

1 BEFORE THE STATE OF WASHINGTON
2 ENERGY FACILITY SITING EVALUATION COUNCIL

3 In the Matter of the Application of:
4 Scout Clean Energy, LLC, for Horse Heaven
5 Wind Farm, LLC,
6 Applicant.

DOCKET NO. EF-210011
DIRECT TESTIMONY AND
ATTACHMENTS OF MORGAN SHOOK
ON BEHALF OF SCOUT CLEAN
ENERGY

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12 **ON BEHALF OF**
13 **SCOUT CLEAN ENERGY**
14 **EXH-1004_T**
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JUNE 12, 2023

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I. INTRODUCTION:

Q. Please state your name, occupation, and business address.

A. My name is Morgan Shook, I am a Senior Policy Advisor and Project Director with ECONorthwest, an economics, finance, and planning consultancy. I work out of our Seattle office at 1200 Sixth Ave, Suite 615, Seattle, WA 98101.

Q. What are your job duties and responsibilities in that role?

A. I am a Project Director and member of the Board of ECONorthwest. As a Director, I am responsible for marketing the firm’s expertise and leading its research engagements. In this capacity, I oversee the development of our work plans and the quality assurance of their execution including taking on research and preparation of work product. As a member of the Board and shareholder, I have a shared responsibility for the firm’s overall strategy and management. I have been employed in such a capacity since February 2014. I have also served as a Commissioner for the City of Seattle’s Planning Commission.

I have led projects conducting economic analyses of real estate that include the use of summary statistics, correlational analysis, regression analyses, and machine learning techniques. These projects have been conducted on behalf of private, public, and non-governmental organizations seeking to understand various questions regarding the drivers of real estate investment and value.

Q. What is your educational and professional background?

A. A summary of my education and professional experience is included as Attachment A. I graduated from the University of Puget Sound with a Bachelor of Science in Biology and Portland State University with a Masters in Urban and Regional Planning. In addition, I have a certificate degree in Commercial Real Estate

1 Development from the University of Washington Extension where I also currently
2 teach a class on real estate research and analysis.

3 Q. How long have you worked as an economic analyst specializing in real estate
4 analyses?

5 A. I have over 25 years of experience as a researcher and 17 years working as a research
6 and policy consultant in my current occupation. My areas of expertise include land
7 use planning, market analysis, real estate development, housing and housing
8 affordability policy, and tax policy, public service deliver, and infrastructure
9 planning. I have direct experience with Growth Management Act (GMA) and State
10 Environmental Policy Act (SEPA). I have worked with municipal jurisdictions and
11 project applicants in the policy evaluation and entitlements of large residential,
12 commercial, and industrial projects. I have also helped housing developers evaluate
13 the appropriateness of impact fees on their projects. As a related matter, I have
14 conducted research examine the property and business level impacts of proposed
15 projects as part of the SEPA environmental review process.

16 Q. Have you previously analyzed the impact of facilities on surrounding property
17 values? Please explain and provide examples of such facilities.

18 A. Yes, I have previous experience with analyzing the impact of proposed large-scale
19 commercial, recreational, and industrial facilities on property values and impacts on
20 businesses. For example, as part of the SEPA environmental review process I have
21 assessed the property value impacts of a proposed regional jail facility for a coalition
22 on cities in King County, WA exploring the creation of a regional jail. I have also
23 evaluated the property value and business impacts of regional trail facilities including
24 the development of the “missing link” portion of the Burke Gilman Trail. I am also
25 currently evaluating the property and business impacts of the siting of King County
26 Solid Waste Transfer Station for the city of Woodinville, WA.

1 Q. When were you first engaged in this matter?

2 A. I was first engaged in this matter in spring 2023 when ECONorthwest began work
3 reviewing, supporting and supplementing Applicant’s property impact analyses for
4 the Horse Heaven Wind Farm.

