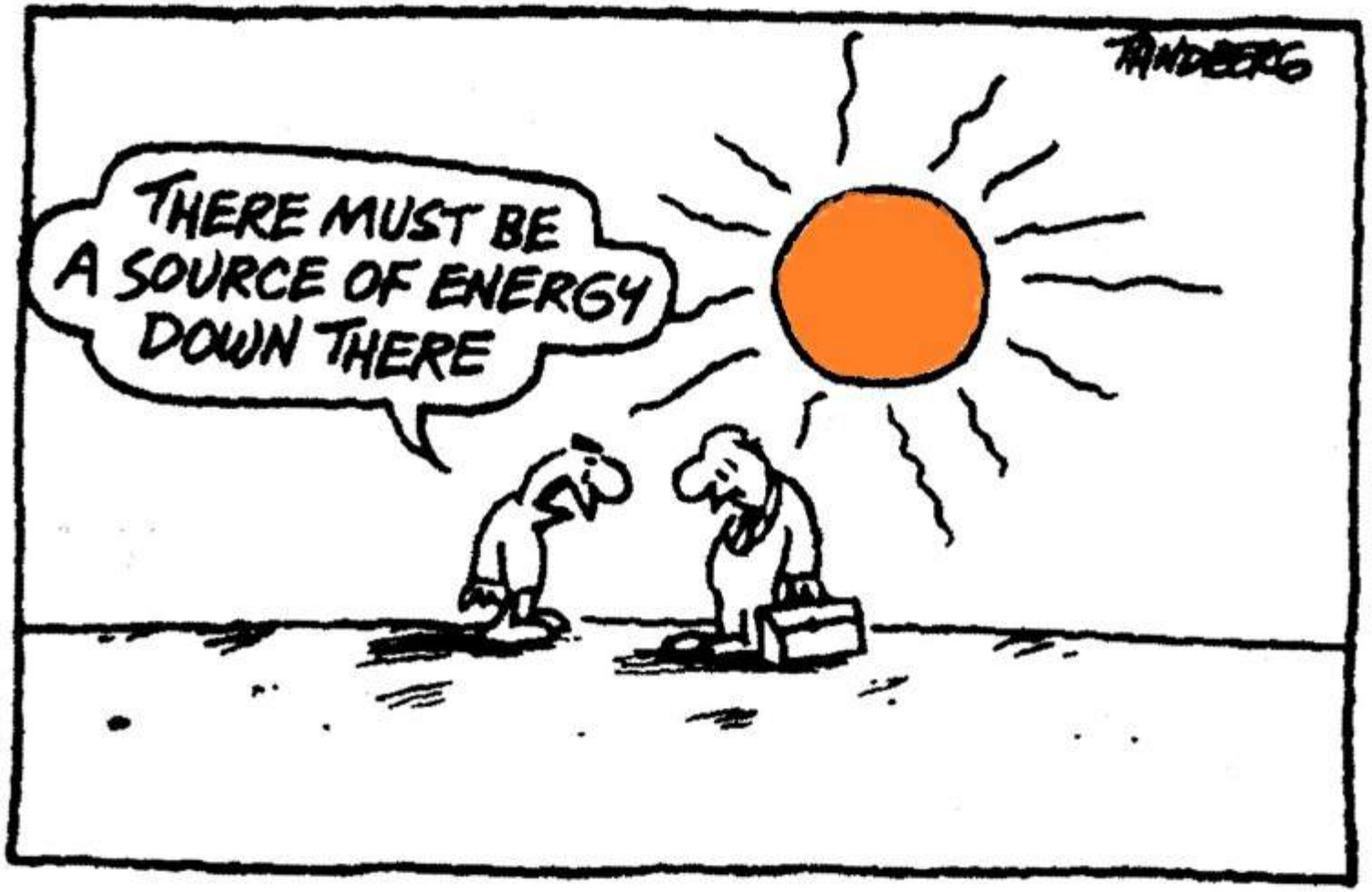
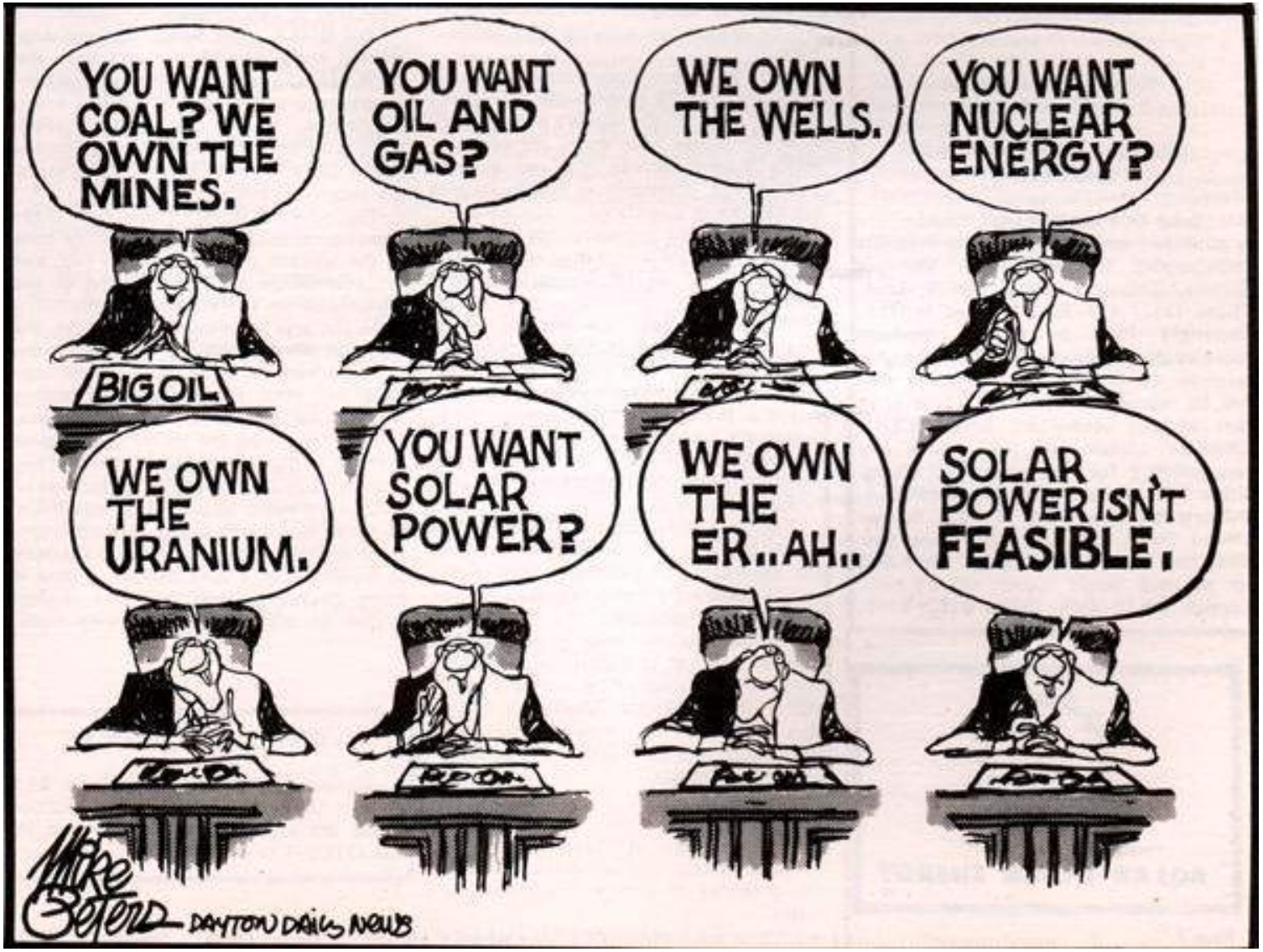
# The old mindset



