

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of Clear)
Mountain Energy Center, LLC for a Certificate)
of Environmental Compatibility and Public) Case No. 23-0045-EL-BGN
Need to develop, Construct, a 100 megawatt)
Solar-Powered Electric Facility located in)
Clermont County, Ohio)

DIRECT TESTIMONY OF

Drew Pierson

**on behalf of
Clear Mountain Energy Center, LLC**

August 23, 2024

1 **Q.1 Please state your name and title.**

2 **A.1.** Drew Pierson, Senior Development Manager at Savion, LLC. My business address is 422
3 Admiral Boulevard, Kansas City, MO 64106, although I am based in Cleveland, Ohio.

4 **Q.2 What are your duties in this role?**

5 **A.2.** In my role as Senior Development Manager, I supervise all aspects of the development of
6 utility-scale solar energy projects, from site selection to start of construction.

7 **Q.3 What is your education and professional background?**

8 **A.3.** Prior to working in my current role, I worked in solar development for other renewable
9 energy companies for just under 10 years, with significant time dedicated to agrivoltaic
10 project strategy and development. During my eight years with BlueWave Solar in Boston,
11 I led the development of community solar projects and portfolios throughout New England
12 and East Coast markets, focusing primarily on agrivoltaic solar development, business
13 models, policy, and markets. In this regard, I spearheaded the company’s agrivoltaic solar
14 business strategy in multiple states (i.e. Massachusetts, Maine, New York, and New
15 Jersey), including the development of the agrivoltaic shading analysis design tool for the
16 Massachusetts Department of Energy Resources, company policies and procedures
17 prioritizing agrivoltaics, and industry-leading agrivoltaic projects showcasing a wide range
18 of farm plans. I also spent 1.5 years doing utility scale solar development work in Ohio
19 immediately prior to Savion. I hold a masters in city planning from the Massachusetts
20 Institute of Technology and a bachelor’s degree from Ohio University. A copy of my
21 resume is attached to my testimony as Attachment DP-1.

22 **Q.4 On whose behalf are you offering testimony?**

23 **A.4.** I am offering testimony of behalf of Applicant Clear Mountain Energy Center, LLC
24 (“Applicant” or “the Project”).

25 **Q.5 What is the purpose of your testimony?**

26 **A.5.** The purpose of my testimony is to:

27 1) Provide a summary of the Project including background information concerning its
28 Application and Exhibits thereto.

- 1 2) Summarize certain components of the Application and sponsor its admission into
2 evidence along with associated Exhibits to the Application, and;
3 4) Summarize the Project’s responses to local community concerns and issues raised in
4 the OPSB Staff Report of Investigation.

5 **Q.6 What components of the Application are you sponsoring?**

6 **A.6.** I am sponsoring the following Exhibits to the Application:

- 7 - Exhibit C - Manufacturers Specifications
8 - Exhibit E – Project Schedule/Gantt Chart
9 - Exhibit F - Community Engagement Report
10 - Exhibit G - Interconnection Documents

11 The Application and all Exhibits thereto are collectively “Applicant Exhibit 1.”

12 **Q.7 In addition to the Application Exhibits listed above, are you sponsoring other**
13 **exhibits?**

14 **A.7.** Yes, I am also sponsoring the Facilities Study Report, Executed Interconnection Service
15 Agreement, and Executed Interconnection Construction Service Agreement. (included as
16 part of Applicant Exhibit 1, Exhibit G).

17 **Q.8 Are the Application Exhibits true and accurate to the best of your knowledge?**

18 **A.8.** Yes, the Application and Exhibits are true and accurate to the best of my knowledge.

19 **Q.9 Did Clear Mountain receive any comments at the public information meeting?**

20 **A.9.** Yes. These comments are summarized in the Application.

21 **Q.10 Did Clear Mountain provide manufacture’s specifications for intended equipment?**

22 **A.10.** Yes. This was provided as part of the Application (Applicant Exhibit 1, at Exhibit C).

23 **Q.11 Did Clear Mountain provide a Project Schedule / Gantt Chart?**

24 **A.11.** Yes. This was provided as part of the Application (Applicant Exhibit 1, at Exhibit E).

25 **Q.12 Did Clear Mountain provide a Community Engagement Report?**

26 **A.12.** Yes. This was provided as part of the Application (Applicant Exhibit 1, at Exhibit F).

27 **Q.13 Did Clear Mountain provide Interconnection documents?**

1 **A.13.** Yes. This was provided as part of the Application (Applicant Exhibit 1, at Exhibit G).

