



Lansink Appraisals and Consulting

Real Estate Appraisers & Consultants - A Division of Wellington Realty Group Inc.

www.lansinkappraisals.com ben@lansink.ca 519-645-0750

Analyses:

MPAC v. Lansink, Value Diminution, Wind Turbines

1. A Report by Ben Lansink titled

Wind Turbines Melancthon Clear Creek MPAC
Diminution in Price, Current Value
February 15, 2013

2. Comments by Michael McCann

Michael McCann is a Chicago based appraiser who has been legally qualified numerous times as an expert witness on property value diminution resulting from industrial scale wind turbine projects in close proximity to residential property.

3. MPAC Study Titled

Impact of Industrial Wind Turbines on Residential Property Assessment
In Ontario 2012 Assessment Base Year Study
Dated April 26, 2014

4. Technical Review by Wayne Gulden

“MPAC throws up, by my count, 7 objections to Lansink’s methodology; of which exactly zero actually indicate that Lansink’s numbers are wrong.”
Gulden 2014.

Report Date: **June 2014**

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Hwy 89, Melancthon Township, Ontario, Canada
Photograph by Ben Lansink

Ben Lansink's Study Melancthon Clear Creek 2013

The two studies suggest price diminution as follows:

Conclusion: Clear Creek, known as Frogmore-Cultus-Clear Creek, about 18 Wind Turbines			Conclusion: Melancthon, 133 Wind Turbines		
1	1480 Lakeshore Road, Norfolk	-44.17%	1	375557 6th Line, Amaranth	-48.27%
2	71 Norfolk County Road 23, Norfolk	-55.18%	2	97121 4th Line, Melancthon	-58.56%
3	47 Concession Road A, Norfolk	-22.47%	3	504059 Highway 89, Melancthon	-23.24%
4	43 Old Mill Road, Norfolk	-32.96%	4	582340 County Road 17, Melancthon	-26.66%
5	1575 Lakeshore Road, Norfolk	-27.67%	5	582328 County Road 17, Melancthon	-37.30%
6	1527 Lakeshore Road, Norfolk	-28.88%			
7	1921 Lakeshore Road, Norfolk	-38.48%			
Median		-32.96%	Median		-37.30%
Average		-35.69%	Average		-38.81%
Low		-22.47%	Low		-23.24%
High		-55.18%	High		-58.56%

None of the above properties considered in this report had a wind turbine erected on it. Registry facts and MLS® listings (if available) for these properties were obtained and are on file.

The Melancthon properties and neighbourhood were inspected and photographed by Ben Lansink on September 20, 2012. The Clear Creek properties and neighbourhood were inspected and photographed by Ben Lansink on October 9, 2012.

MPAC 2012 Base Year – Study 2014

“The Municipal Property Assessment Corporation (MPAC) commissioned this study of the effects of industrial wind turbines (IWT) on the current value of property in proximity to the turbines. Over the last few years, the subject of IWTs has been the subject of a number of reports and studies – both in Canada and worldwide. Past and current studies undertaken by both academics as well as real estate and health professionals have focused on the potential impacts of IWTs on property value and health. Given MPAC’s legislated mandate, this report focuses on the potential impact of IWTs on property values.

MPAC’s study concludes that 2012 Current Value Assessments (CVA) of properties located within proximity to an IWT are assessed at their current value and are equitably assessed in relation to homes at greater distances. No adjustments are required for 2012 CVAs. This finding is consistent with MPAC’s 2008 CVA report. The 2012 CVA study also found that there is no statistically significant impact on sale prices of residential properties in these market areas resulting from proximity to an IWT. The study underwent a rigorous independent third-party peer review and includes appendices describing the study parameters and documenting the analyses.”

“To further confirm its findings, MPAC also conducted an additional analysis using approximately 2,000 sales and re-sales following similar logic to the Lansink study. The main differences between the February 2013 Lansink Study and MPAC’s re-sale analysis is the sample size and the determination of the increase in the market between re-sales. Using 2,051 properties and generally accepted time adjustment techniques, MPAC cannot conclude any loss in price due to the proximity of an IWT. Appendix G includes the re-sales analysis.”

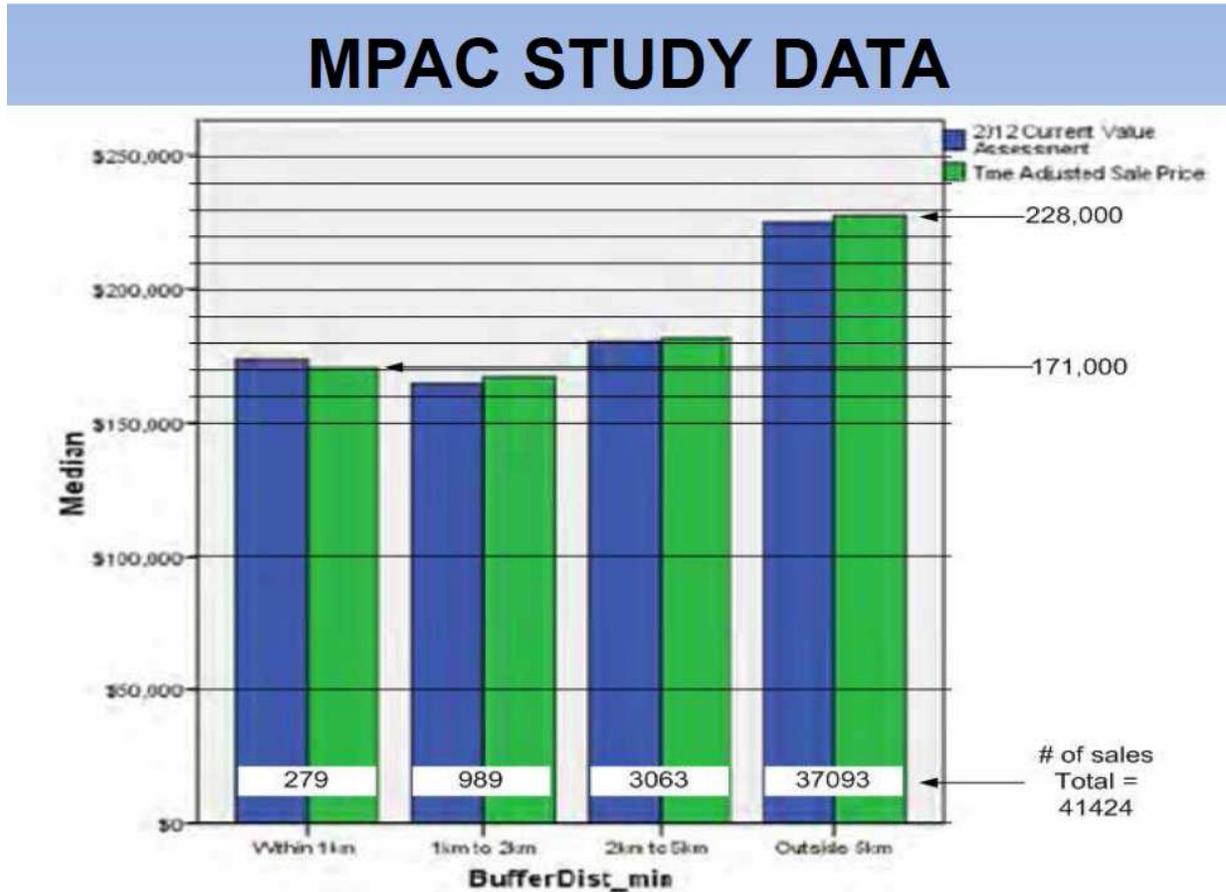
MPAC did find evidence that wind turbines cause property value declines; however, MPAC seems to conclude that impacted properties are equitably assessed even in relation to homes at greater distances.

