

User-Guide:

Building Information Enhancer

(AMOS SS 2024)

The Building Information Enhancer tool is meant to offer region and building data in Germany to support business decisions. It consists of two main parts: the map on the left and the location data view panel on the right side:

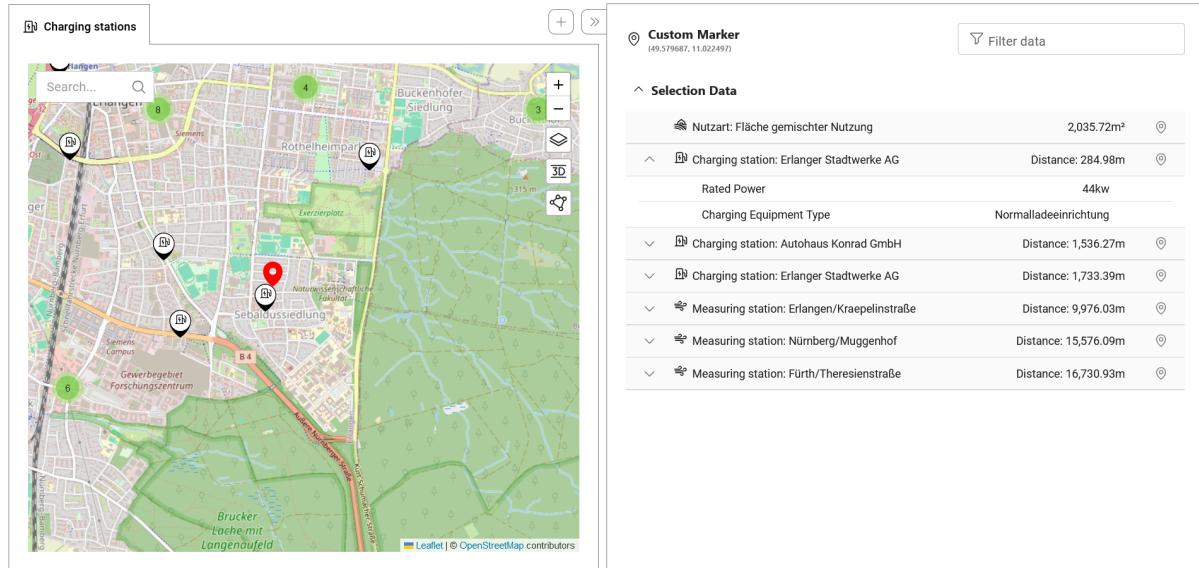


Figure 1: Example View with open map (left) and data view (right)

The current data contains information about air pollution, geothermal potential, actual use, charging stations, and building-specific data like ground area, volume, roof surface, and potential area for solar panels. Data can be retrieved for single points or regions.

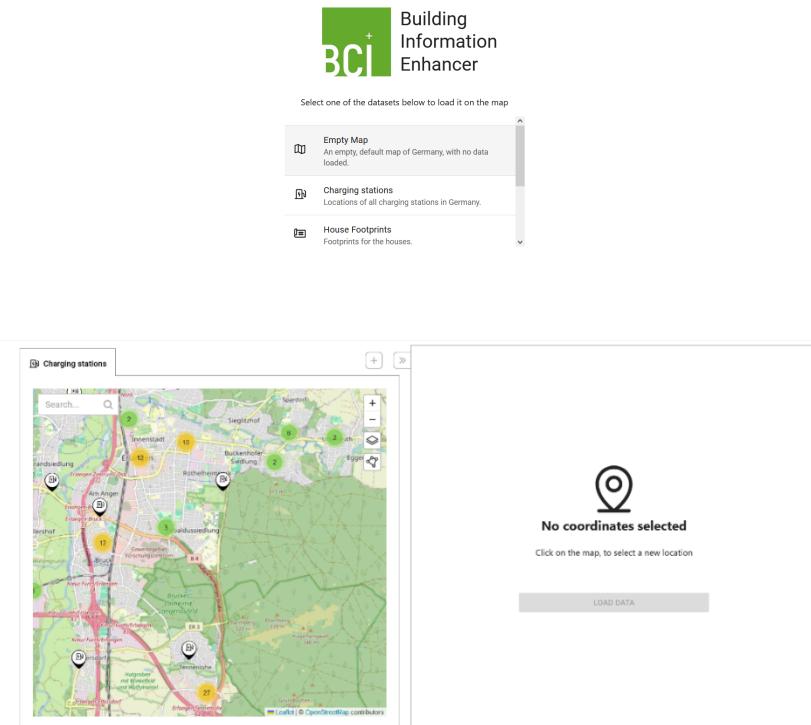
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Quickstart

