

# EMPOWERING ELECTRICITY

CO-OPERATIVES,  
SUSTAINABILITY, AND  
POWER SECTOR REFORM  
IN CANADA

Julie L. MacArthur



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# 1

## A Climate for Change

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What are the core institutions of a sustainable electricity system? Despite important differences, both state-led and market-led modes of governance have generally sacrificed ecological considerations for economic priorities and disconnected the majority of citizens from decision making regarding resource allocation. These detrimental choices are significant in Canada, where mounting evidence of global climate change is accompanied by some of the highest per capita greenhouse gas footprints in the world (Environment Canada 2013). This is partially because of persistent reliance on fossil fuel extraction for domestic energy use as well as for export. However, radical transformations of electricity governance are currently underway in some countries, altering how power is generated and distributed. These transformations include an expansion in actors beyond the traditional power sector – centred on public and private utilities – and toward a network of alternative players: electricity co-operatives. There were more than two hundred of these locally owned and democratically structured organizations operating across Canada in 2015.

In many cases, electricity co-operative development is accompanied by enthusiasm that they may represent a greener, more locally based and democratic form of electricity ownership. New co-operatives are nearly all focused on developing cleaner and more sustainable sources of power: wind, solar, biomass, tidal, and hydro. They differ in important ways from



centralized-state- and private-shareholder-controlled firms, so a democratization of the electricity sector by co-operatives may be desirable. For example, critics of liberal democracy's close connection with capitalism, such as C.B. MacPherson, have long argued that democracy cannot flourish without a restructuring of economic relationships and a socialization of ownership (Macpherson 1973, 1977). Substantive democracy, in this view, requires a broadening from formal political institutions into economic and, more recently, environmental ones (Adkin 2009); it includes deepening democracy via promotion of institutions that enhance both participation and deliberation (Fung and Wright 2003; Pateman 1988; Wright 2010). In recent years, the intractable and "wicked" nature of many environmental challenges has also strengthened calls for new forms of participatory democratic governance (Blay-Palmer 2011; Catney, Dobson, et al. 2013; Krupa, Galbraith, and Burch 2013).

This book systematically explores the development of Canadian electricity co-operatives as they relate to larger debates over renewable electricity policy and sustainable governance transitions. My aim is to assess the potential of these organizations to contribute to a more sustainable energy future in Canada, given the pressing challenge that global climate change presents and the significant changes taking place in electricity systems (Gillis 2014; REN21 2014). Policy changes play a key role in transforming governance systems, affecting both human behaviour and environmental outcomes (Andersson and Ostrom 2008; Doern and Gattinger 2003; Steurer 2013). Thus, I am particularly interested in the role that state policy changes play in directing the nature and direction of community and co-operative players in the energy sector. Co-operatives are often placed outside (and between) the state and market when they are, in fact, permeated by both (McMurtry 2010, 6–13). An explicit focus situating co-operative development within changing electricity-policy regimes can illuminate how they shape and are in turn shaped by structural and sectoral context.

Detailed examination of the changing electricity sector illuminates the context of co-operative development; it also provides a useful contrasting backdrop for assessing the distinctiveness and potential of electricity co-operatives. For example, while most co-operative electricity organizations are relatively small in size, in Ontario they have joined with other actors in the community power sector to influence provincial electricity policies (Etcheverry 2013). So, in one sense they "punch above their weight." However, they are embedded within much larger processes of state

restructuring, where the role they play in the Canadian energy system is complex and sometimes contradictory. Co-operatives may be well positioned to help particular communities with particular challenges, but in a sector such as electricity, sustainability depends on political economy forces well beyond the local level. Emergent forms of electricity governance – interactions between the public and private actors that regulate and hold power at multiple levels beneath, within, between, and above states – are thus both theoretically and empirically significant.

“Power,” in the context of this book, holds a double meaning. There is the physical electric power that is generated but also the power to govern, to control what gets produced, where, when, and for whom. Political scientists have traditionally focused their attention on power: who has it, how it is used, whether it is institutionally embedded, and – importantly – whether the exercise of power is sanctioned or legitimized by the polity, often through a variety of democratic practices. These perspectives bring to light the embedded relationship between political and economic power: how power is distributed and exercised not only in traditional areas of the economy, such as finance, but how economic power shapes access to mechanisms of governance and decision making. The importance of analyzing these changing forms of power is not merely in describing the world; rather, it is in contributing to transformations toward both participatory democracy and environmental sustainability. This follows Marx’s ([1845] 1974) urging for us not just to study the world but also to *change it*. This goal raises the question, what might make for a substantial contribution in these directions and how would we know?

In Denmark and Germany, co-operative and community energy initiatives have proved successful in broadening energy ownership and facilitating rapid new renewable-energy development (Debor 2014; Gipe 2007; Lauersen 2008; Meyer 2007). Electricity co-operatives generate electricity, manage local distribution systems, and provide energy retail and education services across the provinces and states respectively. Co-operatives, as social enterprises, are private firms distinguished from conventional shareholder-owned corporations by a (relatively) democratic corporate structure and by subscription to a set of seven core principles loosely corresponding to the popular slogan “People before profit.”<sup>1</sup> The structure can be more democratic than shareholder-owned firms in the sense that the co-operative’s owners are project stakeholders, either service users or producers. Together, these factors form what co-operative theorists and practitioners refer to as the “co-operative difference” (Gossen 1975; MacPherson 2008). Seven core

co-operative principles are set out by the International Co-operative Alliance (ICA 2010):

- 1 Voluntary and open membership
- 2 Democratic member control
- 3 Member economic participation
- 4 Autonomy and independence
- 5 Education, training, and information
- 6 Co-operation among co-operatives
- 7 Concern for community.

The systemic contribution of co-operatives today requires careful empirical assessment. In terms of both electricity assets and access to finance, co-operatives often lack the ability to compete with private-sector developers. A further limitation is that, in practice, the degree of democratic control of the organization varies a great deal from co-operative to co-operative. In addition, “local” and “community” are sometimes idealized in the literature on co-operatives and environmental sustainability in ways that don’t always hold up under empirical (or theoretical) scrutiny (Carter 1996; Lionais and Johnstone 2010). That these electricity co-operatives go beyond theoretical contributions to form the kind of locally embedded and democratic alternative in practice is, however, important for the development of sustainable electricity futures in Canada. If electricity co-operatives do provide a significant alternative, their practical strength is contingent on an ability both to succeed within and to transform current institutions and norms. Transformational change may, for example, vary based on development in specific settings (urban or rural), provinces, or business areas (such as generation or distribution) or on the specific motivations of key actors in their start-up phase and their willingness to take on broader issues of environmental justice. The following questions thus emerge, and animate the subsequent chapters in this book:

- Where and in what forms are electricity co-operatives developing in Canada?
- What advantages and/or disadvantages does this organizational form have over more traditional corporate forms?
- Why are new co-operatives in this sector experiencing resurgence in some provinces and not others?