Given the actual market evidence readily available that supports value diminution if a residential property is within the influence of a Wind Turbine, the MPAC report is misleading to the public and to political decision makers.

See the next page.

Notwithstanding that MPAC states:

“MPAC’s study concludes that 2012 Current Value Assessments (CVA) of properties located within proximity to an IWT are assessed at their current value and are equitably assessed in relation to homes at greater distances. No adjustments are required for 2012 CVAs.”



MPAC may be correct in that properties located within a specific area, 1 km, 1km to 3km, 2km to 5km, and outside 5km, are equitably assessed within each specific area, however MPAC’s work, 2012 Current Value Assessments, and MPAC’s actual Time Adjusted Sale Prices, both clearly support about \$171,000 average assessment/price at setback of less than 1km and \$228,000 average assessment/price at setback outside 5km.

This means typical value diminution is \$57,000 if within 1km vs. 5km.

The MPAC study clearly concludes that properties situated within the influence of a Wind Turbine sell for less than a property not located within the influence of a Wind Turbine.

Yet MPAC is saying diminution is not an issue if they assess each area the same.

The MPAC study concludes diminution in value ranging from **21.1%** if the setback is 3 to 5 km, **26.3%** if the setback is 1 to 3 km, and **25.0%** if the setback is less than 1 km.

VALUE IMPACT SUMMARY MPAC STUDY DATA

(Time Adjusted Sales - Appendix D2)

Setback km	# Sales	Median Sale Price	\$ Impact	% Impact
1 or <	279	\$171,000	\$57,000	25.0%
1 to 3	989	\$168,000	\$60,000	26.3%
3 to 5	3,063	\$180,000	\$48,000	21.1%
> 5	37,093	\$228,000	Control Setback	

It is reasonable to assume MPAC could NOT have assessed all properties influenced by a Wind Turbine equitably as of the value date January 1, 2012.

The most recent current valuations were carried out by MPAC in the 2010-11 period leading up to January 1, 2012 when there was virtually NO evidence of value diminution available to MPAC. Wind Turbines are a NEW phenomenon in Ontario. The first turbines were constructed circa 2005-2008 in Melancthon. The MPAC 2012 Base Year study is dated 2014 which is long after the assessments for all properties in Ontario as of the 2012 Base Year had been concluded.

However, with the passage of time, and with appeals to the Assessment Review Board, and as sale-resale evidence is documented, it is assumed MPAC will read the market place and make adjustments resulting from the influence of Wind Turbines.

The Future: Given that wind turbines are a relatively new phenomenon in Ontario (since 2005), it may be that in the future a buyer will simply refuse to purchase a property within the influence of a Wind Turbine. If there is no buyer, there may be no value.

Michael McCann E-Mail April 26, 2014

Mr. McCann is a Certified Real Estate Appraiser. He has 30 years of specialized experience in evaluating property damage claims. Since 2005, Mr. McCann has studied the impact of industrial wind farms on nearby property values, testifying as a qualified expert witness as to his findings in the market. Mr. McCann has stated:

"I have discussed Mr. Lansink's study with him and have carefully reviewed his report. I concur with his valuation findings, and the reliable nature of the evidentiary value of the resale data in question.

On balance, Mr. Lansink's study is based on the most reliable type of data, since the buyers each had to grant back to the seller/developer an Easement in Gross, allowing the very types of noise, vibration and flicker effect impacts which are commonly experienced and reported near wind turbines, and they were sold by the wind developer for 39% lower on average than the no-turbine market value.

My independent review of the literature on this subject has been fairly exhaustive, and the credible studies researched by professionals who honor the requirement of no bias are all pretty consistent with Mr. Lansink's research, as well as my own findings. However, the studies commissioned by the wind industry tend to conveniently overlook or disregard the most important nearby sale data, and draw their conclusions from thousands of "pooled" sales from 5 – 10 miles away from turbine projects.

Mr. Lansink's study is far from the single example of impacts. Indeed, quite the opposite. Claims of "no impact", in my professional experience and opinion, are unreliable, misleading to the public and to political decision makers."

From: Michael McCann [mailto:mikesmccann@comcast.net]
Sent: Saturday, April 26, 2014 11:17 AM
To: Ben Lansink
Subject: RE: MPAC

Ben,

See Wayne Gulden's review of MPAC. Wayne is a retired engineer, a very sharp thinker with an excellent working knowledge of statistical analysis, and he writes well too.

His website is <http://windfarmrealities.org/mpacs-2012-study/> He has read your report too, and finds it to be transparent and meaningful.

Clearly, MPAC had the goal of doing a hatchet job on your work, and their review is weak and unprofessional at best. Given that their raw data supports the distance related impacts you and I have both found using paired sales and resale analyses, and they don't even mildly allude to this glaring inconsistency with their "impact" opinion, they are also misleading.

Wayne also has written reviews of Canning/Simmons, who did some rather loopy analysis for CanWEA, and Hoen's 2009 LBNL report.

Wayne is spot on with all his remarks and insights into how those "studies" were conducted.

Let me know if I can be of any assistance, as a second set of eyes.

Regards,

Michael S. McCann

Wayne Gulden 2014 Technical Review MPAC's 2014 Wind Turbine Report

Last week the Ontario Municipal Property Assessment Corporation (MPAC) released **the 2012 version** of their continuing study (following one in 2008) of wind turbines and property values in Ontario, entitled *Impact of Industrial Wind Turbines on Residential Property Assessment In Ontario*. To sum it up, they still find no evidence that wind turbines cause property value declines.