2 **Q.14 Is the Project consistent with regional plans for expansion of the electric power grid**
3 **of the electric systems serving this state and interconnected utility systems and that**
4 **the facility will serve the interests of electric system economy and reliability?**

5 **A.14.** Yes. Clear Mountain has a fully executed Interconnection Services Agreement with PJM.
6 In terms of regional plans for the expansion of the electric power grid, the Project is
7 consistent. It is expected to generate enough clean and affordable electricity to power the
8 equivalent of more than 21,600 average Ohio homes. The Project will not only provide a
9 significant amount of clean and affordable electricity but also contribute to the stability and
10 reliability of the grid. The addition of a 52.2 MW BESS further enhances the Project's
11 ability to provide reliable power, as it allows for the storage of excess solar energy that can
12 be dispatched when needed.

13 **Q.15 Are you aware that the OPSB must make certain determinations under R.C. 4906.10**
14 **before issuing the certificate for which Clear Mountain has applied?**

15 **A.15.** Yes. I have been advised there are eight criteria considered by the OPSB in making its
16 decision whether or not to issue a certificate.

17 **Q.16 Does Clear Mountain meet its obligation to make the required showings under each**
18 **of the eight criteria under R.C. 4906.10?**

19 **A.16.** Yes, the Application and other exhibits presented in this proceeding on behalf of the Project
20 enable the OPSB to determine that Clear Mountain meets each of the eight criteria under
21 R.C. 4906.10. Further details are provided in the testimony of Witness Sean Flannery.

22 **Q.17 Does the Application enable the Board to determine what the facility's impact will be**
23 **on the viability as agricultural land of any land in an existing agricultural district?**

24 **A.17.** Yes. Clear Mountain has taken steps to preserve the long-term viability of the property
25 within the project area for future agricultural use. These efforts include survey methods to
26 identify drain tile and a commitment to repair damaged drain tile. The Vegetation
27 Management Plan and the conditions set forth in the Staff Report will ensure that,
28 throughout the life of the Project, a mix of native and pollinator seeding will increase
29 biodiversity and soil health and has the potential to increase pollinator species presence on

1 adjacent farmed parcels. During construction of the facility, Clear Mountain would perform
2 minimal or localized site grading and would ensure that topsoil and subsoil are
3 appropriately segregated during excavation activities. After grading, the original topsoil
4 will be replaced and reseeded with a seed mix to stabilize exposed soils in accordance with
5 the vegetation management plan. At the end of the Project's operational life, the property
6 will be in as good or better condition for farming than it is now.

7 **Q.18 Will Clear Mountain implement an agrivoltaics program at the Project?**

8 **A.18.** Yes. Clear Mountain, part of Savion LLC, is exploring a variety of dual-use land
9 opportunities for every phase of the Project's life and is committed to ensuring that a
10 diversified land use and agricultural plan is accounted for in the project's design,
11 construction, and operations. This will be summarized in detail in our General Agrivoltaics
12 Plan to be filed with OPSB at least 30 days prior to the Preconstruction Conference as per
13 recommended Condition #28 in the Staff Report. Such uses will include but may not be
14 limited to beekeeping, sheep grazing, and forage production, with other types of crop
15 production both between the panels and within the margins of the property the subject of
16 on-going conversations with local farmers.

17 **Q.19 Has Clear Mountain conducted any investigation into the possibility of agrivoltaics in**
18 **Ohio?**

19 **A.19.** Yes. An affiliated Savion company, Between the Rows (BTR), LLC, is working with The
20 Ohio State University, College of Food, Agricultural, and Environmental Sciences at our
21 Madison Fields project in Madison County, Ohio to research the feasibility of agricultural
22 crop production at utility-scale solar facilities; specifically, (a) trials of row crops common
23 to Ohio, (b) sheep grazing trials, (c) soil health studies, and (d) demonstrations of precision
24 agricultural equipment. BTR also completed a recent study with The Ohio State University
25 titled "Forage as Vegetative Cover for Utility Scale Solar in the Midwest," which examines
26 the viability of growing alfalfa and hay between solar panels in Ohio.

