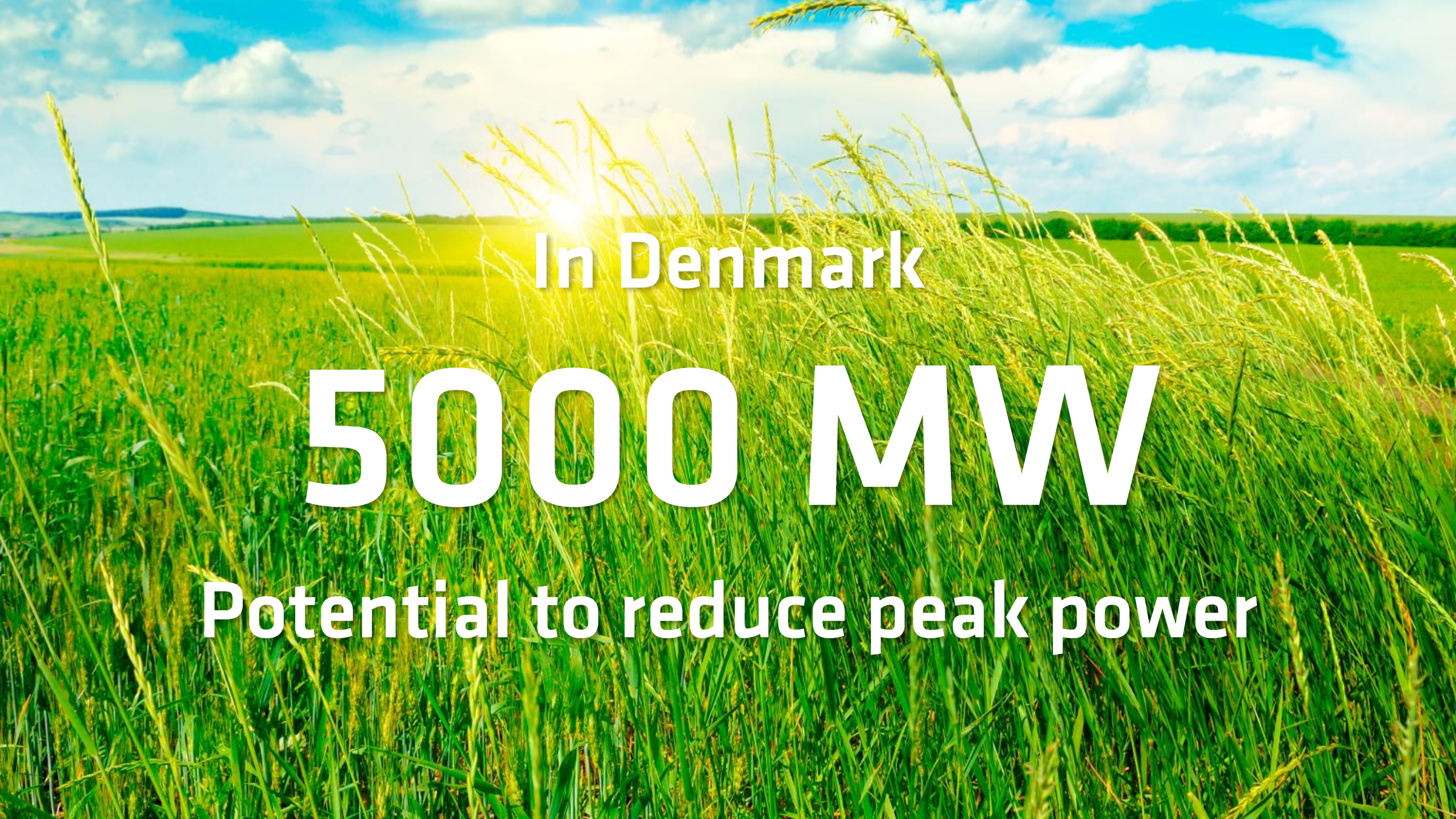
LEANHEAT
www.leanheat.com

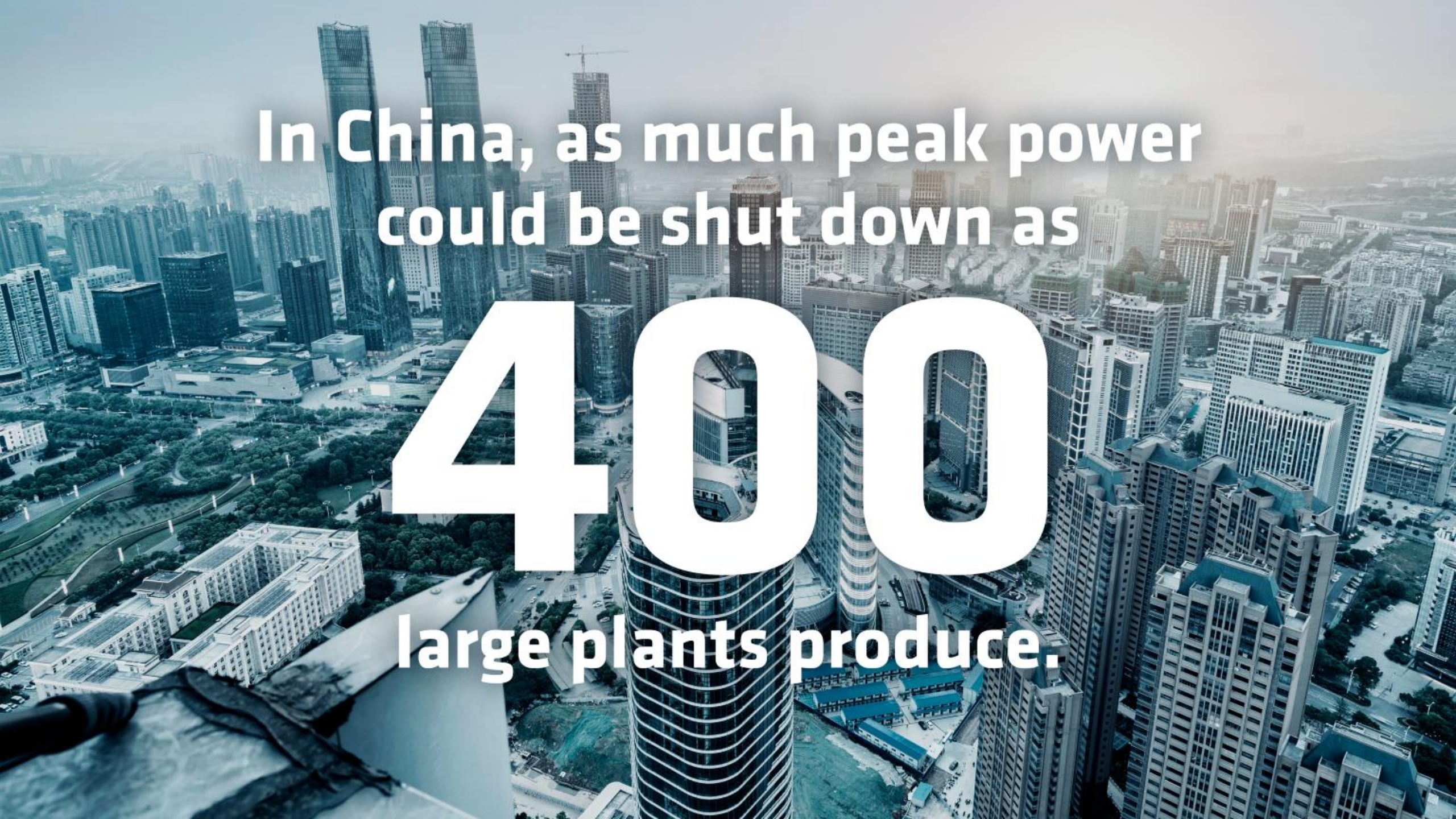
Buildings have huge untapped potential.

@Leanheat #Leanheat

By including buildings in the energy system...


