

Voices on the wind:
An analysis of framing, credibility, and fairness in Ontario's wind power
development

By

Duncan Alexander Moore Martin

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Abstract:

Wind energy generation has expanded rapidly in Ontario over the past decade and will continue to grow for the foreseeable future. Those opposed to wind developments have been left few avenues to express their dissent. The anti-wind movement has a marginal voice in light of broader support for wind development in Ontario, as urban areas host both wind support and the majority of Ontario's population. The ways in which anti-wind groups are framed in public media has an impact on how these groups are viewed. Through the review of 112 newspaper articles, this study identifies the frames applied to wind projects by both anti-wind groups and wind energy advocates and the frames these groups applied to themselves and to their opponents. This research assessed the credibility and accuracy of individual frames. It was found that the frames anti-wind groups use to support their opposition to wind projects are not credible. The frames used by anti-wind groups to criticize wind development are more credible, but are obfuscated by their discredited anti-wind frames. This paper concludes that the anti-wind movement in Ontario has been treated fairly in the development of wind power projects in the province.

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THE WIND.

Of all the sounds despatched abroad,
There's not a charge to me
Like that old measure in the boughs,
That phraseless melody

The wind does, working like a hand
Whose fingers brush the sky,
Then quiver down, with tufts of tune
Permitted gods and me.

When winds go round and round in bands,
And thrum upon the door,
And birds take places overhead,
To bear them orchestra,

I crave him grace, of summer boughs,
If such an outcast be,
He never heard that fleshless chant
Rise solemn in the tree,

As if some caravan of sound
On deserts, in the sky,
Had broken rank,
Then knit, and passed
In seamless company.

- Emily Dickenson

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Abbreviations and Terms:

GEA	Green Energy Act
MMWTWG	Multi-Municipal Wind Turbine Working Group
NIMBY/ism	Not In My Back Yard
LULU	Locally Unwanted Land Use
FIT	Feed In Tariff
EIA	Environmental Impact Assessment

Introduction:

Wind power generation has grown rapidly in the province of Ontario. The first turbine in Ontario was installed in 1995, only 20 years ago (Canadian Geographic, June 2009). In the years since, Ontario has seen 1,852 turbines installed, with provincial plans of building over 6000. This phase of rapid development has shifted the ways in which wind energy projects are planned, legislated and implemented, as well as the forms of local engagement involved.

Local objection to wind energy projects began to pose a barrier to the expansion of the industry in 2003. Municipalities started to impose strict stipulations on proposed wind developments, sometimes refusing developments outright when they were not consistent with 'good planning'(Manning & Vince, 2010). Special interest groups, founded to oppose wind developments, lobbied municipalities to enact these strict stipulations. At a municipal level in rural Ontario this became a central issue in politics as early as 2003 and support for wind developments in municipal councils was scarce by 2009 (Talaga, 2010; Walker, Baxter, & Ouellette, 2014).

Rural and urban areas of Ontario had become polarized in their positions on wind energy generation. Opinion polls have found that Ontario overwhelmingly supports wind generation. Early polls conducted in 2002 indicated 70% of Ontarians supported broader development of wind energy in the province (Prince Edward County, 2002). By 2009 this rose to 87-89% of Ontarians supporting development of wind energy production (Baxter, Morzaria,

& Hirsch, 2013). Urban centers are the central source of wind generation support, as well as hosting more than 86% of the provinces population (Ministry of Industry, 2011). Although the majority of Ontarians supported increased development of wind energy, many rural residents faced with living in close proximity to these turbines did not. Local oppositional pressures on rural municipal councils led to slow and incongruent development of wind energy. Ninety rural townships and counties in Ontario that have passed specific resolutions stating that they are ‘unwilling hosts’ to wind turbine developments (Walker et al., 2014).

The local opposition to wind farms from residents and upper and lower tier municipalities represented a formidable barrier to the continued development of wind energy production in Ontario. This barrier not only posed a threat to the approval of specific projects, but also greatly affected the likelihood that these projects could secure the necessary private financing for development, as chances of development approval seemed to be rapidly shrinking (Etcheverry, O’Malley, & Taylor, 2009). The municipal approval process was thus very problematic for the provincial government, which was faced with high public demand for, and formidable local opposition to wind energy projects.

Similar barriers in Europe had been studied, with findings supporting “an emphasis on procedural efficiency and overcoming the barriers arising from the planning process” for the purpose of overcoming local resistance (Ellis, et al. 2009, p.543). In Ontario, such procedural efficiencies were achieved through the implementation of the Green Energy Act (GEA). The GEA included major changes to municipal planning, the result being that “municipalities ... lost all of

their powers to block, alter, or control renewable energy generation projects” (Manning & Vince, 2010, p.6). The Ontario provincial government passed the GEA in 2009 to establish a feasible development process for wind energy by, in part, stripping municipalities of their ability to prevent wind energy developments within their municipal or regional boundaries. From the perspective of a province seeking to encourage development: “... the Green Energy Act process is much better than the patchwork process that once existed.”(Brenk, 2014, p.2) When announcing the GEA, then premier of Ontario, Dalton McGuinty stated:

"We're going to find a way through this new legislation to make it perfectly clear that NIMBYism will no longer prevail when it comes to putting up wind turbines, solar panels and biofuel plants." (Leslie, 2014, p.1)

The GEA represented a drastic shift in the ways in which green energy projects, including wind, would be approved. Municipal approval was no longer required (Manning & Vince, 2010). This limited the ability of local actors to influence, control, object or otherwise engage with wind project proposals through local authorities (ibid).

The streamlined approval process was coupled with significant subsidies for green energy through a Feed In Tariff (FIT) program (Etcheverry et al., 2009). The FIT program created an economic model in which development of wind would become much more profitable and attractive to developers (ibid). Paradoxically, the same elements of the GEA that were implemented to circumvent local opposition added to the motivations for oppositional movements who now could also express fear at the loss of their municipal

autonomy and discontent towards the FIT model of taxpayer-subsidized development (Leslie, 2013, Etcheverry et al., 2009).

The urban-support, rural-opposition dichotomy represents a challenge to planners. Nadaï and van der Horst show that “developed countries are indeed in principle in favor of [renewable energy], in practice the proposed facilities have often given rise to considerable public concerns” (2010, p.181). This gap between principle and practice is epitomized in Ontario. Urban residents lack ‘in practice’ experience with wind developments and are strongly supportive of wind development. This is contrasted with their rural counterparts who have direct experience of wind projects and who display discontent, frustration and explicitly object to continued wind turbine development (Walker, Baxter, & Ouellette, 2014). Rural residents cite a variety of concerns over wind projects including concerns about health, economics, local autonomy, and environmental impacts (Walker et al., 2014). These concerns are examined by Devine-Wright, who explains:

“Despite a range of studies being carried out on public attitudes towards renewable energy technologies, genuine understanding of the dynamics of public acceptance remains elusive”(2007, p.10).

Aitken supports this claim, going on to explain that contemporary literature displays a bias, in that antecedently:

“The fundamental intention for considering public attitudes or reactions to renewable energy appears to be to understand community responses in order to mitigate negative perceptions and opposition in the future and therefore ensure greater rates of planning approval”(Aitken, 2010, p.1838).

The bias in favour of wind developments has led to a series of strategies aiming to eliminate effective opposition, while often avoiding consideration of the

credibility of wind opponents (ibid). The biased assessment of oppositional motivations encourages proponents of wind energy to frame problems in ways that discredit, undermine and shame the concerns of wind energy opponents. Such negative framing poses a barrier to overcoming conflict, as it discourages an open and productive dialogue between actors (Bardwell, 1991).

This paper examines the dialogue concerning wind energy developments in Ontario. It investigates how stakeholders are presented to the broader public in print news. It asks what the motives of wind opponents are and if the motives for wind opponents are credible. Through the review of 112 newspaper articles, this study identifies the frames applied to wind projects by both anti-wind groups and wind energy advocates and the frames applied to these groups to themselves and to their opponents. This paper goes on to find that the collective action frames applied by anti-wind groups- the frames that anti-wind groups use to support their opposition to wind projects - are not credible. This study concludes that dialogue between wind proponents and anti-wind groups is largely fueled by misinformation and discredited framing of issues and actors. This study will add to a growing body of literature seeking to accurately and effectively identify the positions of both wind proponents and opponents in Ontario in order to encourage productive dialogue between actors.

