

# South Bend's Operational and Community Greenhouse Gas Inventories

Therese Dorau  
Director, Office of Sustainability  
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# Greenhouse Gas Inventories

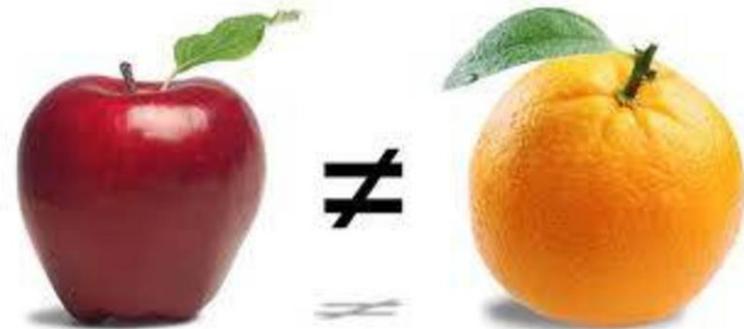
# Value of a GHG Inventory

## Most Value

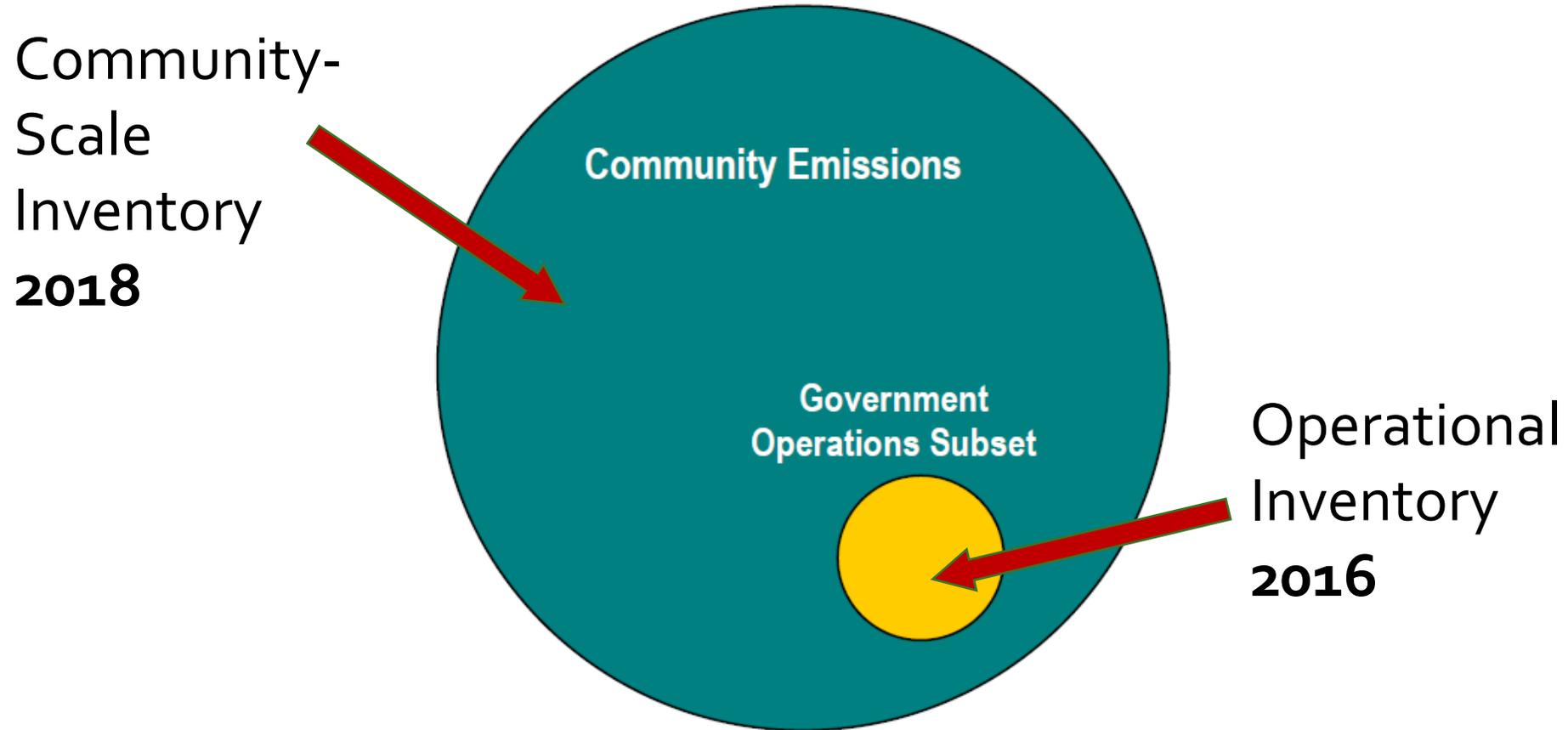
- Create a baseline
- Track changes and trends over time
- Identify best emissions-reduction opportunities
  - Source, sector, fuel type
- Better understand sources and impacts

