



Ohio Environmental Council

The Ohio EPA must deny or significantly modify Permit No. P0132799 pertaining to the SOBE Thermal Energy Systems, LLC in Youngstown, OH

1. Introduction

The Ohio Environmental Council respectfully requests that the Ohio EPA deny the proposed Permit-to-Install for SOBE Thermal Energy Systems, LLC. Based on the environmental justice needs of the community of Youngstown and the Mahoning Valley, the expanded use of syngas and methane gas for community heat is the wrong direction. In the alternative to denial, we request that Ohio EPA significantly modify the permit to account for the needs of the surrounding community.

OAC 3745-31-05(H) states: “In deciding whether to grant or deny a permit-to-install or PTIO, the director may take into consideration the social and economic impact of the air contaminants, water pollutants, or other adverse environmental impact that may be a consequence of issuance of the permit-to-install or PTIO.” The Ohio EPA must utilize its authority to consider all circumstances surrounding SOBE’s proposed permit, making the decision that is best for the social and economic impacts caused by the project’s environmental impacts.

The Ohio Environmental Council has been closely monitoring the proposed changes to the SOBE Thermal Energy Plant in Youngstown. Prior to its acquisition, the facility was formerly Youngstown Thermal, a legacy coal-fired steam plant providing heat to many buildings in downtown. SOBE has converted the facility into a gas-fired steam plant and has communicated its intentions to develop a new advanced gasification technology to recycle tires, plastic and e-waste. The company has also indicated it wishes to, ultimately expand the project to provide electricity for customers in Youngstown.

The significant expansion of the facility will ultimately produce more greenhouse gas emissions than it currently emits, locking in long-term climate impacts. The unknowns regarding the advanced gasification technology proposed to fuel the facility implicate significant public health uncertainties for the surrounding community. Given these factors, the Ohio Environmental Council joins the voices of local residents, activists, and officials in opposition to the proposed future operations of SOBE Thermal.

Youngstown and Mahoning Valley have experienced a legacy of environmental injustice over the past century, continuing into the present. Whether from industrial pollution caused by the steel mills, a history of extractive out-of-town businesses, or the recent train derailment in East Palestine, the region has been hit hard. The communities throughout the region deserve a future built on renewable energy and sustainable economies, rather than fossil fuels and sacrifice zones.

To that end, the Ohio Environmental Council commits to amplifying the oppositional work against SOBE Thermal's expansion plan while working with community organizations, activists, and elected officials to create a clean energy future for Youngstown.

In the present, much of downtown Youngstown relies on steam from this facility for heat, and the community can't turn it off overnight. At the same time, the city can develop a concrete, deliverable plan to transition toward a heating system powered by fossil-free energy. Expanding and retrofitting the legacy facility for the long-term does not achieve this goal.

With these general considerations in mind, the OEC submits the following detailed comments regarding Permit No. P0132799 for SOBE Thermal Energy Systems, LLC's facility in Youngstown, Ohio.

2. The Ohio EPA must consider climate impacts, and utilize them to make a decision under OAC 3745-31-05(H)

According to data provided by SOBE and their environmental analysis consultant, the syngas utilized by the company will have the following composition:

Table 3: Projected Thermolyzer Syngas Composition with Shredded Tire Feedstock

Constituent	Volume (%)
H ₂	30.80
O ₂	-
N ₂	-
CH ₄	47.25
CO ₂	5.00
CO	3.10
C ₂ H ₆	3.00
C ₂ H ₄	8.50
C ₃ H ₈	0.12
C ₃ H ₆	1.60
C ₈ H ₁₈	0.63
Total	100.00

At present, SOBE is proposing to utilize syngas for most of its feedstock, while periodically utilizing methane gas. Note that 47.25% of the syngas is still methane (CH₄), meaning any fugitive emissions of the syngas will still have significant greenhouse gas potential (50% of what methane has on its own).