To get data for a region very quickly just 3 steps must be taken:

1. Open the webpage and choose a dataset for the map visualizations (which can be changed later):



Select one of the datasets below to load it on the map

-  Empty Map
An empty, default map of Germany, with no data loaded.
-  Charging stations
Locations of all charging stations in Germany.
-  House Footprints
Footprints for the houses.

Charging stations

Search...

Empty Map

Charging stations

House Footprints

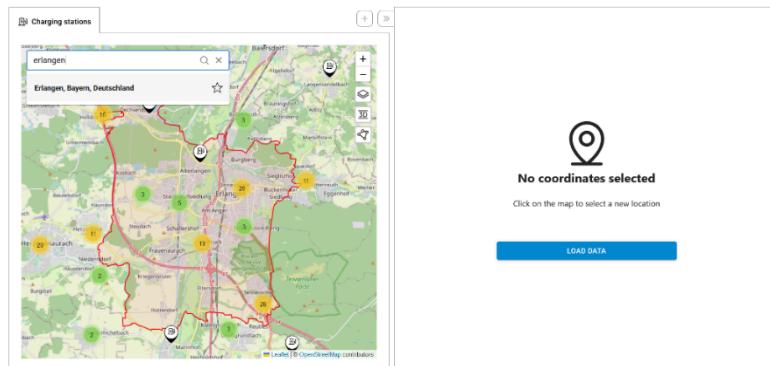
No coordinates selected

Click on the map, to select a new location

LOAD DATA

Figure 2: Selecting dataset (left) and View after selecting „Charging stations“ (right)

2. Search for the area of interest:



erlangen

erlangen, Bayern, Deutschland

Charging stations

Search...

Empty Map

Charging stations

House Footprints

No coordinates selected

Click on the map to select a new location

LOAD DATA

Figure 3: After searching for "erlangen"

3. Click „Load Data“

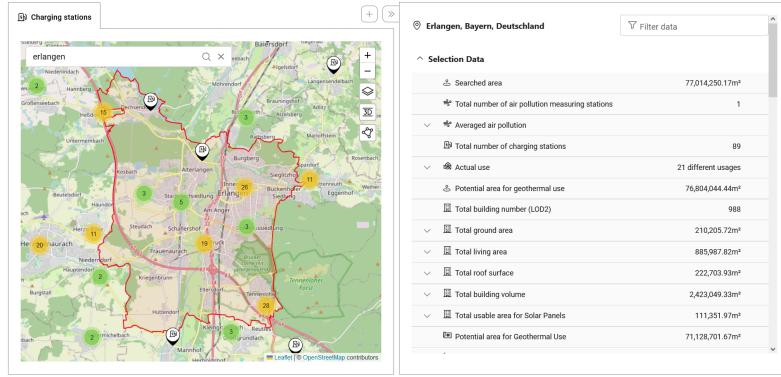


Figure 4: After clicking "Load data"

Additional functionalities

Dataset-Tab Functionalities

The visualizable datasets directly correspond to the tabs. The initially chosen dataset will be the first tab to be displayed with its content.

