SCE CohnReznick, Real Estate Adjacent Property Value Impact Report Andrew R. Lines EXH-1038\_Revised

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# REAL ESTATE ADJACENT PROPERTY VALUE IMPACT CONSULTING REPORT:

Academic and Peer Authored Property Value Impact Studies, Research and Analysis of Existing Wind Facilities, and Market Participant and Assessor Interviews

**Prepared For:** Horse Heaven Wind Farm, LLC 5775 Flatiron Parkway, Suite 120 Boulder, CO 80301

Submitted By: CohnReznick LLP Valuation Advisory Services 1 S Wacker Drive, Suite 3550 Chicago, Illinois 60606 (301) 508-5900

Andrew R. Lines, MAI Erin C. Bowen, MAI

August 22, 2023

## LETTER OF TRANSMITTAL

August 22, 2023

Horse Heaven Wind Farm, LLC 5575 Flatiron Parkway, Suite 120 Boulder, CO 80301

SUBJECT: Property Value Impact Consulting Report An Analysis of Existing Wind Farms

To Whom it May Concern:

CohnReznick is pleased to submit the accompanying property value impact consulting report for the proposed wind energy use known as Horse Heaven Wind Farm, LLC (the "Project"). CohnReznick researched property transactions adjacent to existing wind farms, researched and analyzed articles and other published studies, and interviewed real estate professionals and Township/County Assessors active in the market where wind farms are located, to gain an understanding of actual market transactions in the presence of wind energy uses. Because the Project also includes a solar array component, CohnReznick also researched property transactions adjacent to existing solar farms, researched and analyzed articles and other published studies, and interviewed real estate professionals and Township/County Assessors active in the market where solar farms are located, to gain an understanding of actual market transactions in the presence of solar energy uses. A summary of CohnReznick's Solar Findings has been included in this report. However, it should be noted that, here, the Project boundary will be in excess of two miles from the nearest single family residence the planned solar arrays within the Project boundary will be generally in excess of two miles from the nearest non-participating single-family residence.

The purpose of this consulting assignment is to determine whether proximity to a renewable energy use (wind farm) has an impact on adjacent property values. The intended use of our findings and conclusions is to address certain criteria related to impacts on adjacent property values, in an application for a Site Certificate for the proposed wind energy generation use, known as the Horse Heaven Wind Farm Project, to be located in Benton County, Washington. We have not been asked to value any specific property, and we have not done so.

The client and intended user for the assignment is Horse Heaven Wind Farm LLC. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

This consulting assignment is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, as well as applicable state appraisal regulations.



## Prepared for Horse Heaven Wind Farm, LLC

Based on the analysis in the accompanying report, and subject to the definitions, assumptions, and limiting conditions expressed in the report, our findings are:

## WIND FINDINGS

- I. Published Studies (pages 19-22): CohnReznick reviewed and analyzed published academic studies that specifically analyzed the impact of wind facilities on nearby property values. These studies include multiple regression analyses of hundreds and thousands of sales transactions for both residential homes and farmland properties in rural communities. The vast majority of studies with large-scale data sets concluded existing wind facilities have had no negative impact on adjacent property values.
- II. CohnReznick Studies (pages 23-100): Further, CohnReznick has evaluated 11 existing wind farms and sales of adjacent residential properties, in which we have determined that the existing wind facilities have not caused any consistent and measurable negative impact on property values. These existing wind farms are most similar to the Project in terms of general location and size, summarized as follows:

CohnReznick - Existing Wind Farms Studied									
Wind Farm #	Wind Farm	Date Placed in Service	County, State	Approximate Project Area (Acres)	MW AC	Turbine Rated Capacity	Turbines		
1	Sagebrush Wind Farm	Nov-10	Kittitas County, WA	5,400	100.7	2.1 MW	48		
2	Palouse Wind Farm	Dec-12	Whitman County, WA	400	105.3	1.8 MW	58		
3	Colorado Highlands Wind Farm	Sep-13	Logan County, CO	6,640	93.1	1.6 to1.7 MW	56		
4	Spring Canyon Wind Energy Center	Dec-14	Logan County, CO	23,000	122.6	1.5 and 1.7 MW	75		
590	Peetz Table & Logan Wind Energy	Dec 00	Logan County, CO	E1 000	199.5	1.5 MW	133		
200	Center	Dec-09	Logan County, CO	51,200	201.0	1.5 MW	134		
7	Adair Wind Farm	Dec-08	Adair and Cass Counties, IA	16,000	174.8	2.3 MW	76		
8	Eclipse Wind Farm	Sep-12	Audubon and Guthrie Counties, IA	18,000	200.1	2.3 MW	87		
9	Bright Stalk Wind Farm	Dec-19	McClean County, IL	5,000	205.2	3.6 MW	57		
10	Glacier Hills Wind Farm	Dec-11	Columbia County, WI	7,500	162.0	1.8 MW	90		
11	Quilt Block Wind Farm	Nov-17	Lafayette County, WI	12,000	98.0	2.0 MW	49		

It is noted that proximity to the wind farms has not deterred sales of residential single-family homes.

III. Market Participant Interviews (*pages 101-103*): Our conclusions also consider interviews with County and Township Assessors, who have at least one wind farm in their jurisdiction, and in which they have determined that wind farms have not negatively affected adjacent property values.



With regards to the Project, we specifically interviewed Assessors with wind farms in their jurisdictions:

- We spoke with Billi Bare, a <u>Klickitat County, Washington</u> Assessor who noted that the county does not discount assessments of residential properties due to proximity to wind turbines and that residential properties with a view of wind turbines have not sold for any less than similar residential properties that have no view of wind turbines.
- Brian Bartels, Assessor for <u>Garfield County, Washington</u> reported that proximity to wind turbines has not had any impact on residential home sales and there is currently no assessment discount given for residential properties in close proximity or with a view of wind turbines.
- When discussing recent wind farm development in the county, Shelly Renken, Supervisor of Assessments in <u>Livingston County, Illinois</u> reported that there is no documentation that shows an impact to property values and that values have gone down or up as a result of being near a wind farm.
- We spoke with Billy Shelby with the <u>Adair County, Iowa</u> Assessor who remarked that the county has not noted any impact on sales due to proximity to wind turbines. The county has 533 wind turbines and Mr. Shelby mentioned that homes are selling above what they can assess properties at. Mr. Shelby remarked that no reductions have been given to residences adjacent to wind turbines for assess property values. <u>He further indicated that homes near</u> wind turbines have since sold at or above assessed values.
- We spoke with the <u>Stark County, Illinois</u> Tax Assessor, Renee Johnson, regarding the Camp Grove Wind Farm and she reported that she could not see a difference in the home prices between current values and before the wind farm was built in 2007.
- Bridget Nodurft, Chief Deputy of the Supervisor of Assessments Office in <u>Dekalb County</u>, <u>Illinois</u>, reported that being near the turbines did not cause harm to property values.
- <u>Lee County, Illinois</u> Chief County Assessment Officer, Wendy Ryerson has not noticed any difference in the values of homes that are near wind turbines.
- We spoke with Tanya Zimmerman with the <u>Dekalb County, Missouri</u> Assessor who indicated that re-assessments of a property are only based on condition of the home and land itself and that proximity to a wind turbine is not a consideration for reduction in assessment. According to Zimmerman, <u>there is no measurable value difference based in proximity to a wind turbine.</u>
- Christine Anderson, GIS Coordinator in the Tax Assessor's office in <u>Bureau County, Illinois</u>, reported that they never received any complaints about potential changes in home values, before or after any of the wind farms were built.

To give us additional insight as to how the market evaluates farmland and single-family homes with views of wind farms, we interviewed numerous real estate brokers and other market participants who were party to actual sales of property adjacent to wind farms; these professionals also confirmed that

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wind farms did not diminish property values or marketability in the areas they conducted their business.

IV. Wind Farm Factors on Harmony of Use (page 104): In the course of our research and studies, we have recorded information regarding the compatibility of these existing wind facilities and their adjoining uses, including the continuing development of land adjoining these facilities.

## CONCLUSION

Considering all of the preceding, the data indicates that wind energy facilities do not have a negative impact on adjacent property values.

## SOLAR FINDINGS

I. Academic Studies: CohnReznick reviewed and analyzed published academic studies that specifically analyzed the impact of solar facilities on nearby property values. These studies include multiple regression analyses of hundreds and thousands of sales transactions, and opinion surveys, for both residential homes and farmland properties in rural communities, the majority of the data used in various studies indicates that there is no consistent and measurable impact to surrounding property values. We note that some of these studies do show a very small impact to certain homes, in certain locations, at certain distances, but these conclusions are not necessarily indicative of future projects in other locations.

Peer Authored Studies: CohnReznick also reviewed studies prepared by other real estate valuation experts that specifically analyzed the impact of solar facilities on nearby property values. These studies found little to no measurable or consistent difference in value between the Test Area Sales and the Control Area Sales attributed to the proximity to existing solar farms and noted that solar energy uses are generally considered a compatible use.

II. CohnReznick Studies: Further, CohnReznick has performed 35 studies in 18 states, of both residential and agricultural properties, in which we have determined that the existing solar facilities have not caused any consistent and measurable negative impact on property values.

It is noted that proximity to the solar farms has not deterred sales of nearby agricultural land and residential single-family homes, nor has it deterred the development of new single-family homes on adjacent land.

CohnReznick has completed "Before and After" analyses, in which sales that occurred prior to the announcement and construction of the solar farm project were compared with sales that occurred after completion of the solar farm project, for both adjoining and non-adjoining properties. No measurable impact on property values was demonstrated.



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III. Market Participant Interviews: Our conclusions also consider interviews with over 60 County and Township Assessors, who have at least one solar farm in their jurisdiction, and in which they have determined that solar farms have not negatively affected adjacent property values.

With regards to the Project, we specifically interviewed Auditors in the Central and Western United States:

- We spoke with Alan VanGalder, Appraiser for agricultural land and multifamily at the Pueblo County Assessor's office in Colorado, who noted that <u>he has not seen any decrease in home</u> <u>sale values in the Lakeside Manor Estates subdivision which is adjoining the Project Area and</u> <u>is near other solar installations and an existing solar farm to the south.</u> There have been no complaints or concerns about solar in that area.
- We spoke with Ross Felthousen, Real Property Appraiser for North San Luis Obispo County, California who indicated that <u>the presence of the nearly 586 MW Topaz Solar Farm and the</u> <u>250 MW California Valley Solar Ranch have not had an effect on property values of nor</u> <u>deterred local development.</u>
- At the Clark County, Nevada Assessor's office, we spoke with Fred Vandover, Property Appraiser II, and he reported that in the areas east and south of the Nellis Solar farm on the Nellis Air Force Base (those areas that include Test Area Sales) <u>home values have not decreased since the completion of the second phase of the Nellis Solar installation.</u> In fact, he remarked that the median assessed allocated land values have increased from \$38,000 in tax year July 1, 2018 to June 30, 2019 to \$55,000 in the tax year July 1, 2020 to June 30, 2021, representing an 8.5 percent average annual increase in land values.
- Lisa Ruhlen, Real Estate Clerk in the Hardin County, Ohio Auditor's office reported that as of first quarter 2022, <u>there have been no complaints or petitions to lower assessed values on</u> <u>homes near the Hardin Solar farm</u>. Primarily because the solar facility went into operation in 2021 and there has not been a tri-annual reassessment of the county yet. However, in the northern part of the county, where solar facilities have been in operation longer, there have still been no complaints about property value impacts.
- In April 2022, Gardiner Appraisal Service is the assessor for Mifflin Township, Wisconsin where the 150MW Badger Hollow I solar project is located. Kylie Washburn, Administrative Assistant for Gardiner Appraisal Service, reported that there have been no new sales that occurred near the solar farm after it was built. She stated that the entire community was reassessed to market standards in 2020, prior to the construction of the solar farm. The typical reassessment cycle for this community is 10 to 12 years. There have been no changes to how properties are assessed after the solar farm was built. No property owners have requested or been granted a reduction in assessed value for being adjacent a solar field. <u>Overall, the assessor's office reported no impacts from the solar farm.</u>
- We interviewed Missy Tetrick, a Commercial Valuation Analyst for the Marion County Indiana Assessor. She mentioned the **Dominion Indy Solar III sites** and stated that she saw <u>no</u> <u>impact on land or property prices from proximity to this solar farm</u>.



To give us additional insight as to how the market evaluates farmland and single-family homes with views of solar farms, we interviewed numerous real estate brokers and other market participants who were party to actual sales of property adjacent to solar; these professionals also confirmed that solar farms did not diminish property values or marketability in the areas they conducted their business.

## CONCLUSION

Considering all of the preceding, the data indicates that solar facilities do not have a negative impact on adjacent property values.

If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Very truly yours,

CohnReznick LLP

Andrew R. Lines, MAI Principal Certified General Real Estate Appraiser Washington License No. 22037264

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Erin C. Bowen, MAI Senior Manager



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## **SCOPE OF WORK**

## **CLIENT AND INTENDED USERS**

The Client and Intended Users of this report is Horse Heaven Wind Farm LLC.

## INTENDED USE

The intended use of our findings and conclusions is to address certain criteria required for the granting of approvals for proposed wind farm uses in Benton County, Washington. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

## PURPOSE

The purpose of this consulting assignment is to determine whether proximity to the proposed wind facility will result in an impact on adjacent property values.

## **DEFINITION OF VALUE**

This report utilizes Market Value as the appropriate premise of value. Market value is defined as:

"The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- 1. Buyer and seller are typically motivated;
- 2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
- 3. A reasonable time is allowed for exposure in the open market.
- 4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
- 5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."<sup>1</sup>

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<sup>&</sup>lt;sup>1</sup> Code of Federal Regulations, Title 12, Chapter I, Part 34.42[h]

## **EFFECTIVE DATE & DATE OF REPORT**

August 22, 2023 (Paired sale analyses contained within each study are periodically updated.)

## **PRIOR SERVICES**

USPAP requires appraisers to disclose to the client any services they have provided in connection with the subject property in the prior three years, including valuation, consulting, property management, brokerage, or any other services.

This report is a compilation of the Existing Wind Farms which we have studied over the past year and is not evaluating a specific subject site. In this instance, there is no "subject property" to disclose.

## INSPECTION

Andrew R. Lines, MAI, and Erin C. Bowen, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.



## **OVERVIEW OF WIND DEVELOPMENT IN THE UNITED STATES**

With the recent passing of the Inflation Reduction Act, the United States continues to be home to one of the largest and fastestgrowing wind markets in the world. In August 2022, the Inflation Reduction Act (IRA) was passed by Congress, extending the Production Tax Credit (PTC) and Investment Tax Credit (ITC) for wind projects through 2024. The ITC provision provides up to a 30% tax credit for offshore wind projects that begin construction before January 1, 2026. Additionally, the IRA provides a new tax credit for the domestic production of wind components and related goods of up to 10% of the sales price. The U.S. Department of Energy's (DOE) Wind Energy Technology Office (WETO) confirms that with technological advancements driving projected cost reductions, in combination with continued siting and transmission development, wind energy can provide cost-effective electricity across the United States. Total annual U.S. electricity generation from wind energy increased from about 6 billion kilowatt-hours (kWh) in 2000 to about 380 billion kWh in 2021. In 2021, wind turbines were the source of about 9.2% of total U.S. utility-scale electricity generation. Utility-scale includes facilities with at least one megawatt (1,000 kilowatts) of electricity generation capacity.

Wind electricity generation and share of total U.S. electricity generation, 1990-2021



By 2050, wind technology is projected to generate 404.25 GW of power across the continental United States, which is three times the amount of the existing generating capacity. With the increase of wind generating facilities across the country, wind projects have become a common and understood feature of the landscape and will continue to do so with the projected additional capacity to come online in the coming years.

Along with the development of new related technology over the past several years, the relative height of turbines has been increasing. To produce more power, larger rotors and blades cover a wider area and increase the capacity of the turbine. More power is also produced when the blades are higher in the atmosphere, where the wind blows more steadily, increasing how often it runs. According to the US Office of Energy Efficiency & Renewable Energy's report, "Land-Based Wind Market Report: 2022 Edition," long-term improvements in the cost and performance of wind power technologies, along with the Production Tax Credit, have driven wind energy capacity additions. Wind turbines continued to grow in size and power, with the average nameplate capacity of newly installed wind turbines at 3.0 MW—up 9% from 2020 and 319% since 1998–1999. The average rotor diameter of newly installed turbines in 2021 was 418 feet, a 4% increase over 2020 and 164% over 1998–1999.

The average "tip height" (from ground to blade tip extended directly overhead) among projects that came online in 2021 is 517 feet, and FAA data suggest that future projects, including those under construction and in advanced development, will deploy even taller turbines. Among proposed turbines in the FAA permitting process, the average tip height reaches more than 643 feet. Historically, 500 feet was considered a ceiling due to moreinvolved FAA permitting and approval processes for turbines above that height. The tallest turbines in the

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permitting process—those with a tip height of at least 750 feet—are proposed for southern California, Arizona, New Mexico, south Texas, Kansas and central Illinois, but turbines of at least 650 feet appear likely to be installed in every region of the United States (see the following figure).



Note: Figure includes FAA data on under-construction, advanced development, pending, and proposed turbines Sources: FAA Obstacle Evaluation / Airport Airspace Analysis files, AWS Truepower, ACP, Berkeley Lab

## Figure 31. Total turbine heights proposed in FAA applications, by location

Winds farms throughout the US have setback requirements defined by distances from non-participating structures or in relation to the turbine structure height, whichever distance is shorter. For example, Illinois requires the distance from the property line to a wind turbine at 110% of the height of the wind turbine. LaSalle County requires a setback of 1,200 feet from a residence, 1.25 times the height of the turbine to property lines, and 1.50 times the height of the turbine from other structures and public roads. While some states have statewide standards, most do not have state-level regulations. Siting and permitting decisions typically take place at the local level. Setback requirements range from 1,000 to 3,250 feet throughout the US.

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## **OVERVIEW OF WIND DEVELOPMENT IN WASHINGTON**

According to the U.S. Energy Information Administration, there are 26 wind energy developments in the state of Washington and they generate approximately 3,389 megawatts (MW) of power. The following map illustrates the regional concentration of wind farms according to the U.S. Wind Turbine Database.



<1 MW	>5 MW

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As illustrated following, the state's net electricity generation by source is 67% hydroelectric, 12% natural gas, 8% nuclear, 8% wind, 3% coal-fired, 1% biomass and 1% solar.



