Visual Analysis of Power Plant Data for European Countries

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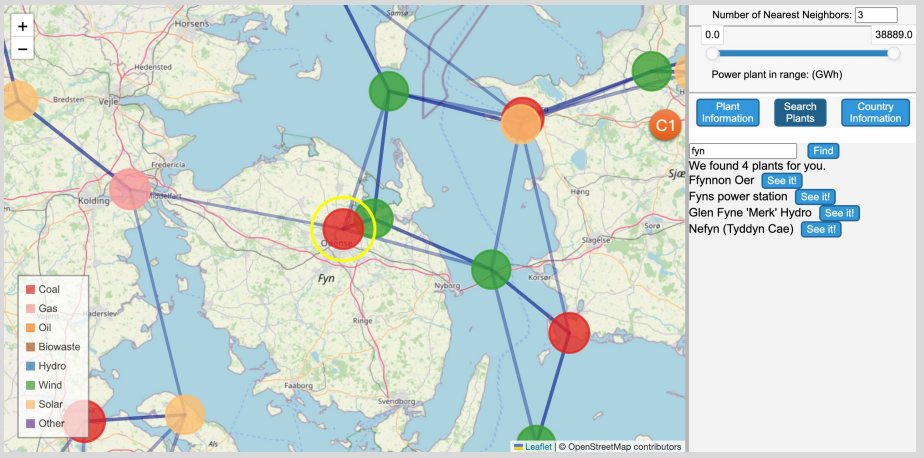
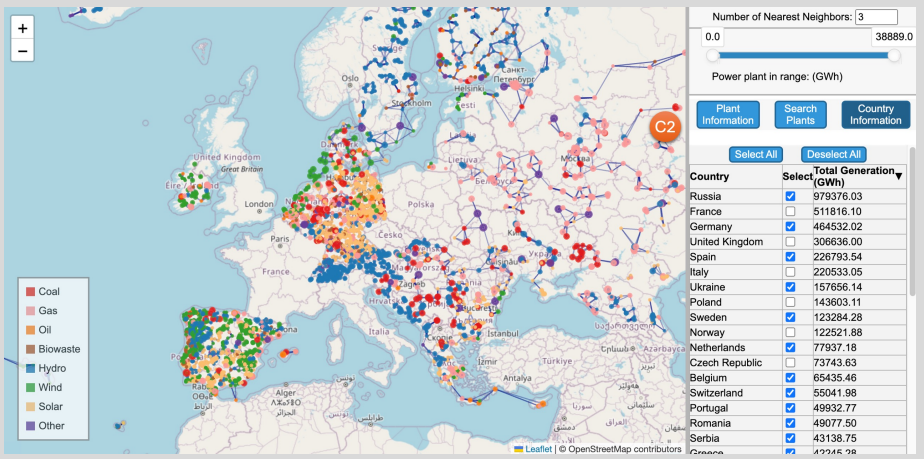
A power plant is a complex real-world system associated with rich multidimensional data relevant to its construction and activity. Thus, choosing an appropriate way to visualize power plant data is important for users to understand and explore more about such systems. Most of the approaches existing in this field support only a static representation of data from a small region. This makes it hard for the users to get an overview or explore specific power plants.

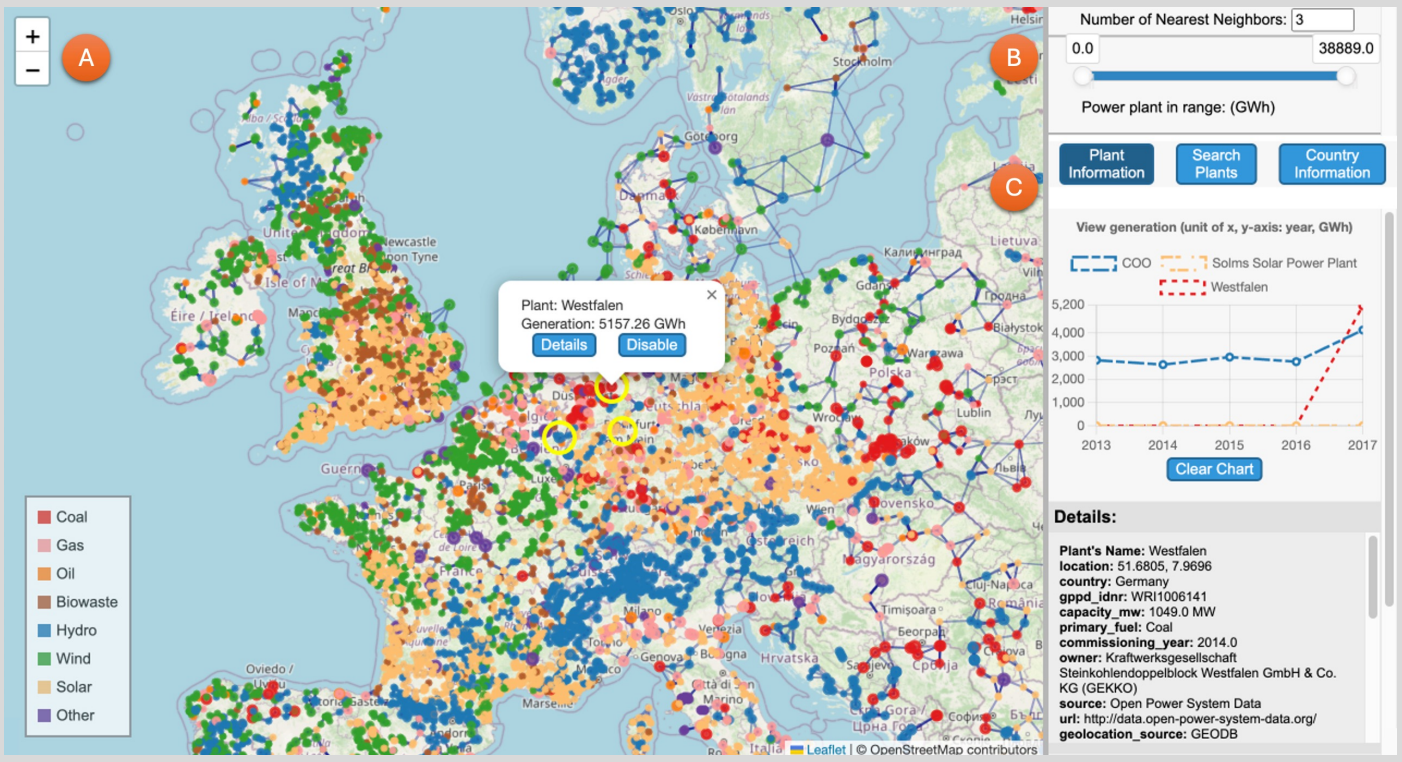
In this poster abstract, we describe an interactive visualization tool designed for the analysis of power plant data in Europe. Our approach provides an overview and detail visualization approach for Global Power Plant Database entries. With this tool, users can easily find power plants, see details on demand, filter, compare, and explore the power plant outage scenarios from the nearest neighbor perspective.



C1. Users can query for specific power plants.



C2. Users can filter the displayed power plants based on the country.



Visualization of the power plant data for European countries.

A. A power plant network formed by a nearest neighbor graph.
B. Settings and filtering controls.
C. Details view for selected power plants as well as further search and filtering controls.

Through this tool, we can identify the complexity and the scope of the problem related to modeling and analyzing such power systems, and for that, we intend to apply a more powerful and involved conceptual framework such as multilayer networks to further explore the domain problem from a visual analytic perspective.

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