- What role do these co-operatives play in shaping public policy and in supporting or challenging different modes of governance?
- What particular challenges does the electricity sector present for co-operative development, if any?
- How do these organizations interface with radical movements for economic democracy and environmental sustainability?

In order to provide insight into these questions, I examine public policy documents, renewable energy-sector publications, and government electricity statistics covering a period from 1940 to 2014. More than fifty interviews with community electricity developers, co-operative associations, and policy makers, from 2009 to 2013, also form an important source of data; these communications, detailed in [Appendix 1](#) of this book, provided crucial insight into the intention and interpretation of both co-operative project development and policy designs.<sup>2</sup> These interviews generated insights into the tensions and conflicts behind the scenes in a way that isn't typically represented in the literature on community energy projects. Electricity co-operatives were identified primarily by name and activity from provincial and national association publications, provincial co-operative registries where available, and a database of co-operatives formerly managed by the federal Co-operatives Secretariat.

### **Electricity Co-operatives in Canada: Why Now?**

Co-operatives have historically arisen in response to crises and in some cases have demonstrated effective mechanisms for community development, empowerment, and economic democracy (MacPherson 2009). Co-operatives in the electricity sector today are developing because of an interrelated set of social, economic, and environmental challenges – a triple crisis – driven by increasingly market-based governance arrangements and a modern industrial system that fails to adequately account for human and natural worth.<sup>3</sup> The triple crisis is an empirical description of mutually reinforcing linkages between ecosystem breakdown, democratic disempowerment, and an economic system reliant on limitless growth (Daly 1996; Johnston, Gismondi, and Goodman 2006b; Kovel 2007; Panitch and Leys 2006). In practical terms, the triple crisis means that addressing the issue of persistent poverty requires enhancing participation and empowerment, and that dealing with environmental degradation requires more equitable distribution of political and economic power. For Sen (1999), exploitation of

human and natural resources can erode citizens' capabilities, reducing their effectiveness in responding to complex challenges. Analyses of issues of ownership, participation, and power in any sustainable transition are thus crucial (Albert 2003; Burkett 2006; Faber 2008). Theorists of participatory governance have also argued that empowering local citizens and democratizing economic institutions can lead to improved environmental (Ostrom 1990) and social justice outcomes.

### **New Renewables and the Climate Crisis**

Global climate change is the most pressing and significant manifestation of the triple crisis. Current patterns of production and consumption are dependent on fossil fuel-based energy that provides a high energy return on investment but also correspondingly high greenhouse gas (GHG) emissions (Homer-Dixon 2009). The scientific consensus on climate change, however, is increasingly clear. According to recent reports from the Intergovernmental Panel on Climate Change (IPCC), warming of the climate system is unequivocal. In some models, this warming of 0.8 degrees Celsius already above preindustrial times is projected to increase to 2 to 3 degrees Celsius by 2050 (United Nations 2013). Current climate changes have led to impacts such as ocean acidification, rising sea levels, more intense droughts, and extreme weather events. In their summary report of the physical science of climate change, IPCC scientists argue that "the atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased to levels unprecedented in at least the last 800,000 years. Carbon dioxide concentrations have increased 40% since pre-industrial times, primarily from fossil fuel emissions and secondarily from net land use change emissions. The ocean has absorbed about 30 percent of the emitted anthropogenic carbon dioxide, causing ocean acidification" (Stocker et al. 2013, 11). They also argue that "continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems" (Evans 2014).

Societies unwilling or unable to reduce the anthropogenic climate-change drivers will clearly face substantially increased future socioeconomic costs from a failure to act (IPCC 2011). Importantly, small, vulnerable societies will be significantly impacted regardless of their own mitigation efforts; they are reliant on wealthy resource-intensive nations like Canada and the United States to act responsibly.

Energy services form a fundamental basis for meeting basic human needs for food, shelter, transportation, communication, and development. Fossil

fuels such as coal, oil, and gas for energy services has historically dominated energy supply. This has led directly to postindustrial increases in global carbon dioxide emissions. Demand for energy services is predicted to increase significantly – in 2012, 1.3 billion people were still without access to electricity – so the sources and structures developed in this sector are central to solving the climate crisis (International Labour Organization 2013). Renewable energy (RE) has a significant role to play in mitigating GHG emissions growth. A switch to new renewable-energy systems “if implemented properly, contributes to social and economic development, energy access, a secure energy supply, and reducing negative impacts on the environment and health” (REN21 2014, 7). However, the ultimate mitigation potential depends significantly on the fuels and sources displaced by new renewables as well as the specific technologies employed (IPCC 2011, 22).

Renewable energy transitions clearly form a vital piece of the climate change puzzle. How, why, and where energy transitions take place at multiple levels is thus important. Although renewable energy technologies have increased rapidly over the past decade – nearly doubling from 2004 to 2012 – their widespread adoption at the levels required for mitigating climate change necessitates strong targeted policy action (REN21 2009, 2014). In Germany and Denmark, bold policy shifts have resulted in 100 percent renewable energy regions as well as in world-leading policies for renewable heat (as opposed to electricity) supply and a significant role for community actors (International Labour Organization 2013). Germany is currently in the process of phasing out its nuclear power generation by 2022 and increasing its share of renewable energy generation to 30 percent by 2025 as part of its *energiewende* or “energy transition” (Gillis 2014).

Opposition to new renewable-energy policies remains a significant challenge, however, as new actors contest for scarce public funds and access to aging and stressed electrical grids. Indeed, even though new sources are being developed at increasing rates, “enormous subsidies for fossil fuels and nuclear power persist, and they continue to vastly outweigh financial incentives for renewables” (REN21 2014, 104). In addition to direct subsidies, costs of air pollution and its health effects, together with the costs of climate adaptation and mitigation, are not internalized.

Severe informational asymmetries obscure the real costs of production and consumption. It is unlikely that these asymmetries will self-correct, because social and environmental costs are externalized to geographically disparate communities across the globe, often ones with poor political representation and less economic power. This imbalance severs crucial

eco-social feedback loops that could (and should) mitigate self-destructive practices, further reinforcing the triple crisis (Ostrom 1990; Princen, Maniates, and Conca 2002). A complex pattern emerges, wherein the relative balance of costs and rents shifts to favour private accumulation over public control. In this way, economic processes continue to degrade the natural environment as well as contribute to disempowering local citizens. A key challenge going forward is thus to identify institutional forms capable of shifting energy governance in a more sustainable direction (Hahnel 2007; Stephenson et al. 2010).

