**🧾 Understanding the columns in 2023\_City\_Wide\_Emissions\_Berlin.csv**

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| --- | --- | --- |
| Column name | Meaning (Simple Explanation) | Example / Notes |
| Questionnaire | The reporting form that city used (e.g., *Cities 2023*). | Tells you which year’s CDP form this came from. |
| Organization ID | CDP’s unique ID for the city. | Berlin has a number like *31153* – just an internal reference. |
| City / State / Region Name | Name of the reporting city or region. | “Berlin” |
| Country | Country name. | “Germany” |
| Region | World region grouping used by CDP. | “Europe” |
| Access Level | Whether the data is *public* or restricted. | “Public” (you can use it freely) |
| C40 Member | Whether the city is a member of the C40 Cities Climate Leadership Group. | “True” means yes. |
| Global Protocol Standard | The GHG accounting standard followed — usually *Global Protocol for Community-Scale GHG Inventories (GPC)*. | This aligns with GHG Protocol scopes 1, 2, 3. |
| Gases Included | Greenhouse gases counted. | Usually “CO₂, CH₄, N₂O” (converted to CO₂e). |
| Primary Emissions Metric | The unit used. | “tCO₂e” = tonnes of CO₂ equivalent. |
| Emissions Type | Describes the type: “Direct emissions,” “Indirect,” or “Scope total.” | Direct = Scope 1, Indirect = Scope 2, Scope Total = sum of 1–3. |
| Emissions Scope | The GHG Protocol scope (1, 2, or 3). | 1 = direct (fuel), 2 = electricity, 3 = indirect (value chain). |
| Emissions Sector / Subsector | What part of the city the emissions come from. | E.g., “Transport,” “Residential buildings,” “Industry,” “Waste.” |
| Emissions Value | The actual emissions amount (numerical). | e.g., 4,300,000 tCO₂e |
| Year of Data | The year the emission data corresponds to. | e.g., 2019 (some cities report with 1–2 year lag). |
| Boundary | What area or activities were included. | “Same coverage as previous inventory” = consistent boundary. |
| Population | City population used for per capita calculations. | Berlin ≈ 3.6 million |
| Tool Used | Name of the software/tool used to compile the inventory. | “CIRIS” (Common Inventory Reporting & Information System) |
| City Location (Lat/Lon) | Geographic coordinates (latitude/longitude). | Helps in mapping visualization later. |
| Last Updated | When this record was updated on CDP. | e.g., 2024-04-03 |

**🧩 How these fit your analysis**

When we clean the data, you’ll only need a few key columns:

|  |  |
| --- | --- |
| Keep These | Why |
| City, Country, Region | Identify the city and its location. |
| Emissions Sector, Subsector | To visualize emissions by activity type. |
| Emissions Scope | To build charts for Scope 1, 2, 3. |
| Emissions Value | Core metric (tCO₂e). |
| Year of Data | For time-based trend charts. |
| Population | To calculate per-capita emissions. |

Everything else (like IDs or URLs) can stay aside or be dropped for simplicity.