Great Tables 3 in Python: Data Color and Polishing

2025-04-15

Table of contents

# 1. Code Along: Power Generation Table

## 1.1 Start

Setting up.

import pandas as pd  
import polars as pl  
import polars.selectors as cs  
from great\_tables import GT, md, style, loc

Importing the data.

power\_generation = pl.read\_csv("C:/Users/Hon.Olayinka/Desktop/Data Science/Posit PBC/GREAT\_TABLES\_PYTHON/Lesson 3/power-generation.csv")  
  
power\_generation

| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| str | f64 | f64 | f64 | f64 | f64 | f64 | f64 | f64 | f64 | f64 | f64 | f64 | f64 |
| "Sweden" | 23.461285 | 0.435313 | 0.291741 | 0.213598 | 0.009052 | 0.0 | 0.001935 | 0.001617 | 0.002284 | 0.00012 | 0.044002 | 0.000337 | 0.0 |
| "Iceland" | 27.64153 | 0.724137 | 0.0 | 0.0 | 0.0 | 0.275864 | 0.0 | 0.0 | 0.0 | 0.000002 | 0.0 | 0.0 | 0.0 |
| "Quebec" | 30.569909 | 0.914573 | 0.009331 | 0.047134 | 0.0000971 | 0.000002 | 0.025015 | 0.003837 | 0.0000107 | 0.0000129 | 0.0000795 | 0.0 | 4.3700e-8 |
| "France" | 52.734328 | 0.10518 | 0.642434 | 0.104648 | 0.048092 | 0.000004 | 0.014089 | 0.065821 | 0.004739 | 0.003455 | 0.000681 | 0.01086 | 0.0 |
| "Ontario" | 72.600783 | 0.260362 | 0.518587 | 0.080441 | 0.004532 | 0.0 | 0.002384 | 0.133519 | 0.000155 | 2.8200e-7 | 0.0000241 | 0.0 | 0.0 |
| … | … | … | … | … | … | … | … | … | … | … | … | … | … |
| "Victoria" | 506.404819 | 0.06248 | 0.0 | 0.205929 | 0.127015 | 0.0 | 0.00001 | 0.014187 | 0.588 | 0.000004 | 0.0 | 2.1100e-8 | 0.002495 |
| "New South Wales" | 556.312457 | 0.048673 | 0.0 | 0.092353 | 0.195595 | 0.0 | 0.001074 | 0.021792 | 0.639718 | 0.0000583 | 0.0 | 0.000001 | 0.000662 |
| "India (North)" | 558.241021 | 0.212228 | 0.021765 | 0.015379 | 0.077375 | 9.8300e-8 | 5.5000e-7 | 0.01873 | 0.642839 | 9.3600e-7 | 0.011682 | 0.0 | 0.0 |
| "Queensland" | 607.034892 | 0.020918 | 0.0 | 0.040105 | 0.197967 | 0.0 | 0.002442 | 0.067024 | 0.670511 | 0.000314 | 0.0 | 0.000001 | 0.000789 |
| "South Africa" | 700.998074 | 0.009413 | 0.042068 | 0.057471 | 0.031996 | 0.0 | 0.0 | 0.0000787 | 0.809385 | 0.02558 | 0.001313 | 0.022696 | 0.0 |

Let’s get the data into Great Tables.

gt\_tbl\_1 = GT(power\_generation)  
  