In the Canadian energy sector in particular, the interrelationships between policy actors and incumbent nuclear and fossil fuel industries are an important challenge facing new renewables-policy entrepreneurs (Bratt 2012; Durant 2009; Durant and Johnson 2009; Rowlands 2007). Canada is an energy-rich country and one of the largest producers and exporters of oil, natural gas, coal, uranium, and hydroelectricity in the world (Natural Resources Canada 2008). With some of the highest per capita GHG and carbon dioxide (CO<sub>2</sub>) emissions in the world (Homer-Dixon 2007; Paehlke 2008), Canada has both an ethical responsibility and the resource capacity to address climate change.

But policy responses have been slow. Canadian citizens are confronting record levels of income inequality and political disengagement (Pilon 2001; United Nations 2010). As Teeple (2000, 3) argues, this is in part because “the idea that politics determines national policies has gradually dissipated, and in its place has come the open assertion that economics is the deciding factor in more and more aspects of society.” The democratic legitimacy of traditional sites of collective action has been eroded through decades of policy shifts hollowing out state agencies and shifting power to market-based actors. These reforms are part of a broader international project of politico-economic restructuring that draws heavily from both neoclassical and Austrian economic thought – referred to in this book as neoliberalism (McBride 2005; Panitch 2007).<sup>4</sup>

The strengthening of neoliberal ideology in Canada over the past three decades has led to the increased marketization and commodification of key natural resources, from British Columbia’s rivers to windy coastal sites in Quebec’s Gaspé Peninsula (Byrne, Toly, and Glover 2006; Doern and Gattinger 2003). This takes place, for example, via the restructuring of power sectors to facilitate private ownership of new renewable electricity generation. Ultimately, this represents a shift in the mode of socioeconomic

governance wherein the normative ideals highlight the virtues and benefits of private-sector growth, and the policy practice cedes ownership and command-and-control regulation in favour of voluntary, marketized, and networked forms of governance.

The triple crisis in Canada has prompted a search for alternative sources of community power: power in the sense of electric power through greener sources, and power in the sense of more democratic and participatory institutions and forms of governance. Co-operatives are part of this broader community power sector, which includes a wide range of actors with diverse organizations and motivations attempting to develop new renewables. Reforming electricity generation, particularly via the development of renewables like wind, solar, and tidal power in coal-reliant provinces (Alberta, Ontario, Saskatchewan, Nova Scotia), may play an important part in the transition to a more sustainable future. However, Canada's deep integration within a North American economy (through, for example, the North American Free Trade Agreement and the World Trade Organization), and an increase in private-sector ownership of new electricity generation, are leading to an ever-increasing erosion of the public sector's share of generating assets.

### **Electricity-Sector Reform: Power to the Private?**

Electricity co-operatives have re-emerged in Canada in the midst of great change in the power sector. Provincial governments across the country have largely engaged in piecemeal restructuring of electricity systems in order to increase participation by private companies, particularly for new renewable generation.<sup>5</sup> Restructuring is occurring because of three key drivers. The first is the influence of pro-market reforms on the public ownership of electricity production in Canada. Provincial reforms have resulted in the privatization of new energy production and some aspects of traditional government-owned utilities. The second driver, deeply related to the first, is the expansion of continental power grids that facilitate generation for export and are regulated by US-based bodies such as the Federal Energy Regulatory Commission and the North American Electric Reliability Corporation. The third driver is the rise of environmental issues as a focus for government action and the resulting move toward new renewable-electricity generation ("green power"). These three drivers are not easily separable, and their confluence has allowed the green power movement to make inroads into territory formerly the realm of Crown corporations, with important implications for participation and power alike.



Canada's electricity resources are vast and lucrative. Unlike oil, electricity in Canada remains primarily in the public sector (discussed in [Chapter 4](#)). This is changing, however, as provinces incrementally open markets to private actors for new renewable-power generation. For the last twenty years, provincial and federal governments across the country have been steadily orienting away from nationalism and public control, and toward increased private ownership and continentalism (Calvert 2007; CCPA, Parkland Institute, and Polaris Institute 2006; Cohen 2007). These provincial changes are part of a broader project of power-sector restructuring around the world (Beder 2003) wherein nearly one hundred countries have privatized their electrical utilities since the 1990s. In Canada, these developments are taking place in unique (often piecemeal) ways when compared with other states, since many provincial power sectors are still structured around public and often hydro-based utilities. These trends shape both Canada's distribution of wealth and its citizens' ability to address the pressing and interrelated social, economic, and environmental challenges confronting the country. [Chapters 4](#) and [5](#) explore these international and domestic processes in more detail.

The current push to increase private-sector access to the remaining public aspects of electricity in Canada exists despite the growing recognition of the costs of privatization and deregulation of resources elsewhere and the importance of strong state action on climate change (Cohen 2006b; Doern and Gattinger 2003; Stocker et al. 2013). The social, economic, and environmental outcomes of investor-owned corporate control continue to be questioned. This is, in part, because profit-based incentive structures and lack of local participatory engagement in governance often lead to socially and environmentally damaging outcomes (Dryzek 1992; Faber 2008; Fitzpatrick 2014; O'Connor 1994). Provinces are ceding public control of critical new assets and are increasingly reduced to being consumers of, rather than stakeholders in, their own resources (Hampton 2003). Some provinces have chosen to restructure more than others. For example, Ontario (in 2002) and Alberta (in 1996) deregulated their electricity markets, and British Columbia is in the process of shifting new renewable generation (small hydro and wind) to the private sector (BC Hydro 2011, 2013; Calvert 2007; Province of British Columbia 2011).

There are two issues here. The first is the benefits in terms of cost and efficiency of private-sector generation and competition. The second is the definition of "green." What the empirical evidence in restructured markets suggests is that the consumers in these restructured systems face blackouts

and higher prices (Beder 2003), large companies dominate and manipulate markets in their favour (Enron, most famously), and the small, green initiatives envisioned by environmental (and co-operative) advocates have a difficult if not impossible time getting on the grid (Walker 2008). This is particularly the case when restructuring is not aimed at increasing broad public participation.

Many environmental advocates support the restructuring of the electricity sector in the hope that new sources will be greener (Rifkin 2002; Scheer 2007) and will lead to a form of distributed generation (Walker 2008), thus breaking the concentration of power in centralized utilities (and, by extension, the nuclear industry). The participation of a range of non-traditional actors in the energy system (homeowners, co-operatives, local associations) encourages new innovation and competition and helps to develop resilience and self-reliance (Scheer 2007). Actors in the social economy and co-operative sector have also joined in support of distributed generation (CCA 2011a; FCPC 2013; Government of Canada 2012; Hoffman and High-Pippert 2009). For Newig and Fritsch (2009), this emphasis on localizing “expresses both a hope and an expectation that participatory processes will lead to improved compliance and implementation (measured against the agreed environmental goals) due to a more sound knowledge-base and an improved acceptance of decisions – in short: an enhanced *effectiveness* of the pursued policy.”

