Navigating the Jungle: Private Nuisance and Renewable Energy Projects

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The expansion of wind and solar energy projects in Canada has created changes in the use of land that at times adversely affect neighbouring properties. Property owners located close to such projects may harbour concerns about noise and light effects, aesthetic impacts, potential health risks, and the diminution in the value of their properties. The law of private nuisance considers what impacts a property owner should reasonably be expected to tolerate and when these adverse effects may warrant compensation. This paper concludes that the vast majority of wind and solar energy projects will not attract liability in claims based on private nuisance. An exception to this will arise in situations where the works have a severe and disproportionate impact on a neighbouring property or when the works render the impacted property no longer suitable for its existing use. This paper also reviews the law of private nuisance and endeavours to simplify its application in relation to public projects.

Le développement, au Canada, de projets en matière d'énergie éolienne et solaire a entraîné des changements dans l'utilisation de zones qui, à l'occasion, ont eu un impact négatif sur les propriétés avoisinantes. Les propriétaires de terrains situés près d'endroits où ces projets ont été mis en oeuvre peuvent ressentir des inquiétudes par rapport au bruit et à la nuisance lumineuse, à l'esthétisme, au danger pour la santé et au risque que leur propriété perde de la valeur. Le droit en matière de nuisance privée prévoit les impacts qu'un propriétaire devrait raisonnablement être en mesure de tolérer et les conditions permettant d'accorder compensation. Dans cet article, les auteurs concluent que, dans la grande majorité des cas, les projets en matière d'énergie solaire et éolienne n'entraîneront aucune responsabilité dans le cadre de réclamations invoquant le concept de nuisance privée. Exceptionnellement, il peut y avoir des circonstances où les travaux effectués ont causé des impacts graves et disproportionnés aux propriétés avoisinantes ou ont fait en sorte que les propriétés concernées ne puissent plus être utilisées comme il avait été initialement prévu. Les auteurs examinent également le droit en matière de nuisance privée et cherchent à simplifier son application aux projets publics.

Dean William Prosser observed, "[T]here is perhaps no more impenetrable jungle in the entire law than that which surrounds the word 'nuisance'."[1] The law of nuisance is based upon the use of land and resulting impact on neighbouring properties, which inevitably changes as society develops. As a consequence, this area of law is forced to adapt to evolving uses of land that reflect changing priori-

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1 William Prosser, *Handbook on the Law of Torts* (St Paul: West Publishing Co, 1971).

ties, new innovations and social progress. Against these shifting uses, the basic test underlying the law of private nuisance has remained relatively constant — it has long been recognized that some give-and-take is required between property owners, but that substantial and unreasonable interferences ought not to be tolerated.

While this basic test has remained consistent, what has changed is how factors under this test are weighed and balanced to reflect societal development. Wind and solar projects create changes in the use of land that meaningfully impact neighbouring properties in ways that require a balancing of rights. Courts are required to weigh the benefits these projects bring to broader society against the burdens and interference imposed on neighbouring property owners, with the goal of balancing the rights of property owners in the context of Canada's changing energy landscape. The law of nuisance may remain a jungle, in the sense that this type of constant change makes it an easy place to get lost. With that said, this jungle may be penetrable, in light of a relatively universal application of the test for private nuisance and what has become the accepted fact that this area of law will adapt to reflect the ever-changing realities of a society that continues to evolve.

This paper explores the potential impacts of wind and solar projects on neighbouring properties and concludes that the vast majority will not attract liability in claims based on private nuisance. An exception to this will arise in rare situations where the works have a severe and disproportionate impact on neighbouring property that results in the impacted property no longer being suitable for its existing use. The paper also reviews the law of nuisance and endeavours to simplify its application in support of the conclusion that this area of law is not as difficult or complicated as other jurists have previously suggested.

To develop these conclusions, we begin by briefly reviewing the place of wind and solar energy in Canada in order to gain insight into how wind and solar projects are changing Canada's social and physical landscape. We go on to consider some of the potential impacts of wind and solar projects on neighbouring properties, and examine whether these impacts could form the foundation of viable claims in private nuisance or injurious affection[2] in Ontario. Next, selected Canadian and international cases are reviewed to further explore the jurisprudence in this area.

I. CHANGING LAND USES AND RENEWABLE ENERGY IN CANADA

Renewable energy occupies a significant place in Canada's energy landscape. In 2013, renewable energy sources comprised approximately 18% of Canada's primary energy consumption, including 62% of its electricity.[3] Of this figure, 86%

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2 Like private nuisance, injurious affection is concerned with the impacts of land use on neighbouring properties. Ontario's *Expropriations Act* provides compensation for injurious affection where public works constructed under statutory authority cause certain types of damage to adjacent properties. Where no land is taken, injurious affection claims can invoke the same balancing and weighing of factors that is required in private nuisance claims.

3 Enerdata, *Global Energy Statistical Yearbook (2014)*, online: <http://yearbook.enerdata.net/#renewable-in-electricity-production-share-by-region.html> [Enerdata]. At 62%, Canada's reliance on renewable energy is well above the global average of approximately 21%.

comes from large hydroelectric projects, 7% is biomass or biogas energy, 4% comes from small hydroelectric projects, 3% is wind energy and a small percentage comes from other sources such as photovoltaic solar panels or geothermal energy.[4] Although built hydroelectric capacity has long dwarfed the capacity of all other forms of renewable energy, in recent years the balance appears to be shifting as wind and solar energy have become the fastest-growing sources of electricity in Canada.[5] While solar remains a relatively small part of the overall energy market, its growth in recent years has been enormous: between 2008 and 2011, the growth rate of installed capacity for solar energy was 147.3% annually.[6] The rapid expansion of wind power has been even more striking. For the first time, by virtue of new project builds beginning throughout the 2000s, there is almost as much new wind power capacity being added to the system as there is new hydroelectric capacity.[7] These new wind projects are most heavily concentrated in Ontario.[8]

The rapid expansion of wind and solar power is in part due to legislative and policy initiatives such as Ontario's *Green Energy Act*,[9] which has been described as the largest policy experiment to date within North America to decarbonize an electricity system.[10] Through its feed-in tariff (FIT) program, Ontario provides financial incentives to encourage developers to build large-scale renewable energy projects. The microFIT program induces homeowners to install smaller-scale projects on their residential properties and connect them to the provincial energy grid. The increased number of new wind and solar projects resulting from these programs has driven installations closer to residential communities, including (especially in the case of the microFIT program), into people's backyards.

The public's reaction to the changes in land use that come with renewable energy projects is mixed. When renewable energy is discussed in the abstract, public support is typically high.[11] People are generally attracted by the possibility of a cleaner, more sustainable alternative to fossil fuels and support increasing investment in renewable energy. However, as specific wind and solar projects reach the planning and approvals stage, localized public support within certain affected com-

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4 John Nyboer & Kristin Lutes, *A Review of Renewable Energy in Canada, 2009*, online: Canadian Industrial Energy End-Use Data and Analysis Centre <http://cieedac.sfu.ca/media/publications/Renewables_Report_2010_Final.pdf>.

5 *About Renewable Energy*, online: Natural Resources Canada <http://www.nrcan.gc.ca/energy/renewable-electricity/7295>. Wind and solar energy are the fastest-growing in proportionate, and not absolute, terms.

6 *Ibid.*

7 Nyboer & Lutes, *supra* note 4.

8 *Ibid.* Ontario now generates the most wind power in Canada, by a wide margin. Quebec and Alberta trail behind in second and third place, each generating roughly half as much wind power as Ontario. No other province or territory comes close to matching the wind power capacity of each of these three provinces.

9 S.O. 2009, c. 12.

10 Leah C. Stokes, "The politics of renewable energy policies: The case of feed-in tariffs in Ontario, Canada" (2013) 56 Energy Policy 490.

11 Gordon Walker, "Renewable Energy and the Public" (1995) 12:1 Land Use Policy 50.

munities can evaporate.[12] This is particularly true for larger projects in closer proximity to homes or within regular lines of sight.[13] When faced with the prospect of a new wind or solar project in their community, some members of the public may begin to see themselves as particularly affected.[14] They may become concerned about the impact the project will have on their local environment, their standard of living and the value of their property. When these considerations arise, the societal benefits associated with renewable energy can be overshadowed by concerns that are more immediate and closer to home. These dynamics clearly reflect the balancing of benefits and burdens contemplated in the common law of private nuisance. Given the exponential rate of growth in wind and solar energy over recent decades, it seems inevitable that nuisance law will be called upon to assess what impacts a property owner can reasonably be made to bear in furtherance of Canada's renewable energy initiatives.

