

# EHMA 2024

Shaping and managing  
innovative health ecosystems

## Hospital Universitari Mollet, a Net Zero center

Dr Natalia Allué, Fundació Sanitària Mollet

5 – 7 June 2024 – Bucharest, Romania

Politehnica University of Bucharest, Bucharest, Romania

#EHMA2024

# About us



Fundació Sanitària Mollet is a non-profit organization that offers social and health services in Vallès Central, Barcelona, Catalonia, Spain

**Our purpose:** Improve the lives of our people

 **165,000**  
People Reference Area

 **11**  
MUNICIPALITIES

 **6**  
CENTERS

 **1,400**  
PROFESSIONALS



**Hospital**   
Universitari Mollet



**Sociosanitari**   
Hospital Sociosanitari Mollet



**Salut Mental**   
i Addiccions Mollet



Residència   
**Pedra Serrada**



Residència   
**Santa Rosa**



Residència   
**La Vinyota**



Obra Social   
**El Roure**

# Committed to sustainable quality

For the FSM, one of the institutional principles is Green Culture and Environmental Sustainability, which is manifested through the commitment of senior management and the involvement of process leaders, making this culture reach all employees.

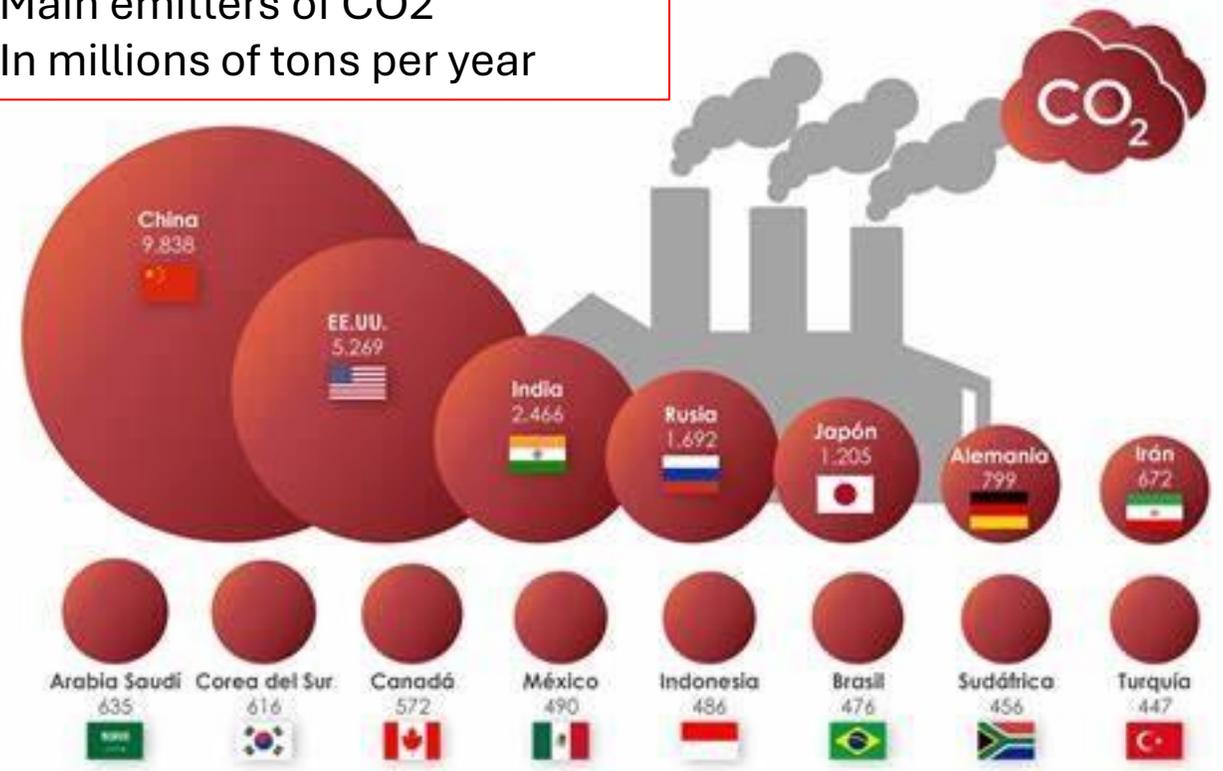


# Introduction: Why?

Health sector, if compared with the pollution of a country, would be equivalent to the **5th most polluting country in the world.**