Source: U.S. Energy Information Administration's Open Data API, Electricity Net Generation

The nameplate capacity (or rated capacity) of a wind turbine is the amount of energy the turbine would produce if it ran 100 percent of the time at optimal wind speeds, according to the New York State Energy Research & Development Association (NYSERDA). <sup>2</sup> Of the wind developments in Washington, the highest nameplate capacity, as measured in megawatts (MW), is the Lower Snake River Wind Energy Project located in Garfield County. The Lower Snake River Wind Energy Project turbines generate 342.7 megawatts of power and became operational in February 2012.

On average, the wind farms in Washington produce 130.3 megawatts of power each. Installations of wind farm developments date from 2001 to 2020 in the state. There is currently one wind farm under construction in Washington: Saddle Mountain East Wind Farm with a capacity of 126.0 MW expected to become operational in late 2025.

CohnReznick has considered the long history of wind farms within the state, as well as Benton County's experience with active wind farms.



<sup>&</sup>lt;sup>2</sup> Wind Energy Basics – New York State Energy Research & Development Association

## **APPRAISAL THEORY – ADJACENT PROPERTY'S IMPACT ON VALUE**

According to Randall Bell, Ph.D., MAI, author of the text *Real Estate Damages*, published by the Appraisal Institute in 2016, understanding the market's perceptions on all factors that may have an influence on a property's desirability (and therefore its value) is essential in determining if a diminution or enhancement of value has occurred.<sup>3</sup> According to Dr. Bell:

"There is often a predisposition to believe that detrimental conditions automatically have a negative impact on property values. However, it is important to keep in mind that if a property's value is to be affected by a negative condition, whether internal or external to the property, that condition must be given enough weight in the decision-making process of buyers and sellers to have a material effect on pricing relative to all the other positive and negative attributes that influence the value of that particular property."<sup>4</sup>

Market data and empirical research through the application of the three traditional approaches to value should be utilized to estimate the market value to determine if there is a material effect on pricing due, to the influence of a particular characteristic of or on a property.

A credible impact analysis is one that is logical, innate, testable and repeatable, prepared in conformity with approved valuation techniques. In order to produce credible assignment results, more than one valuation technique should be utilized to support the primary method, or a check of reasonableness, such as the utilization of more than one approach to value, conducting a literature review, or having discussions (testimony) with market participants. <sup>5</sup> CohnReznick implemented the scientific method <sup>6</sup> to determine if a detrimental condition of proximity to a wind farm exists, further described in the next section.

- 1. Identify the problem.
- 2. Collect relevant data.
- 3. Propose a hypothesis.
- 4. Test the hypothesis.
- 5. Assess the validity of the hypothesis.

Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Pages 314-316)



<sup>&</sup>lt;sup>3</sup> Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Pages 1-2)

<sup>&</sup>lt;sup>4</sup> Ibid, Page 314

<sup>&</sup>lt;sup>5</sup> Ibid, Pages 7-8

<sup>&</sup>lt;sup>6</sup> The scientific method is a process that involves observation, development of a theory, establishment of a hypothesis, and testing. The valuation process applies principles of the scientific method as a model, based upon economic principles (primarily substitution) as the hypothesis. The steps for the scientific method are outlined as follows:

## METHODOLOGY

The purpose of this report is to determine whether proximity to the proposed wind facility will result in any measurable and consistent impact on adjacent property values. To test this hypothesis, CohnReznick identified three relevant techniques to test if a detrimental condition exists.

- (1) A review of published studies;
- (2) Paired sale analysis of properties adjacent to existing wind generating facilities, which may include repeat sale analyses or "Before and After" analyses; and,
- (3) Interviews with real estate professionals and local real estate assessors.

The paired sales analysis is an effective method of determining if there is a detrimental impact on surrounding properties.

"One of the most useful applications of the sales comparison approach is paired sale analysis. This type of analysis may compare the subject property or similarly impacted properties called **Test Areas** (at Points B, C, D, E, or F) with unimpaired properties called **Control Areas** (Point A). A comparison may also be made between the unimpaired value of the subject property before and after the discovery of a detrimental condition. If a legitimate detrimental condition exists, there will likely be a <u>measurable and consistent difference</u> between the two sets of market data; if not, there will likely be no significant difference between the two sets of data. This process involves the study of a group of sales with a detrimental condition, which are then compared to a group of otherwise similar sales without the detrimental condition."<sup>7</sup>

As an approved method, paired sales analysis can be utilized to extract the effect of a single characteristic on value. By definition, paired data analysis is "a quantitative technique used to identify and measure adjustments to the sale prices or rents of comparable properties; to apply this technique, sales or rental data on nearly identical properties is analyzed to isolate a single characteristic's effect on value or rent."<sup>8</sup> The text further describes that this method is theoretically sound when an abundance of market data, or sale transactions, is available for analysis.

Where data is available, CohnReznick has also prepared "Before and After" analyses or a Repeat Sale Analysis,<sup>9</sup> to determine if a detrimental impact has occurred.

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<sup>&</sup>lt;sup>7</sup> Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Page 33)

<sup>&</sup>lt;sup>8</sup> The Appraisal of Real Estate 14<sup>th</sup> Edition. Chicago, IL: Appraisal Institute, 2013.

<sup>&</sup>lt;sup>9</sup> Another type of paired sales analysis involves studying the sale and subsequent resale of the same property. This method is used to determine the influence of time on market values or to determine the impact of a detrimental condition by comparing values before and after the discovery of the condition.

Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Page 35)

The scope of work utilized to test the hypothesis stated on the prior page is as follows:

- 1. Review published studies, assess credibility, and validity of conclusions;
- 2. Prepare paired sale analyses for existing wind farms as follows:
  - 2.1. Identify existing wind farms comparable to the proposed project to analyze;
  - 2.2. Define Test Area Sales and Control Areas Sales:
  - 2.3. Collect market data (sale transactions) for both Test Area and Control Area Sales;
  - 2.4. Analyze and confirm sales, including omission of sales that are not reflective of market value;
  - 2.5. Prepare comparative analysis of Test Area and Control Area sales, adjusting for market conditions;
  - 2.6. Interpret calculations; and

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3. Conduct interviews with real estate professionals and local real estate assessors who have evaluated real property adjacent to existing wind farms.

It should be noted that our impact report methodology has been previously reviewed by our peers in the field.

The following bullet points summarize important elements to consider in our scope of work:

- Due to the limited number of existing larger utility scale projects in the state of Illinois Washington, we have incorporated other utility scale projects in other states.
- Test Area Sales consists of sales that are adjacent to an existing wind facility, within 1.00 mile of a wind turbine. Ownership and sales history for each adjoining property to an existing wind farm through the effective date of this report is maintained within our workfile. Adjoining properties with no sales data or that sold prior to the announcement of the wind farm were excluded from further analysis.
- Control Area Sales are generally located in the same market area, outside 3.0 miles of any wind turbine, although varies based on the general location of the existing wind farm under analysis. In rural areas, sales are identified first within the township, and the search expands radially outward through the county until a reliable set of data points is obtained.
- Control Area Sales are generally between 12 and 18 months before or after the date of the Test Area Sale(s), and are comparable in physical characteristics such as age, condition, style, and size.
- Sales of properties that sold in a non-arm's length transaction (such as a transaction between related parties, bank-owned transaction, or between adjacent owners) were excluded from analysis as these are not considered to be reflective of market value, as defined earlier in this report. The sales that remained after exclusions were considered for a paired sale analysis.
- The methodology employed in this report for paired sale analysis does not rely on multiple subjective adjustments that are typical in many appraisals and single-paired sales analyses. Rather, the



methodology remains objective and the only adjustment required is for market conditions;<sup>10</sup> the analysis relies upon market conditions trends tracked by credible agencies such as the Federal Housing Finance Agency ("FHFA"), which maintains a House Price Index ("HPI")<sup>11</sup> for macro and micro regions in the United States. A market conditions adjustment is a variable that affects all properties similarly and can be adjusted for in an objective manner.

- To make direct comparisons, the sale price of the Control Area Sales was adjusted for market conditions to a common date. In this analysis, the common date is the date of the Test Area Sale(s). After adjustment, any measurable difference between the sale prices would be indicative of a possible price impact by the wind facility.
- If there is more than one Test Area Sale to evaluate, the sales are grouped if they exhibit similar transactional and physical characteristics; otherwise, they are evaluated separately with their own respective Control Area Sale groups.

A summary of the analyses completed is presented on the following pages in the section entitled Technique 2: Paired Sale Analyses. Detail of these analyses is retained within our workfile.



<sup>&</sup>lt;sup>10</sup> Adjusting for market conditions is necessary as described in The Appraisal of Real Estate 14th Edition as follows: "Comparable sales that occurred under market conditions different from those applicable to the subject on the effective date of appraisal require adjustment for any differences that affect their values. An adjustment for market conditions is made if general property values have increased or decreased since the transaction dates."

<sup>&</sup>lt;sup>11</sup> The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. This information is obtained by reviewing repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. Because of the breadth of the sample, it provides more information than is available in other house price indexes.

## **TECHNIQUE 1: REVIEW OF PUBLISHED STUDIES**

We have also examined various studies that consider the impact of wind farms on surrounding property values. The studies range from formal and robust statistical analyses by appraisers and economists, to less formal survey-based and qualitative research, and are summarized in a table on the following page.

Of the most cited 18 wind studies in North America, all but four concluded that the proximity of a wind farm to a residential home has no negative impact on property value. Most of these studies included data sets in the hundreds, and several in the thousands, of home sale transactions, and resulted in this conclusion: there is no statistical evidence that wind farms decrease property values.

Ben Hoen, Research Scientist at Lawrence Berkeley National Laboratory ("LBNL"), and a prolific expert on wind farms and property values, wrote of his own literature review in his 2016 study (see Study 1 in Summary table on the following page) that "One of the overall conclusions that can be drawn from this literature is that wind facilities are often predicted to negatively impact residential property values in pre-construction surveys, but **negative impacts have largely failed to materialize post-construction when actual transaction data become available for analysis.**"<sup>12</sup>

It is noted that the 2016 study, which focused on urban areas in Massachusetts, resulted in a conclusion consistent with the LBNL 2013 study which utilized 51,276 home sales from 27 U.S. counties related to 67 wind facilities, and 1,198 home sales were within one mile of a wind turbine.

The Springfield-Sangamon County Regional Planning Commission (SSCRPC), in Illinois, reviewed some of the most often cited literature concerning the effect of wind farms on property values and found that there was no compelling research indicating that proximity to a wind farm results in a measurable decline in property values over time. Research was found indicating that people might *believe* it would lead to such a decline, which may result in a short-term decline prior to property owners gaining experience with a wind farm.<sup>13</sup> Once a community lives with a wind farm in operation, property owners' fears are put to rest and any fluctuation in value stabilizes.

The SSCRPC agreed with the National Association of Realtors who report in their *Field Guide to Wind Farms and their Effect on Property Values*, "Although the research remains scant, wind farms appear to have a minimal or at most transitory impact on property values" (National Association of Realtors, 2009)." The following page summarizes the 18 most cited wind studies; we have also addressed each study which concludes to an impact, on subsequent pages.

<sup>13</sup> https://www.ilarconline.org/file/67/InfoBrief-WECS-and-PropertyValue-March-2012-Update\_doc.pdf



<sup>&</sup>lt;sup>12</sup> https://pages.jh.edu/jrer/papers/pdf/past/vol38n04/9867-01.473\_504.pdf

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	Summary	or Published St	utiles on th	e impact of wind Farms on Property Va	ues	
	Study Title	Author	Date	Methodology	Location	Impact Found
1	Wind turbines, amenities, and disamenities: a study of home value impacts in densely populated Massachusetts	Hoen, et al.	2016	Hedonic Regression Analysis of 122,000 home sales from 1998 - 2012	Massachusetts	No Impact
2	Impact of Industrial Wind Turbines on Residential Property Assessment in Ontario	Moore, et al.	2016	Multiple Regression Analysis of 25 market areas	Ontario, Canada	No Impact
3	Brookings County 2015 Property Value Survey	Prevailing Winds	2015	Simple observation of increase/decrease in value of 233 proximate and non-proximate properties (Ag & Res)	Brookings County, SD	No Impact
4	A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States	Hoen, et al.	2013	Spatial-process difference-in-difference hedonic models of 50,000 home sales	27 Counties in 9 U.S. States	No Impact
5	Case Study: Effects of Wind Turbine Facility	Lansink	2012	Five sales & re-sales of SFR homes	Melancthon, Ontario (Canada)	Negative Impact
6	The Effect of Wind Farms on Residential Property Values in Lee County, Illinois	Carter	2011	Hedonic Regression Analysis on proximate and regional sales data of 1,298 homes from 1998 - 2010	Lee County, IL	No Impact
7	Values in the Wind: A Hedonic Analysis of Wind Power Facilities	Heintzelman & Tuttle	2011	Hedonic Regression Analysis of 11,331 home sales over 9 years	Clinton, Franklin, and Lewis Counties in New York	Negative Impact
8	Wind energy facilities and residential properties: the effect of proximity and view on sales prices	Hoen, et al.	2011	Hedonic Regression Analysis of 7,500 home sales	24 existing wind facilities in the United States	No Impact
9	Wind Energy Study - Effect on Real Estate Values	Canning (MAI)	2010	Multiple Regression Analysis, Paired Sale Analysis of 83 homes	Chatham-Kent, Ontario (Canada)	No Impact
10	Wind farm proximity and property values: a pooled hedonic regression analysis of property values in central Illinois	Hinman	2010	Hedonic Regression Analysis with Difference-in-Difference Estimators of 3.851 sales from 2001 - 2009	McLean County, IL	No Impact
11	Written Testimony	McCann	2010	Compared sale prices of SFR <2 miles (15 home sales) and > 2 miles from turbines (38 home sales).	Near Mendota Hills Wind Farm, Lee County, IL	Negative Impact
12	The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis	Hoen, et al.	2009	Hedonic Regression analysis & Repeat Sales Models of 7,500 home sales	24 existing wind facilities in the United States	No Impact
13	Wind Turbine Impact Study	Kielisch	2009	Compared values of vacant residential lots using regression analysis	Dodge & Fond Du Lac Counties, WI	Negative Impac
14	A Real Estate Study of the Proposed White Oak Wind Energy Center, McLean & Woodford Counties, Illinois	Poletti	2007	Statistical analysis of 256 home sales in close proximity and those not proximate	McLean & Woodford Counties, IL	No Impact
15	Impacts of windmill visibility on property values in Madison County, New York	Hoen	2006	Hedonic Regression Analysis of 280 home sales from 1996 - 2005	Madison County, NY	No Impact
16	A Study on the Impact of Windmills on Property Values in Tucker County, West Virginia	Goldman	2006	Qualitative interviews	Tucker County, WV	No Impact
17	Market Impact Analysis	MaRous (MAI)	2005	Matched Pair Analysis and Interviews	Bureau County, IL	No Impact
18	The Effect of Wind Development on Local Property	Sterzinger	2003	Linear Regression Analysis of 25,000 home	7 U.S. States	No Impact

\*Notes on studies located on the following pages.

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Study 5, Case Study: Effects of Wind Turbine Facility by Ben Lansink of Lansing Appraisals and Consulting, published in 2012 is often cited as an example of a wind farm having a negative impact on property values. The Lansink report studied five single family homes that were purchased by Canadian Hydro Developments Inc. in 2007. Later in 2009, Canadian Hydro Developments Inc. sold these same five homes at a loss, averaging -29 percent, according to Lansink. Lansink also calculates that average values in the area of the subject homes increased over the same two-year period an average of 16.22 percent. Canada also experienced the Great Recession from approximately 2007 through 2009. Lansink's assertion that the market for these homes should have appreciated rather than fallen may be flawed. Additionally, Lansink does not subject his home sales data to any sort of control group study or statistical analysis. Overall, this study uses a small amount of data and uses broad averages about property appreciation that could be flawed and does not adjust or account for any differences in the homes analyzed.

Study 7, Values in the Wind: A Hedonic Analysis of Wind Power Facilities by Heintzelman and Tuttle (2011) in Clinton, Franklin, and Lewis Counties in New York presents a larger sample of data than had previously been studied (11,391 home sales over nine years). Subsequent research has studied even more data in larger magnitudes (Study 4: Hoen, et al. 2013 studied 50,000 home sales, and Study 1: Hoen et al. 2016 studied 122,000 home sales), coming to the conclusion that there is no negative impact on property values after construction of a wind farm. CohnReznick believes this study contains significant weaknesses including:

- Most of the transactions identified took place BEFORE Wind turbines were installed
- Study includes sales of property occurring after the start of the Great Recession, with no qualifiers or variables to compensate for market conditions adjustment
- Study extracts conclusions that are not consistent with basic real estate principles:
  - o "Lot size is, unusually, not a significant factor" (p. 20)
  - "Homes with open water or wetlands are more valuable" (p.20)
  - "Strangely, homes classified as having 'excellent' construction quality appear to sell for less than those with average quality..." (p. 21)
- Study assumes that a sale of properties occurring "very close" to a turbine "expect that future wind development may be possible on their parcels, which would necessitate easement payments."
- Suggests there may be negative property value effects in the post-announcement/pre-construction phase; however, these anticipation effects (sometimes described as "anticipation stigma") are transitory and disappear once the operation of the wind farm commences.

The sum of these exceptions may indicate that the study was poorly put together and contains flaws that make it unreliable.

Study 11, Written Testimony from Michael McCann from 2010, about the supposed negative impacts on property values near the Mendota Hills Wind Farm, in Lee County, Illinois was disproven by the actual facts that have unfolded over time. The Lee County Tax Assessor, Wendy Ryerson, told us in an interview in March 2020, that the County has not noticed any difference in values of homes since the wind farm was completed in 2003. "We don't even see people coming forward to say, 'Reduce the assessment for my taxes'." Ryerson said. Ryerson is considered an expert in the assessment community regarding wind farms and developed the formula for assessing wind farms in 2003 that was accepted as a standard by the State of Illinois in 2007.



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In addition, McCann was rebutted by the testimony of Mark A. Thayer, Ph.D., Department of Economics at San Diego State University, in 2017 where he testified that "[McCann's] alternative literature has formed the basis for testimony by Michael McCann, who has offered basically the same testimony in a multitude of settings – specifically, residential properties located within three miles (or possibly greater distances) of wind turbines will experience a minimum 25-40 percent reduction in value for homes.

