



CLIMATE ACTION PLAN

DEPARTMENT OF ENVIRONMENTAL RESILIENCE

Local Government
Operations

Kolt Vaughn, *Extern to the City of Goshen*

Aaron Sawatsky-Kingsley, *Director & City Forester*

Theresa Sailor, *Grant Writer / Educator*

Background

4/30/19



The Common Council and Mayor Stutsman passed Resolution 2019-19 to “**create and implement a Climate Action Plan by 2021.**”

Summer `19



The City Forester partnered with IU’s Environmental Resilience Institute to collect and analyze energy consumption data, leading to **the first-ever emissions inventory** (report by Bronson Bast).

8/15/19



The City of Goshen Department Heads and the Mayor proposed the **Dept. of Environmental Resilience** with the first project being to **pioneer Resolution 2019-19.**



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What is a Climate Action Plan?

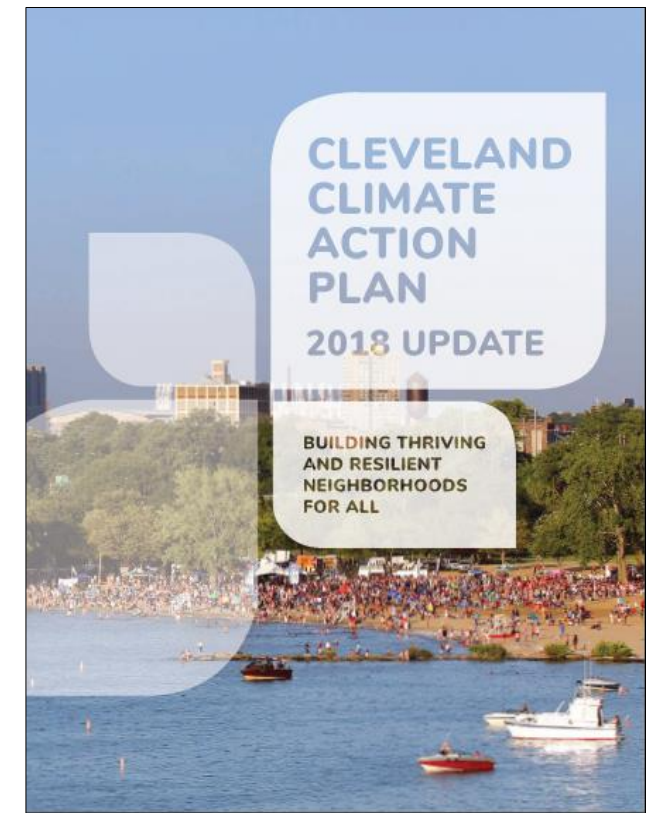
Indianapolis, IN



Iowa City, IA



Cleveland, OH



Two main outcomes of a CAP

1. Emissions Reduction

The objective is to produce **cost-saving techniques** that achieve **low-carbon communities**.



2. Adaptation

The objective is to produce **resilient communities**.



