




**DO WE NEED SMART SOLUTIONS AND NEW DATA OR CAN WE SIMPLY
USE THE DATA WE ALREADY HAVE TO BE SMART**

AALBORG THE 15TH OF SEPTEMBER 2022

- 
- 1. WHAT IS SMART, IN SEPTEMBER 2022**
 - 2. WHAT DO WE NEED TO BE AWARE OF**
 - 3. WHAT PROBLEMS DO WE NEED TO SOLVE**
 - 4. WHAT TOOLS DO WE HAVE**

Questions



JENS LUNDING

TECHNICAL MANAGER OF ISTA DENMARK

PROJECT MANGER – UTILITY OF HILLERØD

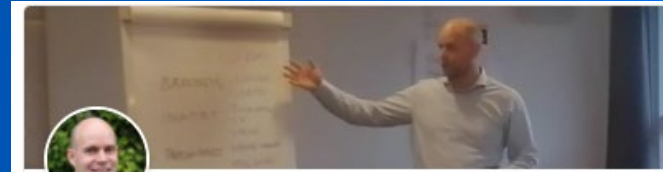
LOWTEMP DESTRICIT HEATING FOR LOWENERGY CITYAREAS
LARGE SOLARHEATING PLANTS
WOODCHIP BOILERS (GASIFIER AND COMBUSTION)
DYNAMIC MODELLING OF DISTRIBUTION GRIDS

HEAD OF DISTRICT HEATING UTILITY – GLADSAXE FJERNVARME

LOWTEMP DESTRICIT HEATING FOR CITYAREAS
CONVERSION OF GASHEATED SOCIAL HOUSING TO DISTRICT HEATING
PEAK BOILERS ON ELECTRICITY
DYNAMIC MODELLING OF DISTRIBUTION GRIDS,

MARKET MANAGER, DISTRICT HEATING – SWECO DENMARK

ULTRALOWTEMP DESTRICIT HEATING FOR REGULAR HOUSES
PLUS-HEAT FROM INDUSTRIES
ENERGYSAVINGS IN REAL ESTATE
HEATPUMPS WITH SEAWATER



Jens Lunding

Ekspert i hvordan indeklimaet bliver både bedre og billigere |

Måling af varmeforbrug, energi, vand og indeklima | Teknisk

Chef hos ista Danmark

København, Hovedstaden, Danmark · 500+ forbindelser

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Om

Jeg er ekspert i indeklima med særligt fokus på målinger og energiforbrug. Sammen med mit team gør jeg det muligt at gennemføre en bæredygtig omstilling, der holder omkostningerne nede, gavner både bygninger og beboere og mindsker klimabelastningen.

I mit job hos ista Danmark A/S trækker jeg på et fagligt netværk af 8.500 kollegaer verden over. Den viden gør det muligt for mig at levere de mest fremtidssikrede løsninger på de behov og udfordringer, jeg præsenteres for. Internationalt er jeg det daglige kontaktpunkt inden for målere, målinger og digital indsamling af målinger for istas firmaer i Danmark (ista, Varmekontrol, Clorius), Norge, Sverige, Polen, Tjekkiet, Slovakiet, som tilsammen omfatter mange millioner målere i mange hundrede tusinde lejemål.

Mit speciale består i at måle på energiforsyningen og radiatorer, og identificere præcist hvor og hvordan forbrugsmønstre er uhensigtsmæssige. Derfra kan vi anbefale, om en effektivisering bør ske gennem en renovering af bygningskomponenter (vinduer, isolering, ventilation, mv.), en ændret adfærd hos beboerne (ikke tørre tøj inden for, lufte ud, mv.) eller ved at bruge boligen på en anden måde (fx bruge radiatorerne så der sikres hydraulisk balance, afskaffe gaskørfuret mv.)

Ved en kombination af målinger på energi, vandforbrug, lækage detektorer, indetemperaturer, fugtighed mv. anbefaler vi tiltag, som sikrer den mest effektive forbedring af indeklimaet (færre sygedage for beboerne), reduktion af energiforbruget (reduktion af klimaeffekter) og økonomi.

