**OHIO POWER SITING BOARD**

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| **IN THE MATTER OF THE APPLICATION OF THE OHIO STATE UNIVERSITY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR A COMBINED HEAT AND POWER MAJOR UNIT FACILITY IN FRANKLIN COUNTY, OHIO ON THE CAMPUS OF THE OHIO STATE UNIVERSITY** | **))))))) CASE NO. 19-1641-EL-BGN))** |

**INTERVENOR SIERRA CLUB’S RESPONDING BRIEF**

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# Introduction

The Ohio State University (“OSU”) claims, in its Initial Post-Hearing Brief, that it has presented sufficient evidence to “demonstrate[] that Ohio State has met each of the required showings under R.C. 4906.10(A).”[[1]](#footnote-1) Not so. Neither the testimony of OSU’s witnesses Serdar Tufekci and Scott Potter, nor any of the arguments presented in OSU’s brief, establish that the Applicant has met its burden to show that the proposed facility “represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives,” as required under Rev. Code §4906.10(A)(3). As demonstrated in Sierra Club’s Initial Post-Hearing Brief, universities comparable to OSU have implemented alternative technologies—specifically, a heated hot water system used in conjunction with heat exchangers and geothermal wells—that provide the thermal energy OSU seeks to generate with proposed facility with far less adverse environmental impacts.[[2]](#footnote-2) And while OSU’s own Feasibility Study for the proposed combined heat and power (“CHP”) facility describes heated hot water as preferable to a CHP-based steam system in almost every respect and acknowledges conversion will eventually be required, OSU did not adequately consider converting to hot water and therefore cannot meet its burden to show that the proposed facility “represents the minimum adverse environmental impact,” as required by Ohio law.[[3]](#footnote-3)

In its Post-Hearing Brief, OSU fails to carry its burden in this case. First, OSU offers no argument and cites no evidence to support its position that the proposed facility represents the minimal adverse environmental impacts as compared to feasible alternatives, as required by Rev. Code §4906.10(A)(3). The evidence to which OSU does refer—the testimony of Messrs. Tufekci and Potter—reveals that OSU has declined to study alternative technologies or to produce *any* documents comparing the benefits and costs (including environmental costs) of its proposed gas-fired CHP facility to heated hot water systems, geothermal wells, heat exchangers, solar, or wind generation, or even to analyze OSU’s own heating and electrical reliability needs to assess what additional generation is actually necessary. Second, by failing to adequately characterize dangerous particulate matter emissions, OSU has not provided sufficient evidence for the Board to “determine the nature of probable environmental impacts,” as required by Rev. Code §4906.10(A)(2), or to support its claim that its proposed facility represents the minimum such impacts considering the available technology, as required by §4906.10(A)(3). Third, the socioeconomic arguments OSU *does* offer in in support of its claim that the proposed facility meets the requirements of Rev. Code §4906.10(A)(3)—that the facility provides economic benefits and is consistent with regional goals—do not justify its choice of *CHP* technology as opposed to the hot water conversion and/or renewable alternatives identified by Sierra Club, and ignore the stated policy of the City of Columbus.

The Staff’s recommendation that the Board approve the project—which rests entirely on OSU’s deficient analysis—similarly fails to explain why the choice of a CHP facility represents the minimum adverse environmental impact, given the alternative technology identified by Ohio State Energy Partners (“OSEP”), OSU’s contractor, and should be rejected.

By declining to conduct any comparative analysis or make a showing as to the proposed facility’s relative benefit or necessity, OSU has failed to meet its burden and the Application must be denied.

# OSU’s Post-Hearing Brief Fails to Support a Finding that the Proposed Facility Meets the Standard Set by Ohio Rev. Code §4906.10(A)(3) Mandating that the Proposed Facility “Represents the Minimum Adverse Environmental Impacts.”

OSU not only fails to offer any evidence or argument to show that the proposed project represents the “minimum adverse environmental impact” under Ohio Rev. Code §4906.10(A)(3), the sole mention of this statutory requirement in OSU’s Post-Hearing Brief is in a section heading, where OSU states the Board “has Adequate Evidence to Determine” that the project meets this standard.[[4]](#footnote-4) OSU’s Brief contains no discussion of this standard nor articulates what evidence the Board has before it to show the proposed project minimizes *any* impact. OSU does not attempt to compare the proposed facility with any other means of generating heat or electricity, or even with its current steam-generating facility or sources of electricity. Critically, OSU does not identify any “alternatives,” describe their nature or economics, discuss “the state of available technology,” or address the heated hot water system that its own Feasibility Study found superior to a CHP-based steam system.[[5]](#footnote-5) OSU offers the Board no basis on which to conclude the proposed facility minimizes *any* adverse environmental impacts relative to these alternatives, or that OSU considered any of these adverse impacts on the surrounding community prior to concluding that the proposed facility is the best means of meeting OSU’s energy goals.