Literature Review

Problem Framing

Goffman describes the purpose of problem framing as “to locate, perceive, identify, and label” problems (1974, p.21). His understanding focuses on the act of classification of problems as an intuitive element of the problem-solving process. Problem framing is now also studied as a persuasive tool used to influence opinions by displaying selective elements of important issues (Purcell, 2009; Forester, 2007). Problem framing accomplishes this through use of strategic themes and terminology to cultivate a perception of issues that is most agreeable for the actor applying the frame (Forester, 1982). It is also identified in instances where decisions are rushed- before all identified costs, benefits, and risks are clear, and before reasoned weighing of costs and benefits can take place (Innes, 1998). Problem framing is seen regularly in public forums and is often employed to sway public opinion. This happens by placing importance and emphasis on specific features of a problem while ignoring other features (Bardwell, 1991).

When engaging in problem framing, actors are involved in the production, presentation and dispersion of meaning for constituents, antagonists, bystanders or observers (Snow & Benford 1988). Snow & Bedford show that framing “...is active in the sense that something is being done, and processual in the sense of a dynamic, evolving process” (2000, p.614).

Bardwell, (1991) suggests that problem framing can result in inadequate problem exploration leading to misallocation of time and resources in the effort

to solve the wrong problem, solving a solution (trying to make an inappropriate solution work), stating problems too generally or aiming to achieve an agreement on a solution before there is agreement on what the problem is. Through inadequate problem exploration, all actors are prone to fixate on elements of a problem or solution that treat symptoms or consequences of a larger problem. She goes on to argue that through clear and open dialogue these complications are less likely to occur.

Framing in the media:

Mass media is ideally situated to frame actors publicly because it is capable of “placing an issue or topic on the agenda so that it becomes the focus of public attention”(McCombs, 1977, p.90). Scheufele & Tewksbury assert that “how an issue is characterized in news reports can have an influence on how it is understood by audiences”... going on to further explain how “different presentations of essentially identical decision-making scenarios influence people’s choices and their evaluation of the various options presented to them” (2007, p.11). Media has a large capacity for influencing public opinions and public decision-making.

Framing of wind opposition:

Anti-wind movements rely on the creation of a collective understanding of issues in order to self organize and self promote. The clarity of this collective message can determine the ability of wind opponents to attract and retain membership and is central to the movements’ identity (Polletta, Jasper, & Jasper,

2014). Understanding is created and mobilized through the employment of collective action frames. Collective action frames are the generally agreed upon statements of fact and value that act to solidify a common action orientation and hone a clear message.

"[C]ollective action frames are not merely aggregations of individual attitudes and perceptions but also the outcome of negotiating shared meaning"(Gamson, 1992, p.111).

In the context of Ontario's wind development, collective action frames serve as the cohesive and fundamental motivations for wind opposition. Wind opponents have clear sets of collective action frames that represent the ideological base for calls to action (Schlager, 2015). Some of these frames will be identified and analyzed in the results and analysis sections of this paper.

Local wind opposition groups have been widely examined for their legitimacy, motivations and influence over the development of the wind sector. Devine-Wright, through a review of contemporary literature, identifies 8 major categories of oppositional motivations to wind farm development (2005). These categories have been applied to rural Ontario by Walker, Baxter, & Ouellette, in their study of public perceptions of wind farms (2014). The major predictors of wind opposition were found to be "health impacts, visual appeal, benefits and compensation, and the siting process" (Baxter et al. 2013, p.10).

Economic distribution of benefits and costs:

Toke, (2005) has conducted quantitative research on factors influencing planning outcomes in turbine developments. Toke (2005) shows that localized economic benefit to host communities is positively correlated with local support

for the development. Walker, Baxter & Ouellette's conclusions found "that sharing of financial and other tangible benefits among households in the vicinity of local turbines predicts turbine support" (2014, p.12). This indicates that the form of local benefits may affect how accepting communities are of wind turbines.

Walker, Baxter & Ouellette provide a notable addition to the growing number of local, national and international qualitative case studies that demonstrate local communities' perceptions of unfair and disproportionate allocation of costs and benefits in the development of wind farms. In a Scottish context, Warren and McFadyen, found that:

"The reasons given for support included economic benefit, and a perception of greater fairness (equitable sharing of costs and benefits)" (2010, p.209)

Restructuring of financial incentives in Ontario are supported by Walker, Baxter, & Ouellette, who advocate "implementing smooth contours of financial benefits for homeowners outward from turbines rather than stark dots of all and nothing" (2014, p.13). Zoellner et al. found that the distribution of economic benefits and costs are determinants of mutual trust between stakeholders and that fairness, trust and acceptance are all interrelated in the wind development process (2008).

In pursuit of satisfying these principles, numerous forms of cooperative development models have been employed, most notably in the Netherlands and Denmark (Warren & McFadyen, 2010). These cooperative models rely on community ownership of wind turbines, with a contoured dispersion of benefits

based on proximity to turbines, with only slight increases in benefits for landowners. It has been found that these processes help bind communities together, as they require stakeholders to be inter-reliant. Cooperative wind developments allow for communities to design locally specific regulations beyond the regulations set by government. These are formed through participatory community engagement processes.

These models do have notable drawbacks as well. Warren and McFadyen show “the reduced economies of scale and the greater administrative burden relative to large, private sector windfarms” (Bolinger, 2001; Warren & McFadyen, 2010, p. 210). Ashok shows how this poses a barrier to rapid and efficient development as well as a barrier to the energy efficiency of the wind developments once built (Ashok, 2007). Morthorst concludes that development models are either cooperative, inclusive and empowering to the local communities with risks of inefficient and costly energy generation and transmission, or they are economically and technologically efficient with little social benefits to host communities (1999). He goes on to explain that this is a continuum and that developments should seek to balance technocratic and social benefits on a development-specific basis (ibid).

Political & institutional literature:

Nadaï and van der Horst demonstrate that policies enacted on a macro-scale focus too narrowly on “streamlining the planning and implementation process” (2010, p.181) going on to explain how:

“Gaining planning permission through top-down fast-streaming of the decision making process carries the risk of alienating stakeholders and the

public- a risk which could be ameliorated through a lengthier but more inclusive process of participative planning.” (Nadaï & van der Horst, 2010, p.181)

Ellis interprets the lack of participative planning in this context as a serious problem, going so far as to suggest that the current wind development planning model “calls into question the rhetoric of participation in planning, the meaning of procedural efficiency and what is seen as the ultimate function of the planning process” (2009, p.525). Indeed, participatory planning is widely advocated in the literature as confirmed by Wolsink (2007), Mann and Jeanneaux (2009), and Aitken (2010). The lack of public empowerment, as perpetuated by top-down planning strategies, is shown to omit key themes from important decision-making processes by Wolsink, who states:

“Decision making on renewable power facilities does not usually include the most important discussion point for public stakeholders, which in the case of wind farms is the choice of the location.” (Wolsink, 2007, p.1204)

The stressing of procedural efficiency through top-down planning stand in contrast to the ideals of participatory planning, as the virtue of participatory methods lies with its ability to build mutual understanding and form mutually beneficial planning outcomes (Fox-Rogers & Murphy, 2013). Szarka (2004) shows that in order for conflict to be mitigated or averted, discourses must be founded in “economic rationality, ethical–normative values and communicative rationality” (Szarka, 2004, p.328).

This dialogic ideal is contrasted to Szarka’s findings of the actual nature of current discourses, which shows evidence of poor communication on both sides of the conflict. Proponents of wind development “[have] shown particular skill

in side-stepping indeterminacies within the expert discourses of science and economics by appeal to an ethical–normative frame” serving to “[translate] multi-layered decision-making into simplistic moral charges” (Szarka, 2004, p.328). Pralle shows that wind opponents do this through the use of ‘trade-off frames’, which demonstrate the less-well-known costs of wind farms and wind energy production (2011). Pralle focuses on instances where problem framing concerning wind surrounds a cost-benefit weighing of presented material (2011).

A number of framing relationships are present in the literature on wind developments. Wind opponents frame themselves, and also frame wind proponents. Wind proponents frame themselves and frame wind opponents as well. A large element of the wind development debate is concerned with the justification or rationalization of opposition to wind developments (Aitken, 2010). Those who support wind power, and those who oppose it alike seek to demonstrate credibility for their positions. This is done by either affirming one’s own position, or discrediting contrary positions. The hypothesis that stimulated this research was that there was credibility to the arguments of wind opponents and that they have not been effectively heard. The implication was that wind opponents have not been treated fairly.