- Note that this is a minimum expected loss as McCann has on several occasions suggested that the loss could be significantly greater. In fact, in a publication/statement entitled "I Predict a Series of Rural Ghettos Abandoned, Unmaintained Homes (III)," McCann stated in 2010 that the only thing worse than wind turbines for creating the physical and health-driven need to relocate is a nuclear reactor meltdown (e.g., Chernobyl) and indicated that damages to homes could be in the 60 80 percent range. Of course, no justification was provided for that damage range.
- The expected reductions in value are based on (1) McCann's own analysis; (2) an alternative literature; and (3) McCann's willful misinterpretation / misunderstanding of the existing hedonic literature in which he demonstrates a complete lack of knowledge concerning statistics and hedonic methods and draws erroneous conclusions that are exactly opposite of the conclusions drawn by the authors of specific reports.

CohnReznick concurs with Thayer's conclusions that McCann's conclusions are misinformed and should be disregarded, especially in light of the data discussed by Tax Assessor Wendy Ryerson.

Study 13, Wind Turbine Impact Study by Kurt C. Kielisch of Appraisal Group One, compared vacant residential lot sales within the wind turbine farm area to comparable sales of vacant residential lots and supposes that the negative impact observed would translate to improved single-family land. This leap is, frankly, unfounded in the appraisal community. Improved properties do not necessarily react to external influences or experience changes in value in the same way, or with the same magnitude, as vacant land.

Ultimately, the overwhelming scientific data and measurements indicate no negative impact on adjacent residential real estate – conclusions developed by industry experts using regression models, paired sales analysis, and surveys with market participants.



## WIND FARM 1: SAGEBRUSH WIND FARM KITTITAS COUNTY, WASHINGTON

Coordinates: Latitude 47.135600, Longitude -120.687200

**PINs:** Multiple

Project Area: Approximately 5,400 acres

Date Project Announced: February 2003

Date Project Completed: November 2010

Output: 100.7 MW AC

The Sagebrush Wind Farm is a 48-turbine wind farm comprised of 2.1 MW wind turbines in Kittitas County, Washington. The turbines are 407 feet tall from base to tip of the apex. The wind farm is located approximately 12 miles northwest of the city of Ellensburg and 38 miles northwest of the city of Yakima. The Project area is primarily rural, adjacent to the north of the town of Thorp and to the east of the town of Cle Elum.

The wind farm was announced in February 2003 and completed in November 2010. The Project sits on approximately 5,400 acres of privately and publicly owned rangeland. The facility generates enough electricity to power the equivalent of 26,000 average Washington homes, according to the US Energy Information Administration.

We have analyzed all single-family residential sales data from properties that sold in the previous three years, since June 2020. Our research included all homes within one-mile of a wind turbine. We identified eleven single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine and were open-market, arm's length transactions.

The aerial imagery on the following page displays the Test Area Properties in relation to the closest turbines.





Sagebrush Wind Farm: Test Area Properties



## PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified two groups of Test Area Sales based primarily on home type; properties improved with single-family homes and farm structures, and properties improved with single-family homes and farm structures, and properties improved with single-family homes with no farm structures. We have analyzed sales of homes that occurred in the previous three years, since June 2020.

## **Properties Excluded from Paired Sales Analysis**

In June 2022 a large 311.32-acre ranch property with a single-family residence located at 1371 Bettas Road in Cle Elum sold for \$2,500,000 or \$1,289.99 per square foot of finished living area or \$8,030 per acre. The nearest wind turbine is approximately 2,350 feet away. The property includes a two-story residence, pole barn, machine shed and a pole garage. Due to the large lot size of the property, there are limited sales in the area to categorize as Control Area Sales and 1371 Bettas Road was excluded from our paired sales analysis.

A single-family residence built in 1960 located at 15450 N. Thorp Highway in Thorp sold in November 2022 for \$1,175,000 or \$721.74 per square foot of finished living area. The property consists of a one-story home with a utility building, storage shed and a sleeping cabin on a 4.59-acre lot. The property is located along the Yakima River with approximately 370 feet of river frontage. The nearest wind turbine is approximately 2,645 feet away. We conducted a search in the area for comparable single-family homes with river frontage but did not find sufficient data to yield reliable conclusions in a paried sale analysis.



## Group 1 – Improved Single-Family Residential Properties

The first group of test sales include properties comprised of single-family homes with the only additional improvements being garage parking or storage sheds. The following table summarizes the characteristics of each test sale.

Sagebrush Wind Farm, Group 1 - Test Sales											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
1	1520 Deer Valley Drive	Ellensburg	\$389,950	1,470	1-Story SFH with Attached Garage	3	1.75	2009	3.28	10/7/2020	\$265.27
2	2301 Deer Valley Drive	Ellensburg	\$525,000	2,016	1-Story SFH	3	2.00	2011	8.05	7/1/2021	\$260.42
3	14670 Highway 10	Ellensburg	\$810,000	2,194	1-Story SFH with Large Detached Garage and Shed	3	2.00	1973 (Remodeled in 2021)	13.08	12/20/2021	\$369.19
4	561 Sonrisa Drive	Cle Elum	\$477,000	1,200	2-Story SFH with Attached Garage and Storage Shed	2	2.00	2019	12.48	5/27/2021	\$397.50
5	2111 Deer Valley Drive	Ellensburg	\$610,000	1,471	1-Story SFH with Storage Shed	3	2.00	2019	3.82	5/10/2022	\$414.68
6	631 Deer Valley Drive	Ellensburg	\$867,500	1,728	1-Story SFH with Large Detached Garage	3	2.00	2022	3.96	12/14/2022	\$502.03

In Group 1, Test Area Sales 1 through 6, all single-family homes, were considered for a paired sales analysis, and sold from October 2020 to Decmber 2022, after the completion of the wind farm. The homes are in proximity to multiple wind turbines and are approximately 2,225 feet to 4,650 feet from the nearest turbine, as shown on the following page.

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We analyzed twelve Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine within Kittitas County, and that sold within a similar time frame from the sale date of the Test Area Sales. The Control Area Sales are single-family homes with two to five bedrooms and one and a half to four and a half baths, consisting of between 1,370 square feet and 3,157 square feet of gross living area, built between 1999 and 2022, with lot sizes of between 2.65 and 25.88 acres. Additionally, the Control Area Sales are between one and two stories, with minimal additional improvements other than garage parking or small storage sheds. All of the Control Area Sales are located in rural areas, similar to the Test Area Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Sagebrush Wind Farm - Group 1						
No. of Sales	Adjusted Median Price Per SF					
Test Area Sales (6)	Adjoining wind farm	\$383.34				
Control Area Sales (12)	No: Not adjoining wind farm	\$378.76				
Difference between Unit Pri Adjusted Median Unit Pric	1.21%					

Sagebrush Wind Farm - Group 1								
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths				
Test Area Sale	1,200 - 2,194	3.28 - 13.08	1973 (Remodeled 2021) - 2022	2 - 3 / 1.75 - 2.00				
Control Area Sales (Range)	1,370 - 3,157	2.65 - 25.88	1999 - 2022	2 - 5 / 1.50 - 4.50				

The days on market for the Test Area Sales ranged from 33 to 73 days with a median of 45 days, while the median days on market for the Control Area sales was 78 days (ranging from 49 to 283 days), <u>and we note no</u> <u>major marketing time differential.</u>



**<u>Noting no consequential price differential</u>**, it does not appear that the proximity Sagebrush Wind Farm use impacted the sale price of the Test Area Sales in Group 1. The Test Area Sales indicate a slightly higher unit sales price than the Test Area Sales, but the difference is relatively nominal.

## Group 2 – Improved Single-Family Residential Properties

The second group of test sales include properties on large lots with farm structures. The following table summarizes the characteristics of each test sale.

Sagebrush Wind Farm, Group 2 - Test Sales											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
7	3111 Bettas Road	Cle Elum	\$432,000	2,200	1-Story Manufactured SFH with Detached Garage/Workshop, Pole Barn and Sleeping Cabin	3	2.00	2016	18.86	11/9/2020	\$196.36
8	1751 Bettas Road	Cle Elum	\$585,000	2,344	1.5-Story SFH with Pole Barn/Garage, Barn, Multiple Sheds, Grain Bins and Chicken Coop	3	2.0	1908 (Remodeled in 2000)	10.00	10/20/2020	\$249.57
9	400 Muddy Lane	Ellensburg	\$415,000	1,404	1-Story Manufactured SFH with Storage Shed and Utility Shed	3	1.8	2009	50.00	10/11/2021	\$295.58

Test Area Sales 7, 8 and 9 are single-family homes on large lots with farm structures, were considered for a paired sales analysis, and sold in between October 2020 and October 2021, after the completion of the wind farm. The homes are in proximity to multiple wind turbines and are approximately 2,765 feet, 4,385 feet, and 4,900 feet from the nearest turbine, as shown on the following page.





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We analyzed nineteen Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine within Kittitas County, and that sold within a similar time frame from the sale date of the Test Area Sales. The Control Area Sales are single-family homes with two to four bedrooms and one to three and a half baths, consisting of between 1,188 square feet and 4,190 square feet of gross living area, built between 1920 and 2007, with lot sizes of between 10.00 and 40.00 acres. Additionally, the Control Area Sales all have additional farm structures such as barns, workshops, bunkhouses, grain bins, sheds, horse stalls and chicken coops. All of the Control Area Sales are located in rural areas, similar to the Test Area Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Sagebrush Wind Farm - Group 2						
No. of Sales	Adjusted Median Price Per SF					
Test Area Sale (3)	Adjoining wind farm	\$249.57				
Control Area Sales (19)	No: Not adjoining wind farm	\$254.03				
Difference between Unit Pri Adjusted Median Unit Price	-1.75%					

Sagebrush Wind Farm - Group 2								
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths				
Test Area Sale	1,404 - 2,344	10.0 - 50.0	1908 - 2016	3 / 1.75 - 2.00				
Control Area Sales (Range)	1,188 - 4,190	10.0 - 40.0	1920 - 2007	2 - 4 / 1.0 - 3.5				

The days on market for the Test Area Sales range from 67 days to 101 days with a median of 84 days, while the median days on market for the Control Area sales was 91 days (ranging from 26 to 550 days), <u>and we note no</u> <u>major marketing time differential</u>.



**<u>Noting no consequential price differential</u>, it does not appear that the proximity Sagebrush Wind Farm use impacted the sale price of the Test Area Sales in Group 2. The Control Area Sales indicate a slightly higher unit** 

impacted the sale price of the Test Area Sales in Group 2. The Control Area Sales indicate a slightly high sales price than the Test Area Sales, but the difference is relatively nominal.

## Before & After Analysis – Sagebrush Wind Farm

We note that Test Area Sale 6 in Group 2 and eight Control Area Sales of the Sagebrush Wind Farm have sold twice over the past five years. To determine if any of the rates of appreciation for the identified home sales were affected by the proximity to the Sagebrush Wind Farm, we prepared a Repeat-Sales Analysis on the Test Area Sales. First, we calculated the total appreciation between each sale of the same property, the number of months that elapsed between each sale, and determined the monthly appreciation rate. Then, we compared extracted appreciation rates reflected in the Federal Housing Finance Agency (FHFA) Home Price Index for Washington's 989 Three-Digit Zip Code over the same period. The index for the Three-Digit Zip Code is measured on a quarterly basis and is presented below.

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over Quarter) Not Seasonally Adjusted			
Three-Digit Zip Code	Year	Quarter	HPI
989	2016	1	171.12
989	2016	2	174.79
989	2016	3	179.12
989	2016	4	179.88
989	2017	2 1	182.77
989	2017	2	189.23
989	2017	3	195.26
989	2017	4	197.17
989	2018	1	199.53
989	2018	2	209.16
989	2018	3	214.88
989	2018	4	216.77
989	2019	1	220.15
989	2019	2	225.26
989	2019	3	227.82
989	2019	4	231.14
989	2020	1	235.98
989	2020	2	238.11
989	2020	3	245.25
989	2020	4	251.45
989	2021	1	259.82
989	2021	2	275.58
989	2021	3	292.41
989	2021	4	304.68
989	2022	1	308.68
989	2022	2	327.03
989	2022	3	331.59
989	2022	4	328.88
989	2023	1	320 73

989 Three-Digit Zipe Code - Housing Price Index Change (Quarte over Quarter) Not Seasonally Adjusted	
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We have presented the full repeat sales analysis on the following page.



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#### ndex Leve Total Finished During Prior Sale Mont Land Area Most Recent Most Recent Prior Sale Prior Sale Tota Total rty Quarter of Quarter Address Apprec (Acres) Living Area (SF) Sale Date Sale Price Date Price Botwoor Ann rocis idex Leve Sales Sale 14670 Highway 97, Ellensburg 209.16 45.67% 0.85% 13.08 2,194 12/20/2021 \$810,000 4/4/2018 \$425,000 90.599 45 1.46% 304.68 Total Finished During Prior Sale Monthly Mont Address Elapsed Betweer Land Area Most Re ent st Re Prior Sale Prior Sal Tota Total Quarter Idex Leve ope ID Quarter of Apprecia Rate Apprecia Rate Sale Date Price (Acres) Liv /ing A Sale Price Date Appreciat Apprecia (SF) Sales Sale 4401 Cove Road, Ellensburg 901 Weihl Road, Cle Elum G1-2 10.03 3.538 \$1.012.500 10/7/2019 \$830,000 21.99% 0.49% 320.73 231.14 38.76% 0.81% 41 G1-5 20.00 11/15/2021 27 227.82 3,851 \$1,650,000 8/30/2019 \$999,900 65.02% 1.90% 304.68 33.74% 1.10% G1-6 3050 Airport Road, Cle Elum 10.00 2 263 8/3/2022 \$989.000 10/16/2019 \$589,000 67 91% 34 1 56% 331 59 231 14 43 46% 1 08% 1080 Howard Road, Ellensburg 20.00 2,625 6/20/2019 \$449,000 77.06% 45 1.28% 225.26 42.38% 0.79% G1-9 3/20/2023 \$795,000 320.73 1981 Teanaway Terrace Road, Cle Elun G1-12 10.00 1.942 10/28/2021 \$645.000 6/30/2020 \$486.000 32.72% 1.79% 304.68 238.11 27.96% 1.56% 16 Control Area Sales 1.56% 1.08%

#### Conclusion

When compared to the FHFA home price index for the local three-digit zip code, the extraction rate for the resale of Test Area Sale 3, that sold twice in the previous five years, exhibited a higher rate of appreciation than the Home Price Index for local Three-Digit Zip Code. As such, we have concluded that there does not appear to be a consistent detrimental impact on properties adjacent to the Sagebrush Wind Farm.

Additionally, five Control Area Sales have sold twice in the previous five years. When compared to the rate of appreciation of Test Area Sale 6, the median rate of appreciation of the Control Area Sales exhibited a similar rate of appreciation and <u>there is no consequential difference between</u> <u>the rates of appreciation</u>.

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## WIND FARM 2: PALOUSE WIND FARM WHITMAN COUNTY, WASHINGTON

Coordinates: Latitude 47.155833, Longitude -117.364400

**PINs:** Multiple

Project Area: Approximately 400 acres

Date Project Announced: October 2010

Date Project Completed: December 2012

## Output: 105.3 MW AC

The Palouse Wind Farm is a 58-turbine wind farm comprised of 1.8 MW wind turbines in Whitman County, Washington. The turbines are 426 feet tall from base to tip of the apex. The wind farm Is located approximately 26 miles north of the city of Pullman and 32 miles south of the city of Spokane. The Project area is rural, adjacent to the west of the town of Oakesdale and to the south of the town of Rosalia.

The wind farm was announced in October 2010 and completed in December 2012. The Project sits on approximately 400 acres under lease with 40 land owners. The facility generates enough electricity to power the equivalent of 30,000 average Washington homes, according to the US Energy Information Administration. Prior to completion of the Palouse Wind Farm, it was announced that the Palouse Wind Farm entered an agreement to sell the annual output of energy to Avista Corp., a Spokane based utility company, under a 30 year agreement. The Palouse Wind Farm was estimated to generate approximately \$700,000 in tax revenue per year for Whitman County through property tax payments.

We have analyzed all single-family residential sales data from properties that sold in the previous three years, since June 2020. We searched for homes in close proximity to a wind turbine, within one mile. We identified one single-family residential home that qualified for a paired sales analysis that is in close proximity to a wind turbine and is an open-market, arm's length transaction.

The aerial imagery on the following page displays the Test Area Properties in relation to the closest turbines.





Palouse Wind Farm: Test Area Property

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#### PAIRED SALES ANALYSIS

We identified one group of Test Area Sales based primarily on location and home type. We have analyzed sales of homes that occurred in the past three years, since June 2020.

#### Group 1 – Improved Single-Family Residential Properties

	Palouse Wind Farm Group 1													
Test Area Sale #	Address Township Sale Date Sale Price Type		SFLA	Beds	Baths	Year Built	Site Size (Acres)	Price/ SF						
1	2832 Trestle Creek Road	Thornton	3/14/2022	\$350,000	2-Story SFH with Unfinished Basement, Detached Garage, Small Barn and Chicken Coop	2,524	5	2.0	1889	3.20	\$138.67			

In Group 1, Test Area Sale 1, a single-family home, was considered for a paired sales analysis, and sold in March 2022, after the completion of the wind farm. The home is in proximity to five wind turbines and is approximately 4,035 feet from the nearest turbine, as shown below.





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We analyzed four Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than two and a half miles from the nearest turbine of the Palouse Wind Farm but within Whitman County, no more than 10 miles from the Test Area Sale, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with four to five bedrooms and one to two baths, consisting of between 2,702 square feet and 3,597 square feet of gross living area, built between 1900 and 1915, with lot sizes of between 3.62 and 6.60 acres. Additionally, the Control Area Sales are between one and two stories and have additional farm structures such as pole barns, workshops, machine sheds, storage sheds, and chicken coops. All of the Control Area Sales are located in rural areas, similar to the Test Area Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Palouse Wind Farm - Group 1									
No. of Sales	Adjusted Median Price Per SF								
Test Area Sale (1)	Adjoining wind farm	\$138.67							
Control Area Sales (4)	No: Not adjoining wind farm	\$134.31							
Difference between Unit Pri Adjusted Median Unit Pric	Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales								

Palouse Wind Farm - Group 1										
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths						
Test Area Sale	2,524	3.20	1889	5 / 2.0						
Control Area Sales (Range)	2,702 - 3,597	3.62 - 6.60	1900 - 1915	4 - 5 / 1.0 - 2.0						

**<u>Noting no consequential price differential</u>**, it does not appear that the proximity Palouse Wind Farm use impacted the sale price of the Test Area Sale in Group 1. The Control Area Sales indicate a slightly lower unit sales price than the Test Area Sale, but the difference is relatively nominal.