Each dataset has a description of its content which can be shown by selecting “Info” in the context menu of the tab:

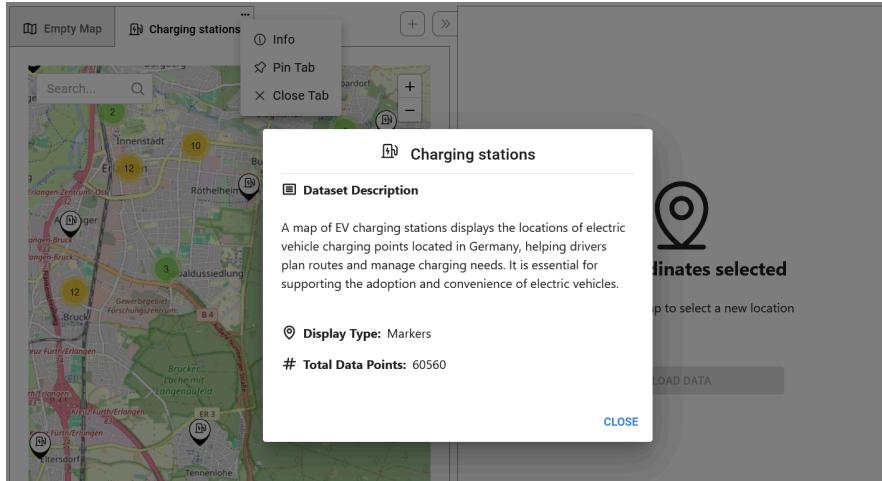


Figure 5: Information about the dataset "Charging stations"

Adding datasets

Showing more datasets can be done by selecting the Plus button and choosing the desired dataset. The chosen dataset will appear as an additional tab.

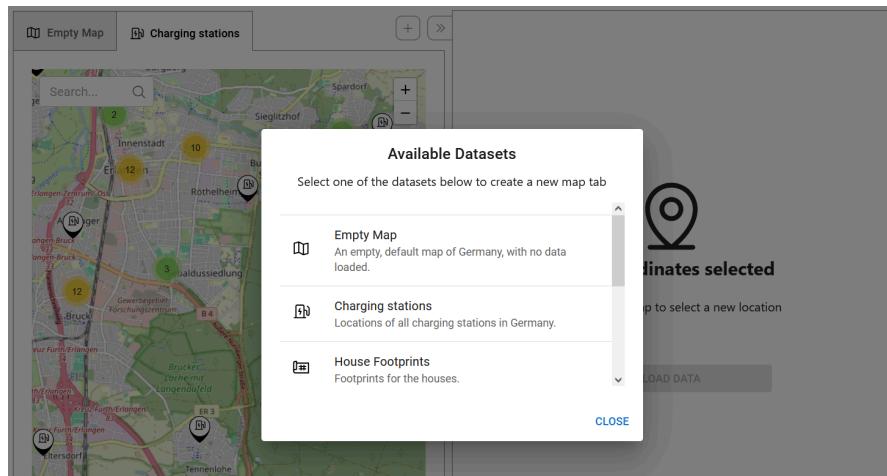


Figure 6: Available datasets shown after clicking "+"



Figure 7: View with 2 open tabs and highlighted "Add a new dataset"-Button

Pinning data sets (maps)

The pinning mechanism allows a simultaneous display of multiple datasets. By clicking the 3 dots on the tab control it is possible to select “Pin Tab”:

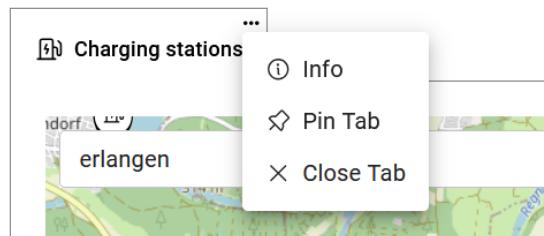


Figure 8: Opened context menu for tab with „Pin Tab“ Option

The data (markers, polygons) of a pinned tab will always be visible in the currently opened tab:

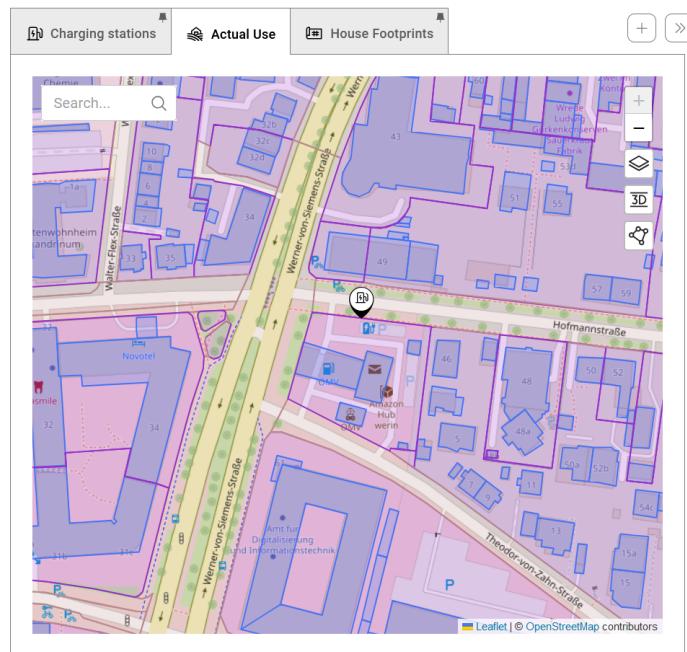


Figure 9: Both „Charging stations“ and „House footprints“ are displayed in the current tab „Actual use“

Closing data sets (maps)

Already opened maps can be also closed by clicking the “Close Tab” button.

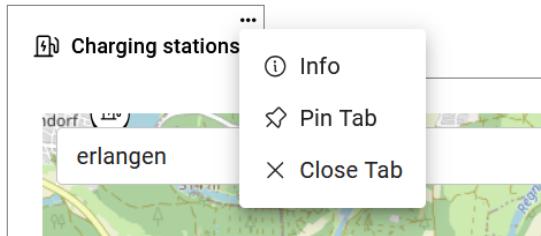


Figure 10: Opened context menu for tab with „Pin Tab“ Option

Map Functionalities

In the following sections, the functionalities of the map are explained in more detail. This includes the search, the selection in the map, the pinning of multiple datasets, and the usage of layer control for different backgrounds.

Search with Favorites

The search functionality offers automatic suggestions. Special language-dependent characters, such as "ö," must be replaced according to general conventions (e.g., "oe"). The search sets the target as the current location of interest, allowing it to be directly accessed for loading data.

Additionally, the search allows users to set favorites, which are saved for the current session:

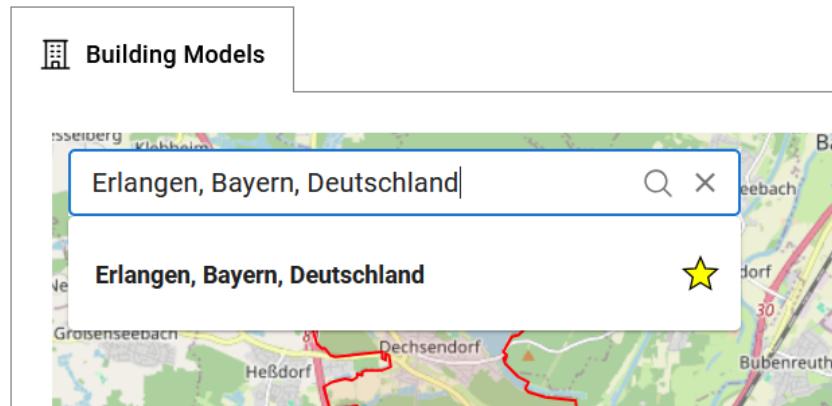


Figure 11: Search bar with "favorited" Location "Erlangen"

Selection

Selecting is the process of choosing an area or location to get more detailed information than can be shown via the map. The selection of a point or area can be done in 3 different ways:

1. Selecting a single position by clicking on the map. The selected point is marked with a red marker:

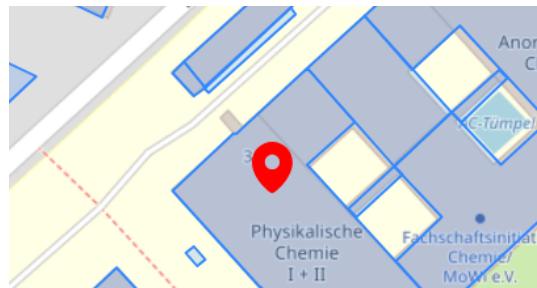


Figure 12: Marker for showing current position

2. Searching for a location that is associated with an area (as shown in Quickstart)
3. Selecting areas by using the "Select polygon" tool

