

HIGH ENERGY PERFORMANCES BUILDINGS IN BRUSSELS

Monitoring & Feedback

08/02/2018

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pmp



EXEMPLARY BUILDINGS IN BRUSSELS



bruxelles
environnement
leefmilieu
brussel
.brussels 



EXEMPLARY BUILDINGS IN BRUSSELS



7

**Residential
Single family**



3

**Collective
housing (9)**



2

**Services
School and nursery**

2012



2015

2017

08-02-2018

EXEMPLARY BUILDINGS IN BRUSSELS

Monitoring ?

- Overall electric consumption
- Ventilation electric consumption
- Heating consumption
- Hot water consumption
- Thermal solar production
- Photovoltaic solar production
- City water consumption
- Rain water consumption
- Temperature in three rooms
- Relative humidity in three rooms
- CO2 levels in three rooms
- Outside temperature
- ...

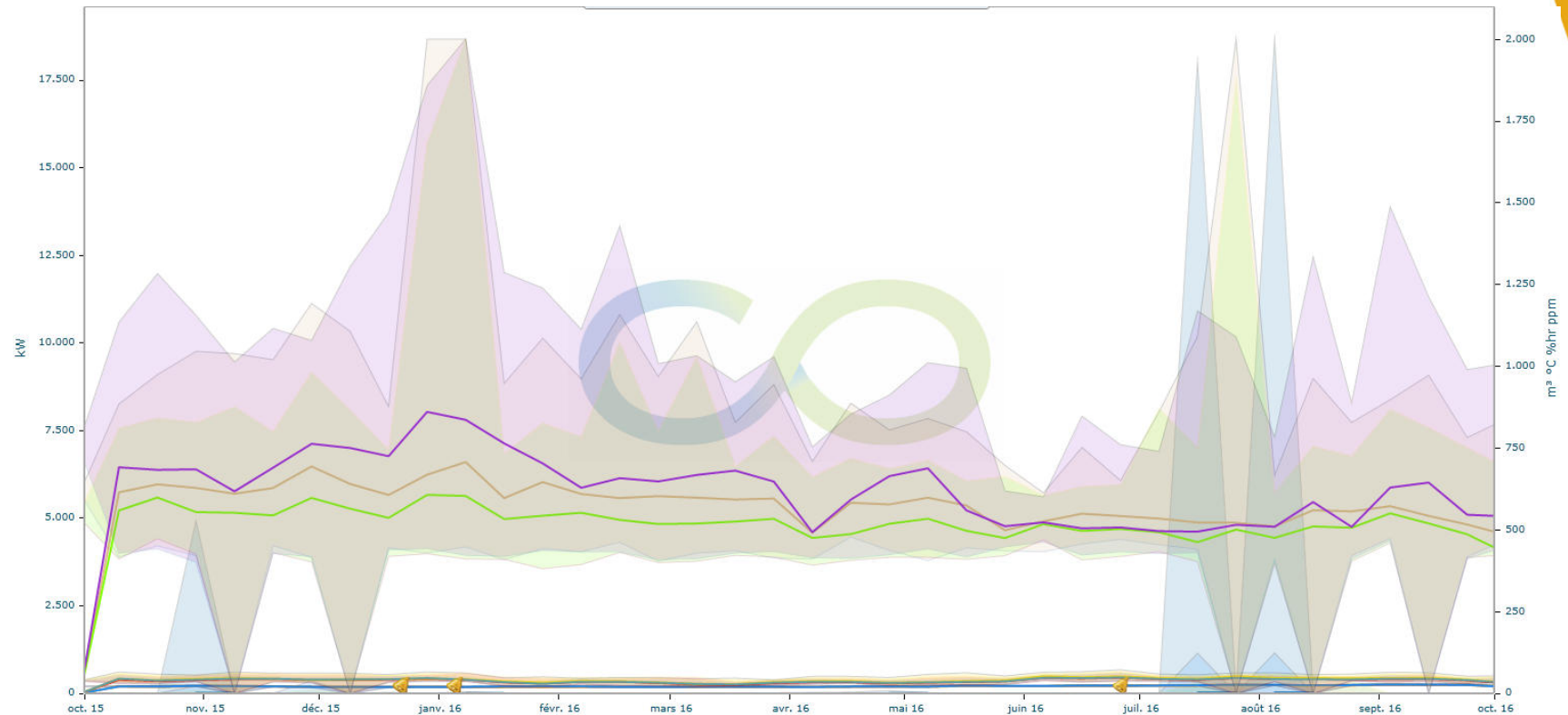
EXEMPLARY BUILDINGS IN BRUSSELS

331 SENSORS

- Overall electric consumption
- Ventilation electric consumption
- Heating consumption
- Hot water consumption
- Thermal solar production
- Photovoltaic solar production
- City water consumption
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- Temperature in three rooms
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- CO2 levels in three rooms
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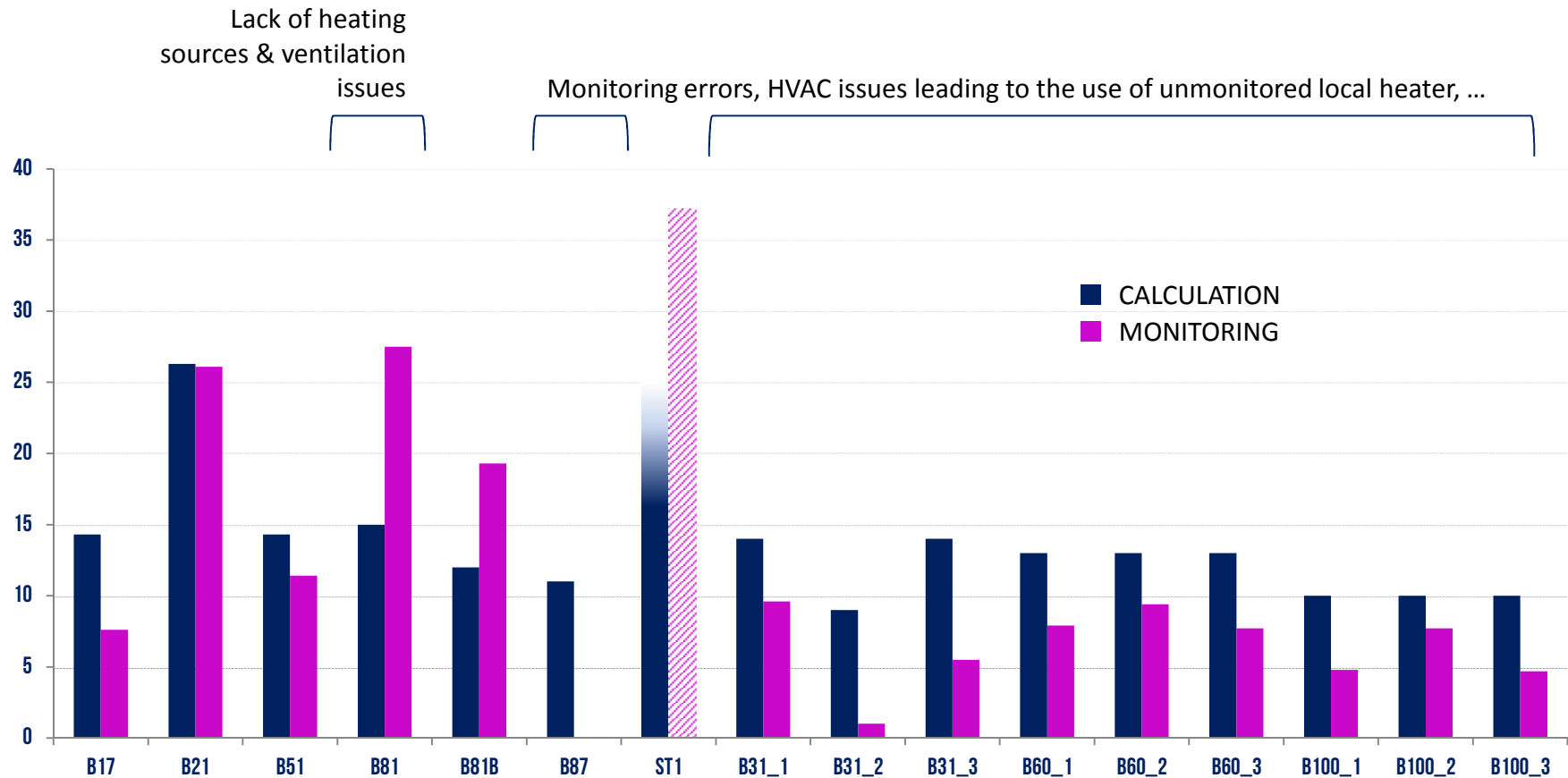
STEP 15 MIN