# The old mindset



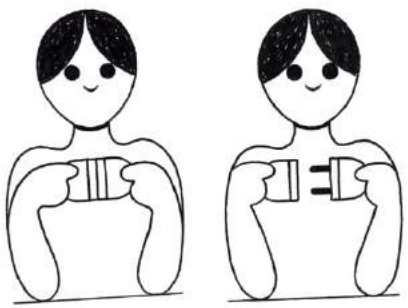
# Our beliefs

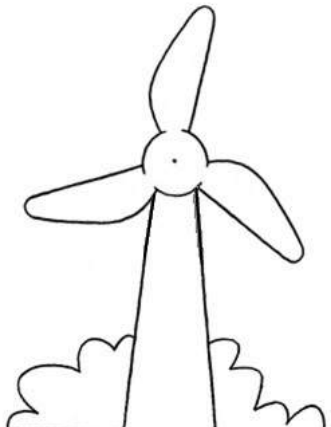
**Mission**

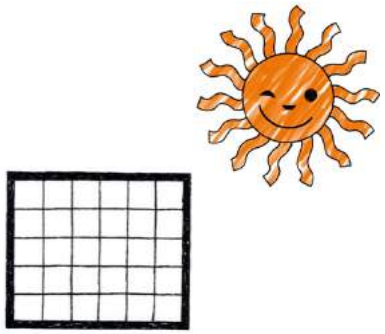
*To provide comfortable warmth in the most sustainable, eco- friendly and affordable way.*

**Belief**

*The future is all electric, based on renewable energy sources*

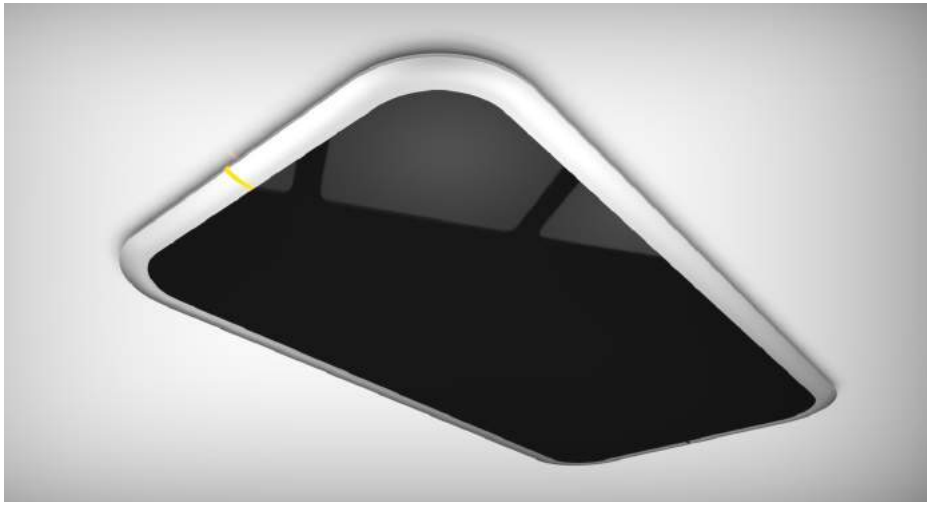






# ThermIQ

*Infrared heating panels*



# ThermIQ -the company

ThermIQ is a developer and producer of smart, infrared heating solutions.

We provide heating exactly where and when it is needed.
A traditional, central radiator heats the air – the warm air needs to rise to the ceiling first before one can feel any at floor level.

**That's a wrong we've set right!**

With the infrared heating system of ThermIQ there is no need anymore to heat a whole area, when a room is only temporarily or partially used.
Because of its invisible infrared lighting, the panels can quickly heat a specific area. Just like the sun they heat objects itself, rather than the surrounding air.
18 degrees will feel like 21 or 22 degrees! This system saves money, energy, is more comfortable and very easy to use. You can control the panels via a smartphone or tablet. Our system can, contrary to a gas-fired heating system, fully function on renewable energy.

