



## “It's easy to throw rocks at a corporation”: wind energy development and distributive justice in Canada

Chad Walker & Jamie Baxter

To cite this article: Chad Walker & Jamie Baxter (2017) “It's easy to throw rocks at a corporation”: wind energy development and distributive justice in Canada, Journal of Environmental Policy & Planning, 19:6, 754-768, DOI: [10.1080/1523908X.2016.1267614](https://doi.org/10.1080/1523908X.2016.1267614)

To link to this article: <https://doi.org/10.1080/1523908X.2016.1267614>



Published online: 01 Jan 2017.



Submit your article to this journal [↗](#)



Article views: 1385



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 28 View citing articles [↗](#)



# “It’s easy to throw rocks at a corporation”: wind energy development and distributive justice in Canada

Chad Walker and Jamie Baxter

Department of Geography, Western University, London, ON, Canada

## ABSTRACT

In places like Canada, fast-paced wind turbine development combined with policy that limits local decision-making power has resulted in strong opposition to specific projects. Some studies suggest that anti-wind sentiment is tied to inadequate financial benefits – especially sharing at the local level. Thus, ideas of distributive economic justice have received traction, particularly in the form of praise for community-based development models. This paper reports on the findings from a mixed-methods study concerning preferred distributive justice elements in rural communities in Ontario (technocratic-based model) and Nova Scotia (community-based model) living with turbines. Residents’ perceptions of economic benefits are nuanced, but unlike other studies, this empirical work shows that both the *fair distribution* and the *amount* of local benefits are important predictors of project support. Yet, concerns around the *fair distribution* of benefits dominate in a regression on the adequacy of those benefits. A variety of interview and survey findings further point to the strength of traditional, profit-sharing community-based models for distributing benefits, but also more novel ideas including lowered electricity bills and tax rebates in areas home to turbines.

## ARTICLE HISTORY

Received 13 August 2016  
Accepted 27 November 2016

## KEYWORDS

Energy policy; wind energy; distributive justice; economic benefits

## 1. Introduction and literature review

Despite the need for wind energy as an alternative source of electricity, some jurisdictions – including Ontario, Canada – have faced intense pushback from local communities. According to growing literature, this resistance is partially because of policy which restricts local powers (Baxter, Morzaria, & Hirsch, 2013; Hill & Knott, 2010; Songsore & Buzzelli, 2015; Stokes, 2013; C. Walker, Baxter, & Oullette, 2014). The Green Energy Act of Ontario is one such policy. Developed in 2009, it has severely limited the amount of community involvement during the planning stages – essentially removing local voices and input (Fast et al., 2016; McRobert, Tennent-Riddell, & Walker, 2016). This relationship between policy and local support suggests that issues of procedural justice dominate (see also Hall, Ashworth, & Devine-Wright, 2013; Ottinger, Hargrave, & Hopson, 2014; Zoellner, Schweizer-Ries, & Wemheuer, 2008). Less has been said – particularly in the Canadian context – about distributive justice (Gross, 2007; B. J. Walker, Wiersma, & Bailey, 2014) or ‘the equitable distribution of outcomes’ (Kuehn, 2000, p. 10684) – something that can theoretically be neglected even when procedural matters are made more just.

The concept of distributive justice relates to how (mostly financial) benefits are introduced and shared within communities (Rawls, 2009). In the context of wind energy, benefits can take many forms including group-oriented tax revenues for municipalities, and community funds to more individualized lease payments to landowners ‘hosting’ turbines. More substantial initiatives involve partial or outright ownership of a project by local citizens or community groups who share in the profits (Cowell, Bristow, & Munday, 2011), ensuring that more benefits stay within those communities (Munday, Bristow, & Cowell, 2011). When benefits are not

created, identified, or accepted by individuals in local host communities, feelings of opposition are more likely to manifest (Bronfman, Jiménez, Arévalo, & Cifuentes, 2012; Cohen, Reichl, & Schmidthaler, 2014). Furthermore, rapid growth and support for wind energy have been attributed to the deliberate localization of financial benefits (Bolinger, 2004; Toke, Breukers, & Wolsink, 2008). Denmark and Germany have encouraged community-owned development whereby local residents can share in the profits of the project (Jobert, Laborgne, & Mimler, 2007; Musall & Kuik, 2011; Walker & Devine-Wright, 2008). In development models that focus on 'outsider' investors or developers, though community-based tax and collective community projects (e.g. new recreation centres, parks) are often part of mitigation plans, direct financial benefits for local residents are rare (Brannstrom, Jepson, & Persons, 2011). Recent research in North America (Baxter et al., 2013; Mulvaney, Woodson, & Prokopy, 2013; Slattery, Johnson, Swofford, & Pasqualetti, 2012; C. Walker et al., 2014; Walker, Baxter, Mason, Luginaah, & Ouellette, 2014) is consistent with European research (Gipe, 1995; Mackenzie, 2010; Walker & Devine-Wright, 2008; C. Walker et al., 2014), which suggests that the 'right' type and degree of economic benefits lead to more support for wind energy.

The term 'community-based' as it applies to wind energy development has multiple meanings – indeed, it has been co-opted to mean more than the sharing of profits locally (Bristow, Cowell, & Munday, 2012). There is concern that industry-led initiatives have used the term to their advantage when, for example, community tax benefits are involved (Walker & Devine-Wright, 2008). Our definition of 'community-based' is fairly narrow; it concerns majority ownership or investment from those individuals living close to wind turbines. In this sense, cooperative or other models that involve some 'locals' investing in turbines may not be 'community-based' by our definition if the majority of investors live nowhere near the turbines. 'Community' in this context refers to spatial locality (e.g. those living close by; Walker & Devine-Wright, 2008). For example, our quantitative and most of our qualitative sample frames are made up of those residents living within 2 km of a wind turbine (i.e. a locality).

In efforts to site and build wind turbines that are supported locally, developers are employing more equitable benefit schemes which minimize the gap between so-called winners (lease-holders) and losers (people living close to turbines without compensation) (Gross, 2007; C. Walker et al., 2014). In Exmouth, UK participants were more likely to support a hypothetical development when benefits were communicated in a way that ensured a 'good deal' to communities (B. J. Walker et al., 2014). They suggest that avoidance of speaking about the implementation of 'individual benefits ... may be the most viable way to increase support' (p. 46). Other research has similarly suggested that local acceptance increases, as smaller benefits are seen across the community rather than larger ones given to individuals within it (Cass, Walker, & Devine-Wright, 2010; Ter Mors, Terwel, & Daamen, 2012; Wolsink, 2007). Attitudes to financial and other benefits are also likely bound up with residents' feelings of trust in the wind energy developer – such that being fairly dealt with in the siting process can develop trust and positive attitudes towards any benefits (Hinshelwood, 2001; Walker, Devine-Wright, Hunter, High, & Evans, 2010). Aitken (2010) also suggests that perceptions of unfair economic benefit packages are inextricably linked to feelings of mistrust towards developers. Under community-owned project scenarios, trust is more likely to be fostered under cooperative approaches (Aitken, 2010; Barry, Ellis, & Robinson, 2008; Toke, 2005).