II. POTENTIAL CLAIMS BY IMPACTED PROPERTY OWNERS

Renewable energy projects are generally considered to be cleaner and less intrusive than traditional energy facilities. Even so, wind and solar projects are sometimes associated with undesirable side effects that may be perceived to negatively impact neighbouring properties and communities. For wind turbines, the chief complaints by neighbouring landowners relate to aesthetic impacts on surrounding landscapes and noise concerns.[15] Some neighbours also complain about "strobing," an effect that may be created when sunlight glints off the turbine blades and/or flickering shadows are cast by the blades' rotation.[16] There is also the possibility of diminution in the value of neighbouring properties, which is associated with any stigma connected to the proximity of the turbines.[17] Certain residents also find themselves concerned about the potential health effects of nearby turbines, though as of yet these health concerns are not substantiated by a widely-accepted body of research.[18] While the perceived negative effects of solar panels are less discussed, like wind turbines, solar panels create aesthetic changes to surrounding landscapes

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12 *Ibid* at 56.

13 *Ibid* at 55. By contrast, some communities respond positively to local wind farms after development. Walker argues that the variation in responses suggests that "individuals are not opposed to wind energy *per se*, but to the scale, location, or other characteristics of a particular development."

14 See e.g. Chad Walker & Jamie Baxter, "Beyond rhetoric to understanding determinants of wind turbine support and conflict in two Ontario, Canada communities," (2014) 46 Environment and Planning 731.

15 *Ibid* at 731.

16 See e.g. *Burch v. Nedpower Mount Storm, LLC*, 20 W. Va. 443, 647 S.E. 2d 879 (2007).

17 See e.g. Ben Hoen et al, "Wind Energy Facilities and Residential Properties: The Effect of Proximity and View on Sales Prices," (2011) 3 Journal of Real Estate Research 279.

18 Walker & Baxter, *supra* note 14 at 731-732. See also e.g. W. David Colby et al, "Wind Turbine Sound and Health Effects: An Expert Panel Review," (2009), online: Canadian Wind Energy Association <http://canwea.ca/pdf/talkwind/Wind_Turbine_Sound_and_Health_Effects.pdf>; see

and may raise concerns about diminution in the value of properties near large installations. In addition, some argue that solar panels may project a degree of glare onto neighbouring properties, though studies seem to suggest if any glare is projected, it is brief and relatively tolerable.[19] In addition, a small number of residents may harbour concerns about perceived health risks of living near solar panel installations.[20] Especially in relation to solar panels, health-based concerns are unsubstantiated and not widely-held. Even so, unsubstantiated concerns can still engender strong opposition among certain neighbours, impact market value and foster resentment between conflicting interests at times leading to legal dispute. The question is whether claims based on these types of concerns are likely to be successful.

Neighbours who find themselves aggrieved by the impacts of a wind or solar energy project may seek recourse through the courts or administrative tribunals. Following regulatory processes to challenge the zoning or approval of new projects, two forums present themselves to claimants seeking compensation for the adverse impacts of renewable energy projects in Ontario: claims in private nuisance before the Superior Court of Justice, or claims at the Ontario Municipal Board for injurious affection against entities carrying out works pursuant to statute. Claims at the Ontario Municipal Board are possible where the project is being carried out pursuant to some sort of statutory authority, such as the *Ontario Energy Board Act*.[21] In these instances, an impacted neighbour in Ontario (and provinces with similar statutory schemes) can bring a claim for injurious affection where no land is taken pursuant to the *Expropriations Act*.[22] When the interference arises from the construction of the work,[23] this avenue of recourse may be appealing, as the underlying test is more or less the same as the test for private nuisance and cost considerations are ordinarily more favourable to the impacted party. As such, the considerations associated with injurious affection where no land is taken are relevant and

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also Con Doolan, "A Review of Wind Turbine Noise Perception, Annoyance and Low Frequency Emission," (2013) 37:1 Wind Engineering 97.

19 See e.g. Roberto Chiabrando, Enrico Fabrizio & Gabriele Garnero, "The Territorial and Landscape Impacts of Photovoltaic Systems: Definition of Impacts and Assessment of the Glare Risk," (2009) 13 Renewable and Sustainable Energy Reviews 2441. See also Evan Riley and Scott Olson, "A Study of the Hazardous Glare Potential to Aviators from Utility-Scale Flat-Plate Photovoltaic Systems" (2011) 2011 ISRN Renewable Energy, Article ID 651857.

20 These concerns do not originate in academic or scientific publications, but an internet search reveals that some laypersons believe solar panels carry health risks. For examples of the kinds of health-based fears some residents may express in relation to solar panels, see e.g.: "Do Solar Panels Create Dirty Electricity, EMFs, and Radiation?" (2012) Online: Orgone Energy Australia <http://www. orgoneenergy.org/blog/do-solar-panels-create-dirty-electricity-emfs-and-radiation#.VQBfw-FG0cs>; see also Karen Kingston, "Solar Panels — A Healthy Option or Not?" (2012) Online: <http://www.spaceclearing.com /blog/2012/03/26/solar-panels-a-healthy-option-or-not/>.

21 S.O. 1998, c. 15, Schedule B, s. 99(5).

22 R.S.O. 1990, c. E-26.

23 The distinction between the construction and the use of the works is explored further below.

important when assessing the viability of potential claims against wind and solar projects.

(a) Claims in Private Nuisance

In *St. Pierre v. Ontario (Minister of Transportation & Communications)*, McIntyre J. writing for the Supreme Court of Canada accepted a working definition of nuisance as "an act indirectly causing physical injury to land or substantially interfering with the use or enjoyment of land or of an interest in land, where, in the light of all the surrounding circumstances, this injury or interference is held to be unreasonable."[24] This definition highlights the two key components of a nuisance claim: substantial interference and unreasonableness. 26 years later, in *Antrim Truck Centre Ltd. v. Ontario (Ministry of Transportation)*, the Supreme Court of Canada set out a two-part test for private nuisance based on substantial interference and unreasonableness.[25] The first part of the test inquires whether there is a substantial interference with property. Once a substantial interference is established, the second part of the test inquires whether the interference is also unreasonable. In this analysis, the Court treats the substantiality inquiry as a threshold question. If the interference is not substantial, then the Court need not go on to consider whether the interference is unreasonable — an insubstantial interference simply cannot constitute a nuisance. The advantage of this approach, the Court states, is that it screens out weak claims before engaging the more complicated assessment of whether an interference is reasonable.[26]

While the substantial interference analysis is meant to be a simpler, threshold question in the test for private nuisance, it is by no means a formality. A real and significant level of interference must be established before the courts will consider any particular negative impact to constitute actionable nuisance. A negative impact must, in the words of the Court, be non-trivial, which means it must amount to more than a "trifling annoyance or slight interference."[27] The inquiry into the substantial nature of the interference is objective, in that it considers the severity of the interference and how it would affect an ordinary person with regular sensibilities, rather than how it subjectively affects the plaintiff. As stated by Knight Bruce V-C in *Walter v. Selfe*, to rise to the level of nuisance, an interference must constitute:

> [. . .] an inconvenience materially interfering with the ordinary comfort physically of human existence, not merely according to the elegant or dainty modes and habits of living, but according to plain and sober and simple notions among the English [or here, Canadian] people.[28]

Where the interference is non-physical, such as loss of enjoyment resulting from noise, light, or vibrations, the disruption must rise beyond what a reasonable person

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24 [1987] 1 S.C.R. 906, [1987] S.C.J. No. 27 at para. 10 [*St Pierre*].

25 2013 SCC 13, [2013] 1 S.C.R. 594 [*Antrim*].

26 *Ibid* at para 21.

27 *Ibid* at para 22.

28 (1851), 4 De G. & Sm. 315, [1851] Eng. R. 335 (V.-C.) at p. 322 [De G. & Sm.], ; affirmed (1852), 19 L.T.O.S. 308 (Court of Chancery).

would be expected to tolerate. Where the interference is physical, it is generally easier to establish that the interference is substantial.

Once an interference has been determined to be substantial, the Court will consider whether it is also unreasonable. The focus of this inquiry is on the impact of the interference on the aggrieved claimant, and not the conduct of the defendant. It follows that the defendant does not have to act negligently or in an otherwise unlawful manner to be liable, nor is it any excuse that the defendant has exercised due caution and skill.[29] This approach means that the defendant's conduct may be perfectly reasonable and legal — even desirable, from a broad social perspective — but if the interference experienced by the claimant is unreasonable, then it will be held to constitute private nuisance. The Court clarified in *Antrim* that the reasonableness inquiry is necessary for both physical and non-physical interferences;[30] however, any substantial physical interference with property is almost certain to be unreasonable.[31] For this reason, the reasonableness analysis for physical interferences with land may be very brief.