Indeed, not only does OSU decline to provide any comparative analysis, as is statutorily required, OSU does not even acknowledge the full scope of adverse environmental impacts associated with the proposed facility, a necessary step in assuring the proposed facility represents “minimum” impacts. OSU does discuss the facility’s “ecological impact” at the site itself, arguing that the construction of a new building in an urban environment on previously disturbed land will have few impacts on ground or surface waters, endangered species, or vegetation.[[6]](#footnote-6) But OSU’s brief is bereft of any discussion of one of the most significant adverse environmental impacts associated with the proposed plant: the emission of 300,000 tons per year of carbon dioxide and methane at combustion and an unknown but significant amount of greenhouse gas equivalents through the extraction and transportation of fuel for the proposed facility. OSU’s Post-Hearing Brief does not mention greenhouse gases or carbon dioxide even once. This utter disregard for the environmental impacts associated with these emissions is inconsistent with state law making carbon dioxide a pollutant subject to regulation requiring analysis of greenhouse gas emissions for major stationary sources like the proposed facility, and past decisions of the Public Utilities Commission which recognize these emissions are relevant to the analysis under both subdivisions (2) and (3) of Rev. Code §4906.10(A).[[7]](#footnote-7) OSU’s refusal to address these emissions, let alone explain how its selected CHP proposal represents “minimum” impacts, means OSU has failed to meet the statutory requirements.

# Despite Its Claims Regarding Its Air Pollution Studies, OSU Has Failed to Adequately and Accurately Characterize the Nature of Adverse Environmental Impacts Due to Particulate Matter.

As OSU’s Application and associated permitting documents make clear, a probable, adverse environmental impact of the proposed facility is the emission of significant quantities of air pollutants, specifically nitrogen oxide and particulate matter.[[8]](#footnote-8) Both to meet the standard of Rev. Code §4906.10(A)(2) (which requires that the Board make findings as to the “nature of probable environmental impacts”) and to properly characterize the “adverse environmental impacts” the proposed facility must minimize under Rev. Code §4906.10(A)(2), OSU should have adequately and accurately described the particulate matter and nitrogen oxide pollution associated with the proposed facility. However, OSU does not address these air pollution impacts at all in its discussion of sections 4906.10(A)(2) and (3); instead, any acknowledgement of these adverse environmental impacts is limited to OSU’s claims of legal compliance under a separate prong, 4906.10(A)(5). Although OSU may have—in reliance on a discretionary exemption—met the legal requirements to obtain the relevant permits, OSU has not accurately and adequately captured the full adverse impacts of air pollution at the proposed facility, as required by (A)(2), and makes no attempt to explain why these impacts are nevertheless minimized relative to alternatives, as required by (A)(3).

In particular, OSU’s claims that it has not just “demonstrated the Projects [sic] complies with Ohio law relative to air pollution and control,” but that modeling conducted both prior to and after its Application was submitted “show that even using the worst-case results, the CHP is modeled to have acceptable air quality impacts” are incorrect.[[9]](#footnote-9) As an initial matter, OSU did not in fact undertake a “comprehensive study of data and potential impacts of the CHP on air quality” “prior to and in connection with” the process of applying for a Permit to Install.[[10]](#footnote-10) As OSU’s own Application acknowledges, OSU did not “use or rely [on] any Ohio EPA air monitoring data to assess [the proposed facility’s] air pollution potential,” and did not consider how emissions from the facility would interact with other major air emission sources at or near the site, instead relying on a discretionary exemption from the Ohio EPA Director pursuant to Ohio Admin. Code 3745-31-13(D)(1).[[11]](#footnote-11) OSU only examined the *impacts* of the proposed facility’s emissions—that is, how those emissions would increase ambient concentrations of pollutants in the air around Columbus and OSU—after Sierra Club’s intervention.[[12]](#footnote-12)