The study consists of a 31-page **main section** along with 12 appendices. MPAC seems to have their own language and it isn't easily penetrated by a layman. I've read over it carefully several times and there are still aspects of it that escape me. The appendices are generally beyond anyone who is not a professional. On page 4 they state their goals for this version of the study:

Specifically, the study examined the following two statements:

- 1. Determine if residential properties in close proximity to IWTs are assessed equitably in relation to residential properties located at a greater distance. In this report, this is referred to as Study 1 – Equity of Residential Assessments in Proximity to Industrial Wind Turbines.*
- 2. Determine if sale prices of residential properties are affected by the presence of an IWT in close proximity. In this report, this is referred to as Study 2 – Effect of Industrial Wind Turbines on Residential Sale Prices.*

Their two main conclusions, on page 5, are:

Following MPAC's review, it was concluded that 2012 CVAs of properties located within proximity of an IWT are assessed at their current value and are equitably assessed in relation to homes at greater distances. No adjustments are required for 2012 CVAs. This finding is consistent with MPAC's 2008 CVA report.

MPAC's findings also concluded that there is no statistically significant impact on sale prices of residential properties in these market areas resulting from proximity to an IWT, when analysing sale prices.

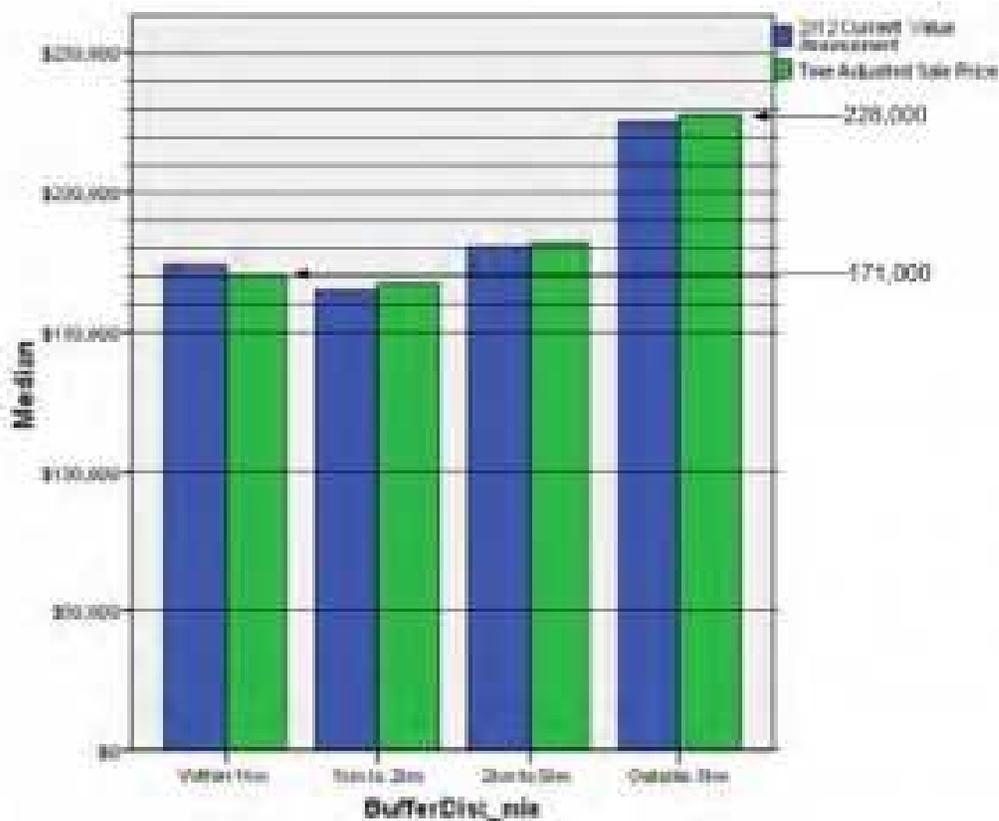
Actually, there are three parts to this study, with the third contained in **Appendix**. Early in 2013 one Ben Lansink published **a pretty solid study** that showed property value declines of anywhere from 22% to 59% and averaging about 37% on residential properties close (all within 1 km) to IWTs, which **I posted on** at the time. Apparently Lansink's work was solid enough that MPAC felt obliged to attack it.

For me to critique all three parts would make for a very long posting, so I'm going to divide it up. Obviously the details will follow in my subsequent postings, but for the impatient let me summarize below.

Part 1, are MPAC’s evaluations close to IWTs as accurate (equitable, in their words) as those further away? This section is only of tangential interest to me, as the central question isn’t MPAC’s accuracy, but rather the effect of IWTs on prices. It seems that, given MPAC’s explanations, their appraisals are accurate. Still, there are some items in this part that are of interest. For example, it seems that MPAC has been playing games to get the appraisals to agree with the market while hiding the effect of wind turbines. They studied turbines 1.5mw and larger, not older turbines and the areas in Ontario where the impact has already been felt.

Part 2, do IWTs have an effect on properties closer to them? This section is of central interest. Unfortunately there are only 5 pages in Part 2, leaving lots of details missing. Things like the sales prices within the close-in areas. MPAC’s major tool for doing mass appraisals (4.7 million in Ontario) is multiple regression analysis and we’ve had **lots of experience** with how that can be manipulated to obtain the answer your sponsor wants. Instead of providing us the prices and letting us judge for ourselves what any effects might be, they opaquely run those prices through their regressions and voila! claim there’s nothing to see here!

But whoever wrote Part 2 must not have been talking to whoever wrote Part 1. On page 18, well within part 1, there’s Figure 2. It’s purpose there is to show how close the appraisals are to the sales data (the paired blue and green bars) for the different distances from the IWTs.



Note the blindingly obvious. Prices (and appraisals) within 5 km of IWTs are substantially lower than those further away. I've added the horizontal lines so we can better determine the values, which are noted to the side. Michael McCann, among others, has done a number of studies on IWTs and prices, and **his overall conclusion** is a decline of 25-40%, with almost 100% in some cases. Does anyone want to calculate the decline from 228,000 to 171,000? Perhaps the disparity is due to something as simple as the spread between rural and urban properties, but don't you think MPAC would at least mention *something*? Nope. Nada.

Part 3, what are the problems with Lansink's study? Appendix G is more or less readable and provides an excellent example of what David Michaels book, *Doubt is Their Product*, talks about. MPAC throws up, by my count, 7 objections to Lansink's methodology; of which exactly zero actually indicate that Lansink's numbers are wrong. Sewing confusion seems to be the most logical explanation. As an example, objection #4 of the 7 is that for some of the pre-IWT prices Lansink used, gasp!, MPAC's own appraisals. Perhaps whoever wrote Appendix G didn't bother reading the conclusions in Part 1.

