
Radnor Township GHG Emissions Inventory



ENVIRONMENTAL ADVISORY COUNCIL

Presented to the
Radnor Twp Board of Commissioners
By the Radnor Twp Env't'l Advisory Council

January 25, 2010

The Charge

- Radnor Twp BOC Resolution 2007-24 (Sept. 2007)
 - Endorsed U.S. Mayors' Climate Protection Agreement, which calls upon cities and municipalities to join in establishing goals and strategies to reduce emissions of greenhouse gases (GHG)
 - Declared intent to develop an action plan to limit Radnor's energy costs and to reduce GHG emissions.
 - Directed EAC to inventory emissions and propose action plan
 - Authorized membership in International Council for Local Environmental Initiatives (ICLEI)
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The Project

- The ICLEI Five Milestone Process
 - 1) Conduct inventory of local GHG emissions
 - 2) Establish a GHG emissions reduction target
 - 3) Develop an action plan for achieving the target
 - 4) Implement the action plan
 - 5) Monitor and report progress
 - Step 1 has been completed.
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The Scope

What is included?

- Municipal operations (Township property)
- Radnor Twp School District operations
- Facilities that receive public funding or services (i.e., Library, Fire Co., Senior Center, Wayne Art Center)

What is excluded?

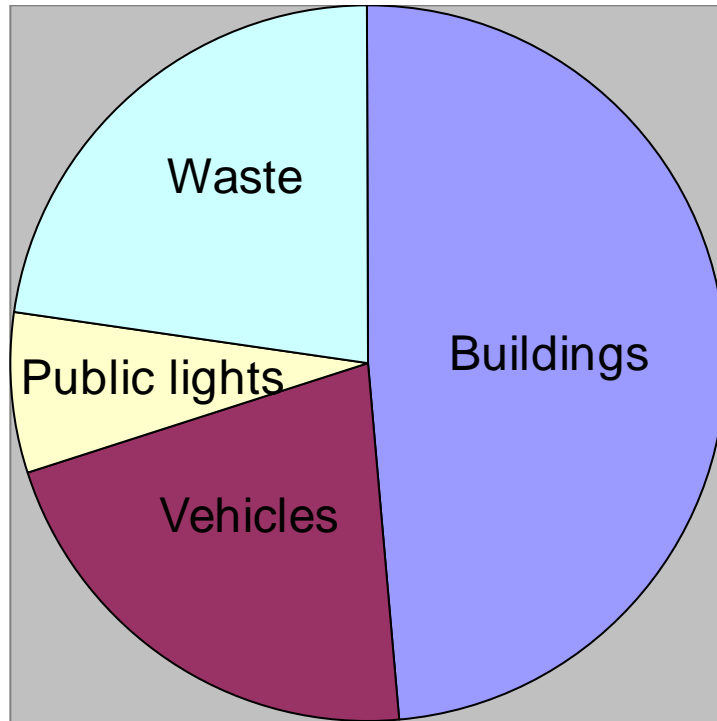
- Residential sources
- Commercial sources

{DVRPC - complimentary regional inventory of residential, commercial, industrial and transportation sources}