gt\_tbl\_1

| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sweden | 23.46128501 | 0.435312552 | 0.29174058 | 0.213598205 | 0.00905231 | 0.0 | 0.001934943 | 0.001616901 | 0.002284037 | 0.00012 | 0.044001931 | 0.000337 | 0.0 |
| Iceland | 27.64152966 | 0.724137376 | 0.0 | 0.0 | 0.0 | 0.27586402 | 0.0 | 0.0 | 0.0 | 1.79e-6 | 0.0 | 0.0 | 0.0 |
| Quebec | 30.56990899 | 0.914572876 | 0.009331108 | 0.047134419 | 0.0000971 | 1.84e-6 | 0.025015002 | 0.003836545 | 0.0000107 | 0.0000129 | 0.0000795 | 0.0 | 4.37e-8 |
| France | 52.73432801 | 0.105179703 | 0.642433753 | 0.104647836 | 0.048092258 | 3.52e-6 | 0.014088511 | 0.065820679 | 0.004738863 | 0.003454775 | 0.000681 | 0.010860181 | 0.0 |
| Ontario | 72.60078255 | 0.260361881 | 0.518587118 | 0.080440676 | 0.004531646 | 0.0 | 0.002384341 | 0.133519187 | 0.000155 | 2.82e-7 | 0.0000241 | 0.0 | 0.0 |
| Finland | 87.22831754 | 0.246151138 | 0.408646271 | 0.186382412 | 0.007824817 | 0.0 | 0.066174243 | 0.022113252 | 0.052003005 | 0.0001 | 0.010583202 | 0.0000192 | 0.0 |
| Tasmania | 92.1890272 | 0.663216796 | 0.0 | 0.192216671 | 0.057843914 | 0.0 | 0.0 | 0.005585102 | 0.080626115 | 0.0 | 0.0 | 0.0 | 0.000133 |
| New Zealand | 94.50564468 | 0.627582681 | 5.62e-6 | 0.073994174 | 0.0000249 | 0.181548723 | 0.0 | 0.061119138 | 0.035516963 | 0.0000277 | 0.020244562 | 0.0 | 0.0 |
| Belgium | 139.5605448 | 0.013668479 | 0.419910244 | 0.197723307 | 0.098437281 | 7.21e-7 | 0.032965683 | 0.186617324 | 0.014573294 | 0.001045043 | 0.020571735 | 0.014476877 | 0.0 |
| West Denmark | 143.1380408 | 0.181489083 | 0.041429642 | 0.467775664 | 0.080510333 | 7.1e-6 | 0.07464462 | 0.059221754 | 0.081830912 | 0.004474977 | 0.005634762 | 0.003076031 | 0.0 |
| East Denmark | 147.6286591 | 0.131248475 | 0.104716335 | 0.406830141 | 0.065438189 | 0.0 | 0.143553717 | 0.042023638 | 0.071743624 | 0.011683996 | 0.022128678 | 0.000922 | 0.0 |
| Spain | 154.0142537 | 0.09969906 | 0.227273313 | 0.237562165 | 0.150134943 | 2.39e-7 | 0.021247062 | 0.217965679 | 0.015788692 | 0.001904201 | 0.003163999 | 0.025265191 | 0.0 |
| South Australia | 185.7627912 | 0.010199114 | 0.0 | 0.449961993 | 0.24542457 | 0.0 | 0.0 | 0.218230503 | 0.069856191 | 0.000957 | 0.0 | 0.0 | 0.005213381 |
| Great Britain | 199.8104792 | 0.045834272 | 0.181239034 | 0.301926186 | 0.059607545 | 4.57e-8 | 0.050829232 | 0.332149815 | 0.012325292 | 0.000344 | 0.009736427 | 0.005980374 | 0.0 |
| California | 257.678732 | 0.123989435 | 0.100042977 | 0.096419088 | 0.17055086 | 0.031164503 | 0.017478187 | 0.41970878 | 0.012129465 | 0.000102 | 0.008942203 | 0.000283 | 0.019191918 |
| Netherlands | 272.809179 | 0.030186796 | 0.048566848 | 0.315753767 | 0.167656374 | 0.0000134 | 0.050021331 | 0.276795769 | 0.090373246 | 0.008306204 | 0.010581683 | 0.001761264 | 0.0 |
| New York ISO | 279.992946 | 0.22594502 | 0.226559596 | 0.039417192 | 0.000715 | 0.0 | 0.001091576 | 0.482745941 | 0.005538419 | 0.000123 | 0.017781202 | 3.47e-6 | 7.12e-6 |
| Italy (North) | 307.2558542 | 0.244615333 | 0.119192177 | 0.029255242 | 0.069372174 | 0.003271406 | 0.021624102 | 0.370342992 | 0.025889108 | 0.001570806 | 0.086539443 | 0.028325907 | 1.25e-7 |
| Texas | 383.1867568 | 0.000828 | 0.090769558 | 0.251576503 | 0.071636563 | 0.0 | 5.82e-7 | 0.44437107 | 0.138211735 | 3.56e-6 | 0.002600341 | 0.0 | 0.0 |
| Germany | 396.7870709 | 0.059246857 | 0.043122592 | 0.290545677 | 0.117499352 | 0.000377 | 0.096291651 | 0.113309627 | 0.244769882 | 0.00481437 | 0.007452162 | 0.022569385 | 0.0 |
| Western Australia | 433.2945402 | 0.0 | 0.0 | 0.155240714 | 0.191426117 | 0.0 | 0.004275849 | 0.350975922 | 0.29709105 | 0.000316 | 0.0 | 0.0 | 0.000664 |
| Alberta | 438.9442161 | 0.029249945 | 0.000404 | 0.113897357 | 0.02666683 | 0.0 | 0.026402135 | 0.675430038 | 0.081166555 | 0.000329 | 0.04643415 | 1.55e-7 | 0.0 |
| Victoria | 506.4048193 | 0.062479748 | 0.0 | 0.205928815 | 0.127014842 | 0.0 | 0.00001 | 0.014187332 | 0.587999674 | 4.05e-6 | 0.0 | 2.11e-8 | 0.002494507 |
| New South Wales | 556.312457 | 0.048672531 | 0.0 | 0.092353062 | 0.195594575 | 0.0 | 0.001073667 | 0.021792087 | 0.639717569 | 0.0000583 | 0.0 | 1.17e-6 | 0.000662 |
| India (North) | 558.2410211 | 0.212228393 | 0.02176545 | 0.015378776 | 0.077375285 | 9.83e-8 | 5.5e-7 | 0.018729681 | 0.642839452 | 9.36e-7 | 0.011682019 | 0.0 | 0.0 |
| Queensland | 607.0348918 | 0.020918137 | 0.0 | 0.040105111 | 0.197967484 | 0.0 | 0.002442345 | 0.067024275 | 0.67051114 | 0.000314 | 0.0 | 1.44e-6 | 0.000789 |
| South Africa | 700.9980742 | 0.009413239 | 0.042068349 | 0.057471213 | 0.03199641 | 0.0 | 0.0 | 0.0000787 | 0.809385111 | 0.025579845 | 0.001312838 | 0.022695992 | 0.0 |

## 1.2 tab\_source\_note() and cols\_width()

Add a title to the table to explain contents. Use this title:

“2023 Mean Carbon Intensity (gCO2eq/kWh) and Power Consumption Breakdown (%)”

and make sure ‘Carbon Intensity’ and ‘Power Consumption’ are in bold lettering.

gt\_tbl\_2 = (  
 gt\_tbl\_1  
 .tab\_header(  
 title=md("2023 Mean \*\*Carbon Intensity\*\* (gCO2eq/kWh) and \*\*Power Consumption\*\* Breakdown (%)")  
 )  
)  
  