There's more details, of course, in the following postings.

Critique of Part 1

Part 1 of MPAC's 2012 study asks if MPAC has as equitably assessed properties close to IWTs as properties further away. This part, although of only tangential interest to wind opponents like myself, occupies the central part of the entire study. We think the larger question is: do IWTs reduce property values, not whether MPAC is clever and honest enough to correctly recognize those reductions.

MPAC is in the business of mass assessments, nearly 5 million in Ontario. Given this volume they have no choice but to use computers and computer-friendly techniques to do their assessments. That translates to a significant reliance on multiple regression analysis. They determine what sorts of characteristics influence the selling prices and then use the computers to find out how much influence each characteristic has. In their experience, 85% of the selling price can be calculated using 5 characteristics, or variables: location, building area, construction quality, lot size and age of the home adjusted for renovations and additions. Note that distance to a wind turbine is not one of their characteristics and MPAC seems determined to keep it so. But also note that location could be used in lieu of distance – more on this later.

MPAC uses the ASR, Assessment-to-Sales Ratio, to determine if their assessments are accurate. It is simply the assessment divided by selling price, with a ratio of 1.0 being a perfect match. MPAC expects ratios between 0.95 and 1.05, and presents what seems to be an endless series of charts demonstrating this, primarily in the appendices. While obviously MPAC (actually everyone) has an interest in accuracy their emphasis on it seems misplaced in a study entitled *Impact of Industrial Wind Turbines on Residential Property Assessment In Ontario*, which to me and most residents is quite a different question.

Just think of the ramifications if MPAC decided to include distance from an IWT in their regressions. I have little doubt it would make Ontario's lawyers very happy. It would also put Ontario's very-pro-IWT ruling party in a difficult political spot. And don't forget that the board of MPAC is appointed by the Minister of Finance, who is a member of the ruling party's cabinet.

Upstream I mentioned that MPAC could use the location variables that already exist in their regressions to finesse their way out of this problem. I point to Wolfe Island as an example of how this might work. The western half of WI is now home to 86 IWTs, a project that had been in development since roughly 2000. If this half constitutes a "neighborhood" then MPAC could reduce the values in that neighborhood in a uniform manner and never have to recognize the elephant in the room. As it happens, **I posted on MPAC's actions** on Wolfe Island about 18 months ago. In the 7 years when the wind project went from being developed to operational, the roughly 700 properties on Wolfe received the following number and average reductions:

- 2005/06: 130, 9.3%
- 2006/07: 33, 15.2%
- 2007/08: 12, 28.8%
- 2008/09: 34, 12.4%
- 2009/10: 44, 29.0%
- 2010/11: 22, 30.0%
- 2011/12: 27, 24.0%

That's a total of 302 reductions, which seems like a rather large percentage of the properties there.

A Wolfe Island couple, the Kenneys, asked for a reduction which they say MPAC was willing to grant, although MPAC wouldn't let IWTs be used as the reason. It ended up in court, and **a local paper** had a reasonably good account of it. Perhaps MPAC's reluctance to admit the obvious is that once they admit it they must then include distance in their regressions and doing that (and the legal and political repercussions) is just too unpleasant. So they limp along, using the location instead.

Their favored overall chain of logic seems to be: since the ratios in neighborhoods close to IWTs aren't much different from those further away, and since those ratios indicate their assessments are accurate, and since MPAC doesn't include distance to an IWT in their regressions, ergo distance from an IWT isn't a factor in reducing values. Part 1 of this study is a necessary part of this chain. So the real main purpose of this part of the study (and the study as a whole) seems to be to publicize MPAC's skills at keeping the assessments in line with reality, and at the same time deflect how MPAC is going about doing this. MPAC is, after all, in a tight spot. The reality is that home prices take a dive when close to IWTs. MPAC somehow has to lower the assessments around IWTs to keep the ASRs in line while keeping their bosses happy.

Unfortunately, the wind industry will be using this study for quite a different purpose – to bolster their argument that IWTs don't impact home prices in the first place.

Critique of Part 2

I fear that this part will be a difficult one for most people to follow, not to mention being lengthy. Feel free to skip it. But I think it is important to document what this Study contains, and MPAC made no effort to make understanding it easier. I recommend you print out **Study 2's 5 pages** (pdf pages 26 to 30) and have them at hand as you read this.

The purpose of Study 2 is to “study the effect of proximity to industrial wind turbines on residential sale prices.” In summary, Study 2 finds that “With the exceptions noted above, no distance variables entered any regression equations for any of the other market areas.” Say what?

It seems that people who are in the business of estimating real estate prices tend to fall into one of two camps. First are those who make their living providing services to the people who actually own the properties, with real estate brokers being the most obvious examples. These people tend to focus on one property at a time and generally use comps or repeat sales to obtain their estimates. Second are those who make their living providing services to people who don't actually own the property. Academics and mass appraisers (like MPAC) are the most obvious examples. These people tend to focus on many properties at a time and generally use statistical techniques like multiple regression analysis to obtain their estimates. The second class tends to think in terms of rejecting the null hypothesis – you assume there is no difference between two sets (in this case close-in prices and far-away prices) unless you have “statistical significance”. As a snarky aside, getting to statistical significance in real estate can be quite a challenge, given the wide variance among prices, and can be even more difficult when your sponsor/boss doesn't want you to do so.

So of course MPAC used their main tool, regression equations that run multiple regression analyses. They created three new variables based on distance from an IWT and entered these into regression equations to see if the new variables were statistically significant. If they aren't statistically significant they don't “enter” into the regression equations. As for the exceptions (which we'll get to shortly), out of 30 possibly significant variables, only 4 were significant and 3 of them were positive! Whew!

So right off the bat MPAC is using a tool that doesn't provide the answers the actual owners of potentially affected properties really care about. A binary statistical significance indicator does not provide an answer to the “how much” and “how likely” questions a homeowner is going to have. In this case, MPAC has skipped through the study so opaquely that I can't even have much confidence in my critique. There's just too many omissions, too many unexplained leaps, too many dangling statements.

There are just 5 pages in Study 2. **The first** of these (page 25 of the study) lists the three new distance variables and sets their criteria for statistical significance at either 5% or 10%. For those unfamiliar with that concept, the significance is a measure of the odds two populations are in fact just randomly part of the same larger population.

In this case, a 5% significance means that there is only a 5% chance that the prices of the close-in homes are the same as the far-away home prices. In other words, there's a 95% chance that the close-in prices are different from the far-away prices. What if there's only an 80% chance your home value will drop? Not significant, from MPAC's perspective.