1 More broadly, research shows that each stakeholder will approach a solution with different
2 perspectives and priorities in an agrivoltaics program¹, which explains why the collective
3 literature on agrivoltaics takes countless avenues towards implementation, investigation,
4 and practice. Preliminary efforts in the field offer several examples. One study² from Japan
5 details the evolution of agrivoltaic technology in the country, highlighting that agrivoltaics
6 provided a basis to increase agricultural diversification and reactivate marginal farmland
7 nationwide. By 2021, agrivoltaic technology grew to encompass 1,992 projects across all
8 regions of Japan, as well as over 120 types of crops. Supportive national policy greatly
9 accelerated its development since 2012, with siting laws enacted as recently as 2022
10 preferentially treating agrivoltaics over conventional solar. Another paper from the state of
11 Arizona³ took the approach of projecting the capacity of agrivoltaics to meet the energy
12 needs of Metropolitan Phoenix while preserving agricultural production. The paper
13 evaluated the impact of fitting solar onto operating farmland by calculating how much
14 benefit surrounding farmers could gain by integrating agrivoltaics into their growing
15 operations. In this case, farming operations were assumed to remain intact after the
16 introduction of solar, which was not designed for optimal energy production but instead to
17 accent crop production. The paper projected that agrivoltaics could improve productivity
18 on account of revenue diversification and shading benefits provided for crops growth in
19 arid areas while providing a buffer against suburban residential development. Another
20 study from France demonstrates how agrivoltaic implementation improved alfalfa yields
21 by ~10% compared to reference plots, mainly due to the protective effect of the panels
22 during periods of water stress, against spring frost, and adapted control of the panels.⁴

¹ See e.g., Buckley Biggs, N., Shivaram, R., Acuña Lacarieri, E., Varkey, K., Hagan, D., Young, H., & Lambin, E. F. (2022). Landowner decisions regarding utility-scale solar energy on working lands: a qualitative case study in California. *Environmental Research Communications*, 4(5), 55010. <https://doi.org/10.1088/2515-7620/ac6fbf>

² Tajima, M., Lida, T., (2021). Evolution of Agrivoltaic Farms in Japan

<https://pubs.aip.org/aip/acp/article/2361/1/030002/718158/Evolution-of-agrivoltaic-farms-in-Japan>

³ Majumdar, D., & Pasqualetti, M. J. (2018). Dual use of agricultural land: Introducing ‘agrivoltaics’ in Phoenix Metropolitan Statistical Area, USA. *Landscape and Urban Planning*, 170, 150-168. <https://doi.org/https://doi.org.ezproxy.liberty.edu/10.1016/j.landurbplan.2017.10.011>

⁴ Edouard, S., Combes, D., Van Iseghem M., Ng Wing Tin, M., Benyakhlef, S., Becker, A., Escobar-Gutierrez, A. (2023). Increasing Land Productivity with Agriphotovoltaics :Application to an Alfalfa Field. <https://www.sciencedirect.com/science/article/abs/pii/S0306261922014647>

1 Collocating panels with farming operations has shown promising benefits in Ohio, both in
2 studies and application. The Between The Rows study conducted with OSU showed as
3 good or improved nutrient values in crops grown between panel rows, and this
4 methodology will be demonstrated at Savion’s now-operational Madison Fields Solar
5 Project in Madison County, Ohio to confirm replication. The following benefits are
6 currently anticipated, among others: (a) reducing excess sunlight that can cause heat stress
7 when solar irradiance is most intense during certain times of day and year, which for many
8 crops can help improve water use efficiency and protect against dehydration, sunburn,
9 stunted growth, weakened roots, nutrient deficiencies, and disease- and pest-related
10 pressures; (b) less spraying and broader leaf development due to heat stress protection; (c)
11 limited protection from hard rains and winds; and (d) calmer animals, in the case of
12 livestock, due to the availability of shade and protection from harsh weather. At Madison
13 Fields, the project is looking at cover crops that will de-compact the soils and using smaller
14 autonomous, even electric equipment where possible, which also decreases compaction
15 and eliminates farming emissions during the operations phase.