Though some research has looked at ideas of distributive justice and wind energy development generally, unpacking distributive aspects of financial benefits in local communities has been limited. For example, the nuances of what expectations are and what people think of what they have been given in relation to others has rarely been studied. Among the limited set of early papers that do provide nuance, Maruyama, Nishikido, and Iida (2007) suggest that in Japan, investment as profit sharing has the potential to attract local residents and create the effects of a social movement. More often, researchers have asked if benefits were generally acceptable (Baxter et al., 2013; C. Walker et al., 2014; B. J. Walker et al., 2014) or if residents approved of specific benefits such as jobs or tax revenues created (Brannstrom et al., 2011; Slattery et al., 2012).

There is also a group of papers that caution of the problems associated with a focus on compensation alone. Cowell et al. (2011) warn that '[couching] the rationale for community benefits in instrumental terms' or as a tool for compensation of (social) impacts is troublesome (p. 539). They suggest that efforts to increase distributive justice without attention to other important factors including planning processes (i.e. procedural justice) may significantly hinder efforts to build projects that are supported. In addition, Ter Mors et al. (2012), in the broader realm of facility siting, have criticized the 'compensation' literature for focusing almost exclusively on

financial benefits as a means for garnering local support. In this way, we aim to unpack distributive justice as necessary but not sufficient condition of public acceptance.

Even when well intended, payments intended to offset negative externalities from developments like turbines may actually increase public opposition. For example, financial benefits have been criticized by some local residents as bribes or ‘blood money’ (Kleinsteuber, 2016). That is, compensation raises suspicions about mitigation efforts, whereby residents worry that developers see payments as a substitute for maximizing safety (Gregory, Kunreuther, Easterling, & Richards, 1991). This ‘bribe-effect’ has been seen in the wind energy (Baxter et al., 2013; Cass et al., 2010) as well as facility-siting literatures (Claro, 2007; Ferreira & Gallagher, 2010; Frey, Oberholzer-Gee, & Eichenberger, 1996; Ter Mors et al., 2012). Related to hazardous waste siting, inequity of benefit packages has been shown to exacerbate risk concerns in local communities (Kasperson & Kasperson, 2005). In a more general sense, however, psychometric studies show a direct relationship between risks and benefits whereby feelings of risk decline as the perception of benefits increase – suggesting that some risks are relatively acceptable in the face of compensatory benefits (Finucane, Alhakami, Slovic, & Johnson, 2000; Krinsky & Golding, 1992; Renn, 1992; Starr, 1969).

The remainder of this paper compares stakeholders’ views of and experiences with financial benefits in Ontario and Nova Scotia – two Canadian provinces with very different approaches to community benefit strategies. Given the established, mostly European literature that suggests that distributive justice is an important tool for increasing public approval of development, we examine these ideas in jurisdictions where wind turbines are relatively new to the energy landscape. In Nova Scotia – where policy has encouraged some level of community ownership – we expect the perceptions of distributive justice to be stronger than in Ontario where developer-led initiatives without any level of community ownership (profit-sharing) are typical. One existing study has looked at the impacts of economic benefits in Nova Scotia and found that there was a positive relationship between the perception of benefits and concern about negative impacts; however like Cowell et al. (2011), they recommended that offering local investment should not be a substitute for local engagement (Vass, 2013). Research from Ontario finds that the perception of an uneven distribution of benefits predicts opposition to local wind development. In areas where residents saw compensation as fair and deserved, there was a significant and strong correlation with turbine support (Baxter et al., 2013; C. Walker et al., 2014).

The emphasis here is on variance in policy contexts (Mills, Van de Bunt, & De Bruijn, 2006) – one with community profit-sharing required by the policy (Nova Scotia) and one that does not (Ontario). In this way, our study extends the handful of mixed methods studies on how benefits are perceived in the context of wind energy (e.g. B. J. Walker et al., 2014) by asking residents and other stakeholders about their preferred ‘way forward’ in terms of benefit packages in Canada.

### **1.1. Policy contexts of Ontario and Nova Scotia**

Below, the reader is given some background information regarding wind energy policy measures as well as some simple descriptions of the communities studied in Ontario and Nova Scotia. It is critical to underscore context in comparative research as ‘what is possible in one context, may not be elsewhere’ (Walker et al., 2010). Based on our survey sample, Ontario participants were more likely than Nova Scotia sample residents to identify as Conservative (71.6% vs. 25.1%), were slightly less educated (64.6% vs. 70.2% College diploma or higher), and were more wealthy (64.9% vs. 56% with median family income of \$55,000 or more). Based on visual observations of the housing stock, homes in Ontario were generally larger and more recently built than those in Nova Scotia. Further descriptions of all communities can be found in [Table 1](#).

#### **1.1.1. Ontario**

Due in large part to the Green Energy Act and Feed-In Tariff (FIT) programme, recent development in Ontario has been almost entirely developer-led, and not very community-oriented in terms of profit sharing (Fast & Mabee, 2015). The FIT programme historically offered favourable prices (e.g. 11.5 cents/kWh) for electricity generated through renewable technologies (IESO, 2015). Throughout this time, there were also Aboriginal and Community-based ‘price adders’<sup>1</sup> ranging from 0.5 to 1.5 cents/kWh. Recent history in Ontario has

**Table 1.** Research site contexts.

	Community	Project name	Number of turbines (MW)	Population size (est.) <sup>a</sup>	Homes within 2 km of a wind turbine	Type of project/ownership structure
Ontario	Adelaide-Metcalf	Adelaide Wind Power Project	18 (40 MW)	3000	192	Developer-led
	Wainfleet	Wainfleet wind energy project	5 (9 MW)	6400 (Township)	287	Developer-led
	Norwich	Gunn's Hill Wind Farm	10 (18 MW)	10,721 (Township)	227	49% public ownership
Nova Scotia	Canso	Sable Wind Farm	6 (14 MW)	800	187	Municipally owned (51%)
	County of Antigonish	Fairmont Wind Farm	2 (4.6 MW)	4500 (North of Antigonish)	51	Majority developer-led; Minority (35%) community-owned (CEDIF)
	Sheet Harbour	Watt Section	1 (1.5 MW)	800	51	COMFIT; Majority (51%) community-owned
	New Russell	South Canoe	34 (103 MW)	10,600 (Municipality of Chester)	25	Developer-led
	Gaetz Brook <sup>b</sup>	Gaetz Brook Wind Farm	1 (2.3 MW)	2020 (Head of Chezzetcook)	206	COMFIT; Majority (58%) community-owned
	Upper Hammonds Plains <sup>b</sup>	Chebucto-Pockwock Community Wind	5 (10 MW)	1850	58	COMFIT; Majority (51%) community-owned
	Wedgeport <sup>b</sup>	Little River Harbour	1 (1.99 MW)	8300 (District of Argyle)	62	COMFIT; Majority (>50%) community-owned

<sup>a</sup>Population estimates were obtained (when possible) from Stats Canada census data. When these data were not available, estimates were obtained from information obtained through county or municipal offices.

<sup>b</sup>These communities were part of the quantitative sample frame only.

shown that these adders have had only very limited impact in drawing in community investment or municipally owned projects (IESO, 2016). Most new projects continue to deliver the large majority of profits to developers and any individualized benefits go to a relatively small number large-parcel land holders who lease their land to developers for the turbines (Fast & Mabee, 2015).

