Welcome to the 2022 Annual Meeting

Indiana Environmental Stewardship Program

Better Environment, Better Business

Indiana Department of Environmental Management

Welcome to the Indiana Environmental Stewardship Program 2022 Annual Meeting

Indiana Department of Environmental Management
Office of Program Support
July 21, 2022

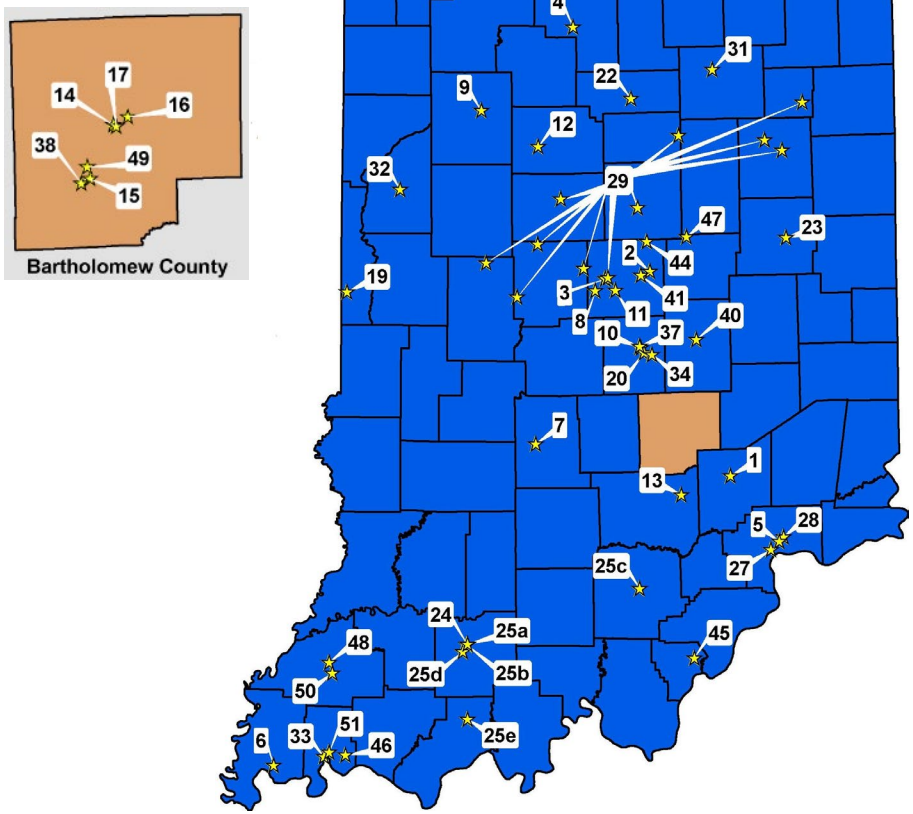
Jennifer Collins

IDEM Manager, Pollution Prevention and Compliance Assistance Section
Office of Program Support

Jean Fix

IDEM Program Manager, ESP and Partners for Pollution Prevention Programs
Office of Program Support

ESP Current Membership: 51



No new members in 2022 so far!

2020 ESP Member Achievements

*** 2021 achievement results are not yet available**

Reduction in water use equivalent to 836 Olympic pools

Reduction in electricity use equivalent to power 10,307 households for a year

Reduction in natural gas use equivalent to 870 Midwest households for a year

Increase in recycling equivalent to 5558 African elephants

2021 Annual Performance Reports

increased “back to normal” production levels

increases in usage and waste, regardless of pollution reduction project initiatives

Normalizing Data

- It is the process of calculating reduction data to demonstrate that the reduction was not just due to production volume changes and was the result of the environmental improvement project.
- Separates production quantities from environmental efficiencies.
- Calculate Normalizing factor (I) using the following formula:

I = Current year Production Quantity /Base year Production Quantity

- Increases in Production = I>1, where decreases show I<1
- May choose another unit to normalize (Mark "Other" and provide description.)
- Measurement of normalized P2 is calculated as

Normalized P2 = (Project Unit Quantity$_{\text{Current year}}$ – Project Unit Quantity$_{\text{Base Year}}$) * I

- If unit quantity increased over the reporting period, the normalized number will be positive and show an increase in normalized measured quantity.