Methods:

To test this hypothesis a cross-section of articles from selected publications were examined. Three non-consecutive years were chosen to demonstrate the evolution of public discourse around wind turbines in Ontario

since the implementation of the GEA. The years chosen were 2009, the year the GEA was introduced, 2011, and 2014.

Newspaper publications were chosen for this study for their prevalence in both rural and urban Ontario and their accessibility. Local and provincial publications were selected to provide variance in spatial scope. It was assumed that provincial level publications would represent a more urban viewpoint while local publications from rural areas would reflect a more local response to projects proposed or developed. This provincial versus local selection would allow for a wider range of articles demonstrating attitudes towards wind developments; prevalence and frequency of wind development issues; prevalence of issues related to wind developments, and frames applied to wind projects and to wind proponents or opponents.

The publications were chosen for their scope, either provincially circulated or locally circulated in a rural area. These scopes were chosen in order to contrast the discussions at provincial and local levels. Local publications were selected in regions where there had been wind development exposure, a sizable wind opposition movement, and municipal engagement with wind turbines. These publications were the Stratford Harold Beacon, The Listowel Banner, and the Owen Sound Sun Times. The Stratford Harold Beacon and the Listowel Banner were chosen for their proximity to a 26-turbine development that was strongly opposed by local residents- ultimately resulting in a retraction of the development proposal. The Owen Sound Sun Times was chosen as its distribution extends across Grey County and is in close proximity to two wind energy projects with a combined 19 turbines. There are similarities in these two

areas concerning the form and organization of opponents, size of the developments and municipal position- as both Perth and Grey counties have passed 'Not-Willing-Host' resolutions in protest of wind developments within their boundaries. The provincial publication chosen was the Globe & Mail- the second most widely circulated newspaper in Canada and a good representation of provincial attitudes (Krashinsky, 2011).

For the three years selected (2009, 2011, 2014), all articles that discussed wind turbine development- in any capacity- were identified. The articles were analyzed with Qualtrics (an online survey tool). The research instrument was designed to record the prevalent attitudes of each article as well as the terms and themes used to frame projects, opponents, and proponents of wind turbine developments in Ontario. Attitudes were identified for how they related to the subject of articles- either supportive, neutral or critical of wind projects or wind opponents or proponents. Information was collected on whether the surveyed articles were reporting on local or provincial scope; if the article offered a framing of wind proponents, or wind opposition, both or neither (if left blank). The survey instrument made use of a 5 point Likert scale to assess if the article framed wind opposition and wind support in a positive, neutral, or negative light.

Terms/Themes were collected in four categories: positive and negative frames of both wind opponents and wind proponents. The resulting data indicates not only the prevalence of terms/themes, but also their most prevalent uses.

In order to record the general attitudes of articles they were assessed for whether they discussed wind opposition or wind promotion or were neutral.

Articles that were critical of the subject were marked “negative” those who presented supportive arguments for the subject were marked “positive”. The ‘neutral’ option was included for articles that did not discernably favour or criticize the subjects. The results yielded 6 possible outcomes for the content of articles:

Subject:	Critical of Subject (Negative)	Supportive of Subject (Positive)	Neutral
Wind Opponents	Outcome 1: Articles critical of Wind Opponents	Outcome 2: Articles supportive of Wind Opponents	Outcome 3: Neutral discussion of Wind Opponents
Wind Proponents	Outcome 4: Articles critical of Wind Proponents	Outcome 5: Articles supportive of Wind Proponents	Outcome 6: Neutral discussion of Wind Proponents

This separation of the articles allows for them to be evaluated for the types and prevalence of attitudes expressed towards wind opponents and wind proponents.

Results:

General (all articles)

This study reviewed 112 articles on wind turbine developments in Ontario. 18 Of these articles were from 2009, 43 from 2011 and 51 from 2014.

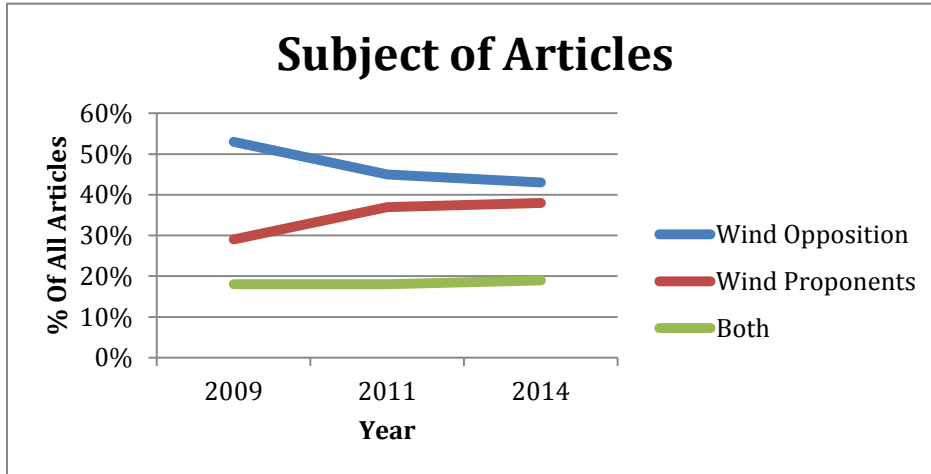
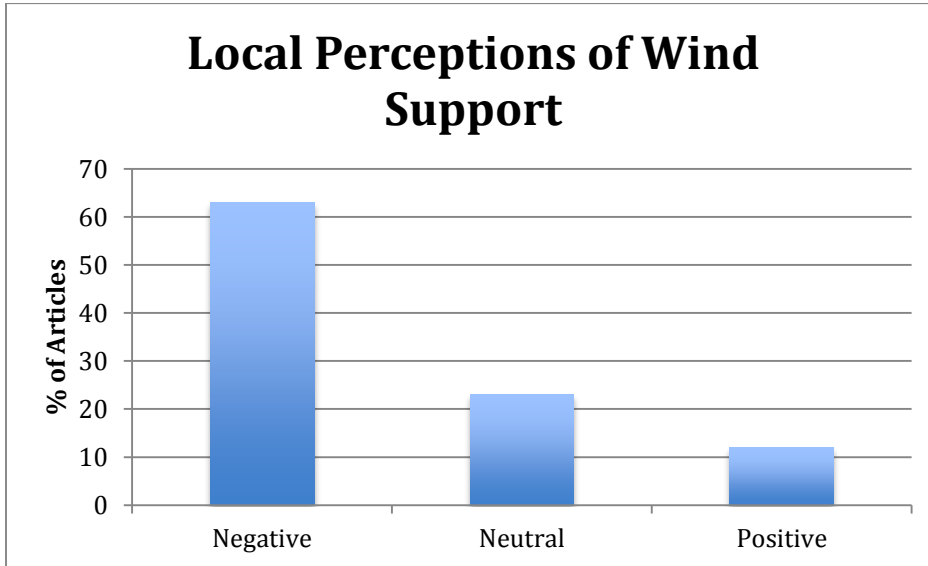


Figure 1: Subject of articles over time

The reviewed articles show wind proponents predominantly framed negatively. This indicates that on balance these articles do not favour wind development. The reviewed articles also demonstrate that wind opponents are generally framed positively, indicating that these articles support the anti-wind groups. In both cases, 2014 was the most neutral of the years, meaning that a similar number of articles were in favour of or against wind developments.