In Denmark
5000 MW
Potential to reduce peak power

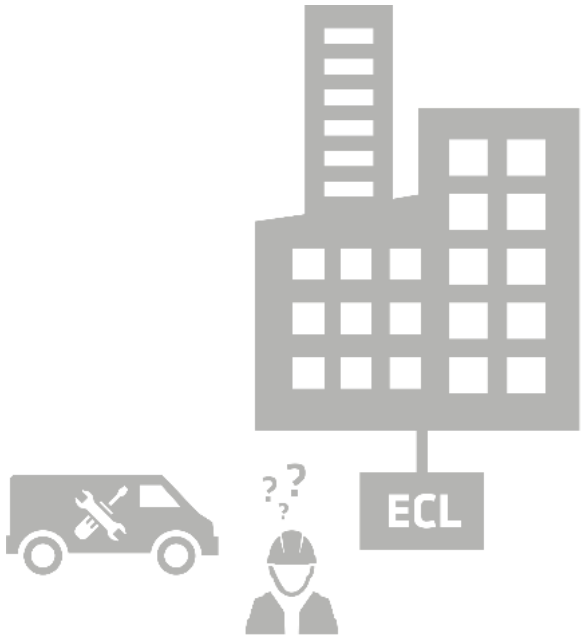
600,000 Danes would live
CO2 neutrally


In China, as much peak power
could be shut down as
400
large plants produce.