EXEMPLARY BUILDINGS IN BRUSSELS



11.598.240 DATA

HEATING : calculation vs monitoring



ELECTRICITY CONSUMPTION

ANNEE DE CONSTRUCTION/RENOVATION : 2009-2010

TYPE : HABITATION UNIFAMILIALE 2 FACADES

ORIENTATION DE LA FACADE AVANT : EST

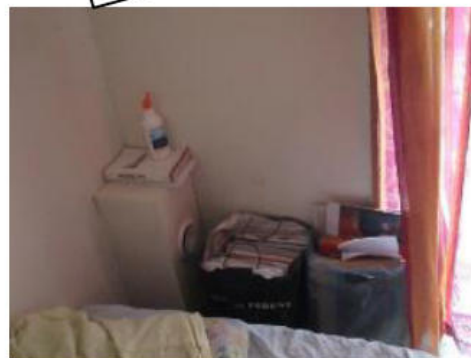
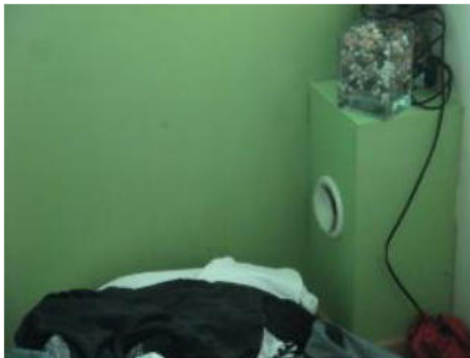
TYPE DE TRAVAUX : RÉNOVATION IMPORTANTE, MAÇONNERIE EXISTANTE, ISOLATION PAR L'EXTÉRIEUR.