While it is indeed true that new technologies open up the possibility of an alternative energy future, there is no reason that increasing the proportion of renewable sources will necessarily lead to distributed generation, a problem I return to in more detail in [Chapter 4](#).<sup>6</sup> What is often lost in this discussion over greening Canadian electricity via private-sector development is that renewable hydroelectricity, while not without its critics, was highly developed by public (not private) utilities and accounts for more than 60 percent of Canadian generation by source.<sup>7</sup> Provinces today with the highest proportions of private ownership in electricity, Nova Scotia and Alberta among them, also have the heaviest reliance on carbon-based fuels. The reasons for this have much to do with historical trends and available fuels, though the contention that public electricity generation is somehow not “green” in a general sense is problematic. Public accountability and input into energy policies, as well as the ability to capture economic benefits for local development purposes, is vital for the development of sustainable energy futures (De Young and Princen 2012; Sathaye, Lucon, and Rahman 2011; Seyfang and Smith 2007).

Those arguing for an electricity market restructuring tend to maintain that governments are inefficient, cash-poor, slow to respond to market provisions or captured by private interests, or fail to provide consumer choice (Anderson 2009; Howe and Klassen 1996; IEA 2005). In this view, increased competition through privatization may drive prices down (an argument prevalent in the 1990s) and allow for a greater variety of generation sources (a more recent justification). There is significant debate over the effect that electricity market-led – as opposed to more participatory – restructuring will have on the development of renewable electricity.

There are also ingrained reasons electricity restructuring is taking place at this particularly historic juncture and manner, ones only tangentially related to environmentalism (Graefe 2006; Purcell 2008; Stanfield and Carroll 2009). First and foremost, ideological commitments of elected officials have in some cases directly legislated private-sector involvement in the electricity industry (e.g., in British Columbia, Ontario, and Nova Scotia). These moves came after years of the private actors being shut out of this increasingly profitable sector in Canada. Private firms have lobbied heavily to create and then access power markets. Consequently, attempts to green electricity generation that lack a broader understanding of political economy and public accountability risk a political naïveté that ultimately undermines progress toward deep sustainability.

### **Co-operative Electricity: Toward Empowering Power?**

Re-embedding enterprises locally is one way to reconnect environmental and social feedback loops to democratic decision making. Doing so may be important in building resilience and empowering communities to address the complex challenges facing them in coming years. The electricity sector, though, has been incorporating more private actors, delocalizing, and generally failing in the development of greener alternatives.<sup>8</sup> Co-operatives, at least ideally, address many of the failings associated with conventional socioeconomic systems (CCA 2011b; FCPC 2013; Government of Canada 2012; Wright 2010). They are not as divorced from the real needs of Canadian communities and are, on the whole, organizationally more democratic. Indeed, co-operatives historically arose as local responses to the socioeconomic dislocations caused by the Industrial Revolution (Fairbairn 1990; Fairbairn and Russell 2004, 2014). This organizational alternative is not without its own challenges, however, as the ideal co-operative and co-operatives in practice often diverge.

The co-operative movement was one of the world's first social movements and is resurgent in many countries around the world (Curl 2010). The United Nations declared 2012 the International Year of Cooperatives. The movement is also far larger than most Canadians might think. Worldwide, over a billion people are members of co-operatives and, according to the UN, over half the planet's population is served significantly in some way by co-operatives (ICA 2015; MacPherson 2008, 640). Canada is no exception. As of 2007, one in four Canadians is a member of at least one co-operative (Co-operatives Secretariat 2010a). Co-operatives have played and continue to play important roles in community development and service provision across this country, despite their forming a largely forgotten chapter of Canadian economic education, conspicuously absent in business and economic texts (Kalmi 2007; Restakis 2010; Schugurensky and McCollum 2010). This oversight is significant, since these organizations not only make contributions to the material welfare of Canadians but also provide an institutional alternative rooted in norms that challenge neoliberal orthodoxy. In spite of their relevance, their influence on policy debates varies across the country and in different time periods. For example, federal budget changes in 2012–13 (during the International Year of Cooperatives, ironically) cut staff in the long-standing Rural Co-operatives Secretariat by 90 percent and ended funding to the successful long-standing Cooperative Development Initiative program (Government of Canada 2012).

Co-operatives – and the social economy more broadly – represent a pragmatic response to the economic and social challenges that both globalization and privatization have created. Co-operatives may make a significant contribution to the renewal of positive and active citizenship locally, nationally, and internationally (Lloyd 2007; Uluorta 2008). As an institutional form, the distinctiveness of co-operatives derives from an ownership structure of local actors based on community membership (stakeholders) rather than on financial capital (shareholders) (Quarter 1992). Since co-operatives are responsible directly to stakeholders, they may engender more environmentally sound and locally responsive practices (through local information transfer and social capital networks), empower underdeveloped areas (by pooling local resources), encourage entrepreneurial growth, and institutionalize an alternative economic rationality that explicitly links social and environmental needs to economic processes (Gertler 2001). In addition, co-operatives help address the principal-agent problem insofar as the users of a good or service also become the owners and sellers, resulting in a strengthened corporate framework to help avoid corruption and usury (Canada 2006; Mayo 2011; Neamtan and Downing 2005; Restakis 2010).

Quarter (1992) argues that associations and networks based on the norm of “people before profit” represent a key strength of this alternative system. Other writers on the subject support this position (Fairbairn and Russell 2004; Laville, Levesque, and Mendell 2007; Restakis 2010). The move to define co-ops as part of a broader global justice master-frame incorporating fair trade, local development, global institutional reform, and cultural exchange is an important one. Co-operatives engaging with these areas are part of what Vieta (2010) has called the “new co-operativism” based on solidarity and social justice, rather than on the narrower business models of many Canadian co-operatives. In this new kind of social and economic system, profit is but one of many goals, and participation, inclusion, and local development are paramount (McMurtry 2010).<sup>9</sup>

This connection between the spatial, the social, and the environmental has great appeal for bridging the often intransigent and thorny problems that transcend disciplinary boundaries of sustainability study and practice. It is here where the mutually constitutive and reflexive interactions between humans and their environment really hit the ground. In fact, recent research supports the argument that the types of interpersonal connections likely to occur on a local scale are, in fact, sustainability enhancing. For example, the Renewable Energy Consumption through the Community Knowledge Networks research group at Keele University in the United Kingdom has found that people are much more likely to change their behaviour based on information from friends, family, and local groups (including smaller companies), than they are if that information is provided by central government agencies or large companies. Face-to-face contact in particular helped people make informed decisions, as opposed to feeling overwhelmed or helpless in the face of complex and sometimes competing messages (Catney, Dobson, Hall et al. 2013).