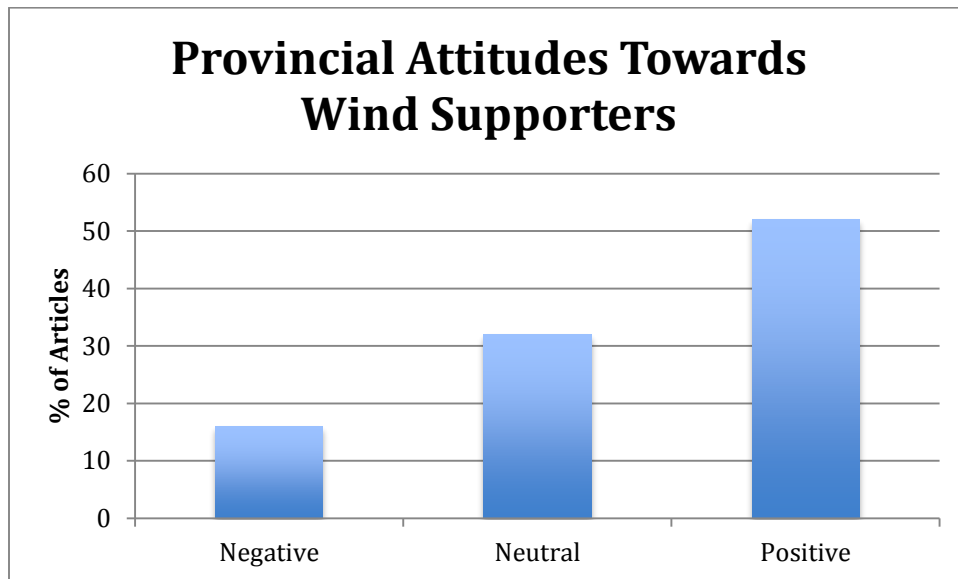
Framing Wind Proponents

Local articles framing wind proponents:



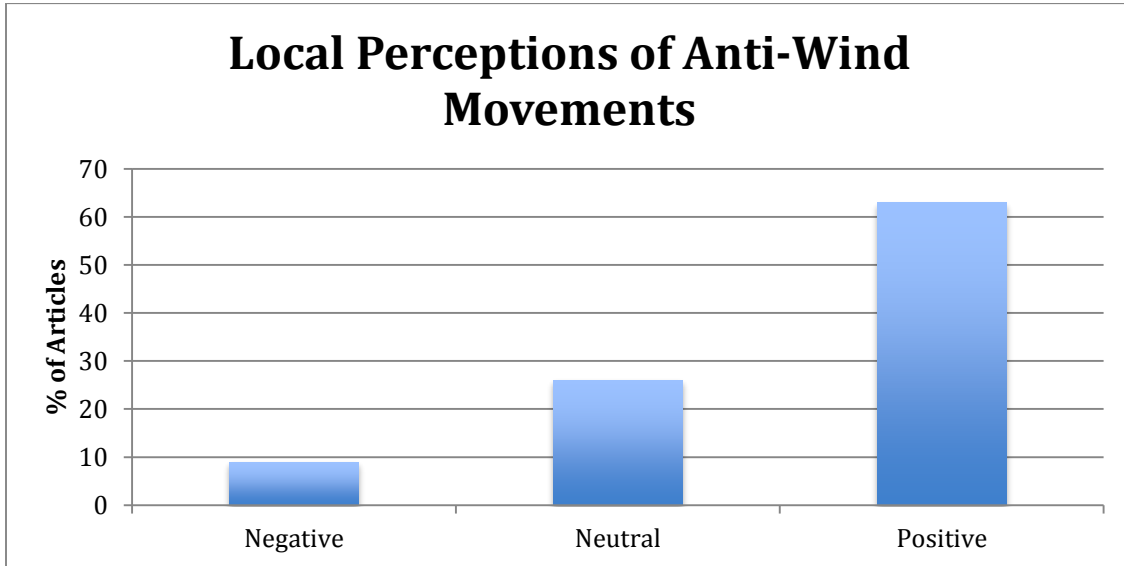
Local perceptions of wind development are starkly contrasted to the provincial perceptions. Local articles tended to present wind proponents as negative or very negative (63%). Only 23% of articles remained neutral towards wind proponents. Positive and very positive articles- those that supported wind development- accounted for only 12% of local articles.

Provincial articles framing wind proponents:



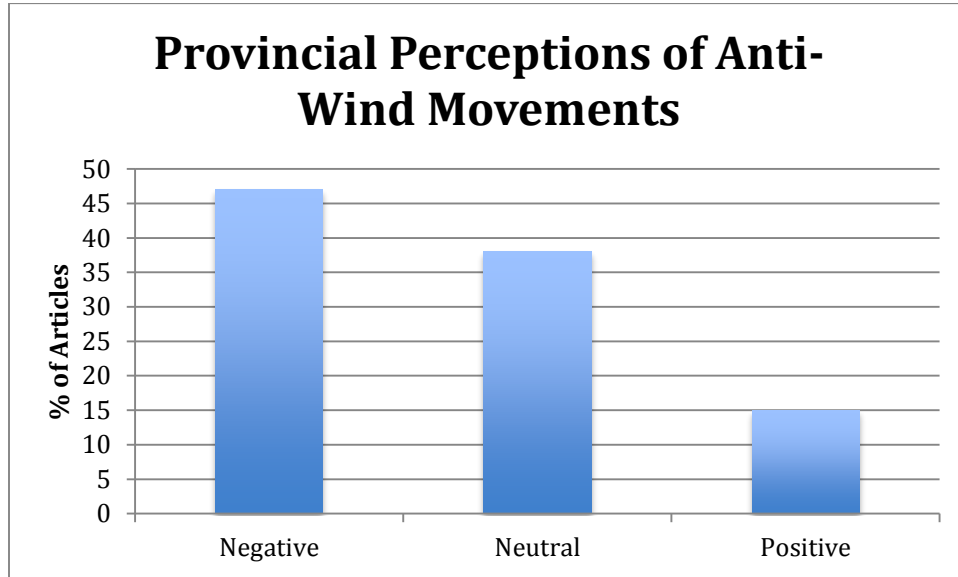
Provincial articles were more supportive of wind development, presenting wind supporters positively or very positively in 52% of articles. Articles remaining neutral towards wind development accounted for 32% of articles. Only 16% of provincial articles were critical of wind proponents, presenting them negatively or very negatively.

Opposition to Wind Developments
Local articles framing wind opponents:



Local papers supported anti-wind movements, presented anti-wind groups as positive or very positive in 63% of the articles. Neutral attitudes towards anti-wind groups were presented in 26% of local articles. Articles presenting anti-wind groups as negative and very negative were presented in only 9% of articles. Local papers are thus shown to facilitate a predominantly critical view of wind developments, as the opposition to wind is favored by the majority of local articles on wind.

Provincial articles framing wind opponents:



The provincial paper presented wind opponents as negative or very negative in 47% of articles. Neutral attitudes towards anti-wind groups were presented in 38% of provincial articles. Wind opponents elicit the highest rate of neutral attitudes, with 38% of articles framing them as neither good nor bad. Positive and very positive articles about wind opponents are present in 15% of provincial articles.

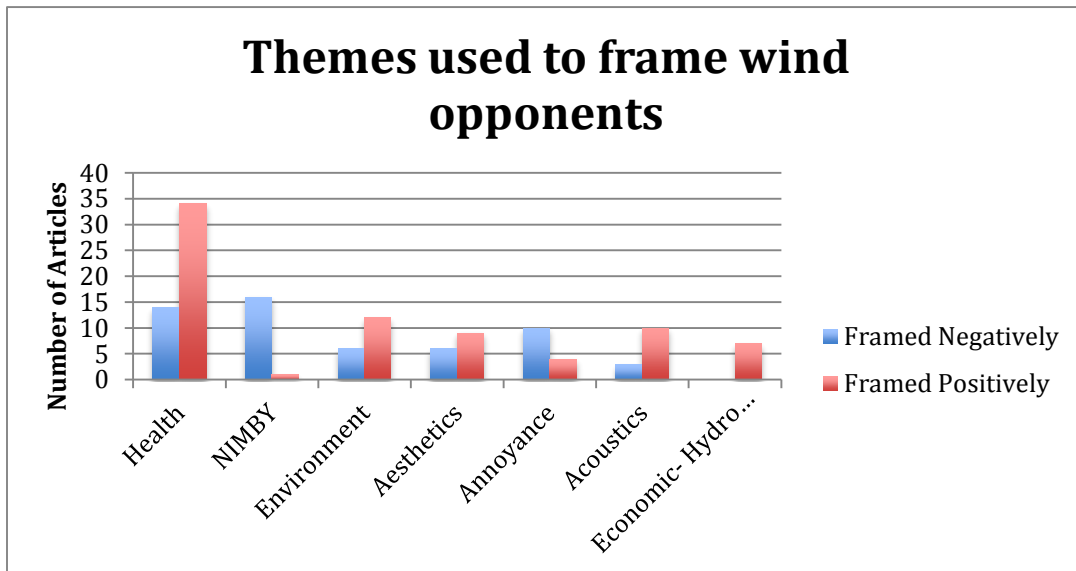
	Top 5 Positive Frames	Top 5 Negative Frames
	Wind Opponents	Wind Opponents

Wind Opponents	supported through frames focusing on: <ol style="list-style-type: none"> 1. Health 2. Environment 3. Acoustics 4. Aesthetics 5. Hydro Costs 	criticized through frames focusing on: <ol style="list-style-type: none"> 1. NIMBY 2. Health 3. Annoyance 4. Aesthetics 5. Acoustics
Wind Proponents	Wind Proponents supported through frames focusing on: <ol style="list-style-type: none"> 1. Environment 2. General Economics 3. Health 4. Technological 5. Hydro Costs 	Wind Proponents criticized through frames focusing on: <ol style="list-style-type: none"> 1. Politics 2. Process 3. Hydro Costs 4. Construction 5. Economics- General

Use of Terms and Themes in Framing of Actors

Framing of Wind Opponents

Top 5 frames used to support wind opponents:



1. Health:

There are 34 instances of health themes being used to support the fight against wind power. Wind opponents expressed concerns about negative health impacts as a substantial, direct and avoidable consequence of wind turbine developments. Health concerns were expressed using terms such as: ear ache, ringing and pressure in the ear, headache, migraines, tinnitus, dizziness, radiation, sick, ill, blood pressure, heart rate, hair loss, sleep deprivation and anxiety. Many health comments did not specify the form of health impacts.