The days on market for the Test Area Sale was 236 days, while the median days on market for the Control Area sales was 119 days (ranging from 62 to 221 days), while the Test subject was higher than the control data, our discussions with brokers indicated that the marketing was due to the control data indicated general list to sale price ratios of +6% to -18% and the test sale's ratio of -14% fell within the market parameters.



## WIND FARM 3: COLORADO HIGHLANDS WIND FARM, LOGAN COUNTY, COLORADO

Coordinates: Latitude 40.756944, Longitude -102.7431

**PINs:** Multiple

Owner of Record: Colorado Highlands Wind, LLC

Date Project Announced: 2011

Date Project Completed: September 2013

**Project Area:** Approximately 6,640 acres

Output: 96.1 MW AC

The Colorado Highlands Wind Farm is a 56-turbine wind farm composed of 1.6 and 1.7 MW wind turbines (for a nameplate capacity of 96.1 megawatts), in Logan County, Colorado, to the northeast of Fleming.

The wind farm began initial operations with phase 1 in December 2012 which consisted of 42 turbines, and completed phase 2, with 14 turbines, in September 2013. The power generated from the wind farm is purchased by the Tri-State Generation and Transmission Association under a 20-year purchase agreement. Tri-State is a not-for-profit wholesale power supplier to 44 electric cooperatives and public power districts serving approximately 1.5 million consumers throughout a 200,000 square-mile service territory across Colorado, Nebraska, New Mexico, and Wyoming.

Altogether we analyzed all single-family residential home sales data from properties that sold from December 2012 to May 2020, after completion of the initial phase of the wind farm, in Logan County. We searched for homes in close proximity to a wind turbine, less than two miles. We identified two single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine.

The aerial image on the following page displays the two Test Area properties in relation to the closest turbines.





Colorado Highlands Wind Farm: Test Area Properties

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	Colorado Highlands Wind Farm Group 1											
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Site Size (Acres)	Price/SF		
1	42554 County Road 42	Fleming	9/5/2014	\$152,500	1,690	3	1	1914	37	\$90.24		

Test Area Property 1, in Group 1, a single-family home, was considered for a paired sales analysis, and sold in 2014, after the completion of the wind farm. The home is approximately 1,780 feet from the nearest turbine, and 1,835 feet from another wind turbine.



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We analyzed five Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Logan County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Logan County, Colorado for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.<sup>14</sup>

The result of our analysis is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Colorado Highland Wind Farm - Group 1								
Potentially Impacted Adjusted Median by Wind Farm Price Per SF								
Test Area Sale (1)	Adjoining wind farm	\$90.24						
Control Area Sales (5)	No: Not adjoining wind farm	\$90.24						
Difference between Unit Price Adjusted Median Unit Price	0.00%							

Colorado Highlands Wind Farm - Group 1									
	Home Size (SF)	Land Size (AC)	Year Built	Beds/Baths					
Test Area Sale	1,690	37.0	1914	3/1					
Control Area Sales (Range)	1,576 - 2,344	21-42	1910 - 1980	3/2 - 5/2					

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<sup>&</sup>lt;sup>14</sup> https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

	Colorado Highlands Wind Farm Group 2											
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Site Size (Acres)	Price/SF		
2	39301 County Road 38	Fleming	8/27/2015	\$280,000	2,368	4	4	2002	35	\$118.24		

Test Area Property 2, in Group 2, a single-family home, was considered for a paired sales analysis, and sold in 2015, after the completion of the wind farm. The home is approximately 6,274 feet from the nearest turbine, and 7,878 feet from another, as shown below.



We analyzed six Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Logan County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Colorado Highland Wind Farm - Group 2									
	Potentially Impacted by Wind Farm	Adjusted Median Price Per SF							
Test Area Sale (1)	Adjoining wind farm	\$118.24							
Control Area Sales (6)	No: Not adjoining wind farm	\$111.12							
Difference between Unit P Adjusted Median Unit Pri	6.41%								

Colorado Highlands Wind Farm - Group 2										
	Home Size (SF) Land Size (AC)									
Test Area Sale	2,368	35.0	2002	4/4						
Control Area Sales (Range)	1,508 - 2,340	17.46 - 41.31	1910 - 2006	3/2 - 5/2						

**The study indicates a favorable price differential,** with the Test Area Sale having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. The difference is likely due to the age of the Test Area Sale - being a more contemporary home than the average of the County. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Colorado Highlands Wind Farm.

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## WIND FARM 4: SPRING CANYON WIND ENERGY CENTER, LOGAN COUNTY, COLORADO

Coordinates: Latitude 90.964167, Longitude -103.077200

**PINs:** Multiple

Owner of Record: Invenergy Services, LLC and NRG Yield LLC

Date Project Announced: Phase 1 – 2006, Phase 2 and 3 - 2014

Date Project Completed: December 2014

Project Area: Approximately 23,000 acres

Output: 122.6 MW AC

The Spring Canyon Wind Energy Center is a 75-turbine wind farm composed of 1.5 and 1.7 MW wind turbines (for a nameplate capacity of 122.6 megawatts), in Logan County, Colorado, to the east of Peetz.

The wind farm began initial operations with phase 1 in February 2006 which consisted of 40 turbines, and completed phases 2 and 3 (known as the Spring Canyon Expansion Wind Energy Center) in October and December 2014, respectively, with 35 more turbines. The power generated from the wind farm is purchased by the Fort Collins-based Platte River Power Authority through a 25-year agreement.

Altogether we analyzed all single-family residential home sales data from properties that sold from January 2012 to May 2020, after completion of the second two phases of the wind farm, in Logan County. We searched for homes in close proximity to a wind turbine, less than two miles. We identified two single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine.

The aerial image on the following page displays the two Test Area properties in relation to the closest turbines.





Spring Canyon Wind Energy Center: Test Area Properties



	Spring Canyon Wind Energy Center Group 1												
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Site Size (Acres)	Price/SF			
1	36025 County Road 43	Peetz	7/17/2014	\$79,000	1,740	3	1	1918	3.0	\$45.40			

Test Area Property 1, in Group 1, a single-family home, was considered for a paired sales analysis, and sold in 2014, after the completion of the wind farm. The home is approximately 3,880 feet from the nearest turbine, and 4,109 feet from another wind turbine.



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We analyzed four Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Logan County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Logan County, Colorado for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.<sup>15</sup>

The result of our analysis is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

- CohnReznick Paired Sale Analysis - Spring Canyon Wind Energy Center Group 1					
	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF			
Test Area Sale (1)	Adjoining wind farm	\$45.40			
Control Area Sales (4)	No: Not adjoining wind farm	\$40.07			
Difference between Unit Adjusted Median Unit P	13.32%				

Spring Canyon Wind Energy Center - Group 1								
	Home Size (SF) Land Size (AC) Year Built Be							
Test Area Sale	1,740	3.0	1918	3/1				
Control Area Sales (Range)	1,140 - 2,083	08 -4.3	1922-1970	2-3 / 1-3				

While this price differential appears large, it does favor the Test Area Sale subject. The variance is greater than the other test sales, likely due to the lower price point of this group of test and control area data, thus, relatively speaking, small price considerations (e.g. - lot size or number of bathrooms) would have a correlatively larger percentage differential. Ultimately, the data does not indicate a negative impact to the adjacent Test Area Sale.

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<sup>&</sup>lt;sup>15</sup> https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

Spring Canyon Wind Energy Center Group 2										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Site Size (Acres)	Price/SF
2	24945 County Road 76	Peetz	1/10/2014	\$187,000	1,772	2	2	1908	5.0	\$71.16

Test Area Property 2, in Group 2, a single-family home, was considered for a paired sales analysis, and sold in 2015, after the completion of the wind farm. The home is approximately 3,809 feet from the nearest turbine, and 4,962 feet from another, as shown below.



We analyzed five Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Logan County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis - Spring Canyon Wind Farm - Group 2					
	Potentially Impacted by Wind Farm	Adjusted Median Price Per SF			
Test Area Sale (1)	Adjoining wind farm	\$71.16			
Control Area Sales (6)	No: Not adjoining wind farm	\$70.74			
Difference between Ur and Adjusted Median U	0.59%				

Spring Canyon Wind Farm - Group 2								
	Home Size (SF)	Land Size (AC)	Year Built	Beds/Baths				
Test Area Sale	1,772	5.0	1908	2/2				
Control Area Sales	1,208 - 4,304	1.05 - 7	1900- 1952	2-3 / 1-3				
(Range)								

**Noting only a nominal price differential,** with the Test Area Sale of Group 2 having only a very slightly different unit sale price than the median adjusted unit sale price of the Control Area Sales, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Spring Canyon Wind Farm.



## WIND FARMS 5 & 6: PEETZ TABLE & LOGAN WIND ENERGY CENTERS

### LOGAN COUNTY, COLORADO

**Coordinates:** Latitude 40.986000, Longitude -103.436000 and Latitude 40.941000, Longitude -103.259000

**PINs:** Multiple

Owner of Record: FPL Peetz Table Wind Energy and Logan Wind Energy LLC

Date Projects Announced: 2007

Date Projects Completed: September and October 2007

Total Project Area: Approximately 51,200 acres

Total Output: 400.5 MW AC

The Peetz Table Wind Energy Center is a 133-turbine wind farm composed of 1.5 MW wind turbines (for a nameplate capacity of 199.5 megawatts), and the Logan Wind Energy Center is a 134-turbine wind farm composed of 1.5 MW wind turbines (for a nameplate capacity of 201 megawatts), both in Logan County, Colorado, to the west of Peetz.

The Peetz Table Wind Energy Center and the Logan Wind Energy Center are adjacent wind farms developed jointly by the NextEra Energy Resources subsidiary, Florida Power & Light Company (FPL), and Invenergy, in 2007, as part of the 3 wind farms known collectively as the Peetz Table Wind Complex. The first phase of the complex was developed in 2001 by Cinergy Corp as Ridge Crest Wind with 29.7 megawatts capacity; it is now known as Duke Energy.

The twin wind farms of Peetz Table and Logan began operations in September and October 2007. The power generated from the wind farm is purchased by Xcel Energy through a long-term agreement.

Altogether we analyzed all single-family residential home sales data from properties that sold from November 2007 to May 2020, after completion of the Peetz Table and Logan wind farms, in Logan County. Because the Peetz Table and Logan wind farms are adjacent to each other and were developed in conjunction, we have considered the entire area to be combined and have searched for homes in close proximity to a wind turbine in either development, less than two miles away. We identified one single-family residential home sale that qualified for a paired sales analysis that was in close proximity to a wind turbine.

The aerial image on the following page displays the Test Area property in relation to the closest turbines.





Peetz Table & Logan Wind Energy Centers: Test Area Property



Peetz Table & Logan Wind Energy Centers Group 1										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Finished Living Area	Beds	Baths	Year Built	Site Size (Acres)	Price/S F
1	17488 County Road 74	Peetz	5/18/2018	\$215,000	1,552	3	1	UNK	9.0	\$138.53

\*Includes basement

Test Area Property 1, in Group 1, a single-family home with a finished basement, was considered for a paired sales analysis, and sold in 2018, after the completion of the wind farm. The home is approximately 2,150 feet from the nearest turbine, and 2,235 feet from another wind turbine.



The Test Area Sale Property sold in July 2011 (\$101,500) and in May 2018 (\$215,000), and again in February 2020 (\$260,000) exhibiting more than an 11% effective annual appreciation rate. Between 2011 and 2018, the average annual appreciation rate for this property was 11.66% - which is higher than the Federal Housing Finance Agency (FHFA) House Price Index for Logan County (4.76%) over the same time period. This indicates that adjacency to a wind turbine does not impact annual appreciation rates.

We analyzed six Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Logan County. For all Control Area Sales, the median price per square foot of building area



(total finished square footage) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Logan County, Colorado for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.<sup>16</sup>

The result of our analysis is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Peetz Table & Logan Wind Energy Centers - Group 1						
Potentially Impacted byAdjusted MediaWind FarmPrice Per SF						
Test Area Sale (1)	Adjoining wind farm	\$138.53				
Control Area Sales (6)	No: Not adjoining wind farm	\$109.61				
Difference between Unit Adjusted Median Unit P	26.39%					

Peetz Table & Logan Wind Energy Centers - Group 1								
	Gross Finished Land Size Living Area (SF) (AC) Year Built			Beds/Baths				
Test Area Sale	1,552	9	Unknown	3/1				
Control Area Sales (Range)	1,276 - 2,014	5 - 13.58	1949 - 1999	3 / 1-2				

The Test Area Sale property is atypical for the area in terms of size with less than 1,000 square feet of abovegrade area and a finished basement. We were unable to locate comparable sales of similar above-grade size. Therefore, the analysis above utilizes gross finished living area as the unit of comparison and includes a finished basement. Control Area Sales were selected that were most comparable in nature (acreage, condition, location). Sales of small homes on larger homesites did not occur over a similar time period in Logan County, Colorado. As such, the analysis above does not indicate there is a measurable and consistent difference between the Test Area Sale of this property and the Control Area Sales.

Nonetheless, given the relative differential, and the atypical nature of the physical characteristics of the Test Sale, we have excluded the measured difference as an outlier.

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<sup>&</sup>lt;sup>16</sup> https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

WIND FARM 7: ADAIR WIND FARM, ADAIR AND CASS COUNTIES, IOWA

Coordinates: Latitude 41.4553°, Longitude -94.6486°

**PINs:** Multiple

Owner of Record: MidAmerican Energy

Date Project Announced: Unknown

Date Project Completed: December 2008

Project Area: Approximately 16,000 acres

Output: 174.8 MW AC

The wind farm known as Adair Wind Farm is a 76-turbine wind farm composed of 2.3MW wind turbines (for a nameplate capacity of 174.8 megawatts), in Adair County and Cass County, approximately 50 miles west of the city of Des Moines, Iowa. The majority of the turbines are located in Adair County (64 turbines), and 12 are in Cass County, adjacent to the west. The nearest villages are Adair and Anita, in Adair County and Cass County, respectively. Operated by MidAmerican Energy, the wind farm began operations in December 2008.

Altogether we analyzed all sales data from properties that sold from January 2009 to March 2021, after completion of the wind farm, in Adair and Cass Counties as well as Audubon and Guthrie Counties to the north. We analyzed single-family residential homes in these four counties in close proximity to a wind turbine. We identified three single-family residential homes in these counties that qualified for a paired sales analysis that were in close proximity to a wind turbine.

While there were additional homes near wind turbines that sold in both Adair and Cass Counties (potential Test Area Sales), we could not identify Control Area homes sales that sold that had similar ages, conditions and designs within the same or surrounding townships as the Test Area Sales, in order to complete additional paired sales analyses.

The aerial image on the following page displays the three Test Area properties in relation to the closest turbines.





Adair Wind Farm: Test Area Properties

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Adair Wind Farm Group 1										
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date
1	1102 110th St, Adair	\$145,000	2	1.0	1953	1,068	Single Family	2.18	\$135.77	Aug-19

In Group 1, Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in August 2019, after the completion of the wind farm. The home is approximately 1,300 feet from the nearest turbine, with another turbine 2,035 feet away, as shown below.



We analyzed ten Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sale 1 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Adair and Cass Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Adair County and surrounding areas in Iowa for the average monthly rate of appreciation in the



market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.<sup>17</sup>

The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sales Analysis Adair - Group 1						
No. of Sales	Adjusted Median Price Per SF					
Test Area Sale (1)	Yes: Adjoining wind farm	\$135.77				
Control Area Sales (10)	No: Not adjoining wind farm	\$134.18				
Difference between Unit Price o Median Unit Price of	1.19%					

Adair - Group 1								
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths				
Test Area Sale	1,068	\$2.18	1953	2 / 1				
Control Area Sales (Range)	1,008 - 1,680	1.35 - 5.47	1925 - 1988	2/1 - 4/3				



<sup>&</sup>lt;sup>17</sup> https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

	Adair Wind Farm Group 2											
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date		
2	52635 770th St, Anita	\$297,500	2	1.0	1903	1,760	Farm	22.32	\$169.03	Oct-20		

In Group 2, Test Area Sale 2, a single-family home was considered for a paired sales analysis, and sold in October 2020, after the completion of the wind farm. The home is approximately 1,375 feet from the nearest turbine, with two additional turbines to the north, as shown below.



We analyzed seven Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Sale 2 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Adair and Cass Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the

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appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales. For this Grouping, the Test sale home was developed on a much larger land site of 22.32 Acres; while we have identified the best comparable data available in the Test Sales market – data which brackets the subject with regards to site size, home size and construction age – the relative differential appears large likely due to differences in usable farmland and accessory buildings. We have elected to keep this group within the study, noting its relative differential, and have considered that the Test Sale's proximity does not appear to have influenced its sale price negatively.

CohnReznick Paired Sales Analysis Adair - Group 2								
No. of Sales	Adjusted Median Price Per SF							
Test Area Sale (1)	Test Area Sale (1) Yes: Adjoining wind farm							
Control Area Sales (7)	No: Not adjoining wind farm	\$145.27						
Difference between Unit Pric Adjusted Median Unit Price	16.36%							

Adair - Group 2											
Gross Finished Land Size Living Area (SF) (AC) Year Built Beds / Baths											
Test Area Sale	1,760	\$22.32	1903	2/1							
Control Area Sales (Range)	1,455 - 2,206	13.55 - 25.46	1900 - 1980	3/1 - 3/2.5							



	Adair Wind Farm Group 3											
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date		
3	1162 130th St, Adair	\$140,000	2	1.0	1925	1,471	Single Family	4.49	\$95.17	Aug-20		

In Group 3, Test Area Sale 3, a single-family home, was considered for a paired sales analysis, and sold in August 2020, after the completion of the wind farm. The home is approximately 1,450 feet from the nearest turbine, with two additional turbines to the west and east, as shown below.