Som ekspert arbejder jeg sammen med andre eksperter. Jeg holder en tæt kontakt til de førende nationale videregående uddannelsesinstitutioner, eksempelvis DTU, BUILD, Københavns Maskinmesterskole mv. for at følge de nyeste tendenser inden for bygnings- og energisektoren. Sammen indgår vi i demonstrations- og udviklingsprojekter. Desuden bidrager jeg med min viden som gæsteunderviser og ifm. ansøgninger til nationale og europæiske puljer til fremme for energieffektiverede teknologier. I mit team har jeg studerende, som indgår i praktikkforløb og/eller skiver afgangprojektet.

I nationale fag-fora og branche-fora deltager jeg som faglig ekspert og repræsentant for den største leverandører af målere og systemer til indsamling af forbrugsmålinger i Danmark, eksempelvis flere CLM-grupper, Dansk Industri mv. Jeg arbejder også tæt sammen med eksperter fra de store rådgivere om problemstillinger, som af borgerne opfattes som dårligt indeklima (Sweco, Cowi, mv.)

Du kan fange mig på +45 4132 8596 eller jens.lunding@ista.dk



BASED IN **ESSEN.**


Germany, Headquarters



Energy management in buildings

- Heat and water billing 
- Energy data management 
- Energy certificate 
- Energy supply 
- Metering 

Protection of people and property

- Smoke alarm device 
- Leakage detection 
- Drinking water analysis 
- Humidity sensor 
- Temperature Logger 



- Radio System 
- M-Bus System 
- Heat and cold meters 
- Heat cost allocator 
- Water meter 

Our infrastructure & technology



INTERNATIONAL & SUCCESSFUL COMPANY.