gt\_tbl\_2

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23.46128501 | 0.435312552 | 0.29174058 | 0.213598205 | 0.00905231 | 0.0 | 0.001934943 | 0.001616901 | 0.002284037 | 0.00012 | 0.044001931 | 0.000337 | 0.0 |
| Iceland | 27.64152966 | 0.724137376 | 0.0 | 0.0 | 0.0 | 0.27586402 | 0.0 | 0.0 | 0.0 | 1.79e-6 | 0.0 | 0.0 | 0.0 |
| Quebec | 30.56990899 | 0.914572876 | 0.009331108 | 0.047134419 | 0.0000971 | 1.84e-6 | 0.025015002 | 0.003836545 | 0.0000107 | 0.0000129 | 0.0000795 | 0.0 | 4.37e-8 |
| France | 52.73432801 | 0.105179703 | 0.642433753 | 0.104647836 | 0.048092258 | 3.52e-6 | 0.014088511 | 0.065820679 | 0.004738863 | 0.003454775 | 0.000681 | 0.010860181 | 0.0 |
| Ontario | 72.60078255 | 0.260361881 | 0.518587118 | 0.080440676 | 0.004531646 | 0.0 | 0.002384341 | 0.133519187 | 0.000155 | 2.82e-7 | 0.0000241 | 0.0 | 0.0 |
| Finland | 87.22831754 | 0.246151138 | 0.408646271 | 0.186382412 | 0.007824817 | 0.0 | 0.066174243 | 0.022113252 | 0.052003005 | 0.0001 | 0.010583202 | 0.0000192 | 0.0 |
| Tasmania | 92.1890272 | 0.663216796 | 0.0 | 0.192216671 | 0.057843914 | 0.0 | 0.0 | 0.005585102 | 0.080626115 | 0.0 | 0.0 | 0.0 | 0.000133 |
| New Zealand | 94.50564468 | 0.627582681 | 5.62e-6 | 0.073994174 | 0.0000249 | 0.181548723 | 0.0 | 0.061119138 | 0.035516963 | 0.0000277 | 0.020244562 | 0.0 | 0.0 |
| Belgium | 139.5605448 | 0.013668479 | 0.419910244 | 0.197723307 | 0.098437281 | 7.21e-7 | 0.032965683 | 0.186617324 | 0.014573294 | 0.001045043 | 0.020571735 | 0.014476877 | 0.0 |
| West Denmark | 143.1380408 | 0.181489083 | 0.041429642 | 0.467775664 | 0.080510333 | 7.1e-6 | 0.07464462 | 0.059221754 | 0.081830912 | 0.004474977 | 0.005634762 | 0.003076031 | 0.0 |
| East Denmark | 147.6286591 | 0.131248475 | 0.104716335 | 0.406830141 | 0.065438189 | 0.0 | 0.143553717 | 0.042023638 | 0.071743624 | 0.011683996 | 0.022128678 | 0.000922 | 0.0 |
| Spain | 154.0142537 | 0.09969906 | 0.227273313 | 0.237562165 | 0.150134943 | 2.39e-7 | 0.021247062 | 0.217965679 | 0.015788692 | 0.001904201 | 0.003163999 | 0.025265191 | 0.0 |
| South Australia | 185.7627912 | 0.010199114 | 0.0 | 0.449961993 | 0.24542457 | 0.0 | 0.0 | 0.218230503 | 0.069856191 | 0.000957 | 0.0 | 0.0 | 0.005213381 |
| Great Britain | 199.8104792 | 0.045834272 | 0.181239034 | 0.301926186 | 0.059607545 | 4.57e-8 | 0.050829232 | 0.332149815 | 0.012325292 | 0.000344 | 0.009736427 | 0.005980374 | 0.0 |
| California | 257.678732 | 0.123989435 | 0.100042977 | 0.096419088 | 0.17055086 | 0.031164503 | 0.017478187 | 0.41970878 | 0.012129465 | 0.000102 | 0.008942203 | 0.000283 | 0.019191918 |
| Netherlands | 272.809179 | 0.030186796 | 0.048566848 | 0.315753767 | 0.167656374 | 0.0000134 | 0.050021331 | 0.276795769 | 0.090373246 | 0.008306204 | 0.010581683 | 0.001761264 | 0.0 |
| New York ISO | 279.992946 | 0.22594502 | 0.226559596 | 0.039417192 | 0.000715 | 0.0 | 0.001091576 | 0.482745941 | 0.005538419 | 0.000123 | 0.017781202 | 3.47e-6 | 7.12e-6 |
| Italy (North) | 307.2558542 | 0.244615333 | 0.119192177 | 0.029255242 | 0.069372174 | 0.003271406 | 0.021624102 | 0.370342992 | 0.025889108 | 0.001570806 | 0.086539443 | 0.028325907 | 1.25e-7 |
| Texas | 383.1867568 | 0.000828 | 0.090769558 | 0.251576503 | 0.071636563 | 0.0 | 5.82e-7 | 0.44437107 | 0.138211735 | 3.56e-6 | 0.002600341 | 0.0 | 0.0 |
| Germany | 396.7870709 | 0.059246857 | 0.043122592 | 0.290545677 | 0.117499352 | 0.000377 | 0.096291651 | 0.113309627 | 0.244769882 | 0.00481437 | 0.007452162 | 0.022569385 | 0.0 |
| Western Australia | 433.2945402 | 0.0 | 0.0 | 0.155240714 | 0.191426117 | 0.0 | 0.004275849 | 0.350975922 | 0.29709105 | 0.000316 | 0.0 | 0.0 | 0.000664 |
| Alberta | 438.9442161 | 0.029249945 | 0.000404 | 0.113897357 | 0.02666683 | 0.0 | 0.026402135 | 0.675430038 | 0.081166555 | 0.000329 | 0.04643415 | 1.55e-7 | 0.0 |
| Victoria | 506.4048193 | 0.062479748 | 0.0 | 0.205928815 | 0.127014842 | 0.0 | 0.00001 | 0.014187332 | 0.587999674 | 4.05e-6 | 0.0 | 2.11e-8 | 0.002494507 |
| New South Wales | 556.312457 | 0.048672531 | 0.0 | 0.092353062 | 0.195594575 | 0.0 | 0.001073667 | 0.021792087 | 0.639717569 | 0.0000583 | 0.0 | 1.17e-6 | 0.000662 |
| India (North) | 558.2410211 | 0.212228393 | 0.02176545 | 0.015378776 | 0.077375285 | 9.83e-8 | 5.5e-7 | 0.018729681 | 0.642839452 | 9.36e-7 | 0.011682019 | 0.0 | 0.0 |
| Queensland | 607.0348918 | 0.020918137 | 0.0 | 0.040105111 | 0.197967484 | 0.0 | 0.002442345 | 0.067024275 | 0.67051114 | 0.000314 | 0.0 | 1.44e-6 | 0.000789 |
| South Africa | 700.9980742 | 0.009413239 | 0.042068349 | 0.057471213 | 0.03199641 | 0.0 | 0.0 | 0.0000787 | 0.809385111 | 0.025579845 | 0.001312838 | 0.022695992 | 0.0 |

Add some explanations to the footer of the table (to further explain things). Provide the data source (api.electricitymap.org) and the methodology (linking to https://www.electricitymaps.com/methodology). Also state that some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors.