Health concerns were linked to political, technological and acoustic issues. Health also served to frame wind developments as dangerous and unregulated:

“I must prove [the wind turbine] will harm me, where if I was a drug company, they would have to prove they were safe...the wind company does not have to do that.”(Perkel, 2015, p.2)

2. Environment:

Wind opponents linked negative environmental impacts to wind developments in 12 articles. Negative environmental impacts focused on a local scope and displayed distrust over the maintenance of the wind turbines:

“Imagine, 25 metres by 25 metres and 10 metres deep of cement and reinforced metal bars covered with three feet of topsoil. In 20 years the cement will decay, the metal bars will be oxidized and potentially leak into the water table, contaminating water wells, waterways, small lakes and eventually Georgian Bay.” (Annan, 2011, p.2)

3. Acoustics:

Wind opponents use the theme of acoustics 10 times in the reviewed articles to illustrate negative impacts. Acoustics is linked with themes of health and annoyance and is viewed by wind opponents as the primary cause of adverse

health effects of wind turbines. For this reason, when used by wind opponents, acoustics is used to illustrate credibility and substance to claims about negative health impacts. Anti-wind groups particularly focus on the impacts caused by ‘infrasound’, an inaudible wavelength that is scientifically linked to health impacts beyond the level of 90db, and impacts of annoyance between the ranges of 50-70db (Jakobsen, 2009). Acoustic themes are also tied to the distrust and bad faith between wind opponents and wind developers. Opponents of wind show that they feel deceived, as “[Local residents] were reassured by the wind company that the turbines were as quiet as a whisper in a library and would be no trouble...” leading to an initial acceptance of wind turbine developments in some areas, making the subsequent rejection of turbines on the basis of acoustics even more acrimonious, with wind opponents stating broad consequences of:

“...sleep deprivation night after night after night from both audible noise and from a “humming” that seems to come up through the pillow. The severity of this changes with the weather and wind speed... headaches, tinnitus, unexplained anxiety, muscle and joint aches and hypertensive episodes. Some talk about feeling their own heart trying to beat in time with the rotating turbines. Some have sores that won’t heal, earaches and chest pain.” (Gillis, 2009, p. 1)

4. Aesthetics:

Wind opponents are supported by aesthetic themes in 9 articles. The negative impacts on landscape views were the most common aesthetic reference. This included both daytime and nighttime complaints, including regular references to shadows in the day and blinking red lights at night. For wind opponents, wind turbines present a threat to the character of rural communities

and negatively impact the character and attractiveness of their local landscapes.

One resident explains their perspective on the aesthetic changes:

“There's a lot of things we don't have in Arran Elderslie but one of the things we do have are some real nice sunsets and I'm not willing to give that up to have a bunch of red lights flashing in the dark all the time.”
(Crosby, 2009, p. 1)

5. Hydro Costs:

Wind opponents discussed the correlation between wind and rising hydro rates in 7 articles. Wind opponents are presented as acting in the interest of the province economically:

“...the "fat subsidies" for wind and solar energy projects are driving up the cost of electricity, and driving businesses out of the province” (Beitz, 2014, p.3)

Hydro costs are a poorly explained frame in most instances, often articulated in conjunction with other concerns:

“Some citizens are implacably opposed to them on the grounds they make area residents and animals ill, are an eyesore, lower property values, and are pushing up the price of electricity.” (Perkel, 2014, p.2)

Notable Omission: Property Values

Considerable attention has been paid to property values in the collected articles as well. Opponents of wind express concerns that wind turbines depreciate property values, with one wind opponent claiming:

“...my land and surrounding neighbours' A1 agricultural land will be diminished in value.” (Shea, 2009)

Other accounts go on to claim the depreciation in property values more specifically:

“[Wind Turbines] can reduce your property values by 40 per cent or more.”(Hayward, 2014)

Top 5 frames used to criticize wind opposition:

1. NIMBY:

Critics of wind opponents mentioned NIMBY in 16 articles. This is the most common frame employed to discredit wind opposition and is often used to dismiss the concerns of wind opponents:

“When not-in-my-backyard groups fight to kill a garbage dump or a gravel pit, it is at least possible to see where they are coming from. When they kill something like a... wind farm, designed expressly to help the environment, things are getting weird.”(Gee, 2011, p.1)

Wind opponents are further framed through NIMBY as being the willful recipients of wind power, while only rejecting the turbines in their immediate area:

“[Wind turbines] provide the power for all those subdivisions, running their houses, powering their INTERNET so the NIMBYS can voice their complaints about those tall graceful Wind Turbines.”(Bernard, 2011, p.1)

Wind opponents express a clear dislike of the NIMBY frame, stating it is “unfortunate that wind turbine opponents in rural Ontario are given the NIMBY (not in my backyard) label.” (Beitz, 2014, p.3)

2. Health:

Critics of wind opponents mention health themes in 14 articles. Criticisms of wind opponents on the health issue focuses on the state of scientific findings.

“...nobody could seriously put a case forward that those three things could be health hazards. And, that's exactly what we're dealing with here with wind

turbines...they're not loud. There's really no plausible mechanism that they could cause health effects and there's no evidence that they do."(Morden, 2009, p.1)

Wind opponents acknowledge the perspectives of wind proponents, stating plainly in one account: "Everybody says it's in their heads. It's not in their heads...I know these people. They're honest, hardworking people"(Henry, 2009, p.2). The lack of credibility afforded to wind opponents with respect to negative health claims elicits responses of frustration, saying that "We're just tired of it all... we're tired of trying to prove to people that we're sick" (Henry, 2009, p.2).

3. Annoyance:

Annoyance is used to criticize wind opponents in 10 articles. The theme of Annoyance included the explicit terms 'annoyed', 'nuisance', and 'annoyance'.

The theme was predominantly employed as a legal term in court cases.

Annoyance is used to criticize wind opponents by presenting annoyance as not a credible or serious consequence of wind turbines.

"The noise might be annoying but had no link to sleep disturbances, dizziness, tinnitus, migraines, increased blood pressure, heart disease, or diabetes." (CanadianPress, 2014, p.2)

Proponents of wind do not deny the existence of annoyances, but instead assert that it is an unavoidable and benign hassle:

"...annoyances are ubiquitous in modern society, including traffic noise, but that doesn't qualify as unconstitutional, "serious harm."”(Brenk, 2014, p.3)

4. Aesthetics:

Aesthetic themes are employed in 6 articles to frame wind opponents negatively. The negative aesthetic impact of wind turbines is a disputed and subjective position, with many proponents of wind associating wind turbines with a positive aesthetic:

“...when I take to our highways and byways this summer, I know I'd rather see a wind farm on the horizon than a clear-cut forest or an open pit mine.” (Clark, 2011, p.3)

The negative aesthetic frame applied to wind opponents continues the trend set by NIMBY and Health themes- wherein the negative aesthetic impact is not granted credibility by wind proponents who contrast impacts of climate change with aesthetics- asserting, “...wind farms are what lighthouses once were, beacons of hope. ...to talk about the aesthetics of wind farms in isolation is absurd” (ibid, p.3).

