



hybrid
GEOTABS

Controlling the power of the ground by integration

MODEL-BASED PREDICTIVE CONTROL

Lukáš Ferkl



ENERGO**KL**ASTR



CTU
UCEEB

MODEL-BASED PREDICTIVE CONTROL

- Based on mathematical model of a building, uses optimization techniques
- Can save 15–40 % energy costs (see project OptiControl II)
- Suitable for multiple-source buildings with e.g. heat pumps, PVs, PTs, battery, secondary system
- Advantages for municipal use:
 - Performs peak shaving – lower load demands
 - Pre-heats and pre-cools efficiently – climate change mitigation
 - Smart grid ready, operates the building as a micro grid



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School Libeznice – dynamic prices
TABS/1.000 m²

CTU: office building
TABS/70.000 m² / **savings 23%**



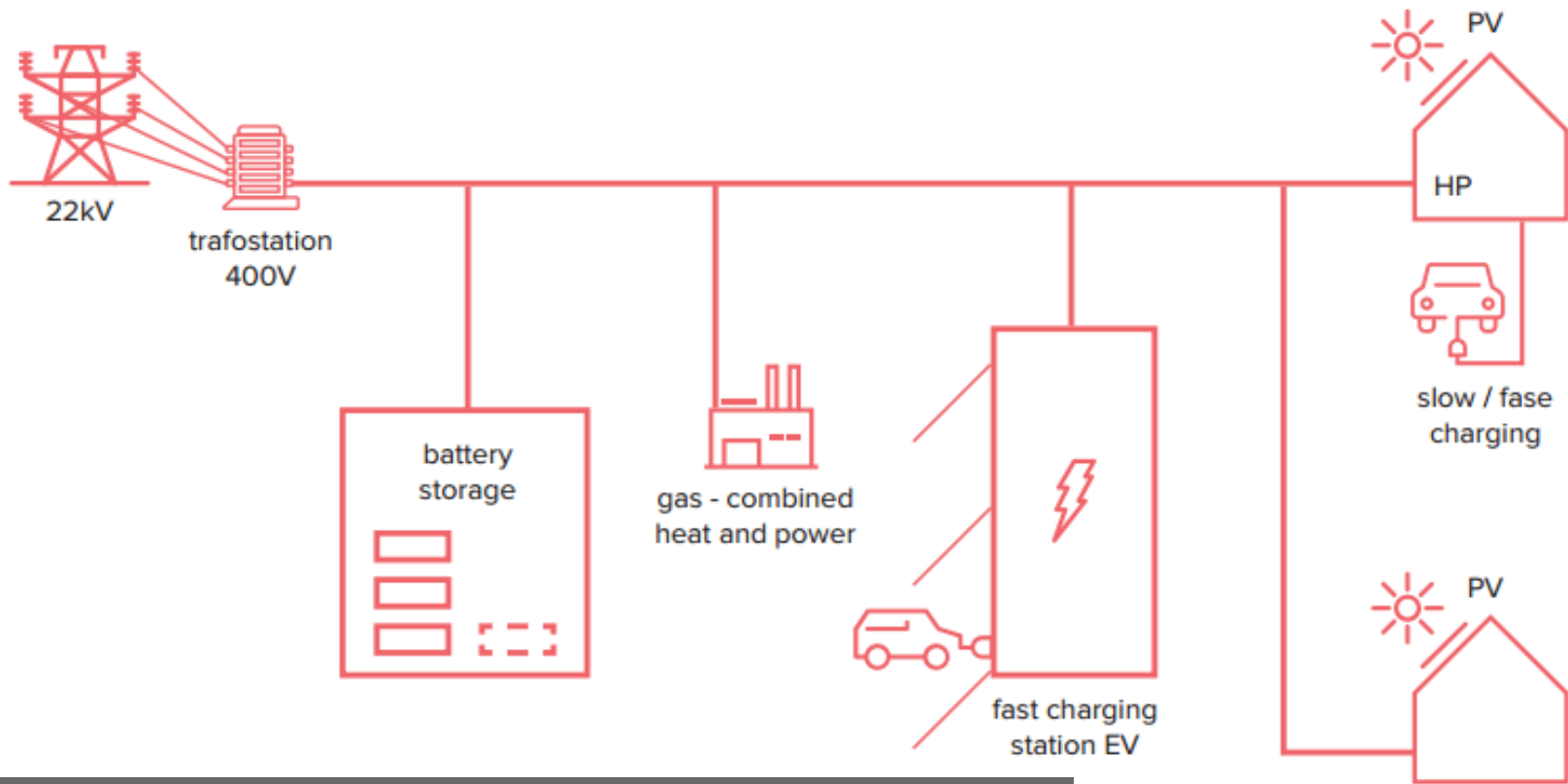
Hollands huys TABS-BKT/4.300
m² / **savings 17%**

LBM: office building
TABS-BKT/250 m² / **savings 23%**



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NEXT GENERATION DISTRICT

Modern technologies and ICT fully integrated on a microgrid level

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and

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