The syngas is projected to have a higher carbon dioxide output at 1604 lbs/hr compared to the existing carbon dioxide emissions of 1425 lbs/hr when burning methane gas. This potential increase in carbon dioxide emissions directly contradicts the goal of reducing greenhouse gas emissions and addressing climate change, a priority passed by Youngstown City Council this past year. If the applicant believes that burning syngas will, in fact, reduce greenhouse gas emissions, it must provide the data. Any calculations should also take into account fugitive emissions.

While the Ohio EPA is not currently required to account for greenhouse gas emissions in its permit-to-install process, it does have the authority to do so—and should do so. OAC 3745-31-05(H) states: “In deciding whether to grant or deny a permit-to-install or PTIO, the director may take into consideration the social and economic impact of the air contaminants, water pollutants, or other adverse environmental impact that may be a consequence of issuance of the permit-to-install or PTIO.”

Climate change is significantly impacting Ohioans, Youngstown, and the people of the Mahoning Valley right now. The past few months have been some of the hottest on record, and residents have experienced poor air quality throughout the summer due to wildfires in Canada. The Youngstown community already has large air pollution sources in the vicinity; cumulative impacts of multiple sources must be taken into account in the analysis of this and every air permit. For example, the [Vollourec Star](#) Title V facility is only a mile away. And [Ultium Cells](#) is fifteen miles away in Lordstown.

When considered within the context of other social and economic considerations, continued reliance on syngas and methane gas for heating and cooling within the city of Youngstown is not the right path forward for the community, and the overwhelming opposition to this project indicates the community feels similarly. Contributions to climate change may primarily be measured at the global level, but the impacts are felt locally. And they are often connected with other environmental injustices, of which the Ohio EPA must also consider closely.

3. Environmental Justice Considerations

In the draft Permit-to-Install, Ohio EPA states that it has taken steps to address “Environmental Justice Concerns” around the facility. Specifically, the Ohio EPA analyzed the main demographic and environmental indicators using an EJ screening tool, and that the public hearing is part of accounting for environmental justice concerns. Further, the Ohio EPA says its public interest center “has developed a plan of steps to address EJ concerns during the permitting process and after the permitting process.”

We respectfully request that the Ohio EPA provide additional information regarding its environmental justice analysis. Specifically, the agency should provide all of the following:

What EJ Screening Tool did the Ohio EPA utilize?

What demographic and environmental indicators did it consider, and what data did the agency pull from that analysis?

How do those indicators factor into the Ohio EPA's decision regarding the permit, specifically its conclusion that the permit "is protective of human health and the environment"?

How can the surrounding community access the "plan of steps to address EJ concerns during the permitting process and after the permitting process"?

When considering environmental justice, it is fundamentally important for a state agency, and permittees, to consider how to actively integrate impacted communities into the decision making process—but not just to listen to them—to give them real power. The Youngstown community has overwhelmingly shown opposition to SOBE's expansion and new use of syngas. Even if the Ohio EPA doesn't deny the permit outright, it should place conditions upon the project reflective of the way the project is impacting the community and its future.

The State of Ohio has given preference to local communities and their perspectives in the siting of new energy projects at the Ohio Power Siting Board, where conditions are often placed upon projects due to local concerns—and some projects are even outright denied based on overwhelming local opposition.¹ While each project and permit should stand on its own, and be assessed on its individual merits, the actions taken by the Ohio Power Siting Board indicate how local opposition can be a factor in the state's decisions regarding energy projects.

As of now, the Ohio Power Siting Board has only allowed local opposition (or support) to impact decisions regarding new renewable projects. However, the same logic, through an environmental justice lens, should apply when communities face new or expanded fossil fuel projects. The impacts of a new coal plant, or a new gas plant, or a pipeline are much more significant than the impacts of a utility scale solar or wind facility.