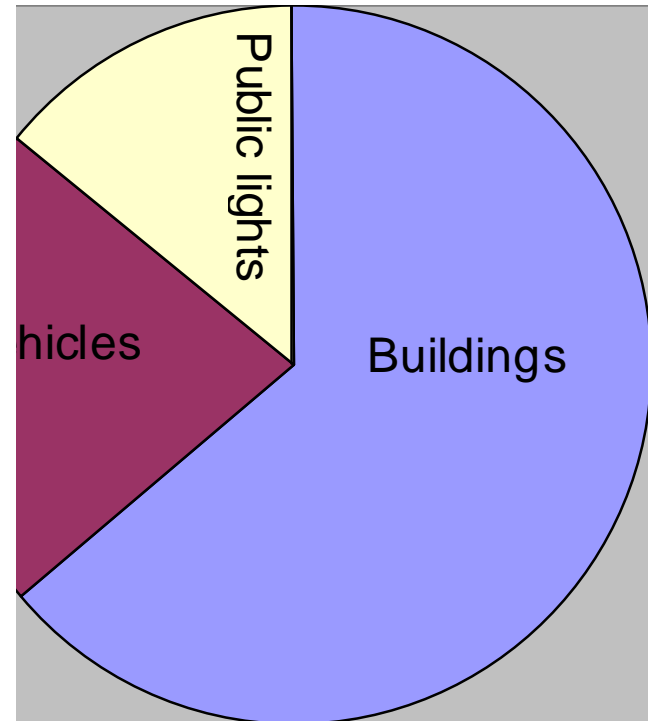
The Process

- Collected data on electricity use, natural gas use, fuel use, waste generation and entered it into ICLEI software (used 2005 as baseline)
 - ICLEI software was used to calculate GHG emissions from data entered
 - Five categories of sources evaluated: buildings, vehicles, public lighting, water/sewage, and waste
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Greenhouse Gas Emissions Summary



Carbon Dioxide Equivalent
10,827 tons in 2005 (baseline)



Cost for Energy by Source
\$1,762,161 in 2005 (baseline)

Buildings

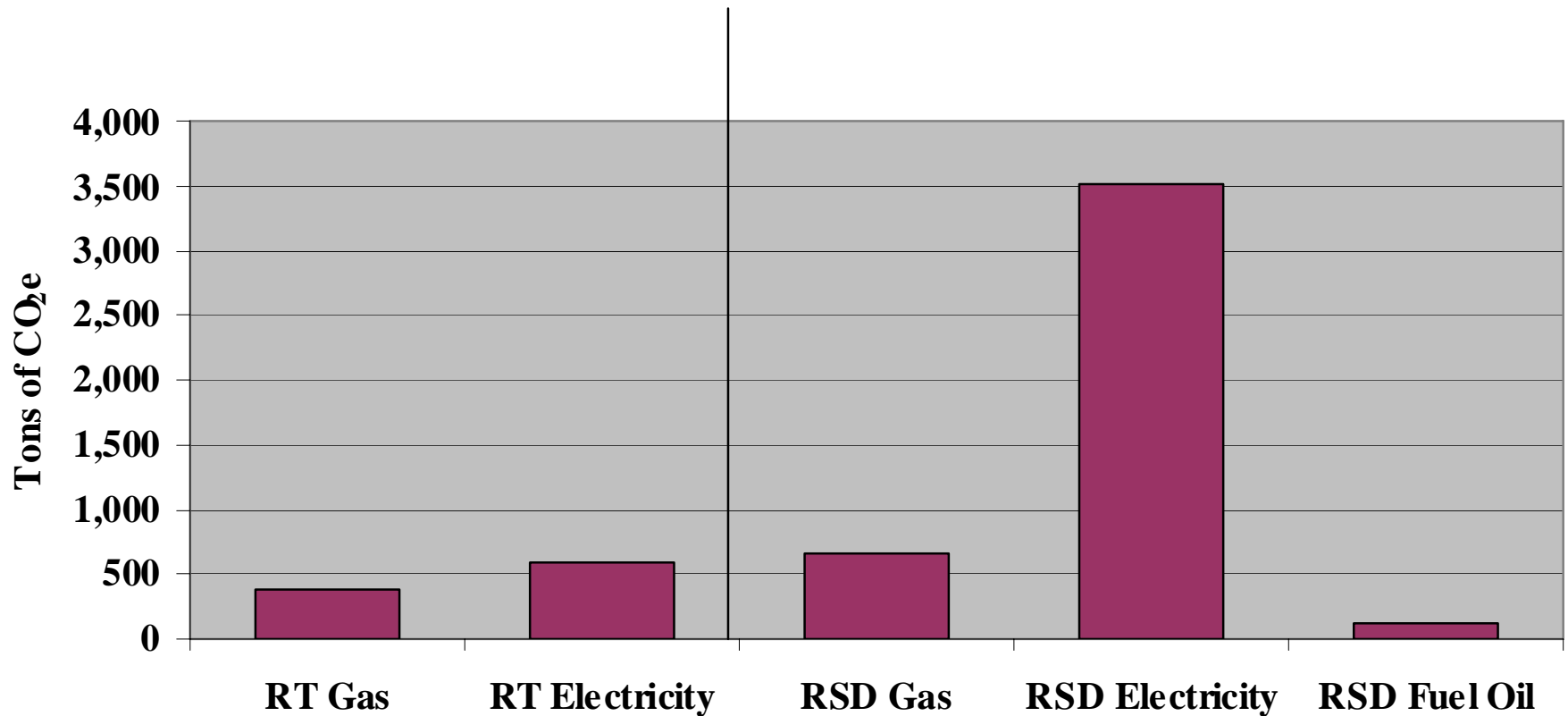
- Buildings are the single largest component of Twp energy consumption, energy cost, and GHG emissions.
 - 5,253 tons CO₂e: 49% of total emissions
 - \$1,236,633 in electricity, nat. gas & oil
 - RTSD accounts for 82% of report total
 - DVRPC: Residential building emissions are estimated to be 25 times more than municipal emissions
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Buildings