# Made in (Buchen) Germany

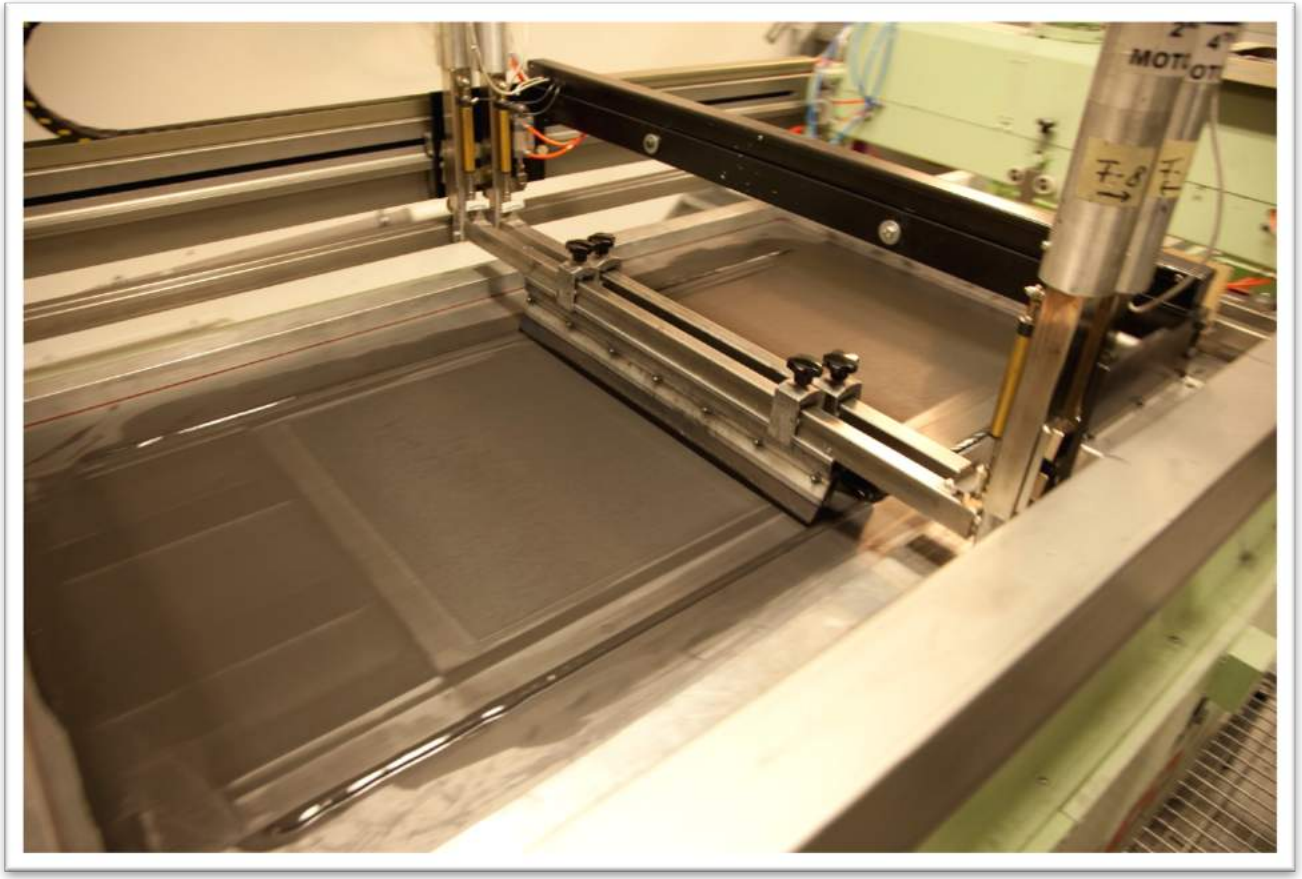
# The ThermIQ Factory

# The ThermIQ technology

Semi conductive paste

# The ThermIQ technology

## Printing technology



# The product

*Far Infrared heating panels*

# The panels

- 4 mm thick, high quality safety glass
- Semi-conductor technology
- Not an electrical heater => stimulated emission