5.800 

employees

22 

countries

3,7 m t CO₂

emissions avoided in Germany

28.000.000 

connected devices

60.000.000 

devices

13.000.000 

residential and commercial units

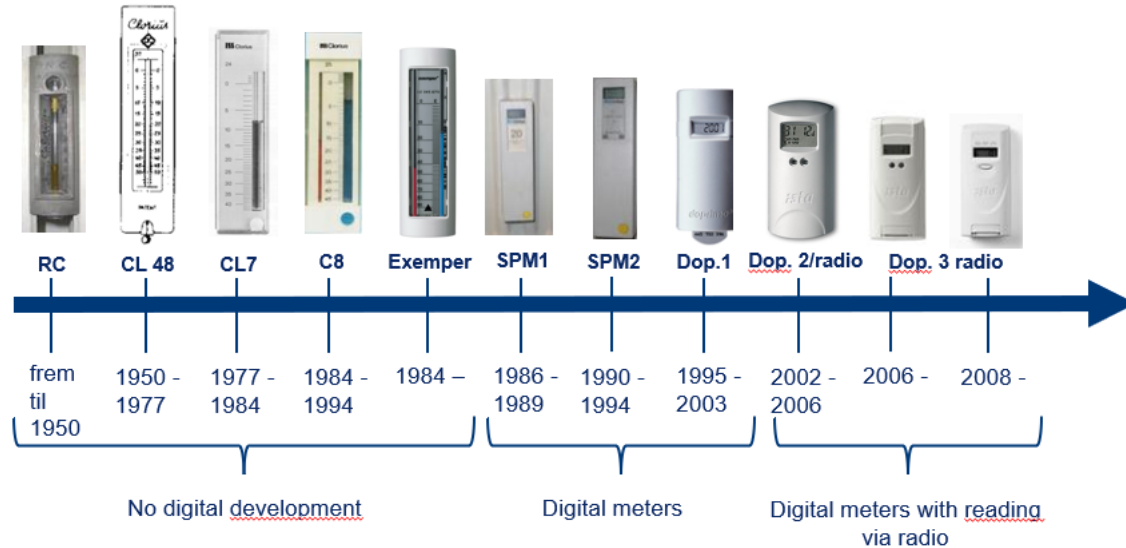




WHAT IS SMART, **IN SEPTEMBER 2022**



WHAT IS SMART, IN SEPTEMBER 2022

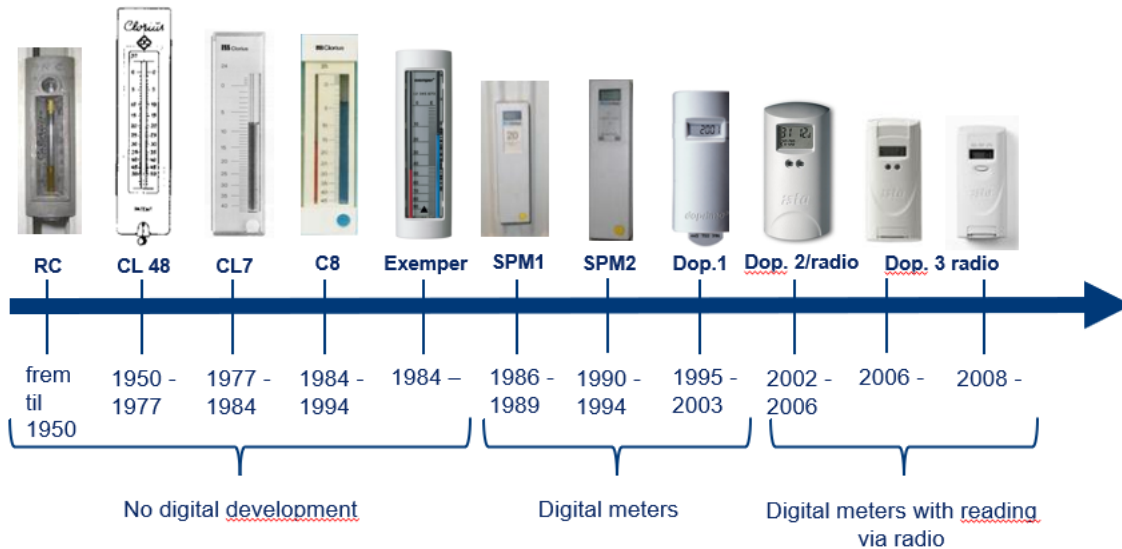


SMART in the ongoing energy crisis

- we must use the information we can get from the meters that are already installed.
- We have to use the tools we already have, because it is not possible to come up with new smart digital tools or access other data sources, and have them implemented by all the building owners before winter
- We don't have time to talk about the best meter and the best data collection frequency, because we can't manage to replace the meters before winter