Annual Performance Report

Category 1: Water Indicator 1: Total Water Used (gallons)	Baseline *(indicate measurement unit)*	Current *(indicate measurement unit)*	
Calendar year	2020	2021	
Actual quantity *(per year)*	258,960,000	319,122,000	
Production unit *(select one)*	Earned Labor Hours XX Production units Production Other -- specify (e.g. Gallons, length, etc.)		
Production Quantity	299,244	428,186	
Normalization factor (Current year production ÷ Baseline year production)	1.431		
Normalized quantity (Actual current year quantity - Actual baseline quantity) x Normalization factor	86,031,660		

Two water recycling measures: WW stream ultra/RO filter to clean and send WW back to processes & recycling/cascade system for East Paint production area.

- **Actual P2 = Project Unit Quantity$_{\text{Base Year}}$ - Project Unit Quantity$_{\text{Current year}}$**
  258,960,000-319,122,000 = -60,162,000 gallons increased usage
- **I = Normalization factor= Current year Production Quantity /Base year Production Quantity**
  I= 428,186/299,244= 1.431 (increases in production = I >1)
- **Normalized P2 = (Project Unit Quantity$_{\text{Current year}}$ – Project Unit Quantity$_{\text{Base Year}}$) * I**
  Normalized P2 = (319,122,000-258,960,000)* 1.431= 86,031,660 gallons increase

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Usage Reduction based on gal/unit calcs:

2020 quantity (258,960,000)/2020 production (299,244) = 865.381 gallons per unit

2021 quantity (319,122,000)/2021 production (428,186) = 745.288 gallons per unit

2021 reduction per unit (865.381-745.28) = **120.09 gallons/unit decrease**

Normalized: (428,186/299,244) = 1.4309, then (745.288-865.381)* 1.4309 = -**171.84 gallons/unit decrease** (negative number = decrease in P2 quantity measure)

REMEMBER:

Base line year & quantities: beginning of reporting calendar year unless it's a long-term project that has not had any prior reporting

Annual Performance Report

Category	Indicator	Baseline Year 2021	Future Year 2022	Unit
☐ Material Use	☐ Materials used			☐ Pounds, ☐ tons ☐ gallons
	☐ Hazardous materials used			☐ Pounds, ☐ tons ☐ gallons
	☐ Ozone depleting substances used			CFC-11 equivalent pounds
	☐ Total packaging materials used			☐ Pounds, ☐ tons
■ Water Use	■ Total water used	319,122,000	estimated gallons	Gallons
	☐ Electricity			☐ kWh, ☐ MWh
	☐ Steam			☐ kWh, ☐ MWh, ☐ gallons, ☐ ft^3
	☐ Natural gas			☐ Btu, ☐ MMBtu
	☐ Diesel			Gallons

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Calendar year	2020	2021	
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REMEMBER:

Section F is for next year's future project, do not repeat current year numbers in Section F

ESP Survey Topics

Sustainability

GHG inventory and carbon footprint calcs

Alternate energy – clean energy, renewable natural gas, hydrogen, solar

ESP APR normalization

Zero waste to landfill

Outreach opportunities

Wildlife conservation

Recycling references

IDEM OPS Recycling Programs

IDEM OPS Recycling Team:
Jennifer Woolson-Helrigel, Recycling Outreach (used to be Env. Education)
jwoolson@idem.in.gov 317-232-3388
Deanna Garner, Recycling Marketing Development
dgarner@idem.in.gov 317-233-5433
Jacob Schmicker, IN E-Cycle Program (returning)
jschmick@idem.in.gov 317-232-0634

Recycle Indiana website: https://www.in.gov/idem/recycle/
GT Environmental Recycling Study:
https://www.in.gov/idem/recycle/resources/recycling-infrastructure-and-economics-study/
Circular Indiana (Indiana Recycling Coalition): https://www.circularindiana.org/

Recycling Roundtable Discussions

IDEM is hosting a series of quarterly meetings to discuss issues, share resources, and find solutions to current challenges facing recyclers and Indiana's recycling industry. The purpose is to facilitate solutions to help Indiana meet its goal of a 50% recycling rate while helping to spur economic growth in recycling markets.

The next roundtable will be held in September 2022 and registration is required. All discussions are held virtually via ZOOM. Past recordings and registration information may be found by visiting https://www.in.gov/idem/recycle/indiana-recycling-roundtable-discussions/

For more information about these events or recycling in Indiana, visit https://www.in.gov/idem/recycle/

Contact Deanna Garner at DGarner@idem.in.gov
or 317-233-5433.