16 **Q.20 Please describe the Project’s public information program to provide the local**
17 **community information about the Project.**

18 **A.20.** In addition to community engagement efforts outlined in Exhibit F, the Project’s public
19 information program has engaged a variety of stakeholders, including (a) door-knocking
20 and canvassing campaigns across every township in the County, including the three host
21 townships and Local Property Owners (i.e. “Local Property Owners” meaning
22 abutting/adjacent/within view of the Project), to distribute project information, answer
23 questions, and advertise eligibility in Clear Mountain’s Residential Solar Program (i.e.
24 approximately 40 Local Property Owners were engaged, as well as approximately 200
25 property owners across the County); (b) meeting with various local and tenant farmers on
26 multiple occasions to learn of concerns, answer questions, and share information regarding
27 the Project’s plan to incorporate various design and agrivoltaic considerations, among other
28 topics; (c) meeting with all Township and County officials, as well as leadership from four
29 local school districts, to provide information and updates on the project and answer
30 questions; (d) a summit organized for educators at local school districts to learn about
31 Savion’s agrivoltaic program and related subject areas; (e) meetings with the local Soil and

1 Water Conservation District and The Ohio State University Agricultural Extension Office
2 to provide project information and introduce opportunities for potential engagement on
3 design, land stewardship, and agrivoltaics; (f) meetings with local fire departments to
4 provide project information and initiate dialogue on areas for collaboration; (g) meetings
5 with County economic development employees to provide project updates; (h) meetings
6 with the Clermont Chamber of Commerce and presence at various Chamber events, (i)
7 sponsorship of County Fair events with accompanying project information, and (j)
8 published pieces in local newspapers outlining project details. Clear Mountain also
9 maintains a project website and social media page where the community can receive project
10 updates and interact with the project team, ask questions, and receive timely, detailed
11 responses.

12 **Q.21 Please explain the Residential Solar Program?**

13 **A.21.** The Residential Solar Program outreach effort was conducted by Clear Mountain team
14 members and included contacting Project neighbors to discuss input on the Project and
15 offer a residential solar installation on the neighbor's property, to be installed at the expense
16 of the Project during construction. The outreach effort resulted in nine (9) signed
17 agreements with Project neighbors, with neighbor discussions still on-going. These
18 discussions also identified parcel-specific vegetative screening considerations of interest
19 to certain neighbors. While not all neighbors of the Project were willing to speak with
20 Clear Mountain, or interested in participating in the residential solar agreement, the
21 outreach campaign included approximately 120 face-to-face meetings with neighbors, and
22 more than 800 discrete communications (emails, text messages, phone calls, etc.) with
23 Project neighbors. We believe these significant engagement efforts will provide direct
24 benefits to neighbors, as well as create the foundation for a positive, long-term relationship
25 with the Project.

26 **Q.22 Did you review the written public comments submitted to the docket in this**
27 **proceeding?**

28 **A.22.** Yes. I have reviewed the comments posted on the docket as of August 22, 2024 afternoon.
29 At that time, there were 473 comments on the docket. Of these, nearly 75% of the

1 comments (351) are in support of the Project. Additional supportive comments have been
2 submitted and are in the process of being added to the public docket.

3 **Q.23 Has the Project made any additional commitments to the local communities not set**
4 **forth in the Application?**


5 **A.23.** Yes. Clear Mountain has introduced to each of the tax districts our intent to commit to (a)
6 tax benefit and PILOT considerations, which is the subject of on-going conversations; (b)
7 land stewardship considerations including but not limited to agrivoltaics, local farmer
8 engagement, educational partnerships, and decommissioning; (c) design and pre-
9 construction stage considerations including but not limited to local consultation,
10 engineering representation, construction deliveries and scheduling, traffic management,
11 drain tile, agrivoltaic design, and agricultural protection planning; (d) construction stage
12 considerations including but not limited to construction monitoring, reporting, and
13 management; engineering representation; a Road Use Maintenance Agreement (RUMA);
14 and funding for law enforcement oversight of delivery vehicles; and (e) operational stage
15 considerations including but not limited to agrivoltaics, stakeholder collaboration, site
16 upkeep, and public engagement.

17 **Q.24 Does this conclude your testimony?**

18 **A.24.** Yes, but I reserve the right to supplement my testimony.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Direct Testimony of Drew Pierson was served via electronic mail upon the parties of record listed below this 23rd day of August 2024.