WHAT IS SMART, IN SEPTEMBER 2022



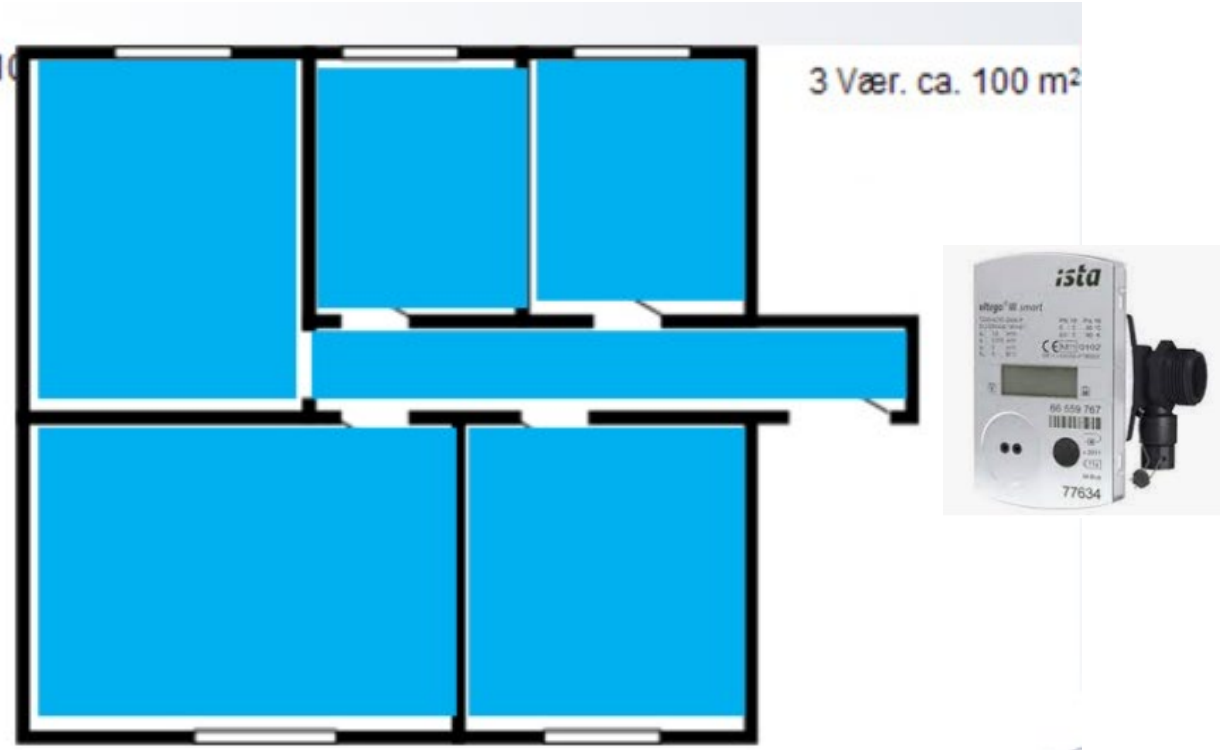
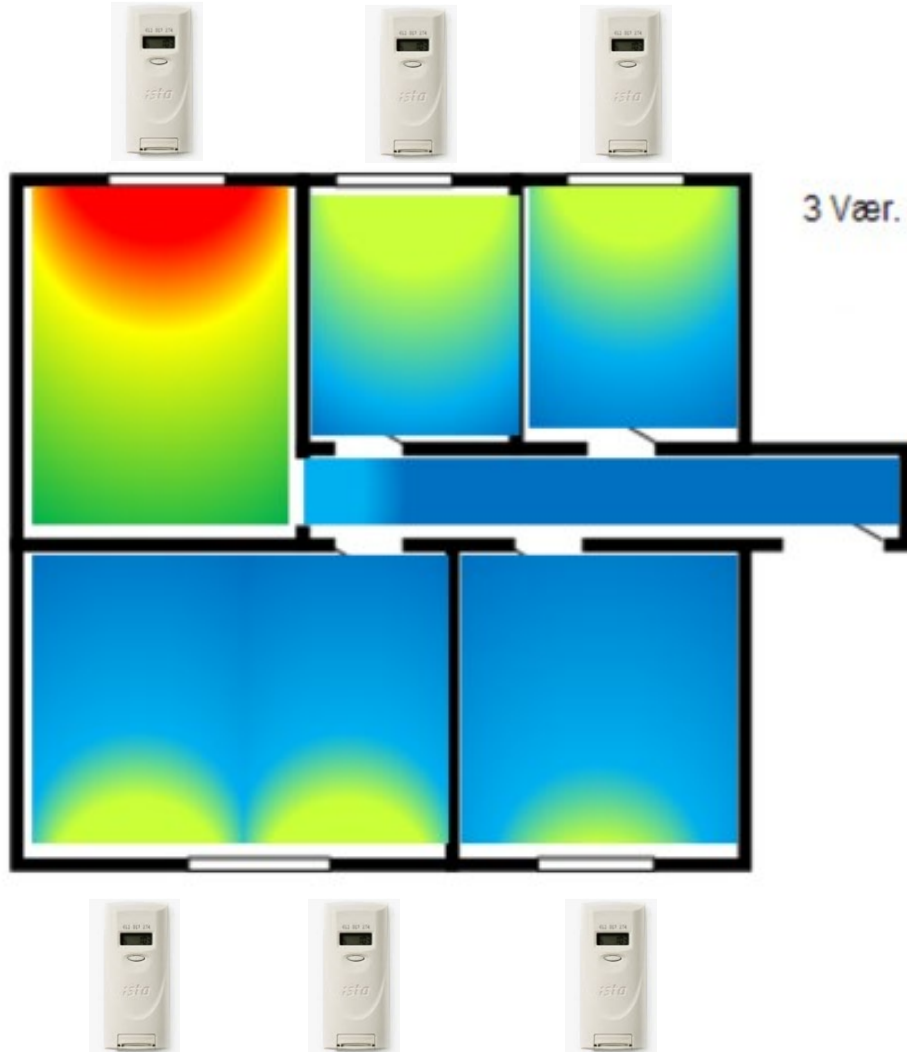
The radiator meter is the meter

- Is, the most used meter in most large properties that is constructed before 2014.
- Can tel us, where there might be "issues" that needs to be solved, in order to optimize the consumption of energy
- Shows where the cooling of the of water in the central heating is poor.
- Digital data has been collected via radio sense 2002 – 20 years of experience with smart data.