And in this case, the SOBE Thermal Energy LLC project is a facility expanding its use of fossil fuels. Not only is it burning a new fuel source—syngas—the applicant has, in the past, indicated interest in expanding the project further to include power generation or other onsite activities. But the local community has spoken overwhelmingly in opposition of

¹ For example, the OPSB recently denied a transmission line project in Youngstown due to community opposition. See *Lincoln Park-Riverbend 138 kV Transmission Line Project*, 19-1871-EL-BTX, available at: <https://opsb.ohio.gov/cases/19-1871-el-btx>.

expanding the project. They want to chart a new path for energy use in Youngstown. Elected officials are taking similar steps to call for a different path forward, as they are currently considering a resolution opposing the project that has [already passed out of committee](#). Environmental justice means actually factoring that perspective into the decision making process.

Utilizing EJScreen, we show below maps of the Youngstown region. These figures illustrate how Youngstown's population is disproportionately burdened by pollution, asthma, and other socioeconomic indicators. To truly account for environmental justice in the permitting process, the needs and interests of these communities must be more than heard at a public hearing—they must be visible within the permit itself.

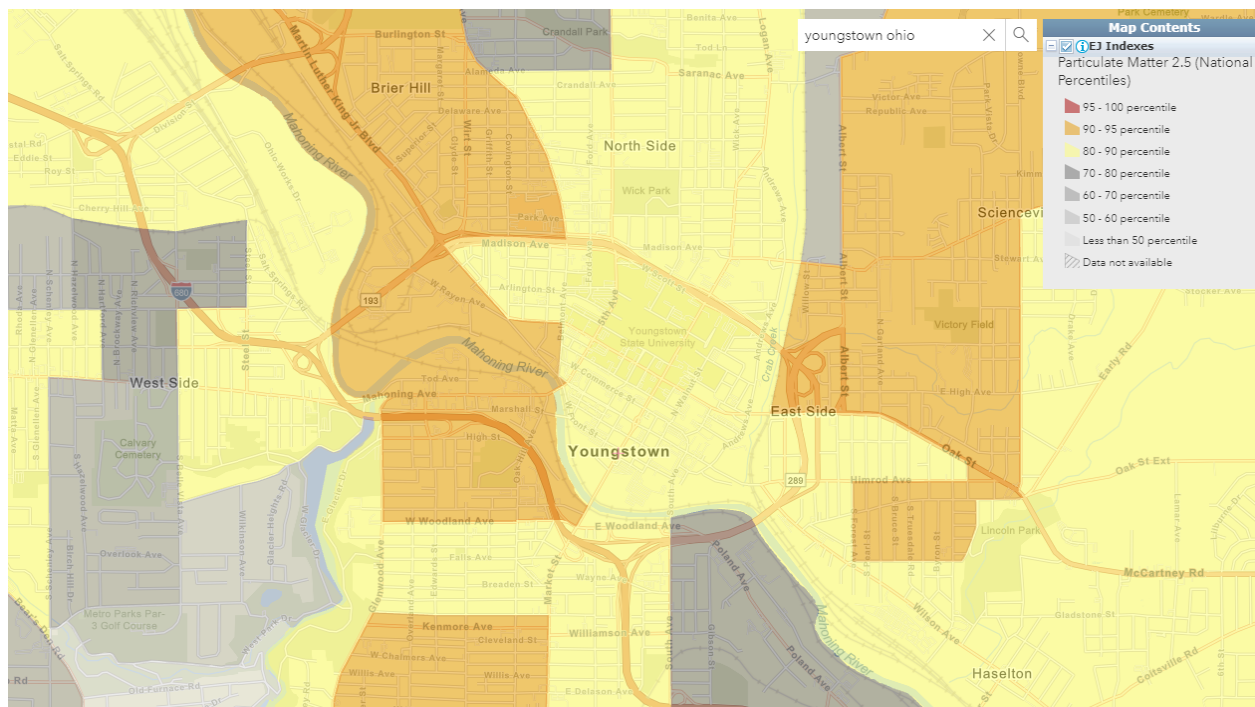


Figure 1 - Particulate Matter 2.5 (National Percentiles)