The second page (page 26) is dominated by Table 9. For MPAC's purposes Ontario is divided into 130 "market areas". These areas presumably have some common basis that allows them to be treated as a unit for their regression equations. Unfortunately I couldn't find where the areas were or how many homes were in each. Of the 130 MPAC found 15 that had large enough turbines in them to be of interest. These 15 are listed in Table 9, along with the numbers of sales within each of the 3 distance variables for both pre-construction and post-construction. MPAC didn't bother adding them up either horizontally or in total, but I did. The numbers inside the grid add up to 3136, which would be the total sales within 5 km in all the areas. But if you add up their numbers along the bottom you come up with 3143. It turns out that their 142 should be 139 and their 1584 should be 1580. Now this isn't much of an error, except that any pre-teen with a spreadsheet and 10 minutes wouldn't have made it.

At the bottom of page 26 they introduce pre-construction and post-construction periods, and that only two of the 15 have enough sales to test both distances and periods. Most of the remaining 13 have "sufficient sales within 1 KM to test the value impact within that distance". Also that the "sales period to develop valuation ranges from December 2008 to December 2011". And that Table 10 provides a summary.

The third page (page 27) is dominated by Table 10. It lists the remaining 10 market areas that presumably have "sufficient sales within 1 KM to test the value impact within that distance". 2 of these have enough sales to test both distance and periods while the other 8 have enough sales to test just the distance. For each of the 10 areas MPAC list square footage etc and median adjusted prices. Are these the prices for the entire area or just within 1 km? MPAC doesn't say. What is the criterion for "sufficient"? MPAC doesn't say. Nor does MPAC include what should obviously be included – both tables. I suspect they are for the entire area, in which case they are useless for our purposes, at least without the close-in comparison.

Presuming the criteria for inclusion into Table 10 is the 1 km test mentioned on page 26, one has to wonder how 26RR010 and 31RR010 got into it, as Table 9 shows they had zero sales within 1 km. Snark alert – maybe the missing 7 sales from Table 9 took place in these areas? And if 1 km isn't the criterion, what is? MPAC never says.

At the bottom of page 27 they mention that some sales at the 5 km distance were in urban as opposed to rural market areas and thus were eliminated. They don't say how many, nor what their effects on the regressions might be. They also reiterate their statistical significance levels.

On the fourth page (page 28) they present two more tables, 11 and 12. Table 11 lists the 8 market areas that had sufficient sales (within 1 km?) to test the distance

variables while Table 12 lists the 2 market areas that had sufficient sales to test both distance and periods. These tables made absolutely no sense to me until I noticed Appendix F.

For all 10 areas they entered the 3 distances and ran their regressions. In Appendix F they list all the “excluded” variables, in this case all the distance-related variables that didn’t get to statistical significance. They apparently are called “excluded” since, being “insignificant” they don’t enter into MPAC’s final pricing calculations. If you look at the “sig” column you will not see any value less than .100, or the 10% significance level MPAC mentioned on pages 25 and 27. I assume by omission (and that’s all I can do here) that any of the 3 distance variables that are NOT listed in Appendix F are in fact significant.

On my first pass through Appendix F I came up with 6 omitted, and thus assumed significant, variables. Two of the omissions were for zero sales, for areas that shouldn’t even be there by the <1 km criterion. But, maybe the < 1 km variable was never even entered on the exclusion listing in Appendix F, so maybe I had erroneously assumed it was not excluded when in fact it didn’t exist in the first place. So maybe the criterion for inclusion in Table 10 wasn’t significant sales less than 1 km, but rather significant sales less than 5 km out. Just a typo, right? At least Table 11 now is consistent with Tables 9 and 10.

Finally! Out of the 30 tests (10 areas times 3 tests) I count 4 that are significant. Those 4 make up the “non-DNE” entries in Tables 11. MPAC provided absolutely no guidance or explanation about any of this, apparently writing for a very small audience.

Table 12 shows the 2 areas that had enough sales to test both distance and periods. You’d think that they’d be creating 6 variables for each of them instead of the 3 variables the other 8 areas received. Looking at Appendix F all you see is the same 3 as everyone else got. And all of those variables were excluded. But Table 12 shows 2 of the variables being significant for 26RR010. Perhaps Appendix F was based on a 5% significance level and Table 12 was based on 10%. Who knows?

I can only guess that the dollar amounts in Tables 11 and 12 are the effects of being in those areas upon the prices. So, in the Kingston area (05RR030), if you live within 1 km of an IWT, you can expect the value of your home to increase by \$36,435! Very impressive – 5 digit accuracy, especially with a sample size of 7.

Finally, thank goodness, we come to **the fifth page** (page 29). It is the Summary of Findings and contains more words than the rest of the Study put together. This section mostly lists the significant variables and adds some fairly cryptic commentary.

Some Commentary

As I read through and dissected this Study I couldn’t escape the sense that MPAC didn’t want to put much effort into it. Any narrative or explanations or even public-friendly conclusions are absent. The tables that are included are ok, once you take the time to figure them out, but what about all the stuff they should have included but

didn't? Things like the median prices in the areas represented by the 30 variables. Or an Appendix F1 that shows the included variables, allowing us to see the t-scores etc for ourselves. Etc., etc.

These missing items cause this Study to be terribly opaque. I hope my explanation above is accurate, but I can't be sure due to all the missing items. Maybe the Study reaches valid conclusions, but I sure can't verify that. Perhaps MPAC thinks we should just trust them to be an honest pursuer of the truth. Sorry, that no longer flies, if it ever did. You have to wonder, is there some reason other than laziness or stinginess that this Study seems so empty? In addition to the opacity the Study includes several cryptic items that MPAC never explains. For example, from the summary, what do these sentences actually mean?

“Upon review of the sales database, it was determined that the IWT variables created for this study were highly correlated with the neighbourhood locational identifier. This strong correlation resulted in coefficients that did not make appraisal sense, and thus have been negated for the purposes of this study.”

If you look at the excluded variables in Appendix F you notice that most of them are named “NBxxxx”. Probably those are neighborhood identifiers the somehow overlay the market areas. MPAC never mentions how many there are or what the criteria are for forming one. But pretty obviously the areas around an IWT could easily coincide with their neighborhoods. So what gets negated? Some of the coefficients? All of them? MPAC provides no further information.

As an aside, I found it interesting to scan over the other excluded variables to see what sorts of things MPAC puts into their regressions. Many of them make no sense and they seem to vary greatly from market to market. I can't help but think of a bunch of regression-heads sitting at their desks hurriedly making up variables and desperately running regressions in an effort to get the ASRs closer to one (ASRs are covered in Study 1).