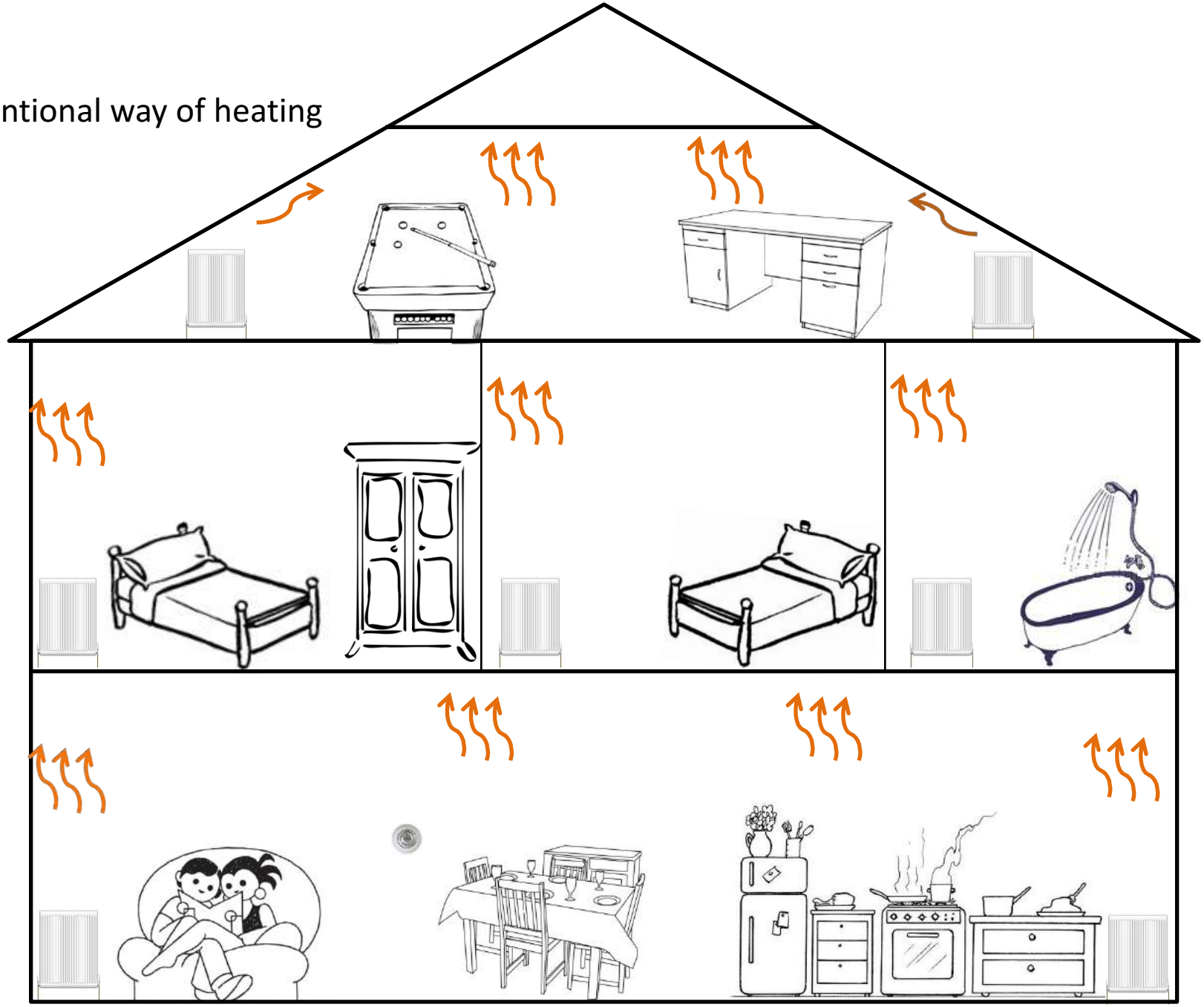
- Sizes (in cm): 120 x 60, 120 x 30, 60 x 60, 30 x 35

Qurrent panel models:
Mounted on ceiling or integrated in industrial ceiling

*New design panel is presented further on in this presentation*

# Conventional heating
# vs
# Far Infrared

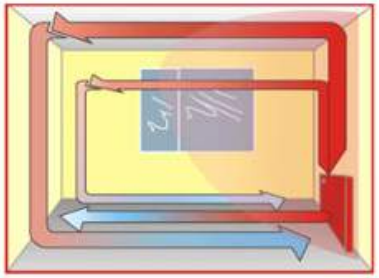
Conventional way of heating



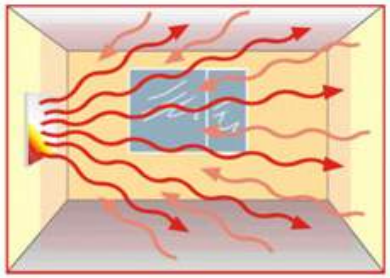
# Heat panels work by emitting infrared radiation; which is absorbed by an object and, in turn, will warm people

## Infrared Heating

> ***Infrared light is the reason why we feel warm when the sun is shining in the middle of a wintery day.*** *Conventional heating would suggest that if the air temperature were freezing, you would feel cold too*



