

Powering Up Canada: A History of Power, Fuel, and Energy from 1600 by R.W. Sandwell

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***Powering Up Canada*
A History of Power, Fuel, and Energy
*from 1600***

by R.W. Sandwell.

Montreal and Kingston: McGill-Queen's University Press, 2016. 496 pp. Illustrations, maps, notes, index. \$37.95 (paper) ISBN 9781442626256. <mqup.ca>

When I teach Canadian history, I ask my students to think about two big changes that occurred in the lives of ordinary people in Canada since Confederation in 1867. First, I ask my students how many of them grow their own food. Then, I ask them how many derive most of their energy from organic sources (burning wood, animal labour, human labour, wind, flowing water). Almost none of my students grow their own food and none of them draw most their energy from organic sources. Like most urban Canadians, they use cash to purchase food and most of their energy comes from mineral sources (petroleum, natural gas, coal). If I asked the same questions to a group of Canadians in the 1870s, almost all of them would make their own food and use mostly organic energy sources. These two changes profoundly altered life in Canada over the past 150 years.

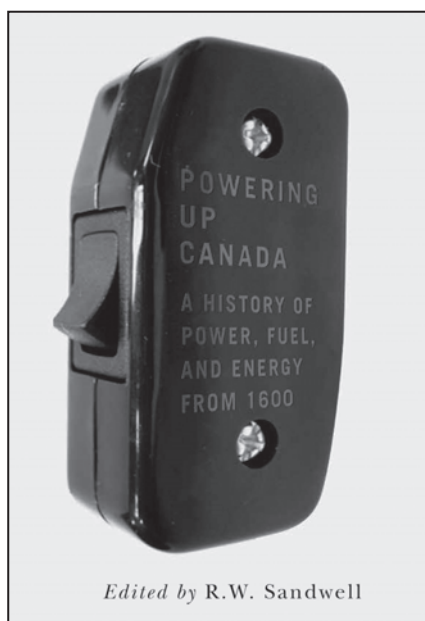
How people consume energy and the forms of energy they consume are consequential for understanding Canadian history. Energy touches all aspects of life on Earth. Indeed, the rhythm of entropy itself serves as a metronome for every living creature on the planet. In one way or another, human history has been a process of trying to slow its steady beat, but this fundamental physical principle marches on from hot to cold, light to dark, organized to disorganized. If you aren't convinced that energy plays a pivotal role in the history of Canada, read *Powering Up Canada: A His-*

tory of Power, Fuel, and Energy from 1600.

This new edited collection provides a broad overview of Canadian energy history spanning a period from the seventeenth century to the late twentieth century (with some reflections on the near present). It is divided into two sections, what editor R.W. Sandwell describes as the organic energy regime and the mineral energy regime. Drawing from the work of other scholars in the field of energy history, Sandwell identifies the transition from organic to mineral energy resources as a critical juncture in Canadian history, one that has not been fully explored. It is the transition from a low-energy society intimately connected to and constrained by local flows of energy to a high-energy society that draws with few limits from increasingly distant, but enormous, stocks of energy.

Canada, like other Western industrialized nation-states, experienced the society-transforming effects of this energy transition, but in ways that were distinct. One of the most valuable contributions of this volume is that it highlights and contextualizes the distinct characteristics of Canada's transition to a mineral energy regime. Building upon the statistical findings of Richard Unger and John Thistle in their 2013 book, *Energy Consumption in Canada in the 19th and 20th Centuries: A Statistical Outline* (Consiglio Nazionale delle Ricerche), this book adds much needed context to key distinguishing characteristics of Canadian energy history. First, it notes Canada's relatively late transition to a mineral energy regime. As Sandwell writes, "England and Wales were meeting 90 per cent of their energy needs with fossil fuels (coal) by 1845, the United States by 1915; it was only in 1955 that Canada reached the 90 per cent mark, and it was only in 1980 that Canada joined other industrialized countries in obtaining 98 per cent of its energy from

modern carriers" (21). Second, it notes the historically high rates of energy consumption in Canada throughout the entire period covered in this volume. Since European colonization of northern North America (and likely prior), people in Canada have been some of the highest per capita energy consumers in the world. While this is due, in part, to a colder northern climate with higher heating and lighting demands this unusual appetite for energy has played a significant



Edited by R.W. Sandwell

role in shaping the lives of people in Canada. Finally, the book draws attention to Canada's abundant energy resources. While Canadians consume large quantities of energy, they also produce energy surpluses for export. Liquid petroleum, natural gas, and hydro-electricity are abundant in Canada. Both private and public corporations export all three energy resources to the United States.

The authors in this collection explore these distinguishing characteristics through eleven chapters, six focused on the organic energy regime and five on the mineral energy regime. This isn't a collection of case study essays loosely tied to a common theme. Each essay is focused on a general area of Canadian energy history and organized chronologically. They provide synoptic overviews of key energy resources, how they were used in the past, and what effects they had on social, economic, political, and environmental development. Topics include food, animals, wind, water, wood, coal, oil, hydro-electricity, natural

and manufactured gas, and nuclear power. The result is an edited collection that reads more like a multi-authored primer on energy history. Indeed, the book even includes an explanatory essay on terminology in the appendix for the uninitiated.

This is an important book and an important start for thinking about Canadian energy history. Several of the chapters raise critical questions and point to future directions for new scholar-

ship. George Colpitts's opening chapter on food energy in the Canadian fur trade demonstrates well how the lens of energy can reveal new insights into well-worn topics in Canadian history. Joshua MacFadyen's analysis of wood energy begins to answer why Canadians relied on organic energy sources for so much longer than their British and U.S. counterparts. Steve Penfold's overview of the history of petroleum liquids in Canada points to many new avenues of research into the emergence of a high-energy society in the second half of the twentieth century. And Sandwell's own chapter, co-authored with Colin A.M. Duncan, highlights yet another underdeveloped topic in Canadian history, the rise of natural gas consumption and its effects on Canadian homes and families. One hopes now with a book such as this that there will be more to come in the emerging field of energy history in Canada.

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