Even given the potential of the co-operative ideal, serious questions remain about the role of the co-operative alternative within a broader neo-liberal system of governance. First, co-ops have traditionally placed themselves (and been placed) somewhere *between* public and private sectors (Fairbairn 1990). Legally, they are private actors anchored by normative values of self-help and entrepreneurialism. Co-operatives are uniquely placed as locally owned businesses, to act as supportive alternative service providers for basic housing, health, and food needs that ameliorate the worst effects of state rollbacks in social services (Restakis and Lindquist 2001). This has the contradictory double effect of legitimating a discourse that private actors can handle these many important tasks while at the same time

demonstrating that for-profit private actors abandon critical niches. Of course, despite co-operatives fitting within this frame, most are far from equal participants in newly opened markets. A significant tension thus exists between the co-operative ideal of a networked economic sector based on self-help and the more hierarchical organization of an interventionist welfare state. These two approaches to organizing society are by no means mutually exclusive, but the redistributive actions of an interventionist state sometimes stand at odds with a framework in which local resources contribute solely to local development.<sup>10</sup> This has created tension and debate over the political goals of the movement and over the relationship of co-operatives with the state and public policy (Amin, Angus, and Hudson 2002; Fairbairn and Russell 2004; Graefe 2006).

The co-operative sector in Canada today also lacks overtly political affiliations even though, in other countries and in earlier times – as with the Co-operative Commonwealth Federation (CCF) in Canada from 1932 to 1961 – the movement led to the formation of political parties (Laycock 1990; McMurtry 2004). In response to this passive role in broader political debates and processes, some have argued for more attention to be paid to how deeply public funding, regulatory structures, and policy affect co-operative and social economy organizations (LeBlanc 2006; Vaillancourt 2008). Finally, the ability to maintain a commitment to a meaningful level of democracy and broader social-movement awareness co-ops long term is questioned, as is the ability of these institutions to transcend the relatively marginal role they currently occupy in our economy (Fontan and Shragge 2000; McMurtry 2010).

### **Community Power**

Co-operatives form one part of a broader community power movement in Canada that also includes First Nations, small business, and nonprofit development. “Community power,” “community energy,” and “community renewables” are terms used to variously describe institutional structures that include local input or control (Bolinger 2005; Devine-Wright 2011; ENVINT Consulting and Ontario Sustainable Energy Association 2008; Walker 2008; Walker et al. 2007). Yet, these terms are somewhat nebulous, as they can refer to a wide range of actors, ownership types, and forms of project participation. At the broadest end of the spectrum is the concept of community energy, which involves local collective action to generate or produce, distribute, and manage the energy resources of a community. This may include, but is certainly not limited to, the development of local energy

plans for reducing electricity or fuel consumption, municipal combined heat and power or district heating, the installation of solar or wind projects for either self-sufficiency or distribution and sale to a national grid, or non-profit or co-operative enterprises designed to provide energy-efficiency solutions such as insulation or consulting.

“Community power” – including community wind, community solar, and other derivations – refers to electricity-sector projects that involve local actors either in the design or operation of the project. It can also mean projects that are designed with community benefit in mind, but not necessarily deep engagement with the project by communities. Walker and Devine-Wright (2008) distinguish between various community power projects along two axes: whether the *outcome* is local and collective or distant and private, and whether the *process* is open and participatory or closed and institutional. A strong community project would be participatory as well as collective, whereas a utility wind farm would generally be characterized as more closed and private. A continuum of degrees of ownership is clearly possible, and regulatory requirements can open up planning and consenting processes to the public in important ways.

Typically, the community actors involved include Aboriginal communities; worker, consumer, or investment co-operatives; municipalities; non-profit societies; and farmers, as well as for-profit corporations made up of “local” residents of towns, districts, and sometimes even provinces. From this list, a few important differences stand out. First, “community” projects may not in fact involve or even benefit the majority of the local community. Benefits may be captured by a small number of local project investors or landowners. Second, “community” actors straddle the public-private divide, which involves different requirements for transparency, as well as obligations to the wider population of a project area. Still, we can identify broad differences in structure and interests between the various types of community power actors.

**Municipalities** and **First Nations** actors have clearly set-out obligations to their respective communities, as outlined in both provincial and federal legislation. Of the range of community power actors, these fit most easily on the public side of the spectrum, with clear and established relationships with other levels of government and an established institutional framework for projects. Project revenues and benefits are set to flow back into the larger organization for broader development and environmental sustainability purposes.

**Private for-profit** community projects can take numerous forms but generally consist of groups of local landowners or farmers forming corporations or partnerships to develop new renewable generation either for their own use (to reduce power bills) or to sell to the provincial grid for profit. **Nonprofit** projects are, as their name suggests, distinguishable from the others in that the key aim involves increasing uptake and development of new renewables rather than investor gain or other institutional goals (as with municipalities and First Nations, though their interests may overlap).

**Co-operatives** sit in a complex and overlapping space between the social goals of nonprofits and the profit motivations of corporate actors. Co-operatives' goals are driven by membership, rather than by either investors or the broader public, and embody the seven key co-operative principles, including one member, one vote; democratic control; and concern for community. The members consist of product or service consumers, producers, workers, stakeholders, or a combination thereof. Typically, renewable energy co-operatives are differentiated from more traditional co-operative forms in that members are more likely to play educative and investment roles than direct consumer or producer roles, and in that greater levels of financial investment and the capacity to withstand long lead-up periods is required. One can set up a renewable energy co-operative to be either a for-profit or a nonprofit entity. In the former, the project can recirculate financial returns from investments to members; in the latter, the social goals of the co-operative play a greater role, with returns being retained and redistributed by the co-operative for other purposes and projects. Another difference is that in for-profit co-operatives, investment shares and dividends (rather than bonds and interest) play a key role in financing.

This book focuses on the role of co-operatives in the electricity sector, rather than in the energy sector more broadly. This is in part because of the need to narrow the field of study given the plethora of co-operative models and actors with a general connection to "energy." This does not signify that the activities of co-operatives in heating, energy efficiency, fuel transport, or production – i.e., the broader energy sector – are less dynamic or relevant to the challenges of the triple crisis going forward. Indeed, as [Chapter 6](#) illustrates, Canadian co-operatives are active in many areas, from oil refining and biomass generation to natural gas transportation and public sustainability education. In Denmark, wind turbine co-operatives emerged alongside the development of combined heat and power and district heating as part of a larger move to improve economic and environmental outcomes.