gt\_tbl\_3 = (  
 gt\_tbl\_2  
 .tab\_source\_note(  
 md(  
 '<br><div style="text-align: left;">'  
 "\*\*Source\*\*: <https://api.electricitymap.org>"   
 " | \*\*Methodology\*\*: <https://www.electricitymaps.com/methodology>."   
 " Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors."  
 "<br>All zones are publicly available on the \*Carbon intensity and emission factors\* tab via Google docs link<br>"  
 "</div>"  
 "<br>"  
 )  
 )  
)  
  
gt\_tbl\_3

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23.46128501 | 0.435312552 | 0.29174058 | 0.213598205 | 0.00905231 | 0.0 | 0.001934943 | 0.001616901 | 0.002284037 | 0.00012 | 0.044001931 | 0.000337 | 0.0 |
| Iceland | 27.64152966 | 0.724137376 | 0.0 | 0.0 | 0.0 | 0.27586402 | 0.0 | 0.0 | 0.0 | 1.79e-6 | 0.0 | 0.0 | 0.0 |
| Quebec | 30.56990899 | 0.914572876 | 0.009331108 | 0.047134419 | 0.0000971 | 1.84e-6 | 0.025015002 | 0.003836545 | 0.0000107 | 0.0000129 | 0.0000795 | 0.0 | 4.37e-8 |
| France | 52.73432801 | 0.105179703 | 0.642433753 | 0.104647836 | 0.048092258 | 3.52e-6 | 0.014088511 | 0.065820679 | 0.004738863 | 0.003454775 | 0.000681 | 0.010860181 | 0.0 |
| Ontario | 72.60078255 | 0.260361881 | 0.518587118 | 0.080440676 | 0.004531646 | 0.0 | 0.002384341 | 0.133519187 | 0.000155 | 2.82e-7 | 0.0000241 | 0.0 | 0.0 |
| Finland | 87.22831754 | 0.246151138 | 0.408646271 | 0.186382412 | 0.007824817 | 0.0 | 0.066174243 | 0.022113252 | 0.052003005 | 0.0001 | 0.010583202 | 0.0000192 | 0.0 |
| Tasmania | 92.1890272 | 0.663216796 | 0.0 | 0.192216671 | 0.057843914 | 0.0 | 0.0 | 0.005585102 | 0.080626115 | 0.0 | 0.0 | 0.0 | 0.000133 |
| New Zealand | 94.50564468 | 0.627582681 | 5.62e-6 | 0.073994174 | 0.0000249 | 0.181548723 | 0.0 | 0.061119138 | 0.035516963 | 0.0000277 | 0.020244562 | 0.0 | 0.0 |
| Belgium | 139.5605448 | 0.013668479 | 0.419910244 | 0.197723307 | 0.098437281 | 7.21e-7 | 0.032965683 | 0.186617324 | 0.014573294 | 0.001045043 | 0.020571735 | 0.014476877 | 0.0 |
| West Denmark | 143.1380408 | 0.181489083 | 0.041429642 | 0.467775664 | 0.080510333 | 7.1e-6 | 0.07464462 | 0.059221754 | 0.081830912 | 0.004474977 | 0.005634762 | 0.003076031 | 0.0 |
| East Denmark | 147.6286591 | 0.131248475 | 0.104716335 | 0.406830141 | 0.065438189 | 0.0 | 0.143553717 | 0.042023638 | 0.071743624 | 0.011683996 | 0.022128678 | 0.000922 | 0.0 |
| Spain | 154.0142537 | 0.09969906 | 0.227273313 | 0.237562165 | 0.150134943 | 2.39e-7 | 0.021247062 | 0.217965679 | 0.015788692 | 0.001904201 | 0.003163999 | 0.025265191 | 0.0 |
| South Australia | 185.7627912 | 0.010199114 | 0.0 | 0.449961993 | 0.24542457 | 0.0 | 0.0 | 0.218230503 | 0.069856191 | 0.000957 | 0.0 | 0.0 | 0.005213381 |
| Great Britain | 199.8104792 | 0.045834272 | 0.181239034 | 0.301926186 | 0.059607545 | 4.57e-8 | 0.050829232 | 0.332149815 | 0.012325292 | 0.000344 | 0.009736427 | 0.005980374 | 0.0 |
| California | 257.678732 | 0.123989435 | 0.100042977 | 0.096419088 | 0.17055086 | 0.031164503 | 0.017478187 | 0.41970878 | 0.012129465 | 0.000102 | 0.008942203 | 0.000283 | 0.019191918 |
| Netherlands | 272.809179 | 0.030186796 | 0.048566848 | 0.315753767 | 0.167656374 | 0.0000134 | 0.050021331 | 0.276795769 | 0.090373246 | 0.008306204 | 0.010581683 | 0.001761264 | 0.0 |
| New York ISO | 279.992946 | 0.22594502 | 0.226559596 | 0.039417192 | 0.000715 | 0.0 | 0.001091576 | 0.482745941 | 0.005538419 | 0.000123 | 0.017781202 | 3.47e-6 | 7.12e-6 |
| Italy (North) | 307.2558542 | 0.244615333 | 0.119192177 | 0.029255242 | 0.069372174 | 0.003271406 | 0.021624102 | 0.370342992 | 0.025889108 | 0.001570806 | 0.086539443 | 0.028325907 | 1.25e-7 |
| Texas | 383.1867568 | 0.000828 | 0.090769558 | 0.251576503 | 0.071636563 | 0.0 | 5.82e-7 | 0.44437107 | 0.138211735 | 3.56e-6 | 0.002600341 | 0.0 | 0.0 |
| Germany | 396.7870709 | 0.059246857 | 0.043122592 | 0.290545677 | 0.117499352 | 0.000377 | 0.096291651 | 0.113309627 | 0.244769882 | 0.00481437 | 0.007452162 | 0.022569385 | 0.0 |
| Western Australia | 433.2945402 | 0.0 | 0.0 | 0.155240714 | 0.191426117 | 0.0 | 0.004275849 | 0.350975922 | 0.29709105 | 0.000316 | 0.0 | 0.0 | 0.000664 |
| Alberta | 438.9442161 | 0.029249945 | 0.000404 | 0.113897357 | 0.02666683 | 0.0 | 0.026402135 | 0.675430038 | 0.081166555 | 0.000329 | 0.04643415 | 1.55e-7 | 0.0 |
| Victoria | 506.4048193 | 0.062479748 | 0.0 | 0.205928815 | 0.127014842 | 0.0 | 0.00001 | 0.014187332 | 0.587999674 | 4.05e-6 | 0.0 | 2.11e-8 | 0.002494507 |
| New South Wales | 556.312457 | 0.048672531 | 0.0 | 0.092353062 | 0.195594575 | 0.0 | 0.001073667 | 0.021792087 | 0.639717569 | 0.0000583 | 0.0 | 1.17e-6 | 0.000662 |
| India (North) | 558.2410211 | 0.212228393 | 0.02176545 | 0.015378776 | 0.077375285 | 9.83e-8 | 5.5e-7 | 0.018729681 | 0.642839452 | 9.36e-7 | 0.011682019 | 0.0 | 0.0 |
| Queensland | 607.0348918 | 0.020918137 | 0.0 | 0.040105111 | 0.197967484 | 0.0 | 0.002442345 | 0.067024275 | 0.67051114 | 0.000314 | 0.0 | 1.44e-6 | 0.000789 |
| South Africa | 700.9980742 | 0.009413239 | 0.042068349 | 0.057471213 | 0.03199641 | 0.0 | 0.0 | 0.0000787 | 0.809385111 | 0.025579845 | 0.001312838 | 0.022695992 | 0.0 |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Make the width of the Zone column 120px. All other columns fixed at 85px.