2005 Buildings GHG Emissions

Radnor Township

School District



Vehicles

- 2,324 tons CO₂e: 21% of total emissions
- \$391,594 in gasoline and diesel

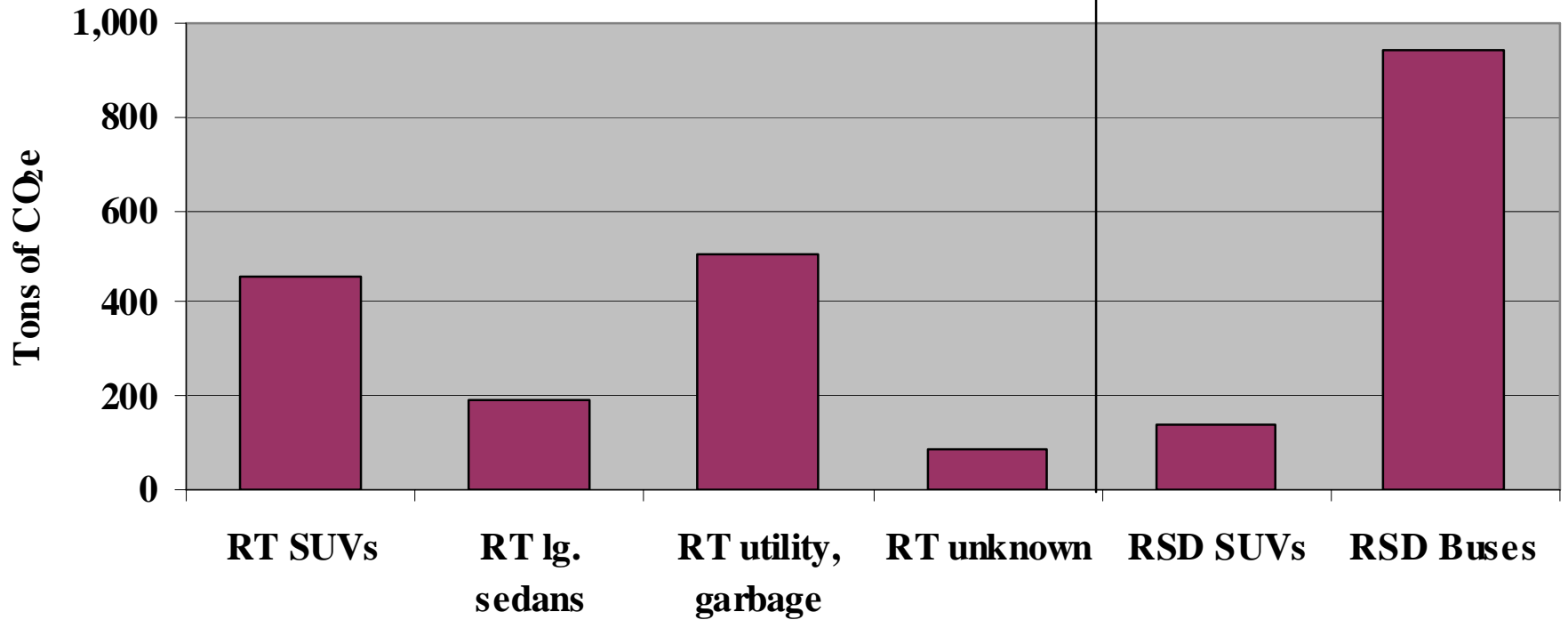
Vehicle Type	Fuel Efficiency	Gallons Used
Trash trucks	2.7 mpg	22,507
Recycling trucks	4.6 mpg	3,752
Marked police cars	9.4 mpg	16,750
Parks & Rec. pick-ups	7.3 mpg	7,322
Parks & Rec. dump trucks	4.5 mpg	5,440
Fire vehicles (diesel only)	4.2 mpg	6,599