5. Acoustics:

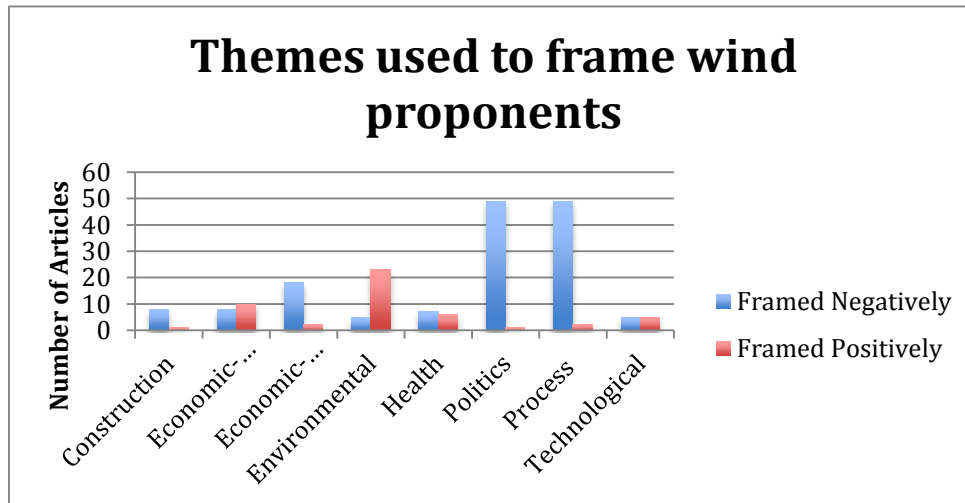
Acoustics are used to criticize wind opponents in 3 articles. The main application of acoustics as a negative frame for wind opponents is to discredit health claims:

“Wind turbines make enough noise to annoy some people but not enough to harm their health.”(Morden, 2009, p.1)

Acoustics are also used to frame the wind turbine debate as between the costs of benign sound and the benefits of green energy:

"You don't hear them in the car with the windows rolled up, and that's when you are as close as they'll allow you to get to them," he said. "They are putting out energy, its a renewable one, it's a good idea."(Sloan, 2011, p.2)

**Framing of Wind Proponents:
Top 5 frames used to support wind development:**



1. Environment:

Environmental themes are used to frame supporters of wind 23 times in the reviewed articles. Positive environmental frames applied to wind development are argued through the statement of clear scientific evidence and supported across both local and provincial scopes. Climate change and global warming are commonly cited as the central motivation for people to support wind development, with proponents of wind asserting:

“Climate change is not a political issue. It is neither left nor right, liberal nor conservative, corporate nor anti-corporate. It is a serious, practical problem affecting everyone—and it needs to be solved.”(Rand, 2011, p.2)

Climate change, as an environmental theme, is also employed to substantiate provincial policies and acts:

“... [The GEA] will uphold rigorous safety and environmental standards... once those standards have been met, we intend to assert the greater public interest in clean, green electricity.” (CanadianPress, 2014, p.1)

2. General Economics:

General economic frames are used 10 times in the reviewed articles to frame wind proponents positively. These frames indicate job creation, manufacturing sector growth and the FIT program. Other general economic frames came from unspecified economic impacts or workforce implications. This frame is commonly linked with positive framing of politics and technology.

“This week, the future's looking even better, thanks to the Premier's fabulous new Green Energy and Green Economy Act. This visionary scheme will create 50,000 green jobs, more clean electricity and a healthier planet for our children. It doesn't get better than that.” (Margrate Wente, 2009, p.1)

3. Health:

Health themes are used to advocate for wind development in 6 articles.

When used this way, health themes are linked to environmental themes:

“Parents want clean air for their children to breathe. The number one reason that children go to emergency rooms in the province of Ontario is because of asthma... There will be a choice between dirty energy and dirty air, and clean energy and clean air... cleaner air is reducing our health care costs.” (Martin, 2011, p.1)

4. Technology:

Technological themes are used in 5 articles as positive frames for wind proponents. Technological themes were found whenever articles referenced characteristics of wind turbines excluding aesthetics and acoustics. These included intermittent energy production or contrasted wind turbines with other forms of energy production. Wind proponents are supported through the frame of technology by the promising advances in energy storage, output and efficiency that continues to develop in the wind sector:

“Wind energy costs continue to fall as new technology boosts output, and economies of scale reduce production and supply costs”(Hornung, 2014, p.4)

5. Process:

Processual themes are used to support wind development 2 times in the reviewed articles. Wind proponents were framed positively through the use of process themes to justify and validate political positions on wind development policies, including the GEA:

“...the Green Energy Act process is much better than the patchwork process that once existed. They include a minimum 550 metre turbine setback from homes, environmental screening and checklists and guarantees of safe noise levels that put human health front and centre.” (Brenk, 2014, p.2)

These frames, although few in number, demonstrate attempts of the province to cater to both proponents and opponents- through increased health and environmental regulations, as well as a streamlined development process.

Top 5 frames used to criticize wind proponents:

1. Politics:

Political themes are found in 49 articles criticizing wind proponents. Political frames include discontent with the GEA, discontent with the democratic process, discontent with the allocation of tax dollars and a general sentiment that rural areas are not respected in the system.

"[The GEA] provides a glaring example of the Liberal government's systematic indifference to the rights and interests of rural Ontarians and an inexcusable disregard for public health concerns."(Davis, 2009, p.1)

Wind opponents also refute the environmental justifications provided to support wind developments- expressing feelings of distrust towards the provincial government:

“Our provincial government has the nerve to call this a "green plan". What is really sad is how successful they have been to date in selling this myth!”(Stevens, 2009, p.1)

The allocation of tax dollars is also used as a negative political frame for wind development with many opponents expressing clear discontent for unclear reasons:

"I don't see why our taxpayers should pay for something that the province should pay for."(Crosby, 2009, p.1)

2. Process:

Process related themes were used 47 times as negative frames of wind development. Process is linked directly to politics- as the provincial government designs, regulates and implements the development process. The elements of the GEA that limit municipal control of green energy projects is cited as a motivation for wind opponents:

"[The GEA] essentially excludes Ontarians from any say in the establishment and location of industrial wind turbine plants."(Davis, 2009, p.1)

3. Hydro Costs:

Criticisms of wind development on the basis of high hydro costs were present in 18 articles. When employed to frame wind negatively, the hydro cost theme is connected with general economic themes of manufacturing costs, as well as

dissatisfaction with FIT contracts and fears of foreign ownership. Hydro costs are linked to wind energy development:

“...when asked what the top benefits of wind energy are, the most often cited was "cheap/affordable/ cost saving," which, as anyone who has read any articles about wind energy development knows, is not true. Just look at your current hydro bill!”(Brodhagen, 2011, p.2)

4. Construction:

Construction themes were used in 8 articles criticizing wind proponents. The theme of Construction includes all aspects of the construction phase of wind development. This theme was often linked with the term ‘dust’, as well as the themes of acoustics, aesthetics and general economics.

“First comes the construction period with loads and loads of concrete, steel, transportation of massive turbine parts, new transmission lines, access roads and transformer stations.” (Gillis, 2009, p.1)

5. General Economics:

General Economic themes were found in 8 articles that were critical of wind development. These negative frames highlight dissatisfaction with issues of taxpayer accountability, growing provincial debt, limited job and workforce growth, as well as distrust for the corporate stake in continued wind development:

“These towers are merely a tool for energy companies and investment banks to make billions of dollars in subsidies that are subsequently added to the existing debt.”(Hayward, 2014, p.1)

Analysis:

Whether the public presentation of wind opposition has been fair can be assessed through an analysis of the aforementioned frames. In order for the frames themselves to be fair, they must be accurate depictions of those who they frame; they must align with truth and fact; and they must account for any contradictory evidence. In addition to this, political fairness is attained when outcomes are reflective of constituent values. The overall credibility of frames is based on the degree of accuracy they represent, and amount of evidence that supports them.

Comparison of local and provincial scopes:

Local articles tend to favor anti-wind groups much more than provincial articles. In addition to this, local articles are more critical of wind development and criticize wind proponents. This is both a manifestation of, and catalyst for wind opponents' collective action frames.

Provincially circulated articles display a more varied perspective. They support the development of wind and are critical of anti-wind groups and generally present a more neutral stance on wind development than local articles. This affirms the common assumption that rural areas of Ontario are more critical of wind and urban areas are more supportive of wind.