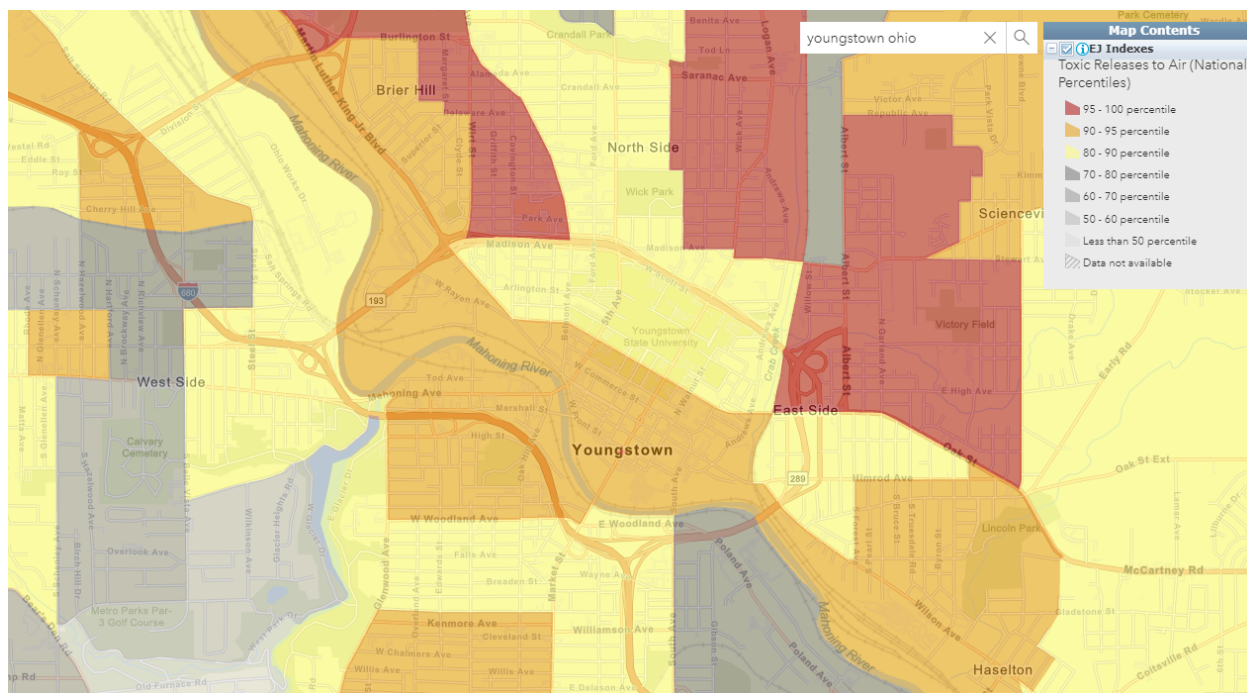


Figure 2 - Toxic Releases to Air (National Percentiles)