These are examples not only of diverse applications but of co-operative evolution, partnership, and “scale-up.”

### Denmark and Germany

The contribution of community ownership to new renewables development has been most striking in Europe. In 2013, “more than 3 million EU households produced their own electricity using solar PV (photovoltaics), and, by early 2014, 16% of Germany’s businesses were electricity self-sufficient, up 50% from a year earlier” (REN21 2014, 80). Public policies in Germany provided strong incentives for new renewables development, supported by changes to co-operative legislation in the country in 2006. Germany is also in the process of phasing out its incumbent nuclear generation and has set a target of 100 percent renewable power by 2050. There were over 931 German energy co-operatives registered by December 2013 – more than 500 of these since 2010; nearly 90 percent of them are involved in developing renewable electricity (Debor 2014).

In Denmark, a country with the highest concentration of wind power in the world – 33 percent in 2012, set to increase to 50 percent by 2020 – co-operatives and farmer associations established the majority of the turbines (see [Table 1.1](#)). Wind power was not new in Denmark; a long history of windmill development together with the oil crisis, the Chernobyl nuclear disaster, and a willingness to experiment set the country on a unique path. In 2009, of Denmark’s 5,200 wind turbines, 2,000 were owned by more than a hundred local associations. Electricity distribution was organized around locally owned (co-operative or municipal) organizations that are amalgamated at the transmission level into ten regional networks (Danish Energy Association 2009, 19; Stenkjaer 2008).

The obvious question here is *why* the Danish case is unique, and what lessons might this hold for Canadians (and others). First, many point to the important political and environmental debates that took place in the 1970s and 1980s in Denmark over the future role of nuclear power. Ultimately, a coalition of antinuclear, left, and green groups succeeded in making the case for a rejection of nuclear and the pursuit of other, more distributed technologies (Cumbers 2012; Danish Energy Association 2009; IEA 2012a; Lauersen 2008). Public-policy choices, including state tax incentives, supported a switch from fossil fuels following the energy crisis in the 1970s.<sup>11</sup> These policies focused on diversification of sources as well as on energy efficiency, dramatically reshaping the energy system from one that was centralized and fossil fuel reliant to one where decentralization,

**TABLE 1.1**  
**Comparison of international wind-generation ownership structures**

Jurisdiction	Farmer %	Co-op %	Corporate %
Denmark	64	24	12
Netherlands	60	5	35
Germany	10	40	50
Minnesota	0	31	69
Great Britain	1	1	98
Ontario	0	<1	99
Spain	0	0	100

Source: Adapted from Gipe 2010.

local ownership, efficiency, and renewables play a significant role. Priority access for new actors formed an important piece of this policy puzzle, as did consumer price sensitivity. For example, Danish district heating policies specify that heat must be sold at cost (i.e., without a profit), and the system is run by community-municipality partnerships.

District heating together with combined heat and power (CHP or cogeneration) plays an important role in increasing the efficiencies of energy resource use in Denmark. The heat emitted from electricity generation in cogeneration is captured and used, rather than wasted. This heat can be used by the generation facility for its own purposes or integrated within a larger area as part of a “district heating” system, where centrally produced heat (geothermal and solar, as well as thermal power generation) is circulated through a local area, to be used for space and water heating. This system typically results in significantly reduced greenhouse gas emissions, cost savings, and resource consumption when compared with business-as-usual scenarios. In Denmark, co-operatives developed and operated district heating systems as well as wind-generation turbines and other electricity entities. According to a report from the International Energy Agency, “large power plants were again organized as co-operatives, with electricity distributors as owners. This form of organization, without a traditional profit motive, offered little resistance to government intervention in the sectors for electricity and heat” (Lauersen 2008, 1). According to Kerr, also at the IEA,

The majority of the CHP plants serving the DH [district heating] networks are owned by local authorities and co-operatives, fuelled by natural gas. With so many individual households dependent on district heat, heavy

regulation of heat prices ensures that customer interests are protected. For example, the Heat Supply Law stipulates that DH schemes must operate on a non-profit basis, and heat and electricity prices must be cost-reflective. This fits well with the cooperative ownership of most DH schemes. (Kerr 2008, 4)

So, as with the development of wind power in the country, public policies used local ownership as a tool to increase both the provision of lower-cost energy and the uptake and support for new technologies.

The latest figures from the Danish Energy Agency (from 2013) illustrate the important role renewable energy sources and efficiency technologies play. Renewables (solar, wind, hydro, and biomass) make up nearly 41 percent of total electricity use and 23 percent of total energy use. Moreover, wind turbines account for 29 percent of total electricity generation capacity, and CHP production makes up 76 percent of total district heating (Danish Energy Agency 2013). Denmark is now a world leader in renewable-energy policy design and in energy co-operative development. It has the highest share of CHP and district heating systems in the world, which, together with the discovery of North Sea gas, allowed the country to become energy self-sufficient in 1997. Because of these and a range of other changes, Danish GHG emissions per capita for 2012 sat just at 9 tonnes of CO<sub>2</sub> equivalent, down from 13.4 in 1990 and half that of Canada's (OECD 2015, 18).

The evolution of co-operatives in Denmark is illustrative of how electricity co-operatives can operate beyond the binary of electricity generators and efficiency advocates. It illustrates the importance of understanding the varied co-operative/community power form. For example, co-operatives in Denmark are divided between large co-operative CHP plants and smaller co-operative wind companies. In the former category, six of the ten largest (coal-fired) power generators in the country, including Syd Energi and SEAS-NVE, are actually co-operatives whose members are electricity distributors (Kerr 2008; Lauersen 2008). In the area of wind generation, the community power co-operatives are technically wind-power stations or general partnerships. According to the former chairman of the Danish Wind Turbine Owners' Association, "for legal reasons [the co-ops] were forced to make formal partnerships due to the fact that, in Denmark, the interest on the loan for the wind turbine is tax deductible from the private income of the individuals in a partnership, not in a co-operative. Danish Wind Power Stations tried for years to have the law changed on this point, but did not succeed" (Tranæs, n.d.).