In considering whether an interference is unreasonable, it may be useful to consider the traditional factors applied by courts in cases such as *Barrette c. Ciment du St-Laurent inc.*.[32] While the significance of these factors is somewhat altered by the Court's decision in *Antrim*, the factors nonetheless remain a relevant and useful part of the reasonableness analysis.[33] These factors are not a mandatory checklist, but simply a list of considerations among any other contextual elements a court may deem relevant.[34]

First, courts may consider the nature of the locality in question. In this analysis, courts may consider the composition of the surrounding areas, existing land use regulations and the history of the neighbourhood. Where an area is characterized as urban, commercial, or industrial, people are expected to tolerate more interference, whereas in rural or quiet residential environments a lower level of interference may be considered unreasonable.[35] Whether a property is located in an urban or rural setting may also influence the type of interference that is deemed to be unreasonable. For example, noise and imposing nearby structures may be considered more tolerable in an urban environment.

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29 *Royal Anne Hotel Co. v. Ashcroft (Village)*, 1979 CarswellBC 657, [1979] B.C.J. No. 2068 (C.A.) at para. 10, ; leave to appeal allowed (1979), 8 C.C.L.T. 179n (S.C.C.) [*Royal Anne Hotel*].

30 *Antrim*, *supra* note 25. The Court in *Antrim* resolved conflicting jurisprudence on the issue of whether physical interference can ever be reasonable and therefore whether the reasonableness inquiry is even required in instances of physical interference.

31 *Royal Anne Hotel*, *supra* note 29 at paras 48–50.

32 2008 SCC 64, (sub nom. *St. Lawrence Cement Inc. v. Barrette)* [2008] 3 S.C.R. 392 at para. 77 [*St Lawrence Cement*].

33 *Antrim*, *supra* note 25 at para 26.

34 *Ibid.* Other potentially relevant factors include malice, the nature of the damage or interference, the frequency and duration of the interference and the time of day.

35 *Walker v. Pioneer Construction Co.* (1975), 56 D.L.R. (3d) 677 (Ont. H.C.) at p. 691; *St. Helens Smelting Co. v. Tipping*, [1865] UKHL J81, 11 H.L. Cas. 642.

Second, courts will consider the severity of the harm. In *Antrim*, the Court noted that this means the severity of the interference is effectively considered twice — first, to satisfy the threshold question of substantial interference, and then, second, as a factor in determining reasonableness. That does not, however, make it redundant. At the first stage, severity is a threshold question to determine whether the interference is substantial enough to be actionable whereas at the second stage, severity remains relevant to assessing whether the interference is reasonable. Consideration of the severity of the interference will often form the paramount, and at times overriding, consideration in the reasonableness analysis.

The third factor is the sensitivity of the plaintiff. A plaintiff who is unusually sensitive may be extraordinarily aggrieved even by objectively reasonable interferences. Such unusual sensitivity will weigh against recovery. Sensitivity may be a subjective characteristic of the claimant — for instance, if the claimant is prone to migraines. It may also be a characteristic of the property, if the property has unique characteristics that exacerbate the negative effects or is used for an unusual purpose that renders it especially vulnerable to the interference.[36]

A fourth factor that may be considered in determining whether an interference is unreasonable is the utility of the defendant's conduct. This factor is particularly relevant in the case of interferences caused by wind or solar energy projects, which are generally considered to have public utility. The utility of public works deserves special consideration, as the proper approach has been the subject of debate over the years. Several early Canadian cases affirmed that the utility of a public work could not provide a defence to a claim in nuisance. In *Groat v. Edmonton (City)*, the Supreme Court of Canada held that although residents had a collective right to sewers, which were both necessary and beneficial, they must not be constructed in a way that unreasonably prejudiced an individual ratepayer without due compensation.[37] Similarly, in *Russell Transport Ltd. v. Ontario Malleable Iron Co.*, the court specifically stated that, "it is no defence that the nuisance, although injurious to the plaintiffs, is beneficial to the public at large."[38] The rationale for this approach was set out in *Royal Anne Hotel*. In that case, McIntyre J.A. (as he then was) stated that "[t]here is no reason why a disproportionate share of the cost of such a beneficial service should be visited upon one member of the community by leaving him uncompensated for damage caused by the existence of that which benefits the community at large."[39]

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36 See e.g. *Mason v. Grandel*, [1953] 1 S.C.R. 459 and *Nor-Video Services Ltd. v. Ontario Hydro* (1978), 19 O.R. (2d) 107, [1978] O.J. No. 3287 (H.C.); affirmed (March 13, 1979), Houlden J.J.A., Howland C.J.O., Zuber J.J.A., [1979] O.J. No. 1792 (Ont. C.A.).

37 [1928] S.C.R. 522.

38 [1952] O.R. 621, [1952] O.J. No. 451 (H.C.) at para. 26 [*Russell Transport*].

39 *Royal Anne Hotel*, *supra* note 29. See also *Jesperson's Brake & Muffler Ltd. v. Chilliwack (District)* (1992), 19 B.C.A.C. 88, [1992] B.C.J. No. 2079 (C.A.) and *Newfoundland (Minister of Works, Services & Transportation) v. Airport Realty Ltd.*, 2001 NFCA 45, [2001] N.J. No. 245.

This generally coherent approach was brought into question as a result of certain passages in the Supreme Court's decision in *St. Pierre*.[40] In that case, the Ministry of Transportation built a highway beside the claimants' rural estate home. The decision in first instance of the Ontario Municipal Board found that the visual impact of the highway on the rural landscape resulted in a substantial diminution in value to the home and awarded damages on this basis. In reversing this decision, the Supreme Court stated:

> Moreover, I am unable to say that there is anything unreasonable in the Minister's use of the land. The Minister is authorized — indeed he is charged with the duty — to construct highways. All highway construction will cause disruption. Sometimes it will damage property, sometimes it will enhance its value. To fix the Minister with liability for damages to every landowner whose property interest is damaged, by reason only of the construction of a highway on neighbouring lands, would place an intolerable burden on the public purse. Highways are necessary: they cause disruption. In the balancing process inherent in the law of nuisance, their utility for the public good far outweighs the disruption and injury which is visited upon some adjoining lands. The law of nuisance will not extend to allow for compensation in this case.[41]

In the years that followed *St. Pierre*, there was some confusion as to how exactly the utility of the defendant's conduct should factor into the reasonableness analysis. Some suggested that *St. Pierre* had proposed a balancing approach, where the severity of the harm experienced by the plaintiff should be directly balanced against the public utility of the defendant's conduct.[42]

In *Antrim*, the Court clarified the comments in *St. Pierre*. It noted that the comments in *St. Pierre* must be understood in relation to the alleged injuries in that case, which were restricted to loss of amenity. The question for the court was not simply whether the harms outweighed the benefits; rather, it was whether the interference was more than the plaintiff should reasonably be expected to tolerate, in light of all the circumstances.[43] From this perspective, the utility of the defendant's conduct is merely one part of the circumstances that must be considered. It is relevant, for example, if the defendant's conduct is malicious, and it is equally relevant if the defendant took precautions to minimize the interference.[44] As a result, the Court in *Antrim* stated,

> The reasonableness analysis should favour the public authority where the harm to property interests, considered in light of its severity, the nature of the neighbourhood, its duration, the sensitivity of the plaintiff and other relevant factors, is such that the harm cannot reasonably be viewed as more

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40 *St Pierre*, *supra* note 24.

41 *Ibid.*

42 See *Mandrake Management Consultants Ltd. v. Toronto Transit Commission*, 1993 CarswellOnt 262, [1993] O.J. No. 995 (C.A.), and *Antrim Truck Centre Ltd. v. Ontario (Ministry of Transportation)*, 2011 ONCA 419, 2011 CarswellOnt 4064; reversed 2013 CarswellOnt 2354 (S.C.C.), *supra* note 25.

43 *Antrim*, *supra* note 25 at paras 36–37.

44 *Ibid* at para 2.

> than the claimant's fair share of the costs associated with providing a public benefit. This outcome is particularly appropriate where the public authority has made all reasonable efforts to reduce the impact of its works on neighbouring properties.[45]

This clarification brings the focus back to the basic question: whether the interference experienced by the plaintiff is reasonable. The public utility of the defendant's conduct is merely one more contextual factor that can be considered in the overall analysis, and in light of the other factors. The mere fact that a wind or solar project provides social benefit will not insulate such projects from scrutiny; however, it will factor positively into the overall analysis.

(b) Claims for Injurious Affection

Where a wind or solar project is carried out pursuant to statutory authority, an aggrieved neighbour may bring a claim for injurious affection at the Ontario Municipal Board. Injurious affection is defined in section 1(1) of the Ontario *Expropriations Act*, which contemplates two distinct types of interference with property.[46] The first is injurious affection in a situation where property is taken under statutory authority. The second is injurious affection where no land is taken, but the value of the land is diminished or personal or business damages arise from the construction of the works carried out on neighbouring lands under statutory authority. The *Expropriations Act* provides for compensation in both situations, although its scope is broader where land is taken.

