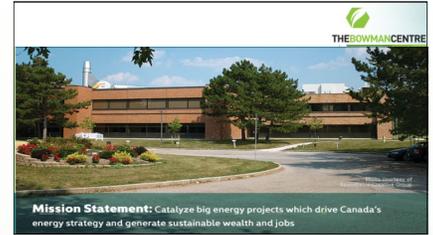




The Bowman Centre For Sustainable Energy

CANADA'S ENERGY FUTURE
SUMMER 2020 NEWS

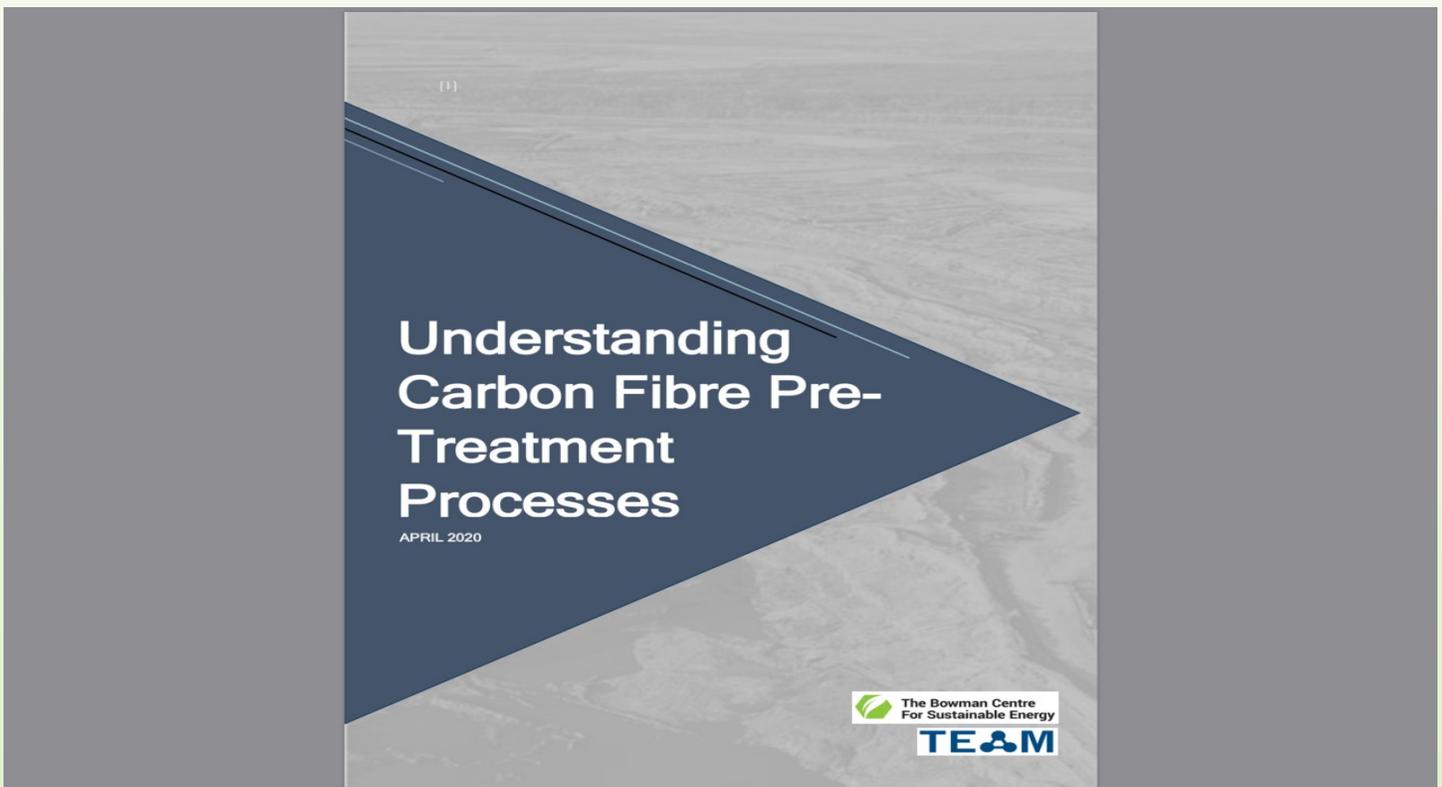


Mission:

*“Catalyze big energy projects which drive
Canada’s energy strategy and generate
sustainable wealth and jobs”.*

Highlights:

- “CANADA: Making the Case for Nation-Building Projects”
- ProGrid™ Methodology Software
- Queens University TEAM Technology Engineering And Management



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Newsletter Contributors: Lynne Hicks, Marshall Kern and Gary Locke

Note from Marshall

We continue to be a group of volunteers committed to the mission of the Bowman Centre for Sustainable Energy, and giving of our own expertise to achieve specific goals.

Most significantly we launched our third formal publication in 2019. With leadership from Clem Bowman, and support from many of our Associates, as well as a thoughtful Preface by Dr. Jean-Sébastien Rioux, project management from Don Greaves, and hiring of editor Karen Minty, and production through Grafiks, we delivered **Canada: Making the Case for Nation-Building Projects**. Over 1,100 copies of the book were issued by email. About 100 additional physical copies were presented to a targeted and select audience. We've received many positive comments.

In 2019 we acquired ownership of ProGrid® IP and software from the Saskatchewan Research Council.

We have kept a connection to Queen's University since 2017 by sponsoring projects in their TEAM (technology, engineering, and management) program. And we expect to continue. Several Associates of BCSE have been equally active in other TEAM projects sponsored by others.

BCSE now has a refreshed website. We also have active social media pages on LinkedIn, and Facebook. These communication channels are important as Canada wrestles with the global COVID-19 pandemic. We are continuing our efforts using all available telecommunication tools. To reduce costs we've suspended the internet and phone service at our office. We've asked for rent consideration from the Western Research Park.

An Associate noted that each day seems to be as full during the current pandemic as it was before the sudden lockdown in March. I think this is a reflection of the importance and urgency of our work, as well as our determination to contribute and achieve success.

Looking forward we still pursuing additional sources of funding, including hosting a further Richard Marceau Energy Symposium. We continue to engage with academic communities at Lambton College, U Calgary, Western University, U Ottawa, and Queen's University. We continue to collaborate with organizations such as the Canadian Academy of Engineering, The Canadian Society of Senior Engineers, and Alberta Innovates.

The world is gripped with a health care emergency. BCSE respects that and is working diligently to guide Canada to a sustainable energy future as the nation recovers and rebuilds.

IN MEMORY

Trees have been planted at the Western Sarnia-Lambton Research Park in memory of the following Associates:

Marty Raaymakers — February 11, 2020

Dr. Surindar Singh — May 30, 2019

Dr. Duke Du Plessis — October 6, 2018

Dr. Richard Marceau—September 26, 2016





With leadership from our founder **Dr. Clement Bowman**, our latest book *CANADA: Making the Case for Nation-Building Projects* was launched as planned in 2019. Over 1,100 copies were emailed to supporters and governments across Canada with positive feedback.

We are pleased to report that *Dean M. Jacobs*, currently Consultation Manager of Nin Da Waab Jig (Walpole Island Heritage Centre) Walpole Island First Nation Bkejwanong Territory, participated in our latest book by writing *“Indigenous Leadership in Nation-Building”*.

“Once a symbol of Canadian economic growth and prosperity, large scale energy infrastructure project development has since become, at best, challenging and, at worst, impossible.”

(Larry MacDougal, The Canadian Press 11/26/2019)

In the next phase of *CANADA: Making the Case for Nation-Building Projects* we will tackle this dilemma using ProGrid™ Methodology, along with assistance from a broad cross section of Canadians, we will identify major energy sources and will evaluate them for economic and environmental performance, and social readiness.