I'll leave (thankfully, believe me) this Study behind with the final thought that it seems so slapped together, so opaque, so disjointed that perhaps even MPAC themselves weren't sure what significance it holds. Unfortunately, the wind industry won't care about any of that, and will use this study to continue harming Ontario residents.

Critique of the Lansink hatchet job

Ben Lansink is a professional real estate appraiser based in Ontario. In February 2013 he published **a study** of two areas (Melancthon and Clear Creek, Ontario) where 12 homes all within 1 km of an IWT were sold on the open market. He used previous sales and MPAC assessments to establish what the prices were before the IWTs arrived and then compared that with the open market prices after they went into operation. The declines were enormous, averaging above 30%. The following (thankfully clickable) spreadsheet snapshot gives a good summary of his results.

Property	Initial Price	Final Price	Initial Source	Final Source	Initial Date	Final Date	per SF	Inflation %	Should have	Act Loss	Adj Loss
375557 6th Line, Amaranth	500,000	288,400	CHD	Open Market	2007-11	2009-12	264.97	11.5	557,500	42.32	48.27
97121 4th Line, Melancthon	350,000	175,000	CHD	Open Market	2007-10	2010-11	Farm	20.65	422,275	50.00	58.56
504059 Highway 89, Melancthon	305,000	278,000	CHD	Open Market	2007-01	2009-08	189.44	18.74	362,157	8.85	23.24
582340 County Road 17, Mel.	302,670	215,000	CHD	Open Market	2007-08	2010-04	196.67	-3.14	293,166	28.97	26.66
582328 County Road 17, Mel.	299,000	250,000	CHD	Open Market	2005-06	2012-06	231.25	33.35	398,717	16.39	37.30
1480 Lakeshore Road, Norfolk	71,000	68,000	Open Market	Open Market	2004-03	2012-05		71.56	121,808	4.23	44.17
71 Norfolk County Road 23	78,000	70,000	Open Market	Open Market	1995-09	2012-03		100.23	156,179	10.26	55.18
47 Concession Road A, Norfolk	153,000	134,000	MPAC	Open Market	2008-01	2012-07		12.96	172,829	12.42	22.47
43 Old Mill Road, Norfolk	153,000	110,000	MPAC	Open Market	2008-01	2012-06		7.25	164,093	28.10	32.96
1575 Lakeshore Road, Norfolk	225,000	175,000	MPAC	Open Market	2008-01	2010-11		7.53	241,943	22.22	27.67
1527 Lakeshore Road, Norfolk	231,000	180,000	MPAC	Open Market	2008-01	2010-10		9.57	253,107	22.08	28.88
1921 Lakeshore Road, Norfolk	109,000	70,000	MPAC	Open Market	2008-01	2012-09	215.58	4.38	113,774	35.78	38.47

In quite a departure from MPAC's style, Lansink lists every sale, every price, every time-related area price increase rate and every source. Lansink establishes an initial price at some time before the IWTs were installed, applies a local-area inflation rate over the period between the sales, and compares the "should-have-been" price with what the actual sales prices was after the IWTs were installed. In all 12 cases the final price was lower than the initial price, leading to an actual loss on the property. When the surrounding real estate price increases were factored in, the resulting adjusted losses are even greater. The compulsive reader might notice that the numbers above vary slightly from Lansink's. In order to check his numbers I reran all his calculations in the above chart and there are some rounding errors – like on the order of < \$10. I **posted** on Lansink's study when it came out, along with a **second posting** on a previous version of his study.

These numbers are pretty easy to understand, and for most actual property owners are a hard-to-refute indication of what awaits us should we be unfortunate enough to own property within 1 km of an IWT. It is powerful enough and inconvenient enough that MPAC felt the need to single it out for a hatchet job, which is contained in the 7 pages of **Appendix G**. The first couple of pages are introductory stuff. Starting in the middle of page 2 they start their critique with, by my count, 7 issues with Lansink's methodology. The 7 are:

1. Lansink uses the local area MLS price index in calculating the inflation rate. MPAC points out, correctly I guess, that within the MLS local area there could be neighborhood variances that could differ from MLS's area average. MPAC has lots of neighborhoods defined (see Appendix F for a sampling) and it would be more accurate to use them. While more discrete data is generally a good thing, I think most people are quite willing to accept the local area MLS price index as a reasonable proxy. Besides – how would Lansink obtain MPAC's neighborhood data? He used the best that he had, and that best is no doubt good enough for everyone besides MPAC. As you increase the number of neighborhoods you necessarily decrease the number of homes in each, increasing the chances of distortion by a single transaction. Issue #5 below will mention this as a problem from the opposite direction. No doubt if Lansink would have used neighborhoods MPAC would be criticizing him for not using the more reliable area average. Additionally – how far apart could a neighborhood be from the local area average? Does MPAC provide any indication that this caused an error in Lansink's conclusions? Of course not.
2. Lansink used just two points to "develop a trend". I have no idea what they are talking about. Lansink is not developing any trends. As with neighborhoods, MPAC has more discrete timing adjustments than what Lansink used. In theory, more discrete data might be more accurate. In practice, maybe not, due to outliers. A monthly MLS area average is good enough for, again, everybody but MPAC. Additionally – how far apart could a their timeline be from the local area average? Does MPAC provide any indication that this caused an error in Lansink's conclusions? Of course not.
3. Two homes in Clear Creek have their initial and final sales 8 and 15 years apart and there was likely something changed in the interim, affecting the

price. People are always doing things to change the value of their homes – does MPAC have any indication that something substantial changed in one of these properties? If not, this is simply idle speculation, designed to instill confusion. Does MPAC provide any indication that this caused an error in Lansink’s conclusions? Of course not.

4. For the other 5 home in Clear Creek Lansink used MPAC’s 2008 evaluations as the initial price, and MPAC is complaining about that. MPAC is apparently unaware of how ironic this sounds. They just finished, in this very study, bragging about how close their ASR’s were to one. Does MPAC provide any indication that this caused an error in Lansink’s conclusions? Of course not.
5. For the properties in Melancthon Lansink used the buyout prices from CHD (the wind project developer) as the initial prices. To confirm these prices were at least in the ballpark of local market prices he obtained a local per square foot average price and it compared favorably with the prices paid per square foot by CHD. Since there was only 4 samples in this part of his study, even one outlier becomes a possible source of distortion and this is one of MPAC’s “major concerns”. This seems an odd criticism, coming from someone who relied upon the data in Table 9, with its fair share of single-digit samples. Does MPAC provide any indication that this caused an error in Lansink’s conclusions? Of course not.
6. MPAC found one house with a basement and since footage in basements is treated differently from footage above ground, this would have changed the square footage price used by Lansink in his comparison with the local average. Since there are only 4 houses in this sample, it would have moved the average up. MPAC spends the bottom of page 2, all of page 3 and part of page 4 discussing basements and whether they are finished or not. Does MPAC provide any indication that this caused an error in Lansink’s conclusions? Of course not.
7. I’ll quote issue #7 in its entirety so you can fully appreciate it. *“One final issue with the sales used in the Lansink study was that the second sale price was consistently lower than the first sale price despite the fact the time frame being analyzed was one of inflation. The absence of variability in the study make them suspect.”* Suspect? THESE ARE PUBLIC RECORDS. There’s nothing suspect about them. These are facts. They won’t change. If they don’t fit your narrative perhaps your narrative needs to change, eh? Does MPAC provide any indication that this caused an error in Lansink’s conclusions? Of course not.