In *Antrim*, the Supreme Court of Canada described the purpose of the statutory compensation scheme for injurious affection as ensuring that "individuals do not have to bear a disproportionate burden of damage flowing from interference with the use and enjoyment of land caused by the construction of a public work."[47] This purpose echoes the rationale underlying the common law of private nuisance — to compensate parties for substantial and unreasonable interference with their use and enjoyment of land.

(c) Injurious Affection Where no Land is Taken

Where no land is taken, the *Expropriations Act* provides for compensation for such reduction in the market value of the land, as well as personal and business damages, resulting from the construction and not the use of the works as the statutory authority would be liable for if the construction were not under the authority of a statute.[48] The origin of this provision in the *Expropriations Act* was discussed in the Ontario Law Reform Commission Report, a precursor to the *Expropriations Act*, respecting the basis of compensation for expropriation.[49] In this report, the

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45 *Ibid* at para 40.

46 R.S.O. 1990, c. E-26.

47 *Antrim*, *supra* note 25 at para 56.

48 *Supra* note 46, s. 1(1).

49 Ontario Law Reform Commission, *Report of the Ontario Law Reform Commission on the Basis for Compensation on Expropriation* (Toronto: Department of the Attorney General, 1967).

Commission acknowledged that injurious affection where no land is taken is not strictly speaking a matter of compensation for expropriated property. Rather, it is a question of tort law and the interaction between the law of nuisance with defences of statutory authority and the immunity of the Crown.[50] The Commission recognized the provisions that were ultimately incorporated into the *Expropriations Act* and stated that they placed the expropriating authority in a similar position to a private person who has committed acts of nuisance or trespass.[51]

While compensation is availablein situations where no land is taken, there is no presumption in favour of compensation.[52] In order to be compensated in these situations, a claimant has to meet three statutory requirements: (i) the damage must result from action taken by a statutory authority; (ii) the action must be such that it would have given rise to liability but for the statutory authority; and (iii) the damage must arise from the construction and not the use of the public works.[53]

The significance of statutory authority in determining compensation for injurious affection arises out of the exemption from liability traditionally accorded to public authorities exercising statutory powers. This exemption, described in *Ryan v. Victoria (City)*, holds that a public authority will be exempted from liability for nuisances it creates, if it can be shown that the activity was authorized or required by statute and the nuisance was inevitable or practically impossible to avoid.[54] The *Expropriations Act* specifically displaces the exemption, so there is liability imposed under that Act for statutory authorities who interfere with property. The *Expropriations Act* defines "statutory authorities" in section 1(1) as "the Crown or any person empowered by statute to expropriate land or cause injurious affection."[55] As such, it includes entities such as public utilities, as well as entities applying to the Ontario Energy Board for authority under the *Ontario Energy Board Act*[56] to acquire land and construct works.

The second requirement is concerned with whether the interference would be compensable at common law, but for the statutory authorization. In effect, to succeed in a claim for injurious affection where no land is taken, a claimant must establish and satisfy the requirements for a cause of action recognized at common law. Most often, the interference is framed in private nuisance and courts apply the same common law test for nuisance that is outlined above.[57] It is for this reason

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50 *Ibid* at 46–48.

51 *Ibid.* Interestingly, the Commission recommended that there be further inquiry into this area of law and regarded these provisions in the *Expropriations Act* as a "satisfactory, if temporary, solution."

52 *Dell Holdings Ltd. v. Toronto Area Transit Operating Authority*, [1997] 1 S.C.R. 32, [1997] S.C.J. No. 6 at para. 34 [*Dell Holdings*].

53 *Antrim*, *supra* note 25 at para 5.

54 [1999] S.C.R. 201, [1999] C.J. No. 7.

55 *Supra* note 46, s. 1(1).

56 S.O. 1998, c. 15, Schedule B.

57 The actionable rule can also be satisfied by claims arising from trespass, negligence and public nuisance. When public works obstruct an existing public right of way, a claim in public nuisance may satisfy the actionable rule without the same balancing of interests. See *Wildtree Hotels Ltd. v. Harrow LBC* (2000), [2001] A.C. 1 (Eng. H.L.).

that the holdings in decisions such as *St. Pierre* and *Antrim*, which are injurious affection cases, are applicable and relevant to defining the scope of private nuisance.

The third and final requirement is that the damage must arise from the construction and not the use of the works. This restriction only applies to injurious affection in cases where land is not taken. The meaning of "construction and not the use" is explained in *Windsor (City) v. Larson*.[58] In that case, the Ontario Divisional Court stated that "construction" included both the day-to-day process of actually constructing the works, as well as the works themselves when finally constructed. In determining whether the damage arises from the construction or the use, the relevant consideration is "whether the works as constructed, if left unused, would interfere with the actual enjoyment of the property."[59] If, as was the case in *Larson*, the public authority built a highway median strip that prevented access to a property and thereby diminished its value, the damage arose from the construction and was compensable. This distinction is relevant to wind and solar projects, because it means certain interferences are potentially compensable in injurious affection, while others are not. Noise and strobing, for example, will generally occur as a result of the use of the works, being the movement of the wind turbine. Conversely, aesthetic impacts are typically the result of construction, as they will exist regardless of whether the project is actually operational.

This distinction relating to construction versus use appears to derive from the common law that has developed in this area and may recognize a limitation on this statutory remedy, based on proximity and foreseeability. Damage that results from the construction of works will often have greater foreseeability and limits with respect to proximity than damage that arises from the overall use of a project, which may not even be in the control of the proponent who constructs the project.

(d) Injurious Affection Where Land is Taken

Where land is taken, section 1(1) of the *Expropriations Act* provides a more expansive definition of injurious affection.[60] In these cases, injurious affection compensates for reductions in market value caused by the taking of land, the construction and the use of works thereon, as well as personal and business damages arising from the construction and the use. This expanded definition confers a much broader right of recovery than when no land is taken. Where there is a partial taking and the remaining land is thereby depreciated, three general criteria need to be met in order to recover damages: (a) the land affected must have been "held with" the expropriated land; (b) the land affected must have been depreciated in value by activities upon the expropriated land;[61] and (c) the damage suffered must not be too

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58 (1980), 114 D.L.R. (3d) 477, 20 L.C.R. 344 (Ont. Div. Ct.) [*Larson*].

59 *Ibid* at para 17.

60 *Supra* note 46, s 1(1).

61 The meaning of, "the construction of the works thereon" has been interpreted broadly when considering injurious affection and has not generally limited the scope of injurious affection to arise from the specific works that were constructed on the lands acquired. This wording has been generally applied to require the construction and works giving rise to the injury to have been the works for which the lands were expropriated.

remote.[62] In effect, these three criteria set up a test whereby a landowner who is subject to a partial taking is entitled to damages that are caused to the remaining lands by activities for which the expropriation took place. Causation can be established even if the damages are sustained before the taking actually occurs.[63]

While the damages must be proven, where land is taken there is a presumption in favour of full compensation.[64] This presumption has a long history as part of the common law governing expropriation. In *British Columbia v. Tener*,[65] Estey J. cited a passage of Lord Atkinson in *Attorney General v. De Keyser's Royal Hotel Ltd.*,[66] stating ". . . unless the words of the statute clearly so demand, a statute is not to be construed so as to take away the property of a subject without compensation." The broad and purposive interpretation of the *Expropriations Act* in favour of compensation provides for an expansive right of recovery for injurious affection when land is expropriated. As a consequence, losses in value to the remaining lands that arise from injurious affection need not meet additional criteria required to form an action at common law. Although the definition of injurious affection where land is taken incorporates the requirement for actionability at common law absent statutory authority, the requirement is satisfied by the fact that the taking of land without consent would constitute an action at common law by virtue of the laws of trespass and conversion. As a result, the actionable rule is satisfied by the act of expropriation itself, and there is no need to independently satisfy the common law standard for private nuisance. In these cases, there is only the question of damages to be considered for the determination of compensation.

III. VIABILITY OF CLAIMS AGAINST WIND AND SOLAR ENERGY PROJECTS IN CANADA

While each type of wind or solar energy project obviously generates different effects, as discussed above, the potential perceived interferences linked to wind and solar projects can be grouped into certain broad categories: noise effects, light effects, aesthetic concerns, fears about health effects, and diminution in value. The discussion below assesses the viability of each of these types of claims in the context of private nuisance, in order to determine whether impacts generated by wind and solar projects could rise to the level of an actionable nuisance. In analogous cases courts have applied the fundamental principle that a claimant must demon-

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See discussion in Paul Scargall, Shane Rayman & Shana Wright, "Private Rights, Public Good: Balancing Competing Interests Under Expropriation Law," online: Rueter Scargall Bennett LLP, <http://rslawyers.com/publications/>.

