

The Air You Breathe

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Using Trees & Vegetation to Reduce Heat Islands

Trees and other plants help cool the environment, making vegetation a simple and effective way to reduce urban heat islands. Trees and vegetation lower surface and air temperatures by providing shade and through evapotranspiration. Shaded surfaces, for example, may be 20–45°F cooler than the peak temperatures of unshaded materials. Evapotranspiration, alone or in combination with shading, can help reduce peak summer temperatures by 2–9°F.

Benefits and Costs

The use of trees and vegetation in the urban environment brings benefits beyond mitigating urban heat islands including:

- *Reduced energy use:* Trees and vegetation that directly shade buildings decrease demand for air conditioning.
- *Improved air quality and lower greenhouse gas emissions:* By reducing energy demand, trees and vegetation decrease the production of associated air pollution and greenhouse gas emissions. They also remove air pollutants and store and sequester carbon dioxide.
- *Enhanced stormwater management and water quality:* Vegetation reduces runoff and improves water quality by absorbing and filtering rainwater.
- *Reduced pavement maintenance:* Tree shade can slow deterioration of street pavement, decreasing the amount of maintenance needed.
- *Improved quality of life:* Trees and vegetation provide aesthetic value, habitat for many species, and can reduce noise.

The primary costs associated with planting and maintaining trees or other vegetation include purchasing materials, initial planting, and ongoing maintenance activities such as pruning, pest and disease control, and irrigation.

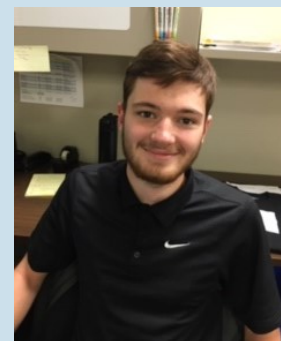


Shading in parking lot medians can provide extensive shading coverage. Photo Credit: E.G. McPherson

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Welcome To Our Newest Engineer!



We welcomed our newest engineer, Zach Songer, in mid October. He is a graduate of Ohio University and will focus on inspecting Non-High Priority facilities.

Some interesting things about Zach that may or may not come in handy on the job:

- He has not traveled outside the US
- He has experience as an Emcee
- He can juggle! (OK that could come in handy around here.)

When asked what he likes most about NE Ohio he replied, "Cleveland Sports! Honestly, is there anything else better?"

Trees & Urban Heat Islands Cont'd

A study of urban forestry programs in five U.S. cities showed a range of expenditures: annual costs ranged from almost \$15 per tree in the Desert Southwest region to \$65 per tree in Berkeley, California. Pruning was often the greatest expenditure, accounting for roughly 25–40% of total annual costs (approximately \$4–\$20/tree). Administration and inspection costs were the next largest expenditure, ranging from approximately 8–35% of annual expenditures (about \$4–\$6/tree). Tree planting, surprisingly, accounted for just 2–15% of total annual urban forestry expenditures (roughly \$0.50–\$4/tree) in these cities.

Although the benefits of urban forestry can vary considerably by community and tree species, they are almost always higher than the costs. The five-city study discussed above found that, on a per-tree basis, the cities accrued benefits ranging from about \$1.50–\$3.00 for every dollar invested. These cities spent roughly \$15–\$65 annually per tree, with net annual benefits ranging from approximately \$30–\$90 per tree.