The three Ontario research sites are set in different, largely agricultural, areas of southern Ontario. They were chosen because they all recently went through siting processes under the Green Energy Act and FIT programmes and thus were developer-led. Adelaide-Metcalf and Norwich are both set in Southwestern Ontario, near the communities of Strathroy and Woodstock, respectively. Wainfleet, Ontario is located in Southern Ontario near the city of St. Catharines and is less agricultural in nature (for full descriptions of each community, see Table 1).

### 1.1.2. Nova Scotia

In Nova Scotia, there have been far more concerted legislative efforts to support community-owned wind energy development and thus keep economic benefits in the province. Since 1999, the province has promoted community-based development through their Community Economic Development Investment Fund (CEDIF) programme – which was created to help Nova Scotians start or invest in local businesses (Vass, 2013). Under this programme, any resident of the province can invest in a wind project – for as little as \$1.30 per share in some cases – and there must be at least 25 investors from the local municipality (Allen, 2014; Vass, 2013). Investments are granted a 35% provincial income tax credit and shareholders gain some decision-making ability through the election of a board of governors (Vass, 2013).

Major renewable energy policy development in Nova Scotia began in 2009, when under pressures to reduce emissions and stabilize electricity prices, participatory processes helped to create new policy (see Adams, Wheeler, & Woolston, 2011). One year later, the government of Nova Scotia formally announced its Renewable Electricity Plan (REP) – which set a target of 25% renewable electricity by 2015 – a goal that has been exceeded (Nova Scotia, 2015). An important part of the REP was the Community Feed-In Tariff (COMFIT) programme

that shared some attributes with Ontario's FIT policy, with the major difference being that corporations were excluded – only CEDIFs and other community groups could hold majority ownership (Vass, 2013). As of October 2016, COMFIT wind energy projects included ownership from CEDIFs, municipalities, not-for-profit groups, universities, and First Nations groups (Nova Scotia, 2016c). In comparison to the more technocratic, developer-led model of Ontario, it appears that the COMFIT and Nova Scotia's other community-based wind initiatives have more promise for realizing more equitable economic benefits at the local level.

In Nova Scotia, we selected six small developments that either fell under the province's COMFIT policy ( $n = 4$ ) or other forms of community ownership ( $n = 2$ ). Only one project was entirely developer-led and relatively large in size (New Russell). In comparison to Ontario-based communities, those in Nova Scotia were generally much smaller and though mostly set in rural areas, were less agricultural (see also Table 1).

## 2. Methodology

We used mixed methods – combining the analysis of interviews and surveys – to investigate the nuances of financial benefits and distributive justice comparatively. The research was carried out in two phases – first 54 in-depth interviews were conducted with residents ( $n = 31$ ), municipal leaders ( $n = 10$ ), developers ( $n = 7$ ), and policy experts ( $n = 6$ ) associated and/or living with rural wind energy developments in Ontario and Nova Scotia. Participants volunteered after they received a letter of information (LOI) outlining the research and their potential participation in it. This LOI was sent to approximately 40% ( $n = 407$ ) of randomly selected homes within 2 km of a turbine in 3 Ontario and 4 Nova Scotia-based communities. A total of 31 interviews with residents took place for a participation rate of 7.6% (6.7% in Ontario; 9.6% in Nova Scotia). A more targeted approach was taken to arrange interviews with developers, municipal leaders, and policy experts across both provinces. Using publicly available information, these people were purposively contacted to represent a range of turbine development companies including ones who had worked in our case communities. The topics covered in the interviews included: views of turbine siting, community conflicts, and benefits and fairness. All interviews were transcribed verbatim and were analysed using an inductive grounded theory approach involving line-by-line coding (Ryan & Bernard, 2003) with the help of NVivo software.

We used the preliminary interpretations of the interviews to create a quantitative survey that was delivered to all homes within 2 km of a wind turbine ( $n = 1346$ ) across the same 7 communities from the interview phase, plus 3 more communities in Nova Scotia. These latter communities were added to increase the sample size to support adequate statistical analysis (Tacq, 2011). Thus, Gaetz Brook, Upper Hammonds Plains, and Wedgeport were added to make a total of 10 communities surveyed (see Table 1). Like the interviews, a LOI was included and participation was voluntary. The questionnaire comprised questions concerning attitudes towards wind energy development, facility siting and developer engagement, economic benefits and fairness, and range of socio-demographic control variables such as age, income, gender, and political affiliation.<sup>2</sup> Respondents indicated their response to most questions on a 5-point Likert scale from strongly agree (1) to strongly disagree (5).

For the quantitative portion of the research, we received a total 240 completed resident surveys ( $n = 127$  in Ontario;  $n = 113$  in Nova Scotia) for a response rate of 17.8%. The overall analytical strategy was to explore the predictors of both support for turbines and perceived adequacy of benefits, first by producing cross-tabs, simple correlations, and *t*-tests with all potential predictor variables against these dependent variables (DVs). The second phase involved regression modelling using only those predictors which were significant in the bivariate analyses, and/or within the literature more broadly. The first regression was a one-stage model with local support as the DV and five distributive justice variables as the independent variables (IVs). The second regression used four blocks of variables to model the 'perceived adequacy of economic benefits' as the DV.

## 3. Findings

In the following pages, mixed-methods results are presented according to key themes that emerged in the conversational interviews. There is a purposeful examination of differences between: (i) provinces and (ii) policy programmes.

### 3.1. The importance of sharing benefits locally

In conversations with those familiar with the policy programmes of both Ontario and Nova Scotia, it was clear that the latter was seen as a ‘better way’ to develop wind energy. Survey results also show that local support (26.9% vs. 79.8%) and approval of the way turbines were planned and built (21.1% vs. 66.1%) were approximately three times higher in Nova Scotia. When asked about what he believed was the most important factor behind the successes in the province, ‘Peter’ who works for a developer who specializes in COMFIT projects immediately cites economic returns:

‘Peter’ (NS): I think the biggest thing is if you can allow people to take on some ownership in the project and provide them with financial returns- it gets a lot more support.

Using the survey data, we ran bivariate correlations between five measures of perceived financial benefits<sup>3</sup> (IVs) and local support (DV) and found strong relationships in the expected direction (i.e. more/equitable benefits correlating positively with more support; not shown).

In a conversation with a policy expert in Nova Scotia, ‘Kathryn’ hypothesized that the COMFIT projects in Nova Scotia work well because when they form the majority ownership group, local owners are much more difficult to despise than outsider owners:

‘Kathryn’ (NS): There doesn’t seem to be the opposition [in Nova Scotia] and maybe ... it’s just hard for someone to stand up and say, ‘I don’t want my community to benefit.’ (Laughing) Whereas [in other places] ... well it’s easy to throw rocks at a corporation because they have a terrible reputation and a lot of it is earned.

From the survey, when asked about community-based development, the majority of the resident respondents thought favourably of the idea. Just over 56% of the overall sample agreed ‘Wind energy development is best when it is owned by local communities’, while only 5.6% disagreed. Approval of community-based development was slightly higher in communities that went through COMFIT or had some degree of community-based initiatives. That these differences are not statistically significantly different by policy or province suggests broad based appeal for the idea of community-based majority ownership programmes.