62 E.C.E. Todd, *The Law of Expropriation and Compensation in Canada*, 2nd ed (Scarborough, Ont: Carswell, 1992), cited in *Airport Corporate Centre Inc. v. Ontario (Minister of Transportation)* (1996), 58 L.C.R. 2 (Ont. Div. Ct.) at para. 6 [*Airport Corporate*].

63 *Imperial Oil Ltd. v. R.*, [1974] S.C.R. 623, 35 D.L.R. (3d) 73.

64 *Eves v. Hastings (County) Board of Education*, 1994 CarswellOnt 5025, 54 L.C.R. 276 (O.M.B.); *Dell Holdings*, *supra* note 52.

65 [1985] 1 S.C.R. 533, [1985] S.C.J. No. 25 at p. 559 [S.C.R.], cited in *Dell Holdings*, *supra* note 52.

66 [1920] A.C. 508 (U.K. H.L.) at p. 542.

strate a substantial and unreasonable interference that exceeds what a reasonable person should be expected tolerate in modern society. Successful claims have involved situations where a project has had a severe and disproportionate impact on a neighbouring property or sterilized its existing use. In the renewable energy context, examples of successful claims in nuisance include flooding caused by hydroelectric dams, where such flooding physically damages neighbouring properties.[67] However, given the nature of wind and solar projects, in the vast majority of cases any impacts generated by these projects will not rise to this level of interference, and therefore will not ground a viable claim in nuisance.

(a) Noise Effects

Noise is a significant concern for communities near proposed or existing wind turbine developments.[68] While not loud in a conventional sense, wind turbines emit constant low-frequency noise that is perceptible to the human ear. In principle, claims in nuisance due to noise and vibration are compensable. While noise and vibration would typically not physically damage land, they can certainly constitute an interference with the use and enjoyment of property.

Existing nuisance case law dealing with other types of sound provides insight into the Court's likely approach to a claim arising from wind turbine noise. In *340909 Ontario Ltd. v. Huron Steel Products (Windsor) Ltd.*,[69] the Ontario Supreme Court reviewed how noise and vibration can rise to the level of a nuisance. In that case, a stamping plant located across the street from a multi-unit apartment building expanded and installed a new 800-tonne press. The plant later installed a second 800-tonne press, but used noise-mitigation strategies to minimize the disturbance from this second press. The claim pertained to the first press, which was found to generate approximately 70 decibels of sound. The owner of the apartment building alleged that it had trouble renting apartments and keeping tenants because of the noise. In reaching its decision, the Court took account of research that found 50 decibels to be a tolerable level of noise for the average person. In addition, at that time 50 decibels was the threshold set in the *Environment Protection Act*,[70] which governed the then-current approvals process for this type of industrial press. While noise in excess of this standard did not necessarily constitute a private nuisance, the Court found that the statutory standard was a useful indicator of reasonable conduct.[71] The Court relied on legislated thresholds as well as existing research to conclude that the test for nuisance was met. The Court also applied the nuisance factors, noting that the sound was worst at night, occurred in a mixed use area with some residential properties, and that not all available mitigation strategies had been undertaken.

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67 See e.g. *Henderson v. Canada* (2008), 292 D.L.R. (4th) 114, [2008] O.J. No. 1538 (Div. Ct.); *Quick v. Alpine Nurseries Sales Pty. Ltd.*, [2010] NSWSC 1248.

68 See e.g. Walker & Baxter, *supra* note 14 at 731.

69 1990 CarswellOnt 758, [1990] O.J. No. 997 (H.C.); affirmed (1992), 10 O.R. (3d) 95 (C.A.) [*Huron Steel*].

70 RSO 1980, c 141.

71 *Huron Steel*, *supra* note 69 at para 38; *R. v. Saskatchewan Wheat Pool* (1983), *(*sub nom. *Canada v. Saskatchewan Wheat Pool)* 143 D.L.R. (3d) 9 (S.C.C.).

The reasoning in *Huron Steel* indicates that statutes, regulations, and even guidelines prescribing acceptable levels of noise are likely to have a significant impact on the success of private nuisance litigation. Laws and guidelines do not replace the common law nuisance test; however, they provide a strong statement on how much noise society considers ought reasonably to be tolerated. It is therefore informative to consider how measured noise levels in communities located near wind turbines compare to the maximum allowable noise under local regulations and guidelines. Measurements taken from residences near wind turbines typically estimate the hum to average approximately 35 decibels, although this number can vary greatly even at the same location.[72] In Ontario, the relevant guidelines for wind turbines are found in the Ministry of the Environment document entitled *Noise Guidelines for Wind Farms*.[73] This document sets out the sound limits for wind farms in rural and urban parts of Ontario. In urban centres, the sound generated by wind turbines is not to exceed between 45 and 51 decibels.[74] In rural Ontario, the limit is between 40 and 51 decibels.[75] Given the Court's approach in *Huron Steel*, these thresholds will likely inform a court's assessment of what is reasonable in the context of a private nuisance claim arising from wind turbine noise. Plaintiffs bringing a nuisance claim against any wind project that does not exceed the applicable threshold will face a significant challenge in demonstrating a severe or unreasonable interference with their use and enjoyment of property.

As the majority of renewable energy facilities require regulatory approval and an assessment of impacts, most projects will not create noise above the acceptable range set by government regulations.[76] So long as projects comply with their regulatory guidelines, it may be a challenge to establish that the noise generated by such projects is unreasonable. In the context of claims for injurious affection where no land is taken, another challenge arises as the noise will be generated by the driving rotation of the turbine's blades, which constitutes the use and not the construction of the project.

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72 Bob Thorne, "The Problems with 'Noise Numbers' for Wind Farm Noise Assessment," (2011) 31:4 Bulletin of Science, Technology & Society 262. While wind turbine noise generally complies with recommended noise exposure guidelines, some neighbours nonetheless find this noise to be a constant irritant.

73 Ministry of the Environment, *Noise Guidelines for Wind Farms*, (Toronto: MOE, October 2008), online: <https://dr6j45jk9xcmk.cloudfront.net/documents/1683/164-noise-guidelines-for-wind-farms-en.pdf>.

74 The noise produced by the rotation of wind turbine blades typically increases with wind speed. Recognizing that the same turbine may be noisier on a windy day than a still day, Ontario's *Noise Guidelines for Wind Farms* permit higher maximum noise levels when wind speed increases.

75 Interestingly, this distinction reflects the different standards applied in urban and rural settings under the traditional common law nuisance factors.

76 Nuisance claims may face an additional challenge in light of the fact that most wind and solar energy projects will have gone through a Renewable Energy Approvals process, which involves public consultation and seeks to ensure compliance with applicable guidelines and legislation. The efficacy of the approvals process is subject to criticism, but its existence nevertheless poses an additional hurdle for claimants seeking to establish private nuisance.

(b) Light Effects

Claims related to light-based effects may arise in relation to glare caused by solar panels,[77] or strobing caused by wind turbines.[78] There is common law jurisprudence standing for the proposition that in rare and very serious cases, lumination can rise to the level of a compensable nuisance. In the New Zealand case *Bank of New Zealand v. Greenwood*,[79] the High Court of New Christchurch in New Zealand held that the glare coming off a new glass verandah constituted a private nuisance. However, the glare in that case was rather extreme. Glass roofing panels forming the verandah of a neighbour's building reflected into the plaintiff's building, giving off what was described to the Court as a high-intensity dazzle.[80] The dazzle was too intense to bear, and momentarily blinded those who experienced it. The business tenants of the plaintiff's building had to rearrange their offices and take temporary measures to mitigate the damage — for instance, standing between customers and the glare, or refusing appointments at times of day when the glare was strongest.[81] In short, the glare significantly interfered with the existing use of the plaintiff's building as office space. The Court held that this interference was substantial and unreasonable, and therefore constituted a nuisance. The remedy was to order the defendant to buy blinds for the plaintiff's building.[82]

The test for nuisance in New Zealand and Ontario is largely the same — whether the interference is more than a reasonable person should be expected to tolerate in the circumstances.[83] *Bank of New Zealand* demonstrates that light effects causing significant interference and discomfort to neighbours can be fruitfully analyzed using the ordinary test for private nuisance; however, a very significant level of interference is required to constitute a nuisance. As the Ontario High Court of Justice held in 1932 in *Noyes v. Huron & Erie Mortgage Corp.*,[84] the Court will not shield neighbours from trivial light-based interferences, nor will it protect extra-sensitive uses. Although such claims are theoretically possible, they will only be

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77 So far, there has been limited research into the glare effects of solar panels. Generally, studies have found the glare to be infrequent or brief, and not very intense. See Evan Riley & Scott Olson, "A Study of the Hazardous Glare Potential to Aviators from Utility-Scale Flat-Plate Photovoltaic Systems," (2011) ISRN Renewable Energy, Article ID 651857. See also Roberto Chiabrando, Enrico Fabrizio & Gabriele Garnero, "The territorial and landscape impacts of photovoltaic systems: Definition of impacts and assessment of the glare risk," (2009) 13 Renewable and Sustainable Energy Reviews 2441.