These 7 issues are an excellent example of spreading confusion, hoping that some of it will stick, saying whatever you can come up with to discredit an opponent. When you’re reduced to spending over a page discussing basements it provides an idea of just how desperate you are.

The second part of MPAC’s critique involves them running their own study of resales to see how it compares with Lansink’s. They find 2051 re-sales that were part of this same study’s ASR calculations (**in Study 1**). They use their more discrete time variables in place of Lansink’s MLS local area averages. They use multiple regression analysis because *“Paired sales methods and re-sale analysis methods are generally*

limited to fee appraisal and often too tedious for mass appraisal work.” Their conclusion: “Using 2,051 properties and generally accepted time adjustment techniques, MPAC cannot conclude any loss in price due to the proximity of an IWT.”

In spite of the voluminous tables and examples, MPAC leaves some very basic questions unanswered. Like where were these 2,051 properties located and how were they selected? There’s no mention of them in the body of the 2012 study. Over what period were the resales captured? What were the prices of the close-in re-sales vs the far-away re-sales? Lansink has documented 7 losing resales within 1 km – why does your summary say zero?

MPAC has this habit of expecting us to be impressed with large amounts of data, without divulging where it came from and what filters might have been employed. Same with throwing all these numbers into a computer and expecting us to uncritically accept the output. In short, MPAC expects us to trust them to be fully honest, fully competent and fully independent. I hate to be the bearer of bad news to the fine folks at MPAC, but that trust is no longer automatic for increasing segments of Ontario’s population. Lansink’s numbers are out in the open and are processed in a way that anyone can verify. Your numbers suddenly appear and rely upon computers with undocumented processes that always support the agendas of your bosses. Your methods may be satisfactory to some media, some politicians, some courts and all trough-feeders, but please don’t be surprised that they are not satisfactory to those of us living in the trenches.

End Wayne Gulden Report

Curriculum Vitae

Ben Lansink, AACI, P.App, MRICS, Real Estate Appraiser and Consultant

Telephone: (519) 645-0750 Email: ben@lansink.ca

Summary – 2014: Ben Lansink is an experienced professional real estate appraiser and consultant. He has completed assignments to assist in mortgage financing, power of sale, deemed dispositions, taxation/capital gains issues involving Canada Revenue Agency (CRA), expropriation, insurance matters such as fire destruction, family law, environmental issues, assessment appeals, First Nation issues, and litigation support.

Case Studies pertaining to Price Diminution resulting in Value Diminution, Injurious Affection, have been carried out. These included proximity to Airports, Hydro Corridors, Land Fill Sites, Wind Turbines, Roads and Road Works, as well as contaminated land and buildings including urea formaldehyde foam insulation.

Lansink Appraisals and Consulting is a division of Wellington Realty Group Incorporated, brokerage, Ben Lansink, Broker of Record. Wellington Realty Group Incorporated is not an active brokerage and does not list or sell real estate. It maintains Realtor® board memberships solely to obtain legal access to various real estate board MLS® willing buyer willing seller open market systems.

PROFESSIONAL QUALIFICATIONS

- MRICS Member, The Royal Institution of Chartered Surveyors, Member #1293804; awarded use of this professional designation on November 16, 2009.
- AACI, P.App Accredited Appraiser Canadian Institute, Certificate #2180.
Awarded use of the AACI professional designation on May 18, 1982 by the Appraisal Institute of Canada.
- CRA Canadian Residential Appraiser, January 1976; relinquished May 18, 1982.
- FRI Fellow, Real Estate Institute of Canada, 1986; relinquished June 1995.
- CLP Certified Land Planner, Real Estate Institute of Canada, 1990; relinquished June 1995.

Completed the Ecogift Training Workshop, July 2001, for the valuation of Ecological Gifts as has been established by Environment Canada.

Successfully completed the "Certificate Program" in real estate as presented by The Ontario Real Estate Association.

Licensed under the Ontario Real Estate and Business Brokers Act in 1968 and as a Broker, November 17, 1986, Registration No. 1914433.

EXPERIENCE

- 1974 – Present Fee Appraiser and Consultant
- 1970 - 1974 Mortgage Manager, The Royal Trust Company
- client and real estate mortgage loan approvals

Appraisal assignments have included:

- airports; harbours; cemeteries; funeral homes;
- institutional buildings; hospitals; police stations; schools; and churches;
- office towers; industrial properties;
- apartment buildings; senior care facilities; single family residences;
- retail commercial properties; hotels; motels;
- mobile home/trailer parks; marinas; golf courses;
- farms and farm land; intensive farms (e.g. pork; dairy; chicken; mushroom)
- land;
 - ecologically sensitive; parks and conservation; aggregate resource;
 - commercial/industrial/residential land;
 - building lots - on water and not on water;
 - landfill sites;
 - First Nation reserve lands;
- rights-of-way; easements; market rent studies; rail corridors; pipelines; and
- other property types.

Assignments have been carried out in Ontario, Quebec, Manitoba, Saskatchewan, the Caribbean, the State of Utah, and New Zealand.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

Appraisal Institute of Canada since 1972:

AACI, P.App: Accredited Appraiser Canadian Institute, May 1982

Royal Institution of Chartered Surveyors since November 2009:

MRICS: Member Royal Institution of Chartered Surveyors, November 2009

Member: London and St. Thomas Association of Realtors®;
Ontario Real Estate Association;
Canadian Real Estate Association;
National Commercial Council of the Canadian Real Estate Association;
Ontario Expropriation Association; and
The Toronto Real Estate Board.

PARTICIPATION IN PROFESSIONAL ASSOCIATIONS

London and St. Thomas Association of Realtors®, Member, Education Committee 1987, 1988, and 1989 (Chairperson 1988); Board Director 1989 and 1990; Member, Ethics Committee 1989; Member, Ethics Appeal Committee 1990.