Two main types of CAPs

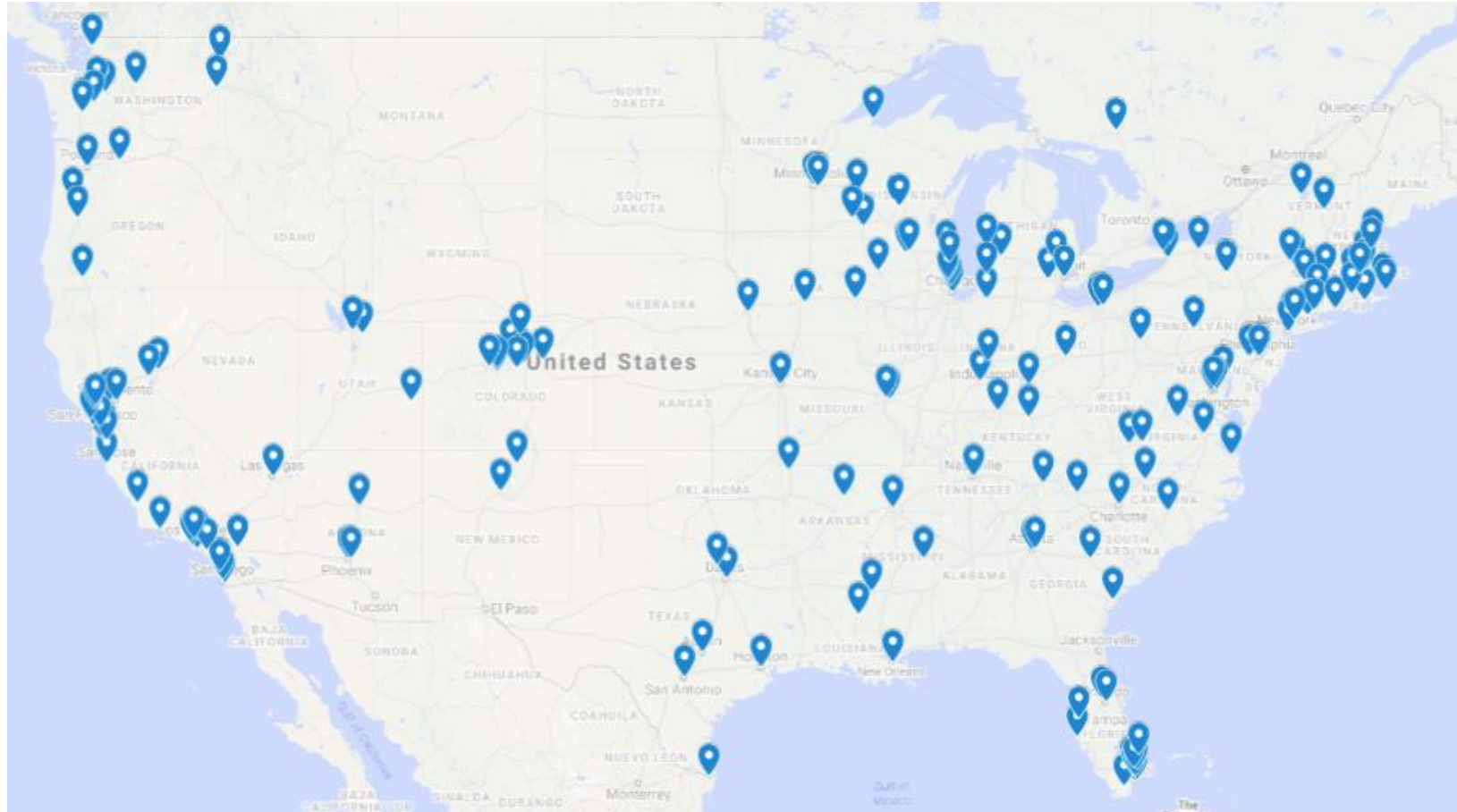
1. Local Government Operations (LGO)



2. Community-Wide Operations (CWO)

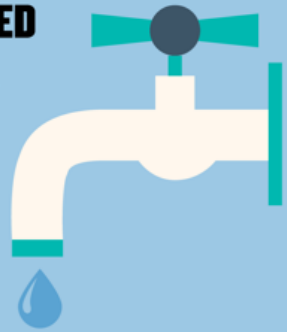


Who else is working on CAPs?



Municipalities across the U.S. committed to climate action (UNFCCC, 2020).