## Least Value

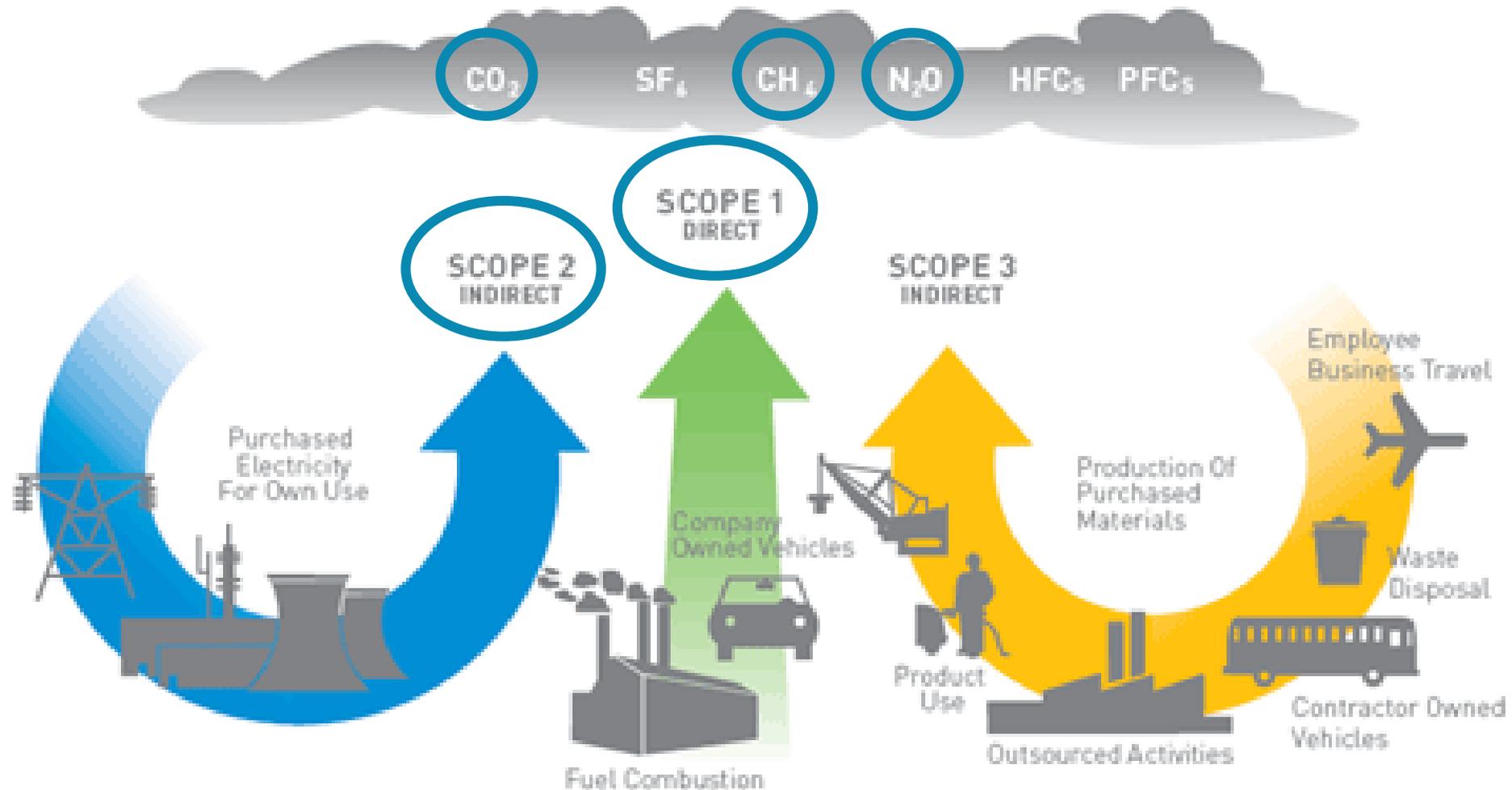
- Comparison between communities
- Exact quantification of emissions or emissions reductions