Heating via conventional **heating system**



Heat distribution from **IR heat panels**

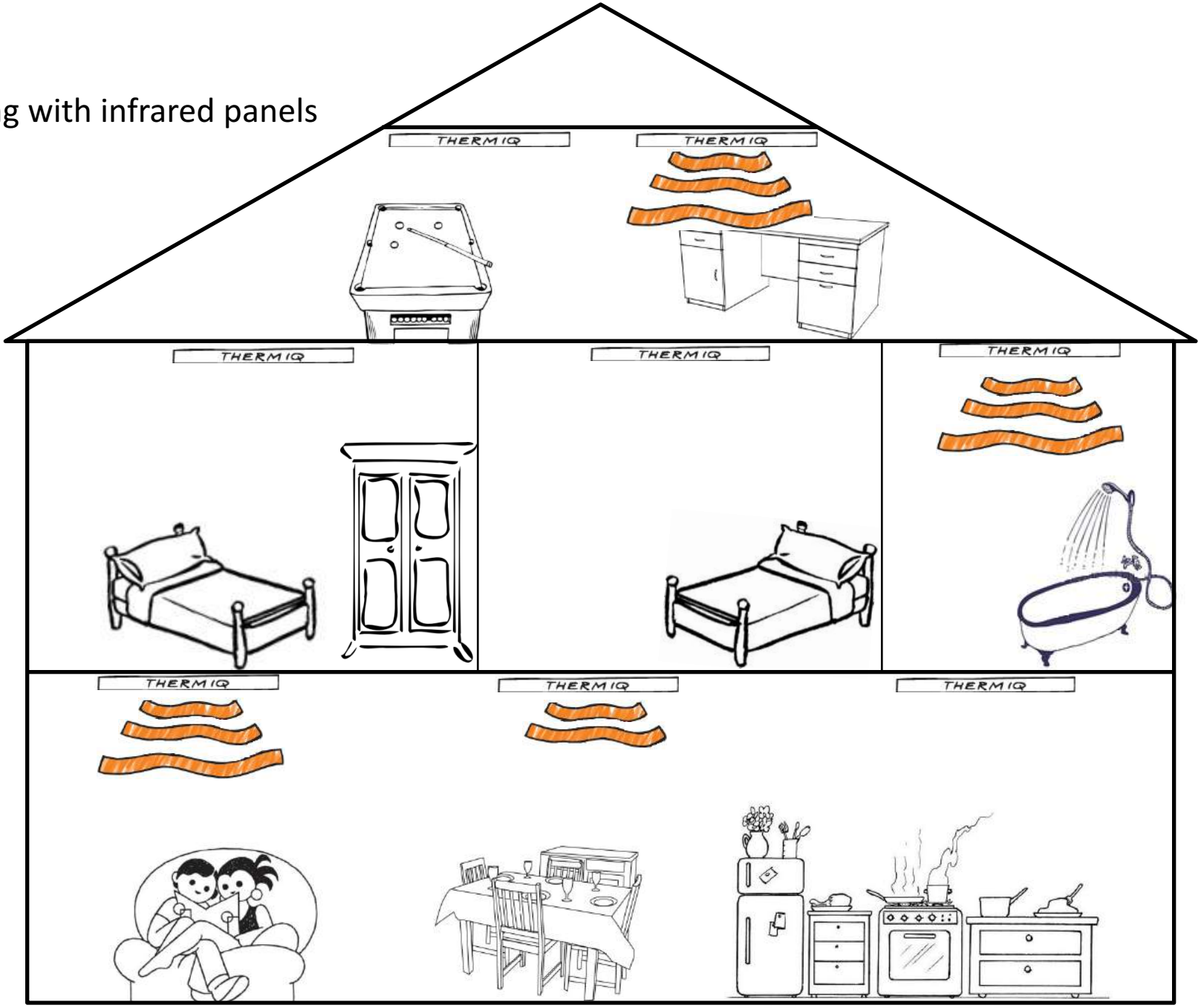
### Infrared vs. conventional heating

- Infrared heats the surface area of a room, instead of the total air volume
- Infrared uses considerably less energy to provide the same amount of heat effect

### Infrared heating panels

- Convert electric power into (longwave) infrared
- Are installed to the ceiling or on a wall
- Can be individually controlled creating targeted heating zones
- Can be adjusted to individual design preferences

Heating with infrared panels



# There are many advantages of heat panels compared to traditional heating

**Quick heat**

Infrared is emitted from the panel almost instantly; so hardly waiting time to warm up

**High efficiency**

Heat panels requires less energy to heat op (saving potential up to 30%)

**Simple to install**

Heat panels run simply on electricity; no need to install a boiler and (extra) pipework

**No maintenance**

Heat panels don't require any (periodic) maintenance

**Health benefits**

Infrared doesn't cause air- and dust circulation; it even increase blood circulation