**REDUCED
WATER
and AIR
quality.**



**DECREASED
PRODUCTIVITY
of corn and
soybean crops.**



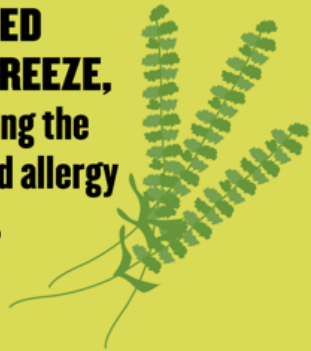
**LOSS OF SPECIES,
such as the
Karner
Blue
Butterfly.**



**INCREASED
HEAVY
RAINFALL,
leading to more
flooding.**



**DELAYED
FALL FREEZE,
extending the
ragweed allergy
season.**



**RECORD-
BREAKING
heat waves.**



What will climate change mean in **INDIANA?**

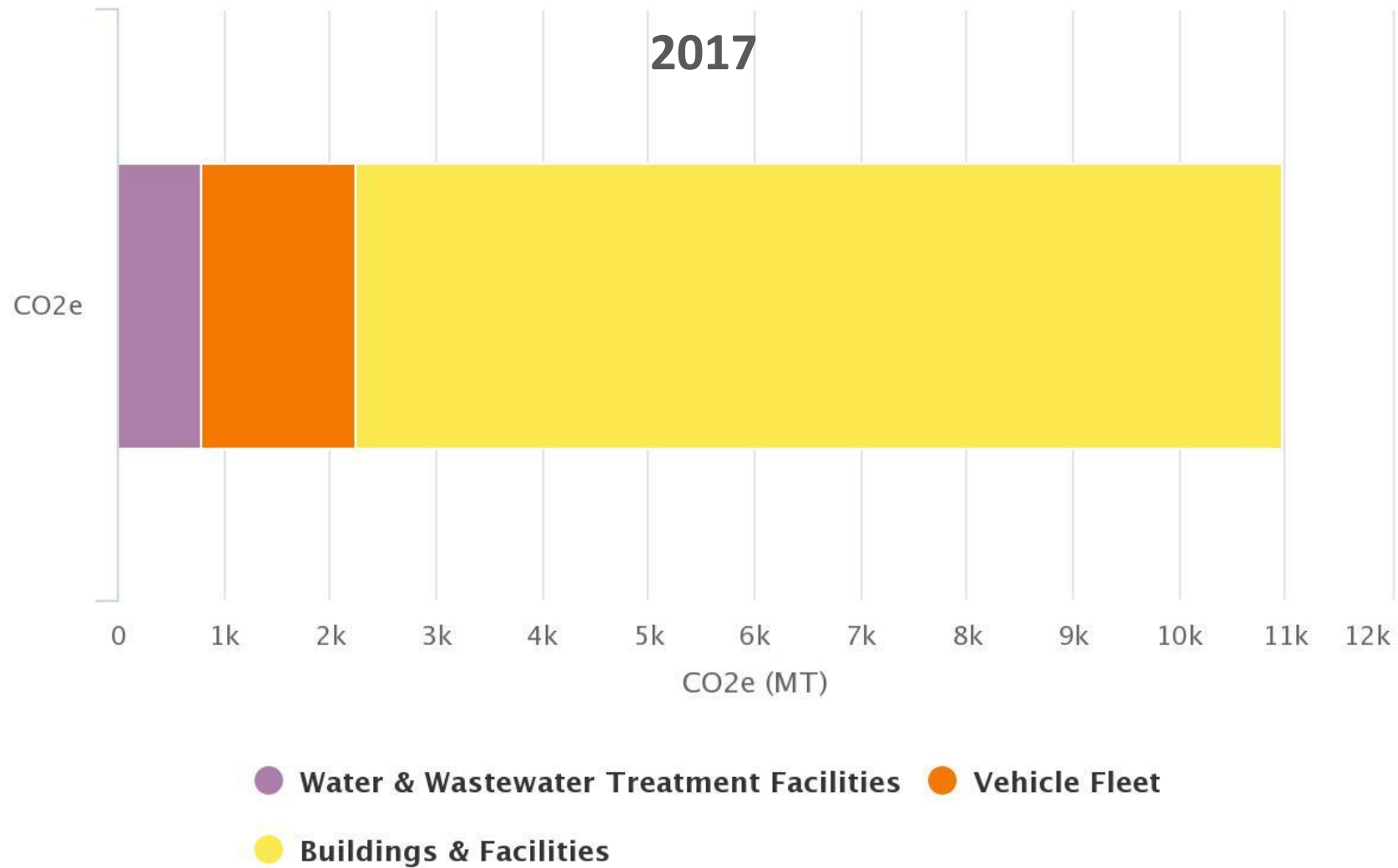
**SHORTER
WINTERS,
increasing
exposure to
ticks and
Lyme Disease.**