Ventilation electricity consumption :
160 To 400 kWh/year



VENTILATION FOCUS



VENTILATION FOCUS



VENTILATION FOCUS

What was planned



What has been installed



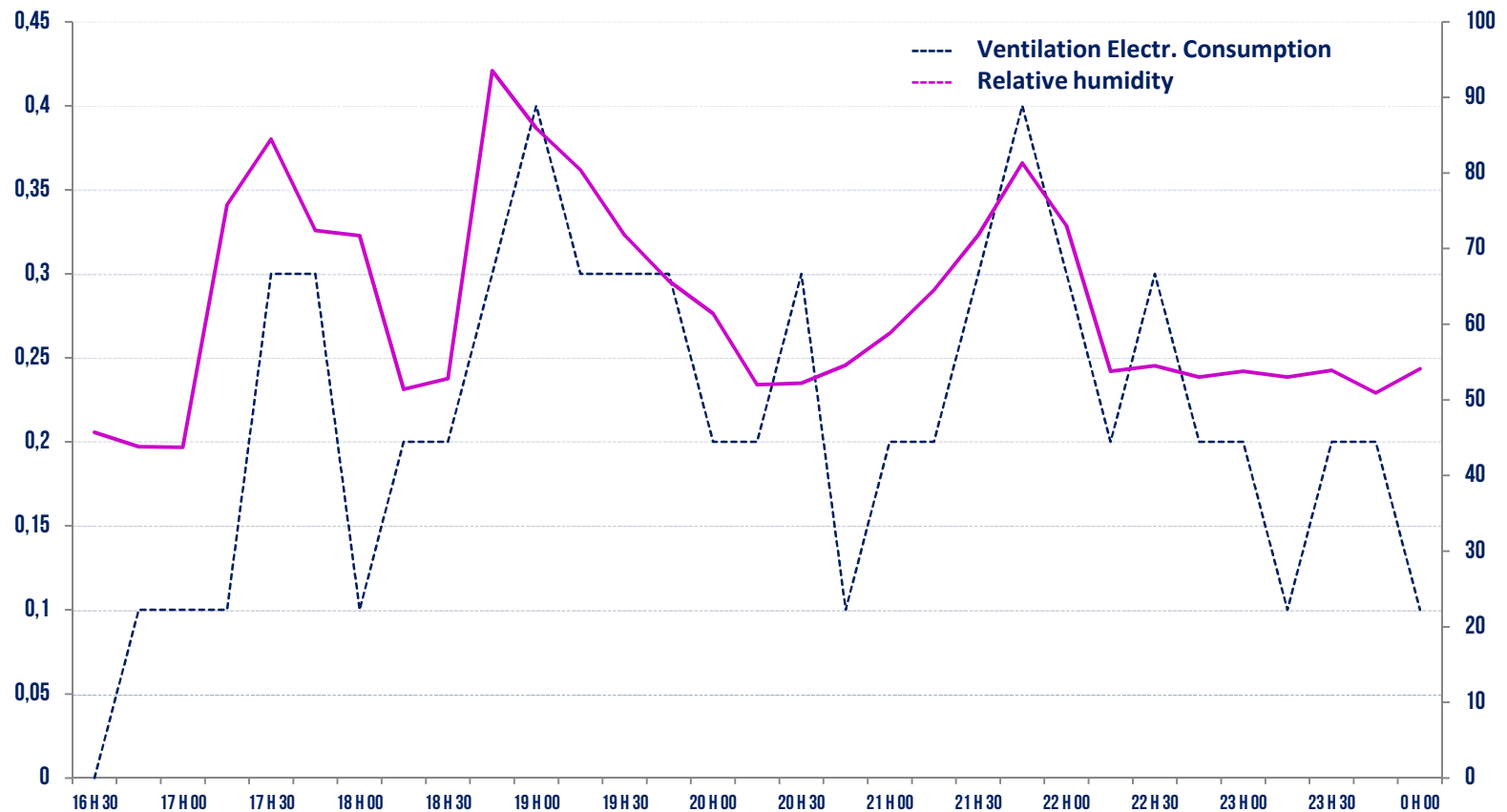
STORKAIR Comfo D 350



IT (CAN) WORK(S)!