Vehicles

2005 Vehicles GHG Emissions

Radnor Township

School District



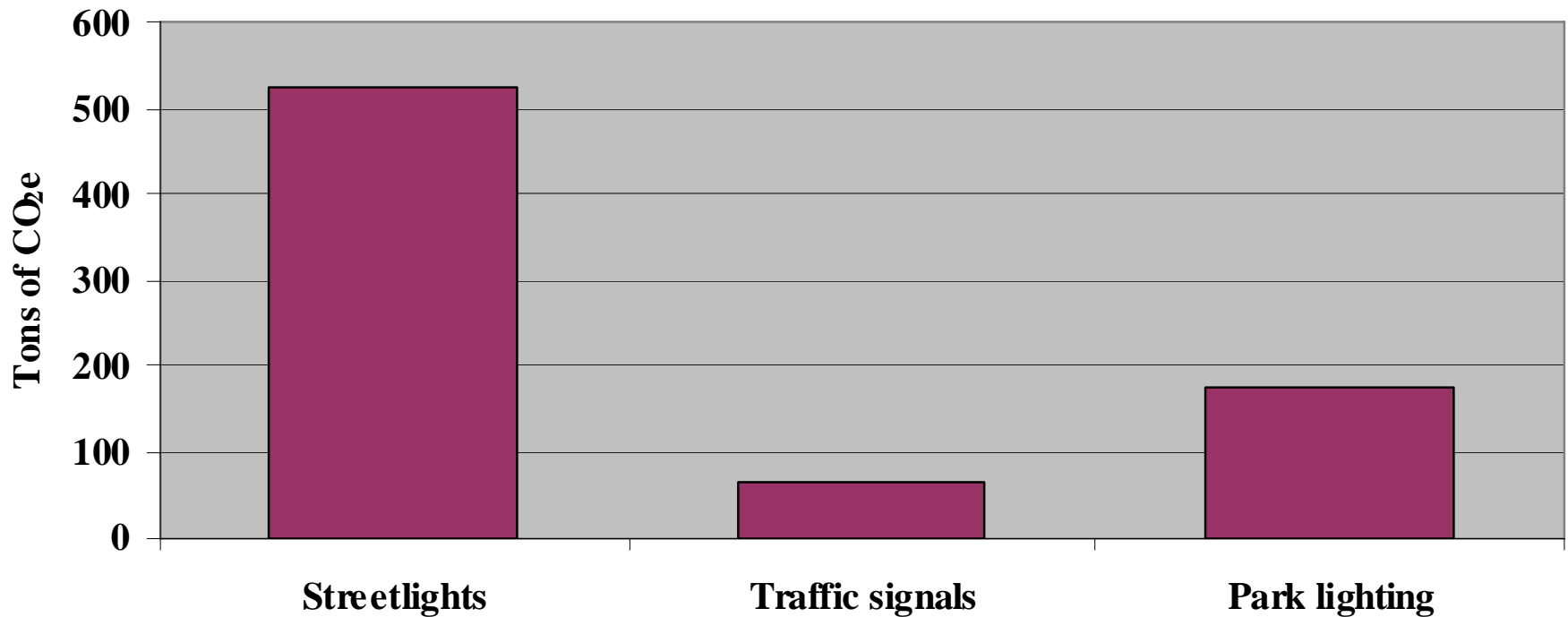
Public Lighting

- 764 tons CO₂e: 7% of total emissions
- \$248,486 in electric
- Traffic signals converted to LEDs already

Lighting Type	CO ₂ e emissions	Cost
Streetlights	523 tons	\$179,334
Traffic Signals	66 tons	\$14,342
Parks	175 tons	\$54,810