Member of the Investigating Committee (1989 - 1992) and the Adjudicating Committee (1992 - 1995) of the Appraisal Institute of Canada, Ontario Association. These committees addressed public complaints against members of the Appraisal Institute of Canada, Ontario Association.

Local Architectural Conservation Advisory Committee (LACAC) 1990-1992, appointed by London City Council to serve as a member at large.

Assessment Review Board of Ontario, a Land Tribunal: Member May 14, 1992 to May 14, 1998. Appointed by an Order in Council, as recommended by the Attorney General, approved and ordered May 14, 1992 and again on May 14, 1995 by the Lieutenant Governor of Ontario.

PUBLICATIONS AND STUDIES by Ben Lansink

Market Study Pit or Quarry January 2014

Diminution in Price (if any)

Market Study Roadway Analysis November 2013

Diminution in Price (Injurious Affection if Partial Taking)

Market Study Power Corridors April 2013

Diminution in Price (Injurious Affection if Partial Taking)

Wind Turbines Melancthon Clear Creek MPAC November 2012

Diminution in Price / Current Value

Effects of the Visible Transmission Corridor June 2011

Winner, 'Call for Papers', Appraisal Institute of Canada.

Lansink authored and presented a paper to appraiser delegates at the Annual Conference, Appraisal Institute of Canada, Moncton, June 2011.

Market Study Non-Visible Easement May 2010

Diminution in Price

Lazar v. Hydro One – OMB, Injurious Affection June 2005

A case study paper based on a precedent setting case decided by the Ontario Municipal Board in June of 2002. Lansink presented the case study to appraiser delegates at the Appraisal Institute of Canada's June 2005 Conference, Edmonton, Canada.

Adjusting for Conditions of Sale 1998

The Canadian Appraiser, Summer 1998

Highest and Best Use/Land Use Controls 1998

Appraisal Institute of Canada, Ontario Association.

Assessment, Taxation, and the Fee Appraiser 1997

Appraisal Institute of Canada, Ontario Association.

UFFI and Market Value Spring 1985

The Canadian Appraiser, Volume 29, Book 1.

TEACHING

Taught the Assessment Program at Fanshawe College, London, 1980s.

Certified instructor, Courses 1101 and 1102, Appraisal Institute of Canada, 1980s until the end of the 1990s.

Note: Appraisal Institute of Canada and the University of British Columbia's Sauder School of Business are now partners in offering a program designed for people seeking to join the real property valuation profession—and for valuation practitioners already employed in the industry who want to upgrade their education. The University of Guelph, Athabasca University, L'Université du Québec à Montréal; Seneca College and Langara College also offer courses recognized by the Appraisal Institute of Canada.

Certified instructor for the subject "The Principles of Mortgage Financing" for Ontario colleges as administered by The Ontario Real Estate Association, 1975-1985.

Course instructor, Introduction to Appraisals, 1995-1996, Indian and Northern Affairs Canada.

CONTINUING EDUCATION, CONFERENCES

AIC: Since the early 1990s, the Appraisal Institute of Canada (AIC) has had a mandatory Continuing Professional Development (CPD) Program designed to ensure that Designated Members maintain and enhance their knowledge and skills in their area of practice throughout their career.

RECO: Since 2000 the Real Estate Council of Ontario Council of Ontario (RECO) has had a mandatory continuing education program that provides significant benefits to registrants, and the open market real estate buyers and sellers who look to them for guidance.

Ben Lansink has continually exceeded the credits required for both AIC and RECO.

OEA: The Ontario Expropriation Association (the "OEA") is made up of individuals from professions involved in the acquisition of land for public purposes. Expropriation occurs when public bodies such as the federal and provincial governments, municipalities or school boards, acquire land for public purposes under compulsion of law. In the majority of cases, expropriation involves a complicated process that must be carried out in strict accordance with legislation (in Ontario the *Expropriations Act, R.S.O. 1990, CHAPTER E.26*).

Ben Lansink is a member of the OEA and participates in its Seminars / Conferences.

Ben Lansink attends most of the yearly conferences of the Appraisal Institute of Canada and its Annual General Meetings.

EXPERT WITNESS EXPERIENCE

The Superior Court of Justice has jurisdiction over criminal, civil, and family cases, and is the largest superior trial court in Canada. The Divisional Court, Small Claims Court, and Family Court are all branches of the Superior Court of Justice.

Environment and Land Tribunals Ontario brings together five Ontario tribunals and boards which adjudicate matters related to land use planning, environmental and heritage protection, property assessment, land valuation and other matters. The land tribunals are the **Assessment Review Board**, the **Board of Negotiation**, and the **Ontario Municipal Board**.

The **Federal Court** is Canada's national trial court which hears and decides legal disputes arising in the federal domain, including claims against the Government of Canada, civil suits in federally-regulated areas and challenges to the decisions of federal tribunals.

Over the years Mr. Lansink has been accepted as an expert witness to assist the **Superior Court of Justice**, the **Land Tribunals**, and the **Federal Court**.

CLIENTS

- a) Federal Government, Justice Canada;
- b) Provincial Government;
- c) Municipal Governments and Counties;
- d) Banks, Credit Unions, Mortgage Brokers / Lenders / Borrowers;
- e) Insurance Companies;
- f) Lawyers and Law Firms representing:

Corporate, institutional, and individual clients;
The Insurer of Members of the Law Society of Upper Canada;
The Insurer of Realtors®;
The Insurer of Members of the Appraisal Institute of Canada;
The Insurers of Real Property (Damage / Fire Insurance);

- g) First Nations:

Agency 1 First Nation, PWI-DI-GOO-ZING NE-YAA-ZING;
Beausoleil First Nation;
Cape Croker First Nation;
Chippewas of Georgina First Nation;
Chippewas of Rama (Mnjikaning) First Nation;
Chippewas of the Thames Land Claim Trust;
Mohawks of the Bay of Quinte First Nation;
NeyashiiNigmiing First Nation;
Nicickousemenecaning First Nation;
O'BASH'KAAN'DA'GAANG (Indian Reserve 38A);
Saugeen First Nation IR 28 and 29;
Walpole Island First Nation, Wapekeka First Nation, Reserve #1 and #2; and
Sachigo Lake Indian Reserve #1;

Assignments have involved both reserve land and non-reserve land that is under effective ownership of a First Nation; and

- h) Others

Superior Court of Justice, the Honourable Mr. Justice Colin L. Campbell;
Conservation Authorities, Nature Conservancy of Canada;
Private Corporations and Private Individuals (Canadian and International);
Universities; Colleges; School Boards; Hospitals; and others.

End of Report