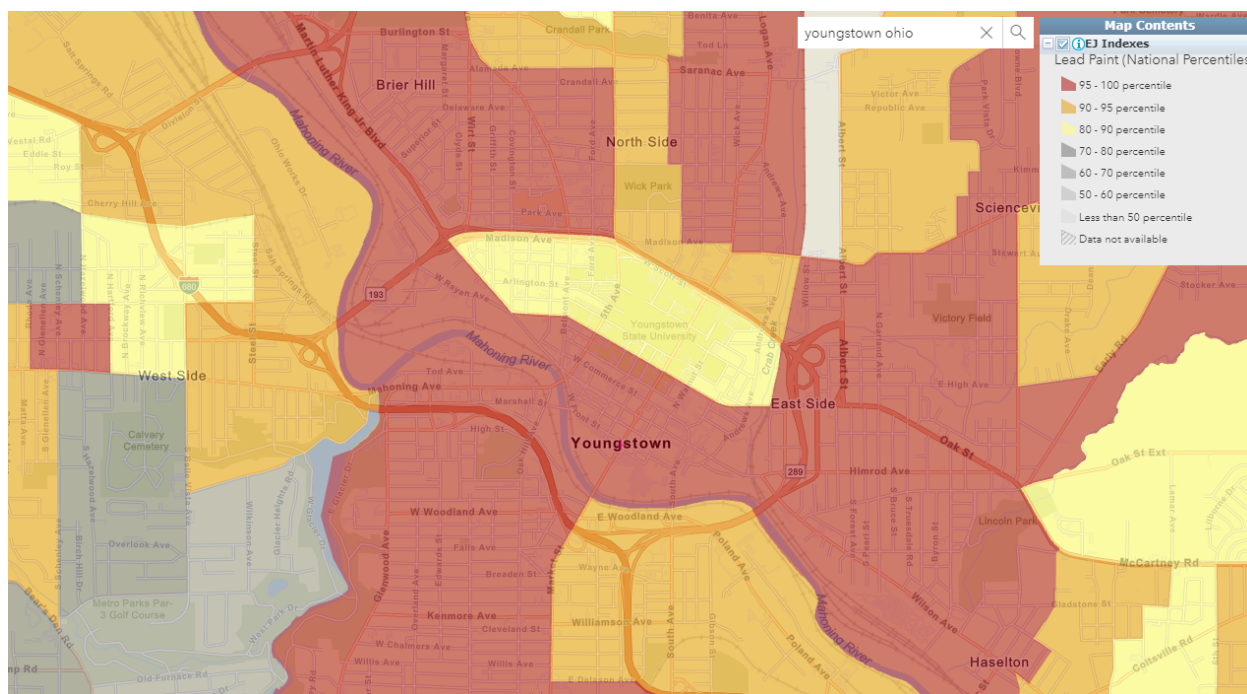


Figure 3 - Lead Paint (National Percentiles)