We analyzed twelve Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sale 3 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Adair and Cass Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis for Group 3 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznic A		
No. of Sales	Adjusted Median Price Per SF	
Test Area Sale (1)	Yes: Adjoining wind farm	\$95.17
Control Area Sales (12)	No: Not adjoining wind farm	\$96.07
Difference between Unit Price Adjusted Median Unit Price	-0.93%	

Adair - Group 3										
	Gross Finished Land Size Living Area (SF) (AC) Year Built Beds / Ba									
Test Area Sale	1,471	4.49	1925	2/1						
Control Area Sales (Range)	1,260 - 2,345	2.11 - 7.57	1880 - 1925	3/1 - 5/2						

<u>The study indicates no consequential price differential</u>, with the Test Area Sales in Groups 1 and 2 having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. Test Area Sale 3 in Group 3 indicates a relatively nominal price differential. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Adair Wind Farm.



### WIND FARM 8: ECLIPSE WIND FARM, AUDUBON AND GUTHRIE COUNTIES, IOWA

Coordinates: Latitude 41.5523°, Longitude -94.6755°

**PINs:** Multiple

**Owner of Record: MidAmerican Energy** 

Date Project Announced: Unknown

Date Project Completed: September 2012

Project Area: Approximately 18,000 acres

Output: 200.1 MW AC

The wind farm known as Eclipse Wind Farm is an 87-turbine wind farm composed of 2.3 MW wind turbines (for a nameplate capacity of 200.1 megawatts), in Audubon County and Guthrie County, approximately 50 miles west of the city of Des Moines, Iowa. The majority of the turbines are located in Guthrie County (63), and 24 are in Audubon County, adjacent to the west. The nearest villages are Adair in Adair County to the south, Anita in Cass County to the south, and Exira in Audubon County to the west. The west. The west are began operations in 2012.

Altogether we analyzed all sales data from properties that sold from January 2010 to March 2020, after completion of the wind farm, in Audubon and Guthrie Counties as well as Adair and Cass Counties to the south. We analyzed single-family residential homes in these four counties in close proximity to a wind turbine. We identified three single-family residential homes in these counties that qualified for a paired sales analysis that were in close proximity to a wind turbine.

While there were additional homes near wind turbines that sold in both Audubon and Guthrie Counties (potential test area properties), we could not identify homes that sold that had similar ages, conditions and designs within the same or surrounding townships as the Test Area Sales, in order to complete additional paired sales analyses.

The aerial image on the following page displays the three Test Area properties in relation to the closest turbines.





Eclipse Wind Farm: Test Area Properties

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	Eclipse Wind Farm Group 1													
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date				
1	2950 Thrush Ave, Exira	\$196,000	4	1.0	1910	1,780	Farm	14.62	\$110.11	Nov-19				
2	1345 290th St., Casey	\$265,000	5	2.0	1920	2,432	Farm	14.00	\$108.96	Jul-20				

In Group 1, Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in November 2019, after the completion of the wind farm. The home is approximately 1,335 feet from the nearest turbine, with two additional turbines located to the east, as shown below.





In Group 1, Test Area Sale 2, a single-family home was considered for a paired sales analysis, and sold in July 2020, after the completion of the wind farm. The home is approximately 1,185 feet from the nearest turbine, as shown below.



We analyzed seven Control Area properties that sold within a reasonable time frame from the sale dates of Test Area Sales 1 and 2 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Audubon and Guthrie Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Guthrie County and surrounding areas in Iowa for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.<sup>18</sup>

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<sup>&</sup>lt;sup>18</sup> https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sales Analysis Eclipse - Group 1							
No. of Sales	Adjusted Median Price Per SF						
Test Area Sales (2)	Yes: Adjoining wind farm	\$109.54					
Control Area Sales (7)	No: Not adjoining wind farm	\$98.70					
Difference between Unit Pr Adjusted Median Unit Pric	10.98%						

Eclipse - Group 1											
	Gross Finished Living Land Size Area (SF) (AC) Year Built Beds / Bath										
Test Area Sales	1,780 - 2,432	14 - 14.62	1910 - 1920	4/1 - 5/2							
Control Area Sales (Range)	1,568 - 2,293	10.02 - 19.37	1900 - 1930	2/1 - 4/2.5							



	Eclipse Wind Farm Group 2											
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date		
3	3253 Swift Ave., Exira	\$172,500	4	3.0	1978	1,988	Single Family	2.00	\$86.77	Jul-20		

In Group 2, Test Area Sale 3, a single-family home was considered for a paired sales analysis, and sold in July 2020, after the completion of the wind farm. The home is adjacent to two wind turbines and is approximately 4,800 feet from the nearest turbine, as shown below.



We analyzed ten Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Sale 3 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Audubon and Guthrie Counties. For all Control Area Sales, the median price per square foot of

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finished building area was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

	Ecl	lipse - G	roup 2			
No. of	Sales	Potent	ially Impacted Wind Farm	by Adjustec Price F	Median Per SF	
Test Area	Test Area Sale (1)			m \$86	.77	
Control Area	a Sales (10)	No: Not	adjoining wind fa	arm \$88	.66	
Difference be Adjusted M	tween Unit Price edian Unit Price	of Test of Contr	Area Sales and ol Area Sales	-2.1	3%	
	Ecli	ipse - G	roup 2			
	Gross Finish Living Area (	hed (SF)	Land Size (AC)	Year Built		Beds / Baths
Test Area Sale	1988		2	1978		4/3
Control Area Sales (Range)	1,551 - 2,45	56	1 - 3.47	1948 - 1980		2/1 - 4/3

<u>The study indicates no consequential price differential</u>, with the Test Area Sales in Group 1 having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. Test Area Sale 3 in Group 2 indicates a relatively nominal price differential. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Eclipse Wind Farm.



## WIND FARM 9: BRIGHT STALK WIND FARM, MCLEAN COUNTY, IL

Coordinates: Latitude 40.701241, Longitude -88.701050

**PINs:** Multiple

Total Land Size: Approximately 5,000 acres

Date Project Announced: March 2018

Date Project Completed: December 2019

Output: 205.20 MW AC

The Bright Stalk Wind Farm is a 57-turbine wind farm comprised of 3.6 MW wind turbines (for a nameplate capacity of 205.2 megawatts), in northeast McLean County, Illinois. The turbines are 488 feet tall from base to tip of the apex. The wind farm Is located approximately 27 miles northeast of the city of Bloomington and 110 miles southwest of the city of Chicago. The Project area is primarily rural, adjacent to the southeast of the town of Chenoa and to the southwest of the town of Weston.

The wind farm began operations in December 2019. The facility generates enough electricity to power the equivalent of 73,000 average Illinois homes, according to the US Energy Information Administration. In September 2018, it was announced that the Bright Stalk project entered a 15-year PPA (power purchase agreement) with Salesforce to purchase 80 MW of the 205 MW output from the wind farm. Additionally, in October 2018, a PPA between Walmart and the Bright Stalk project was announced in which Walmart will purchase 123 MW of output from the wind farm.

We have analyzed all single-family residential sales data from properties that sold from December 2019 to August 2022. We searched for homes in close proximity to a wind turbine, within one mile. We identified one single-family residential home that qualified for a paired sales analysis that was in close proximity to a wind turbine.

The aerial imagery on the following page displays the Test Area Property in relation to the closest turbines.





Bright Stalk Wind Farm: Test Area Property

### PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified one group of Test Area Sales based primarily on location and home type. We have analyzed sales of homes that occurred after the completion of the wind farm, starting in December 2019. The first and only group comprises the sale at 31882 East 3100 North Road that occurred after the completion of the wind farm, in September 2020.

We have excluded seven home sales that were initially considered for Test Area Sales. Of the seven sales we have excluded, six of the sales have been exlcuded for being either non-arm's length transactions, special warranty deed sales, or not being open market transactions.


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	Bright Stalk Wind Farm - Test Sale										
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
1	31882 East 3100 North Road	Chenoa	\$225,000	2,256	1.5-story SFH with unfinished basement + accessory buildings (detached garage, and 5,400 sq ft shed)	4	2.0	1937	5.62	9/9/2020	\$99.73

### Group 1 – Improved Single-Family Residential Properties

Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in September 2020 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 3,260 feet from the nearest turbine, as shown below.



We analyzed four Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than 3 miles from the nearest turbine within McLean County or the adjacent Livingston County, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with three to four bedrooms and two baths, consisting of between 1,750 square feet and 2,750 square feet of gross living area, built between 1920 and 1965, with lot sizes of between 2 and 10 acres, and have accessory buildings. Additionally, the Control Area Sales are between one and two stories, and do not have finished basements. All of the Control Sales are located in rural areas, similar to the Test Sale.

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For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Bright Stalk Wind Farm is presented in the following tables.

		CohnRez Brig	nick ght S	Paired Sale Ana Stalk Wind Farm	alysis			
	No. of Sales			otentially Impact Wind Farm	Adjusted M Price Per	1		
	Test Area Sale (1)			Adjoining wind fa	\$99.73			
	Sales (4)	ales (4) No: Not adjoining wind farm				\$100.36		
	Difference bet Adjusted Me	ween Unit Pric edian Unit Pric	ce of e of	Test Area Sales Control Area Sa	s and les	-0.63%	, 0	
-		Brid	aht (	Stalk Wind Earm		•		-
		Gross Finish	ed					
		Living Area (	SF)	Land Size (AC	) )	ear Built	Bec	ls / Baths
Test Area Sale		2,256		5.62		1937		4 / 2
Control Area	a Sales (Range)	1,800 - 2,35	2	2.0 - 10.0	19	933 - 1963	3	3 - 4 / 2

The days on market for the Test Area Sale was 35 days, while the median days on market for the Control Area sales was 111 days (ranging from 44 to 197 days), and we note no consequential marketing time differential.

**Noting only a nominal price differential**, it does not appear that the proximity Bright Stalk Wind Farm use impacted the sale price of the Test Area Sale, 31882 East 3100 North Road. The Control Area Sales indicate a slightly higher unit sales price than the Test Area sale, but the difference is relatively nominal.



### WIND FARM 10: GLACIER HILLS WIND FARM, COLUMBIA COUNTY, WISCONSIN

Coordinates: Latitude 43.563889, Longitude -89.148060

**PINs:** Multiple

Project Area: Approximately 7,500 acres

Date Project Announced: January 2010

Date Project Completed: December 2011

**Output:** 162.0 MW AC

The Glacier Hills Wind Farm is a 90-turbine wind farm comprised of 1.8 MW wind turbines in portions of the Towns of Scott and Randolph in Columbia County, Wisconsin. The turbines are 410 feet tall from base to tip of the apex. The wind farm Is located approximately 35 miles northeast of the City of Madison and 65 miles northwest of the City of Milwaukee. The Project area is primarily rural, adjacent to the north of the Village of Cambria and northwest of the Village of Randolph.

The wind farm was announced to the public in January 2010 and the construction of the wind farm was completed in December 2011. The project sits on approximately 7,500 acres and generates enough electricity to power the equivalent of 45,000 average Wisconsin homes, according to the US Energy Information Administration. The Glacier Hills Wind Project was developed by Wisconsin Energy Corporation and is operated by We Energies, the largest utility company in Wisconsin. The wind farm was developed as part of the utility company's plan to meet Wisconsin's renewable-energy standard which required the company to utilize eight percent of its power from renewable sources by 2015.

We have analyzed all single-family residential sales data from properties that sold in the past five years, beginning in February 2018. We searched for homes in close proximity to a wind turbine, within one mile that sold in living condition. We identified twenty-two single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine and were open-market, arm's length transactions.

The aerial imagery on the following page displays the location of the turbines that make up the Glacier Hills Wind Farm.





Glacier Hills Wind Farm: Turbine Locations

### PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales single-family properties in living condition, not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified four groups of Test Area Sales based primarily on location, home size and lot size. We have analyzed sales of homes that occurred in the previous five years, beginning in February 2018.

### **Properties Excluded from Paired Sales Analysis**

We have excluded ten home sales that were initially considered for Test Area Sales due to the lack of comparable transactions in the surrounding area or other factors, which are explained below.

Of the ten home sales that we have excluded, two of the home sales have been excluded due to their small lot sizes of 0.14-acres and location adjacent to railroad lines, which resulted in a lack of comparable properties in the surrounding area. The sale price per square foot for these two home sales was \$58 per square foot of living area and \$72 per square foot of living area.



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One of the home sales that we have exlcuded from the Test Area Sales in our analysis is the sale of W3798 Wisconsin 33, which sold for \$280,000 in June 2021. This home consists of 2,200 square feet and is a converted former schoolhouse; due to the uniqueness of the home, there was a lack of comparable transactions.

The remaining seven home sales have been excluded as a Test Area Sale in our Paired Sales Analysis due to the lack of comparable transactions in the surrounding area. This can be attributed to the Project's large footprint and other wind farms in the surrounding area as comparable transactions are not included in our analysis if they are located within three miles of a wind turbine. Additionally, comparable transactions which are located with Lake frontage in the surrounding area along Beaver Dam Lake, Swan Lake, Park Lake, Fox Lake, Puckaway Luck, Little Green Lake and Green Lake have been elimated from our analysis as none of the home sales considered as a Test Area Sale has Lake frontage.

### Group 1 – Improved Single-Family Residential Properties

	Glacier Hills Wind Farm, Group 1 - Test Sales												
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF		
1	109 2nd Street	Friesland	\$130,000	952	1-Story SFH with Detached Garage and Unfinished Basement	2	1.0	1900	0.36	4/13/2021	\$136.55		
2	122 East Winnebago Street	Friesland	\$157,000	1,442	2-Story SFH with Attached Garage and Unfinished Basement	4	2.0	1900	0.46	11/12/2020	\$108.88		

In Group 1, Test Area Sales 1 and 2, both of which are single-family homes, were considered for a paired sales analysis, and sold in April 2021 and November 2020, after the completion of the wind farm. The homes are within one-mile of several wind turbines and are approximately 3,600 feet and 4,360 feet from the nearest turbine, as shown on the following page.





We analyzed eighteen Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine within Columbia County or neighboring Dodge County, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with two to five bedrooms and one to two and one half baths, consisting of between 914 square feet and 2,320 square feet of gross living area, built between 1890 and 1920, with lot sizes of between 0.20 and 0.60 acres. Additionally, the Control Area Sales are between one and two stories and have garage parking. All of the Control Sales are located in township areas and are located in neighborhoods adjacent to railroad lines, similar to the Test Sales.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sales and range of characteristics of the Control Area Sales.



CohnReznick Paired Sale Analysis Glacier Hills Wind Farm - Group 1									
No. of Sales	Adjusted Median Price Per SF								
Test Area Sales (2)	Adjoining wind farm	\$122.72							
Control Area Sales (18)	No: Not adjoining wind farm	\$109.08							
Difference between Unit Pri Adjusted Median Unit Price	12.50%								

Glacier Hills Wind Farm - Group 1											
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths							
Test Area Sales (Range)	952 - 1,442	0.36 - 0. 46	1900	2 - 4 / 1.0 - 2.0							
Control Area Sales (Range)	914 - 2,320	0.20 - 0.60	1890 - 1920	2 - 5 / 1.0 - 2.5							

The median days on market for the Test Area Sales was 65 days, while the median days on market for the Control Area sales was 43 days (ranging from 30 to 204 days), while the Test Area Sales had a slightly longer marketing time that the median of the control group, it was well within the range exhibited by the Control Group. We do not believe the data is consequential.

<u>Noting no consequential price differential</u>, it does not appear that the proximity Glacier Hills Wind Farm use impacted the sale price of the Test Area Sales in Group 1. The Test Area Sale indicates a higher unit sales price than the Control Area Sales.



	Glacier Hills Wind Farm, Group 2 - Test Sales												
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF		
3	114 Second Street	Friesland	\$172,000	1,680	Split Level SFH with Attached Garage, Unfinished Basement and 2 Storage Sheds	3	2.0	1965	0.41	2/21/2020	\$102.38		
4	N8297 County Road EF	Randolph	\$235,000	2,276	1.5-Story SFH with Attached Garage, Partially Finished Basement and a Storage Shed	3	3.0	1956	0.50	7/2/2020	\$103.25		

Grou	o 2 – Im	proved	Sinale-	Familv	Reside	ntial F	Proper	ties
				· • · · · · · · · · · · · · · · · · · ·				

Test Area Sales 3 and 4, both single-family homes were considered for a paired sales analysis, and sold in February 2020 and July 2020 after the completion of the wind farm. The homes are adjacent to several wind turbines and are approximately 3,365 feet and 3,500 feet from the nearest turbine, as shown below.



We analyzed ten Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine within Columbia County or neighboring Dodge or Green Lake Counties, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with two to four bedrooms and one to two



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baths, consisting of between 1,076 square feet and 2,400 square feet of gross living area, built between 1940 and 1980, with lot sizes of between 0.19 and 0.55 acres. Additionally, the Control Area Sales are between one and two stories and have garage parking. All of the Control Sales are located in township areas adjacent to railroad lines, similar to the Test Sales.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

		CohnRez Glacier I	znick Hills '	Paired Sale Analy Wind Farm - Group	vsis o 2			
	No. of S	ales	Po	otentially Impacted Wind Farm	Adjusted M Price Per	edian SF		
	Test Area S	Sales (2)	Adjoining wind farm			\$102.82		
	Control Area	Sales (10)	No: Not adjoining wind farm			\$108.69		
	Difference be Adjusted M	tween Unit Price edian Unit Price	ce of e of	Test Area Sales a Control Area Sales	ind S	-5.40%	)	
_		Glacier I	Hills	Wind Farm - Group	o 2			
		Gross Finish Living Area (	ned SF)	Land Size (AC)	Y	ear Built	Bed	s / Batl
Test Area Sal	es (Range)	1,680 - 2,27	76	0.41 - 0.50	19	956 - 1965	3 /	2.0 - 3.

Noting minimal price differential, it does not appear that the proximity Glacier Hills Wind Farm use impacted the sale price of Test Area Sales 3 and 4, 114 2<sup>nd</sup> Street and N8297 County Road EF. The Test Area Sales indicates a slightly lower unit sales price than the Control Area Sales.

0.19 - 0.55

1940 - 1980

The days on market for the Test Area Sales ranged from 57 to 200 days, while the median days on market for the Control Area sales was 43 days (ranging from 30 to 204 days), while the Test Area indicated a longer marketing period, this is generally an exception for all of the studies in the report and is not necessarily indicative of a consistent trend.