5 **II. PURPOSE AND SUBJECT MATTER OF TESTIMONY:**

6 Q. For whom are you testifying and the purpose of your testimony.

7 A. My testimony is offered on behalf of Scout Clean Energy. The purpose of my
8 testimony is to offer explanation and support for the Horse Heaven Wind Farm by
9 providing analysis about the project’s potential impacts on property values.

10 Q. Are you sponsoring any portions of the Application for Site Certification for the
11 Horse Heaven Wind Farm (the “Application”)? Please describe the portion of the
12 Application you are sponsoring and your level of familiarity with that portion.

13 A. Yes, I am sponsoring aspects of Section 4.4 – Socioeconomic Impact, specifically, the
14 discussions of property value impacts and information supporting that discussion.

15 Q. Is the information in these portions of the Application within your area of expertise?

16 A. Yes.

17 Q. Did you prepare these portions of the Application?

18 A. No, my understanding is those sections were prepared by Scout Clean Energy’s
19 consultant, Tetra Tech, with Scout project staff review.

20 Q. How are you familiar with these portions of the Application and supporting
21 information?

22 A. I have reviewed the property impact analysis and supporting data and literature on
23 which it is based, including (i) Ben Hoen et al., *A Spatial Hedonic Analysis of the*
24 *Effects of US Wind Energy Facilities on Surrounding Property Values*, 51 *Journal of*
25 *Real Estate Finance And Economics* 1, 22-51 (2015); (ii) Ben Hoen et al., *Wind*
26 *Energy Facilities and Residential Properties: The Effect of Proximity and View on*

1 *Sales Prices*, 33 *Journal of Real Estate Research* 3, 279-316 (2011); (iii) Ben Hoen et
2 al., *The Impact of Wind Power Projects on Residential Property Values in the United*
3 *States: A Multi-Site Hedonic Analysis*, Lawrence Berkeley National Laboratory
4 (2009); (iv) Steven Laposa & Andrew Mueller, *Wind Farm Announcements and*
5 *Rural Home Prices: Maxwell Ranch and Rural Northern Colorado*, 2 *Journal of*
6 *Sustainable Real Estate* 1, 383-402 (2010); and (v) Vasundhara Gaur & Corey Lang,
7 *Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and*
8 *Rhode Island*, University of Rhode Island (2020); and (vi) Leila Al-Hamoodah et al.,
9 *An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations*,
10 University of Texas At Austin (2018), provided as Attachment B to my testimony
11 today. I am familiar with the contents of these materials and find that they use
12 standard research approaches and statistical tools to address the question on how
13 these types of facilities impact property values.

14 Q. Are these portions of the Application based upon supporting data or literature that
15 reasonably prudent persons in your field are accustomed to relying on in their
16 practice?

17 A. Yes, these types of economic analysis are the best type of evidence available, and use
18 accepted statistical approaches to evaluating impacts.

19 Q. To the best of your knowledge, are the contents of these portions of the Application
20 true?

21 A. Yes, the portion of the application on the research on property values accurately
22 summarizes the research reviewed.

23 Q. Do you incorporate the facts and contents of these portions of the Application as part
24 of your testimony?

25 A. Yes, I have included the facts and contents of these portions of the Application as part
26 of my testimony.

1 Q. Do you sponsor the admission into evidence of Section 4.4 of the Application?

2 A. Yes, I sponsor the admission into evidence of Section 4.4 of the Application

3 Q. Are you able to answer questions under cross-examination regarding the property
4 value impacts analysis discussed in the Application?

5 A. Yes, I am able to answer questions under cross-examination regarding the property
6 value impacts analysis discussed in the Application.