Moreover, OSU’s claim, based on a statement made by witness Mr. Tufekci in his direct testimony, that “opportunities for objection and public comment were provided” with respect to OSU’s use of the discretionary exemption for the Ohio EPA, appears to be false.[[13]](#footnote-13) Tufekci does not describe what these opportunities were, OSU has produced no record of any public comment period or notice, and the pages to which OSU now cites in the Application in support of this claim contain no discussion of public comment whatsoever.[[14]](#footnote-14) The exemption letter itself states that the Ohio EPA received OSU’s request for an exemption on December 28, 2018, and issued its “final” action granting the exemption on January 30, 2019, making any meaningful public notice and comment in the 33-day period in which the exemption was under consideration impossible.[[15]](#footnote-15)

Notwithstanding this exemption, OSU did eventually ask TRC, its environmental consultant, to conduct impact analysis of particulate matter emissions, which OSU represents in its Post-Hearing Brief as showing only a “negligible” impact on air quality.[[16]](#footnote-16) But there is no evidence in the record that eitherOSU’s initial emissions analysis or the July 6, 2020 modeling performed by TRC actually captures the “worst-case results” (as OSU claims) for the planned operation of the facility. Table 18 of the Application only provides estimates for 100% and 75% load scenarios.[[17]](#footnote-17) As Sierra Club witness Dr. Sahu testified and Table 18 of the Application shows, reduced loads at the proposed facility will likely result in *higher* concentrations of particulate matter and nitrogen oxide emissions near the facility because lower loads are associated with reduced exit velocities.[[18]](#footnote-18) If, as OSU witness Mr. Tufekci testified, that the proposed facility will operate at loads below 75% under “typical” conditions, the emission levels described in Table 18 likely underestimate particulate emission levels.[[19]](#footnote-19) At 50% load, these emissions may well exceed acceptable levels; OSU’s model predicts emissions of particulate matter at 75% load that are only 13% shy of the limit for acceptable values for 24-hour averages under Ohio EPA guidance.[[20]](#footnote-20) OSU has therefore not shown that under even *typical* conditions, emissions are “well, well within limits.”[[21]](#footnote-21)

The July 6 Model performed by TRC (unlike the analysis submitted as part of OSU’s Application) does incorporate background ambient concentrations, but still does not support OSU’s claim that the model represents the “highest compounded impact” of the proposed facility’s emissions.[[22]](#footnote-22) As explained in Sierra Club’s Initial Post-Hearing Brief, there is insufficient information relating to the background concentration, weather, and operational parameters utilized in the July 6 Model to conclude that TRC’s results reflect the true impact of the facility’s emissions at a site adjacent to a major freeway, subject to distinctive meteorological conditions, and at 50% or lower load levels.[[23]](#footnote-23)

More fundamentally, even *if* OSU and TRC had accurately modeled the emission impacts of the proposed facility *and* conclusively demonstrated that under all the anticipated operating conditions (including loads below 75%) emissions from the proposed facility will not lead to ambient concentrations of particulate matter or other pollutants in excess of the National Ambient Air Quality Standards (“NAAQS”), the emissions would still constitute an adverse environmental impact on the individuals who live, work, and obtain medical treatment at OSU and its associated medical centers. *Any* increase in particulate matter—even at ambient levels well below the NAAQS—will cause increased pulmonary and cardiac incidents among those who breathe in those particles.[[24]](#footnote-24) OSU has not demonstrated that its choice of generation technology minimizes these impacts, or pointed to any “pertinent considerations” that justified its choice of a facility that causes these negative health effects despite the existence of at least one alternative, namely heated hot water in combination with heat exchangers and geothermal generation, that does not cause such adverse health effects.

# OSU’s Claims Regarding the Socioeconomic Benefits of the Proposed CHP Facility in Support of its Claim that the Application Complies with Rev. Code §4906.10(A)(3) are Overstated.

Instead of discussing the environmental impacts of the facility, OSU emphasizes its socioeconomic impacts, characterizing the proposed plant as consistent with regional planning and a boon to the local economy. OSU claims that “[a]n estimated $20 million in labor income” will be earned as a result of the project—but this total includes “secondary and tertiary multiplier impacts,” which OSU neither quantifies nor explains.[[25]](#footnote-25) More fundamentally, while the proposed project offers real economic benefits to local tradespeople involved in the facility’s construction, this increased payroll would result from *any* construction project, not necessarily that of a CHP facility. Conversion to a heated hot water system would also provide employment and entail local purchases.[[26]](#footnote-26) OSU has provided no analysis that conversion to heated hot water system—which OSU itself recognizes is superior to CHP and must happen eventually anyway—would provide different or lesser local economic impacts. OSU could likely construct a less environmentally damaging heating system with similar economic benefits to the surrounding community as the proposed gas-fired facility.