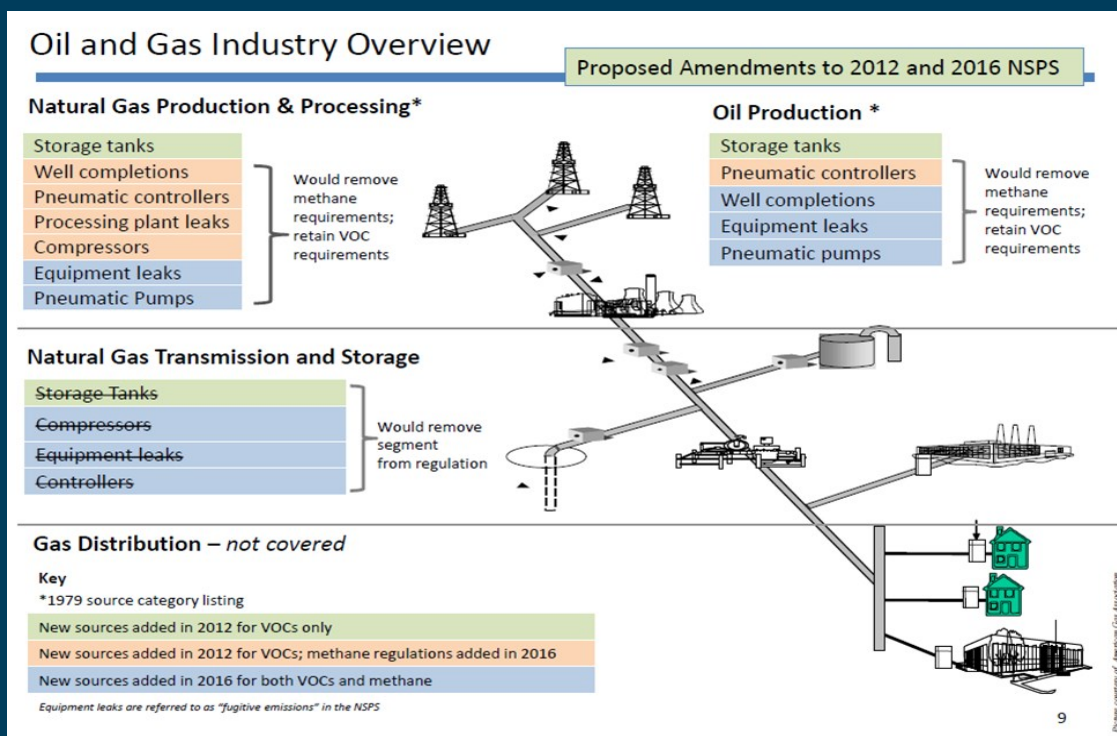
Photo Credit: Raina Sheridan

Learn more at: <https://www.epa.gov/heat-islands/heat-island-related-links#trees>

Proposed Policy Amendments New Source Performance Standards for Oil & Gas Sources

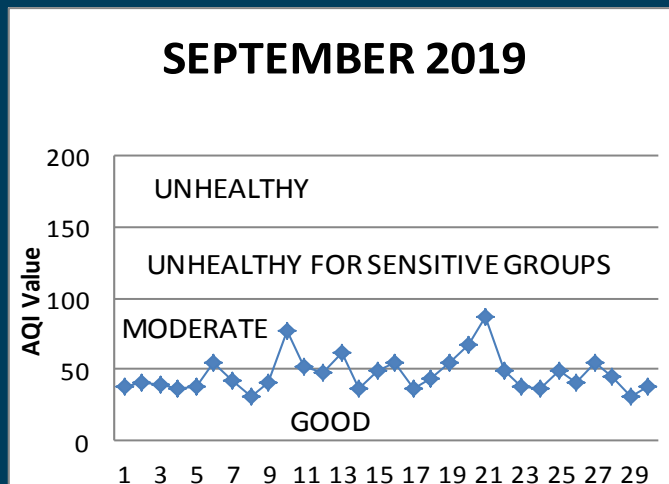
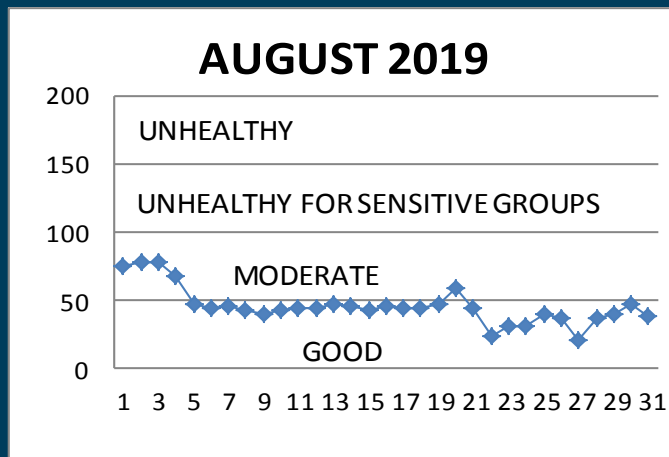
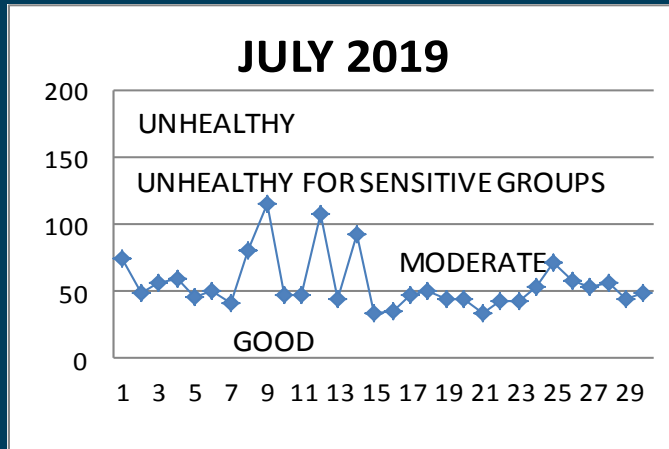
On August 28, 2019, the U.S. Environmental Protection Agency (EPA) signed proposed amendments to the 2012 and 2016 New Source Performance Standards (NSPS) for the Oil and Natural Gas Industry that would remove regulatory duplication and save the industry millions of dollars in compliance costs each year, while maintaining health and environmental protection from oil and gas sources that the Agency considers appropriate to regulate. The proposed amendments are estimated to save the oil and gas industry \$17 to \$19 million a year, for a total of \$97 to \$123 million from 2019 through 2025. Comments must be received on or before November 25, 2019.