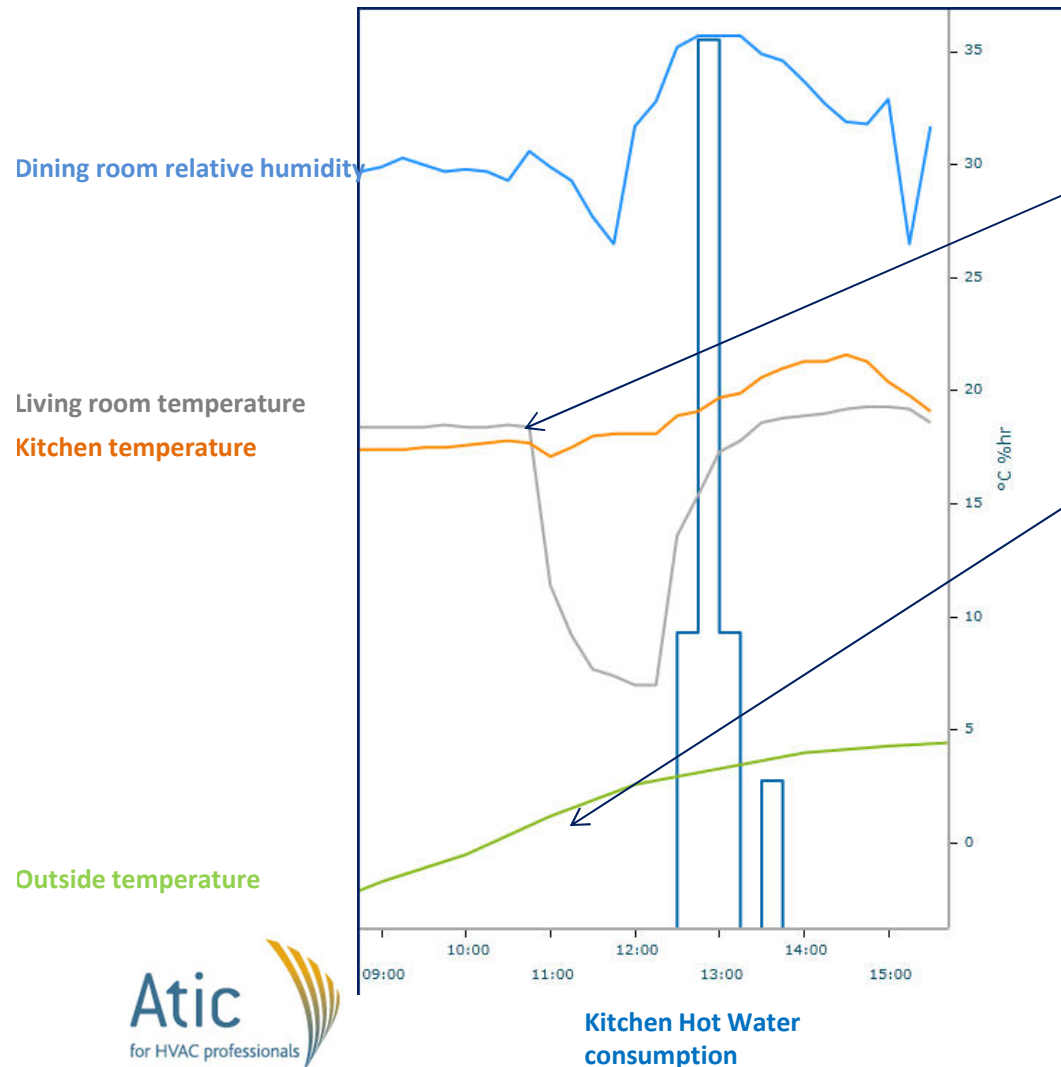
Relative humidity in a bathroom – Residential building

> Humidity sensor, good working ventilation = quick answer.



IT (CAN) WORK(S)!

« In a passive house, you can't open a window. »
« Seriously...? »