Despite some preliminary indications, there were exceptions to the idea that community-led development leads to the perception of better outcomes. Though the literature and interview data suggested that having a chance for public investment would correlate with higher levels of support, it did not in Norwich, ON where the proponent offered and received 49% public ownership in their project. Across Ontario, community-based development is rare and so investigating the impact of such a development gives us a unique chance to see how public investment opportunities can work in the province. The survey revealed that there was less support for Gunn’s Hill (21.2%) compared to the Ontario average (26.9%) – despite residents there showing higher praise for all measures of perceived economic benefits than the Ontario average (Table 2).

Further to the idea that policy may influence views somewhat, one third of all Nova Scotia residents agreed with the statement, ‘The local wind energy development in my community has brought with it adequate economic benefits’ – more than twice as much as the Ontario average (Table 2). Table 2 also makes clear that a majority in both provinces feel that *more* payments should be given to the local community (ON – 65.9%, NS – 71.4%) – suggesting that benefits are falling short – even for those Nova Scotia residents living near community-based projects.

### 3.2. Differing views of financial benefits

In Ontario, many residents we spoke with were unfamiliar with the idea that turbines could bring with them more substantial financial benefits than currently exist. The few we interviewed who were familiar generally had negative views of such benefits, full stop – like Lauren who says that any benefits without addressing health issues ‘feels toxic’:

**Table 2.** Perception of benefits in Gunn's Hill, Ontario, and Nova Scotia.

Per cent who agree:	Gunn's Hill (%)	Ontario <sup>a</sup> (%)	Nova Scotia (%)
The local wind energy development in my community has brought with it adequate economic benefits	18.8	15.5	33.0
The positive impacts of the existing wind power project are distributed fairly within the local community	6.1* <sup>b</sup>	4.4	17.7
All residents have been adequately compensated for the negative impacts of the existing wind power project	5.9	5.5	8.0
More financial benefits should be given to the local community	55.9*	70.3	75.2
I was aware of opportunities to invest or own part of my local project	45.5*	9.2	17.3 <sup>c</sup>

<sup>a</sup>Excludes Gunn's Hill.

<sup>b</sup>\*Significantly different from Ontario average ( $p = .05$ ).

<sup>c</sup>Even though 17.3% were aware of investment opportunities, Nova Scotia respondents still had the highest percentage reporting they felt that economic benefits were adequate.

'Lauren' (ON): I've never felt comfortable with [spreading financial benefits]. ... So if my husband was suffering from the migraines from that noise it would be like his boss coming up to him and saying, 'well we'll give you another 100 bucks a week to continue to suffer.' You know? 'But won't that soften it?' No ... it becomes blood money. It feels toxic.

Even a supporter of wind energy in Ontario acknowledged that introducing community benefits draws a fine line between providing a 'genuine' offset and being 'bought off':

'Sandy' (ON): You know the one thought [I have] is 'Well that's just the wind mafia buying you off.' The other thought is 'Yes we genuinely want you to benefit because you're going to be looking at the thing.' So which one is the right answer on that? I'm not exactly sure.

The need to introduce more community benefits to allow residents to 'escape' was also a theme in interviews. Among survey respondents, 75% of residents agreed that a fund should be established to pay fair market value for those unable to tolerate turbines, while 73% believed that more benefits should be given to those close to turbines. There were no significant differences by province or policy in this strong desire for greater local benefits. This is in spite of statistically significant provincial differences across 'negative impact categories' in communities with wind turbines – including health effects and property values (see Table 3).

Particularly by developers we spoke with, financial compensation was often linked to feelings of jealousy. From their perspective, financial compensation is needed in order to address the situation where landowners holding turbine leases tend to be the only beneficiaries – as is the case across the large majority of projects in Ontario. To contrast, the approach taken in Nova Scotia was one that often 'spread [benefits] ... to a bunch of other landowners'.

'Brian' (NS): In trying to address anti-wind sentiments ... number one is jealousy and that's generally related to financial contributions so we're always trying to find a way to socialize that cost, not just to pay one land owner but to spread it to a bunch of other landowners so it's more equal spread, you know?

**Table 3.** Perceived negative impacts of wind energy development by province.

	Province	Percentage agreeing	t-test of means sig. (p-value)
I have experienced negative health effects due to the wind turbines.	ON	15.8	.00*
	NS	5.5	
The value of my property and/or dwelling has decreased due to the wind turbines.	ON	46.2	.00*
	NS	15.6	
I find the natural landscape in my community less appealing due to the wind turbines.	ON	63.6	.00*
	NS	27.5	
I enjoy spending time outdoors less due to the wind turbines.	ON	31.7	.00*
	NS	12.8	
I invite guests over to my home less frequently because of the wind turbines.	ON	17.5	.00*
	NS	3.7	

\*Statistically significant difference between mean response ( $p < .05$ ).



Such characterizations of jealousy can understandably breed resentment though. For example, ‘Macy’ – an opponent of wind turbines in Ontario – says that jealousy did not figure into her case, since she had a lease offer, but still refused:

‘Macy’ (ON): A lot of people were saying ‘oh you don’t want them just because you couldn’t get them over there.’ Well we [had] the opportunity to sign up ... We chose not to. So it’s not that we’re those people that just don’t want them because everyone else has them and we’re jealous.

We were interested in further exploring the relationship between perceived benefits and local support for wind energy (Table 4). A simple one-stage regression model was run with the question ‘I support the existing wind power project in my community’ as the DV against five dimensions of distributive justice (IVs) to unpack the relative contributions of each towards residents’ approval of their local project. The variables directly related to equity, community benefits and a fund being created to help those ‘escape’ were all statistically significant – underscoring the importance of broad and fair financial benefits for turbine support.

### 3.3. Criticisms of ‘local’ profit-sharing and compensation

Though there was strong support for community-based wind energy in Nova Scotia in particular, some we spoke with pointed out flaws in the COMFIT programme. The most popular argument against the initiative was that not all projects were actually owned by local communities. This idea was discovered during an early interview with ‘Shannon’ who was unaware of the opportunity to invest in her local project:

‘Shannon’ (NS): I wonder who the investors are around that [turbine] ... Who are they and what’s their investment? I know they’ve got a financial investment but what are the risks to other people and what investment do they have? Do they live here?

Indeed, ‘Shannon’s’ concerns regarding the conditions of investment under the CEDIF programme are warranted. Under the CEDIF option, there needs to be only 25 local investors, and the rest can be from anywhere in the province. ‘Kathryn’, a policy expert, describes how CEDIF investors are generally from outside the local project.

‘Kathryn’ (NS): Let’s be frank ... you could have 25 bankers in Sydney and that could theoretically be your community involvement for wind turbine development, you know, in South Harbor, which is nowhere near Sydney!