Recycling Market Development Program (RMDP) Grants

- Eligible candidates may seek a grant starting at $10,000 and up to $500,000, with a 50% cash match.
- Projects should focus on increasing recyclable material collection or consumption, reductions in municipal solid waste shipped for final disposal, or improving partnerships with communities through tangible outreach and education efforts.
- Grants are available to public and private businesses, local governments (municipalities), and not-for-profit organizations that are located and doing business in Indiana.

Anticipating the new grant round in Spring 2023

Contact Deanna Garner at DGarner@idem.in.gov or 317-233-5433.

Zero Waste to Landfill

EPA Waste Reduction Model (WARM): provides high-level estimates of potential greenhouse gas (GHG) emissions reductions, energy savings, and economic impacts from several different waste management practices. WARM estimates these impacts from baseline and alternative waste management practices—source reduction, recycling, anaerobic digestion, combustion, composting and landfilling.
https://www.epa.gov/warm/basic-information-about-waste-reduction-model-warm
https://www.epa.gov/warm/versions-waste-reduction-model-warm#15

Other resources:
EPA WasteWise Program: https://www.epa.gov/smm/wastewise is evolving to Sustainable Materials Management https://www.epa.gov/smm/sustainable-materials-management-partnership-programs-0

Members working on zero waste to landfill : Carrier (certified), Cummins, DePuy, Madison Precision, among others that may have already achieved

Purdue Manufacturing Extension

Purdue Manufacturing Extension Partnership (MEP) provides high-value, affordable solutions to help businesses identify areas of improvement, streamline processes, and ultimately increase competitiveness. In the area of continuous improvement, under sustainability and energy efficiency, they offer training, consulting and onsite assessments.
https://mep.purdue.edu/services/energy-efficiency-sustainability/

IUPUI Energy Audits

The Industrial Assessment Center at IUPUI is one of 35 IACs located at university campuses across the country. The IAC's conduct complimentary energy assessments sponsored by the US Department of Energy. These detailed assessments help manufacturers identify opportunities to improve productivity, reduce consumption and save money.
https://iac.iupui.edu/assessment-information/

EPA Energy Star Challenge for Industry

- A recognition and goal-setting program to improve your facility's production-normalized energy efficiency by 10% within 5 years or less. Average improvement is 19% within 2 years.
- 60 facilities in Indiana have taken the Challenge since 2010.
- It's free, easy, confidential, and there's no annual reporting.
- Engage staff and customers in energy efficiency, sustainability, continuous improvement, etc.
- View "takers" & register at energystar.gov/industry.
- Toyota Motor Manufacturing, General Motors are examples

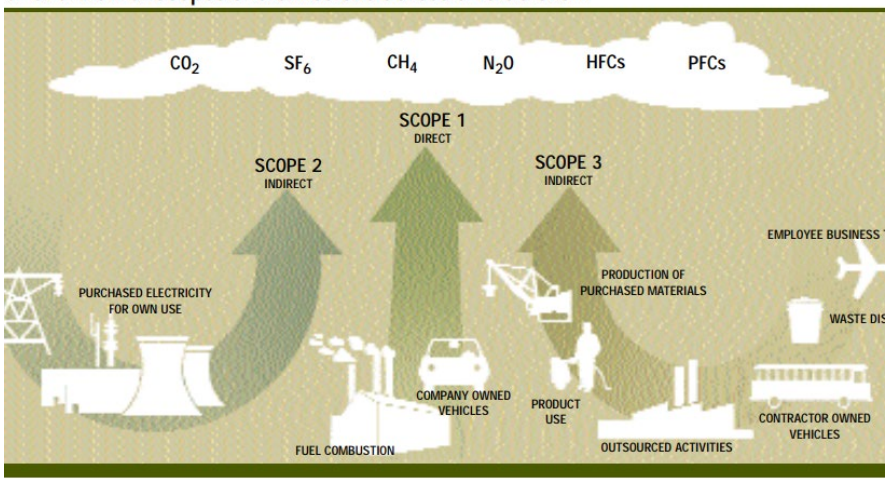
Contact: Brent Ribble, US EPA Region 5 ribble.brent@epa.gov