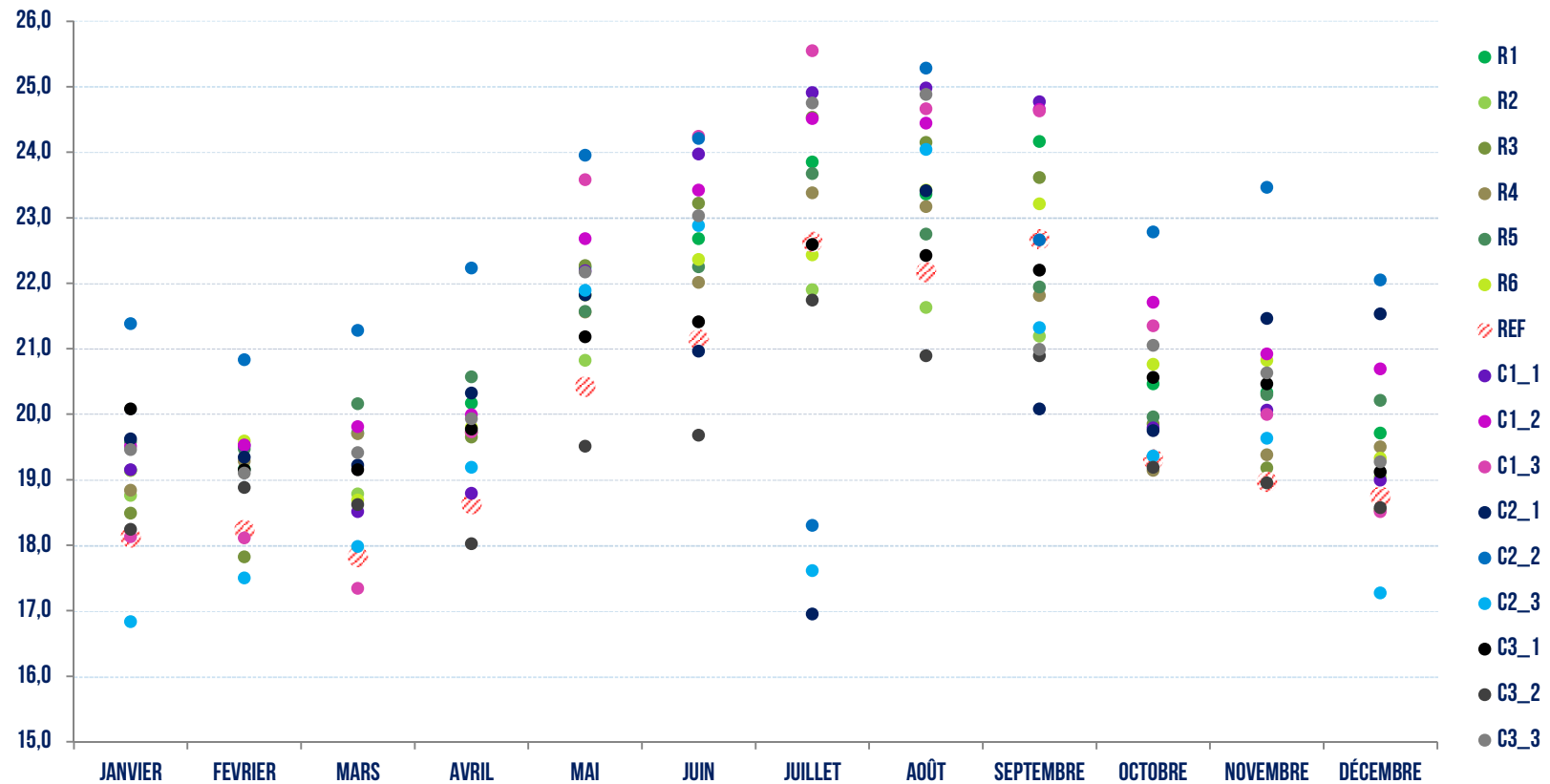
10h45 : 18°C – Window opening

12h15 : A sensor on the living room table near the window records a room temperature of 7°C