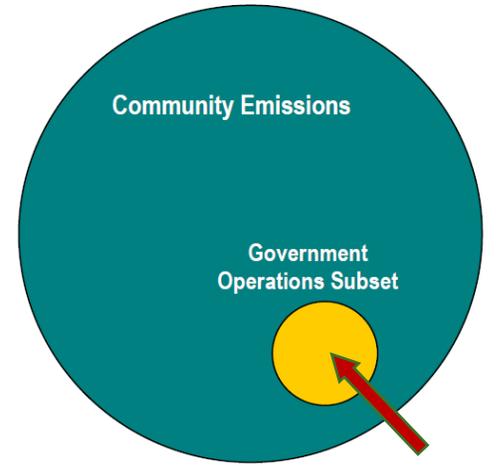


# GHG Measurement: Top-down or Bottom-up?



# Basics of Scopes and Gases





# City of South Bend's Operational Emissions

# Primary Sources of GHGs



Stationary



Electricity

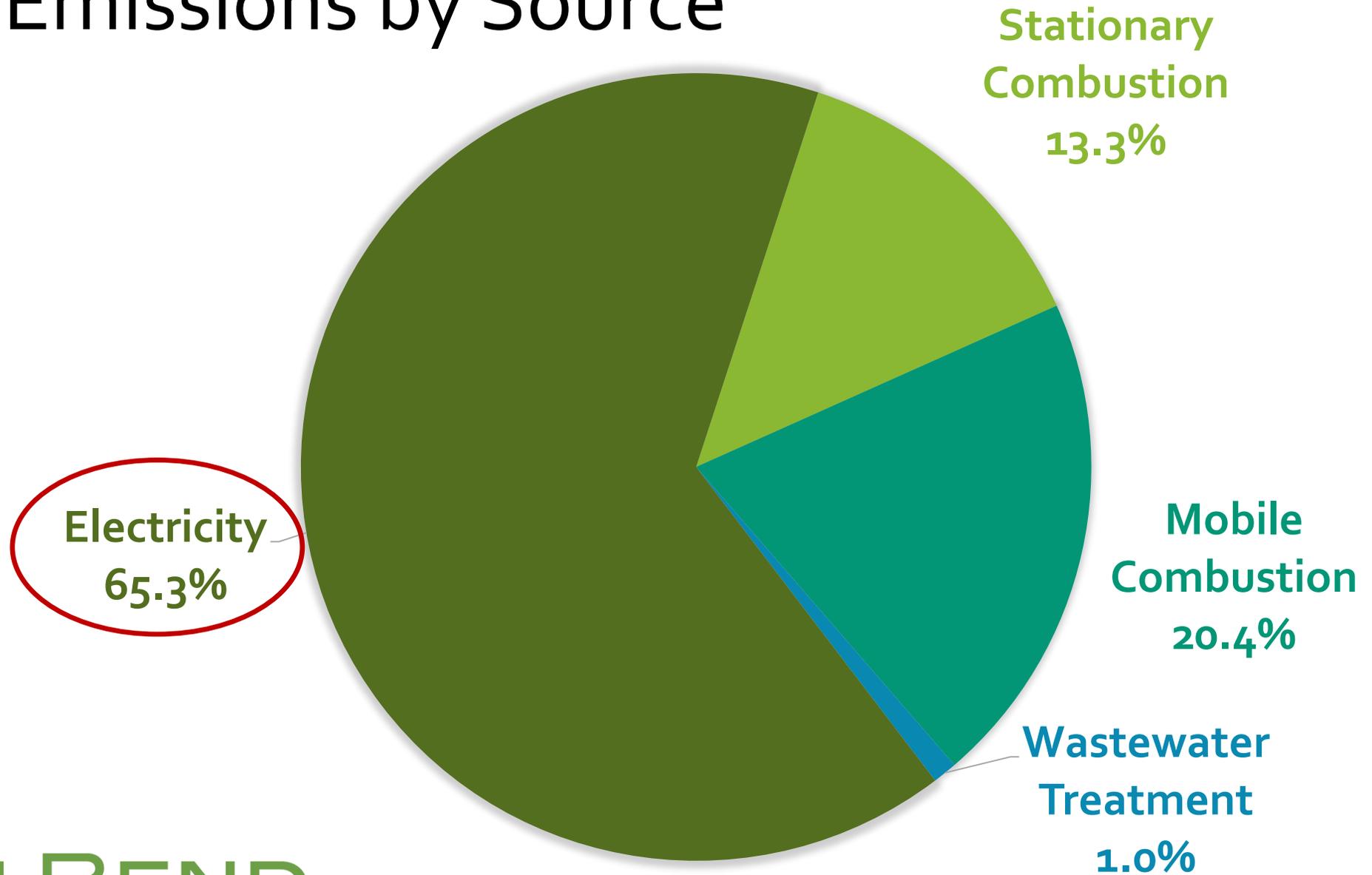