60,000,000
people would live carbon-neutrally.

Leanheat – AI-based heating of buildings

Traditional building

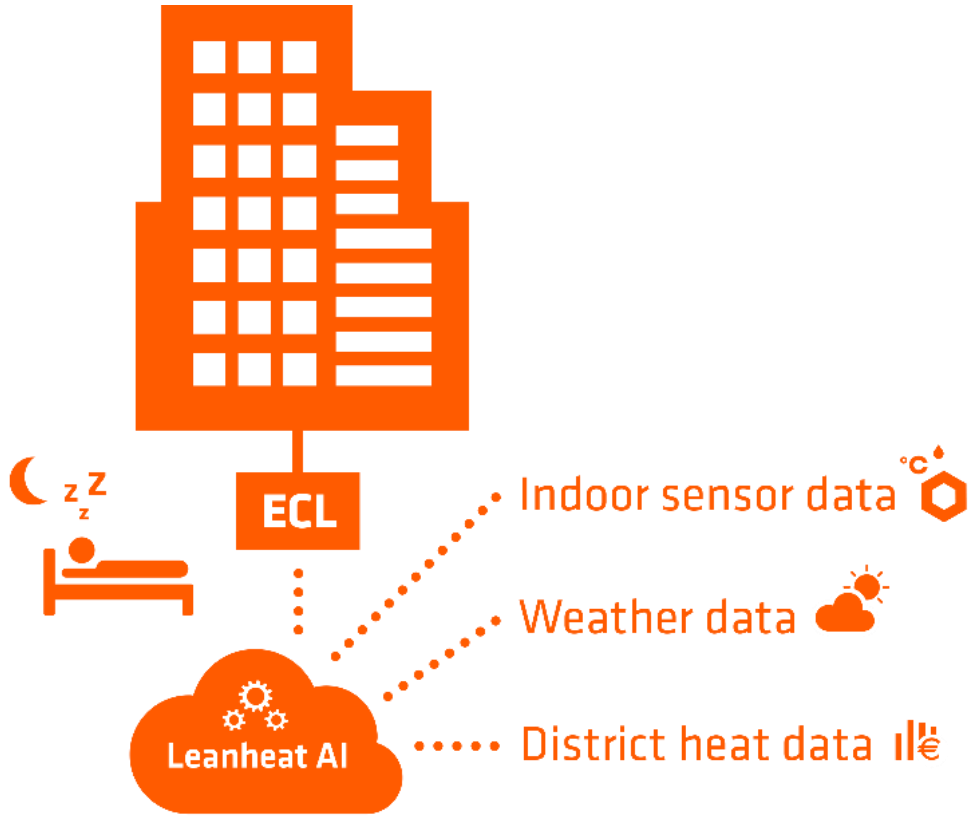


Heating curve + settings

$T.ref = T.VK + (2{,}5 \times VK \times (T.rum.set._{spare} - 20)) + RI$