Credibility and fairness in framing of anti-wind groups:

Health:

Health themes serve to present wind opponents favorably. This frame presents wind opposition as defenders of public health, and wind turbines as the source of negative health effects. This frame asserts that wind turbines negatively impact health and are thus unsuitable for development near people. Wind opponents' advocate for credible research and investigation into health effects, stating:

“[wind opponents] will continue to push for changes to the legislation, including a moratorium on new industrial wind-turbine projects until a comprehensive, evidence-based study can be done on their health effects.”(Beitz, 2011, p.2)

This expresses a concern that wind development has resulted from a rushed decision making process based on inadequate information. The health concerns of wind opponents have included a call for and completion of a federal health inquiry. This inquiry found no correlation between wind turbine exposure and sleep, illness or quality of life (HealthCanada, 2014). This study was designed to address concerns raised by wind opponents and has served to discredit their health claims. A study conducted by Rideout, Copes and Bos of over 5500 peer-reviewed articles on wind and health concluded there is:

“No clear or consistent association... seen between noise from wind turbines and any reported disease or other indicator of harm to human health.”(Rideout, Copes, & Bos, 2014, p.3)

The negative health effect claims of wind opponents have been heard and taken seriously, as demonstrated by the call for a Health Canada study. It is reasonable to conclude that due process has been given to this matter: that the health claims have not been ignored, shunned or avoided, but addressed head-on

through a scientific research process. This process yielded results that indicate no health impacts, serving to corroborate a growing body of literature on the subject. Given the current state of evidence, the framing of wind opposition as defendants of public health lacks credibility.

Acoustics:

Wind opponents have also criticized wind developments through the acoustic theme in relation to health claims as well as annoyance claims. The health claims, as presented above, have been cast in doubt by empirical studies. The credibility of this framing relies on a related assertion that health is negatively impacted by the sound, noise, or otherwise aural output of wind turbines. Residents note “audible noise and from a "humming" that seems to come up through the pillow”(Gillis, 2009, p.1).

There is a clear, audible noise that is produced by the turbines that differs with humidity conditions, turbine models, and wind speed (Rideout, Copes, & Bos, 2014, p.3). The noise itself has been widely acknowledged as a contribution to annoyance. The acoustic theme serves to present the lived experiences of rural residents in an accurate and representative way.

The associated annoyances caused by both audible and inaudible ambient noise are found to: “...make enough noise to annoy some people but not enough to harm their health”(Morden, 2009). When employed to support claims of negative health impacts, the use of acoustic themes to support anti-wind groups is inaccurate and misleading. This leaves the frame of acoustics’ credibility split between its use to support negative health claims and its accurate use to support

evidence of annoyance. This ultimately leaves the acoustics theme providing limited support for wind opposition.

The Ontario Ministry of Health and Long-Term Care have acted in response to the concerns of local residents through the studying and implementation of regulations on wind turbine noise, particularly that of infrasound. The potentially dangerous output levels of infrasound (90db) and the range in which annoyance are present (50-70db) are prevented through regulations that impose a 40db limit to the infrasound output as measured from the nearest dwellings to the turbines (Leventhall, 2000). This regulation has been adopted in Ontario, demonstrating a measured and fair process based in expert analysis and is an illustration of policy being responsive to the concerns of anti-wind groups in order to be fair.

Environment:

The use of environmental themes to support the anti-wind movement stand in contrast to the assertions of wind proponents, who view wind development as a response to heightened public awareness of climate change and the global environmental crisis that climate change poses. Observed negative environmental impacts of wind developments are limited to some wildlife impacts, particularly bird and bat mortality. This confirms a credible, factual basis for these concerns. These instances have been reduced, but not entirely eliminated, through improved design standards of wind turbines. Overall, the impact on wildlife is limited, as only a few select species and sites experience direct negative effects (Saidur, Rahim, Islam, & Solangi, 2011).

The expressed environmental concerns of wind opponents focus exclusively on the local scope and neglect to engage in the environmental dialogue of climate change impacts that is present on the provincial, national, and international scale. This is a large omission, as climate change is cited as a primary motivation for wind power development (John, 2011). In the few instances that wind opponents choose to acknowledge issues of climate change at all it is in an attempt to discredit wind energy's role in addressing the problem:

“The problem is that today's renewable energy technologies won't save us from the effects of climate change – and we're wasting our time by trying.”(Wente, 2015, p.1)

In addition to using environmental themes to discredit the environmental positions of wind proponents, wind opponents also use environmental themes to self-frame as credible critics of wind development:

“At first glance it may seem odd that one of the most committed environmentalists in Perth County should come out against industrial wind turbines... I have come to the conclusion that [wind turbines] will never provide the green energy they promise” (John, 2011, p.1).

This framing establishes a commonality between wind proponents and opponents. This promotes an assertion that the environmentally sound stance on wind turbines is to oppose their development. This assertion is unfounded in the scientific literature, which identifies wind energy as a key technology for reducing global CO₂ output and mitigating present and future global warming (Ellis et al., 2009). The use of environmental themes to support wind opposition is a manifestation of wind opponents' self-image and is used to manipulate opinions and claim credibility. This represents an attempt to effectively communicate on

an agreeable middle ground, and represents the most notable effort for wind opponents to appeal to wind proponents instead of seeking to discredit them. The way in which this is attempted is an instance of inadequate problem exploration, in which localized environmental issues are unfairly weighted and global environmental issues are omitted from consideration.

This employment of environmental frames is misleading. By focusing too narrowly on wildlife impacts on a local scope, the observed environmental impacts on a global scope can not be appropriately addressed. The tangible concerns posed by this frame (watershed contamination; wildlife impacts) are addressed on a site-specific basis through the existing EIA process. This process addresses the local environmental concerns and the concerns of wind opponents are considered when examining the environmental impacts of wind turbines (Ministry of the Environment, 2013).

Aesthetics:

The use of aesthetic themes to present wind opposition favorably is a highly subjective and immeasurable frame. Beauty is in the eye of the beholder when considering the aesthetic impact of wind turbines on rural Ontario's landscape (Jangamshetti & Guruprasada Rau, 2001). The current planning process does require developers to implement an aesthetic impact assessment, but these have little flexibility because they are subject to other siting considerations such as availability of land and wind consistency and velocity (Walker et al., 2014). This allows for wind developers to advance wind projects while adhering to only the basic aesthetic standards and having no obligation to

incorporate community feedback. No metric or analysis exists to measure the objective aesthetic impacts of wind turbines and the frame of aesthetics is too subjective to allow for a factual assessment. Due to this, it is not possible to state whether the frame of aesthetics is credible or not.

Hydro Costs:

The use of hydro costs as a criticism of wind developments presents opponents to wind as acting in the provincial interest. It is the only significant issue for which wind opponents address a provincial issue and not solely a local one. This frame is also the most widely known tradeoff of wind energy in urban centers, as the economic and environmental cost-benefit is widely publicized in many forums outside of wind energy discourses (Schleede, 2004). It is used to assert that wind proponents have an influence over the cost of energy in the province. The measured costs of wind development have added \$2.2 billion annually to hydro bills in Ontario (McKittrick, 2013). Anti-wind groups advocate for lower energy costs and are targeting wind energy. This framing is thus credible, as the measured economic impacts of wind turbines have been assessed as a large contributing factor to rising hydro rates in Ontario.

Property Values:

The use of property values to criticize the development of wind is based in the claim that wind turbines depreciate property values. This assertion was disproven by a 2014 study that concluded:

“...wind turbines have not significantly impacted nearby property values. Thus, these results do not corroborate the concerns raised by residents regarding potential negative impacts of turbines on property values.”(Vyn & McCullough, 2014)

This claim is thus discredited, as the assertion that wind turbines depreciate property values is empirically shown to be false.

Overall credibility in support for wind opponents:

Positive frames present anti-wind groups as brokers of positive change. In the reviewed articles, a total of 91 articles presented anti-wind groups this way through the use of at least one frame. There is a lack of credibility in the ways that anti-wind groups have presented their case. The concerns of this group have been fairly considered in the wind development process. The themes of Health, Acoustics and Environment are used by anti-wind groups but are not found to be credible through empirical analysis of facts. Aesthetic frames are found to be immeasurable on the basis that aesthetics are too subjective for factual analysis. Hydro cost frames are found to be credible because of the measured impact that wind development has on rising hydro costs in Ontario.

The collective action frames of wind opponents are derived from the themes and frames that support them in their opposition. These collective action frames are largely based on assertions that are either empirically disproven or too subjective to measure. This means that anti-wind groups are soliciting support and communicating messages that are not based in a credible presentation of information. This further indicates that the anti-wind groups are engaging in the dissemination of misinformation.