Public Lighting

2005 Public Lighting GHG Emissions Radnor Township

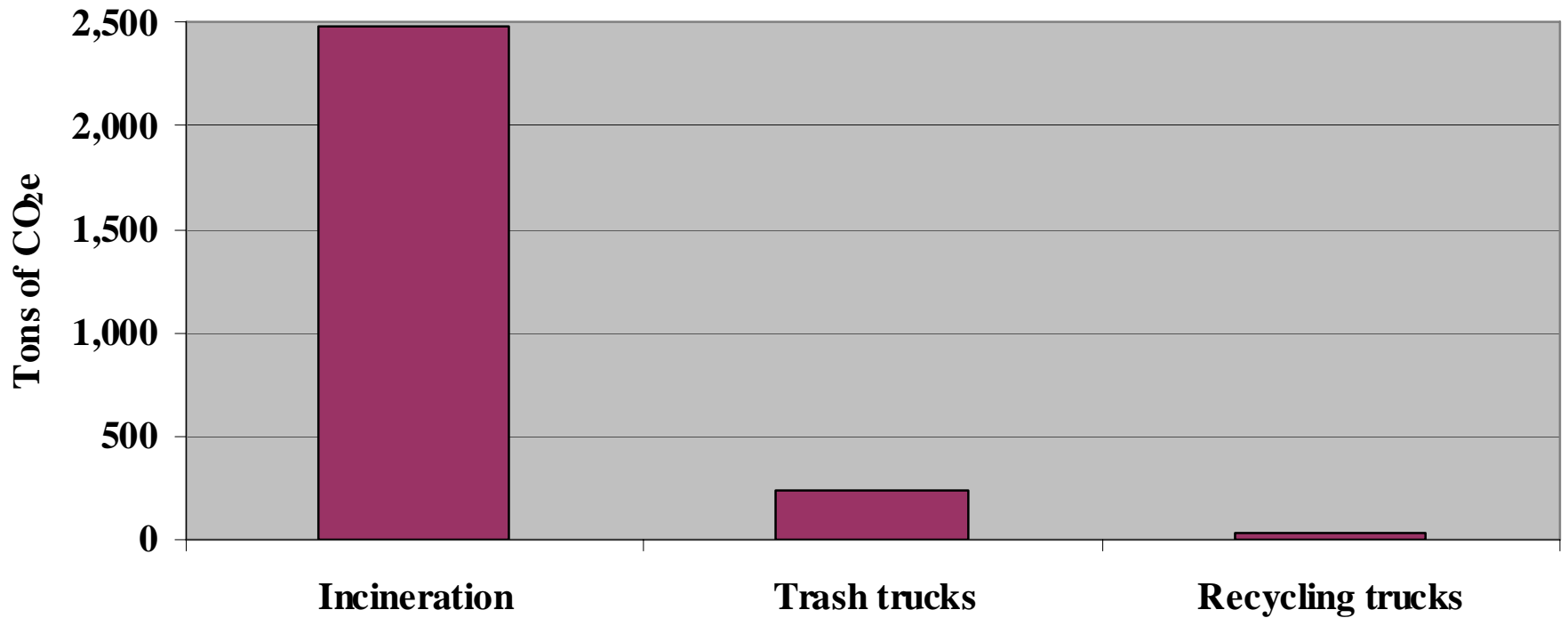


Waste

- Waste represents the 2nd largest component of Radnor's GHG emissions (residential waste included in calculation).
 - 2,471 tons CO₂e: 23% of total emissions
 - Trash incinerated at Delaware County Solid Waste Authority
 - No tipping fees in 2005
 - Tipping fees predicted to be \$250,000 in 2011
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Waste

2005 Waste-related GHG Emissions Radnor Township



Why Does this Matter?

- Intergovernmental Panel on Climate Change: GHG emissions cause climate warming
 - Pennsylvania Climate Action Plan (2009): PA emits 1% of world's man-made GHG
 - Leading national scientific associations: Man-made climate change is not an opinion
 - Impacts of climate change predicted across United States and around the world
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Next Steps in Radnor Township

- Establish a GHG emissions reduction target
 - Develop an action plan for achieving the emissions reduction target
 - Implement the action plan
 - Monitor and report progress
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