While investment opportunities were made popular in Nova Scotia, policy has limited these options in Ontario. Alternately then, if the focus going forward is on local compensation rather than local investment, ‘Graeme’, a developer from Ontario, is concerned that the cost would be too high to move towards ‘[paying] everyone’ not just the lease-holders – thus creating a threat to the cost-competitive nature of wind energy:

‘Graeme’ (ON): One of criticisms of wind energy is that the rate being paid is too high so that’s why they’ve introduced the competitive process [in Ontario] so that the cost of energy is as low as possible. You can’t have it both ways, you know, you

**Table 4.** Regression analysis (local support as DV;  $R^2 = .414$ ).

	Standardized coefficients (beta)
The positive impacts of the existing wind power project are distributed fairly within the local community	.337**
All residents have been adequately compensated for the negative impacts of the existing wind power project	.225**
More financial benefits should be given to the local community for having turbines	.169**
More financial benefits should be given to residents living close to turbines	-.001
A fund should be established to pay fair market value to households who must move because they cannot tolerate the negative impacts of turbines	-.250**

Note: Dependent variable: I support the existing wind power project in my community.

\*Significant at the  $p = .05$  level.

\*\*Significant at the  $p = .01$  level.

can't say 'we want this energy from wind to be cost competitive' and then also say 'but you have to pay everybody in the community.' Those are opposing forces.

Likewise, 'Roger', a small-scale developer (NS), notes that COMFIT has also led to more 'red tape' – 'piling on high levels of complexity and complication in business dealings that ... [cause] extra expense'.

### **3.4. Suggestions about community benefits moving forward**

A common thread in conversations about financial benefits was the idea that in one form or another, more local residents should be paid. This finding is not entirely surprising given that most residents feel that the current system is unfair. 'Angelo' who is part of the team who developed Ontario's Gunn's Hill project – and the opportunity for local investment starting at \$1000 dollars – explains that community-based development is something people 'want to be a part of':

'Angelo' (ON): We want to give anybody in the community the opportunity to invest. It is very expensive to have an investor that just invests 1000 dollars because you are carrying that administrative burden for 20 years but I said ... almost anybody can then say, 'Yeah I will be part' or 'I want to be part of that.'

While most people we spoke with had positive opinions of financial benefits, there was less consensus regarding just what form of benefits should be introduced. Some, including Brian, suggested that employing local contractors and labour is good start towards localizing benefits.

'Brian' (NS): Hiring local contractors is like the best thing you can do. They know the community ... if it's a civil contractor they know the soils, they know where the rock is they know where the gravel is. They know the neighbours ... you know the neighbours recognize their trucks ... They're great community champions.

Beyond local contracting, interviews brought forth ideas about localizing financial benefits by lowering residents' electricity bills. 'Graeme', who has experience in building turbines in Europe where this type of initiative has been implemented, thinks that this may help avoid accusations of bribery.

'Graeme' (ON): I was kind of pushing toward ... to hydro bill contribution because then it's not perceived as a bribe you know it's like a direct, 'We're building a wind project to generate electricity and we'll contribute to your hydro bill from this project', you know? So it can't be perceived as some sort of buy-off or anything it's a benefit and it's a tangible benefit linked to wind

More surprisingly, 'Joanne', who was staunchly opposed to wind turbines in her community of Wainfleet, Ontario admitted that introducing benefits through reduced hydro rates, though it may not lead to acceptance, could take the 'sting out of all the nastiness':

'Joanne' (ON): I think it might be a little bit more widely accepted, the fact that well, okay I'm going to slam a turbine or five of them into a community if we could all have lower hydro rates, yes, that might take some of the sting out of all of the nastiness that goes along with these darn things.

Overall, our survey showed that more than 75% of our respondents (77% in Nova Scotia) support the idea of a programme that would lower electricity bills in households living close to turbines. Of those indicating opposition to their local project, 83.1% would like to see reduced electricity bills. The fact that those against wind energy in their community were significantly more likely to desire a reduction in the cost of electricity underscores the potential power of this idea.

### **3.5. Final regression: predictors of adequacy of financial benefits**

To better understand what predicts local residents' approval of benefit packages, we ran regression models using the question 'The local wind energy development in my community has brought with it adequate economic benefits' (Table 5) as the DV. The general hypothesis is that both the total amount of benefits and the degree to which they are shared (i.e. equity) will be among the most powerful and significant predictors of perceived adequacy. Variables were entered in four blocks, two of which represented groups of variables suggested by the literature and preliminary analyses, and two acted as controls (i.e. demographic and provincial variables).

Somewhat surprisingly, the fair distribution of benefits grossly dominates the regression models with a standardized regression coefficient varying between 0.90 and 0.74 ( $p < .05$ ), which seems to drown out the ‘more financial benefits’ measures. The only other variable that was significant was household income ( $B = -0.254$ ), suggesting that those with higher income are more likely to perceive adequate benefits. The relative statistical power of the equity variable indicates that quantity is not as important as the distribution of economic benefits.

#### 4. Discussion

This comparative case study of policy programmes in Canada highlights stark differences in various aspects of perceived economic benefits and support for local wind energy development. This work adds to the growing literature that suggests that resistance to wind energy in Canada is at least partially due to the policy levers used in areas going through energy transitions (Baxter et al., 2013; Fast et al., 2016; McRobert et al., 2016; Song-sore & Buzzelli, 2015; Stokes et al., 2013; C. Walker et al., 2014). It also shares some common elements with established literature from Europe that shows that *appropriate* local benefits are associated with higher levels of local support (Bronfman et al., 2012; Cohen et al., 2014; Toke et al., 2008).

**Table 5.** Four-stage regression analysis<sup>a</sup> (adequacy of benefits<sup>b</sup> as DV).

	Model 1	Model 2	Model 3	Model 4
<i>General opinion of benefits</i>				
More financial benefits should be given to community	-.017	-.017	.096	.132
More financial benefits should be given to residents	.129	.064	.041	.388
Positive impacts are distributed fairly	.909**	.824**	.756**	.827*
The project pays sufficient taxes	.38	.045	.050	.118
Construction and operation staff were local	.079	.064	.158	.261
Model 1: $r^2 = .852$				
<i>Negative impacts of turbines</i>				
Experienced negative health effects		.006	-.064	-.243
Property or dwelling has lost value		-.061	-.144	.532
Landscape is less appealing		.061	.141	-.213
Turbine noise is annoying		-.179	-.234	-.085
There are threats to wildlife		-.002	.055	.048
Turbines have created community conflict		.099	.051	-.031
Model 2: $r^2 = .871$				
<i>Provincial and policy context variables</i>				
Ontario (Nova Scotia)			.297	.278
Public ownership (%)			-.148	-.326
COMFIT (no)			.014	-.220
Electricity production is one of the most important issues in my province			.078	.133
Fossil fuels pose a climate change threat			.078	-.268
Fossil fuels pose a threat our economy			.058	.308
Trust in wind developer to make fair decisions			-.59	.172
Model 3: $r^2 = .909$				
<i>Demographic variables</i>				
Male (female)				-.252
Age				-.229
Political view				.080
Years in community				.059
Education				.133
Annual family income				-.254*
Turbine on property (no)				.376
Model 4: $r^2 = .973$				

<sup>a</sup>The first two blocks of variables were chosen because of suggestions in the literature and/or were strongly correlated (.235–0.743;  $p = .000$ ) with the DV. The final two blocks were added as controls.

<sup>b</sup>The local wind energy development in my community has brought with it adequate economic benefits’. Distribution of benefits and ‘adequate economic benefits’ were tested for multi collinearity and showed that they are not related in that way (Pearson correlation of .654).