Community ownership of new turbines has decreased since 1995 alongside increases in turbine sizes. Recent research on the Danish case illustrates how a shift in public-policy supports for community power in the late 1990s has led to social friction over turbine development and has stalled new projects through the mid-2000s (Cumbers 2012). This trend away from local ownership has been identified as problematic and attributed to a shift toward more free-market electricity policy in the country, as well as to the maturation of the wind industry (Larsen 2005; Lauersen 2008; Manczyk and Leach n.d.; Meyer 2007; Möller 2010). In a report for the Danish Energy Agency, Jensen and Jacobsen (2009, 8) point out that “the progression toward fewer joint-owned and relatively large turbines has made it difficult to maintain support for new windpower projects.” Indeed, the Danish Promotion of Renewable Energy Act of 2008 aims to address these issues by mandating that wind developers offer at least 20 percent of the project for sale to local populations. It also set up funding for municipal improvements around wind parks and a local ownership start-up fund of DKK 10 million (approximately 1.9 million Canadian dollars) for preliminary studies (Jensen and Jacobsen 2009).

Danish and German experiences with community and co-operative power have led to significant networking and policy learning about community renewables development between Canadians and their European counterparts. One clear lesson from these developments is that public-policy supports formed a crucial element of these community and co-operative systems<sup>12</sup> (Bolinger 2005; Walker 2008). Another is that just as supportive policies can emerge, they can just as quickly be reversed if the political winds change. Beyond that, there are a significant range of structural factors related to resource endowments, industrial structure, political cultures, and policy regimes that are likely to affect the success of a Danish model in other jurisdictions (Bolinger 2005).

### **Canadian Electricity Co-operatives**

Electricity co-operative potential is reliant on targeted policy changes that support community power. Within the range of policy options, organizational structures, and actor goals, a wide range of tensions emerge. At the heart of the community and co-operative power movement is the contention that local involvement in energy projects is both necessary and desirable. There is a large and growing literature on the contribution that direct ownership of resources through community and co-operative power makes to communities (Bolinger 2005; ENVINT Consulting and Ontario Sustainable Energy

Association 2008; Gipe 2007; ILO 2013; Jacobsson and Lauber 2006; Warren and McFadyen 2010). In short, there are five core arguments for social ownership and control of resources: social economy energy provision (1) combats “not in my back yard” attitudes (NIMBYism) by giving locals a stake in the project, (2) helps educate communities about their resources, (3) spurs local development and job creation, (4) keeps profits in communities and builds local capital (financial and human), and (5) provides legitimacy to renewable energy projects.

Electricity co-operatives are a resurgent development in most Canadian provinces. Hundreds of rural electricity co-operatives formed between 1940 and 1960 in Alberta and Quebec. But this provincially concentrated picture has changed over the past thirty years (accelerating in the past ten) as their development shifts east, to Ontario, Quebec, and the Maritimes. Today, electricity co-operatives exist in every Canadian province. They are developing in both urban and rural areas, and are engaged in generation and distribution, as well as in education and retail of new renewable electricity (e.g., solar and wind generation). They are increasingly networking with other renewable electricity players to lobby provincial governments as part of efforts by the community power sector to achieve market support (primarily feed-in tariffs, or FITs<sup>13</sup>) for locally based private renewable development (FCPC 2014, 2015; Lipp, Lapierre-Fortin, and McMurtry 2012).

Electricity co-operatives take numerous forms. One is the generation of power that is then transmitted through the grid and sold to public utilities or private retailers. In Canada, the vast majority of co-operatives working on developing generation have focused on wind and solar power. A second model exists in which co-operative members pool their assets to build (or buy) sections of the distribution system. These co-operatives are concentrated mainly in Alberta and are divided between ones that own *and* maintain the distribution system (self-operating distribution co-ops) and those that own the lines but contract out to other players in the power sector (e.g., Fortis and ATCO Electric) to manage the lines for them. Co-operatives in this sector can also be structured as consumer pools to buy bulk electricity – possible in deregulated retail markets such as Ontario and Alberta – for their members at a lower cost. As well, consumer electricity co-operatives can source products for their members in order to encourage such things as solar panels on housing and energy conservation. In the power sector, worker-owned co-operatives are rare, but possible. At this point in Canada, they are mostly sustainability consulting businesses, but there is a project in Quebec that generates power using biomass from wood waste. Finally, electricity

co-operatives can be structured as nonprofit community associations. These focus on conducting educational campaigns for sustainable and renewable energy, and sometimes, as in the case of the Toronto Renewable Energy Co-operative, act as an incubator for generation co-operative project spinoffs.

Co-operative electricity-generation projects in Canada are just starting to take operational shape. Although some communities have been actively pursuing projects for almost ten years, a range of problems – from grid connection to policy supports to volunteer burnout – have resulted in relatively few projects actually being built. As with all players in the electricity sector, but perhaps more so than most, co-operatives are dependent on state choices; public-policy decisions significantly affect the strength of industrial competitors for co-operatives, as well as market prices and the very basic legislative and legal support for the co-operative form. For example, governments grant co-ops legal and tax status, provide subsidies for local economic or environmental projects, and grant access for electricity co-ops to the distribution grid. In fact, many electricity co-operative projects attempting to connect to the grid in Ontario's Orange Zone (an area where transmission has reached capacity) are stalled because of provincial agreements with nuclear power providers.

This picture may be set to change somewhat as jurisdictions across the country – Ontario, Quebec, New Brunswick, and Nova Scotia – are starting to support co-op developments. In 2011, twelve projects either owned or initiated by co-operatives were generating electricity across the country.<sup>14</sup> Many more are in the project-development phase: nearly 105 MW of installed capacity from wind-power generation co-operatives in New Brunswick, Ontario, and Quebec was awarded power purchase agreements in 2010 (total installed wind capacity in Canada, by comparison, was 8,517 MW in September 2014. According to the Federation of Community Power Co-ops in Ontario (FCPC 2015, 18–21), between 2012 and 2015 in Ontario, a further 108 MW went to co-operative generation projects in FIT rounds, and these organizations hold roughly \$94 million in assets. Investments in these projects ranged from \$1,000 to \$150,000. More than 1,000 separate microFIT contracts in Ontario were also awarded to co-ops<sup>15</sup> (OPA 2012, 2013a, 2014; FCPC 2015). These projects, and many others like them, are explored in more detail in [Chapters 6 and 7](#).

The benefits of co-operative electricity projects transcend material (financial and service provision) benefits. They play a symbolic role in shaping public perception of the possible. Community electricity projects can be

used as demonstration projects and as educative tools to engage broader audiences. This value is often cited by participants and initiators of these projects as a driving goal (Ferrari personal interview, July 23, 2009; personal interview, July 23, 2009; FCPC 2015); it extends beyond monetary gain to the transformative role that projects can play in shaping public opinions, experiences, and, through that, policy. Indeed, the interactive role between the constituencies created by community groups and policy change is well documented (Walker et al. 2007).