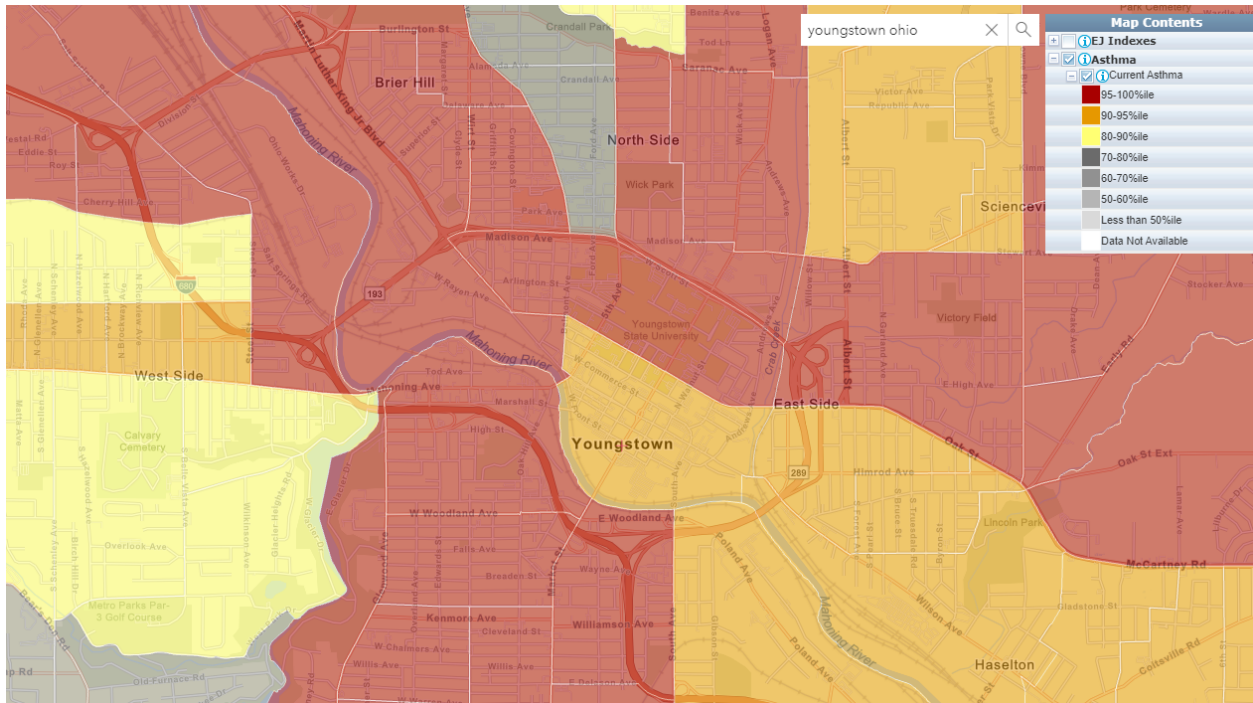


Figure 4 - Asthma

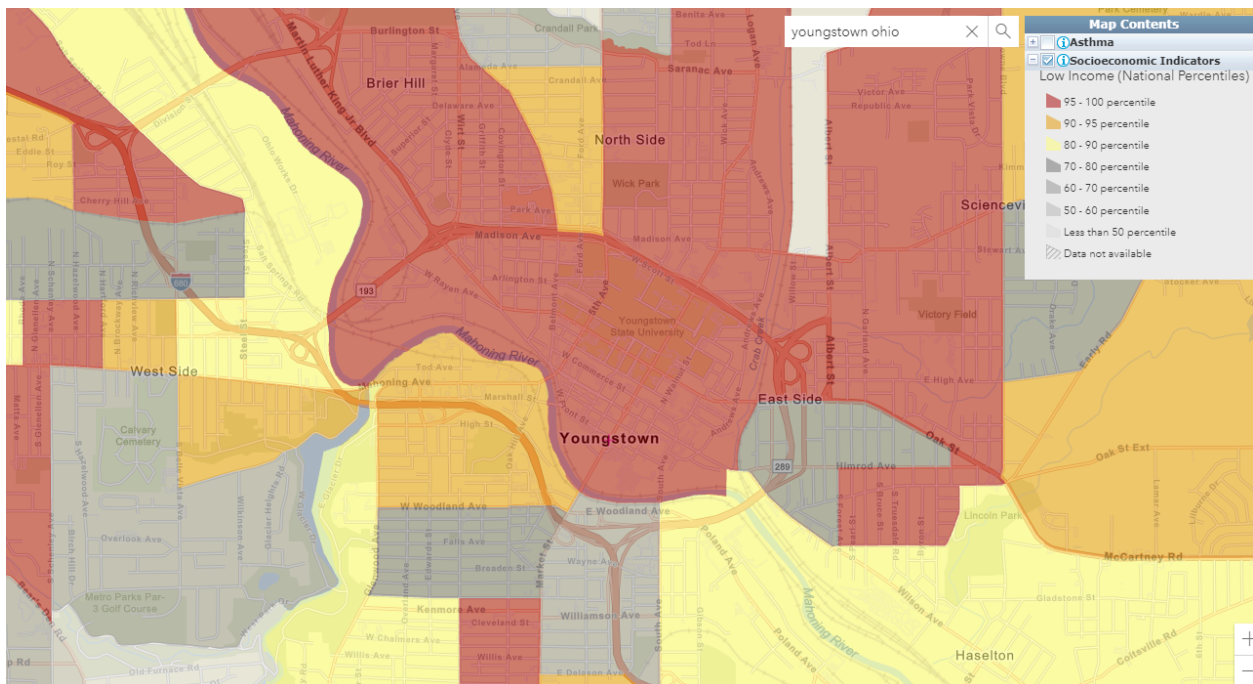


Figure 5 - Low Income (National Percentiles)