WHAT IF WE ONLY HAD ONE ENERGY METER

HEATCOST ALLOKATER COMPARED TO ENERGMETER

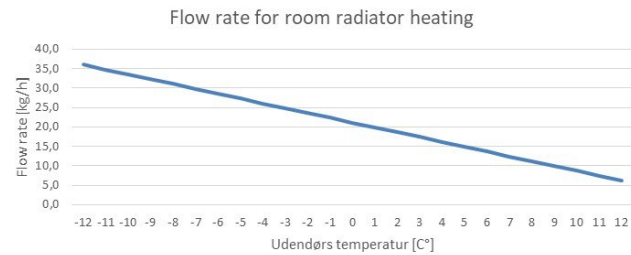




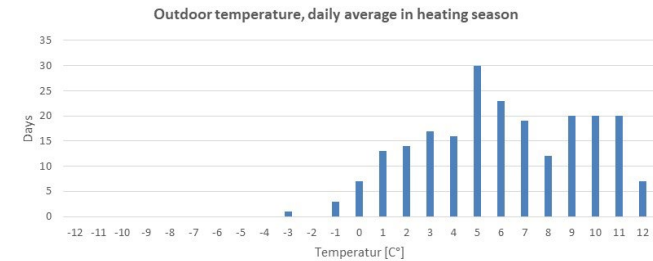
WHAT DO WE NEED TO BE AWARE OF

WHAT DO WE NEED TO BE AWARE OF THE INDOOR-, OUTDOOR- AND RADIATOR TEMPERATURE

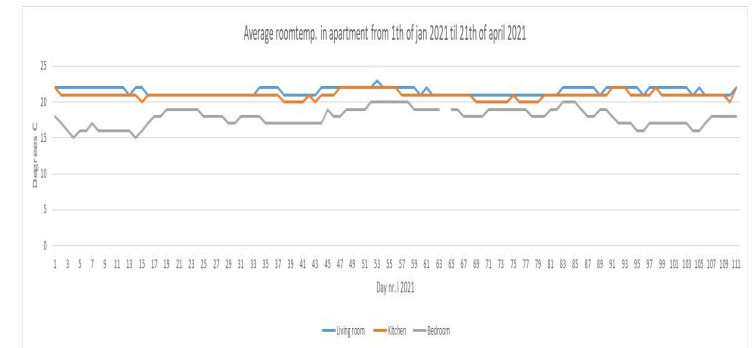
RADIATOR TEMPERATURE



OUTDOOR TEMPERATURE