The relationship between co-operatives and the broader private sector is both important and problematic. A few key limitations affecting new electricity-generation co-operatives illustrate this. First, rarely are generation projects wholly owned by co-operatives. Ownership and control ranges from 100 percent co-operative, as in the Ottawa Renewable Energy Co-operative, to a minority share in a limited partnership, such as the one between Peace Energy Co-operative, Aeolis Wind Power, and AltaGas on the Bear Mountain Wind Park in British Columbia. A sliding scale thus exists, with a project solely owned by members at one end, and a project owned by a private- or public-sector entity at the other. Most projects are a combination falling somewhere in the middle. Private-sector partners are sometimes keen to work with community-based groups such as co-operatives because they help provide local legitimacy for a project and aid in getting through the environmental assessment and consultation stages. In an industry where years of feasibility studies and approvals are necessary, it can mean significant amounts of wasted time and money if local resistance leads to the cancellation of a project. At the same time, private-sector involvement raises the issue of co-optation of community projects and attendant concerns over the political role of community energy within the broader power sector.

Access to capital is a second challenge and one of the main drivers behind the partnership strategy of project development. It is an especially important issue for generation projects, since they are capital-intensive and require years of development and testing before the returns are realized. This means that a financing structure that recognizes the benefits of community-based enterprise is essential in Canada. Without this, community groups are often restricted to developing either very small (one turbine) projects or to partnering with larger developers (with reduced control and stake). In Germany, for example, farmer-owned wind projects were feasible because the government gave loan guarantees to farmers to develop their wind resource (Gipe 2007; Toke, Breukers, and Wolsink 2008). This gave banks the confidence to

lend and the farmers access to much-needed capital without ceding control to nonlocal developers.

Further assessment of where and how significant contributions are being made by Canadian co-operatives is important in light of challenges and successes in other jurisdictions. What is clear is that the shape and success of these co-operatives is dependent on a wide range of political economy factors. These organizations are providing legitimacy, via community buy-in, to broader shifts toward electricity restructuring and thus play a role in shaping sectoral social, economic, and environmental impacts. This impact occurs whether the ultimate projects are successful or not, though certainly not to the same degree. Electricity-sector restructuring has enabled generation co-operatives, as independent power producers (IPPs), to sell community-based energy to the grid via standard contracts. These electricity co-ops have become possible only as provincial governments open up electricity markets to private actors and energy trading. This raises interesting questions of how co-op actors today view the shifting power in this sector, and the value of public ownership of utilities more generally. Co-ops in this area face not only the challenges of sustainability, visibility, and support but also competition with some of the most powerful corporations in the world. Whether and how they learn to overcome these challenges will provide an important test for any local electricity alternative. The paucity of data on electricity co-operatives, together with the fact that they straddle a range of research areas, makes for a pressing yet rewarding research challenge.

## **Overview of the Book**

Electricity co-operatives in Canada are seeking to develop community-based electricity guided by principles of democratic decision making and local stakeholder – rather than shareholder – control. These co-operatives represent an alternative form of renewable electricity development. Each chapter of this book develops further the core propositions laid out in this introduction, namely that the restructuring of Canadian power sectors is taking place and that the policy choices made impact not only co-operative development and potential but also the safety and security of Canadians. This is, in part, because the green power movement is contributing to a shift away from public ownership of new generation. Electricity co-operatives are enabled by these developments. However, established energy lobbies in the fossil fuel and nuclear sectors retain significant policy influence, so that newer actors and sources face a steep uphill battle. So, despite their democratic and local



appeal, co-operatives are significantly constrained by both internal and external factors in their ability to provide a significant power alternative.

The first two chapters set the structural and theoretical context for my analysis of electricity co-operative development. In [Chapter 2](#), “Governing Sustainability: From Crisis to Empowerment,” I develop a conceptual framework for understanding these electricity co-operatives that embeds their development in a political economy understanding of the often contradictory processes and forces of neoliberal governance. This framework is built with an interest in understanding the ideological and material processes that inform not only co-operative developments in the past but also the potential for these institutions going forward. [Chapter 3](#), “Co-operatives in Canadian Political Economy,” presents the argument for how, why, and where co-operatives may form a more democratic and empowering alternative to other forms of organization in Canada, and explores some of the contradictions and challenges accompanying this form of organization.

The next two chapters focus on developments driving change across provincial power sectors in Canada. [Chapter 4](#), “International Forces for Power-Sector Restructuring,” illustrates how ideologically driven policy choices have prompted a global trend toward restructuring of power sectors in countries around the world. That is, the pressures and changes taking place in Canada are part of global neoliberal processes, embedded in and facilitated by international and continental institutions like the World Bank, Organisation for Economic Co-operation and Development, and Federal Energy Regulatory Commission. [Chapter 5](#), “Continental, Private, and Green(er)? Canadian Electricity Restructuring,” links empirical developments toward new private, green, and community-based power in Canadian electricity to neoliberal governance. In it, I investigate provincial variation in electricity-sector ownership and generation sources with a view to situating co-operative development solidly in the material basis of a given electricity regime. I argue that public policy, not technological or financial necessity, prompted power-sector reforms across Canada. These reforms are accompanied by challenges for the rapid energy-sector transformations required to mitigate ever-increasing GHG emissions. These reforms also bring challenges for both electricity ratepayers and communities more generally.

The second half of the book moves from the political economy context to examining co-operative development in provincial electricity sectors. [Chapter 6](#), “Electricity Co-operatives: The Power of Public Policy,” charts the development of electricity co-operatives across Canada from the 1940s up to 2013, and highlights similarities, differences, and the diverse contributions

these organizations have made through periods of electricity-sector development. Overview data is presented on the total population, geographic distribution, and diversity of electricity co-operatives existing in the country. [Chapter 7](#), “Off the Ground and on the Grid: New Electricity Co-operative Development,” examines in more depth the promises and pitfalls of recent electricity co-operatives, particularly those participating in renewable electricity generation. These include benefits of local economic development and sustainability education, as well as the challenging issues of financing, grid access, and community capacity.

In [Chapter 8](#), “Co-operative Networks and the Politics of Community Power,” I examine the participation and role of co-operatives within policy networks and tensions within the community power movement. The organizational diversity of co-operatives – distribution, generation, consumer, and networking – leads to diverse roles in the electricity sector.

Finally, in the concluding chapter, “Empowering Electricity,” I return to the challenge of developing more democratic, green, and local electricity systems in Canada. Although certainly contributing to community development and control in specific instances, they are at present far from a significant challenge to the broader involvement of for-profit private actors in the electricity sector. This challenge does not preclude future promise though, and this final chapter explores how electricity co-operatives may “scale up” to play an important role in sustainable electricity futures.