78 See e.g. *Burch v. Nedpower Mount Storm, LLC*, 220 W.Va. 443, 647 S.E.2d 879 (Ct. App., 2007).

79 [1984] 1 N.Z.L.R. 525 [*Bank of New Zealand*].

80 *Ibid* at 3.

81 *Ibid* at 5.

82 *Ibid* at 19.

83 *Ibid* at 10.

84 [1932] O.R. 426 (S.C.). In this case, the defendant installed a floodlighting system that the plaintiff claimed obscured advertising slides that the plaintiff was projecting onto his own building. The Court held that any interference was slight, and that the plaintiff's advertising was an extra-sensitive use.

successful in rare circumstances such as *Bank of New Zealand*, where the works have a severe and disproportionate impact on the neighbouring property that results in the impacted property being unsuitable for its existing use. It seems highly unlikely that the glare off a solar panel or strobing from a wind turbine could rise to this level of severity. Based on the nature of wind and solar projects and their proximity to improvements such as residences, claims for unreasonable disturbance due to light effects appear remote.

(c) Aesthetic impacts

Many property owners enjoying rural amenity have misgivings about the aesthetic impact of wind and solar projects.[85] Both types of undertakings can change landscapes and disrupt scenic vistas, especially where installations are larger-scale or within regular lines of sight.[86] In many instances these complaints, however, are based principally on a loss of prospect or aesthetic appeal to a rural surrounding. As was found by the Court at first instance in *St. Pierre*, aesthetic impacts are not a form of interference that can substantiate a claim for private nuisance. Referring to *Aldred's Case* in 1616, the Supreme Court of Canada in *St. Pierre* reiterated that "[f]rom the very earliest times, the Courts have consistently held that there can be no recovery for loss of prospect."[87] *St. Pierre* confirmed that the tort of nuisance will not be expanded to permit this type of recovery. The result is that any purely aesthetic complaints by neighbours of wind or solar projects will not be compensated under the law of private nuisance, no matter how much such projects disrupt the view.

Although concerns about the aesthetic impacts of wind and solar projects on rural landscapes may be valid, the ability to bring claims in private nuisance is limited due to the established law in this area that recognizes that the aesthetics of a surrounding environment change over time. Tolerating these changes is part of the "give and take" associated with the enjoyment of property that is emphasized in the law of private nuisance.[88] In light of the well-established jurisprudence in this area, at this stage there appears to be no meaningful chance of success for a nuisance

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85 Wind turbines in particular have inspired deep resistance, as they are often constructed in scenic rural areas and can easily dominate a landscape. Smaller-scale solar projects also create unique aesthetic concerns, as they are often built in residential neighbourhoods, in backyards, or on building roofs. As initiatives like Ontario's FIT and microFIT programs push development further into these areas, resistance to the changing aesthetics of local landscapes will no doubt remain a substantial issue affecting the public's acceptance of renewable energy projects.

86 See e.g. Walker, *supra* note 11 at 55. See also Ana del Carmen Torres-Sibille et al, "Aesthetic impact assessment of solar power plants: An objective and a subjective approach," (2009) 13(5) Renewable and Sustainable Energy 986; Sophie Margret-Gay et al, "On-Shore Wind and Solar Power Plants as Alternative Energy Sources for Victoria," (2010) 38 International Archives of the Photogrammetry, Remote Sensing, and Spatial Information Sciences 598, online <www.isprs.org/proceedings/XXXVIII/part2/Papers/159_Paper.pdf>.

87 *St Pierre*, *supra* note 24 at para 13.

88 See e.g. *Tock v. St. John's (City) Metropolitan Area Board*, 1989 CarswellNfld 21, 1989 CarswellNfld 217, [1989] 2 S.C.R. 1181 at para. 63; see also *Walter v Selfe*,

claim based only on aesthetic interference. Even if a Court was willing to entertain the argument that aesthetic impacts amount to a substantial interference sterilizing the use of a property, it seems unlikely that a wind or solar project could create such an extraordinary level of visual interference. As a result, in the overwhelming majority of cases, the aesthetic intrusion of wind and solar projects on rural landscapes will have to be tolerated as a reflection of the changing uses of land resulting from Canada's expanded reliance on renewable energy sources.

(d) Fears about Health Effects

Some residents find themselves concerned about the potential health effects of living near wind farms. In some studies, participants report experiencing a variety of health problems including headaches, sleep disturbance, stress, concentration problems, tachycardia, muscle problems, nausea and more, which they believe result from living in proximity to wind turbines.[89] Less commonly, some residents believe that living near power generating projects, such as large solar panel installations, can generate unhealthy levels of electromagnetic frequencies.[90] These health concerns are not substantiated by any widely-accepted body of scientific or academic research. Even so, unsubstantiated fears can nevertheless interfere with the use and subjective enjoyment of property, just by creating stress among those residents who harbour these fears. The question is, however, whether unsubstantiated fears about potential health effects will ground a claim in private nuisance.

In the absence of proven harm, precedent establishes that unsubstantiated concerns about potential health risks are not actionable. In *Shuttleworth v. Vancouver General Hospital*, the plaintiff argued that a nearby infectious diseases hospital constituted a nuisance because of residents? fears about potential infection.[91] The Court held that even though the fear of infection was sincere and widely-held by laypersons, the plaintiff had not met the onus of showing that it was based in fact.[92] In the absence of a real proven risk to residents, unsubstantiated fears will not ground a claim in nuisance. This rationale will extend to unsubstantiated concerns about wind and solar projects. Unless plaintiffs can bring convincing evidence that the project in question poses a real and demonstrable hazard to human health, it is highly unlikely that nuisance claims based on fears about health impacts will succeed. If, on the other hand, health hazards are substantiated and plaintiffs are able to present clear and cogent evidence of actual risks and/or harms, they will likely satisfy the nuisance test. A genuine risk to the health of neighbouring property owners would almost certainly constitute a substantial and unreasonable interference with their use and enjoyment of the property.

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supra note 28 at 83-84 and *Bamford v. Turnley* (1862), 3 B. & S. 66, 122 E.R. 27 (Q.B.) at pp. 32-33 [E.R.].

89 See e.g. Colby et al, *supra* note 18.

90 In relation to solar panels, these concerns do not reside in mainstream academic or scientific literature. Even so, some members of the public find themselves concerned. See e.g. *supra* note 20.

91 [1927] 2 D.L.R. 573, [1927] 1 W.W.R. 476 (B.C. S.C.) at para. 8 [*Shuttleworth*].

92 *Ibid* at para 8.

(e) Diminution of value

In the context of wind and solar projects, it is entirely possible that a landowner would experience a diminution in value of their property as a direct result of a project's proximity to their land. Regardless of whether projects actually cause sensible discomfort to residents, some members of the public are concerned that living near renewable energy projects is somehow dangerous, unhealthy, or otherwise threatening. As a result, potential buyers may be unwilling to pay the same price for a property that is located near a renewable energy project due to stigma. Research conclusions are mixed as to whether any negative public perception actually decreases the market value of residences located close to wind turbines.[93] The law is clear, however, that diminution in value caused solely by negative public perception is not an independently compensable nuisance.