Hospitals are responsible for **4.4% of total CO2 emissions in Europe.**

Main emitters of CO2  
In millions of tons per year



Cartografía:  
Abel Gil Lobo (2019)  
Fuente:  
Global Carbon Atlas (2017)



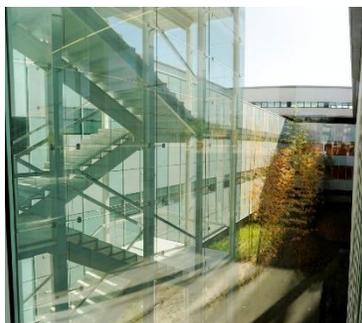
# Fundació **Sanitària Mollet**

From FSM and over the course of 14 years, we have worked to progress **reducing the impact of our activity on the environment and our carbon footprint.**



**1. Structures 2. Processes 3. Governance 4. Culture**

# 1. Structures



**Light wells and sustainable architecture**

**40% less consumption for lighting**



**Radiant ceilings and sustainable roofs**

**Thermal insulation and acoustic control**



**Collection and use of rainwater**

**Water consumption has been reduced from 32,000m<sup>3</sup> to 26,000m<sup>3</sup> per year**

# 1. Structures



**Geotermic energy**

**148 wells that reduce air conditioning energy consumption by 30%**



**100% renewable electrical energy**

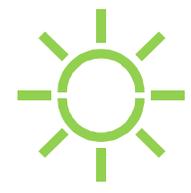
**Certified renewable energy**



**Recycling and waste management**

**From 9 to 25 types of managed waste**

# 1. Structures



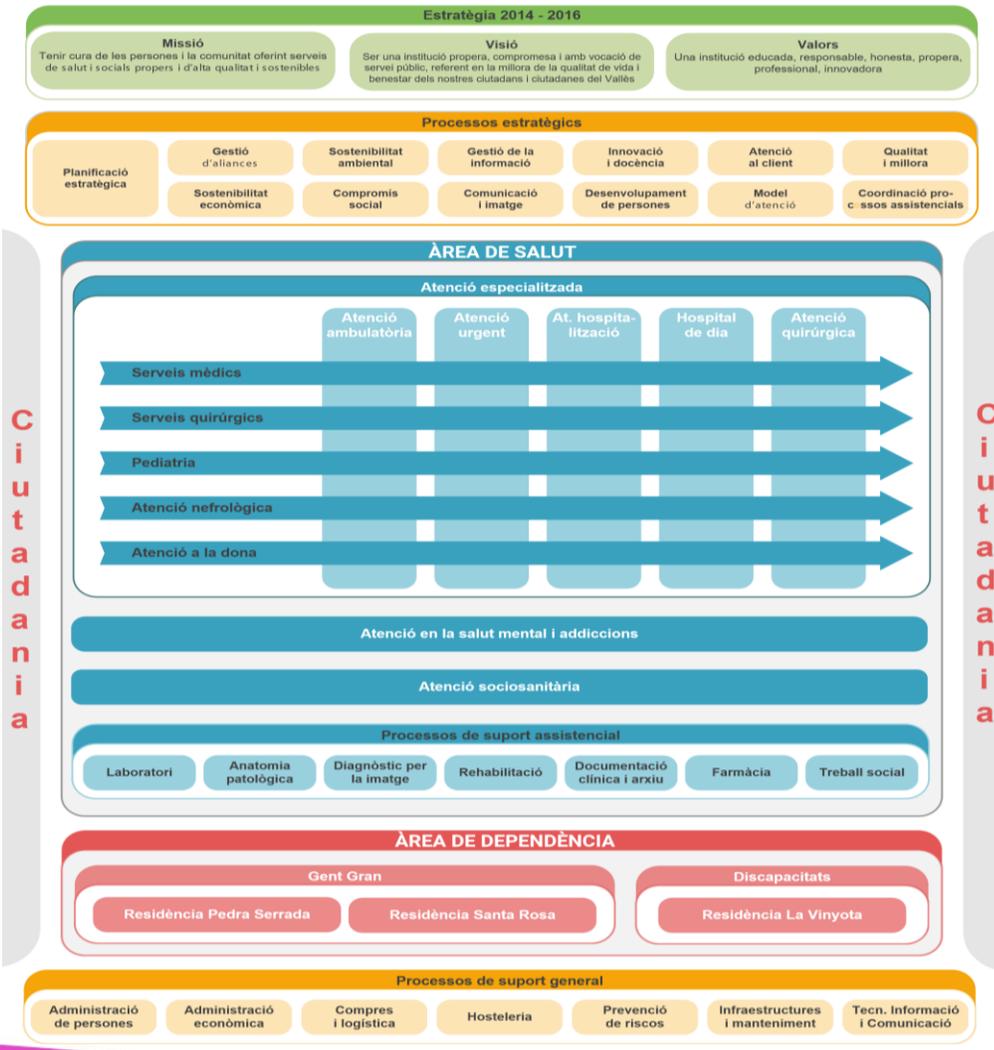
Photovoltaic cover

1,368 solar panels in 6,500m<sup>2</sup>A  
saving of 120 tons of CO<sub>2</sub>  
emissions >15% on average of the  
total energy consumed by the  
hospital



We plant 1 tree every day

# 2. Processes



Analysis of the processes of the Acute care hospital was carried out with the aim of identifying the factors with the greatest impact on CO2 emissions and the possibility of **improvement**.