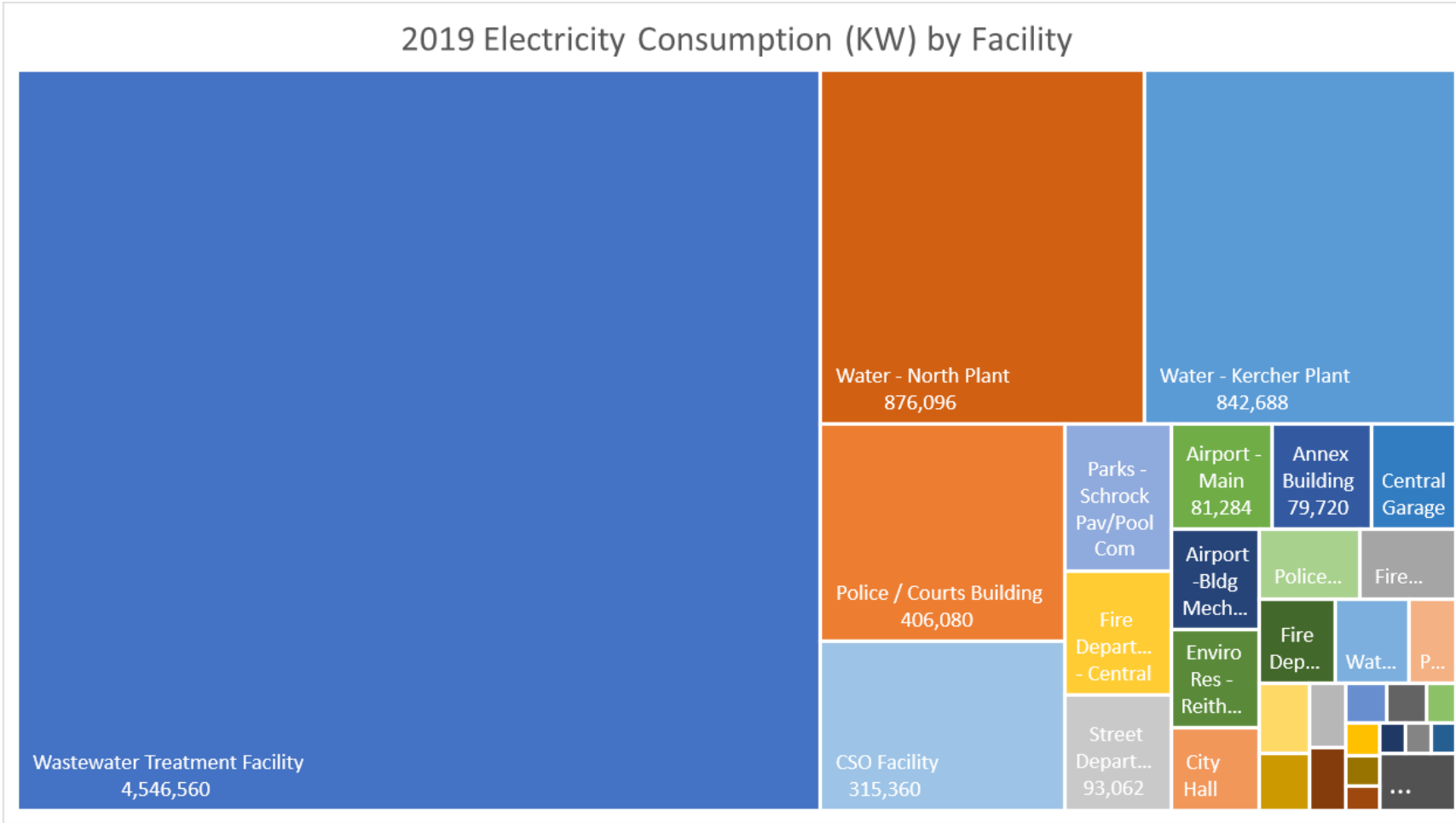
**INCREASED
DEMAND
for
cooling.**



Goshen LGO Emissions Inventory



LGO Emissions Inventory



Collecting LGO behavior data

Commute to Work



≈ **20** miles

traveled per day per employee

≈ **490** MTCO₂

emitted annually for all employees

Effect of Heat Waves



68 - 74 % of all employees work productivity is negatively affected, at least somewhat, by daily temperatures greater than 95°F

Number of days per year >95°F *

1971-2000

2050s

1 day

≈ **30** days

* [Impacts of Climate Change on IN \(IN CCIA; Purdue University\).](#)



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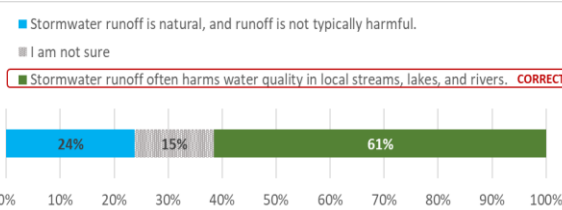
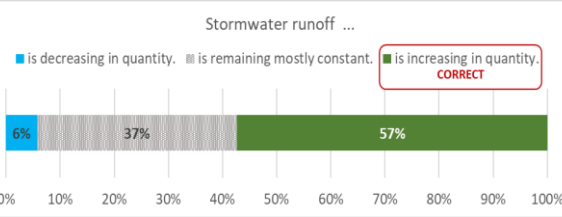
This one-page report
→
can be found on our website.

2020 Climate Action Plan | Workplace Survey Highlights

City of Goshen | Department of Environmental Resilience | by Kolt Vaughn | 6/16/2020

Goshen's Department of Environmental Resilience is working to develop a Climate Action Plan by late 2020. To that end, a workplace survey of local government behaviors and perceptions was conducted to understand where there is room for efficiency improvements, emissions reductions, and enhancing community resiliency. These results represent a survey conducted from 6/10/20 - 6/17/20. The response rate (42%) equals the number of responses (139) divided by all City of Goshen employees (333).

The 'number-cloud' below shows employee's perception of the percent chance that a flood, like the 2018 Goshen Flood, occurs within the next year. This graphic demonstrates that employees are highly concerned about flood events. This is likely due to 8 of the top 10 historic crests having occurred since 1979.¹



The bar-graph to the right demonstrates which city departments self-identify as being susceptible to heat-related risks. It also highlights which departments may not recognize such issues.