gt\_tbl\_4 = (  
 gt\_tbl\_3  
 .cols\_width(  
 cases={  
 "Zone": "120px",  
 \*\*{col: "85px" for col in [x for x in power\_generation.columns if x != "Zone"]}  
   
 }  
 )   
)  
  
gt\_tbl\_4

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23.46128501 | 0.435312552 | 0.29174058 | 0.213598205 | 0.00905231 | 0.0 | 0.001934943 | 0.001616901 | 0.002284037 | 0.00012 | 0.044001931 | 0.000337 | 0.0 |
| Iceland | 27.64152966 | 0.724137376 | 0.0 | 0.0 | 0.0 | 0.27586402 | 0.0 | 0.0 | 0.0 | 1.79e-6 | 0.0 | 0.0 | 0.0 |
| Quebec | 30.56990899 | 0.914572876 | 0.009331108 | 0.047134419 | 0.0000971 | 1.84e-6 | 0.025015002 | 0.003836545 | 0.0000107 | 0.0000129 | 0.0000795 | 0.0 | 4.37e-8 |
| France | 52.73432801 | 0.105179703 | 0.642433753 | 0.104647836 | 0.048092258 | 3.52e-6 | 0.014088511 | 0.065820679 | 0.004738863 | 0.003454775 | 0.000681 | 0.010860181 | 0.0 |
| Ontario | 72.60078255 | 0.260361881 | 0.518587118 | 0.080440676 | 0.004531646 | 0.0 | 0.002384341 | 0.133519187 | 0.000155 | 2.82e-7 | 0.0000241 | 0.0 | 0.0 |
| Finland | 87.22831754 | 0.246151138 | 0.408646271 | 0.186382412 | 0.007824817 | 0.0 | 0.066174243 | 0.022113252 | 0.052003005 | 0.0001 | 0.010583202 | 0.0000192 | 0.0 |
| Tasmania | 92.1890272 | 0.663216796 | 0.0 | 0.192216671 | 0.057843914 | 0.0 | 0.0 | 0.005585102 | 0.080626115 | 0.0 | 0.0 | 0.0 | 0.000133 |
| New Zealand | 94.50564468 | 0.627582681 | 5.62e-6 | 0.073994174 | 0.0000249 | 0.181548723 | 0.0 | 0.061119138 | 0.035516963 | 0.0000277 | 0.020244562 | 0.0 | 0.0 |
| Belgium | 139.5605448 | 0.013668479 | 0.419910244 | 0.197723307 | 0.098437281 | 7.21e-7 | 0.032965683 | 0.186617324 | 0.014573294 | 0.001045043 | 0.020571735 | 0.014476877 | 0.0 |
| West Denmark | 143.1380408 | 0.181489083 | 0.041429642 | 0.467775664 | 0.080510333 | 7.1e-6 | 0.07464462 | 0.059221754 | 0.081830912 | 0.004474977 | 0.005634762 | 0.003076031 | 0.0 |
| East Denmark | 147.6286591 | 0.131248475 | 0.104716335 | 0.406830141 | 0.065438189 | 0.0 | 0.143553717 | 0.042023638 | 0.071743624 | 0.011683996 | 0.022128678 | 0.000922 | 0.0 |
| Spain | 154.0142537 | 0.09969906 | 0.227273313 | 0.237562165 | 0.150134943 | 2.39e-7 | 0.021247062 | 0.217965679 | 0.015788692 | 0.001904201 | 0.003163999 | 0.025265191 | 0.0 |
| South Australia | 185.7627912 | 0.010199114 | 0.0 | 0.449961993 | 0.24542457 | 0.0 | 0.0 | 0.218230503 | 0.069856191 | 0.000957 | 0.0 | 0.0 | 0.005213381 |
| Great Britain | 199.8104792 | 0.045834272 | 0.181239034 | 0.301926186 | 0.059607545 | 4.57e-8 | 0.050829232 | 0.332149815 | 0.012325292 | 0.000344 | 0.009736427 | 0.005980374 | 0.0 |
| California | 257.678732 | 0.123989435 | 0.100042977 | 0.096419088 | 0.17055086 | 0.031164503 | 0.017478187 | 0.41970878 | 0.012129465 | 0.000102 | 0.008942203 | 0.000283 | 0.019191918 |
| Netherlands | 272.809179 | 0.030186796 | 0.048566848 | 0.315753767 | 0.167656374 | 0.0000134 | 0.050021331 | 0.276795769 | 0.090373246 | 0.008306204 | 0.010581683 | 0.001761264 | 0.0 |
| New York ISO | 279.992946 | 0.22594502 | 0.226559596 | 0.039417192 | 0.000715 | 0.0 | 0.001091576 | 0.482745941 | 0.005538419 | 0.000123 | 0.017781202 | 3.47e-6 | 7.12e-6 |
| Italy (North) | 307.2558542 | 0.244615333 | 0.119192177 | 0.029255242 | 0.069372174 | 0.003271406 | 0.021624102 | 0.370342992 | 0.025889108 | 0.001570806 | 0.086539443 | 0.028325907 | 1.25e-7 |
| Texas | 383.1867568 | 0.000828 | 0.090769558 | 0.251576503 | 0.071636563 | 0.0 | 5.82e-7 | 0.44437107 | 0.138211735 | 3.56e-6 | 0.002600341 | 0.0 | 0.0 |
| Germany | 396.7870709 | 0.059246857 | 0.043122592 | 0.290545677 | 0.117499352 | 0.000377 | 0.096291651 | 0.113309627 | 0.244769882 | 0.00481437 | 0.007452162 | 0.022569385 | 0.0 |
| Western Australia | 433.2945402 | 0.0 | 0.0 | 0.155240714 | 0.191426117 | 0.0 | 0.004275849 | 0.350975922 | 0.29709105 | 0.000316 | 0.0 | 0.0 | 0.000664 |
| Alberta | 438.9442161 | 0.029249945 | 0.000404 | 0.113897357 | 0.02666683 | 0.0 | 0.026402135 | 0.675430038 | 0.081166555 | 0.000329 | 0.04643415 | 1.55e-7 | 0.0 |
| Victoria | 506.4048193 | 0.062479748 | 0.0 | 0.205928815 | 0.127014842 | 0.0 | 0.00001 | 0.014187332 | 0.587999674 | 4.05e-6 | 0.0 | 2.11e-8 | 0.002494507 |
| New South Wales | 556.312457 | 0.048672531 | 0.0 | 0.092353062 | 0.195594575 | 0.0 | 0.001073667 | 0.021792087 | 0.639717569 | 0.0000583 | 0.0 | 1.17e-6 | 0.000662 |
| India (North) | 558.2410211 | 0.212228393 | 0.02176545 | 0.015378776 | 0.077375285 | 9.83e-8 | 5.5e-7 | 0.018729681 | 0.642839452 | 9.36e-7 | 0.011682019 | 0.0 | 0.0 |
| Queensland | 607.0348918 | 0.020918137 | 0.0 | 0.040105111 | 0.197967484 | 0.0 | 0.002442345 | 0.067024275 | 0.67051114 | 0.000314 | 0.0 | 1.44e-6 | 0.000789 |
| South Africa | 700.9980742 | 0.009413239 | 0.042068349 | 0.057471213 | 0.03199641 | 0.0 | 0.0 | 0.0000787 | 0.809385111 | 0.025579845 | 0.001312838 | 0.022695992 | 0.0 |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