In *Smith v. Inco Ltd.*, the Court heard arguments related to lands that had been contaminated by emissions from a nickel refinery. The plaintiffs argued that the nickel in the soil diminished the value of their properties, and sought compensation in nuisance. The Court of Appeal accepted the distinction drawn by the defendant between actionable damages and the measure of damages. In private nuisance, diminution in value is not an independent head of damages; rather, it is the measure of damages arising from actual negative impacts on the land.[94] The Court held that without showing some actual negative effect on the plaintiff's land, there was no basis to award recovery for any diminution in value. Further, the Court in *Inco* expressed its discomfort with the notion that public perception could be a standalone compensable injury. To the extent that diminution in value results from the public's general misgivings toward wind and solar projects, it will not be compensable in the context of nuisance claims. To permit recovery for public perception, the Court stated, "extends the tort of private nuisance beyond claims based on substantial actual injury to another's land to claims based on concerns, no matter when they develop and no matter how valid, that there may have been substantial actual injury caused to another's land."[95] While *Inco* involved a nickel plant rather than a wind or solar project, this case stands for the general principle that diminution in value by itself will not be compensable; rather, a plaintiff has to show some tangible, actionable injury to recover in nuisance for any diminution in the value of his or her property. *Inco* elaborates on a much earlier pronunciation of the same principle in *Shuttleworth*, where the Court held that "depreciation of property accompanying a sentiment of danger will not without more give a cause of action."[96] This finding is consistent with the law that requires the test for private nuisance to be

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93 See e.g. Ben Hoen et al, "Wind energy facilities and residential properties: The effect of proximity and view on sales prices," (2011) 33:3 Journal of Real Estate Research 279. See also Ben Lansink, "Case Study: Diminution in value wind turbine analysis," (1 October 2012), online: Windaction <http://www.windaction.org/posts/35047-case-study-diminution-in-value-wind-turbine-analysis#.VCGZeRZG0cs>.

94 2011 ONCA 628, 2011 CarswellOnt 10141 at para. 52, ; leave to appeal refused 2012 CarswellOnt 4932 (S.C.C.); reconsideration / rehearing refused 2014 CarswellOnt 12113 (S.C.C.) [*Inco*].

95 *Ibid* at para 59.

96 *Shuttleworth*, *supra* note 91 at para 9.

satisfied before damages are considered. As a result, even if a plaintiff can prove diminution in the value of the property, unless the diminution is caused by a legal wrong such as a nuisance, it will not be recoverable.

(f) Injurious Affection

Unlike claims for private nuisance, when land is expropriated there is a presumption in favour of compensation. Accordingly, the quantification of damages becomes the focus, as opposed to whether liability is triggered. Providing full compensation for a taking includes compensating claimants for the diminution in value to their remaining lands. If a claimant can show that the public authority's taking or works has diminished the value of the remaining property, the right to recover damages will flow.

Where no land is taken, there is no presumption in favour of compensation, so a compensable nuisance must be established on the facts using the test as outlined above. Even if a compensable nuisance can be established, it must also be proven that the damage arises from the construction and not the use of the work. In cases where it is the physical existence of the works that causes the interference, this additional requirement will not pose a significant obstacle. Glare projected off a solar panel, for instance, will likely meet this requirement since the sun will reflect off the panel's surface whether or not energy is being fed into the power grid. On the other hand, where the interference arises from the active operation of the works, this criterion will not be satisfied. For instance, the sound (other than wind resistance when idle) and light/strobing effects associated with wind turbines only occur when the turbines are operational. Applying the test in *Larson*, if the turbines were left unused, these negative effects would not occur, and so they are likely not compensable as injurious affection where no land is taken. Assuming that interferences are substantial and unreasonable enough to constitute a nuisance, this approach may leave some significant interferences uncompensated, unless a civil claim for private nuisance is brought before the court.

IV. SELECTED CANADIAN AND INTERNATIONAL DECISIONS

To date, the vast majority of Canadian disputes related to wind and solar energy projects have taken the form of challenges to the planning and approval process before administrative tribunals such as the Ontario Environmental Review Tribunal.[97] In coming to their decisions, these tribunals consider many of the same

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97 These challenges have typically met with little success, provided the relevant approvals process has been followed by the proponent, see e.g.: *Lambton (County) v. Ontario (Director, Ministry of the Environment and Climate Change)*, 2015 CarswellOnt 2990 (Environmental Review Trib.); *Gillespie v. Ontario (Director, Ministry of the Environment and Climate Change)*, 2015 CarswellOnt 1831 (Environmental Review Trib.); *Kroeplin v. Director, Ministry of the Environment*, 2014 CarswellOnt 5220, [2014] O.E.R.T.D. No. 24 (Environmental Review Trib.); *Wrightman v. Director, Ministry of the Environment*, 2014 CarswellOnt 2321, 86 C.E.L.R. (3d) 18 (Environmental Review Trib.); *Drennan v. Director, Ministry of the Environment*, 2014 CarswellOnt 1695, [2014] O.E.R.T.D. No. 10 (Environmental Review Trib.); *Dixon v. Director, Ministry of the Environment*, 2014 CarswellOnt 714, [2014] O.E.R.T.D. No.

potential negative impacts discussed above; however, they apply different tests (focused on areas other than liability and damages) than do adjudicators handling a claim for nuisance or injurious affection. As such, these administrative decisions are of limited assistance in understanding potential claims for nuisance and injurious affection in Canada. For this reason, in addition to considering Canadian decisions, it is useful to refer to decisions from other jurisdictions for guidance. Given that nuisance is a common law tort sharing fundamental similarities across common law jurisdictions, most of the cases discussed below arise from claims for private nuisance.

Interestingly, these cases generally align with the analysis set out above: noise and light effects generated by wind and solar projects are compensable in principle, but they typically will not be intrusive enough to constitute a nuisance. In determining whether noise or light effects rise to the level of nuisance, Courts will look to controlling regulations or bylaws for guidance as to what ought to be tolerated. As to other potential effects of wind and solar projects, absent some other actionable nuisance Courts will not permit recovery for aesthetic impacts, unsubstantiated concerns about health effects, or diminution in value. In most cases, the interference is determined to be too speculative and insubstantial to constitute a private nuisance, thus affirming the thesis that that the vast majority of wind and solar projects will not attract liability in claims based on private nuisance.

There has already been a significant amount of nuisance litigation involving wind power facilities. One Canadian case deals directly with the question of nuisance caused by wind turbines; however, the claim was prematurely brought at the approvals stage. In *Wiggins v. WPD Canada Corp.*,[98] WPD had been awarded a contract under Ontario's FIT program to build the turbines, but the project was not yet under construction and the necessary approvals were not yet granted. The plaintiffs sought injunctions to prevent construction, and damages resulting from the approvals process. The plaintiffs claimed that they had already suffered a loss in property values, and brought expert evidence to talk about the health effects that would arise if the turbines were constructed. The Court held that the law cannot provide relief where there is no actionable wrong. Even though, for the purpose of the summary judgment motion, the Court accepted that the residents may have suffered diminished property values, the Court held that these damages were not occasioned by a legal wrong since there was no existing nuisance. The Court relied on *Shuttleworth* for the proposition that diminution in value, without some legal wrong, cannot found an action by itself.[99] The Court further held that it was unable

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5 (Environmental Review Trib.); affirmed 2014 CarswellOnt 18224 (Div. Ct.); additional reasons 2015 CarswellOnt 3071 (Div. Ct.); *Bovaird v. Director, Ministry of the Environment*, 2013 CarswellOnt 18046, [2013] O.E.R.T.D. No. 87 (Environmental Review Trib.); *Erickson v. Ontario (Director, Ministry of Environment)*, 2011 CarswellOnt 6794, [2011] O.E.R.T.D. No. 29 (Environmental Review Trib.).

98 2013 ONSC 2350, 74 C.E.L.R. (3d) 310 (S.C.J.); additional reasons 2013 CarswellOnt 10951 (S.C.J.) [*wpd*].The approvals process is a multi-stage process that requires preparing a report, public consultation, notice and public comment, and possibly entails making significant changes to the project.

99 *Shuttleworth*, *supra* note 91.

to apply the test for nuisance where the harms were speculative and subject to change. It cited *Inco* for the proposition that a claim for loss of property value based solely on public concerns about a potential future impact is not sustainable.[100]

The United States has seen considerably more nuisance litigation in relation to wind turbines. One well-known case is *Rose v. Chaikin*,[101] which was decided in New Jersey in 1982. In this case, the plaintiffs complained about a privately-constructed sixty-foot tall windmill, located ten feet from the plaintiffs? property line. The noise levels were found to range between 56 and 61 decibels, thereby exceeding the controlling city ordinance's limit of 50 decibels. The plaintiffs complained that the windmill was causing them stress, difficulty sleeping and relaxing and created a noise that was unnatural to the quiet, residential neighbourhood where they resided. The Court considered the character of the neighbourhood, and weighed the social utility of the windmill against the cost to the plaintiffs. It held that in the circumstances, the noise from the windmill constituted an actionable nuisance and ordered an injunction.

In *Rankin v. RPL Energy LLC*,[102] the Texas Court of Appeals in 2008 summarily dismissed a nuisance claim as being based in whole or in part on aesthetic concerns. The plaintiffs tried to argue that the aesthetic impact could be considered in connection with other nuisances, such as blinking lights and noise. However, the Court found that the real claim was based on the Plaintiffs' emotional response to the loss of their view due to the presence of numerous wind turbines. The Court affirmed that aesthetics are not a ground for claiming damages in nuisance.