Effect of Heat Waves

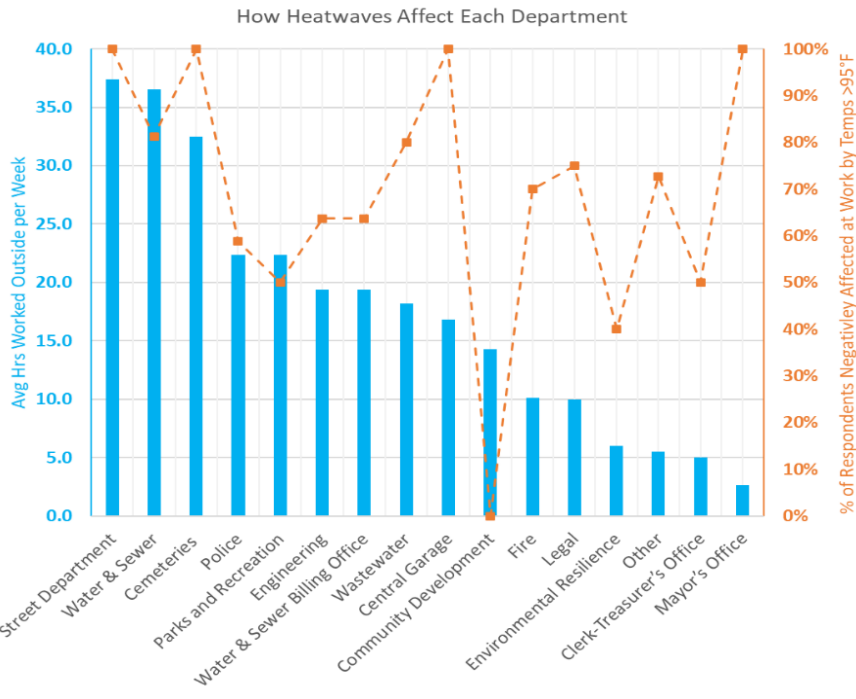
68 - 74 % of all employees' work productivity is negatively affected, at least somewhat, by daily temperatures over 95°F²

Number of days per year over 95°F³

1971-2000: 1 day

2050s: ≈ 30 days

The two graphs to the left demonstrate City employees' perception of flood issues and stormwater quality problems. Most employees acknowledge that stormwater is increasing in quantity, but not everyone realizes the resulting water quality impacts. The correct answer is circled in red.



Employees' Roundtrip Commute to and from Work

20.9 (± 3.8) miles traveled per day per employee²

490 (± 88.5) Metric Tons CO₂ emitted annually by City of Goshen employees²

Questions or Comments?

Visit our website at:
<https://goshenindiana.org/environmental-resilience>

Email us:
Aaron Sawatsky-Kingsley
aaronkingsley@goshencity.com
Theresa Sailor
theresasailor@goshencity.com

¹ Statistics source: <https://water.weather.gov/ahps2/hydrograph.php?wfo=iwx&gage=gshi3>

² 95% Confidence Interval

³ Statistics source: https://ag.purdue.edu/indianacclimate/wp-content/uploads/2019/01/ClimateFacts_Elkhart_03262018_reduced.pdf



What's next?

Emissions reduction strategies

- Account for Tree Canopy Goals
- Reduced carbon intensity of utilities via NIPSCO
- Improve facility efficiency
- Switch traffic lights from incandescent to LED (2020)

Adaptation strategies

- Enhance flood resilience
- Integrate green infrastructure into capital improvement projects
- Promote methodologies that encourage sustainable maintenance plans
- Protecting ecosystems

End Goals

Draft of LGO CAP by late Aug `20



Draft of CWO CAP by Aug `21



What can you do to help?

- Talk to us

- Tell us your concerns
- Ask questions
- Make suggestions



- Talk to others

- Ask your neighbors how they can help and will be impacted
- Talk to our children
- Consider different perspectives

Questions



Contact us anytime if you have any ideas or questions:

Kolt Vaughn

khvaughn@iu.edu

Aaron Sawatsky-Kingsley

aaronkingsley@goshencity.com

Theresa Sailor

theresasailor@goshencity.com

Find more at:

- [Goshen's Department of Environmental Resilience](#)
- [Goshen's Greenhouse Gas Emission Inventory Report](#)
- [This 'Footprint Calculator' estimates your total impact on the earth, based on a few questions.](#)
- [Listen to this podcast as it discusses climate change in Indiana, including an interview with Goshen's own Aaron Sawatsky-Kingsley.](#)
- [Review the 'Indiana Climate Change Impacts Assessment.'](#)