GHG inventory and carbon footprint calcs

EPA United States Environmental Protection Agency

GREENHOUSE GAS PROTOCOL

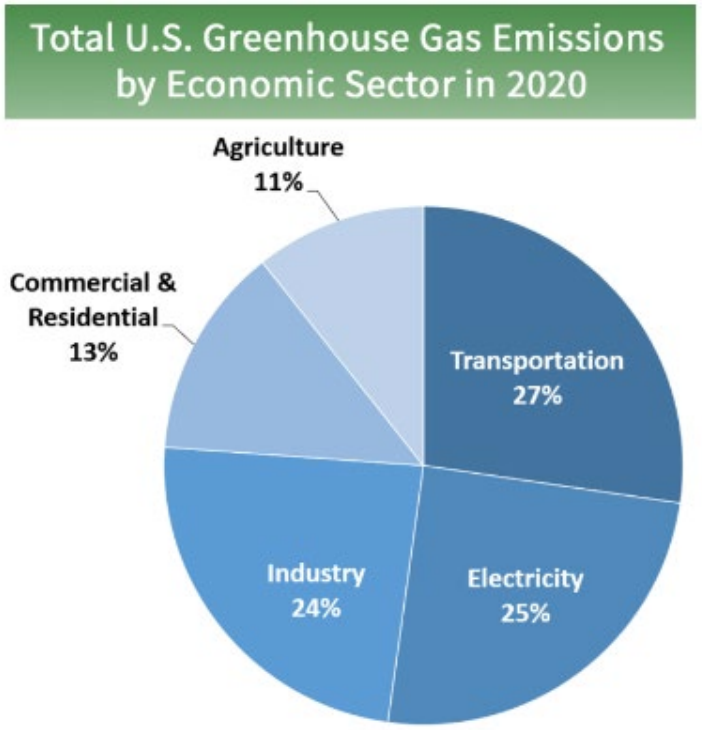
3. Overview of scopes and emissions across a value chain



Protocol:
https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

Calculations tools:
https://ghgprotocol.org/calculation-tools

Scope Defined:
https://www.esganalytics.io/insights/what-are-scope-1-2-and-3-carbon-emissions



- Greenhouse gas emissions from transportation primarily come from burning fossil fuel for our cars, trucks, ships, trains, and planes.
- Electricity production generates the second largest share of greenhouse gas emissions.

  Supreme Court has announced that EPA does not have regulatory authority over power plant GHG reductions.

- Greenhouse gas emissions from industry primarily come from burning fossil fuels for energy, as well as greenhouse gas emissions from certain chemical reactions necessary to produce goods from raw materials.
- Land areas can act as a sink (absorbing CO_2 from the atmosphere) or a source of greenhouse gas emissions. In the United States, since 1990, managed forests and other lands are a net sink, i.e., they have absorbed more CO_2 from the atmosphere than they emit.

Increasing the Carbon Sink – Land Conservation

Land areas can act as a sink (absorbing CO_2 from the atmosphere) or a source of greenhouse gas emissions. In the United States, since 1990, managed forests and other lands are a net sink, i.e., they have absorbed more CO_2 from the atmosphere than they emit.

Resources:

Wildlife Habitat Council: Daniel Goldfarb dgoldfarb@wildlifehc.org 219-448-8773
or www.wildlifehc.org

Cardno: Marc.woernle@cardno.com 317-617-4796

NRCS & Pollinator Partnership: consulting & plant guides https://www.pollinator.org/

DNR Tree Farm Service: https://www.in.gov/dnr/forestry/tree-seedling-nurseries/

Indiana Native Plant Society: https://indiananativeplants.org/

Members: DePuy Synthes, Elanco Clinton, AstraZeneca, Samtec, GM Kokomo & Marion Plants, among others

Indiana Partners for Pollution Prevention

25th Annual Pollution Prevention Conference and Trade Show

SAVE THE DATE!

Wednesday • September 21, 2022

Register online at www.in.gov/idem/partnerships/partners-for-pollution-prevention/pollution-prevention-conference-and-trade-show/.

Save the Dates!

You are invited to attend these Partners for Pollution Prevention Quarterly Meetings

Date	Host	Location
September 21, 2022	25th Annual P2 Conference	Indianapolis, IN
December 13, 2022	Toyota Material Handling	Columbus, IN
Spring 2023	Elanco Clinton Labs	Clinton, IN
Summer 2023	TBD	IN

Questions?

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