7 Q. Did you rely on any other data or resources in developing your testimony today?

8 A. Yes, I also reviewed additional studies on (i) the impact of wind energy development
9 on nearby urban real estate (Corey Lang et al., *The Windy City: Property Value*
10 *Impacts of Wind Turbines in an Urban Setting*, 44 *Energy Economics*, 413-421
11 (2014); Ben Hoen & Carol Atkinson-Palombo, *Wind Turbines, Amenities and*
12 *Disamenities: A Study of Home Value Impacts in Densely Populated Massachusetts*,
13 38 *Journal Of Real Estate Research* 4, 473-504 (2016)); and (ii) public perception of
14 wind farms over time (Patrick Devine-Wright, *Beyond Nimbyism: Towards an*
15 *Integrated Framework for Understanding Public Perceptions of Wind Energy*, 8
16 *Wind Energy* 2, 125-139 (2005); Maarten Wolsink, *Attitudes and Expectancies About*
17 *Wind Turbines and Wind Farms*, 13 *Wind Engineering* 4, 196-206 (1989);
18 Salma Elmallah, Ben Hoen, K. Sydney Fujita, Dana Robson, Eric Brunner, *Shedding*
19 *light on large-scale solar impacts: An analysis of property values and proximity to*
20 *photovoltaics across six U.S. states*, 175 *Journal of Energy Policy* (April 2023),
21 provided as Exhibits Attachment C.

22 Q. Are there any modifications or clarifications to be made to Section 4.4 of the
23 Application?

24 A. No, other than the additional explanation and support provided in my testimony
25 today.

26 ///

1 **III. TESTIMONY ON PROPERTY VALUE IMPACTS:**

2 Q. What are the best practices and methods for studying the impact of industrial facilities
3 on nearby real estate values?

4 A. The best practices and statistical methods for studying the impact of facilities on
5 nearby real estate values has been well established in the economic literature. These
6 include the specification of regression models as well as difference-in-difference
7 models used to isolate the impact of the facility relative to other important factors that
8 differentiate prices from one location to another or from one type to another.

9 Q. Does the research from Lawrence Berkley National Laboratory on wind turbines
10 referenced in the analysis of the Application align with the best practices mentioned
11 above?

12 A. Yes, this research uses state-of-the-practice techniques for estimating property value
13 impacts while controlling for confounding value factors that existed prior to the wind
14 facilities' announcements of construction.

15 Q. What are the key conclusions of said research from Lawrence Berkley National
16 Laboratory with regard to the impact of wind energy development on nearby real
17 estate values?

18 A. Consistent with the summary included in the Application, this research found that
19 there was no statistical evidence that homes sold for less in close proximity to the
20 turbines. As the authors of many of these studies further discuss, while their analyses
21 cannot dismiss the possibility that individual homes could have been negatively
22 impacted, they find that if these impacts do exist, they are either too small or
23 infrequent to result in any statistically measurable fashion.

24 Q. What are the key conclusions of said research from Lawrence Berkley National
25 Laboratory with regard to the impact of solar energy development on nearby real
26 estate values?

- 1 A. The 2023 research by Lawrence Berkley National Laboratory on property value
2 impacts of solar facilities found statistical evidence that homes sold for less in close
3 proximity of large-scale solar projects. The authors define large-scale projects as
4 ground-mounted photovoltaic generation facilities with at least 1 MW of DC
5 generation capacity. They found an average 2.3% reduction in home prices within
6 0.25 mi of a large-scale solar project. The impacts on homes located 1 to 2 miles from
7 a project were small in magnitude and statistically insignificant, suggesting that the
8 impact of these facilities on home values fades relatively quickly with distance.
9 However, the researchers noted that there was a great deal of “heterogeneity” in their
10 findings, meaning the results varied by the state the facility was located in, the level
11 of immediate urbanicity, and predominant land use. In their paper, this variation is the
12 basis for future research.
- 13 Q. Do you agree with the general conclusions of the studies from Lawrence Berkley
14 National Laboratory mentioned above? Please explain why.
- 15 A. Yes, their conclusions are reasonable and supported by the evidence provided in their
16 studies. Bases on my professional and research experience examining property value
17 impacts of other similar facilities, the approach and research tools used by the authors
18 are sound and use state-of-the-practice techniques. Further, their findings fall in line
19 with a emerging consensus within the economic literature on this issue.
- 20 Q. Are there other studies with conclusions in conflict with the conclusions of the
21 Lawrence Berkley National Laboratory studies mentioned above?
- 22 A. I have not conducted an exhaustive and comprehensive literature review of research
23 examining the property value impacts related to sighting of wind turbines and am
24 relying on the information included in the Application. However, based on my
25 general knowledge of these types of disamenity research on home values, I am not
26

1 aware of any other studies with conclusions that conflict with the conclusions of the
2 Lawrence Berkeley National Laboratory studies mentioned above.