\*Standardized regression coefficients were statistically significant at the  $p = .05$  level.

\*\*Standardized regression coefficients were statistically significant at the  $p = .01$  level.

While it is perhaps not surprising that we find strong support for community benefits generally (Slattery et al., 2012; Walker, Baxter, Mason, et al., 2014), one of the main contributions here is the focus on the nuanced relationship between *amount* and *fairness of distribution* (i.e. more localization of profits). Our final regression model predicting the *adequacy* of economic benefits is dominated by the *fairness* measure, while the *amount* variables were not significant. Though this may create the impression that policy and financial benefit measures should focus on the distribution of payments and other benefits, the finding is set in the context of a sample where a majority feel that the amount of financial benefits they are receiving is not enough either. The take-away message may be that fairness predicts differences between overall perceptions of local benefits, while amount is so universally a concern it does not. Indeed, as some have recently suggested, the existence of benefits in and of themselves is not a sufficient precursor for local support (Jepson et al., 2012; Maruyama et al., 2007; Stokes, 2013; Walker & Devine-Wright, 2008; B. J. Walker et al., 2014). Thus, while fair distribution may go a long way to satisfying concerns about economic benefits, the overall amount no doubt matters as well.

This study also sheds light on how people talk and think about the ways that fairer distribution might be achieved, namely through investment opportunities, compensation, and rebates on electricity bills. Though a majority of the survey sample was in favour of community ownership, both those supportive and opposed to wind energy were sometimes against financial benefits, often for different reasons. Among those with pro-wind attitudes, there were those who felt directly paying non-lease holding locals is not entirely necessary, though this must be tempered with the findings of Baxter et al. (2013) and C. Walker et al. (2014) that show financial that benefits in Ontario are significant predictors of support. Thus, benefits in the context of daily life are more complicated than the simplistic dichotomy of ‘in favour’ versus ‘in opposition’. Among those against their local project, there were claims that benefits were bribes or blood money in order to quell real and immediate concerns (e.g. health, property values). However, just as recent studies in Ontario have shown that safety is expressed an important concern (Songsore & Buzzelli, 2015; C. Walker et al., 2014; Walker, Baxter, & Ouellette, 2015), our work here suggests that residents opposed to turbines also feel that lack of local financial benefits is a problem. Thus, financial benefits should not be used as a replacement for minimizing facility risks. Indeed, ensuring that things like health, noise, and property value loss mitigation are addressed is important regardless of financial benefits distribution.

There is a danger that the findings here may be read to support the idea that financial benefits should not go to local residents because compensation may be perceived as bribery. To be clear, the starting-point of this study, supported by the findings here, is that the status quo in places that pay lease-holders only is largely perceived to be a broken facility-siting model (Baxter et al., 2013). Our findings show that financial benefits strongly predict that dissatisfaction. Thus, current methods of providing direct payment only to turbine lease-holders and ‘community funds’ to cover the remainder of the community will likely not fix problems in Ontario.

In terms of policy comparisons, our findings about COMFIT – a programme designed to promote local, community-based profit-sharing – may have implications for policy communication. Surprisingly, when responses to the statement ‘wind energy development is best when owned by local communities’ were compared, residents living near COMFIT projects (61.8%) were slightly more likely to agree than those living near non-COMFIT projects (55%). This may be explained by the curious, and perhaps scandalous, fact that a relatively small percentage of people (18.9%) were aware of the opportunities to invest in Nova Scotia. This suggests a gap between theory and practice in terms of having communities invest in their local renewable energy project. This deserves further unpacking to understand both awareness of investment opportunities and how people react to such opportunities once faced with them. The ‘community-based’ projects we studied were not grass-roots developments; rather, they were often projects brought to the communities by outside interests – one possible explanation for the apparent lack of uptake of investment from locals.

The inter-provincial comparisons of community-based project deployment reinforced the well-known phenomenon that stage of development is a strong predictor of resident concern (Edelstein, 2004). That is, the one community-based investment project in Ontario that was approved but not operational at the time of the research had relatively low levels of local support. It is well understood in the facility-siting literature that levels of concern are highest at this stage, just prior to becoming operational (Baxter et al., 2013; Wolsink,

2007). Survey results corroborated the finding that Gunn's Hill had higher levels of perceived economic benefits across all questions asked within the survey – though support was significantly lower than the Ontario average. Another possible explanation for results seen in Gunn's Hill may be that the 49% (local) public investment did not give locals the controlling share, unlike COMFIT projects in Nova Scotia which requires a majority stake (51% or more) to be awarded. Numerically, this 2% difference is small; but in practice, control over a project may be most important to local residents (Varghese, Krogman, Beckley, & Nadeau, 2006). Exploring the role local control plays in support for community-based development of wind is fodder for future work.

While much of our findings support the idea that the community-based development leads to better outcomes – at least in terms of local support – residents had two key criticisms of such 'local' profit-sharing models. First, some who were intimately familiar with the details of the CEDIF option – which makes up the large majority of COMFIT projects (Nova Scotia, 2016c) – claimed that investors do not need to be local or live in the community at all. Indeed, based on information produced by the government of Nova Scotia (2016a), CEDIFs must only have 6 directors and 25 investors from the 'defined community'. Outside of that, it seems that investors can reside anywhere in the province. Second, the perception of too much 'red tape' associated with COMFIT was tied to concerns about higher than necessary electricity rates. Indeed, the rates given for large wind energy production (13.1 cents/kWh; Nova Scotia, 2016b) were much higher than the price awarded under Ontario's recent and first competitive bidding programme (as low as 6.45 cents/kWh; IESO, 2016).

In contrasting the nuances of support across provinces, we concede that it is operationally challenging to isolate the impact of distributive justice from procedural justice. Perhaps because of this, most existing research in Canada does not distinguish the two (Baxter et al., 2013; Denis & Parker, 2009; Vass, 2013; C. Walker et al., 2014). We focus on distributive justice here in order to add depth to our understanding of financial benefits and wind energy in Canada. Nevertheless, to echo the advice of Cowell et al. (2011), we suggest that due attention must also be paid to procedural justice. Our findings must be tempered with Ter Mors et al.'s (2012) criticism that the 'compensation literature' assumes too tight an inverse connection between local support and community benefits – the type of relationship supported in the risk literature as well (Finucane et al., 2000; Starr, 1969). There is much more going on, and continued efforts to disentangle the impact of benefits from other procedural issues related to siting remain worthwhile conceptually. Yet, for practitioners, the distinction may seem less relevant on the surface if procedural matters (e.g. offering of electricity bill rebates) are also distributive remedies. However, without knowing what residents value, uncritically following any single solution is bound to be fraught with difficulties.

## 5. Conclusion

Moving forward, it is important to note that especially during the planning stages of wind development, conversation in the community may include debate regarding the type of community benefit model that will be introduced. As has been implemented in Scotland,<sup>4</sup> Canada might benefit from the creation of a registry whereby residents, developers, and local councillors can view the range of community benefits that have been used across the country. This may force developers to more critically think about their benefit schemes, while more generally such a registry provides residents a much-needed informational resource.