## 1.3 Formatting Values Within the Table Body

Format the fractional values by turning them into percentages.

gt\_tbl\_0 = (  
 gt\_tbl\_4  
 .fmt\_percent(  
 columns=[  
 "Hydro", "Nuclear", "Wind", "Solar", "Geothermal",  
 "Biomass", "Gas", "Coal", "Oil", "Unknown",  
 "Hydro Discharge", "Battery Discharge"  
 ],  
 decimals=1  
 ) # This is quite cumbersome   
)  
  
gt\_tbl\_0

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23.46128501 | 43.5% | 29.2% | 21.4% | 0.9% | 0.0% | 0.2% | 0.2% | 0.2% | 0.0% | 4.4% | 0.0% | 0.0% |
| Iceland | 27.64152966 | 72.4% | 0.0% | 0.0% | 0.0% | 27.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Quebec | 30.56990899 | 91.5% | 0.9% | 4.7% | 0.0% | 0.0% | 2.5% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| France | 52.73432801 | 10.5% | 64.2% | 10.5% | 4.8% | 0.0% | 1.4% | 6.6% | 0.5% | 0.3% | 0.1% | 1.1% | 0.0% |
| Ontario | 72.60078255 | 26.0% | 51.9% | 8.0% | 0.5% | 0.0% | 0.2% | 13.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Finland | 87.22831754 | 24.6% | 40.9% | 18.6% | 0.8% | 0.0% | 6.6% | 2.2% | 5.2% | 0.0% | 1.1% | 0.0% | 0.0% |
| Tasmania | 92.1890272 | 66.3% | 0.0% | 19.2% | 5.8% | 0.0% | 0.0% | 0.6% | 8.1% | 0.0% | 0.0% | 0.0% | 0.0% |
| New Zealand | 94.50564468 | 62.8% | 0.0% | 7.4% | 0.0% | 18.2% | 0.0% | 6.1% | 3.6% | 0.0% | 2.0% | 0.0% | 0.0% |
| Belgium | 139.5605448 | 1.4% | 42.0% | 19.8% | 9.8% | 0.0% | 3.3% | 18.7% | 1.5% | 0.1% | 2.1% | 1.4% | 0.0% |
| West Denmark | 143.1380408 | 18.1% | 4.1% | 46.8% | 8.1% | 0.0% | 7.5% | 5.9% | 8.2% | 0.4% | 0.6% | 0.3% | 0.0% |
| East Denmark | 147.6286591 | 13.1% | 10.5% | 40.7% | 6.5% | 0.0% | 14.4% | 4.2% | 7.2% | 1.2% | 2.2% | 0.1% | 0.0% |
| Spain | 154.0142537 | 10.0% | 22.7% | 23.8% | 15.0% | 0.0% | 2.1% | 21.8% | 1.6% | 0.2% | 0.3% | 2.5% | 0.0% |
| South Australia | 185.7627912 | 1.0% | 0.0% | 45.0% | 24.5% | 0.0% | 0.0% | 21.8% | 7.0% | 0.1% | 0.0% | 0.0% | 0.5% |
| Great Britain | 199.8104792 | 4.6% | 18.1% | 30.2% | 6.0% | 0.0% | 5.1% | 33.2% | 1.2% | 0.0% | 1.0% | 0.6% | 0.0% |
| California | 257.678732 | 12.4% | 10.0% | 9.6% | 17.1% | 3.1% | 1.7% | 42.0% | 1.2% | 0.0% | 0.9% | 0.0% | 1.9% |
| Netherlands | 272.809179 | 3.0% | 4.9% | 31.6% | 16.8% | 0.0% | 5.0% | 27.7% | 9.0% | 0.8% | 1.1% | 0.2% | 0.0% |
| New York ISO | 279.992946 | 22.6% | 22.7% | 3.9% | 0.1% | 0.0% | 0.1% | 48.3% | 0.6% | 0.0% | 1.8% | 0.0% | 0.0% |
| Italy (North) | 307.2558542 | 24.5% | 11.9% | 2.9% | 6.9% | 0.3% | 2.2% | 37.0% | 2.6% | 0.2% | 8.7% | 2.8% | 0.0% |
| Texas | 383.1867568 | 0.1% | 9.1% | 25.2% | 7.2% | 0.0% | 0.0% | 44.4% | 13.8% | 0.0% | 0.3% | 0.0% | 0.0% |
| Germany | 396.7870709 | 5.9% | 4.3% | 29.1% | 11.7% | 0.0% | 9.6% | 11.3% | 24.5% | 0.5% | 0.7% | 2.3% | 0.0% |
| Western Australia | 433.2945402 | 0.0% | 0.0% | 15.5% | 19.1% | 0.0% | 0.4% | 35.1% | 29.7% | 0.0% | 0.0% | 0.0% | 0.1% |
| Alberta | 438.9442161 | 2.9% | 0.0% | 11.4% | 2.7% | 0.0% | 2.6% | 67.5% | 8.1% | 0.0% | 4.6% | 0.0% | 0.0% |
| Victoria | 506.4048193 | 6.2% | 0.0% | 20.6% | 12.7% | 0.0% | 0.0% | 1.4% | 58.8% | 0.0% | 0.0% | 0.0% | 0.2% |
| New South Wales | 556.312457 | 4.9% | 0.0% | 9.2% | 19.6% | 0.0% | 0.1% | 2.2% | 64.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| India (North) | 558.2410211 | 21.2% | 2.2% | 1.5% | 7.7% | 0.0% | 0.0% | 1.9% | 64.3% | 0.0% | 1.2% | 0.0% | 0.0% |
| Queensland | 607.0348918 | 2.1% | 0.0% | 4.0% | 19.8% | 0.0% | 0.2% | 6.7% | 67.1% | 0.0% | 0.0% | 0.0% | 0.1% |
| South Africa | 700.9980742 | 0.9% | 4.2% | 5.7% | 3.2% | 0.0% | 0.0% | 0.0% | 80.9% | 2.6% | 0.1% | 2.3% | 0.0% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Another efficient and quick method

