1. Home
2. Area selection

(address/coordinates/polygon/upload)

1. Data retrieve

This page is just a page where the visualization of files being downloaded with bars etc get displayed – all the data should be downloaded together in this stage and saved in a specific directory which structure I want you to create so that in the subsequent phase there is no api involved but only the downloaded data files are used for maps and analysis. There should be an option to download all the results in zip file

1. Buildings (with map)

in this section, the building data get downloaded with the approach in the code shared where osm is reference dataset and google data gets used to enhance it – at some point I will also incorporate Microsoft as additional enhancement

1. Clustering (with map)

In this section a clustering will be performed in order to identify within the target area the clusters to evaluate and use in the next phases – this will be a combination of already downloaded files from osm in step 3, some clustering algorithm and manual drawing by the user

1. Data visualization and enhancement (combination of charts and maps for each)

Here the previously downloaded data will be showed to the user for them to appreciate them, and possibly manually enhance them

* 1. Out of the study area

This section will focus on some data that focus on the study area with respect to the rest of the surrounding area. It will have subpages

* + 1. Major cities
    2. Main roads
    3. Airports
    4. Ports
    5. National grid
    6. Substations
    7. Night time lights
  1. Within the study area
     1. Buildings (including the types of buildings
     2. Points of interest
     3. Access status
     4. Relative wealth index
     5. Roads
     6. Elevation
     7. Crops and biomass potential
     8. Water bodies and hydro potential
     9. Solar potential
     10. Wind potential
     11. Landcover
     12. Available land for infrastructure

1. Costs (just inputs)

in this page there will be a set of costs inputs to be defined by the user – feel free to populate this in the meantime based on what you will see below as you will understand which types of cost we are talking about

1. Summary analysis (combination of maps and charts with all the above info)
2. Demand estimation (charts and maps)

Here a methodology will use the input data and some new info to estimate the energy demand of the selected area (this will based on one of 4 methodologies based on the user selection (MTF standard, MTF Polimi, RAMP, MIT)

1. Mini-grid sizing (charts and maps)

This section will optimize the minigrid based on one of two methodologies based on the user (Michele, MicrogridsPy)

1. Grid (charts and maps)
   1. This part will estimate the grid extension need to extended the national grid from the closest substation to the study area
   2. This one will estimate the internal distribution grid
2. Results (charts and maps)