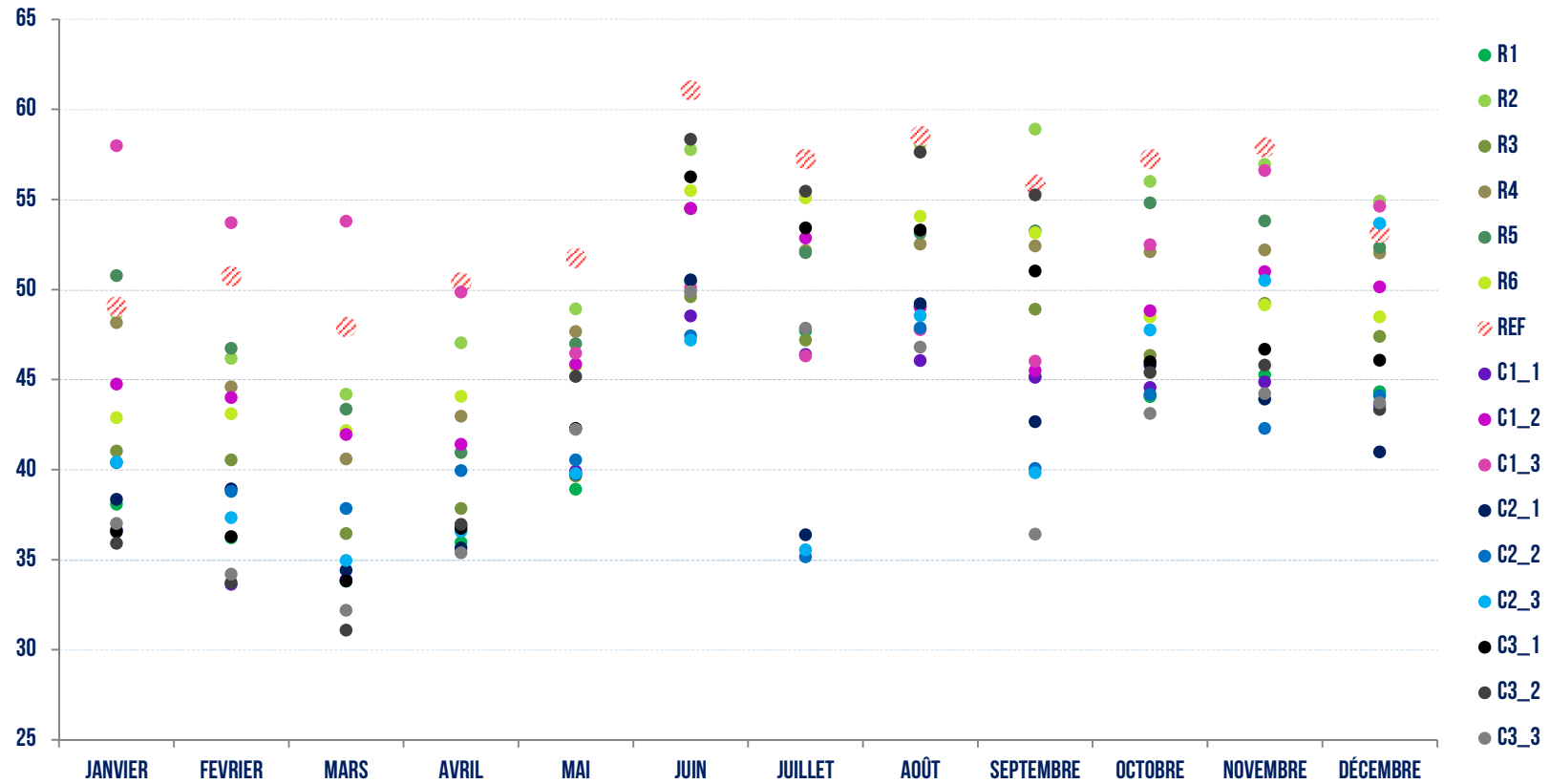
12h30 : cooking in the kitchen (rising of HW consumption and electricity – not displayed)

13h45 : 1h15 later, the living room temperature is now back at 18°C

COMFORT



COMFORT



FUTURE ?



FROM YESTERDAY TO NOWADAYS

2005

2015



Source : www.ac-infiltrometrie.com



Source : <http://www.accessoires-maison.com>

FROM YESTERDAY TO NOWADAYS

2005



Source : pmp asbl

2015



Source : AJ-Air

PAY ATTENTION !



DESIGN

Do I have the right equipment for the use intended ?

CONTROL

Do I have the required flow according to the measured room ?

MAINTENANCE

Did I plan the annual maintenance ?

Did I check the filters ?

Did I buy new filters in order to get ready for the next maintenance ?

THANK YOU!