Polygon selection

The UI also allows the selection of arbitrary polygons for data retrieval. In the map controls – found in the top right corner of the map – is the Polygon selection tool:

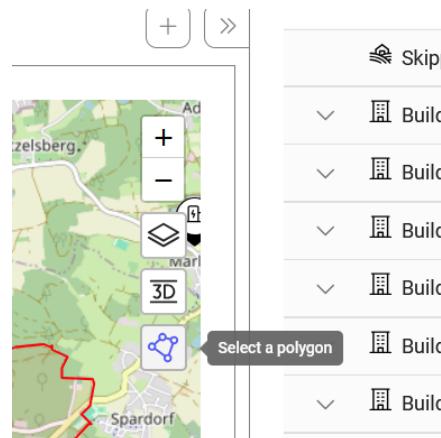


Figure 13: Selected "Polygon selection"

Each click on the map then corresponds to a vertex of the polygon:

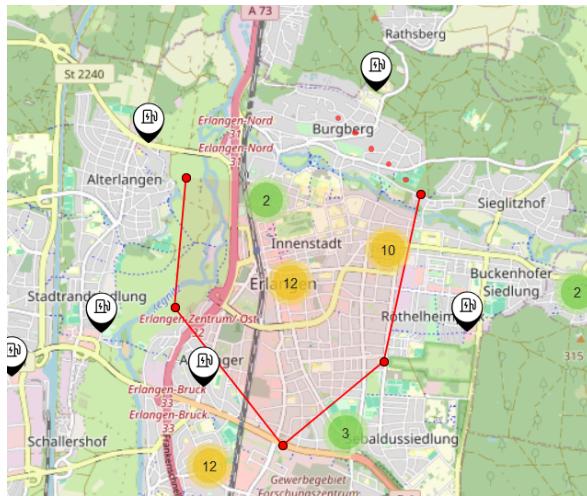


Figure 14: View during polygon selection with dotted preview

Satellite view and DOP40

A basic Satellite view is supported for all of Germany and a high-resolution (DOP40) fly-over imagery is supported for Bavaria. A corresponding menu may be accessed in the map control:

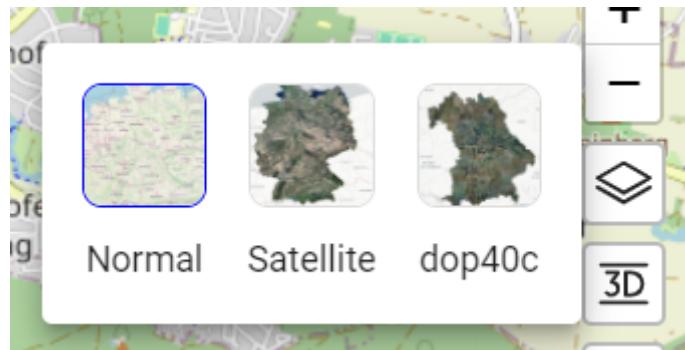


Figure 15: Background-Layer selection with satellite etc

The 3D View

The last map options button is the 3D view, which allows the user to see the map from a specific angle. When clicked the map is transformed into a canvas and a rotation camera controller is enabled, allowing the user to rotate around the specified map location.