gt\_tbl\_5 = (  
 gt\_tbl\_4  
 .fmt\_percent(  
 columns=cs.numeric()  
 )  
)  
  
gt\_tbl\_5

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 2,346.13% | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 2,764.15% | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 3,056.99% | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 5,273.43% | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 7,260.08% | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 8,722.83% | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 9,218.90% | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 9,450.56% | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 13,956.05% | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 14,313.80% | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 14,762.87% | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 15,401.43% | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 18,576.28% | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 19,981.05% | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 25,767.87% | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 27,280.92% | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 27,999.29% | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 30,725.59% | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 38,318.68% | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 39,678.71% | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 43,329.45% | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 43,894.42% | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 50,640.48% | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 55,631.25% | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 55,824.10% | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 60,703.49% | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 70,099.81% | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Ensure that the CO2 Intensity values are formatted as integers.

gt\_tbl\_6 = gt\_tbl\_5.fmt\_integer(columns="CO2 Intensity")  
  
gt\_tbl\_6

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

## 1.4 data\_color()

Color the cells in the CO2 Intensity column according to value (in range of 0 to 900). Use this green to brown palette:

["#00A600", "#E6E600", "#E8C32E", "#D69C4E", "#DC863B", "sienna", "sienna4", "tomato4", "brown"]

gt\_tbl\_7 = (  
 gt\_tbl\_6  
 .data\_color(  
 columns="CO2 Intensity",  
 palette=[  
 "#00A600", "#E6E600", "#E8C32E",  
 "#D69C4E", "#Dc863B", "sienna",  
 "sienna4", "tomato4", "brown"  
 ],  
 domain=[0, 900]  
 )  
)  
  
gt\_tbl\_7

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Color the cells in the Hydro to Geothermal columns according to value (in range of 0 to 1). Use this white to green palette:

["snow", "chartreuse4", "chartreuse3", "#00A600"]

gt\_tbl\_8 = (  
 gt\_tbl\_7  
 .data\_color(  
 columns=["Hydro", "Nuclear", "Wind", "Solar", "Geothermal"],  
 palette=["#00A600", "chartreuse3", "chartreuse4", "snow"][::-1],  
 domain=[0, 1]  
 )  
)  
  
gt\_tbl\_8

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Color the cells in the Biomass column according to value (in range of 0 to 0.3). Use this white to light-brown palette:

["snow", "#EEC900", "#E8C32E", "#D69C4E"]

gt\_tbl\_9 = (  
 gt\_tbl\_8  
 .data\_color(  
 columns="Biomass",  
 palette=["snow", "#EEC900", "#E8C32E", "#D69C4E"],  
 domain=[0, 0.3]  
 )  
)  
  
gt\_tbl\_9

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Color the cells in the Gas to Oil columns according to value (in range of 0 to 1). Use this white to dark-brown palette:

["snow", "#DC863B", "#D69C4E", "sienna4", "tomato4"]

gt\_tbl\_10 = (  
 gt\_tbl\_9  
 .data\_color(  
 columns=["Gas", "Coal", "Oil"],  
 palette=["tomato4", "sienna4", "#D69C4E", "#Dc863B", "snow"][::-1],  
 domain=[0, 1]  
 )  
)  
  
gt\_tbl\_10

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Ensure the remaining body cells have the ‘snow’ color applied.

gt\_tbl\_11 = (  
 gt\_tbl\_10  
 .data\_color(  
 columns=[  
 "Zone", "Unknown", "Hydro Discharge", "Battery Discharge"  
 ],  
 palette=["snow", "snow"] # Since it is the same palette we have to use 2 minimum arguments and no need of domain  
 )  
)  
  
gt\_tbl\_11

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

## 1.5 cols\_align() and tab\_options()

As a starting point, align all cell contents (and the column labels) with center alignment.

gt\_tbl\_12 = gt\_tbl\_11.cols\_align(  
 align="center",  
columns=pl.col("\*") # This help apply to all columns  
)  
  
gt\_tbl\_12

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

As a tweak, align the Zone column to the left.

gt\_tbl\_13 = (  
 gt\_tbl\_12  
 .cols\_align(align="left", columns="Zone")  
)  
  
gt\_tbl\_13

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Use the ‘humanist’ font stack for this table.

gt\_tbl\_14 = (  
 gt\_tbl\_13  
 .opt\_table\_font(stack="humanist")  
)  
  
gt\_tbl\_14

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |

Make some serious tweaks to the table with tab\_options().