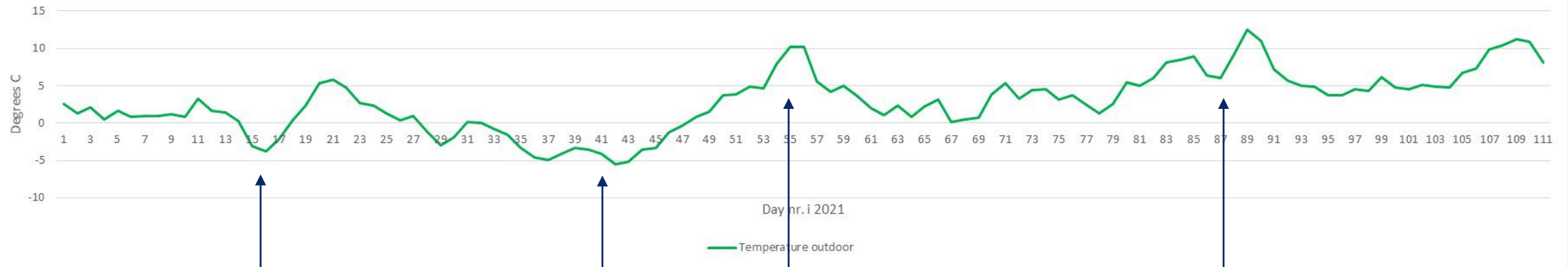
INDOOR TEMPERATURE



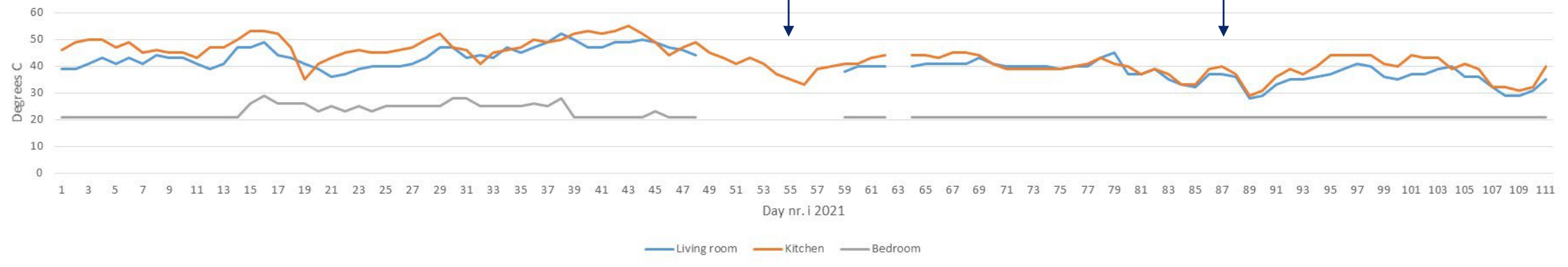
A CASE STUDY

CORRELATION BETWEEN OUTDOOR- AND RADIATOR- TEMPERATURES

Average radiator temp. in apartment from 1th of jan 2021 til 21th of april 2021



Average radiator temp. in apartment from 1th of jan 2021 til 21th of april 2021



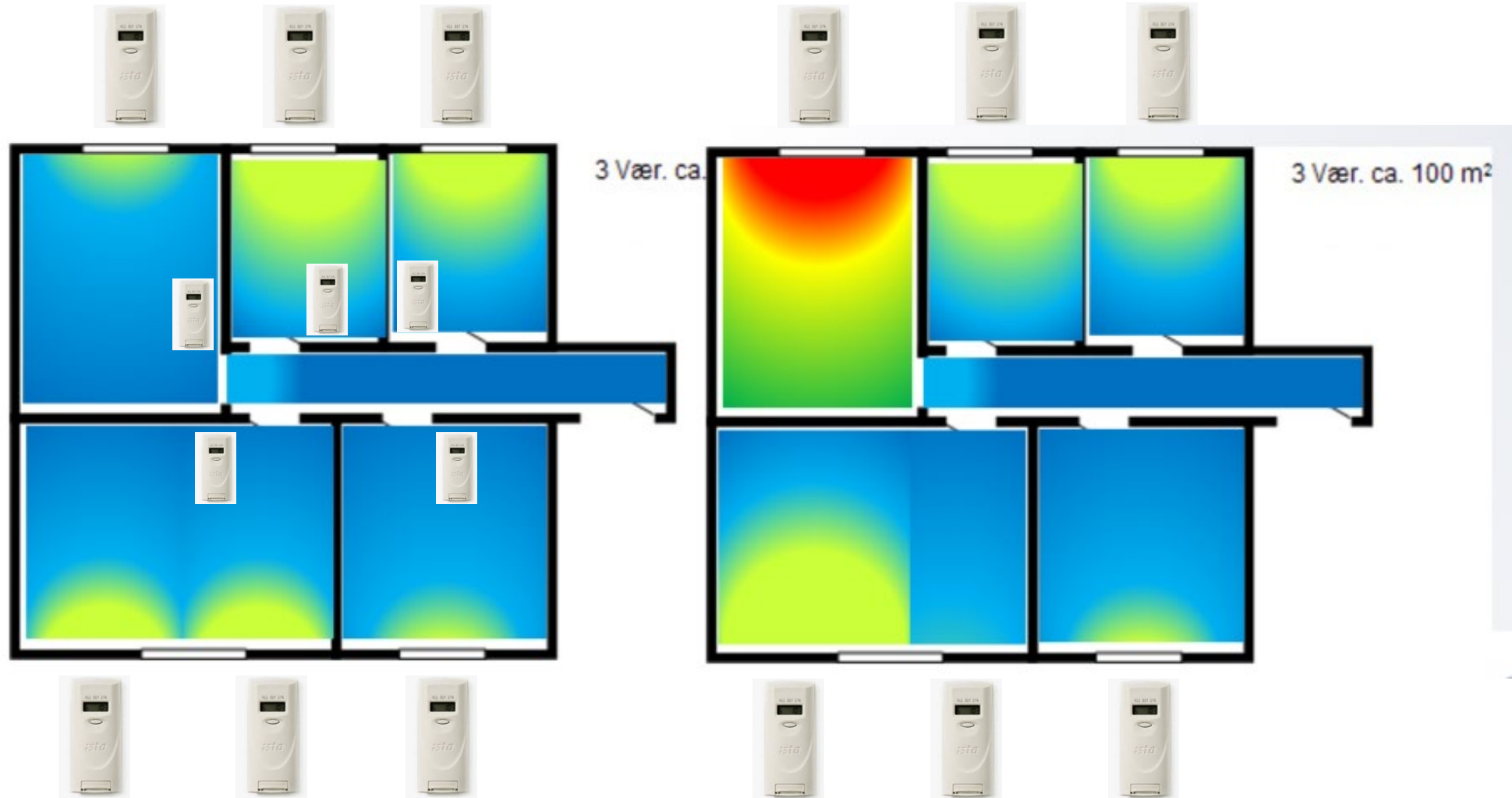