Moreover, contrary to OSU’s claims that the proposed facility is consistent with regional planning, the construction of new fossil fuel infrastructure is inconsistent with the City of Columbus’s energy goals. OSU’s Application cites a June 2018 Mid-Ohio Regional Planning Commission Study that discusses combined heat and power facilities as one means of meeting regional energy reduction goals.[[27]](#footnote-27) But as numerous people pointed out in public testimony, the more-recent, express goal of the City of Columbus, where the proposed facility will be located, is to use community-choice aggregation to ensure that all electricity used in the City derives from 100% renewable sources by 2022.[[28]](#footnote-28) The construction of a gas-fired electrical generation facility in central Columbus that will operate for another 25 years is inconsistent with this goal, inconsistent with OSU’s own climate goals, and with the demands of the OSU community.[[29]](#footnote-29)

# The Staff’s Recommendation That the Application Complies with Ohio Rev. Code §4906.10(A)(3) Is Unfounded.

In its Post-Hearing Brief, Staff reiterates its recommendation, initially made in the Staff Report of Investigation, that the Board find that the proposed facility represents the minimum adverse environmental impact and therefore complies with Rev. Code §4906.10(A)(3).[[30]](#footnote-30) This recommendation in the Post-Hearing Brief relies entirely on findings made in the Staff Report and does not incorporate any of the additional information presented at the public hearing before the Board. More importantly, it cites no evidence and has no discussion of “the state of available technology” or “alternatives,” in support of the comparative finding required by Rev. Code §4906.10(A)(3). The Recommendation is therefore at odds with Ohio law and should be rejected for the reasons described in Sierra Club’s initial Post-Hearing Brief.[[31]](#footnote-31)

# Conclusion

OSU has failed to demonstrate that the proposed facility “represents the minimum adverse environmental impact considering the state of available technology and the nature and economics of the various alternatives” for heat and electrical generation; and the proposed CHP facility will not “serve the public interest, convenience, and necessity.”[[32]](#footnote-32) In its Post-Hearing Brief, OSU does not even attempt to explain the need for the project, its engineering or technical benefits, or address the criticisms raised in both pre-filed testimony and at the adjudicatory hearing.[[33]](#footnote-33) Instead, OSU presents a perfunctory case for the construction of a major stationary source of dangerous air pollutants costing close to $200 million dollars, citing only short-term economic benefits, all when its own Feasibility Study agrees with Sierra Club’s position in this case that OSU should have studied conversion to heated hot water and related technologies.

But all of the claimed economic benefits of the proposal, including the additional construction and operating positions and associated payroll, can be obtained through the construction of renewable generation resources that do not share the proposed facility’s adverse environmental impacts. These impacts on the residents of Columbus include undermining the City’s renewable energy goals, increased levels of particulate air pollution, greenhouse gas-driven climate change; and on those Ohioans living in proximity to the wells where the facility’s fuel is extracted include water contamination and methane leaks.[[34]](#footnote-34) These same residents will not benefit from electrical generation by the facility, as OSU has not fulfilled the requirements to be connected to the PJM grid and has no intention to do so.[[35]](#footnote-35) And the new CHP, if built, would lock in more than two decades of greenhouse gas emissions that will contribute to the climate crisis, undermining OSU’s own stated commitment to be a world leader in reducing greenhouse gas emissions.

The proposed CHP facility does not represent the minimum adverse environmental impact given the state of available technology and with respect to these considerations. Numerous other universities and OSEP itself have identified a currently available technology (heated hot water system using heat exchangers and geothermal generation) that avoids all of these harmful externalities and which meets OSU’s primary purposes in constructing the facility, namely, heating generation and energy savings.[[36]](#footnote-36) Yet OSU has declined to study or meaningfully consider this option, which other similarly situated universities have adopted. Absent such a study and indeed *any* argument whatsoever as to why its proposed facility meets the requirements of Ohio Rev. Code §4906.10(A)(3), OSU should not be permitted to construct the proposed CHP facility.