- Manual configuration
- Not predictive

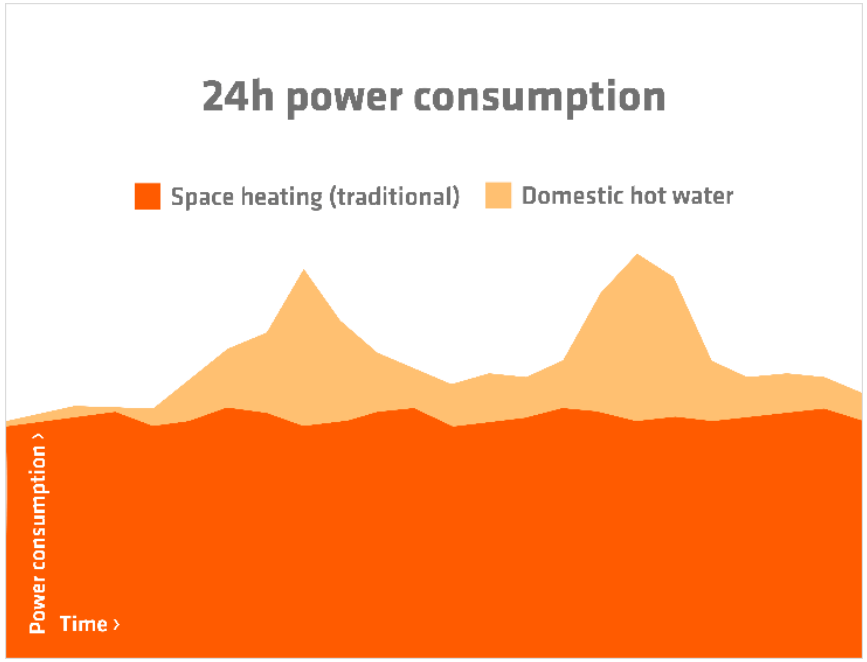
AI-controlled building



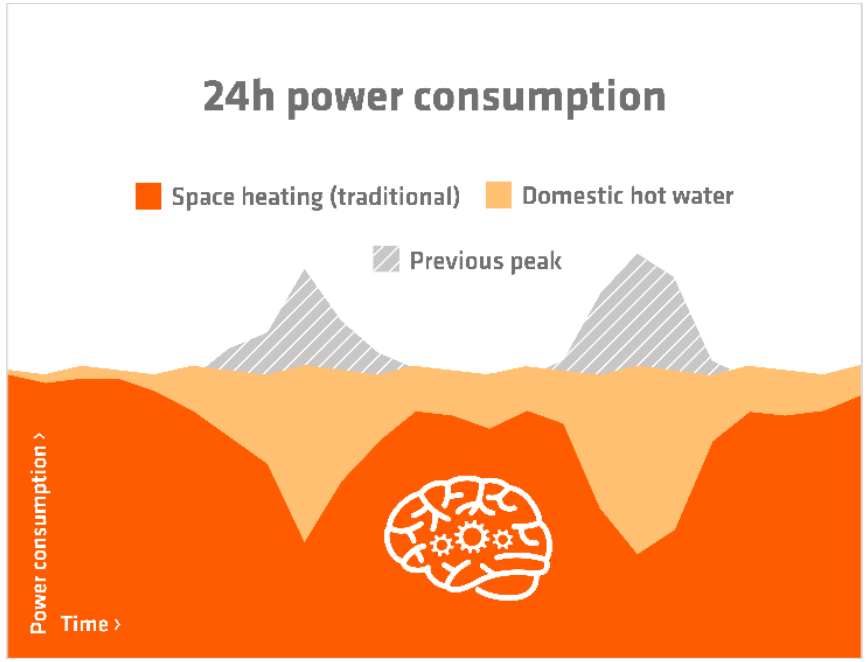
- Adaptive (no configuration)
- Predictive