Mobile



Wastewater

# Total Emissions by Source



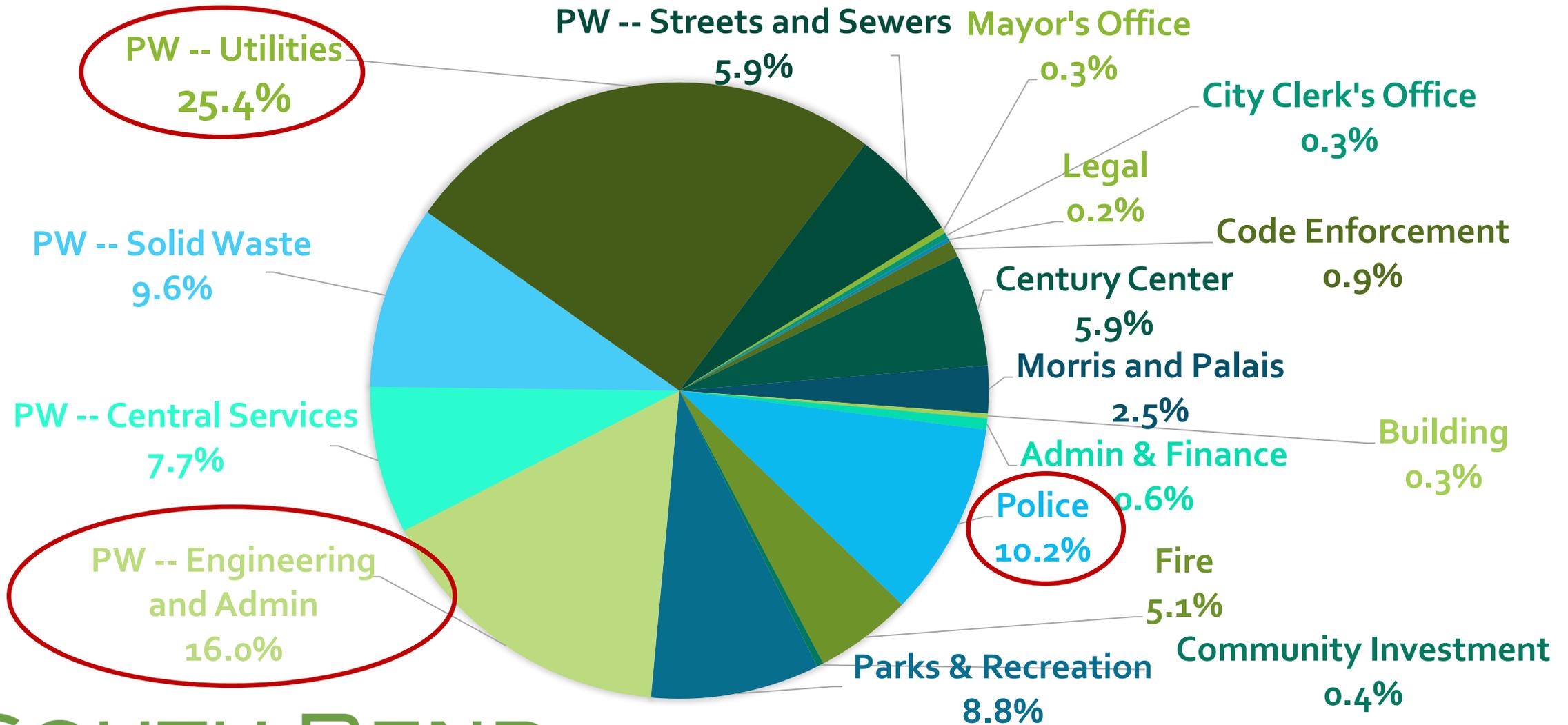
# Total Emissions by Scope



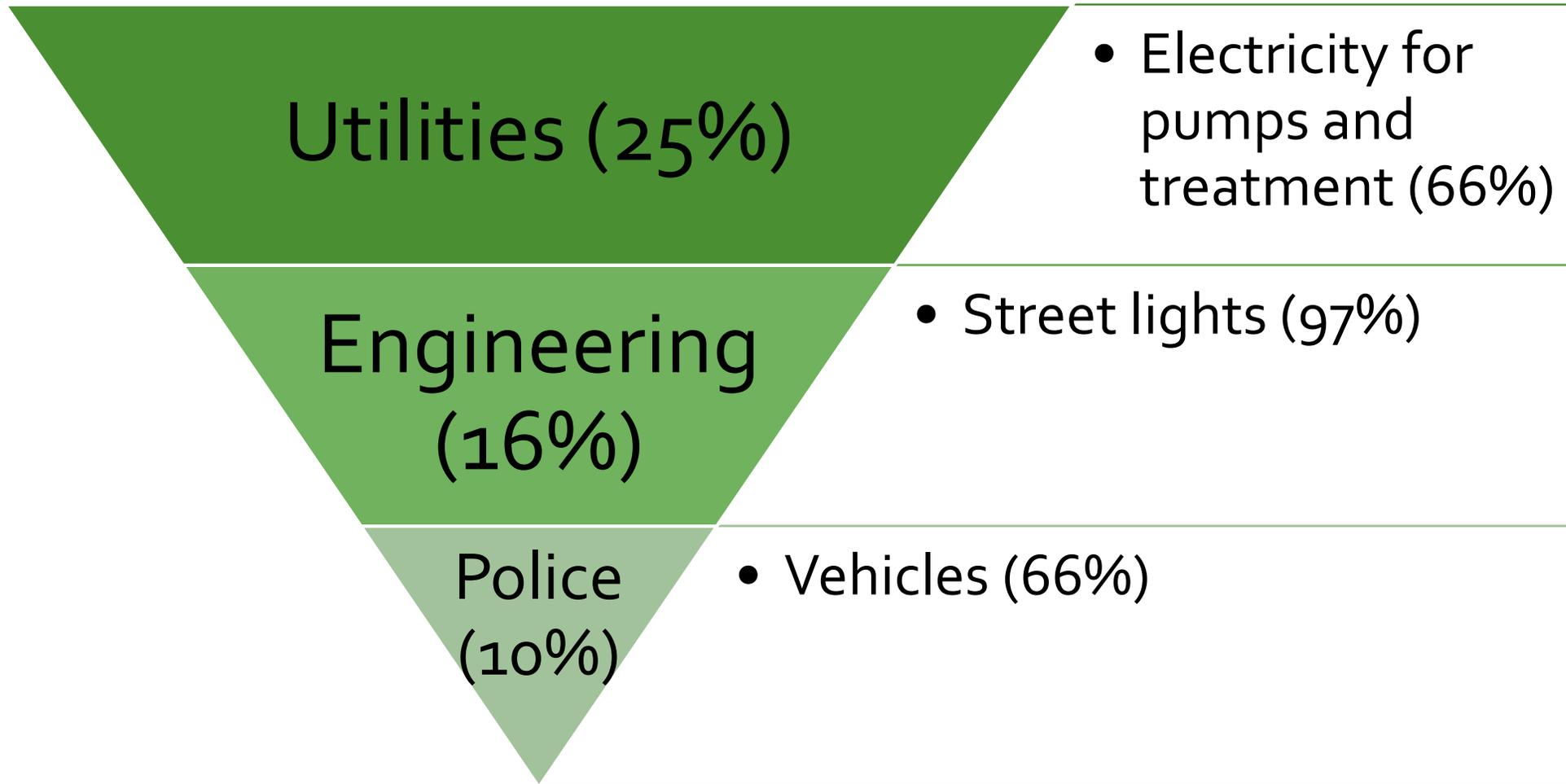
Total City of South Bend Emissions (MT CO<sub>2</sub>e)

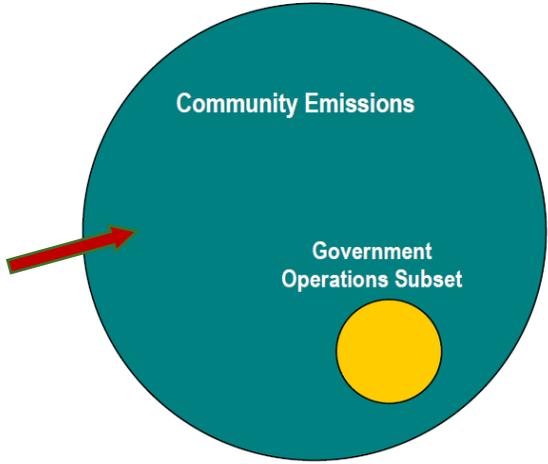
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total	Percentage
Scope 1	16,690	138	310	17,138	41%
Scope 2	24,962	8	117	25,087	59%
<b>Total Emissions</b>	<b>41,652</b>	<b>146</b>	<b>427</b>	<b>42,225</b>	<b>100%</b>