Dated: August 19, 2020 Respectfully Submitted,

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**CERTIFICATE OF SERVICE**

 The undersigned hereby certifies that the foregoing was served by electronic mail this 19th day of August, 2020, to the following:

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1. Applicant The Ohio State University’s Initial Post-Hearing Brief (“OSU Post-Hearing Brief”) at p. 7. [↑](#footnote-ref-1)
2. *See* Post-Hearing Brief of Intervenor Sierra Club (“Sierra Club Post-Hearing Brief”) at pp. 3-7. [↑](#footnote-ref-2)
3. Direct Testimony of Dr. Ranajit (Ron) Sahu, Sierra Club Exhibit F ( “Sahu Testimony”) at 29:13-19 and Feasibility Study (Exhibit 4 to Direct Testimony of Serdar Tufekci), Appendix N. [↑](#footnote-ref-3)
4. OSU Post-Hearing Brief at p. 8. [↑](#footnote-ref-4)
5. *See* Rev. Code §4906.10(A)(3). [↑](#footnote-ref-5)
6. *See* OSU Post-Hearing Brief at pp. 12-13. Notably, OSU’s assertion that “neither local geology nor hydrology will be prohibitive to the construction” of the proposed facility, and acknowledgement as part of the Application that weak soils will require the facility have a “deep foundation[]” to avoid weak soils encountered to a depth of 23.5 feet, together suggest that geothermal wells in the same spot are both possible and no more expensive or technically challenging than the proposed facility. *Compare* Application to the Ohio Power Siting Board for a Certificate of Environmental Compatibility and Public Need, Case No. 19-1641-EL-BGN (November 4, 2019) (“Application”) at p. 106; and Sahu Cross-Examination at 357:5-358:6 (geothermal wells can be as shallow as 35 feet). [↑](#footnote-ref-6)
7. *See* Ohio Admin. Code 3745-31-34 (construction of new major stationary sources that can emit 75,000 tpy or more of greenhouse gases and modifications of existing stationary sources that result in net increases of 75,000 tpy or more of greenhouse gases and a significant net increase of another regulated NSR pollutant require permits-to-install); Ohio Admin. Code 3745-77-11 (requiring Title V permits on the basis of greenhouse gas emissions); *In Re Am. Mun. Power-Ohio, Inc*., No. 06-1358-EL-BGN, Entry (Mar. 3, 2008) (finding carbon dioxide emissions a “probable environmental impact” within the meaning of §4906.10(A)(2) even prior to the existence of regulation). [↑](#footnote-ref-7)
8. E.g. Application at p. 11; *see also e.g.* Tufekci Cross-Exam at 143:10-24; Sahu Testimony at 9:14-18. [↑](#footnote-ref-8)
9. OSU Post-Hearing Brief at pp. 17, 19. [↑](#footnote-ref-9)
10. *See* OSU Post-Hearing Brief at p. 17. [↑](#footnote-ref-10)
11. Application, at p. 60; *see* OSU Post-Hearing Brief at p. 18. [↑](#footnote-ref-11)
12. *See* Cross Examination of Dr. Ranajit Sahu in Proceedings Before the Ohio Power Siting Board in Case No. 19-1641-EL-BGN, July 14, 2020, Volume I (“Sahu Cross-Exam”) at 275:4-14. [↑](#footnote-ref-12)
13. *See* OSU Post-Hearing Brief at p. 18 (citing Application at pp. 53-54 and Tufekci Direct Testimony at p. 8). [↑](#footnote-ref-13)
14. *See* Application at pp. 53-54. [↑](#footnote-ref-14)
15. *See* Application Exhibit H. [↑](#footnote-ref-15)
16. *See* OSU Post-Hearing Brief at pp. 19-20; Sierra Club Exhibit E (July 6, 2020 TRC analysis). [↑](#footnote-ref-16)
17. *See* Application at p. 66. [↑](#footnote-ref-17)
18. Sahu Testimony at 13:6-8. [↑](#footnote-ref-18)
19. *See* Tufekci Cross-Exam at 95:3-96:21 (describing electrical loads of 40-80 MW as typical). [↑](#footnote-ref-19)
20. *See* Application at p. 66 (describing the “acceptable value” for PM2.5 for 24-hour averages as 4.5µg/m3 and the predicted value under 75% load and 2014 meteorological conditions as 3.9µg/m3) [↑](#footnote-ref-20)
21. *Cf.* OSU Post-Hearing Brief at p. 19. [↑](#footnote-ref-21)
22. *See* OSU Brief at p. 19. [↑](#footnote-ref-22)