It is ironic and potentially worrisome that the policy programmes of both Ontario and Nova Scotia seem to be moving away from community-based development. For example, Ontario's new competitive procurement process has eliminated attractive FIT pricing for all developments including ones that could ostensibly be community-based and grass-roots with high percentage local ownership. Under these current conditions, substantial community ownership is more financially risky than in the past and therefore unlikely to take place at all. This may increase levels of opposition and ultimately threaten the long-term success of the industry. Though proponents are now stressing the merits of competitive pricing, it may also create less room for financial benefits in local communities. Meanwhile, the cancellation of Nova Scotia's successful COMFIT programme may mean that like Ontario, cost-cognoscente objectives leave less room for any local economic benefits – equitably distributed or otherwise.

## Notes

1. These 'price adders' increased the price given for renewable energy produced by up to 1.5 cents/kWh depending on equity level.
2. A copy of the full survey is available to readers upon request.
3. These survey questions were: the local wind energy development in my community has brought with it adequate economic benefits; the positive benefits were distributed fairly; all residents have been adequately compensated for the negative impacts of the existing wind power project; more financial benefits should be given to the local community for having turbines; and more financial benefits should be given to residents living close to turbines.
4. The Government of Scotland initiated a website (<http://www.localenergyscotland.org/view-the-register/>) called the Community Renewables Register which outlines among other things, the benefit structure (i.e. community buy-in, fixed payments) and where funds were spent.

## Acknowledgements

The authors would like to thank all the participants we spoke with and/or took the time to fill out a survey. We realize that the topic of wind energy development can be a difficult one, especially in communities deeply divided over the issue. We also like to thank Karen VanKerkoerle for the help we received in creating figures and formatting the submission.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Funding

This work was supported by the George Cedric Metcalf Charitable Foundation.

## Notes on contributors

*Chad Walker* is a PhD Candidate in the Department of Geography at Western University.

*Dr Jamie Baxter* is a Professor of Geography and Associate Dean of Social Science at Western University.

## References

- Adams, M., Wheeler, D., & Woolston, G. (2011). A participatory approach to sustainable energy strategy development in a carbon-intensive jurisdiction: The case of Nova Scotia. *Energy Policy*, 39(5), 2550–2559.
- Aitken, M. (2010). Wind power and community benefits: Challenges and opportunities. *Energy Policy*, 38(10), 6066–6075.
- Allen, C. (2014, April 10). Investors sought for Wedgeport turbine. *Yarmouth County Vanguard*. Retrieved from <http://www.thevanguard.ca/>
- Barry, J., Ellis, G., & Robinson, C. (2008). Cool rationalities and hot air: A rhetorical approach to understanding debates on renewable energy. *Global Environmental Politics*, 8(2), 67–98.
- Baxter, J., Morzaria, R., & Hirsch, R. (2013). A case-control study of support/opposition to wind turbines: Perceptions of health risk, economic benefits, and community conflict. *Energy Policy*, 61, 931–943.
- Bolinger, M. (2004). Community-owned wind power development: The challenge of applying the European model in the United States, and how states are addressing that challenge. *Lawrence Berkeley National Laboratory*.
- Brannstrom, C., Jepson, W., & Persons, N. (2011). Social perspectives on wind-power development in West Texas. *Annals of the Association of American Geographers*, 101(4), 839–851.
- Bristow, G., Cowell, R., & Munday, M. (2012). Windfalls for whom? The evolving notion of 'community' in community benefit provisions from wind farms. *Geoforum*, 43(6), 1108–1120.
- Bronfman, N. C., Jiménez, R. B., Arévalo, P. C., & Cifuentes, L. A. (2012). Understanding social acceptance of electricity generation sources. *Energy Policy*, 46, 246–252.
- Cass, N., Walker, G., & Devine-Wright, P. (2010). Good neighbours, public relations and bribes: The politics and perceptions of community benefit provision in renewable energy development in the UK. *Journal of Environmental Policy and Planning*, 12(3), 255–275.
- Claro, E. (2007). Exchange relationships and the environment: The acceptability of compensation in the siting of waste disposal facilities. *Environmental Values*, 16(2), 187–208.

- Cohen, J. J., Reichl, J., & Schmidthaler, M. (2014). Re-focussing research efforts on the public acceptance of energy infrastructure: A critical review. *Energy*, 76, 4–9.
- Cowell, R., Bristow, G., & Munday, M. (2011). Acceptance, acceptability and environmental justice: The role of community benefits in wind energy development. *Journal of Environmental Planning and Management*, 54(4), 539–557.
- Denis, G. S., & Parker, P. (2009). Community energy planning in Canada: The role of renewable energy. *Renewable and Sustainable Energy Reviews*, 13(8), 2088–2095.
- Edelstein, M. R. (2004). Sustainable innovation and the siting dilemma: Thoughts on the stigmatization of projects and proponents, good and bad. *Journal of Risk Research*, 7(2), 233–250.
- Fast, S., & Mabee, W. (2015). Place-making and trust-building: The influence of policy on host community responses to wind farms. *Energy Policy*, 81, 27–37.
- Fast, S., Mabee, W., Baxter, J., Christidis, T., Driver, L., Hill, S., ... Tomkow, M. (2016). Lessons learned from Ontario wind energy disputes. *Nature Energy*, 1, 15028.
- Ferreira, S., & Gallagher, L. (2010). Protest responses and community attitudes toward accepting compensation to host waste disposal infrastructure. *Land Use Policy*, 27(2), 638–652.
- Finucane, M. L., Alhakami, A., Slovic, P., & Johnson, S. M. (2000). The affect heuristic in judgments of risks and benefits. *Journal of Behavioral Decision Making*, 13(1), 1–17.
- Frey, B. S., Oberholzer-Gee, F., & Eichenberger, R. (1996). The old lady visits your backyard: A tale of morals and markets. *Journal of Political Economy*, 104, 1297–1313.
- Gipe, P. (1995). *Wind energy comes of age* (Vol. 4). New York: John Wiley & Sons.
- Gregory, R., Kunreuther, H., Easterling, D., & Richards, K. (1991). Incentives policies to site hazardous waste facilities. *Risk Analysis*, 11(4), 667–675.
- Gross, C. (2007). Community perspectives of wind energy in Australia: The application of a justice and community fairness framework to increase social acceptance. *Energy Policy*, 35(5), 2727–2736.
- Hall, N., Ashworth, P., & Devine-Wright, P. (2013). Societal acceptance of wind farms: Analysis of four common themes across Australian case studies. *Energy Policy*, 58, 200–208.
- Hill, S. D., & Knott, J. D. (2010). Too close for comfort: Social controversies surrounding wind farm noise setback policies in Ontario. *Renewable Energy Law & Policy Review*, 153–168.
- Hinshelwood, E. (2001). Power to the people: Community-led wind energy – obstacles and opportunities in a South Wales Valley. *Community Development Journal*, 36(2), 96–110.
- IESO. (2015). *Independent energy system operator. Home: price schedules*. <http://fit.powerauthority.on.ca/program-resources/program-archives/priceschedules>
- IESO. (2016). *Large renewable procurement. Independent energy system operator*. <http://www.ieso.ca/Pages/Participate/Generation-Procurement/Large-Renewable-Procurement/default.aspx>
- Jepson, W., Brannstrom, C., & Persons, N. (2012). ‘We don’t take the pledge’: Environmentalism and environmental skepticism at the epicenter of US wind energy development. *Geoforum*, 43(4), 851–863.
- Jobert, A., Laborgne, P., & Mimler, S. (2007). Local acceptance of wind energy: Factors of success identified in French and German case studies. *Energy Policy*, 35(5), 2751–2760.
- Kasperson, J. X., & Kasperson, R. E. (2005). *The social contours of risk: Publics, risk communication and the social amplification of risk* (Vol. 1). London: Earthscan.
- Kleinsteuber, N. (2016). Deal is ‘Bribery with blood money’: Mayor. *Quinte News*. <http://www.quintenews.com/2016/03/agreement-bribery-with-blood-money-mayor/111733/>
- Krimsky, S., & Golding, D. (1992). *Social theories of risk*. Westport, CT: Praeger.
- Kuehn, R. R. (2000). A taxonomy of environmental justice. *Environmental Law Reporter*, 30, 10681–10703.
- Mackenzie, F. (2010). A common claim: Community land ownership in the Outer Hebrides, Scotland. *International Journal of the Commons*, 4(1), 319–343.
- Maruyama, Y., Nishikido, M., & Iida, T. (2007). The rise of community wind power in Japan: Enhanced acceptance through social innovation. *Energy Policy*, 35(5), 2761–2769.
- McRobert, D., Tennent-Riddell, J., & Walker, C. (2016). Ontario’s green energy and green economy act: Why a well-intentioned law is mired in controversy and opposed by rural communities. *Renewable Energy Law and Policy Review*, 7(2), 91–112.
- Mills, M., Van de Bunt, G. G., & De Bruijn, J. (2006). Comparative research persistent problems and promising solutions. *International Sociology*, 21(5), 619–631.
- Mulvaney, K. K., Woodson, P., & Prokopy, L. S. (2013). A tale of three counties: Understanding wind development in the rural Midwestern United States. *Energy Policy*, 56, 322–330.
- Munday, M., Bristow, G., & Cowell, R. (2011). Wind farms in rural areas: How far do community benefits from wind farms represent a local economic development opportunity? *Journal of Rural Studies*, 27(1), 1–12.
- Musall, F. D., & Kuik, O. (2011). Local acceptance of renewable energy- A case study from Southeast Germany. *Energy Policy*, 39(6), 3252–3260.
- Nova Scotia. (2015). *Our electricity future: Nova Scotia’s electricity plan 2015–2040*. Retrieved from <http://energy.novascotia.ca/sites/default/files/Our-Electricity-Future.pdf>