# Total Emissions By Department



# Primary Source in Top 3 Departments





# South Bend's Community Emissions

# Community Inventory Process

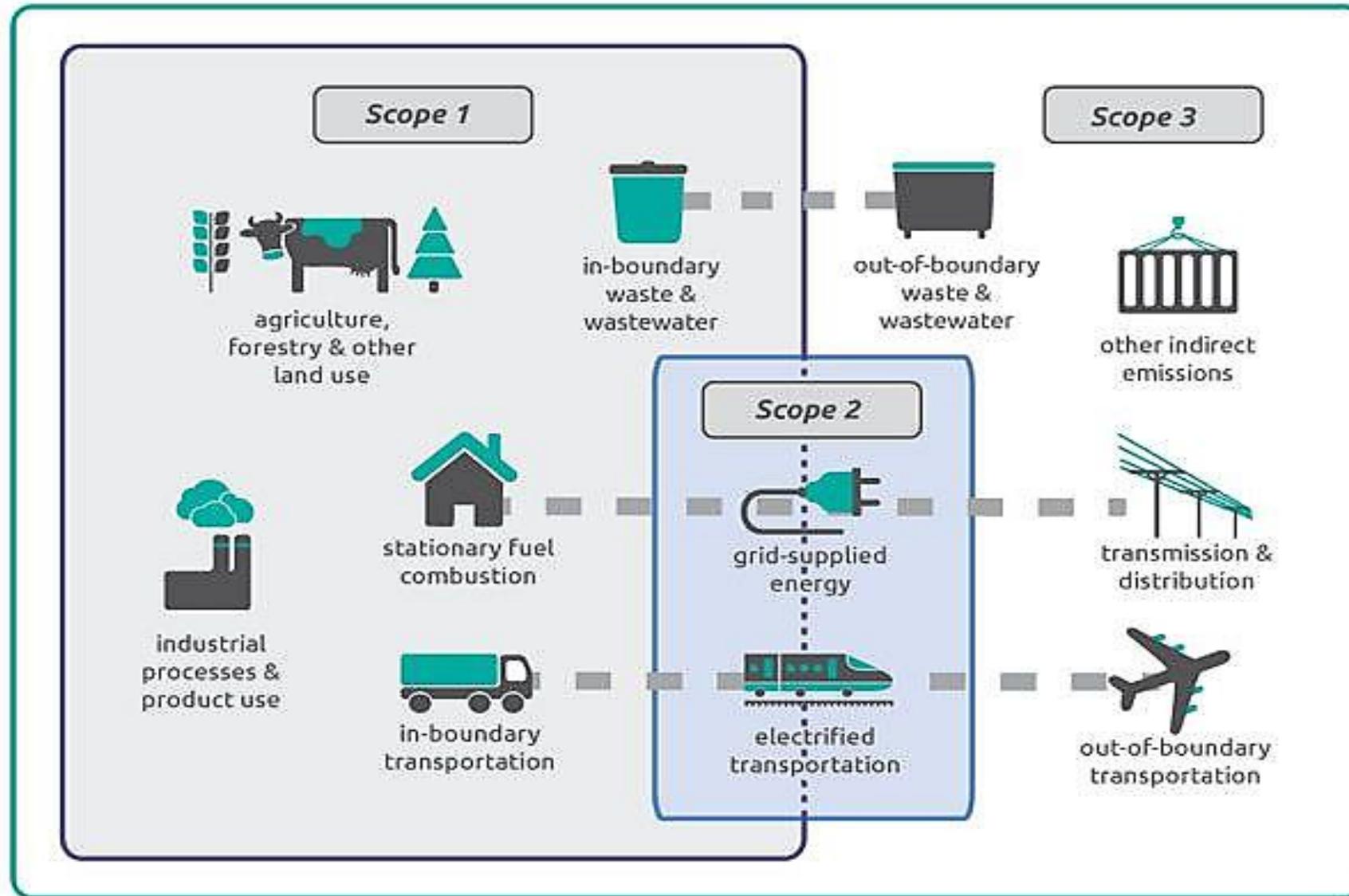
- Commitment to Global Covenant
- ICLEI
  - Training and support
  - ClearPath software
- Global Protocol for Community-Scale GHG Emission Inventories
  - Required scopes, calculations, factors
  - Standards → high-quality, repeatable inventory
- Carbon Disclosure Project