23. TRC used background concentrations recorded a site more than a half-mile from the nearest freeway, whereas the site of the proposed facility is in close proximity to a freeway (Highway 315) and associated particulate pollution; utilized meteorological data from a site that did not share the proposed site’s varied building heights or proximity to the Olentangy River; and did not document the load percentages for its purported worst case scenarios. *See* Sahu Testimony at 15:2-8; Sahu Cross-Exam at 286:20-287:1;Sahu Testimony at 14:14-26; and Tufekci Cross-Exam at 159:11-14, 161:18-22. [↑](#footnote-ref-23)
24. *See* Sahu Cross-Exam at 262:5-22. [↑](#footnote-ref-24)
25. *Contrast* OSU Post-Hearing Brief at p. 11 and Application at p. 42. Notably, OSU misstates the total costs of the project in its Brief, describing the “total capital and intangible costs” for the facility as $172 million, more than $25 million *less* than the amount provided in the Application and relied on in the Staff Report ($197 million), to which OSU cites. (*Contrast* OSU Post-Hearing Brief at p. 11 and Application p. 37 and Staff Report p. 13.) Even if this total represents the cost less “Owner’s Cost and Contingency,” it still understates the cost as described in the Application by $9 million. *See* Application at p. 37 (listing the total costs associated with “Engineering, Procurement, Construction” as $181 million). [↑](#footnote-ref-25)
26. The labor benefits of the proposed facility are overwhelmingly associated with construction, not its continued operation, and are short-term in nature; OSU anticipates only four permanent positions will be created as a result of the facility’s construction (*see* OSU Brief at p. 22), and states that it is “crucial” that construction be completed by October 2021 (*see* Application pp. 24-25). [↑](#footnote-ref-26)
27. Application at p. 120; OSU Post-Hearing Brief at p. 8 [↑](#footnote-ref-27)
28. *See* Transcript of Proceedings Before the Ohio Power Siting Board for June 30, 2020 at 14:21-15:11, 29:11-20, 34:12-22, 55:4-17, 113:12-20; *see also* Mayor Andrew J. Ginther, 2020 State of the City Address, *transcript available at* https://www.columbus.gov/Templates/Detail.aspx?id=2147514096. [↑](#footnote-ref-28)
29. *See* Tufekci Cross-Exam at 21:10-12 (Feasibility Study assumes proposed CHP will operate for 25 years). [↑](#footnote-ref-29)
30. Post-Hearing Brief Submitted on Behalf of the Staff of the Ohio Power Siting Board (“Staff Post-Hearing Brief”) at p. 10. [↑](#footnote-ref-30)
31. *See* Sierra Club Post-Hearing Brief at pp. 16, 22-23. [↑](#footnote-ref-31)
32. *See* Rec. Code §4906.10(A)(3), (6)*; cf.* OSU Post-Hearing Brief at p.22. [↑](#footnote-ref-32)
33. OSU Post-Hearing Brief at pp. 22-23. As discussed in Sierra Club’s initial Post-Hearing Brief, OSU has failed to produce evidence sufficient to establish the facility will achieve the purported benefits to OSU’s own campus, as OSU will need to maintain both its current gas-fired heat generation facility and backup electricity generators, and the proposed facility will introduce retain and indeed introduce new vulnerabilities relative to OSU’s current use of the grid. *See* Sierra Club’s Post-Hearing Brief at pp. 14-15 (proposed facility relies on single gas pipeline for fuel source, will be connected to same substation as grid, lacks “black start” capacity to initiate generation if both the CHP and grid go down, and was designed without adequate analysis of the campus’s simultaneous heating and cooling loads). [↑](#footnote-ref-33)
34. *See* Sahu Testimony 17:22-18:2; Tufekci Cross-Exam at 17:17-20, 144:19-145:12; Potter Cross-Exam at 197:2-19 (OSU did not conduct any analysis of the environmental impacts associated with the extraction of natural gas other than what OSEP and TRC may have performed). [↑](#footnote-ref-34)
35. OSU Post-Hearing Brief at p. 16. [↑](#footnote-ref-35)
36. *See* Tufekci Cross-Exam at 92:23-93:1 (primary purpose of proposed facility is serving campus heating needs). [↑](#footnote-ref-36)