Evaluation of PED areas- methods and first findings

Making City Mid-Term Event

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Evaluation methods

- Evaluation is based on comparing data from the PED areas to the data obtained from modeling and data from reference buildings
- In modeling both *Building Stock Models (BSM) and Energy Systems Models (ESM)* can be used
- In a single building level VTT's E-PASS tool is used as well
- In renovated buildings the data from the time before renovation is also used in evaluation

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Evaluation methods: KEY parameters

- The table indicates data based evaluation parameters
- These will be collected from PED area buildings for evaluation and reporting during two years evaluation period

E1: Final energy consumption
E2: Primary energy consumption
E5: RES production
F1: System flexibility for energy players
F2: RES storage usage
F3: Peak load reduction

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KEY parameters: a closer look

- E1: Final energy consumption; values
- kWh/month; kWh/year; kWh/m2month; kWh/ m2year
- E2: Primary energy consumption
- kWh/month; kWh/year; kWh/m2month; kWh/ m2year
- E5: RES (Renewable Energy Sources) production
- kWh/month; kWh/year; % of the final energy consumption
- F1: System flexibility for energy players
- % kWh; Likert scale

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KEY parameters: a closer look

- F2: RES storage usage
- % kWh

- F3: Peak load reduction
- %; # of peaks (congestion), duration of peaks and size of peaks; MHDx maximum hourly deficit

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Some first findings:

- It seems that the early estimates about the PED area energy balance are not up to the point – there are deviations both in the estimated consumption and production
- These deviations will be reduced when more accurate modelling tools will be deployed on the area
- However, also some very positive findings are made as well

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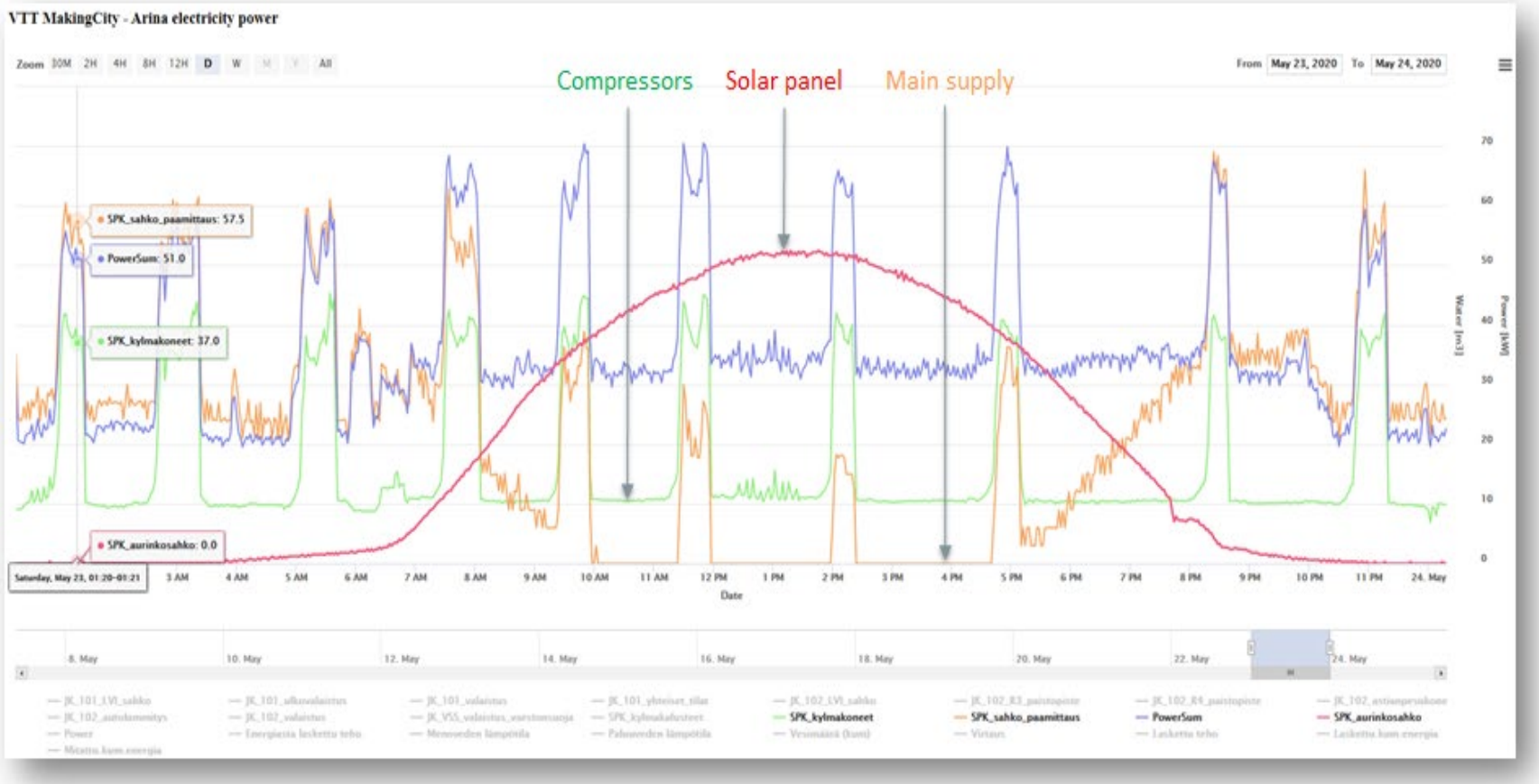
Arina Supermarket: 648 kWh/m2 reduced to 230 kWh/m2