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1,076 - 2,400

**Control Area Sales (Range)** 



ths

2 - 4 / 1.0 - 2.0

	Glacier Hills Wind Farm, Group 3 - Test Sale												
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF		
5	W4405 Crown Road	Pardeeville	\$242,000	2,126	1-Story SFH with Attached Garage, Partially Finished Basement and Garden Shed	3	2.0	1980	2.00	5/29/2020	\$113.83		
6	N7879 Wisconsin 146	Cambria	\$190,000	1,691	1-Story SFH with Attached Garage and No Basement	3	2.0	2002	2.00	11/25/2020	\$112.36		
7	N9093 County Highway E	Cambria	\$425,000	4,200	1.5-Story SFH with Attached 3- Car Garage and Finished Basement	3	3.5	1997	7.84	2/6/2019	\$101.19		

Grou	p 3 – Im	proved	Single	-Family	Residential	<b>Properties</b>
				· · · · · · · · · · · · · · · · · · ·		

In Group 3, Test Area Sale 5, a single-family home, was considered for a paired sales analysis, and sold in May 2020 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 3,250 feet from the nearest turbine, as shown below.





In Group 3, Test Area Sale 6, a single-family home, was considered for a paired sales analysis, and sold in November 2020 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 2,885 feet from the nearest turbine, as shown below.



In Group 3, Test Area Sale 7, a single-family home, was considered for a paired sales analysis, and sold in May 2020 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 1,350 feet from the nearest turbine, as shown on the following page.

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We analyzed six Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine within Columbia County or neighborging Green Lake or Dodge Counties, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with three to four bedrooms and two and a half to three baths, consisting of between 1,816 square feet and 3,468 square feet of gross living area, built between 1984 and 2002, with lot sizes of between 1.57 and 4.54 acres. Additionally, the Control Area Sales are between one and one and a half stories and have garage parking. All of the Control Sales are located in rural areas, similar to the Test Sales.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 3 is presented on the following page, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.



CohnReznick Paired Sale Analysis Glacier Hills Wind Farm - Group 3									
No. of Sales	Adjusted Median Price Per SF								
Test Area Sales (3)	Adjoining wind farm	\$112.36							
Control Area Sales (6)	No: Not adjoining wind farm	\$101.09							
Difference between Unit Pri Adjusted Median Unit Pric	11.15%								

Glacier Hills Wind Farm - Group 3											
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths							
Test Area Sales (Range)	1,691 - 4,200	2.00 - 7.84	1980 - 2002	3 / 2.0 - 3.5							
Control Area Sales (Range)	1,816 - 3,468	1.57 - 4.54	1984 - 2002	3 - 4 / 2.5 - 3.0							

The median days on market for the Test Area Sales was 108 days (ranging from 27 to 189 days), while the median days on market for the Control Area sales was 68 days (ranging from 50 to 73 days), while the Test Area indicated a longer marketing period, this is generally an exception for all of the studies in the report and is not necessarily indicative of a consistent trend.

<u>Noting no negative price differential</u>, it does not appear that the proximity Glacier Hills Wind Farm use impacted the sale price of Test Area Sale 5, 6, and 7. The Test Area Sales indicates a higher unit sales price than the Control Area Sales.



Glacier Hills Wind Farm, Group 4 - Test Sales											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
8	N8105 Warnke Road	Pardeeville	\$415,000	2,848	1-Story SFH with Detached Garage, Finished Basement, Pole Barn and Storage Shed	4	3.0	2006	7.14	8/30/2021	\$145.72
9	N9437 Sterk Road	Cambria	\$275,000	1,748	2-Story SFH wih Detached 3- Car Garage, Unfinished Basement, Pole Barn and Storage Shed	3	2.5	2011	6.00	8/15/2019	\$157.32
10	N7570 Healy Road	Cambria	\$550,000	4,220	2-Story SFH with Attached Garage, Detached Garage and Finished Basement	5	4.5	1995	4.78	5/4/2021	\$130.33
11	W2731 Wisonsin 33	Cambria	\$250,000	1,568	1-Story SFH with Attached Garage, Unfinished Basement, Heated Workshop and Grain Silo	3	2.0	1998	3.80	4/17/2020	\$159.44
12	N8103 Warnke Road	Pardeeville	\$233,000	1,616	1-Story SFH with Detached Garage, Partially Finished Basement and Heated Pole Barn	3	2.0	2014	3.00	12/13/2019	\$144.18

### Group 4 – Improved Single-Family Residential Properties

Test Area Sale 8 and 12, are single-family homes that were considered for a paired sales analysis, and sold in August 2021 and December 2019 after the completion of the wind farm. The homes is adjacent to several wind turbines and is approximately 2,345 feet and 2,070 feet from the nearest turbine, as shown below.



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In Group 4, Test Area Sale 9, a single-family home was considered for a paired sales analysis, and sold in May 2021 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 5,180 feet from the nearest turbine, as shown below.



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In Group 4, Test Area Sale 10, a single-family home was considered for a paired sales analysis, and sold in April 2020 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 2,250 feet from the nearest turbine, as shown below.



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In Group 4, Test Area Sale 11, a single-family home was considered for a paired sales analysis, and sold in December 2019 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 3,300 feet from the nearest turbine, as shown below.



We analyzed four Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine within Columbia County, neighboring Green Lake and Dodge Counties, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with two to four bedrooms and one to three and one half baths, consisting of between 1,252 square feet and 3,082 square feet of gross living area, built between 1991 and 2008, with lot sizes of between 3.15 and 35 acres. Additionally, the Control Area Sales are between one and two stories, have additional large accessory farm structures and garage parking. All of the Control Sales are located in rural areas, similar to the Test Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The

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result of our analysis for Group 4 is presented on the following page, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Glacier Hills Wind Farm - Group 4											
No. of S	ales	P	otentially Impacted Wind Farm	by	Adjusted M Price Per						
Test Area S	ales (5)		Adjoining wind farm	\$145.72							
Control Area Sale			Not adjoining wind	adjoining wind farm \$134.63							
Difference bet Adjusted Me	ween Unit Prie edian Unit Pric	ce of e of									
				1							
	Glacier I	Hills	Wind Farm - Group	• 4							
	Gross Finish Living Area (	ned SF)	Land Size (AC)	Y	ear Built	Bed	s / Baths				
ales (Range)	1,568 - 4,22	20	3.00 - 7.14	19	95 - 2014	3 - 5	/ 2.0 - 4.5				
Control Area Sales (Range)		32	3.15 - 35.00	19	91 - 2008	2 - 4	/ 1.0 - 3.5				
	No. of S Test Area S Control Area Difference bet Adjusted Me sales (Range) a Sales (Range)	CohnRea Glacier I No. of Sales Test Area Sales (5) Control Area Sales (7) Difference between Unit Price Adjusted Median Unit Price Glacier I Gross Finish Living Area ( Sales (Range) 1,568 - 4,22 a Sales (Range) 1,252 - 3,08	CohnReznick Glacier Hills   No. of Sales Point   Test Area Sales (5) Point   Control Area Sales (7) No:   Difference between Unit Price of Adjusted Median Unit Price of Adjusted Finished Living Area (SF) Gross Finished Living Area (SF)   Gales (Range) 1,268 - 4,220   a Sales (Range) 1,252 - 3,082	CohnReznick Paired Sale Analy Glacier Hills Wind Farm - Group Potentially Impacted Wind FarmNo. of SalesPotentially Impacted Wind FarmTest Area Sales (5)Adjoining wind farmControl Area Sales (7)No: Not adjoining windDifference between Unit Price of Test Area Sales a Adjusted Median Unit Price of Control Area SalesGlacier Hills Wind Farm - GroupGross Finished Living Area (SF)Sales (Range)1,568 - 4,2203.00 - 7.143.00 - 7.14	CohnReznick Paired Sale Analysis Glacier Hills Wind Farm - Group 4No. of SalesPotentially Impacted by Wind FarmTest Area Sales (5)Adjoining wind farmControl Area Sales (7)No: Not adjoining wind farmDifference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area SalesAdjoining wind farmGlacier Hills Wind Farm - Group 4Gross Finished Living Area (SF)Land Size (AC)Ya Sales (Range)1,252 - 3,0823.15 - 35.0019	CohnReznick Paired Sale Analysis Glacier Hills Wind Farm - Group 4No. of SalesPotentially Impacted by Wind FarmAdjusted M Price PerTest Area Sales (5)Adjoining wind farm\$145.72Control Area Sales (7)No: Not adjoining wind farm\$134.63Difference betw een Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales8.24%Glacier Hills Wind Farm - Group 4Glacier Hills Wind Farm - Group 4Sales (Range)1,568 - 4,2203.00 - 7.141995 - 2014a Sales (Range)1,252 - 3,0823.15 - 35.001991 - 2008	CohnReznick Paired Sale Analysis Glacier Hills Wind Farm - Group 4No. of SalesPotentially Impacted by Wind FarmAdjusted Median Price Per SFTest Area Sales (5)Adjoining wind farm\$145.72Control Area Sales (7)No: Not adjoining wind farm\$134.63Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales8.24%Glacier Hills Wind Farm - Group 4Sales (Range)1,568 - 4,2203.00 - 7.141995 - 20143 - 5a Sales (Range)1,252 - 3,0823.15 - 35.001991 - 20082 - 4				

The median days on market for the Test Area Sales was 65 days (ranging from 57 to 295 days), while the median days on market for the Control Area sales was 78 days (ranging from 24 to 161 days), <u>and we note no</u> <u>consequential marketing time differential.</u>

**Noting no negative price differential**, it does not appear that the proximity Glacier Hills Wind Farm use impacted the sale price of the Test Area Sales in Group 4. The Test Area Sales indicates a higher unit sales price than the Control Area Sales.



### Before & After Analysis – Glacier Hills Wind Farm

We note Test Area Sales 2 and 5 of the Glacier Hills Wind Farm Study have sold twice over the past 5 years, beginning in February 2018. To determine if any of the rates of appreciation for these identified home sales were affected by the proximity to the Glacier Hills Wind Farm, we prepared a Repeat-Sales Analysis on each identified adjoining property. We conducted the same analysis for nine single-family Control Group properties that had repeat sales over the past 5 years and that are not within proximity to the Glacier Hills Wind Farm. First, we calculated the total appreciation between each sale of the same property, the number of months that elapsed between each sale, and determined the monthly appreciation rate. Then, we compared extracted appreciation rates reflected in the Federal Housing Finance Agency (FHFA) Home Price Index for Wisconsin's Columbia, Green Lake, and Dodge Counties over the same period. The index for the Counties are measured on a yearly basis and is presented on the following page.



Colum	bia County	- Housing Pri Seaso	ice Index Cha nally Adjuste	ange (Year ove d	er Year) Not	Green Lake County - Housing Price Index Change (Year over Year) Not Seasonally Adjusted							
Ye	ar Ch	Annual ange (%)	HPI	HPI with 1990 base	HPI with 2000 base	Year	Annual Change (%)	HPI	HPI with 1990 base	HPI with 2000 base			
20	01	4.84	226.04	192.05	104.84	2001	8.90	216.90	180.49	108.90			
20	02	3.19	233.24	198.17	108.18	2002	2 49	222.31	185.00	111 62			
20	03	3.43	241.23	204.96	111.88	2003	3 39	229.85	191 27	115 40			
20	04	7.32	258.88	219.96	120.07	2004	7 13	246 23	204 90	123.63			
20	05	8.22	280.17	238.05	129.94	2005	8.56	267.31	222.45	134.21			
20	06	4.06	291.54	247.71	135.22	2006	-0.61	265.67	221.08	133.39			
20	07	2.53	298.93	253.99	138.64	2007	3.85	275.91	229.60	138.53			
20	08	-1.05	295.79	251.32	137.19	2008	-0.43	274.73	228.62	137.93			
20	09	-3.24	286.21	243.18	132.75	2009	-1.08	271.77	226.16	136.45			
20	10	-4.94	272.08	231.17	126.19	2010	-2.62	264.65	220.23	132.87			
20	11	-2.65	264.88	225.05	122.85	2011	-0.61	263.03	218.88	132.06			
20	12	-3.40	255.88	217.41	118.68	2012	-2.73	255.85	212.91	128.46			
20	13	-0.50	254.59	216.31	118.08	2013	-0.88	253.60	211.04	127.33			
20	14	2.29	260.41	221.26	120.78	2014	-0.41	252.56	210.17	126.81			
20	15	2.21	266.18	226.16	123.45	2015	0.99	255.07	212.26	128.06			
20	16	5.31	280.31	238.17	130.01	2016	2.56	261.59	217.69	131.34			
20	17	4.46	292.81	248.78	135.80	2017	2.65	268.51	223.45	134.81			
20	18	5.84	309.92	263.32	143.74	2018	2.96	276.47	230.07	138.81			
20	19	4.74	324.60	275.80	150.55	2019	3.79	286.94	238.78	144.07			
202	20	2.27	331.97	282.06	153.97	2020	1.40	290.97	242.13	146.09			
202	21	9.21	362.54	308.04	168.15	2021	10.83	322.48	268.36	161.91			
202	22	12.96	409.54	347.97	189.94	2022	14.48	369.17	307.21	185.35			

Dodge County - Housing Price Index Change (Year over Year) Not Seasonally Adjusted Annual HPI with HPI with HPI Year Change (%) 1990 base 2000 base 2001 3.52 201.45 182.58 103.52 2002 2.92 187.92 207.34 106.54 2003 2.22 192.08 108.90 211.93 2004 6.70 226.13 204.95 116.20 2005 7.35 242.74 220.00 124.73 4.40 2006 253.42 229.68 130.22 2007 1.42 257.02 232.94 132.07 2008 -1.81 252.37 228.73 129.68 -4.04 219.49 2009 242.18 124.44 2010 -4.28 231.83 210.11 119.12 2011 -4.25 221.96 201.17 114.05 2012 -1.83 217.90 197.49 111.97 2013 -1.18 215.34 195.17 110.65 2014 -0.15 215.01 194.87 110.48 2015 3.24 221.96 201.17 114.05 2016 2.40 227.29 206.00 116.79 2017 5.18 239.07 216.67 122.84 5.65 2018 252.58 228.92 129.79 2019 136.18 4.92 265.02 240.19 2020 2.48 271.60 246.16 139.56 2021 10.56 300.28 272.15 154.30 2022 13.93 342.09 310.05 175.78

We have presented the full repeat sales analysis on the following page



### Prepared for Horse Heaven Wind Farm, LLC

Pa	ag	<b>e</b>	9:	3

	Repeat Sales Analysis												County - FHFA House Price Index Change		
Propert ID	<sup>y</sup> Address	County	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level DuringYear of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate
2	122 E. Winnebago Street, Friesland	Columbia	0.46	1,442	11/12/2020	\$173,000	4/9/2019	\$157,000	10.19%	19	0.51%	331.97	324.60	2.27%	0.12%
5	W4405 Crown Road, Pardeeville	Columbia	2.00	2,126	5/29/2020	\$242,000	6/7/2018	\$150,700	60.58%	24	2.02%	331.97	309.92	7.11%	0.29%
	Median - Test Area Sales	A	1.23	1,784							1.26%				0.20%

	Repeat Sales Analysis													een Lake or Dodge County - FHFA Housing Price Index Change			
Property ID	Address		Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level DuringYear of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate		
G1-C3	436 Roosevelt Street, Rio	Columbia	0.60	1,768	6/1/2022	\$268,000	9/18/2020	\$180,000	48.89%	20	1.97%	409.54	331.97	23.37%	1.03%		
G1-C4	303 High Street, Rio	Columbia	0.30	1,634	4/1/2021	\$180,000	8/4/2020	\$159,900	12.57%	8	1.51%	362.54	331.97	9.21%	1.12%		
G1-C15	203 W. Lyons Street, Rio	Columbia	0.30	2,320	9/1/2020	\$239,900	4/30/2018	\$211,450	13.45%	28	0.45%	331.97	309.92	7.11%	0.24%		
G2-C1	217 Holmes Street, Rio	Columbia	0.40	2,000	12/27/2019	\$168,000	9/11/2018	\$155,000	8.39%	16	0.52%	324.60	309.92	4.74%	0.30%		
G2-C3	211 W. Lyons Street, Rio	Columbia	0.30	1,632	1/29/2021	\$219,000	1/29/2019	\$169,900	28.90%	24	1.06%	362.54	324.60	11.69%	0.46%		
G3-C3	412 Schwantz Road, Pardeeville	Columbia	3.99	2,925	9/15/2020	\$300,000	8/6/2018	\$289,100	3.77%	25	0.15%	331.97	309.92	7.11%	0.27%		
G3-C5	N8445 County Road FW, Beaver Dam	Dodge	3.00	3,060	4/29/2021	\$344,500	4/30/2019	\$301,500	14.26%	24	0.56%	300.28	252.58	18.89%	0.72%		
G4-C2	N9775 Wisconsin 22, Pardeevile	Columbia	5.00	2,500	4/24/2020	\$314,000	5/25/2018	\$214,000	46.73%	23	1.68%	331.97	309.92	7.11%	0.30%		
G4-C4	N2001 Hilltop Road, Markesan	Green Lake	7.98	2,520	8/23/2021	\$382,500	1/16/2019	\$290,000	31.90%	31	0.89%	322.48	286.94	12.39%	0.37%		
	Median - Control Area Sales		0.40	1 971							0.80%				0.38%		

#### Conclusion

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When compared to the FHFA home price index for the local county, the extraction rates for the resale of Test Area Sales 2 and 5, that sold twice in the previous five years, exhibited a higher rate of appreciation than the Home Price Index for Columbia County. As such, we have concluded that there does not appear to be a consistent detrimental impact on properties adjacent to the Glacier Hills Wind Farm.

Additionally, nine Control Area Sales have sold twice in the previous five years, beginning in February 2018. When compared to rate of appreciation for Test Area Sales 2 and 5, the median rate of appreciation of the Control Area Sales exhibited a similar rate of appreciation and <u>there is no</u> <u>discernable difference between the rates of appreciation</u>.

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### WIND FARM 11: QUILT BLOCK WIND FARM LAFAYETTE COUNTY, WISCONSIN

Coordinates: Latitude 42.673333, Longitude -90.265280

**PINs:** Multiple

Project Area: Approximately 12,000 acres

Date Project Announced: June 2016

Date Project Completed: November 2017

Output: 98.0 MW AC

The Quilt Block Wind Farm is a 49-turbine wind farm comprised of 2.0 MW wind turbines in portions of Lafayette County, Wisconsin. The turbines are 380 feet tall from base to tip of the apex. The wind farm Is located approximately 20 miles northeast of the city of Dubuque, Iowa and 50 miles southwest of the city of Madison. The Project area is primarily rural, adjacent to the north of the town of Shullsburg and to the west of the town of Darlington.