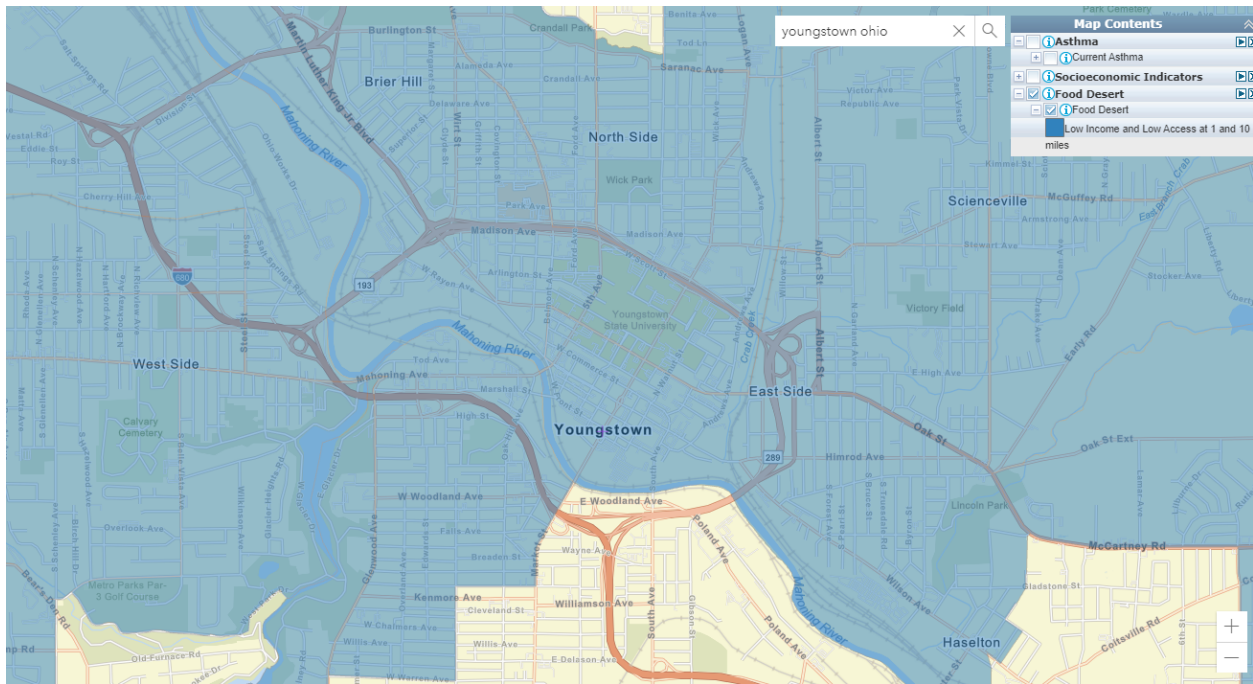


Figure 6 - Food Desert (defined as Low Income and Low Access at 1 to 10 miles)

4. Ohio EPA should include limits for CO₂ and methane in its Total Allowable Emissions

Given the project’s heavy reliance on methane and syngas, both of which burn into carbon dioxide, the main air pollutant driving climate change, the Ohio EPA should be including total allowable emissions limits for greenhouse gas emissions. In particular, the Ohio EPA should include a requirement and set of conditions for action in this permit pertaining to fugitive methane emissions.

The U.S. EPA lists normal operations, routine maintenance, fugitive leaks, and system upsets as [primary sources of methane emissions](#). According to the [International Energy Agency](#), methane “affects air quality because it can lead to ground level (tropospheric) ozone . . . [and] leaks can also pose explosion hazards.”

To protect human health and the environment, it is absolutely essential for any air permit for a facility like SOBE Thermal to quantify methane emissions and other greenhouse gas emissions. Not only for the localized health impacts, but for the long-term climate impacts, too. This concern is of particular importance when the surrounding community has a goal of reducing greenhouse gas emissions and addressing climate change—Youngstown City Council passed an ordinance naming it as a priority this past year. In addition, the Ohio EPA should account, in this permit, for the risks of syngas as a mix of a variety of gasses that could collectively escape into the local atmosphere.

On page 23 of the permit, Ohio EPA states that the BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to emissions from this project because they are less than 10 tons per year. Given the environmental justice considerations, if the Ohio EPA moves forward with this permit, they should condition the permit on use of BAT requirements even though expected emissions are below the technical requirements.