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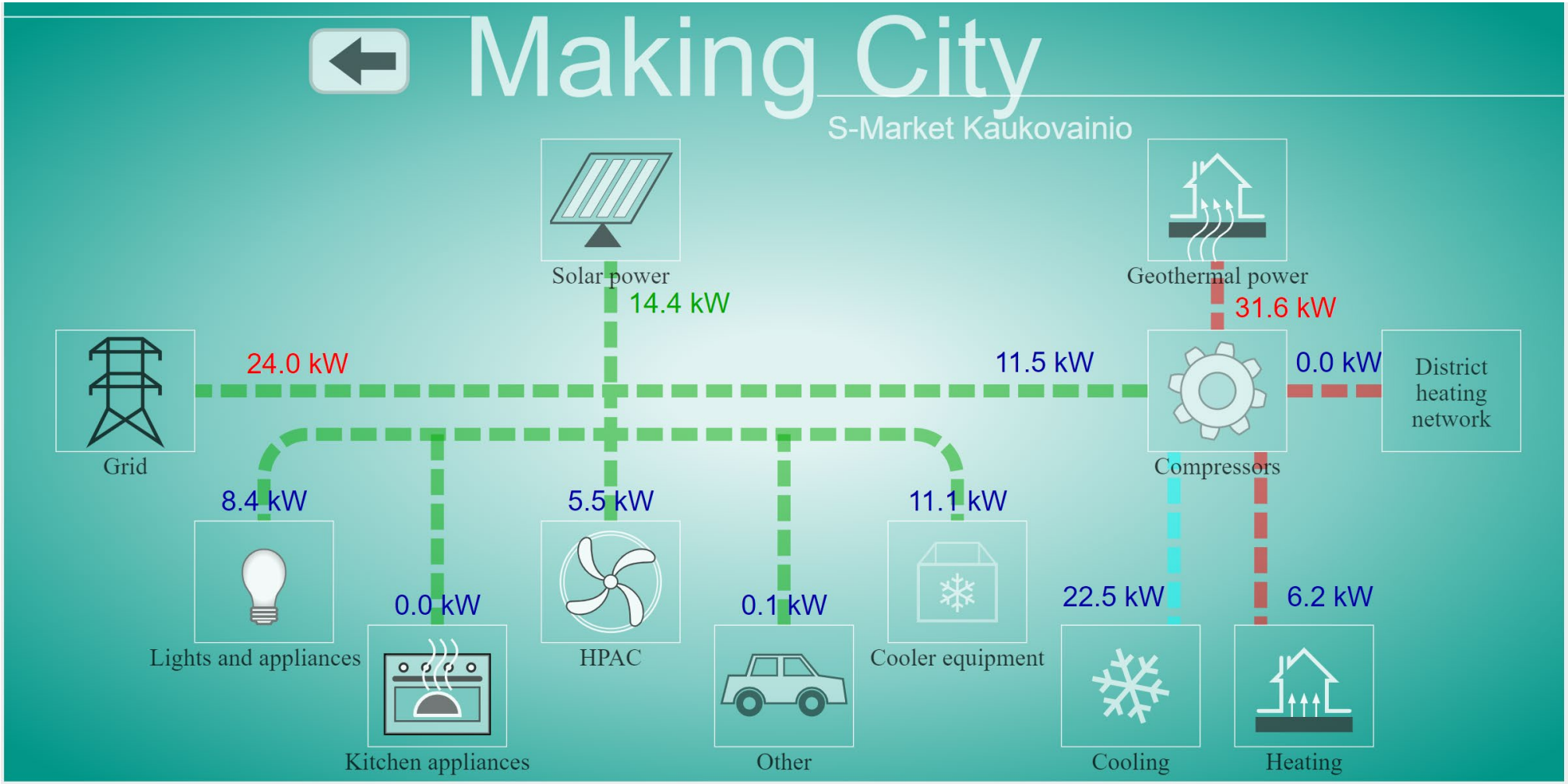
Hourly energy balance: example



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Sivakka Buildings:

up to40% reduction in heating energy cost

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Thank you

Get in touch for more information!

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All the reports of the project will be available for download on the MAKING CITY website: www.makingcity.eu

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