In *Burch v. Nedpower Mount Storm LLC*,[103] the Supreme Court of Appeals of West Virginia heard the complaint of seven neighbouring homeowners after Nedpower got approval from a public authority to build a 200-turbine wind power operation. The plaintiffs sought an injunction on the basis of nuisance for noise, light strobing, danger from broken blades, ice throws and diminution in property values. The Court held that, if there had been a taking, the owners could possibly seek nuisance damages in an eminent domain proceeding related to the public authority's decision. Without being able to resort to an eminent domain proceeding, the plaintiffs were left to argue that the approval itself created a private nuisance. The Court held an eventual action was possible in principle, because noise and light flicker are cognizable in law as private nuisances and diminution in value caused by actionable nuisances is compensable; however, because it was only at the approvals stage, the plaintiffs were not yet able to prove the existence of clear and imminent harm to substantiate their claim.

In 2012 in *Sowers v. Forest Hill Subdivision*,[104] the Supreme Court of Nevada held that a 75-foot wind turbine would constitute a nuisance and granted a permanent injunction. In that case, Sowers wanted to construct the wind turbine on his

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100 *Inco*, *supra* note 94.

101 187 N.J.Super. 210, 453 A.2d 1378 (Ch. D., Atl. County, 1982).

102 266 S.W.3d 506, 2008 Tex App LEXIS 6398 (Eastland, 2008).

103 220 W.Va. 443, 647 S.E.2d 879 (2007).

104 294 P. 3d 427, 2013 Nev LEXIS 8 (SC Nev); Rehearing denied 2013 Nev LEXIS 50; reconsideration denied 2013 Nev LEXIS 75 (2013) [*Sowers*].

residential property. The Court considered that this was a very quiet neighbourhood with panoramic views, and the wind turbine would likely lower property values in the area. While aesthetic considerations by themselves were not enough to constitute a nuisance, the Court held that combined with noise, shadow flicker and diminution in value, there was a nuisance. Taking into account the character of the neighbourhood, the Court concluded that the public utility of the project did not outweigh the interference it would cause to neighbouring properties. This case seems to contrast with *wpd*, where the Canadian court refused to consider a pre-emptive injunction. However, unlike in *wpd*, in *Sowers* there were no more mandatory review processes that could change the construction plan and potential effects could be established with greater certainty.[105] Even so, this case stands as an exception — the Court takes a protectionist stance toward rural amenity that is out of step with changing land uses and Nevada's established policy favouring renewable energy sources.[106] This may be attributable to the Court's opinion that the privately-constructed turbine would primarily (or exclusively) benefit Sowers, and not broader society. As the Court held:[107]

> We recognize that the utility of the wind turbine is the fact that it is an alternative energy source, which Nevada's public policy favours . . . However, an NV Energy representative informed the court that only Sowers would benefit from this alternative energy source since any credit for the turbine's use would only be extended to Sowers' property, and not to the other subdivision residents. Thus, we conclude that the wind turbine's utility within the community is far outweighed by its potential harm to the Forest Hills Subdivision Residents.

This conclusion appears to have affected the Court's balancing of interests in this case. It is arguable whether the Court would have come to the same conclusion if the turbine had been a public project. In any event, this case is interesting in light of Ontario's microFIT program which encourages small-scale, privately-constructed renewable energy projects.

In the international law context, the European Court of Human Rights decided *Fagerskjold v. Sweden* in 2004.[108] The Case was decided based on Articles 1 and 8 of the *European Convention on Human Rights*,[109] which confer rights to the peaceful enjoyment of property, and private and family life, respectively. The Court, following civil law as opposed to common law, approached its decision very much as if it were dealing with a claim in nuisance. In that case, two wind turbines at approximate heights of 105 feet and 90 feet respectively were built on a neighbour's property. Later a third 150-foot high turbine was erected. The appellants complained about noise and light effects, saying the turbines were too close to their house. The appellants claimed they had bought the properties for recreational purposes, and were not able to enjoy them. Testing showed noise levels of 37–39 deci-

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105 *wpd*, *supra* note 98. *Sowers*, *supra* note 104 at 5.

106 *Sowers*, *supra* note 104 at 5.

107 *Ibid* at 11.

108 [2008] ECHR 37664/04.

109 *Convention for the Protection of Human Rights and Fundamental Freedoms*, 4 November 1950, 213 UNTS 221, Eur TS 5 [*European Convention on Human Rights*].

bels arose from the turbines. The Court noted that the recommended noise threshold is 40 decibels, while the guideline level for annoyance set by the World Health Organization is 50–55 decibels. The Court considered the fact that the Local Environment Committee had taken some measures to mitigate the nuisance, and that the levels did not exceed the recommended thresholds. It held that the interference did not attain the level of severity necessary to be actionable. The Court further opined that the balance between the utility of the turbines and the low level of interference supported ruling in favour of the defendants.

There are far fewer cases dealing with solar panels than with wind turbines. This is perhaps because the level of interference caused by solar panel operations is typically very low. In fact, that is the reason the nuisance claim premised on solar panel glare was dismissed by the adjudicator of the Queensland Body Corporate and Community Management Commissioner in *Quinn v. Sanctuary Bay*,[110] decided in Australia in 2012. In that matter, three owners in a housing development installed solar panels on their roofs, and a neighbour complained of the resulting glare. The Court considered whether the solar panels violated the provisions of the applicable *Body Corporate and Community Management Act*.[111] The test under the *Act* is the same as for private nuisance: substantial and unreasonable interference with the reasonable use and enjoyment of property. The adjudicator held that there was some interference from the glare, but it was not substantial. The glare lasted only 45 minutes, at most, on a sunny day. Considering that the housing complex was a waterside development with a number of lots, it was expected that there would be some reasonable interferences by neighbours. The adjudicator concluded that a person of ordinary sensitivities should be expected to tolerate the temporary glare occasionally caused by the panels. It would appear that claims in nuisance arising from solar power facilities will be a challenge to establish, as the majority of claims would relate to loss of aesthetic appeal or interference from lumination that is not substantial.

These cases demonstrate the considerations courts apply to renewable energy projects, which recognize public utility and the emergence of these developments. Interestingly, they also evidence a common theme in considering damages from disturbance caused by wind and solar energy projects throughout different jurisdictions, in support of the conclusion that in the vast majority of cases, such disturbances will not amount to an actionable nuisance. These common considerations reflect a balancing inherent in law, along with evolving realities relating to the imposition of public works and the disturbance caused to neighbours as a result of these undertakings.

V. CONCLUSION

The discussion above illustrates that while the law of nuisance may be considered by some to be a jungle, the jungle is not impenetrable. Certain constants in the law of nuisance make it possible to predict how it will apply and adapt in the face of the proliferation of wind and solar developments. The cornerstone elements of the test for private nuisance (substantial interference and unreasonableness) have

110 [2012] QBCCMCmr 192.

111 *Body Corporate and Community Management Act 1997* (Qld).

remained more or less constant throughout common law jurisdictions. Despite this fundamental stability, the application of the law of nuisance continues to adapt to reflect modern realities and will likely change with the development and advancement of society. It is quite possible that 125 years ago, the law of nuisance would have considered a road intended for noisy, fume-emitting, dangerous and fast-moving machines to be a substantial and unreasonable interference if constructed near a residence. As vehicle use proliferated, however, it became accepted that roads have to be constructed near houses.

Likewise, as the desire for renewable energy increases, the proliferation of specific projects may continue, even if at times these projects are constructed at the expense of the value of neighbouring properties. Like the majority of other large-scale public projects, wind and solar energy projects face regulatory and administrative scrutiny before they can be constructed. This scrutiny often objectively addresses potential impacts that could constitute unreasonable interference with neighbouring properties. Other mitigation measures such as setbacks or operational controls may also be imposed during this stage. As a consequence, any interference that remains from these projects following the approval stage may lend itself to being considered objectively reasonable, so long as the projects comply with applicable guidelines and approvals. This initial process, compounded by the utility of such projects, may pose a challenge to claims in private nuisance by neighbouring property owners.

The balance in the law of private nuisance relating to wind and solar energy projects would appear to be achieved by courts finding nuisance when these works create substantial physical interference or severe harm to the reasonable use and enjoyment of property. When works materially alter the existing use of a property, sterilize it or harm it in some material or physical way, the works will be found to constitute a private nuisance. On the other hand, when works interfere with the value, amenity or potential enjoyment of a property, but do not entirely hinder its use, the balance may favour the advancement of works, even if this entails some degree of sacrifice by the impacted neighbours. This balance appears to have been recognized in recent jurisprudence and will likely present a significant impediment to many claims in nuisance against wind and solar energy projects that do not materially alter the existing use of a neighbouring property or create severe interference to the property.