The wind farm was announced in June 2016 and completed in November 2017. The Project sits on approximately 12,000 acres under lease with 44 land owners. The facility generates enough electricity to power the equivalent of 36,000 average Wisconsin homes, according to the US Energy Information Administration. In 2016, it was announced that the Quilt Block Wind Project entered an agreement to sell the annual output of energy to Dairyland Power Cooperative, a regional utility company serving approximately 600,000 customers, under a 20 year agreement.

We have analyzed all single-family residential sales data from properties that sold since the wind farm became operational in November 2017. We searched for homes in close proximity to a wind turbine, within one mile. We identified six single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine and were open-market, arm's length transactions.

The aerial imagery on the following page displays the Test Area Properties in relation to the closest turbines.



## Prepared for Horse Heaven Wind Farm, LLC



Quilt Block Wind Farm: Test Area Properties



### PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified one group of Test Area Sales based primarily on location and home type. We have analyzed sales of homes that occurred since the wind farm began operations in November 2017.

### **Properties Excluded from Paired Sales Analysis**

A single-family residence built in 1913 located at 14849 Woods Branch Road in Darlington sold in October 2021 for \$300,000 or \$149.70 per square foot of finished living area. The property consists of a two-story home with a partially finished basement, attached garage and detached garage as well as multiple barns, a cattle lien, a chicken coop and a storage shed on a 6.02-acre lot. We conducted a search in the area for comparable single-family homes with a finished or partially finished basement and agricultural improvements but did not find sufficient data to yield reliable conclusions in a paried sale analysis. Due to limited sales in the area to categorize as Control Area Sales, 14849 Wood Branch Road was excluded from further analysis.

At 22963 County Road Q in Shullsburg, a single-family residence built in 1927 sold in January 2021 for \$130,000 or \$101.88 per square foot of finished living area. The property is comprised of a two-story residence with an unfinished basement and a large steel shed on a 9.78-acre lot. The property does not contain garage parking and the dwelling sold in need of repairs. Without garage parking, which is less common for the area, there was limited sales in the area to categorize as Control Area Sales and this sale has been excluded from our paired sale analysis.

In August 2020 a single-family residence located at 20920 Wisconsin 81 in Darlington sold for \$176,000 or \$106.08 per square foot of finished living area. The property consists of a two-story single family home with a insulated and detached four-car garage and a large storage shed on a 2.25-acre property. Another single-family residence located at 8775 Prairie Road in Shullsburg sold in November 2020 for \$190,500 or \$115.45 per square foot of finished living area. The property has a partially finished basement, an attached garage and a utility shed. However, the owners of both the properties have entered a lease agreement with Quilt Block Wind Farm and due to the participation in the wind farm as well as the additional rental income from the land, these properties were excluded from the paired sale analysis.

Additionally, a single-family residence located at 11768 County Road U in Darlington sold in March 2020 for \$171,000 or \$126.48 per square foot of finished living area. This property is located on a 1.31-acre lot has a partially finished basement, an attached garage and a large utility shed. Most of the homes in the area, while similar in gross living area, are located on larger lots and have unfinished basements. Due to limited sales in the area to categorize as Control Area Sales, 11768 County Road U was excluded from further analysis.

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## Prepared for Horse Heaven Wind Farm, LLC

Test Area Sale No.	Address	Township	Sale Price	GLA SF	Туре	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
1	18741 Wisconsin 81	Darlington	\$183,000	2,380	SFH with Attached Garage, Detached Garage, and Finished Basement	3	2.5	1979	0.99	4/8/2019	\$76.89

### Group 1 – Improved Single-Family Residential Properties

In Group 1, Test Area Sale 1, a single-family home, was considered for a paired sales analysis, and sold in April 2019 after the completion of the wind farm. The home is in proximity to two wind turbines and is approximately 2,230 feet from the nearest turbine, as shown below.



We analyzed six Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine within Lafayette County or Grant County, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with three to five bedrooms and one and a half to three and a half baths, consisting of between 2,024 square feet and 4,581 square feet of gross living area, built between 1975 and 2002, with lot sizes of between 1.00 and 5.05 acres. Additionally, the Control Area Sales are between one and two

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stories, have garage parking, and have full finished or partially finished basements. All of the Control Area Sales are located in rural areas, similar to the Test Area Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

Quilt Block Wind Farm - Group 1											
No. of Sales	Adjusted Median Price Per SF										
Test Area Sale (1)	Adjoining wind farm	\$76.89									
Control Area Sales (6)	No: Not adjoining wind farm	\$78.50									
Difference between Unit Pri Adjusted Median Unit Price	-2.05%										

Quilt Block Wind Farm - Group 1											
Gross Finished Living Area (SF) Land Size (AC) Year Built Beds / Bath											
Test Area Sale	2,380	0.99	1979	3 / 2.5							
Control Area Sales (Range)	2,024 - 4,581	1.00 - 5.05	1975 - 2002	3 - 5 / 1.5 - 3.5							

The days on market for the Test Area Sale was 65 days, while the median days on market for the Control Area sales was 172 days (ranging from 57 to 441 days), *and we note no consequential marketing time differential.* 

Additionally, we spoke with the listing agent involved in the sale of 18741 Wisconsin 81, Ms. Christina Weitzel, who noted that the property received multiple offers and that those interested in purchasing the property were not concerned by the proximity to the Quilt Block Wind Farm. In Ms. Weitzel's opinion, the nearby wind farm did not impact the value of the property.

**<u>Noting a relatively small price differential</u>, it does not appear that the proximity Quilt Block Wind Farm use impacted the sale price of the Test Area Sales in Group 1. The Control Area Sales indicate a slightly higher unit sales price than the Test Area Sales, but the difference is relatively nominal.** 



### Before & After Analysis – Quilt Block Wind Farm

We note the Test Area Sale in Group 1 of the Quilt Block Wind Farm (Test Area Sale 1) has sold twice over the past 5 years. To determine if any of the rates of appreciation for the identified home sale was affected by the proximity to the Quilt Block Wind Farm, we prepared a Repeat-Sales Analysis on the Test Area Sale. First, we calculated the total appreciation between each sale of the same property, the number of months that elapsed between each sale, and determined the monthly appreciation rate. Then, we compared extracted appreciation rates reflected in the Federal Housing Finance Agency (FHFA) Home Price Index for Wisconsin's 473 Three-Digit Zip Code over the same period. The index for the Three-Digit Zip Code is measured on a quarterly basis and is presented below.

473 Three-Digit Zipe over C	e Code - Housi Quarter) Not Se	ng Price Index asonally Adju	Change (Quarter sted
Three-Digit Zip Code	Year	Quarter	HPI
473	2017	1	152.38
473	2017	2	151.03
473	2017	3	156.31
473	2017	4	155.79
473	2018	1	157.53
473	2018	2	158.44
473	2018	3	160.89
473	2018	4	162.69
473	2019	1	165.10
473	2019	2	167.44
473	2019	3	168.49
473	2019	4	173.74
473	2020	1	173.68
473	2020	2	175.55
473	2020	3	173.68
473	2020	4	183.84
473	2021	1	188.41
473	2021	2	198.62
473	2021	3	205.71
473	2021	4	216.01
473	2022	1	217.68
473	2022	2	231.02
473	2022	3	236.76

We have presented the full repeat sales analysis on the following page.



Prepared for Horse Heaven Wind Farm, LLC

				Repeat Sal	les Analysis						473 Three-Di	git Zip Code - I	HFA House Pric	e Index Change
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Quarter of Most Recent Sale	Prior Sale Quarter Index Level	Total Appreciation	Monthly Appreciation Rate
1	18741 Wisconsin 81, Darlington	0.99	2,380	4/8/2019	\$183,000	8/17/2015	\$145,000	26.21%	44	0.53%	206.04	171.56	20.10%	0.42%
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#### Conclusion

When compared to the FHFA home price index for the local three-digit zip code, the extraction rate for the resale of Test Area Sale 1 that sold twice in the previous five years exhibited a higher rate of appreciation than the Home Price Index for local Three-Digit Zip Code. As such, we have concluded that there does not appear to be a consistent detrimental impact on properties adjacent to the Quilt Block Wind Farm.

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CohnReznick LLP.	ADVISORY - ASSURANCE - TAX

### **TECHNIQUE 3: MARKET COMMENTARY**

We have additionally contacted county officials (Tax Assessors, Zoning Administrators) familiar with property values around wind farms in Illinois, Iowa, Missouri, and Colorado as well as local real estate brokers. Our conversations with these market experts are noted below.

We spoke with Billy Shelby with the <u>Adair County, Iowa</u> Assessor who remarked that the county has not noted any impact on sales due to proximity to wind turbines. The county has 533 wind turbines and Mr. Shelby mentioned that homes are selling above what they can assess properties at. Mr. Shelby remarked that no reductions have been given to residences adjacent to wind turbines for assessed property values. <u>He further</u> <u>indicated that homes near wind turbines have since sold at or above assessed values.</u>

We spoke with Tanya Zimmerman with the <u>**DeKalb County, Missouri</u>** Assessor who indicated that reassessments of a property are only based on condition of the home and land itself and that proximity to a wind turbine is not a consideration for reduction in assessment. According to Zimmerman, <u>there is no measurable</u> value difference based on proximity to a wind turbine.</u>

We spoke with Nikki Carrick with the <u>Guthrie County, Iowa</u> Assessor who indicated that no homeowners have asked for a reduction in assessments because there is no measurable difference between the values of homes close to and far from wind turbines. <u>Properties are not assessed differently based on the proximity to wind turbines because there is no measurable difference in value.</u>

We spoke with Peggy Michaels, the <u>Logan County, Colorado</u> Tax Assessor, who remarked, <u>"Using a market</u> <u>approach, we have not seen any documentation of detrimental values as a result of nearby wind</u> <u>turbines."</u>

Melissa Ihnen with Meyer and Gross Real Estate Company in <u>Atlantic Iowa</u> remarked that she has not noticed an impact in listing or sale prices for homes located next to wind turbines. Ms. Ihnen indicated that <u>being next</u> to a wind turbine did not have a negative effect on exposure time and that homes were selling quickly.

We spoke with the <u>Stark County, Illinois Tax Assessor</u>, Renee Johnson, regarding the Camp Grove Wind Farm and she reported that she <u>could not see a difference in the home prices between current values and</u> <u>before the wind farm was built in 2007</u>. Johnson also remarked that they had not had any complaints from the public after the wind farm was completed. In fact, two new houses were built close to the turbines, after completion of the wind farm. Individual families built new homes, on land they already owned, but reportedly, these two families had multiple parcels in multiple townships, in those townships with wind turbines and those without, and <u>chose to locate their new homes next to wind turbines</u>. One home was built in approximately 2018, and the other between approximately 2012 and 2013. Karmella Reining, the Stark County Deputy Tax Assessor, added, "I wouldn't mind if there was a turbine sitting in my back yard, it's just not a big deal. It really doesn't block a view up there in the air like that."

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Bridget Nodurft, Chief Deputy of the Supervisor of Assessments Office in <u>Dekalb County, Illinois</u>, reported that in the beginning of wind farm developments, they had some groups that talked publicly about the pros and cons of allowing wind farms to locate in the county. The FPL Energy Illinois Wind LLC (also known as the Lee-DeKalb Wind Energy Center, capacity 217.5 MW) began operations in December 2009 and there were some residents that did sell their homes near the wind farm because they didn't want to live near the turbines. "I can recall one of those property owners was very vocal before the wind farm was developed, they had moved to the county to be far away from everyone. After the development of the wind farm they sold their home and moved out of state, to be even further from any other people." Nodurft reported that those initial sales were right at market values, <u>being near the turbines did not cause harm to values.</u> "Now after 11 years, no one in the county complains about home values being impacted by the wind farm", said Nodurft.

Alan and Marcy Kinney, real estate brokers who work together in <u>DeKalb County, Illinois</u>, reported that Test Area Sale 1 studied for the Lee-DeKalb Wind Energy Center (Wind Farm 2), was sold again as of March 31, 2020 and the seller accepted an offer close to the asking price. The selling price was \$71,900 higher than the sale price of this home in 2013, a 43 percent increase over the seven-year hold period which calculates to an average annual rate of appreciation of 6.7 percent. <u>The brokers reported that there was not even one</u> <u>comment or question about the proximity of the wind turbine to the home (approximately 2,315 feet).</u> The proximity of this home to the wind turbine was not an issue for anyone in the market.

**Lee County, Illinois** was the home of the first wind farm developed in Illinois, the Mendota Hills wind farm (50.4 MW) in 2003. Originally the development had 63 turbines with a capacity of 0.85 MW per turbine. In 2018, ownership took down the old turbines and re-powered, or rebuilt, the project with 29 turbines in the same general area which produces the same gross capacity of megawatts of energy. The new wind farm is not exactly in the same footprint, it needed less land after re-development, and it came back online in late 2019. The Mendota Hills development was the first wind farm built in Illinois and the first to be re-powered, a fact that Lee County is proud of, according to the Chief County Assessment Officer, Wendy Ryerson. Ryerson has <u>not noticed any difference in values of homes that are near wind turbines.</u> "These wind turbines are put in rural areas, in the middle of farm country in our county. A lot of this surrounding land is vacant farmland, and it really sells on the ability of the land to produce a crop. Any single-family residences that are not part of a farm are few and far between, so home sales are scarce around wind farms."

When discussing recent wind farm development in the county, Shelly Renken, Supervisor of Assessments in *Livingston County, Illinois* reported that the potential impact on home values is always a concern of some people. "People ask the same questions, like when the Minonk Wind Farm was developed in 2012, they asked, 'Will this affect my house's value?'. But *there's no documentation that shows that's happening, that values have gone down or up as a result of being near a wind farm.*"

<u>Henry County, Illinois</u>, is the home of the Bishop Hill wind farm development that was built in three phases (with 200 and 81 megawatts developed in 2012 and 119 MW developed in 2018). Tracey Vinavich, Chief County Assessor of Henry County, told us that <u>there have been no changes in values because of the wind farms</u> <u>that have been developed</u>, and "There wasn't enough resistance to the wind farms from property owners to even begin to stop the development, especially after the first two phases were operational."

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Christine Anderson, GIS Coordinator in the Tax Assessor's office in <u>Bureau County, Illinois</u>, reported that they had <u>never received any complaints about potential changes in home values, before or after any of the</u> <u>wind farms were built</u>. At the time of the interview, Bureau County has five wind farms in operation, including Big Sky Wind Farm with a nameplate capacity of 240 MW, and the Assessor's office keeps folders with surrounding home sale data for each of them.

Susan Fisher is a Broker with Coldwell Banker Realty and reported that she has over 30 years of experience as a real estate agent in the *Ford County, Kankakee County, and Iroquois County, Illinois* area. She also reported that she lives near a wind farm in Stelle, which is in Ford County. Ms. Fisher said, "*I haven't seen any negative impact on real estate values from the turbines* even though it was predicted by many who were anxious about installing them. Of course, we've had significant increases in values as has most of the U.S. in recent years, but even before then I did not experience any negative feedback from buyers looking at homes in the area."

We spoke with Colleen Benson, Broker with Coldwell Banker Realty in the <u>Ford County and Kankakee County</u>, <u>*Illinois*</u> region has worked as a local real estate agent since 2003. Ms. Benson was the List Broker for the sale of a property in Ford County located within one mile of a turbine. She stated that the turbines did not impact the sale and the buyer was unconcerned about them. Ms. Benson stated that as a broker in the area, some buyers have mentioned concerns about the turbines but <u>she has not seen any changes in property values or interest</u> <u>in regard to the turbines</u>.

Fred Majors, Assessor for Patton, Button, and Drummer Townships in *Ford County, Illinois*, said that properties might not be selling for less, but they are not selling for more. He stated that assessments have never been lowered or changed regarding the wind turbines and that he cannot say the turbines have had any impact on property values.



### WIND FARM FACTORS ON HARMONY OF USE

Concerns about certain physical issues in the areas of proposed wind farms can lead to questions about the compatibility of wind turbine installations in a rural agricultural and residential setting. Property Compatibility and Harmony of Use are real estate concepts that can impact real estate values, both positively and negatively. The information compiled below summarizes National and International research on specific physical characteristics that clearly indicates that wind farms are generally a compatible use with agricultural and residential uses.

**Appearance:** Most wind farms are developed with Horizontal-Axis Wind Turbines (HAWT), with three blades and operate "upwind," with the turbine pivoting at the top of the tower so the blades face into the wind.<sup>[1]</sup> Wind turbines vary in height. Generally, the taller the turbine, the longer the blades, and the greater power capacity generated. Taller turbines also command increased spacing between turbines. Wind turbines are generally off-white and have a visibility sensor (red blinking light) as mandated by the Federal Aviation Authority (FAA). The physical characteristics of wind farms are compatible with adjoining agricultural and residential uses.

**Sound:** According to a document prepared by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE), wind turbines produce little sound. Some noise is emitted when the turbine blades encounter turbulence in the air, producing a 'whooshing' sound, but this sound is generally masked by background noise of the blowing wind. Some sound is emitted by the gears inside the transmission or from the hum of the generator. As technology has improved, sound produced by wind turbines has also decreased over the years and equipment inside the wind turbine is better soundproofed. At distances of 750 to 1,000 linear feet from a turbine, the wind turbine is equivalent to the hum of a kitchen refrigerator. As such, some ordinances have increased the setbacks from wind turbines to 1,500 linear feet to reduce the sound detected.

Odor: Wind turbines do not produce any byproduct or odor.

**Traffic:** The wind farm requires general and preventive maintenance only two to three times per year from onsite employees and thus does not attract traffic during daily operation aside from the initial construction and installation of the farm.

**Hazardous Material:** Modern wind turbines are constructed to U.S. government standards, maintained in accordance with recommended practices, and monitored and documented with technical reports.