WHAT PROBLEMS DO WE NEED TO SOLVE



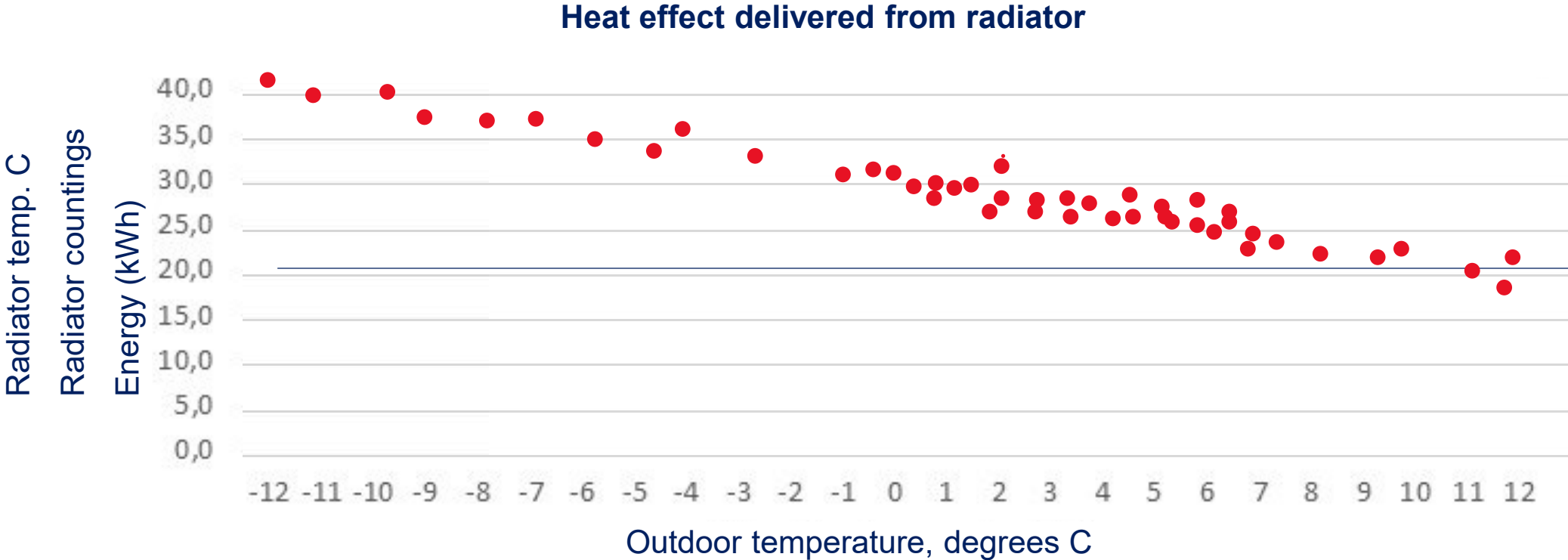
TEMPERATURE AND HCA MESURES INDIKATES FAILURS

IF TEMPERATURE AND ENERGY DOES NOT FOLLOW EACH OTHER



THERMOSTATIC VALVES

IF THE VALVES DOES NOT WORK – NOTHING WILL WORK

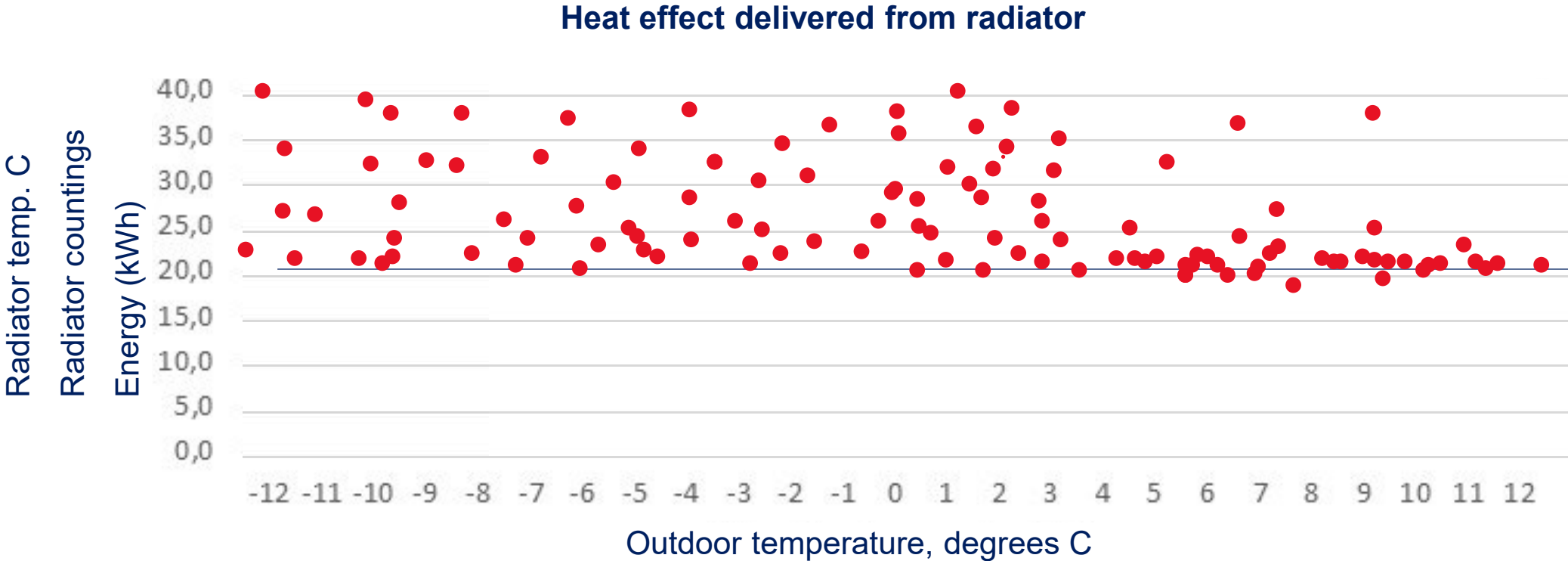


THE RADIATOR AND THERMOSTATIC VALVE WORKS FINE



THERMOSTATIC VALVES

