

# Dane County, Wisconsin Countywide Emissions Inventory for 2017 and 2022

Using ICLEI ClearPath tool - Detailed Summary of Findings from Production-Based Inventory

| Sector                          | Fuel or Source            | 2017 Emissions Inventory |             |                  | 2022 Emissions Inventory |             |                  | Percent Change |
|---------------------------------|---------------------------|--------------------------|-------------|------------------|--------------------------|-------------|------------------|----------------|
|                                 |                           | Usage                    | Usage Units | Emissions        | Usage                    | Usage Units | Emissions        |                |
| <b>Residential Energy</b>       | Electricity               | 1,589,146,502            | kWh         | 1,210,605        | 1,776,399,433            | kWh         | 1,249,415        | 3%             |
|                                 | Natural Gas               | 110,334,446              | Therms      | 586,830          | 131,527,140              | Therms      | 699,547          | 19%            |
|                                 | Propane                   | 894,759                  | MMBtu       | 55,528           | 1,250,200                | MMBtu       | 77,586           | 40%            |
|                                 | Distillate Fuel Oil No. 2 | 207,373                  | MMBtu       | 15,440           | 85,127                   | MMBtu       | 6,338            | -59%           |
|                                 | Wood                      | 650,615                  | MMBtu       | 6,481            | 171,393                  | MMBtu       | 1,707            | -74%           |
| <b>Residential Energy Total</b> |                           |                          |             | <b>1,874,884</b> |                          |             | <b>2,034,593</b> | <b>9%</b>      |
|                                 |                           |                          |             |                  |                          |             |                  |                |
| <b>Commercial Energy</b>        | Electricity               | 3,133,163,969            | kWh         | 2,386,831        | 3,285,597,022            | kWh         | 2,233,776        | -6%            |
|                                 | Natural Gas               | 155,117,981              | Therms      | 825,018          | 176,250,982              | Therms      | 937,417          | 14%            |
|                                 | Gasoline                  | 781,804                  | MMBtu       | 55,309           | 864,869                  | MMBtu       | 61,186           | 11%            |
|                                 | Propane                   | 716,654                  | MMBtu       | 44,475           | 836,513                  | MMBtu       | 51,913           | 17%            |
|                                 | Coal <sup>1</sup>         | 65,150                   | MMBtu       | 6,326            | 0                        | MMBtu       | 0                | -100%          |
|                                 | Wood                      | 651,504                  | MMBtu       | 6,490            | 666,374                  | MMBtu       | 6,638            | 2%             |
|                                 | Distillate Fuel Oil No. 2 | 482,113                  | MMBtu       | 35,896           | 538,771                  | MMBtu       | 40,115           | 12%            |
| <b>Commercial Energy Total</b>  |                           |                          |             | <b>3,360,345</b> |                          |             | <b>3,331,045</b> | <b>-1%</b>     |
|                                 |                           |                          |             |                  |                          |             |                  |                |

<sup>1</sup> EIA data reports no coal usage in the commercial sector in 2022.

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|--|----------------------------|--------------------------|------------------|-----------|--------------------------|------------------|-------------|----------------|
|  |                            | Usage                    | Usage Units      | Emissions | Usage                    | Usage Units      | Emissions   |                |
| Industrial Energy                                | Electricity                | 630,899,761              | kWh              | 480,617   | 538,694,425              | kWh              | 365,898     | -24%           |
|  | Natural Gas                | 16,732,881               | Therms           | 88,809    | 19,404,504               | Therms           | 102,402     | 15%            |
|  | Coal                       | 1,299,000                | MMBtu            | 126,123   | 844,651                  | MMBtu            | 82,009      | -35%           |
|  | Wood                       | 3,704,800                | MMBtu            | 7,443     | 337,110                  | MMBtu            | 6,773       | -9%            |
|  | Distillate Fuel Oil No. 2  | 1,670,156                | MMBtu            | 123,981   | 1,853,747                | MMBtu            | 137,610     | 11%            |
|  | Kerosene                   | 2,598,020                | MMBtu            | 196,097   | 2,832,945                | MMBtu            | 213,829     | 9%             |
|  | Propane                    | 437,422                  | MMBtu            | 27,052    | 418,588                  | MMBtu            | 25,887      | -4%            |
|  | Gasoline                   | 351,263                  | MMBtu            | 24,772    | 373,739                  | MMBtu            | 26,357      | 6%             |
| <b>Industrial Energy Total</b>                   |                            |                          | <b>1,074,894</b> |           |                          | <b>960,765</b>   | <b>-11%</b> |                |
| Transportation & Mobile Sources                  | Gas                        |                          |                  |           | 303,431,877              | VMT              | 404,869     | -9%            |
|  | Diesel                     |                          |                  |           | 3,964,223,932            | VMT              | 1,571,668   |                |
|  | Gas & Diesel <sup>2</sup>  |                          |                  | 2,160,752 |                          |                  |             | 20%            |
|  | Other (including Off Road) |                          |                  | 342,131   |                          |                  | 408,878     |                |
| <b>Transportation &amp; Mobile Sources Total</b> |                            |                          | <b>2,502,883</b> |           |                          | <b>2,385,415</b> | <b>-5%</b>  |                |

