council from 2003-2007, and as a director of Milton Hydro, one of the most progressive local electric distribution utilities in Ontario, from 2000-2007.

Ian represented the energy efficiency industry on the 1998 Team Canada trade mission to South America and was the Canadian Government's invited private sector representative at the 1999 Hemispheric Energy Ministers' Conference in New Orleans. In 2001 he was a member of Premier Hamm's expert panel advising the Nova Scotia Government on energy policy alternatives.

HIGHLIGHTS OF EXPERIENCE

- Over 30 years of experience at the leading edge of energy performance in buildings
- Principal architect of performance-based conservation methodology as an evidence-based approach for achieving and sustaining exceptional energy efficiency in buildings

AREAS OF SPECIALIZATION

- Vision and strategy development
- Authority on evidence-based energy conservation in buildings
- Portfolio and sectoral program design
- Author of thought leadership articles & reports
- Leadership of multi-disciplinary workshops and project teams
- Keynote addresses and speaking engagements

PROFESSIONAL AFFILIATIONS

- Founding Chair, Canada Green Building Council (2003 – 2007)
- Member, National Advisory Council on Energy Efficiency (1999 to present)
- Member, Ontario Energy Minister's Advisory Committee (2006 – 2011)
- Professional Engineers Ontario

ACADEMIC QUALIFICATIONS

- Bachelor of Science (Honours), Mechanical Engineering, Imperial College of Science and Technology, University of London

RELEVANT PROJECTS

Cadillac Fairview Corporation

Ian developed and leads the integrated building performance process taking five major commercial office buildings to unprecedented levels of energy and water efficiency. The integrated building performance process at Cadillac Fairview's Simcoe Place has been showcased by the Independent Electricity System Operator numerous times at conferences, in advertising and through on-site tours.

Hospital Projects

Ian has been directly responsible for all Enerlife assignments related to new hospital development over the past 5 years, including the West Park and South Niagara Hospital projects, working as specialist advisor to hospital management. Between 2014-2017 he was the project lead for assignments with Baycrest, Muskoka Algonquin and Orillia Soldiers' Memorial leading to resolution of guaranteed savings disputes. He is the principal responsible for the Markham Stouffville, West Park and Alberta Health Services projects.

Simcoe County District School Board

Master planning, development and deployment of a comprehensive evidence-based implementation project to achieve targeted energy performance standards in high-potential schools, resulting in energy savings of over \$3.5 million. A subsequent phase of this program, also managed by Enerlife, is currently underway.

Climate Challenge Network Programs

Concept design, development and ongoing executive oversight of large-scale energy conservation potential studies and program delivery, including:

- Greening Health Care (since 2004) with hospitals
- Mayors' Megawatt Challenge (since 2003) with municipalities
- Sustainable Schools (since 2005) developing and distributing an annual report on the energy and water performance and savings potential of all Ontario school boards

Town of Caledon Corporate Greenhouse Gas Reduction Framework

Ian provided expert advice and strategic direction for the Town of Caledon's Conservation Demand Management plan and Corporate GHG Reduction Framework.

Oxford Properties

Senior Technical Lead and Project Lead for the development of Net Zero Carbon Analysis for Oxford Properties. Ian led the development of Oxford Properties Net Zero Model, a structured analytical model that outlined how their global commercial office, retail and hotel portfolio could achieve a global real estate portfolio emissions reduction target aligned with a science-based target.

Ontario Energy and Infrastructure Markets Consultant

Ian is a recognized authority on Measurement and Verification of energy savings. He served as a member of the joint IESO/OEB advisory committee examining conservation potential in Ontario and represents building owners in regulatory hearings on energy savings incentive programs. He advised both Enbridge and the IESO on development of their performance-based incentive programs.

20 by '15 Commercial Office Building Target (for REALPAC)

Development of Real Property Association of Canada's 20 by '15 energy performance target and white paper for commercial office buildings and the related methodology and reporting template for their national benchmarking program.

Public Sector Energy Conservation and Demand Management Plans

Development of concise, consistent, evidence-based plans for achieving top-quartile energy performance for hospitals, K-12 schools, municipalities and 615 New York State nursing homes.

GREEN UP Pilot Projects and Programs (for Canada Green Building Council), 2007-2012

Concept design, development and executive oversight of national GREEN UP pilot projects and program development for the Canada Green Building Council (CaGBC). The pilot projects informed and tested the introduction of LEED Existing Buildings: O+M in Canada, and established GREEN UP across Canada as the CaGBC's performance-based complement to LEED Canada. The large-scale projects included commercial offices, K-12 schools, government administration buildings, retail bank branches and municipal arena facilities, with more than five hundred buildings.

PUBLICATIONS AND RESEARCH

- **"Getting to 20: Achieving 20 kWh/sf/year in Town/City Halls by 2015"** White paper for Toronto and Region Conservation Authority, 2013
- **"Where the Green Jobs Are: Harnessing the Energy Conservation Potential in Buildings"** White paper, 2011
- **"20 by '15: Achieving the Office Building Target of 20 kWh/ft²/year by 2015"** White paper for the Real Property Association of Canada, 2009
- **"Closing the loops: How real building performance data drive continual improvement"** Article for Intelligent Buildings International journal, 2009
- **"A Deeper Shade of Green"** Article for ReNew Canada: The Infrastructure Renewal Magazine, 2007
- **"Realizing the Electricity Conservation potential in Ontario's Private Rental Housing Sector"** Study for the Ontario Power Authority, 2006
- National study for Natural Resources Canada into actual versus modeled energy performance of buildings designed under the federal CBIP program, 2004
- **"Making Ontario the Leader in Energy Efficiency"** (Co-author) A study for the Ontario Ministry of Energy, which became the foundation document for Ontario's Green Energy Act, 2003
- **"Sustainable Peterborough"** A guide to sustainable communities sponsored by the Government of Canada, 2002
- **"The SUMAC System: Relentless Progress Towards Optimum Energy Use in Buildings"** Presentation to the CIB Congress in Stockholm, Sweden, 1983