Leanheat AI for district heat companies – cut peak power requirement by 10–30%

Traditional building automation

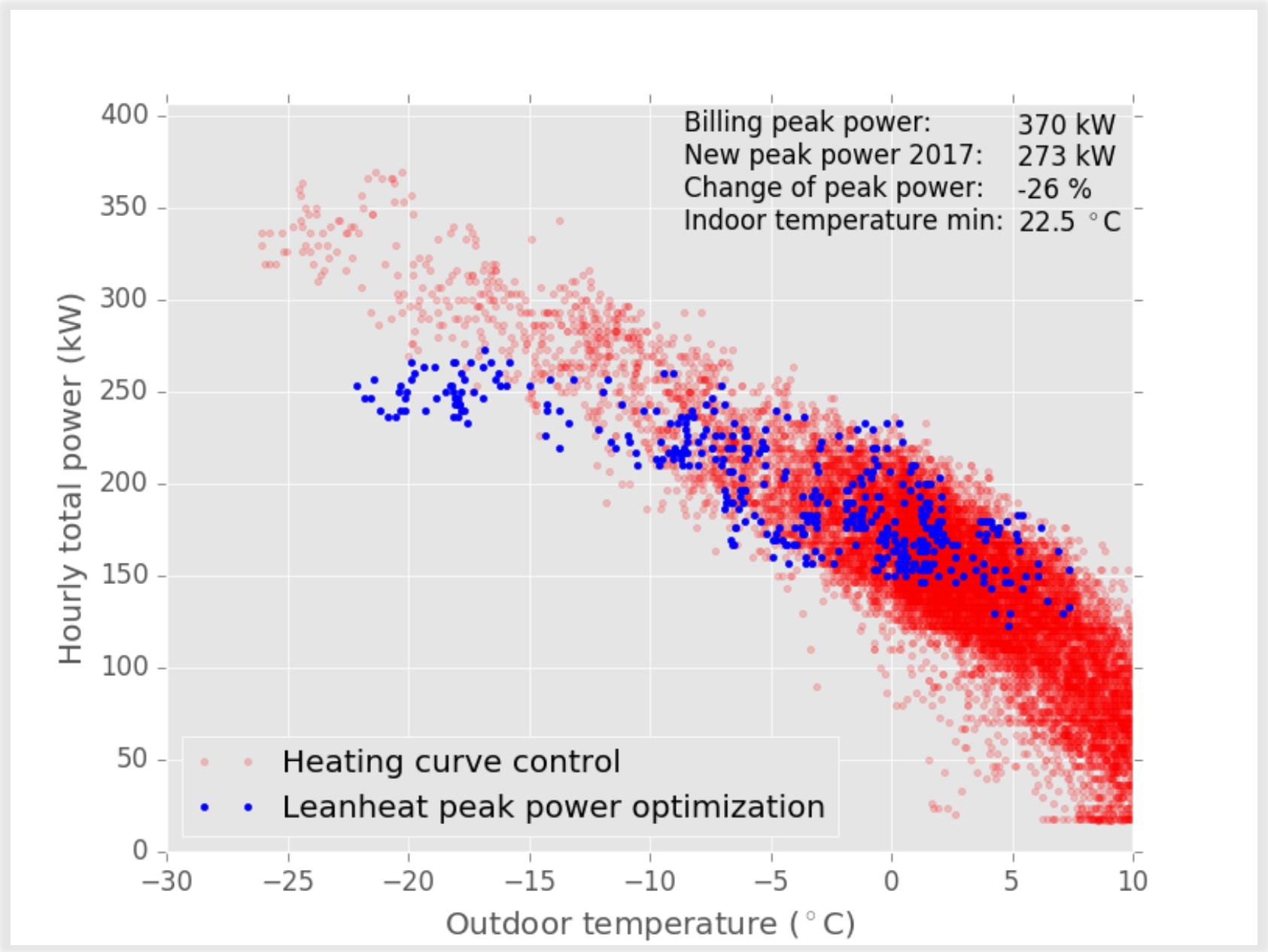


Optimized by Leanheat AI

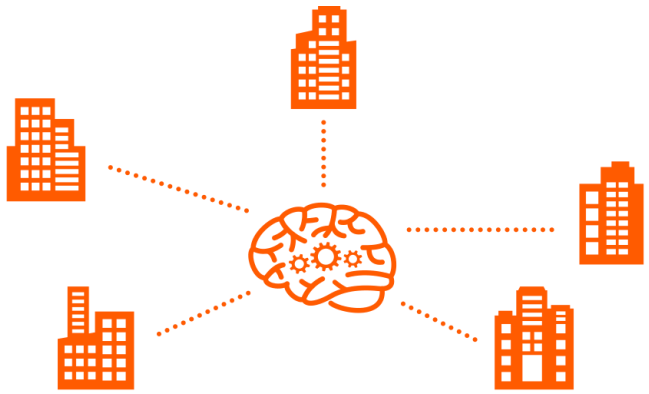


Benefits

- Cut peak power by 20%
- Solve hydronic bottlenecks anywhere in the grid
- New products and services
- Optimal production with demand response


Billing peak power: 370 kW
New peak power 2017: 273 kW
Change of peak power: -26 %
Indoor temperature min: 22.5 °C
Heating curve control
Leanheat peak power optimization
Hourly total power (kW)
Outdoor temperature (°C)
400
350
300
250
200
150
100
50
0
−30
−25
−20
−15
−10
−5
0
5
10

Compelling value proposition for district heat companies



1 MW peak power capacity

- 200–1000 kEur / MW
- Increased CO_2 emissions

1 MW Leanheat capacity

- ~200 kEur/MW (~650 apartments)
- Demand response benefits
- Platform for new business
- Share price with customer (0–100%)

NET INVESTMENT 20%–100% CHEAPER

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