<sup>2</sup> Dane County's 2017 emissions inventory did not split fuels out by source.

| Sector  | Fuel or Source                   | 2017 Emissions Inventory |             |                | 2022 Emissions Inventory |             |                | Percent Change |
|---|----------------------------------|--------------------------|-------------|----------------|--------------------------|-------------|----------------|----------------|
|   |                                  | Usage                    | Usage Units | Emissions      | Usage                    | Usage Units | Emissions      |                |
| <b>Water &amp; Wastewater</b>                 | Water Supply Energy <sup>3</sup> |                          |             | 149,017        |                          |             | 21,298         | -86%           |
|   | Fugitive Emissions               |                          |             |                |                          |             | 6,633          |                |
| <b>Water &amp; Wastewater Total</b>           |                                  |                          |             | <b>149,017</b> |                          |             | <b>27,931</b>  | <b>-81%</b>    |
|   |                                  |                          |             |                |                          |             |                |                |
| <b>Solid Waste</b>                            | Rodefeld <sup>4</sup>            |                          |             | 74,509         | 350,317                  | Tons        | 34,720         | -53%           |
|   | Other                            |                          |             |                |                          |             | 8              |                |
| <b>Waste Total</b>                            |                                  |                          |             | <b>74,509</b>  |                          |             | <b>34,728</b>  | <b>-53%</b>    |
|   |                                  |                          |             |                |                          |             |                |                |
| <b>Agriculture</b>                            | Other <sup>5</sup>               |                          |             | 656,236        |                          |             | 595,096        | -9%            |
| <b>Agriculture Total</b>                      |                                  |                          |             | <b>656,236</b> |                          |             | <b>595,096</b> | <b>-9%</b>     |
|   |                                  |                          |             |                |                          |             |                |                |
| <b>Process &amp; Fugitive Emissions</b>       | Other                            |                          |             | 48,958         |                          |             | 56,765         | 16%            |
| <b>Process &amp; Fugitive Emissions Total</b> |                                  |                          |             | <b>48,958</b>  |                          |             | <b>56,765</b>  | <b>16%</b>     |
|   |                                  |                          |             |                |                          |             |                |                |

<sup>3</sup> Dane County's 2017 emissions inventory did not detail this emissions calculation. Given the size of these emissions relative to totals we opted to use the value provided by the initial inventory. We suspect that some of the emissions included in this category in 2017 are, in 2022, reported under industrial.

<sup>4</sup> The emissions for the Rodefeld landfill are based on data submitted to EPA; the reduction in emissions reflects the aggressive methane capture protocols implemented as part of the Renewable Natural Gas facility.

<sup>5</sup> We opted to calculate both the 2017 and the 2022 agricultural emissions using the EPA's State Greenhouse Gas Inventory Tool, June 1, 2023 version. That is the tool the Wisconsin DNR uses to calculate agricultural emissions.

|   | 2017 Emissions Inventory | 2022 Emissions Inventory | Percent Change |
|---|--------------------------|--------------------------|----------------|
| <b>Total Countywide Emissions (MTCO<sub>2</sub>e)</b> | <b>9,741,726</b>         | <b>9,426,338</b>         | <b>-3%</b>     |
|   |                          |                          |                |
| <b>Dane County Population</b>                         | <b>531,775</b>           | <b>568,203</b>           | <b>7%</b>      |
|   |                          |                          |                |
| <b>Emissions per person (MTCO<sub>2</sub>e)</b>       | <b>18.32</b>             | <b>16.59</b>             | <b>-9%</b>     |