3 Q. Do you agree with the general conclusions of those other studies mentioned above?
4 Please explain why.

5 A. The summary of research studies provided in the Application all use state-of-the-
6 practice techniques and their conclusions are reasonable based on the evidence
7 provided in those studies.

8 Q. Could you please summarize the overall property value impact analysis in the
9 Application for Site Certification, including the data and literature on which it is
10 based?

11 A. The Application reviews the economic literature on property value impacts for wind
12 turbine and solar facilities. Generally the literature cited in the application finds that
13 there is no statistical evidence that wind turbines impact the property values of homes
14 sold either pre or post announcement or post construction of the facility. They also
15 note that absence of statistical evidence does not necessarily mean that there is no
16 impact however if there is impact it is likely minimal or within the variance of there
17 are statistical estimates. These studies use state of the practice techniques, namely
18 regression analyses that use large data sets of home sales so that the researchers can
19 study whether the siting of these wind turbine facilities impact home prices either pre-
20 or post-construction while at the same time controlling for confounding variables of
21 home characteristics and distance to the wind turbine facilities. The Application uses
22 this information to suggest that the wind turbines will likely have similar effects on
23 property values on proximate properties in Benton County. With respect to the
24 combined project facilities, the Application does not anticipate impacts to non-
25 participating property values and this conclusion is reasonable with regards to the
26 wind turbine facility and likely also the solar facility. Early high-quality research on

1 the solar has shown that there are statistically observable negative impacts on
2 property values but that these impacts are strongest closest to the facility (within 0.5
3 miles) and are not statistically observable a mile and further away. The researchers
4 note that there is still a high degree of variation in their findings, so some caution is
5 warranted in extrapolating this to all settings.

6 Based on the Application, no non-participating residences fall within the 0.5 mile
7 radius of the proposed solar arrays where anticipated impacts might be observed, and
8 no non-participants would have foreground views of solar arrays.

9 Q. Do you agree with the overall analysis mentioned above? Please explain why.

10 A. The analysis in the Application draws upon the study of similar facilities on property
11 values to inform the likelihood of impacts in the Benton County context and is a
12 reasonable way to assess the likelihood of property value impacts. The studies cited
13 are credible sources information and the cumulative weight of their findings provides
14 an emerging scientific consensus on the impact of wind farms on property values as
15 well newer studies on solar facilities. These research studies cited in the Application
16 use state-of-the-practice techniques to evaluate property impacts in a number of
17 settings. The authors of these studies have been careful to check the specifications of
18 their models and be aware of the limitations of their research findings when
19 discussing the conclusions and significance of their work. The disclosure and
20 discussion of this empirical work to the Benton County context provides the best
21 available information and science on the issue of property value impacts.

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1 DATED: June 12, 2023.
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1 **CERTIFICATE OF FILING AND SERVICE**

2 I hereby certify that on June 12, 2023, I filed an original and one copy of the
3 foregoing **MASTER CAPTION** with the Washington Energy Facility Site Evaluation
4 Council, through electronic filing via email to adjudication@efsec.wa.gov, together with
5 mailing via U.S. Postal Service, Return receipt requested, with postage prepaid to the
6 following address:

7 Energy Facility Site Evaluation Council
8 ATTN: Horse Heaven Adjudication
9 621 Woodland Square Loop SE
10 P.O. Box 43172
11 Olympia, WA 98504-3172

12 I hereby certify that I have this day served the foregoing document upon all
13 parties of record in this proceeding by first-class U.S. Mail (authorized method of
14 service pursuant to WAC 463-30-120(3)) at the addresses listed below (with a copy
15 sent via email where an email address is indicated).

16 ***Service List Attached***

17 DATED: June 12, 2023.

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