**Health Issues:** According to an article published by NOVA Science Trust, "Twenty-five peer-reviewed studies have found that living near wind turbines does not pose a risk on human health.<sup>[2]</sup>

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<sup>[2]</sup> NOVA Science Trust. https://www.pbs.org/wgbh/nova/article/can-wind-turbines-make-you-sick/



<sup>&</sup>lt;sup>[1]</sup> U.S. Department of Energy. https://www.energy.gov/eere/wind/how-do-wind-turbines-work

### SUMMARY AND FINAL CONCLUSIONS

The purpose of this property value impact consulting report is to determine whether the presence of a wind farm has caused a measurable and consistent impact on adjacent property values. Under the identified methodology and scope of work, CohnReznick reviewed published methodology for measuring impact on property values as well as published reports that analyzed the impact of wind farms on property values. These studies found little to no measurable and consistent difference between Test Area Sales and Control Area Sales attributed to the wind farms.

CohnReznick Impact Study Analysis Conclusions							
Wind Farm #	Wind Farm	Adjoining Test Sale Properties	Adjoining Property Sale (Test Area) Median Price per SF	Control Area Sales Median Price per SF	% Difference	Avg Linear Feet from Turbine to House	Impact Found
1	Sagebrush Wind Farm	Group 1 (6)	\$383.34	\$378.76	1.21%	2,762	No Impact
		Group 2 (3)	\$249.57	\$254.03	-1.76%	3,897	No Impact
2	Palouse Wind Farm	Group 1 (1)	\$138.67	\$134.31	3.25%	4,035	No Impact
3	Colorado Highlands Wind Farm	Group 1 (1)	\$90.24	\$90.24	0.00%	1,808	No Impact
		Group 2 (1)	\$118.24	\$111.12	6.41%	7,076	No Impact
4	Spring Canyon Wind Energy Center	Group 1 (1)	\$45.40	\$40.07	13.32%	3,994	No Impact
		Group 2 (1)	\$71.16	\$70.74	0.59%	4,385	No Impact
5&6	Peetz Table & Logan Wind Energy Center	Group 1 (1)	\$138.53	\$109.61	26.39%	2,150	No Impact
7	Adair Wind Farm	Group 1 (1)	\$135.77	\$134.18	1.19%	1,300	No Impact
		Group 2 (1)	\$169.03	\$145.27	16.36%	1,375	No Impact
		Group 3 (1)	\$95.17	\$96.07	-0.93%	1,450	No Impact
8	Eclipse Wind Farm	Group 1 (2)	\$109.54	\$98.70	10.98%	1,260	No Impact
		Group 2 (1)	\$86.77	\$88.66	-2.13%	4,800	No Impact
9	Bright Stalk Wind Farm	Group 1 (1)	\$99.73	\$100.36	-0.63%	3,260	No Impact
10	Glacier Hills Wind Farm	Group 1 (2)	\$122.72	\$109.08	12.50%	3,980	No Impact
		Group 2 (2)	\$102.82	\$108.69	-5.40%	3,433	No Impact
		Group 3 (3)	\$112.36	\$101.09	11.15%	2,495	No Impact
		Group 4 (5)	\$145.72	\$134.63	8.24%	3,029	No Impact
11	Quilt Block Wind Farm	Group 1 (1)	\$76.89	\$78.50	-2.05%	2,230	No Impact
Median Variance in Sales Prices for Test to Control Areas 1.21%							

A summary of the chosen CohnReznick impact studies prepared is presented below.

35 Adjoining Test Area Sales studied and compared to 159 Control Area Sales

\* Excluded due to atypical above-grade floor area; considered an outlier on a \$/SF basis

The wind farms analyzed reflected sales of property adjoining an existing wind farm (Test Area Sales) in which the unit sale prices were effectively the same or higher than the comparable Control Area Sales that were not near a wind farm. The conclusions support that there is no negative impact on improved residential homes adjacent to wind farms. This was confirmed with market participant interviews, which provided additional insight as to how the market evaluates farmland and single-family homes with views of the wind farm.

It can be concluded that since the Adjoining Property Sales (Test Area Sales) were not adversely affected by their proximity to the wind farm, properties surrounding other proposed wind farms operating in compliance with all regulatory standards will similarly not be adversely affected, in either the short or long term periods.

Based upon the examination, research, and analyses of the existing wind farm uses, the surrounding areas, and an extensive market database, we have concluded that *no consistent negative impact has occurred to* 

adjacent property values that could be attributed to proximity to the adjacent wind farm, with regard to unit sale prices or other influential market indicators. This conclusion has been confirmed by numerous county assessors who have also investigated this use's potential impact on property values.

In addition, given that the energy uses will be generally 3 miles away from any adjacent residential property owner, we do not believe that any of the planned solar arrays will have any impact at all on adjacent uses, whether developed in conjunction with the wind uses or separately. The studies CohnReznick has compiled all show no measurable impact on homes that are all located within 2,500 feet (1/2 miles) of an existing solar use; further, academic studies on the topic do not measure any impact beyond 3 miles.

If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

CohnReznick LLP

Andrew R. Lines, MAI Principal Certified General Real Estate Appraiser Washington License No. 22037264

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Erin C. Bowen, MAI Senior Manager



### CERTIFICATION

We certify that, to the best of our knowledge and belief:

- 1. The statements of fact and data reported are true and correct.
- 2. The reported analyses, findings, and conclusions in this consulting report are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, findings, and conclusions.
- 3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
- 4. We have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
- 5. We have no bias with respect to the property that is the subject of this report or the parties involved with this assignment.
- 6. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
- 7. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value finding, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
- 8. Our analyses, findings, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which includes the Uniform Standards of Professional Appraisal Practice (USPAP).
- 9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- 10. Andrew R. Lines, MAI, and Erin C. Bowen, MAI have viewed the exterior of all comparable data referenced in this report in person, via public right-of-ways, photographs, or aerial imagery.
- 11. We have not relied on unsupported conclusions relating to characteristics such as race, color, religion, national origin, gender, marital status, familial status, age, and receipt of public assistance income, handicap, or an unsupported conclusion that homogeneity of such characteristics is necessary to maximize value.
- 12. Joseph Ficenec provided significant appraisal consulting assistance to the persons signing this certification, including data verification, research, and administrative work all under the appropriate supervision.
- 13. We have experience in reviewing properties similar to the subject and are in compliance with the Competency Rule of USPAP.
- 14. As of the date of this report, Andrew R. Lines, MAI, and Erin Bowen, MAI have completed the continuing education program of the Appraisal Institute for designated members.

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Respectfully submitted,

CohnReznick LLP

MA

Andrew R. Lines, MAI Principal Certified General Real Estate Appraiser Washington License No. 22037264

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Erin C. Bowen, MAI Senior Manager


### **ASSUMPTIONS AND LIMITING CONDITIONS**

The fact witness services will be subject to the following assumptions and limiting conditions:

- 1. No responsibility is assumed for the legal description provided or for matter pertaining to legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated. The legal description used in this report is assumed to be correct.
- 2. The property is evaluated free and clear of any or all liens or encumbrances unless otherwise stated.
- 3. Responsible ownership and competent management are assumed.
- 4. Information furnished by others is believed to be true, correct and reliable, but no warranty is given for its accuracy.
- 5. All engineering studies are assumed to be correct. The plot plans and illustrative material in this report are included only to help the reader visualize the property.
- 6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for obtaining the engineering studies that may be required to discover them.
- 7. It is assumed that the property is in full compliance with all applicable federal, state, and local and environmental regulations and laws unless the lack of compliance is stated, described, and considered in the evaluation report.
- 8. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in the evaluation report.
- 9. It is assumed that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
- 10. It is assumed that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
- 11. The date of value to which the findings are expressed in this report apply is set forth in the letter of transmittal. The appraisers assume no responsibility for economic or physical factors occurring at some later date which may affect the opinions herein stated.
- 12. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the property, was not observed by the appraisers. The appraisers have no knowledge of the existence of such substances on or in the property. The appraisers, however, are not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, radon gas, lead or lead-based products, toxic waste contaminants, and other potentially hazardous materials may affect the value of the property. The value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value. No

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responsibility is assumed for such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

- 13. The forecasts, projections, or operating estimates included in this report were utilized to assist in the evaluation process and are based on reasonable estimates of market conditions, anticipated supply and demand, and the state of the economy. Therefore, the projections are subject to changes in future conditions that cannot be accurately predicated by the appraisers and which could affect the future income or value projections.
- 14. Fundamental to the appraisal analysis is the assumption that no change in zoning is either proposed or imminent, unless otherwise stipulated. Should a change in zoning status occur from the property's present classification, the appraisers reserve the right to alter or amend the value accordingly.
- 15. It is assumed that the property does not contain within its confined any unmarked burial grounds which would prevent or hamper the development process.
- 16. The Americans with Disabilities Act (ADA) became effective on January 26, 1992. We have not made a specific compliance survey and analysis of the property to determine if it is in conformance with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect on the value of the property. Unless otherwise noted in this report, we have not been provided with a compliance survey of the property. Any information regarding compliance surveys or estimates of costs to conform to the requirements of the ADA are provided for information purposes. No responsibility is assumed for the accuracy or completeness of the compliance survey cited in this report, or for the eventual cost to comply with the requirements of the ADA.
- 17. Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in this report.
- 18. Any proposed improvements are assumed to have been completed unless otherwise stipulated; any construction is assumed to conform with the building plans referenced in this report.
- 19. Unless otherwise noted in the body of this report, this evaluation assumes that the subject does not fall within the areas where mandatory flood insurance is effective.
- 20. Unless otherwise noted in the body of this report, we have not completed nor are we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property.
- 21. This report should not be used as a basis to determine the structural adequacy/inadequacy of the property described herein, but for evaluation purposes only.
- 22. It is assumed that the subject structure meets the applicable building codes for its respective jurisdiction. We assume no responsibility/liability for the inclusion/exclusion of any structural component item which may have an impact on value. It is further assumed that the subject property will meet code requirements as they relate to proper soil compaction, grading, and drainage.



23. The appraisers are not engineers, and any references to physical property characteristics in terms of quality, condition, cost, suitability, soil conditions, flood risk, obsolescence, etc., are strictly related to their economic impact on the property. No liability is assumed for any engineering-related issues.

### The evaluation services will be subject to the following limiting conditions:

- 1. The findings reported herein are only applicable to the properties studied in conjunction with the Purpose of the Evaluation and the Function of the Evaluation as herein set forth; the evaluation is not to be used for any other purposes or functions.
- 2. Any allocation of the total value estimated in this report between the land and the improvements applies only to the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are not valid if so used.
- 3. No opinion is expressed as to the value of subsurface oil, gas or mineral rights, if any, and we have assumed that the property is not subject to surface entry for the exploration or removal of such materials, unless otherwise noted in the evaluation.
- 4. This report has been prepared by CohnReznick under the terms and conditions outlined by the enclosed engagement letter. Therefore, the contents of this report and the use of this report are governed by the client confidentiality rules of the Appraisal Institute. Specifically, this report is not for use by a third party and CohnReznick is not responsible or liable, legally or otherwise, to other parties using this report unless agreed to in writing, in advance, by both CohnReznick and/or the client or third party.
- 5. Disclosure of the contents of this evaluation report is governed by the by-laws and Regulations of the Appraisal Institute has been prepared to conform with the reporting standards of any concerned government agencies.
- 6. The forecasts, projections, and/or operating estimates contained herein are based on current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to changes with future conditions. This evaluation is based on the condition of local and national economies, purchasing power of money, and financing rates prevailing at the effective date of value.
- 7. This evaluation shall be considered only in its entirety, and no part of this evaluation shall be utilized separately or out of context. Any separation of the signature pages from the balance of the evaluation report invalidates the conclusions established herein.
- 8. Possession of this report, or a copy thereof, does not carry with it the right of publication, nor may it be used for any purposes by anyone other than the client without the prior written consent of the appraisers, and in any event, only with property qualification.
- 9. The appraisers, by reason of this study, are not required to give further consultation or testimony or to be in attendance in court with reference to the property in question unless arrangements have been previously made.

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- 10. Neither all nor any part of the contents of this report shall be conveyed to any person or entity, other than the appraiser's client, through advertising, solicitation materials, public relations, news, sales or other media, without the written consent and approval of the authors, particularly as to evaluation conclusions, the identity of the appraisers or CohnReznick, LLC, or any reference to the Appraisal Institute, or the MAI designation. Further, the appraisers and CohnReznick, LLC assume no obligation, liability, or accountability to any third party. If this report is placed in the hands of anyone but the client, client shall make such party aware of all the assumptions and limiting conditions of the assignment.
- 11. This evaluation is not intended to be used, and may not be used, on behalf of or in connection with a real estate syndicate or syndicates. A real estate syndicate means a general or limited partnership, joint venture, unincorporated association or similar organization formed for the purpose of, and engaged in, an investment or gain from an interest in real property, including, but not limited to a sale or exchange, trade or development of such real property, on behalf of others, or which is required to be registered with the United States Securities and Exchange commissions or any state regulatory agency which regulates investments made as a public offering. It is agreed that any user of this evaluation who uses it contrary to the prohibitions in this section indemnifies the appraisers and the appraisers' firm and holds them harmless from all claims, including attorney fees, arising from said use.

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ADDENDUM A: APPRAISER QUALIFICATIONS

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## Andrew R. Lines, MAI Principal, Real Estate Valuation, Valuation Advisory Services

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Andrew R. Lines, MAI, is a Principal for CohnReznick Advisory's Valuation Advisory Services practice who has been a CohnReznick employee for over ten years. Andrew has been involved in the real estate business for more than 20 years and has performed valuations on all real estate classes (industrial, commercial, residential, development land). Special-use valuations include affordable housing, student housing, senior housing, cannabis facilities (indoor/outdoor, processing and dispensaries), landfills, waste transfer stations, golf courses, marinas, hospitals, universities, telecommunications facilities, data centers, self- storage facilities, racetracks, and corridors. Impact Study Reports have also been generated for zoning hearings related to the development of solar facilities, wind powered facilities, landfills, big box retail, waste transfer stations, private mental health clinics, cannabis dispensaries and day care centers. He is also experienced in the valuation of leasehold, leased fee, and partial interests, as well as purchase price allocations (GAAP, IFRS and IRC 1060) for financial reporting.

Valuations have been completed nationwide for a variety of assignments including mortgage financing, litigation, tax appeal, estate gifts, asset management, workouts, and restructuring, as well as valuation for financial reporting including purchase price allocations (ASC 805), impairment studies, and appraisals for investment company guidelines and REIS standards. Andrew has qualified as an expert witness, providing testimony for eminent domain cases in the states of IL, VA and MD, and for zoning hearings in IL, IN, MI, NY, HI, OH, KY, and MO. Andrew has also performed appraisal review assignments for accounting purposes (audit support), asset management, litigation and as an evaluator for a large Midwest regional bank.

Andrew has earned the professional designation of Member of the Appraisal Institute (MAI). He has also qualified for certified general commercial real estate appraiser licenses in AZ, CA, IL, IN, WI, MD, OH, NY, NJ, FL,GA, KY and DC. Temporary licenses have been granted in CT, CO, PA, ID, MS, KS, MT and SC.

### **Education**

- Syracuse University: Bachelor of Fine Arts
- MAI Designation (Member of the Appraisal Institute)

### Professional Affiliations

- Chicago Chapter of the Appraisal Institute
- International Real Estate Management (IREM)
- National Council of Real Estate Investment Fiduciaries (NCREIF)
- National Council of Housing and Market Analysts (NCHMA)

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### **Community Involvement**

- Syracuse University Regional Council Active Member
- Chicago Friends School Board Member (Treasurer)

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# Erin C. Bowen, MAI

Senior Manager, Valuation Advisory Services

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Erin Bowen, MAI is a Senior Manager with CohnReznick in Valuation Advisory Services. Ms. Bowen is based in Phoenix, Arizona, with presence covering the west coast. Ms. Bowen's work in Commercial Real Estate valuation spans over 10 years.

Ms. Bowen specializes in lodging, cannabis, seniors housing, large scale retail and multifamily conversion properties. Lodging work includes all hotel property types and brand segments including limited, full service and resort properties; additionally, Ms. Bowen has appraised numerous hotel to multifamily conversion properties including market rate and affordable housing. Cannabis work includes dispensaries, cultivation facilities including specialized indoor facilities and greenhouse properties, processing and manufacturing facilities. Seniors housing assignments include assisted living, skilled nursing facilities and rehabilitation centers. Retail work spans power centers, lifestyle centers, outlet centers and malls. She has appraised numerous additional properties including multifamily, office, medical office, industrial, churches, and vacant land.

Ms. Bowen has expertise in appraising properties at all stages of development, including existing as is, proposed, under construction, renovations and conversion to alternate use. Valuations have been completed nationwide for a variety of assignments including mortgage financing, litigation, tax appeal, estate gifts, asset management, as well as valuation for financial reporting including purchase price allocations (ASC 805).

Previously, Ms. Bowen worked with BBG, CBRE Valuation and Integra Realty Resources.

### **Education**

• Bachelor of Arts, Psychology, Theater, University of California, San Diego 2007, College Honors

### **Professional Affiliations**

Designated Member of the Appraisal Institute

### **Licenses**

- State of Arizona (Certification # 32052)
- State of California (Certification #AG3004919)

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# **Lauren Migliore** Senior Consultant, Valuation Advisory Services

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Lauren Migliore is a senior consultant in CohnReznick's Valuation Advisory Services practice group who is based in the New York office. She has been engaged in the real estate industry since 2010 and valuation/ market studies since 2016.

Lauren has been involved in valuations of various types of projects with a focus on multifamily and affordable housing properties. She has focused on valuations and market studies for proposed and existing Low Income Housing Tax Credit (LIHTC), HUD subsidized, and market rate properties as well as mixed-use and commercial properties. Market analysis includes property screening, market area assessment, comparable rent surveys, operating expense analysis, and demand analysis. Appraisals include various value scenarios including hypothetical land value as if vacant, insurable value, value of LIHTCs, abatements and PILOTS, below market debt, ground leases, etc. Lauren has worked on projects throughout the nation with a focus on the northeast. Lauren has also reviewed market studies for state agencies for LIHTC application for adherence to NCHMA, state guidelines, and overall reasonableness. Prior to joining CohnReznick, Lauren worked as a senior analyst at Novogradac & Company LLP where she performed appraisals, market studies, and rent comparability studies of affordable multifamily properties throughout the United States.

### **Education**

- Edward J. Bloustein School of Planning and Public Policy at Rutgers University: Master of City and Regional Planning
- Rutgers, The State University of New Jersey: Bachelor of Arts in Planning and Public Policy

### <u>Awards</u>

CohnReznick 2021 Pyramid Award for Integrity, Reliability, and Trust

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