Kara H. Herrnstein

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- 2023-Present **Savion** – *Senior Manager of Development* Kansas City, MO
- Managing development for utility-scale solar projects in Ohio spanning land acquisition, consultant management, landowner relations, community outreach, public speaking, partnership development, stakeholder and strategy
- 2022-2023 **ConnectGEN** – *Manager of Development* Houston, TX
- Managed development activities for two 200 MW projects in Ohio spanning land acquisition, consultant management, landowner relations, community outreach, public speaking, partnership development, stakeholder mapping, and strategy
 - Introduced company to agrivoltaic fundamentals by directing 6-month intern research project, writing strategy memos, and giving presentations; accompanied NY development team to speak to agrivoltaic considerations at local meetings
- 2018-2021 **BlueWave Solar** – *Head of Sustainability* Boston, MA
- Developed and implemented Company’s dual-use and agrivoltaic solar project and market development strategy across multiple states (MA, ME, NJ, NY); positioned Company as distinguished leader in sustainable solar development.
 - Advised and trained project teams across markets to implement sustainable solar standards across all stages of development, e.g. siting, real estate, design, permitting, land management, underwriting, financing, construction, O&M.
 - Created new sustainability department focused on measuring and assessing key performance indicators underpinning siting, land use impacts, and agrivoltaic efficacy; managed analysts to drive knowledge development and process improvement.
 - Built knowledge base, business models, agricultural networks, innovation networks, policy positions, original research, public presentations, pilot projects, and thought leadership focused on advancing dual-use / agrivoltaic best practices.
 - Spearheaded pioneering agrivoltaic development approaches, research partnerships, and policy designs now underpinning variety of solar siting policies and agrivoltaic programs in multiple states (MA, ME, NJ, and NY).
 - Key accomplishments include developing MA DOER Shade Analysis tool, BW sustainability department, Sustainable Solar webinar series, Grafton & Rockport agrivoltaic projects, and financeable sustainability standard for 50+ MWDC portfolio.
- 2014-2021 **BlueWave Solar** – *Senior Director of Development* Boston, MA
- Oversaw development of MA grid-scale community solar projects / portfolios from site control through design, permitting, financing, construction and COD; successfully delivered 13 projects COD totaling 51 MW and \$30+ million in dev fees.
 - Managed critical path project strategy, real estate negotiations, community engagement, analyst teams, external consultants, project budgets, financial underwriting, investment committee memos, and schedule.
 - Executed across greenfield, landfill, agricultural canopy, fixed-tilt, single-axis tracking, and ESS-integrated typologies.
- 2013-2014 **Neighborhood of Affordable Housing (NOAH)** – *Consulting Project Manager, Real Estate Development* Boston, MA
- Developed pro-formas, project construction budgets, contractor management frameworks, and solar PV financial analyses.
 - Led successful underwriting effort to refinance and rehabilitate a portfolio of 40 low-income multifamily housing units.
- 2011-2012 **United Nations Development Programme** – *Energy & Economic Development Consultant (MIT)* Bluefields, Nicaragua
- Conducted fieldwork and feasibility analysis for community-scale anaerobic digester for municipal government of Bluefields.
 - Collaborated with engineering, architecture, planning, and business students to merge market research with project concept.
 - Co-authored portion of successful \$1MM grant proposal to UNDP and presented findings to City infrastructure managers.
- 2011 **Lake Erie Energy Development Corporation (LEEDCo)** – *Project Manager, Grant Writing* Cleveland, OH
- Grant writing, strategy, community engagement for a 27 MWDC offshore wind (OSW) power pilot project in Lake Erie.
 - Co-authored successful \$500,000 research grant proposal to the DOE to fund research on OSW turbine foundation design.
- 2008-2010 **Sterling Planet** – *Origination Manager; Renewable Energy Certificates (RECs)* Atlanta, GA
- Originated and negotiated REC deals across national energy markets for utility/corporate clients, e.g. Intel and PepsiCo.
 - Developed relationships with utilities, brokers, IPP’s, developers, power marketers, asset managers, and regulators.
 - One of two portfolio managers handling 5MM annual REC portfolio; closed \$7MM in deals; supported \$30MM in sales.

EDUCATION

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- 2011-2013 **Massachusetts Institute of Technology** – *Master of City Planning 2013* Cambridge, MA
- Finance, Real Estate, Economic Development*
 - Tuition Scholarship, Ford Foundation Fellowship, Research Assistantship for Professor Karl Seidman
 - Master’s Thesis: *Reshaping Rural Development Through Knowledge Clusters: The Case of Danville and Southside Virginia*
- 2003-2007 **Ohio University** – *B.S. Geography: Urban Planning; Cum Laude* Athens, OH
- Environmental Studies Minor; heavy coursework in economics, environmental policy, physical sciences, and GIS mapping.
 - Global Leadership Center (GLC) – *Certificate in Business, Marketing, International Development*

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Summary: Testimony of Drew Pierson on behalf of Clear Mountain Energy Center, LLC electronically filed by Teresa Orahoad on behalf of Herrnstein, Kara.