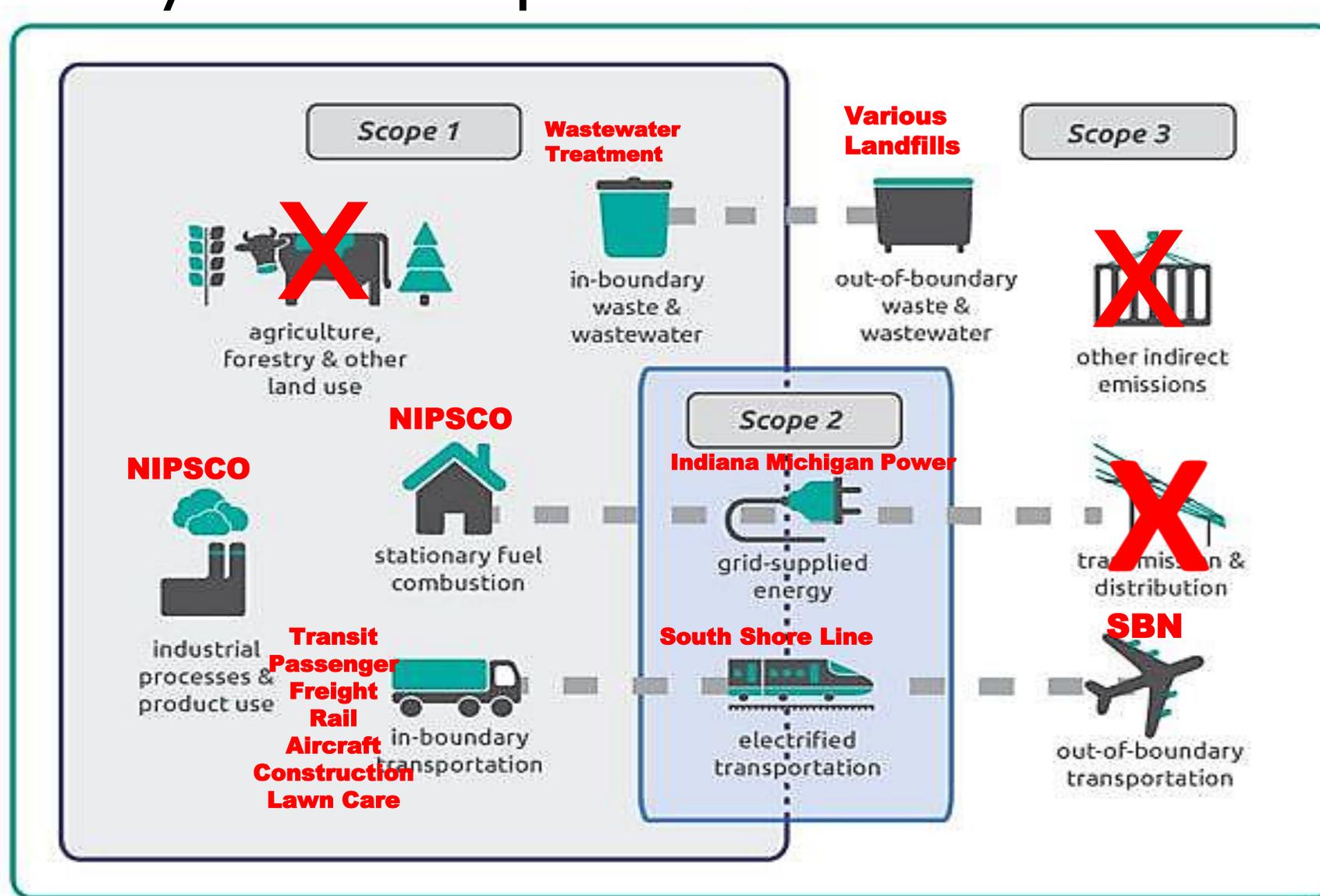
GREENHOUSE  
GAS PROTOCOL



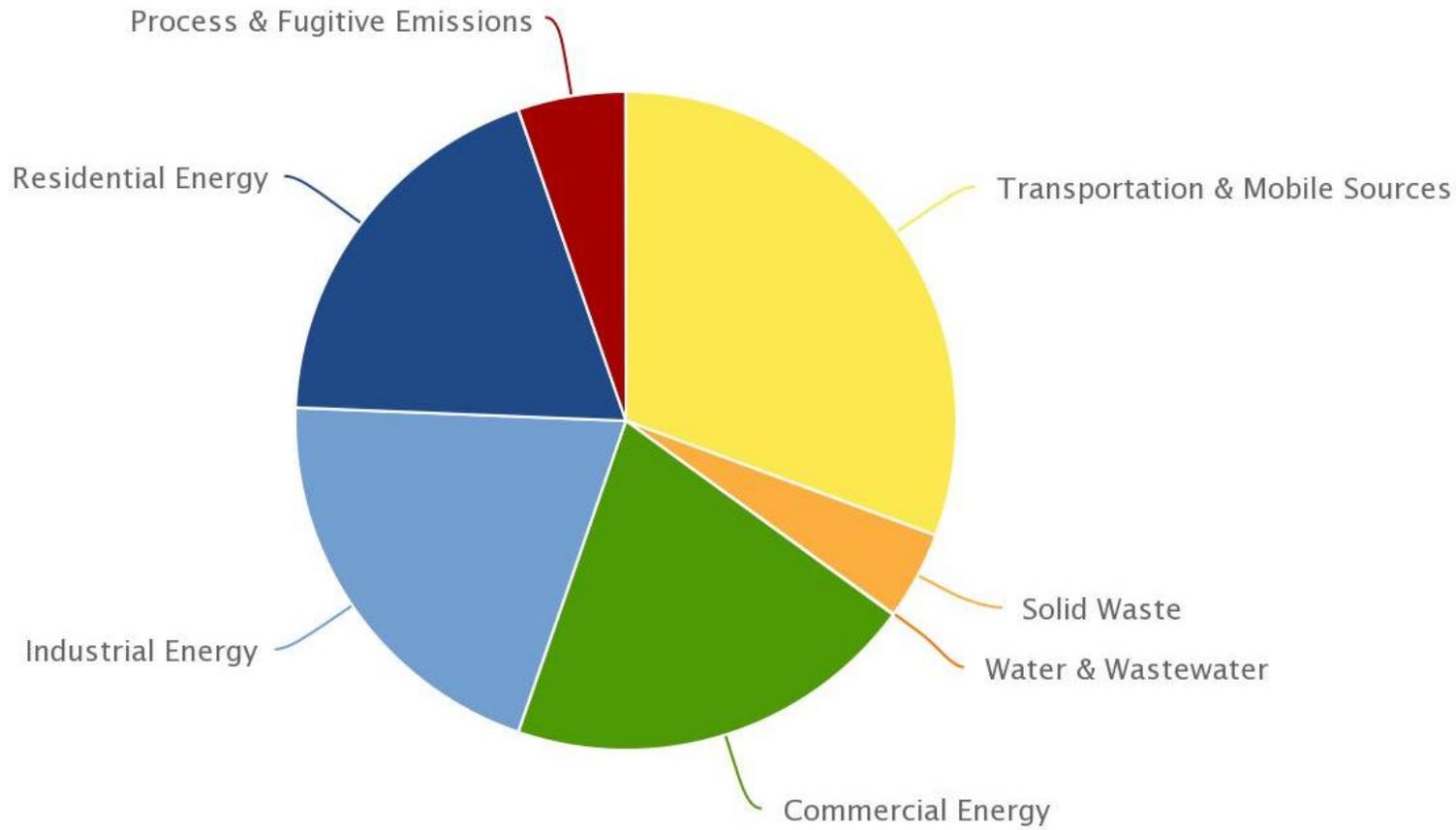
# Boundary and Scopes – Global Protocol



# Boundary and Scopes – *South Bend*



# Community GHG Inventory Results (CY 2017)



Sector	Pct
Transportation & Mobile Sources	31%
Solid Waste	4%
Water & Wastewater	0%
Commercial Energy	21%
Industrial Energy	21%
Residential Energy	20%
Process & Fugitive Emissions	3%