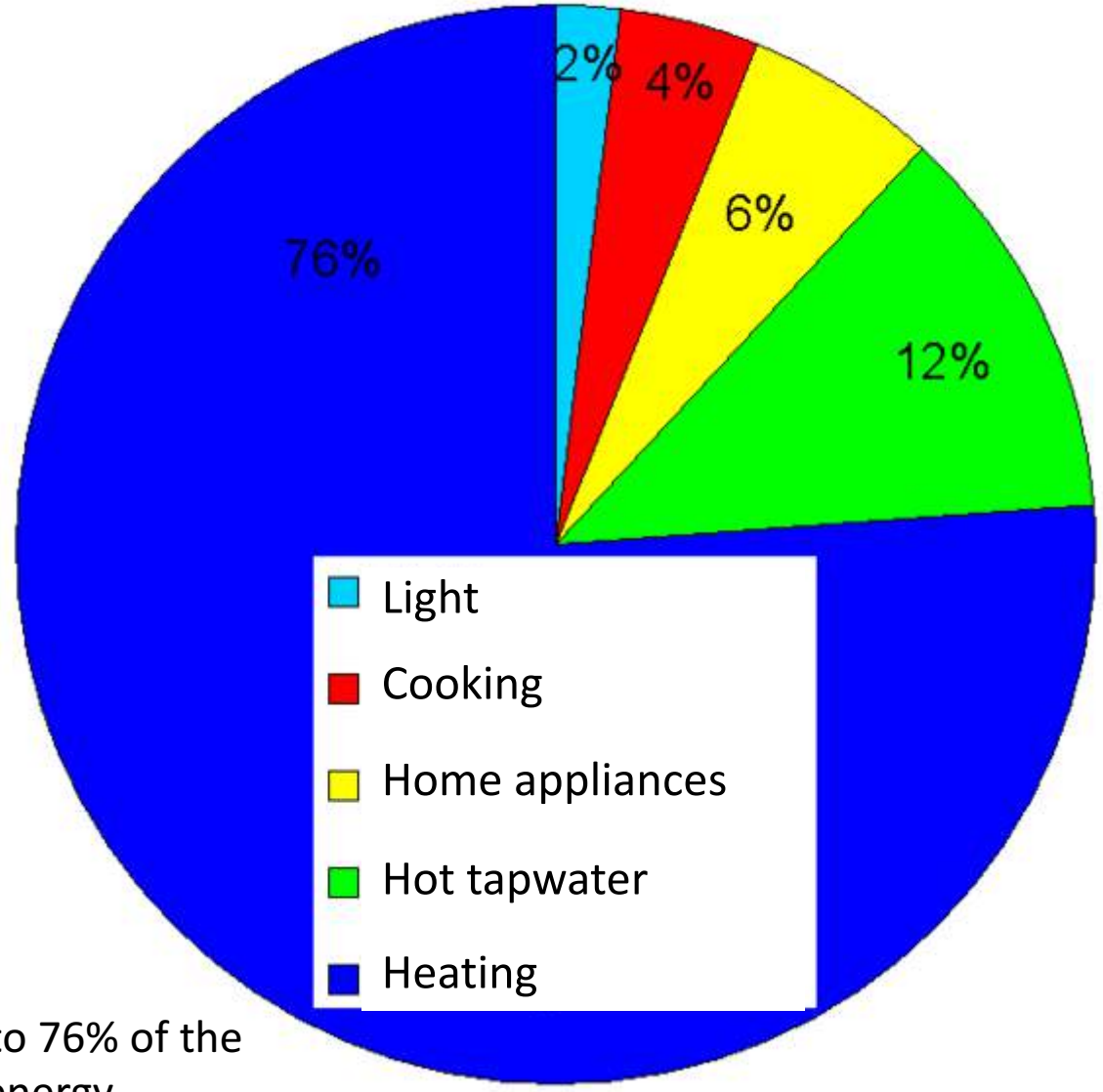
**Design options**

Heat panels come in different designs and can be multifunctional (e.g. printed photo's)

# Some facts

*Far Infrared heating panels*

Energy allocation in a general family home (Europe)




Heating uses up to 76% of the total household energy consumption

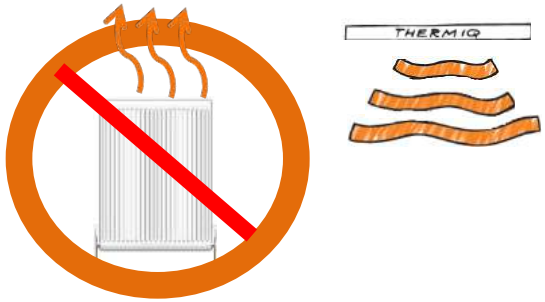
# Savings with ThermIQ heating

20 - 40%


60 - 75%

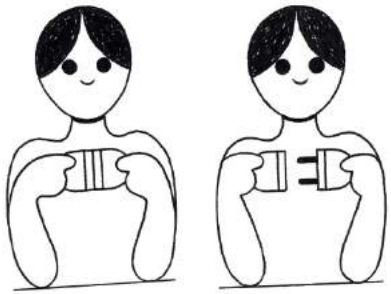

Local


Temp ↓ Comfort ↑

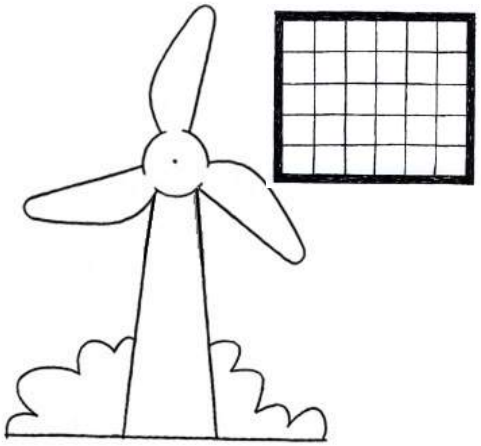



Warms objects

No maintenance



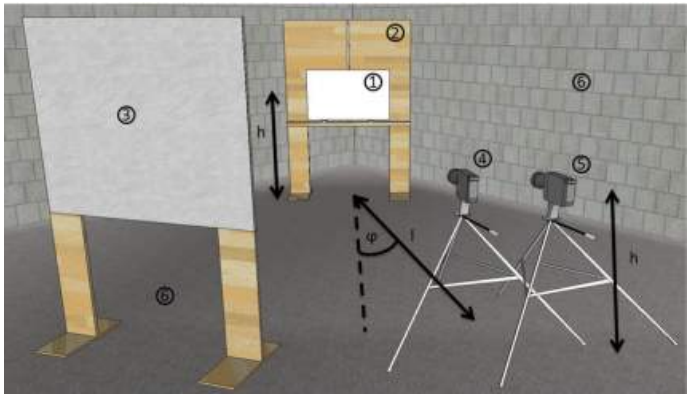
Plug & Play



‘Add on’ to renewable energy sources

# Performance test by Technical University Kaiserslautern

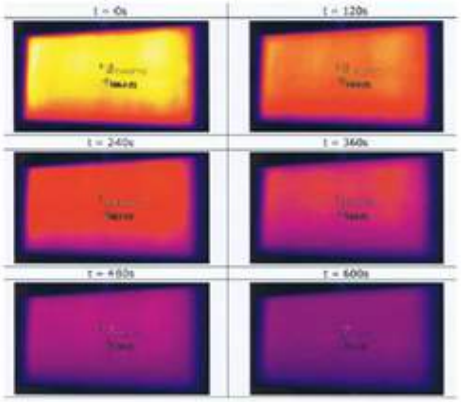
TECHNISCHE UNIVERSITÄT KAISERSLAUTERN



In 2014 the Technical University of Kaiserslautern conducted a performance test for far infrared heating panels

Test elements:

- Output radiant heat (vs. conduction & convection)
- Insulation quality of the panel housing
- Homogenic heat spread on the surface
- Warm up / cool down sequence
- In accordance with safety and quality legislation



ThermIQ

Tested nr. 1 in a field of 28 competitors on these elements

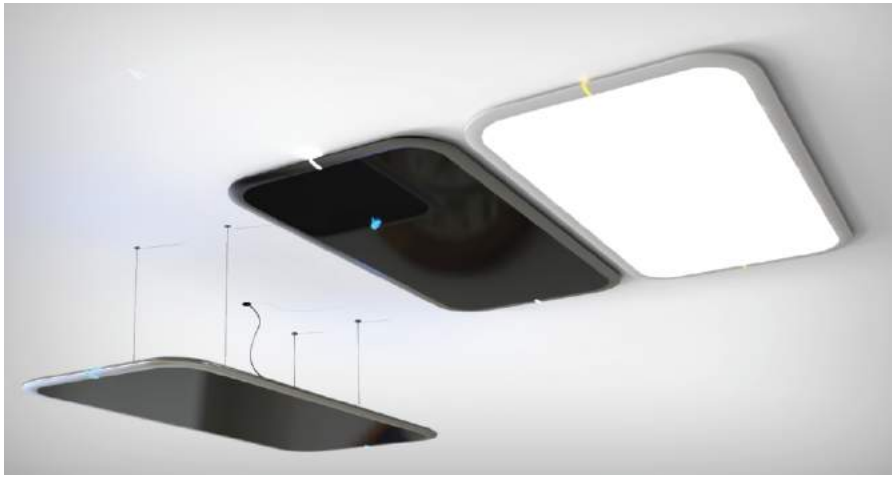
# ThermIQ’s new design model

*Internet of Things device*

Qurrent panel models

New design model:

- real IoT product:
- Controlled by a user friendly app
- Ambiant LED lighting integrated
- ‘Dimmable’ heating function
- Integrateble with home automation systems, e.g. Nest thermostats
- Smart grid ready



Configuration our tipical clients are in favour of:

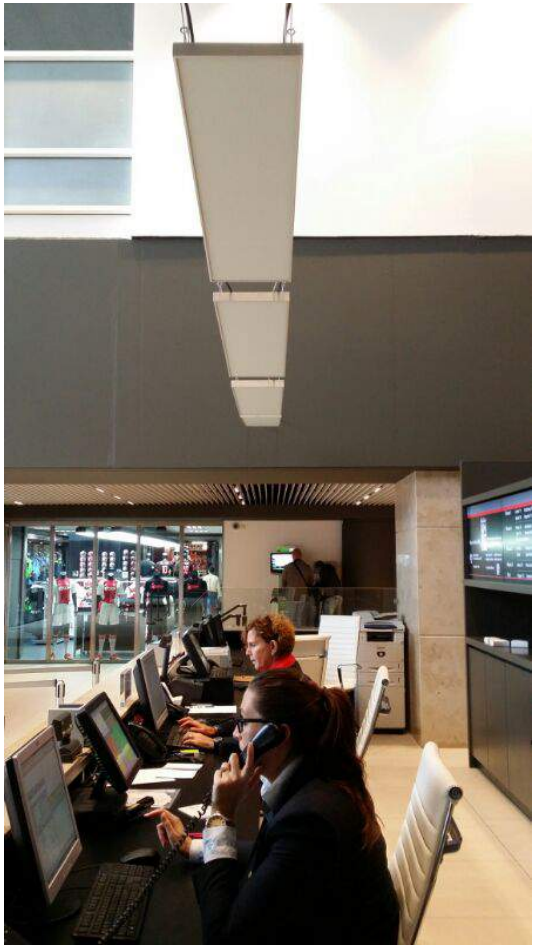
- A smart home, energized by the sun;
  - Generated by solar panels
  - Stored in home batteries, e.g. Powerwall  and/or in electric vehicle
  - Used for heating, houshold appliances, warm tapwater, etc.