IF THE VALVES DOES NOT WORK – NOTHING WILL WORK



NO THERMOSTATIC VALVE



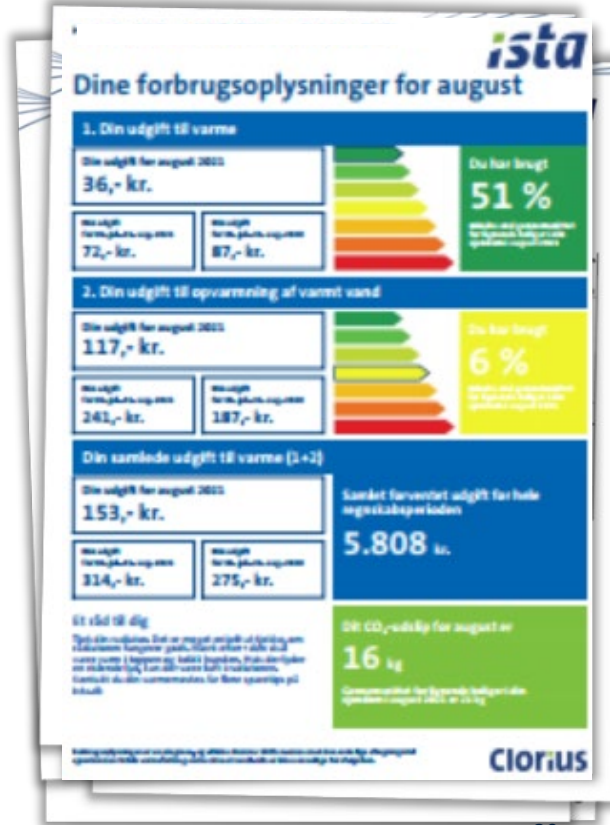


WHAT TOOLS DOWE HAVE



TECHNICAL EXPERTS DO NOT SOLVE THE PROBLEMS, ALONE PEOPLE DOES, AND WITH SIMPLE INFORMATION THEY CHANGE BEHAVIOR

These are the information ista is providing to most Danish tenants



THANK YOU

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