**Derived Datasets**

The derived datasets are datasets necessary as inputs in our data preparation in SPSS Statistics. They are made manually based on external data sources or are .csv files exported from operations in ArcGISPro.

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| Dataset | Derived from | Variables used |
| Grid\_return\_capacity.csv | Made manually: based on Capaciteitskaart elektriciteitsnet for ZLF Zwolle Frankhuisweg voedingsgebied | MV\_capacity: Transport capacity of medium voltage grid  MV-demand: Transport demand for medium voltage grid  HV\_capacity: Transport capacity of high voltage grid  HV-demand: Transport demand for high voltage grid |
| stadshagen\_allfunctions\_lvl1.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by gebruiksdo: Value includes the text 'woonfunctie' OR 'industriefunctie' OR 'bijeenkomstfunctie' OR 'gezondheidszorgfunctie' OR 'bijeenkomstfunctie, kantoorfunctie' OR 'onderwijsfunctie' OR 'winkelfunctie' OR 'bijeenkomstfunctie, logiesfunctie' OR 'sportfunctie' OR 'celfunctie' OR 'bijeenkomstfunctie' OR 'overige gebruiksfunctie'  Filter by potentia\_2: potentia\_2 = 1 | Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_allfunctions\_lvl2.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by gebruiksdo: Value includes the text 'woonfunctie' OR 'industriefunctie' OR 'bijeenkomstfunctie' OR 'gezondheidszorgfunctie' OR 'bijeenkomstfunctie, kantoorfunctie' OR 'onderwijsfunctie' OR 'winkelfunctie' OR 'bijeenkomstfunctie, logiesfunctie' OR 'sportfunctie' OR 'celfunctie' OR 'bijeenkomstfunctie' OR 'overige gebruiksfunctie'  Filter by potentia\_2: potentia\_2 = 2 | Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_housing\_lvl1.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by gebruiksdo: Value includes the text 'woonfunctie'  Filter by potentia\_2: potentia\_2 = 1 | Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_housing\_lvl2.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by gebruiksdo: Value includes the text 'woonfunctie'  Filter by potentia\_2: potentia\_2 = 2 | Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_industry\_lvl2.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by gebruiksdo: Value includes the text 'industriefunctie'  Filter by potentia\_2: potentia\_2 = 2 | Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_largeroofs\_lvl2.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by total\_area: total\_area >= 2000  Filter by potentia\_2: potentia\_2 = 2 | . Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_otherfunctions\_lvl1.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by gebruiksdo: Value includes the text 'bijeenkomstfunctie' or 'gezondheidszorgfunctie' or 'bijeenkomstfunctie, kantoorfunctie' or 'onderwijsfunctie' or 'winkelfunctie' or 'bijeenkomstfunctie, logiesfunctie' or 'sportfunctie' or 'celfunctie' or 'bijeenkomstfunctie' or 'overige gebruiksfunctie'  Filter by potentia\_2: potentia\_2 = 1 | Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_otherfunctions\_lvl2.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 0  Filter by gebruiksdo: Value includes the text 'bijeenkomstfunctie' or 'gezondheidszorgfunctie' or 'bijeenkomstfunctie, kantoorfunctie' or 'onderwijsfunctie' or 'winkelfunctie' or 'bijeenkomstfunctie, logiesfunctie' or 'sportfunctie' or 'celfunctie' or 'bijeenkomstfunctie' or 'overige gebruiksfunctie'  Filter by potentia\_2: potentia\_2 = 2 | Total\_area: Total area of each building fulfilling the specific filter conditions will be summed to get a sum of the roof area in Stadshagen fulfilling the filter. |
| stadshagen\_yespanels.csv | Derived from solar\_roof\_potential\_Zwolle.shp  Following filters were applied:  Filter by neighborhood: neighborho = "Wijk 22 Stadshagen"  Filter by pv\_class: pv\_class = 1 | Potentia\_2: Used to determine the suitability level of current roofs with solar panels in order to calculate current energy generated |
| Dailydata\_lvl1.csv | Derived from PVGIS- Daily data pane  Location: 52.508 N, 6.094 E (Zwolle)  Radiation Database: PVGIS-SARAH3  Month: June  On fixe plane: Clear-sky Irradiance  Slope: 45  Azimuth: 180 | V1 (Time(UTC)): time of day  V3 :Irradiance at time of day in W/m^2 |
| Dailydata\_lvl2.csv | Derived from PVGIS- Daily data pane  Location: 52.508 N, 6.094 E (Zwolle)  Radiation Database: PVGIS-SARAH3  Month: June  On fixe plane: Clear-sky Irradiance  Slope: 35  Azimuth: 90 | V1 (Time(UTC)): time of day  V3 :Irradiance at time of day in W/m^2 |
| Dailydata\_lvl3.csv | Derived from PVGIS- Daily data pane  Location: 52.508 N, 6.094 E (Zwolle)  Radiation Database: PVGIS-SARAH3  Month: June  On fixe plane: Clear-sky Irradiance  Slope: 30  Azimuth: 0 | V1 (Time(UTC)): time of day  V3 :Irradiance at time of day in W/m^2 |
| kWh\_allfunctions\_lvl1.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  Installed peak PV power [kWp]: 313.60  Slope: 45  Azimuth: 180 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| kWh\_allfunctions\_lvl2.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  Installed peak PV power [kWp]: 30977.10  Slope: 35  Azimuth: 90 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| kWh\_housing\_lvl1.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  Installed peak PV power [kWp]: 307.30  Slope: 45  Azimuth: 180 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| kWh\_housing\_lvl2.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  Installed peak PV power [kWp]: 26946.15  Slope: 35  Azimuth: 90 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| kWh\_industry\_lvl2.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  Installed peak PV power [kWp]: 1130.15  Slope: 35  Azimuth: 90 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| kWh\_largeroofs\_lvl2.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  added/Building integrated  Installed peak PV power [kWp]: 2623.60  Slope: 35  Azimuth: 90 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| kWh\_otherfunctions\_lvl1.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  Installed peak PV power [kWp]: 6.30  Slope: 45  Azimuth: 180 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| kWh\_otherfunctions\_lvl2.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y  Installed peak PV power [kWp]:  Slope: 35  Azimuth: 90 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |
| Stadshagen\_huidige\_opwek.csv | Derived from PVGIS- Grid connected pane  Key changable Paramaters compared to table y :  Installed peak PV power [kWp]: 3654.70  Slope: 30  Azimuth: 0 | V1 (Month): Month of simulation  V5 (E\_m): kWh generated in month in simulation |