# Projects

# Albert Heijn & Jumbo, 2 leading supermarkets in the Netherlands

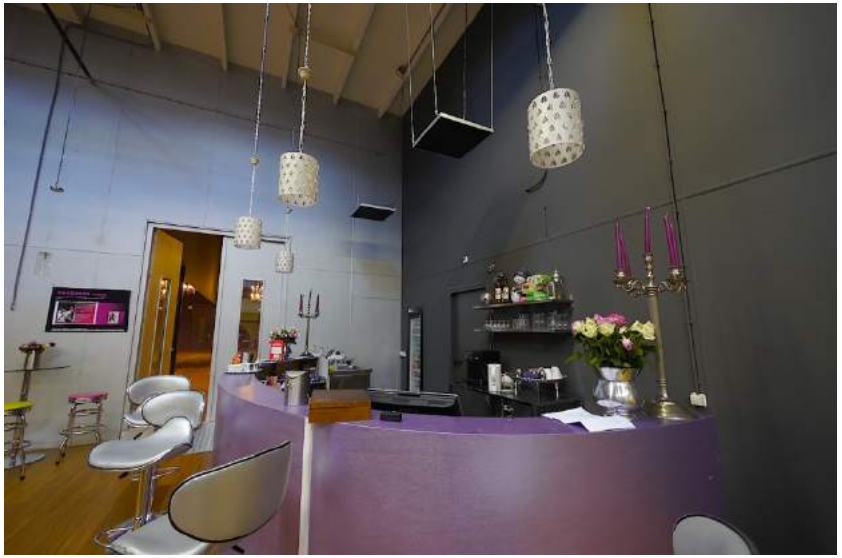


# Football stadiums Ajax Amsterdam & Feyenoord Rotterdam




# Eneco Windlab (Dutch energy company)


# Dancestudio

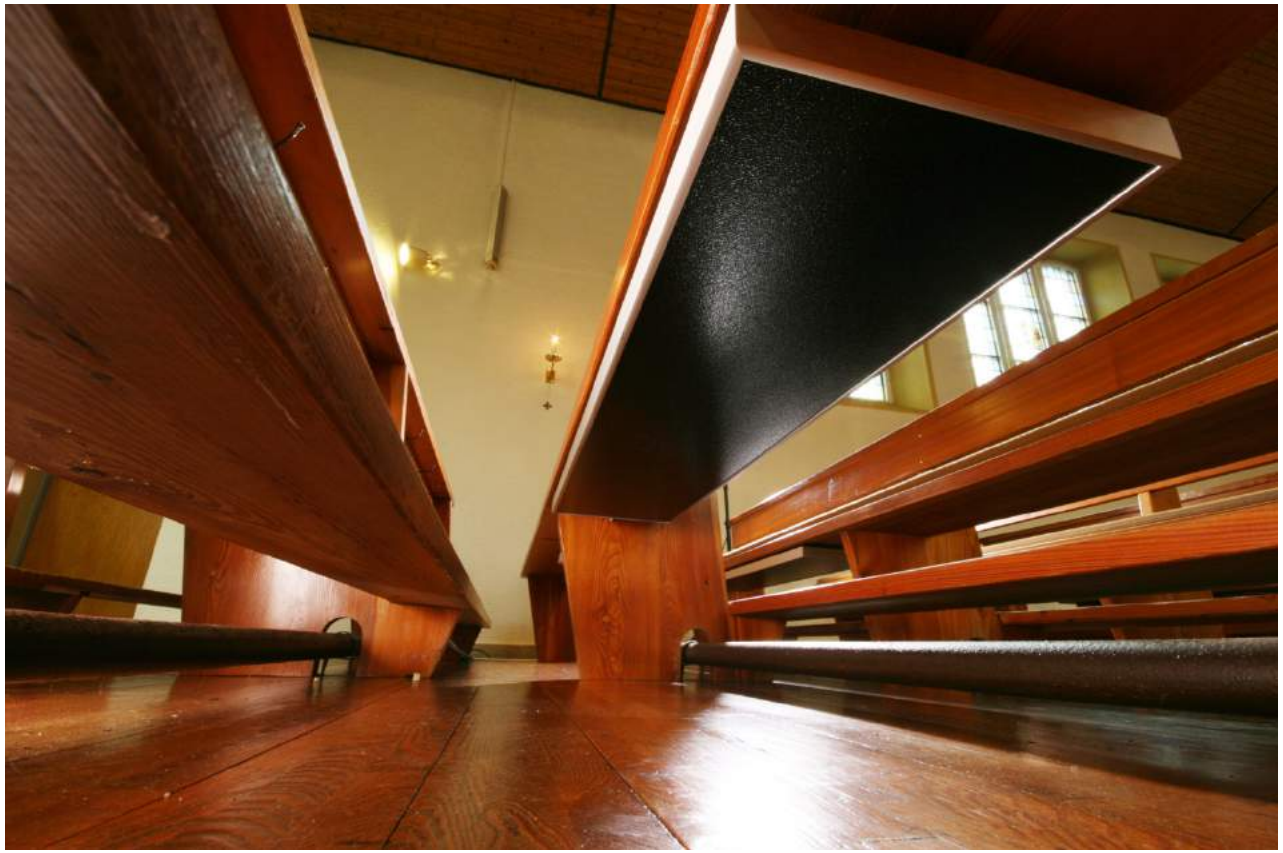


# Healthcare: Operating theatres

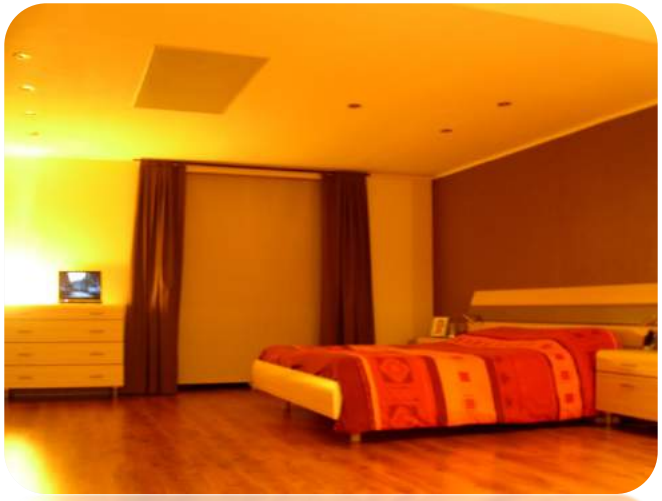

SUBWAY

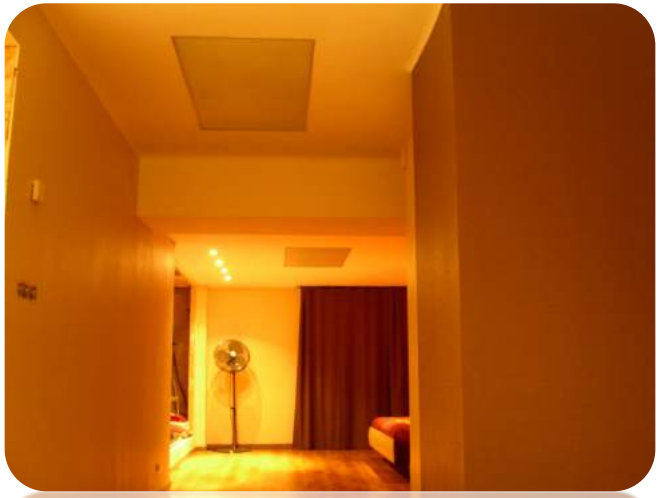

SUBWAY

# Churches

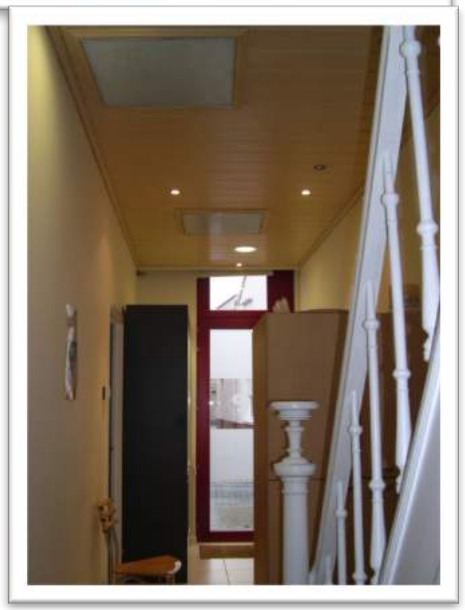


# Domestic applications





# ThermIQ in hotels



# Doctors office

ThermIQ

# Brings the sun inside!