Fairness, as represented through the support for anti-wind has been demonstrated through the reactions to concerns posed by anti-wind groups. Health and acoustic studies have resulted directly from the expressed concerns of wind opponents. In order to fully understand the fairness to which wind opponents have been treated an analysis of their criticisms of wind proponents must be included.

Credibility and fairness in framing of wind proponents:

Politics:

Political themes are used to present proponents of wind as accomplices to corrupt and undemocratic governmental practices imposed by provincial politicians. This criticism of wind proponents frames them as the beneficiaries of a bias towards political interests over the interests of citizens. The political themes used to criticize wind supporters focus on high-level politicians such as the premier of Ontario and various provincial ministers. This criticism of politics expresses the dissatisfaction that wind opponents have with those elected to make these decisions. This is a speculative argument that relies on assumptions of the motivations of policymakers. There is evidence that the political motivations behind wind development are a reaction to public demand and the democratic process has been respected through the development of wind. The pressure placed on the province to stop wind development is outweighed by the demand to continue development. Political frames used to criticize wind

development in Ontario are based in frustration with the outcomes of the political process, but the process itself has not been compromised. Because the democratic process has been respected, the assertions of political bias are unfounded, and because the motivations of individual politicians are unknowable, it is reasonable to conclude that the use of political frames to criticize wind development are not credible.

Process:

The criticisms of wind proponents through objections to the wind development process is unsurprising, given that the process is designed to continue development in spite of local dissent. The development process to wind turbines is focused on growth and continued development in the province of Ontario. The current development process is the product of provincial reactions to vast public pressure that led to the implementation of the GEA. This development process was created to satisfy the provincial interests of continued development to the wind energy sector, which necessitated removing local control over these projects, as opponents of wind development outright reject their development. The development process for wind turbines in Ontario does not employ the co-operative community models which seem unlikely to succeed given the lack of dialogue between developers, municipalities and stakeholders.

This frame focuses too narrowly on the influence of lobbying organizations and development companies' influence over the process and does not include more productive criticisms concerning alternative development

models. This is likely due to the anti-wind movement's outright rejection of wind development as a viable energy source.

Hydro Costs:

Criticisms of wind proponents based on high provincial hydro costs assert that wind proponents' decisions to advocate for wind development leads to higher energy costs. This has been shown to be true, as evidence of the GEA impact as a contributing factor to rising high hydro rates has been verified (McKittrick, 2013). This is a verifiably accurate frame and has resonated with political leaders across the province- even being highlighted in the 2013 provincial election by the leader of the opposition, Tim Hudak (2013).

Construction:

Criticisms of wind development based on themes of construction assert that the physical building of wind turbines is a disruptive process that degrades the quality of the farmland on which it lies. Further criticisms of the construction process argue that the development process is moving too quickly for responsible decision-making to take place. Construction themes serve to exemplify the fears that wind opponents hold concerning potential industrial changes to their landscape and the undesirable form this development must take. Concerns about noise, dust and other construction related nuisance are common for any construction project, but the use of construction themes to frame wind opponents negatively is at best a proxy argument against wind turbines and is not a credible or fair framing of wind proponents.

Economics- General:

Wind proponents are criticized through general economic themes on the premise that they have in overall negative impact on Ontario's economy. General economic criticisms highlight the stake that corporations have in the continued growth of Ontario's wind energy and the cost to taxpayers that this represents. Dissatisfaction with FIT contracts also contributes to the criticisms of wind proponents. General economic criticisms are a credible and fair framing of wind proponents, as the GEA and wind development in Ontario as it is expected to:

“drive down the rate of return to capital in manufacturing in Ontario by 29%, in mining by about 13%, and in forestry by about 0.3%, leading to a net loss of investment and employment in the province.” (McKittrick, 2013, p.5).

Overall credibility in criticisms of wind proponents:

Political and processual themes account for the majority of articles that are critical of wind support. The expressed concerns were not found to include suggestions for alterations to the political process, or the development process. These criticisms focused on rejection of, and resistance to wind development. This is a large contributing factor to the poor state of dialogue between wind development proponents and opponents, as few common values are identified or discussed.

The criticisms of wind development presented by anti-wind groups through economic frames are considered through provincial and local articles. These criticisms are relevant to both local and provincial scopes, are based in

empirical evidence and are, at least in part, a result of wind development. These frames form the most credible criticisms of wind proponents.

Conclusions:

The question of whether or not to develop, from a provincial perspective has been settled, with the majority of Ontarians supporting further development of wind energy. Wind opponents and proponents could both encourage more productive dialogue if the focus of debate were the form of development instead. Collaborative development models could enhance local control over projects and provide balance to the distribution of benefits and costs. This dialogue is not currently possible, as both proponents and opponents have communicated unyielding positions with few concessions. Both parties- proponents and opponents- are faced with negative consequences as a result of the confrontational state of dialogue.

Wind proponents are faced with increasingly acrimonious and aggressive anti-wind groups. Siting of projects is becoming more difficult due to the social pressures applied on community members, with anti-wind groups creating a social stigma towards residents that may want turbines on their property. Overall, wind developments are slowed, fought and resented by the anti-wind groups.

Anti-wind groups are similarly harmed by the poor exchange of dialogue. They are engaged in the dissemination of misinformation. This poses a barrier to productive dialogue by distracting from their credible criticisms of wind

development. The rural areas in which anti-wind groups reside are increasingly polarized by the development of wind turbines. The rejection of the technology as a whole leaves no clear avenue to debate improvements that could be made through the shift towards more cooperative development models. These models, if implemented, could provide more stakeholder accountability and better distribute the benefits and costs of wind turbines, while ceding only marginal generation and transmission efficiency.

Fairness

Through the assessment of fairness in framing there are many indications of the wind development process being fair to local residents, though not infallibly. This is indicated by provincially distributed papers remaining neutral to wind development- by printing articles that themselves were not discernibly for or against wind development, and publishing an even balance of articles that favored, and articles that criticized wind development. Provincially circulated papers present all expressed concerns of wind opponents. The difference of publication scope is then ruled out as a source of unfairness.

The analysis of fairness in frames displays that anti-wind groups have been treated fairly, but have also expressed valid criticisms of wind development. These criticisms show that there is a clear cost-benefit imbalance for rural residents, who must accept the negative elements of wind development, but see few tangible benefits. The benefits that do exist for rural residents only serve to polarize communities, as landowners are the sole benefactors, though the costs are shared across the community.

Even in light of this, anti-wind groups have been treated fairly on concerns that have been explicitly communicated. Reactions to anti-wind demands include health studies, noise studies and provincial property value assessments, which all ultimately functioned to discredit anti-wind claims.

Anti-wind groups state that the development is undemocratic, but it is the democratic process that has necessitated the development of wind in Ontario. The democratic balance between rural and urban areas heavily favors urban, as the majority of Ontarians live in urban areas. Through the employment of collective action frames, anti-wind groups have been able to organize on a provincial scale, publicize their concerns and place pressure on politicians to address their concerns. These frames are found to lack credibility and serve to obfuscate the dialogue between anti-wind groups and wind supporters.

For Further Research:

The dataset for this analysis has gathered information on how stakeholders are presented to the broader public in print news, but only provides suggestions of how actors view themselves and how they interpret the ways in which they are presented in the public sphere. The prevalence of political and processual criticisms suggests that opponents to wind may feel threatened as much by the loss of local autonomy in the planning process as they do about the actual turbines themselves. Further research comparing the social impacts of the

GEA and the potential for cooperative development models would improve our understanding of the sources of rural discontent. Alternative distribution models might strike a balance between technocratic and economic efficiencies and stakeholder empowerment.

The ways in which anti-wind groups are supported in the articles undoubtedly reveals evidence that anti-wind groups fear the forceful and dramatic changes that wind energy presents to their locales- fueled largely by feelings of powerlessness. The expressions of fear and powerlessness were not gathered as explicit themes in this study and were thus not quantified or analyzed. Further research into these areas should seek to understand what the perceived threats to local values are, as well as how these perceptions have been affected (reinforced/reduced) by the lived experiences in close proximity to wind turbine developments. Through this information, the gaps in dialogue could be more accurately understood and addressed more fairly.

Investigation into the fairness of framing should seek to understand how actors interpret the existing dialogue through key informant interviews, general surveys and a multi-media collection of frames.

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