gt\_tbl\_15 = (  
 gt\_tbl\_14  
 .tab\_options(  
 source\_notes\_font\_size="x-small",  
 source\_notes\_padding="3px",  
 data\_row\_padding="1px",  
 heading\_background\_color="antiquewhite",  
 source\_notes\_background\_color="antiquewhite",  
 column\_labels\_background\_color="antiquewhite",  
 table\_background\_color="snow",  
 data\_row\_padding\_horizontal="3px",  
 column\_labels\_padding\_horizontal="10px",  
 table\_font\_size="12px"  
 )  
)  
  
gt\_tbl\_15

| 2023 Mean **Carbon Intensity** (gCO2eq/kWh) and **Power Consumption** Breakdown (%) | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | CO2 Intensity | Hydro | Nuclear | Wind | Solar | Geothermal | Biomass | Gas | Coal | Oil | Unknown | Hydro Discharge | Battery Discharge |
| Sweden | 23 | 43.53% | 29.17% | 21.36% | 0.91% | 0.00% | 0.19% | 0.16% | 0.23% | 0.01% | 4.40% | 0.03% | 0.00% |
| Iceland | 28 | 72.41% | 0.00% | 0.00% | 0.00% | 27.59% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Quebec | 31 | 91.46% | 0.93% | 4.71% | 0.01% | 0.00% | 2.50% | 0.38% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% |
| France | 53 | 10.52% | 64.24% | 10.46% | 4.81% | 0.00% | 1.41% | 6.58% | 0.47% | 0.35% | 0.07% | 1.09% | 0.00% |
| Ontario | 73 | 26.04% | 51.86% | 8.04% | 0.45% | 0.00% | 0.24% | 13.35% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Finland | 87 | 24.62% | 40.86% | 18.64% | 0.78% | 0.00% | 6.62% | 2.21% | 5.20% | 0.01% | 1.06% | 0.00% | 0.00% |
| Tasmania | 92 | 66.32% | 0.00% | 19.22% | 5.78% | 0.00% | 0.00% | 0.56% | 8.06% | 0.00% | 0.00% | 0.00% | 0.01% |
| New Zealand | 95 | 62.76% | 0.00% | 7.40% | 0.00% | 18.15% | 0.00% | 6.11% | 3.55% | 0.00% | 2.02% | 0.00% | 0.00% |
| Belgium | 140 | 1.37% | 41.99% | 19.77% | 9.84% | 0.00% | 3.30% | 18.66% | 1.46% | 0.10% | 2.06% | 1.45% | 0.00% |
| West Denmark | 143 | 18.15% | 4.14% | 46.78% | 8.05% | 0.00% | 7.46% | 5.92% | 8.18% | 0.45% | 0.56% | 0.31% | 0.00% |
| East Denmark | 148 | 13.12% | 10.47% | 40.68% | 6.54% | 0.00% | 14.36% | 4.20% | 7.17% | 1.17% | 2.21% | 0.09% | 0.00% |
| Spain | 154 | 9.97% | 22.73% | 23.76% | 15.01% | 0.00% | 2.12% | 21.80% | 1.58% | 0.19% | 0.32% | 2.53% | 0.00% |
| South Australia | 186 | 1.02% | 0.00% | 45.00% | 24.54% | 0.00% | 0.00% | 21.82% | 6.99% | 0.10% | 0.00% | 0.00% | 0.52% |
| Great Britain | 200 | 4.58% | 18.12% | 30.19% | 5.96% | 0.00% | 5.08% | 33.21% | 1.23% | 0.03% | 0.97% | 0.60% | 0.00% |
| California | 258 | 12.40% | 10.00% | 9.64% | 17.06% | 3.12% | 1.75% | 41.97% | 1.21% | 0.01% | 0.89% | 0.03% | 1.92% |
| Netherlands | 273 | 3.02% | 4.86% | 31.58% | 16.77% | 0.00% | 5.00% | 27.68% | 9.04% | 0.83% | 1.06% | 0.18% | 0.00% |
| New York ISO | 280 | 22.59% | 22.66% | 3.94% | 0.07% | 0.00% | 0.11% | 48.27% | 0.55% | 0.01% | 1.78% | 0.00% | 0.00% |
| Italy (North) | 307 | 24.46% | 11.92% | 2.93% | 6.94% | 0.33% | 2.16% | 37.03% | 2.59% | 0.16% | 8.65% | 2.83% | 0.00% |
| Texas | 383 | 0.08% | 9.08% | 25.16% | 7.16% | 0.00% | 0.00% | 44.44% | 13.82% | 0.00% | 0.26% | 0.00% | 0.00% |
| Germany | 397 | 5.92% | 4.31% | 29.05% | 11.75% | 0.04% | 9.63% | 11.33% | 24.48% | 0.48% | 0.75% | 2.26% | 0.00% |
| Western Australia | 433 | 0.00% | 0.00% | 15.52% | 19.14% | 0.00% | 0.43% | 35.10% | 29.71% | 0.03% | 0.00% | 0.00% | 0.07% |
| Alberta | 439 | 2.92% | 0.04% | 11.39% | 2.67% | 0.00% | 2.64% | 67.54% | 8.12% | 0.03% | 4.64% | 0.00% | 0.00% |
| Victoria | 506 | 6.25% | 0.00% | 20.59% | 12.70% | 0.00% | 0.00% | 1.42% | 58.80% | 0.00% | 0.00% | 0.00% | 0.25% |
| New South Wales | 556 | 4.87% | 0.00% | 9.24% | 19.56% | 0.00% | 0.11% | 2.18% | 63.97% | 0.01% | 0.00% | 0.00% | 0.07% |
| India (North) | 558 | 21.22% | 2.18% | 1.54% | 7.74% | 0.00% | 0.00% | 1.87% | 64.28% | 0.00% | 1.17% | 0.00% | 0.00% |
| Queensland | 607 | 2.09% | 0.00% | 4.01% | 19.80% | 0.00% | 0.24% | 6.70% | 67.05% | 0.03% | 0.00% | 0.00% | 0.08% |
| South Africa | 701 | 0.94% | 4.21% | 5.75% | 3.20% | 0.00% | 0.00% | 0.01% | 80.94% | 2.56% | 0.13% | 2.27% | 0.00% |
| **Source**: <https://api.electricitymap.org> | **Methodology**: <https://www.electricitymaps.com/methodology>. Some emissions factors are based on IPCC 2014 defaults, while some are based on more accurate regional factors. All zones are publicly available on the *Carbon intensity and emission factors* tab via Google docs link | | | | | | | | | | | | | |