The **involvement** of all professionals was decisive in determining the most feasible actions with the greatest impact to reduce the carbon footprint.



## 2. Processes

### Reduction of in hospital days

- 1 day of hospitalization generates 7kg of solid waste
- If unnecessary stays are reduced, the environmental impact is also reduced



Home hospitalization



Fast-track for hip and knee prostheses

# 2. Processes

## Avoid unnecessary travel

7% of the emissions



Virtual visits have increased by 24%



New Rehabilitation YouTube channel to improve treatment follow-up from home



High-efficiency visits

## 2. Processes

**Avoid unnecessary tests. Promoting right care**

High impact of diagnostic tests on energy consumption and waste generation



**Semi-automatic medicine cabinets throughout the FSM: patient safety with impact**

The generation of medication waste is reduced by 29%



# 2. Processes

## GreenLab

---

Efficiency and waste reduction



## Capture filters for anesthetic gases

---

prevent their release into the atmosphere.





# 3. Governance

## Institutional ethics and governance

### Motivation: Institutional Principles



**Ethical thinking**  
Unfolding the ethical proposal

**Trust**  
Hand in hand with quality (EFQM, JCI)



**Green Culture**  
Commitment to climate action

**Pro activity**  
Anticipating the future



# 4. Culture

## RESULTS



**49%**

Professionals participation



**43%**

Use new technologies to avoid unnecessary travel



**9.41/10**

Knowledge about what the FSM is doing in environmental matters



**44%**

Professionals have been trained to manage the health effects of heat waves and tropical diseases