Read *“CANADA: Making the Case for Nation-Building Projects”* and previous books on our website.

ProGrid™ Methodology

The **ProGrid™ Methodology**, licensed by the Bowman Centre, has been upgraded significantly to not only evaluate economic and environmental attributes of new projects, but also with attention to social readiness of Canadians for such ventures. Royal Dutch Shell's CEO Ben van Beurden was recently quoted saying "a company must be in step with society." ProGrid™ is a powerful tool which can evaluate the benefits/impacts of proposed projects.

June 2, 2019 the Bowman Centre for Sustainable Energy purchased the ProGrid™ Assets in their entirety from the Saskatchewan Research Council. While taking over existing customers, the Bowman Centre for Sustainable Energy is NOW IN BUSINESS to put ProGrid™ to work for you to evaluate your project needs which will determine your path forward.

Contact Marshall Kern or Don Greaves for more information!

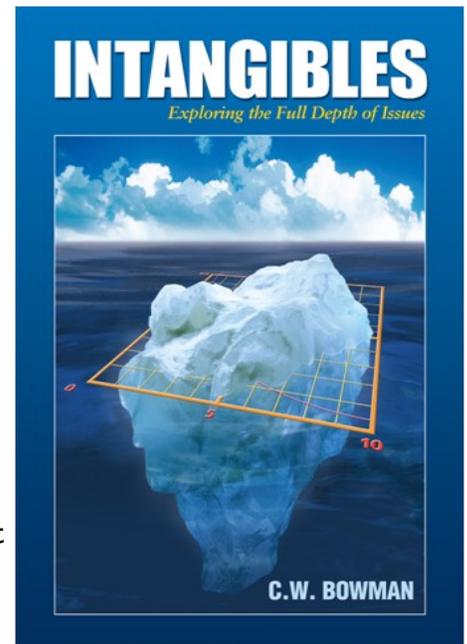
The Book: *INTANGIBLES, Exploring the Full Depth of Issues* was written by Dr. C. W. Bowman

Bowman, C. W. (2005). *Intangibles: Exploring the Full Depth of Issues*. Sarnia, Ontario: Grafiks Marketing & Communications.

"The iceberg is a powerful metaphor for the Intellectual Capital of your organization, things that are "off the balance sheet." Think of your people, knowledge, skills, systems, processes, and relationships – all intangible assets that will be the key determinants for market success.

Do not let these assets dissipate over time! When the iceberg drifts into inhospitable waters, the foundations erode and the result is catastrophic tumbling. What seemed safe on the surface crashes into the water.

The big issues that your organization face involve intangibles – they cannot be measured in the conventional sense but they can be recognized and evaluated. ProGrid™ offers an original and tested method for doing just this, modeling apparently opposing forces to define the "sweet spot" in two-dimensional space."



Our digital 'look' has been improved by lead Associates Karen Minty, Don Greaves & team. Together they have launched a new website which is easier to navigate and one which delivers a clear picture of who the Bowman Centre for Sustainable Energy is, our focus and more options to connect with us.



bowmancentre.com



[@BowmanCentreSustainableEnergy](https://www.facebook.com/BowmanCentreSustainableEnergy)



[Bowman Centre for Sustainable Energy](https://www.linkedin.com/company/Bowman-Centre-for-Sustainable-Energy)

Queen's TEAM Technology Engineering And Management Department of Chemical Engineering

The Bowman Centre for Sustainable Energy has been actively engaged with the Queen's TEAM, Alberta Innovates and others since 2017 in research and development of Canada's Natural Resource Bitumen. These studies have successfully identified Value Added Quality Products such as Carbon Fibre Precursors, which can be manufactured and used without combustion.



What is “Value Added” Products?