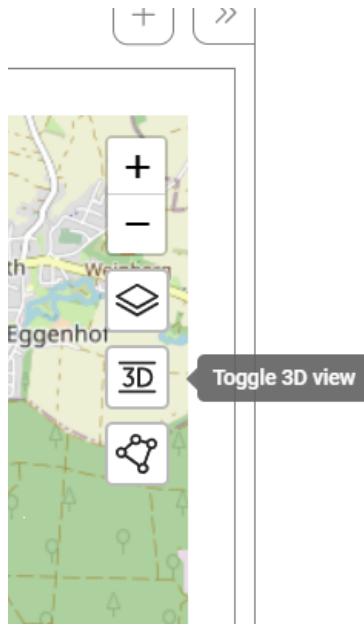


Figure 16: Selected "Toggle 3D View" button

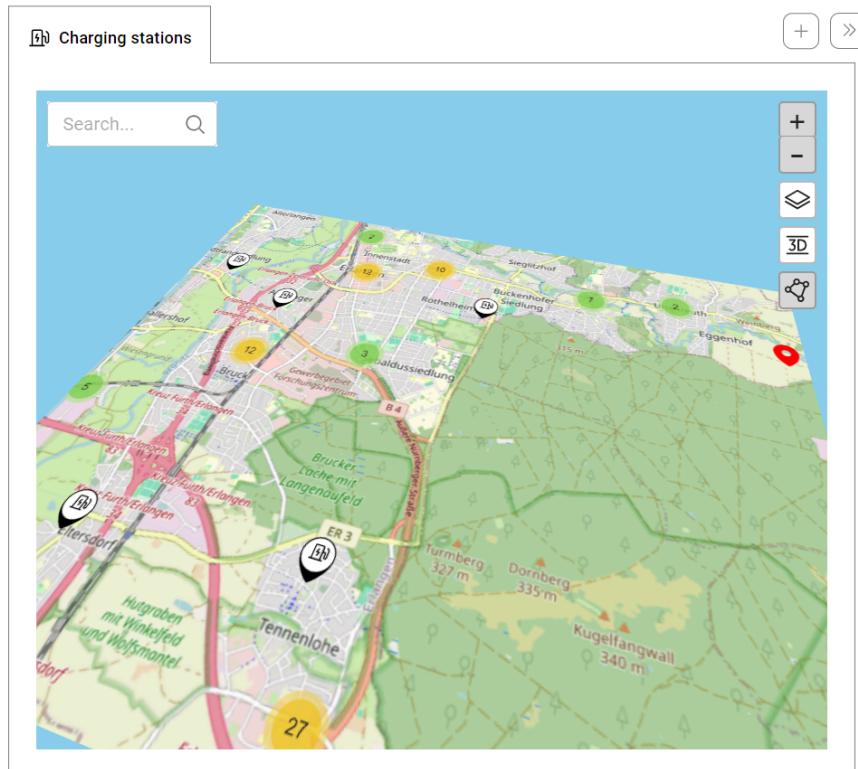


Figure 17: The 3D View of the map

Dataview Functionalities

The data view is used to explore the given location more in detail. It may be loaded after choosing a location as described in “Selection” and pressing “Load data” or “Reload data” after the first time:

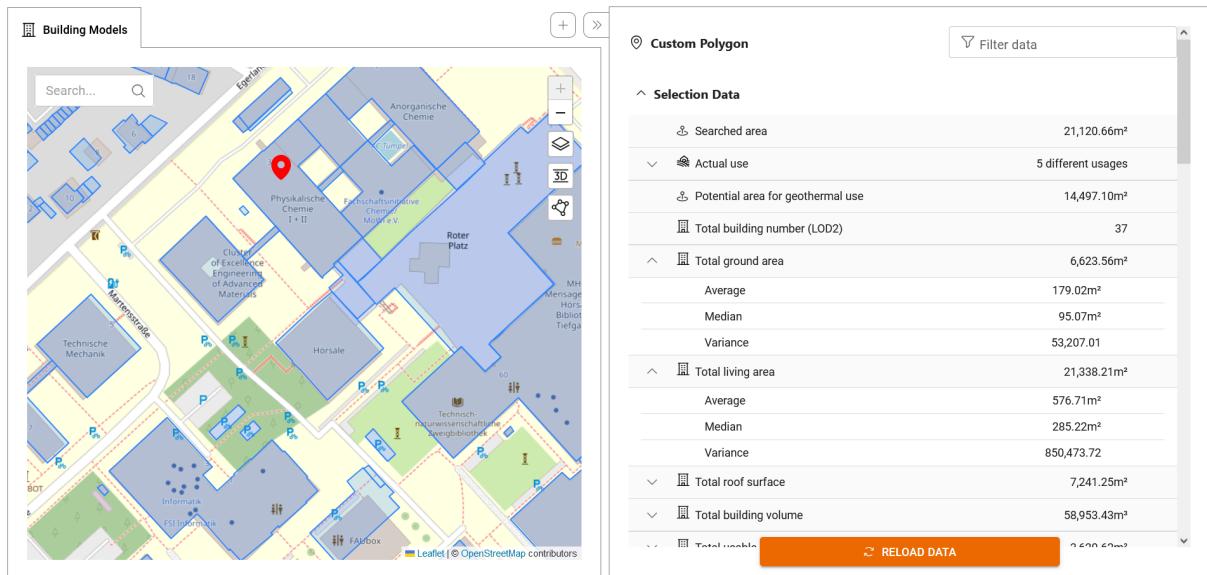


Figure 18: Visible "Reload data"-Button after choosing a new location

Die DataView itself is organized into two subsections: „Selection Data“ and „Individual Data“. The former contains aggregated values for selected locations and the latter contains the individual data points from the datasets that were the source for those aggregated results. This may for example be a collection of buildings or measuring stations.

Filtering

The results may be filtered with a simple text-based filter bar in the top right of the data view:

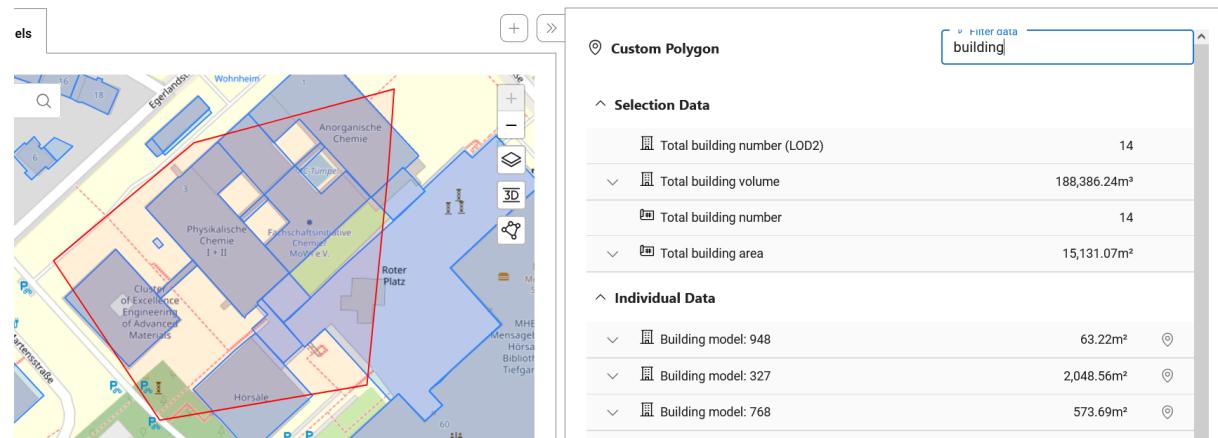


Figure 19: Filtering with text "building"

Fly-to for data view entries

In area selection the dataview displays (a truncated) the entries for this area. Any entry has a “Locate on the map” button that moves the map to this specific object:

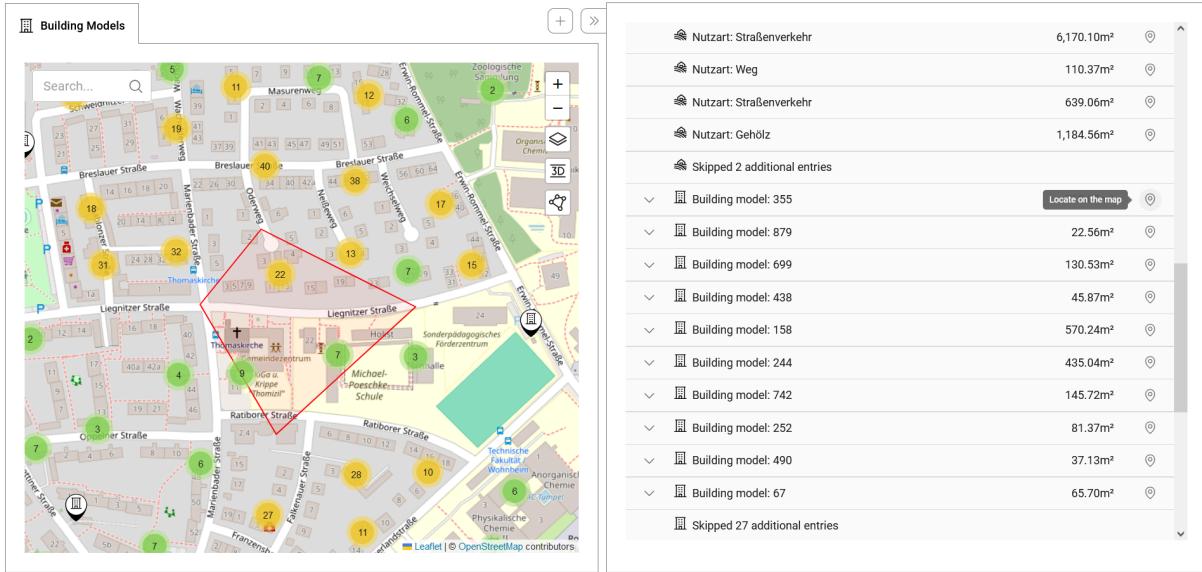


Figure 20: Area selection with the individual entries on the right with the „Locate on map“-buttons

Hidding data view

If the user wants to hide the data view and focus solely on the map, it is possible to do so using the “Hide Data View” button.

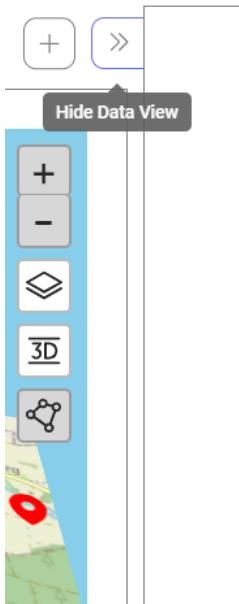


Figure 21: “Hide Data View” button selected

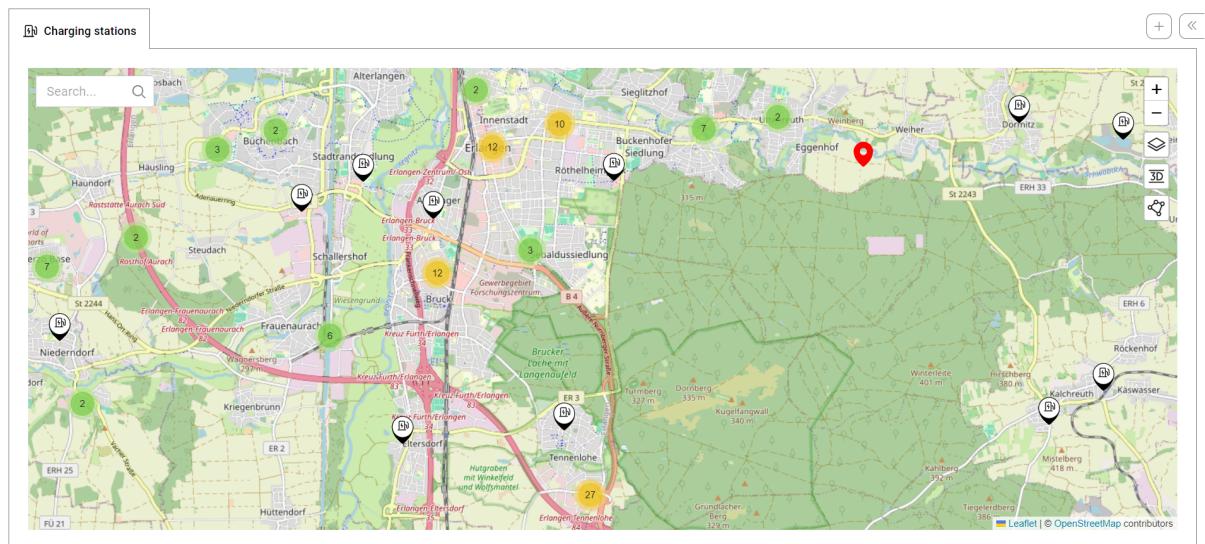


Figure 22: Map after hiding the data view panel