Additional Information can be found at: <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry>.



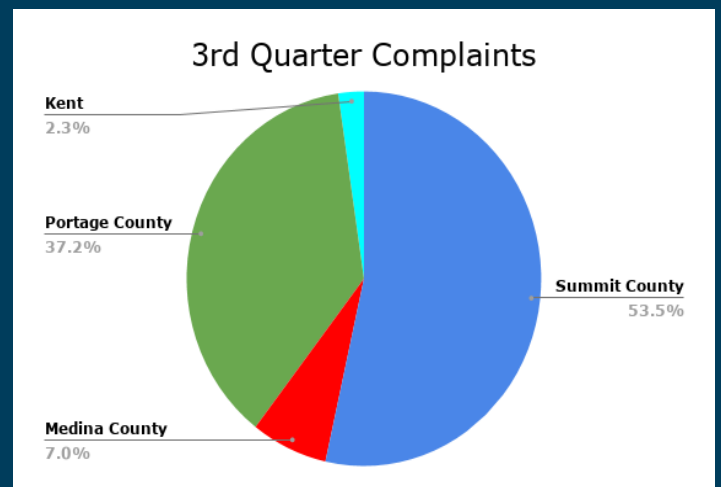
AQ by the Numbers: 3rd Quarter 2019

Air Quality Index



Complaints & Inspections

| Area/ Health District | Commercial/ Industrial | Residential | Total |
|--------------------------|---------------------------|-------------|-------|
| Summit County | 11 | 12 | 23 |
| Medina County | 1 | 2 | 3 |
| Portage County | 6 | 10 | 16 |
| Kent | 1 | 0 | 1 |



| Site Visits | 3rd Quarter 2019 |
|-----------------------------|------------------|
| FEPTIO | 11 |
| Title V | 18 |
| Non Title V | 20 |
| Full Compliance Evaluations | 27 |

Additional Stats

| Permits Issued | | | | | | | |
|--|-------------------|-------|-----------------------------|-------|---------|-------|----------------|
| 3rd Quarter 2019 | Permit to Install | | Permit to Install & Operate | | Title V | | Permit by Rule |
| | Draft | Final | Draft | Final | Draft** | Final | Total |
| **Includes - Preliminary Proposed Permits & Proposed Permits | 1 | 2 | 14 | 19 | 1 | 2 | 12 |

| Asbestos | |
|---------------------|----|
| 3rd Q—Notifications | 58 |
| 3rd Q—Inspections | 50 |



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A service of Summit County Public Health

We are Global Citizens & Air Quality is A Global Concern

In the first ruling of its kind, the EU's top court has found that France has failed to fulfill its obligation under EU law to address illegal levels of nitrogen oxide (NO₂) as soon as possible.

The Court of Justice of the EU (CJEU) has rejected all explanations put forward by the French government on why it has delayed action to tackle harmful levels of NO₂ across the country that breached EU laws.

The French government tried to argue that tracking illegal levels of NO₂ required complex structural changes that were both costly and time-consuming and had invoked socio-economic difficulties.

The CJEU has refused to accept these arguments, saying that: 'Technical or structural difficulties cannot be used by a country as a reason for fulfilling its legal obligation to protect human health.'

The court has also highlighted that these legal limits had been introduced over nine years ago and that French authorities are not planning to reduce air pollution to within those limits in certain areas before 2030.

If France continues to exceed the legal limits, the European Commission may start a second round of infringement proceedings, which could ultimately lead to

fines against any countries that are found to breach the EU laws on air pollution.

Reacting to the judgement, ClientEarth lawyer Ugo Taddei said: 'For the first time ever, the CJEU has found a Member State in breach of exceeding the legal limits for NO₂, a pollutant mainly emitted by diesel vehicles in cities.'

'Germany, Italy, Spain and the UK, which have all been referred to the CJEU for their prolonged failure to address air pollution should all take heed of the ruling today, as we can now expect similar outcomes in those countries.'

'These excuses have been used repeatedly by authorities across the EU who continuously refuse to take responsibility for their failures to clean up the air. Today's ruling makes it clear that their reasons will no longer stand up before the court.'

Mr Taddei concluded: 'Governments across Europe need to stop kicking the can down the road and start protecting people's health by taking action now.'

<https://airqualitynews.com/2019/10/24/france-has-failed-to-protect-human-health-on-air-pollution-according-to-eu-ruling/>