Value Added Products refers to raw Natural Resource Material Extracted and Finished in the Country of Origin...in this case Canada's Bitumen. Rather than ship raw extracted Bitumen to another country to be processed into a finished product for resale back to Canada and globally at a profit and/or at inferior quality, economic opportunities have been identified by converting raw material to finished product in Canada. Employment would be generated in many sectors including engineering, research and development, procurement, transportation, manufacturing, marketing and finance, construction and sales distribution.

Queen's Studies as follows:

Adding Value to Bitumen (2017) identified a suite of products not intended for combustion that could be manufactured from oil sands bitumen.

Producing Carbon Fibre from a Barrel of Pitch (2018) examined key process steps and economics of Carbon Fibre production.

Carbon Fibre from Oil Sands Bitumen and Other Feedstocks (2019) is a comparative GHG Life Cycle Assessment which identifies a clear carbon intensity advantages to be realized if carbon fibre were to be manufactured from bitumen rather than other materials.

Analyzing Pre-Treatment Processing in Manufacturing Carbon Fibre Precursors from Bitumen (2020) the comprehensive report identified several areas for innovation, and adds to the Bowman Centre for Sustainable Energy intellectual property which is related to the Alberta Innovates sponsored work at Lambton College and not the Queen's TEAM.

This study included participation from Lambton College.

Read more about our Carbon Fibre Projects and Projected Climate Change Impacts to the Great Lakes on our website!

BOWMAN CENTRE NEWS

About Us: Many of the Bowman Centre for Sustainable Energy Associates have participated actively in the Canadian Academy of Engineering's Energy Pathways work, in particular two planning studies identified on the home page of our website. They have been part of a network of over 100 public and private sector engineers and executives who have contributed to identifying a number of new big energy projects that will create wealth and jobs for Canadians over this current half century. These are the visionaries who continue the tradition of nation building through big innovative energy projects. **All Bowman Centre for Sustainable Energy Associates are volunteers giving of their time pro bono.**

Associates:

Clement Bowman

Founder of Bowman Centre, October 4, 2010;
Former Chair, CAE Energy Task Force; Founding Chair, AOSTRA

Marshall Kern

President

Don Greaves

Vice President

Lynne Hicks

Secretary & Business Manager

Joe Simon

Treasurer

Paul Beaudet

Retired Lawyer, Civil Litigation and Estate Planning & Corporate Law Cases

Tim Bechard

Business Executive—Environmental Services, Waste Management & Recycling Industries

Dennis Bernhard

Senior Executive Morgan Stanley, Merrill Lynch and Deutsche Bank, Former Chairman Cansolv Technologies, Executive Director Carbovate Development Corp., Director 5G Automatika LTD.

Ed Brost

President, JE&M Consulting Ltd.

F. Pierre Gingras

Hydroelectricity Specialist, Hydro-Quebec (retired)

Terrence Hoffman

Principal Chemical Engineer, Polysar Ltd. (retired)

Eddy Isaacs

Former CEO, Alberta Innovates—Energy and Environment Solutions

Gary Locke

Technical Manager, and Section Head of Process Technology, Imperial Oil and Assignment with Exxon Research & Engineering

Ben Luan

Professor at Western University, London ON

John Kramers

President, Owl Ventures Inc.

Maike Luiken

President-Elect, IEEE Canada; Former Director, Bluewater Technology Access Centre, Lambton College

Karen Minty

College Professor/Corporate Trainer/TV Talk Show Host/Lambton College Personality Insights

Walter Petryschuk

Former Polysar, Suncor, NRC Executive

David Sanborn Scott

Vice-President International Association for Hydrogen Energy

Peter R. Smith

Energy Consultant, TransAlta (retired)

Ashok Uppal

Research Associate, Imperial Oil Limited (retired)

Guy Van Uytven

Power System Consultant

John M. Ward

Vice President, BlueGreen Innovation Group

Don Wood

Vice-President, Logistics and Business Development, Polysar (retired)