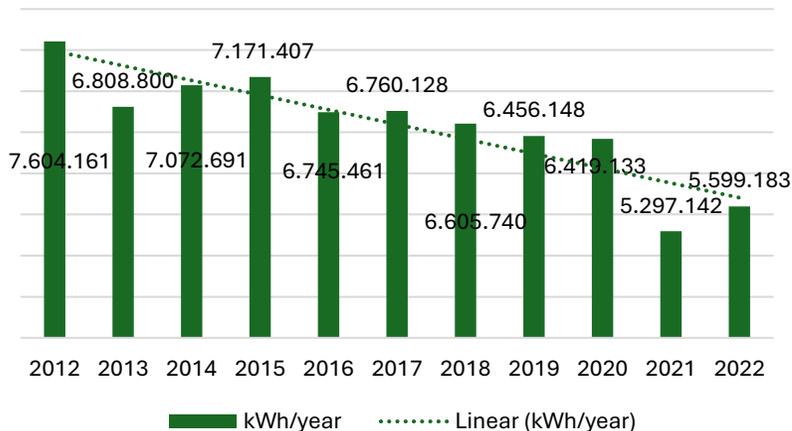


**8,72/10**

“It is a priority for the FSM to achieve 0 emissions”

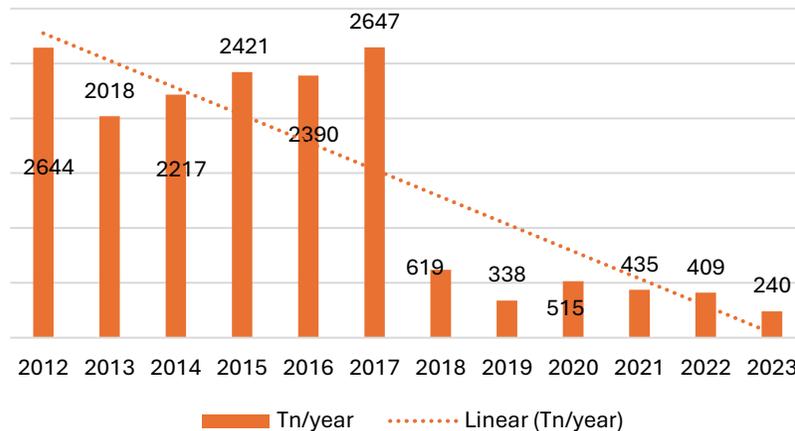
# Results

### Annual electricity consumption



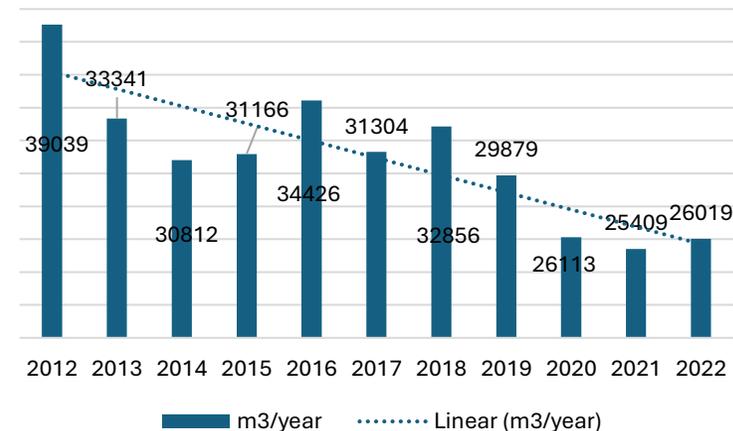
Given that activity at the hospital has increased over the last 11 years due to an increase in the population it serves. Nonetheless, electricity consumption has decreased by 26,37%.

### Annual CO2 emissions (Tn)



The hospital has achieved a significant reduction in emissions (scope 1 & 2): **91% over 12 years of activity.**

### Annual water consumption (m3)



The water consumption has decreased by 36,36%, thanks to improvements in resource management, installing irrigation systems with lower water consumption, rainwater control and flow reducing equipment in all the hospital showers. 15% of the roof is landscaped or covered in plants.

The **Green Hospital project**, active for a decade, prioritizes sustainable facilities, processes, and green culture.

For these reasons, in the last 14 years **the Mollet University Hospital has achieved a 85% reduction in direct CO2 emissions and offset the rest.**

**Today we are a Net Zero Hospital.**





# EHMA 2024

Shaping and managing  
innovative health ecosystems

# Thank you

Dr Natalia Allué, Fundació Sanitària Mollet (Barcelona) SPAIN  
n.allue@fsm.cat