Highcharts.com

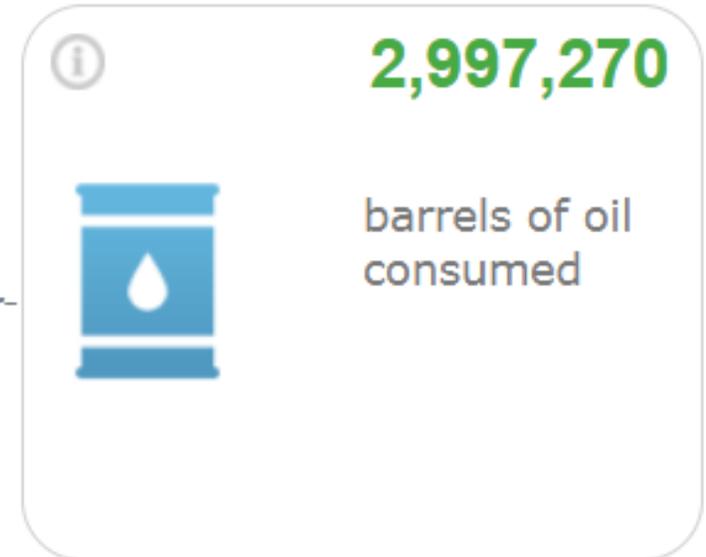
# Community GHG Inventory Results (CY 2017)

**1,294,599** MT CO<sub>2</sub>e total  
12.7 MT for every resident  
*Govt = 3.3%*

Scope 1	63.3%
Scope 2	30.4%
Scope 3	6.3%



-or-



# Thank You!

**Therese Dorau**

Director, Office of  
Sustainability

(574) 235-9323

[tdorau@southbendin.gov](mailto:tdorau@southbendin.gov)

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