5. Hazardous Waste Concerns

Community members have expressed significant concerns regarding the project's use of "tire derived chips" (TDC) to create the syngas to fire the boilers. In the permit, on page 23, the agency has stated that TDC utilized on-site must meet the requirements of 40 CFR 241.3(d)(1) to not be classified as a solid waste. In the permit, the Ohio EPA should place conditions upon the applicant regarding how it will verify with the Ohio EPA that the TDC utilized satisfies laws governing solid and hazardous waste definitions.

Additionally, the agency states that "non-passenger TDC" shall make up no more than 10% of the feedstock loaded into the reactors. Ohio EPA should place conditions in the permit regarding how the applicant will regularly account for non-passenger versus passenger TDC use, reporting the data to Ohio EPA, beyond just "any instance that daily volume" exceeds 10%, as required on page 28.

Similarly, additional clarification is needed in the permit regarding the use of TDC rather than non-passenger car tires for processing. On page 28, the permit states: "The permittee shall identify the following information in the annual PER . . . any instance that the daily volume of non-passenger car tires processed exceeded 10%." But the applicant is only supposed to be processing TDC. If the facility is permitted to process car tires, then it is processing waste outright, and not already pre-processed waste.

With these permit-specific concerns in mind, we also encourage the agency to condition the permit to provide new application materials to the Public Utilities Commission of Ohio regarding its activities as a public utility. In 2021, SOBE Thermal Energy Systems, LLC applied for the transfer of assets from Youngstown Thermal at the PUCO, which was approved in November 2021 and confirmed to have been completed in May of 2023.

In PUCO Staff's recommendation of approval in 2021, they stated the following: "Staff does recommend that the Commission direct SOBE to file an application in the future when SOBE determines it is ready to seek Commission authority to issue debt and/or equity securities in support of its plans to expand the Utility System." *See Staff Review and Recommendation regarding the compliance filing made by Youngstown Thermal, LLC, Youngstown Thermal Cooling, LLC and SOBE Thermal Energy Systems, LLC, 21-28-HC-ATC*, available at: <https://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=4ad4e84b-bc8c-43d0-b3a4-4986922f7a16>. Any final air permit should conditions that the permittee has received appropriate approvals from the Public Utilities Commission of Ohio for the expansion and upgrade of its utility services, which includes the processing of TDC, the production of syngas, and—as

indicated by the applicant elsewhere—the potential sale of those products and even potentially power generation.

Noting further, that if the applicant heads in the direction of power generation through the use of syngas, any facility over 50 MW must go through the Ohio Power Siting Board process. And if the facility is expanding to offer services beyond its role as a public utility, including the sale of syngas or power generation, those activities are not covered under its operational mandate as a public utility. Given the environmental justice considerations pertaining to this facility's operation as a public utility, if the Ohio EPA moves forward with approving this permit, it must condition the permit's operation on the applicant taking the necessary action to account for its change of operations at the PUCO.

6. The Ohio EPA must utilize its authority under OAC 3745-31-05(H) to deny the permit.

With all of these factors under consideration, the Ohio Environmental Council strongly urges the Ohio EPA to simply deny the permit. In doing so, the agency will ultimately be responsive to the needs of the Youngstown community. They have made it clear, through their public engagement both with this permit and through other venues, that they oppose SOBE Thermal Energy's expansion.

Whether it's the project's climate impacts, the environmental injustices already experienced across the Mahoning Valley, the air pollution impacts, or the uncertainty of the syngas and use of TDC, a myriad of reasons satisfy the justifications the Ohio EPA can utilize under OAC 3745-31-05(H) to deny a permit. The Ohio EPA should utilize that discretion, opening the door for the community of Youngstown to decouple itself from the use of fossil fuels for its heating and cooling needs. In the alternative, significant modifications and conditions should be placed upon the permit to account for the issues we have raised—as well as the many issues raised by the Youngstown community.

Respectfully submitted,

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