- Nova Scotia. (2016a). *Community economic development investment funds*. Retrieved from <http://novascotia.ca/business/CEDIF/>
- Nova Scotia. (2016b). *Community Feed-In Tariff program: Facts*. Retrieved from [http://energy.novascotia.ca/sites/default/files/comfit\\_facts.pdf](http://energy.novascotia.ca/sites/default/files/comfit_facts.pdf)
- Nova Scotia. (2016c). *COMFIT project status list*. Retrieved from <http://energy.novascotia.ca/sites/default/files/files/Copy%20of%20DRAFT%20Comfit%20Status%20as%20of%20October%206%2C%202016.pdf>
- Ottinger, G., Hargrave, T. J., & Hopson, E. (2014). Procedural justice in wind facility siting: Recommendations for state-led siting processes. *Energy Policy*, 65, 662–669.
- Rawls, J. (2009). *A theory of justice*. Cambridge, MA: Harvard University Press.
- Renn, O. (1992). *Concepts of risk: A classification*. Westport, CT: Praeger.
- Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes. *Field Methods*, 15(1), 85–109.
- Slattery, M. C., Johnson, B. L., Swofford, J. A., & Pasqualetti, M. J. (2012). The predominance of economic development in the support for large-scale wind farms in the US Great Plains. *Renewable and Sustainable Energy Reviews*, 16(6), 3690–3701.
- Songore, E., & Buzzelli, M. (2015). Wind energy development in Ontario: A process/product paradox. *Local Environment*, 20(12), 1428–1451.
- Starr, C. (1969). Social benefit versus technological risk. In T. Glickman, & M. Gough (Eds.), *Readings in Risk* (pp. 183–194). New York: Resources for the Future.
- Stokes, L. (2013). The politics of renewable energy policies: The case of feed-in-tariffs in Ontario, Canada. *Energy Policy*, 56, 490–500.
- Tacq, J. (2011). Causality in qualitative and quantitative research. *Quality & Quantity*, 45(2), 263–291.
- Ter Mors, E., Terwel, B. W., & Daamen, D. D. (2012). The potential of host community compensation in facility siting. *International Journal of Greenhouse Gas Control*, 11, S130–S138.
- Toke, D. (2005). Explaining wind power planning outcomes: Some findings from a study in England and Wales. *Energy Policy*, 33(12), 1527–1539.
- Toke, D., Breukers, S., & Wolsink, M. (2008). Wind power deployment outcomes: How can we account for the differences? *Renewable and Sustainable Energy Reviews*, 12(4), 1129–1147.
- Varghese, J., Krogman, N. T., Beckley, T. M., & Nadeau, S. (2006). Critical analysis of the relationship between local ownership and community resiliency. *Rural Sociology*, 71(3), 505–527.
- Vass, T. (2013). *What is the significance of 'community' wind energy? The influence of local project initiation, participation, and investment on local perceptions of small-scale wind energy projects in Nova Scotia* (Undergraduate Thesis). Dalhousie University, Nova Scotia, Canada.
- Walker, B. J., Wiersma, B., & Bailey, E. (2014). Community benefits, framing and the social acceptance of offshore wind farms: An experimental study in England. *Energy Research & Social Science*, 3, 46–54.
- Walker, C., Baxter, J., Mason, S., Luginaah, I., & Ouellette, D. (2014). Wind energy development and perceived real estate values in Ontario, Canada. *AIMS Energy*, 2(2333–8334), 424–442.
- Walker, C., Baxter, J., & Ouellette, D. (2015). Adding insult to injury: The development of psychosocial stress in Ontario Wind Turbine communities. *Social Science & Medicine*, 133, 358–365.
- Walker, C., Baxter, J., & Ouellette, D. (2014). Beyond rhetoric to understanding determinants of wind turbine support and conflict in two Ontario, Canada communities. *Environment and Planning A*, 46(3), 730–745.
- Walker, G., & Devine-Wright, P. (2008). Community renewable energy: What should it mean? *Energy Policy*, 36(2), 497–500.
- Walker, G., Devine-Wright, P., Hunter, S., High, H., & Evans, B. (2010). Trust and community: Exploring the meanings, contexts and dynamics of community renewable energy. *Energy Policy*, 38(6), 2655–2663.
- Wolsink, M. (2007). Wind power implementation: The nature of public attitudes: Equity and fairness instead of 'backyard motives'. *Renewable and Sustainable Energy Reviews*, 11(6), 1188–1207.
- Zoellner, J., Schweizer-Ries, P., & Wemheuer, C. (2008). Public acceptance of renewable energies: Results from case studies in Germany. *Energy Policy*, 36(11), 4136–4141.