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NEXT MED
STORM

For a Greener Mediterranean

Integrating Seasonal Thermal Energy Storage in the Mediterranean Region (STORM)

MED Talks 3rd Edition: fostering dialogue between Northern and Southern shores

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Università degli Studi di Palermo
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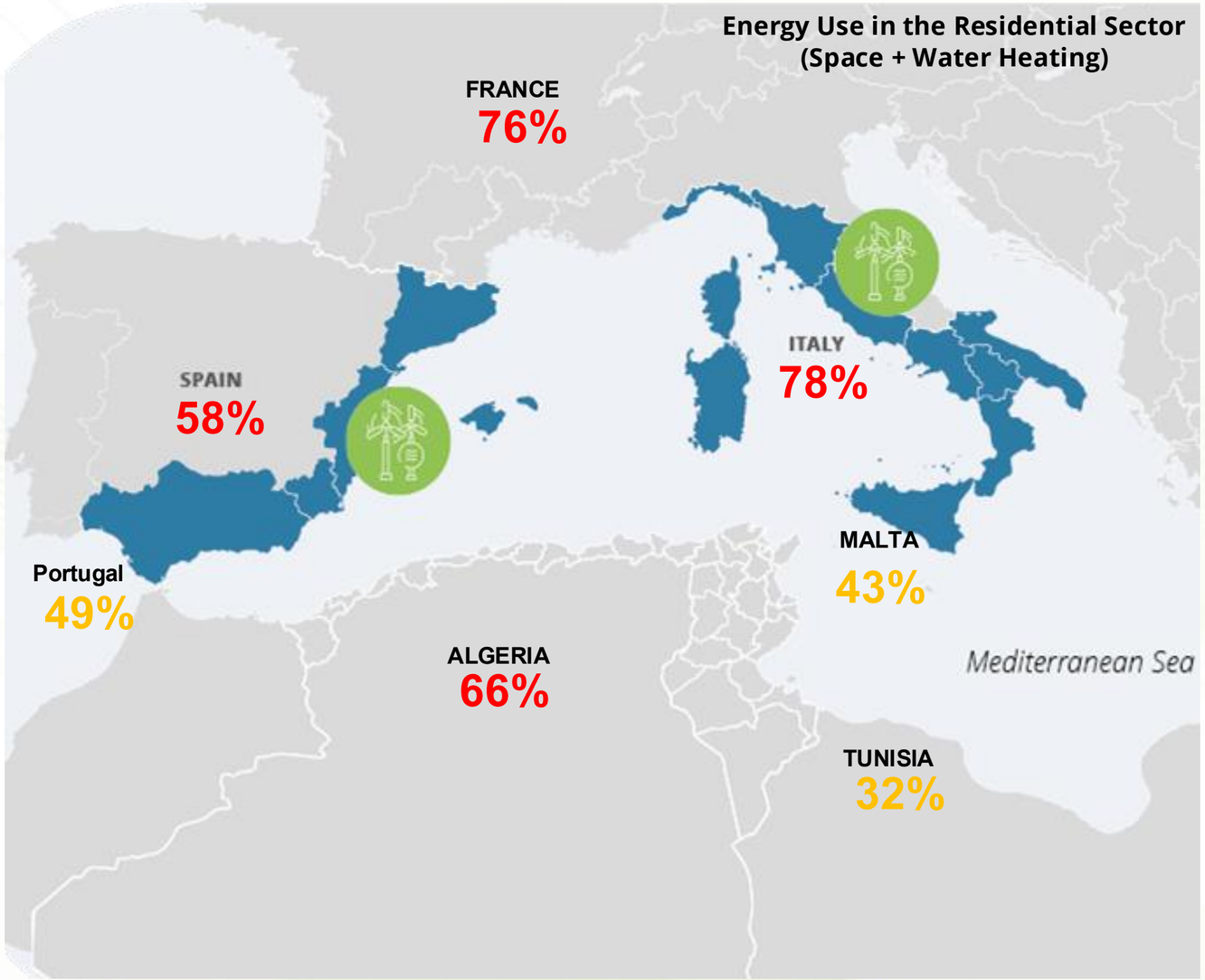
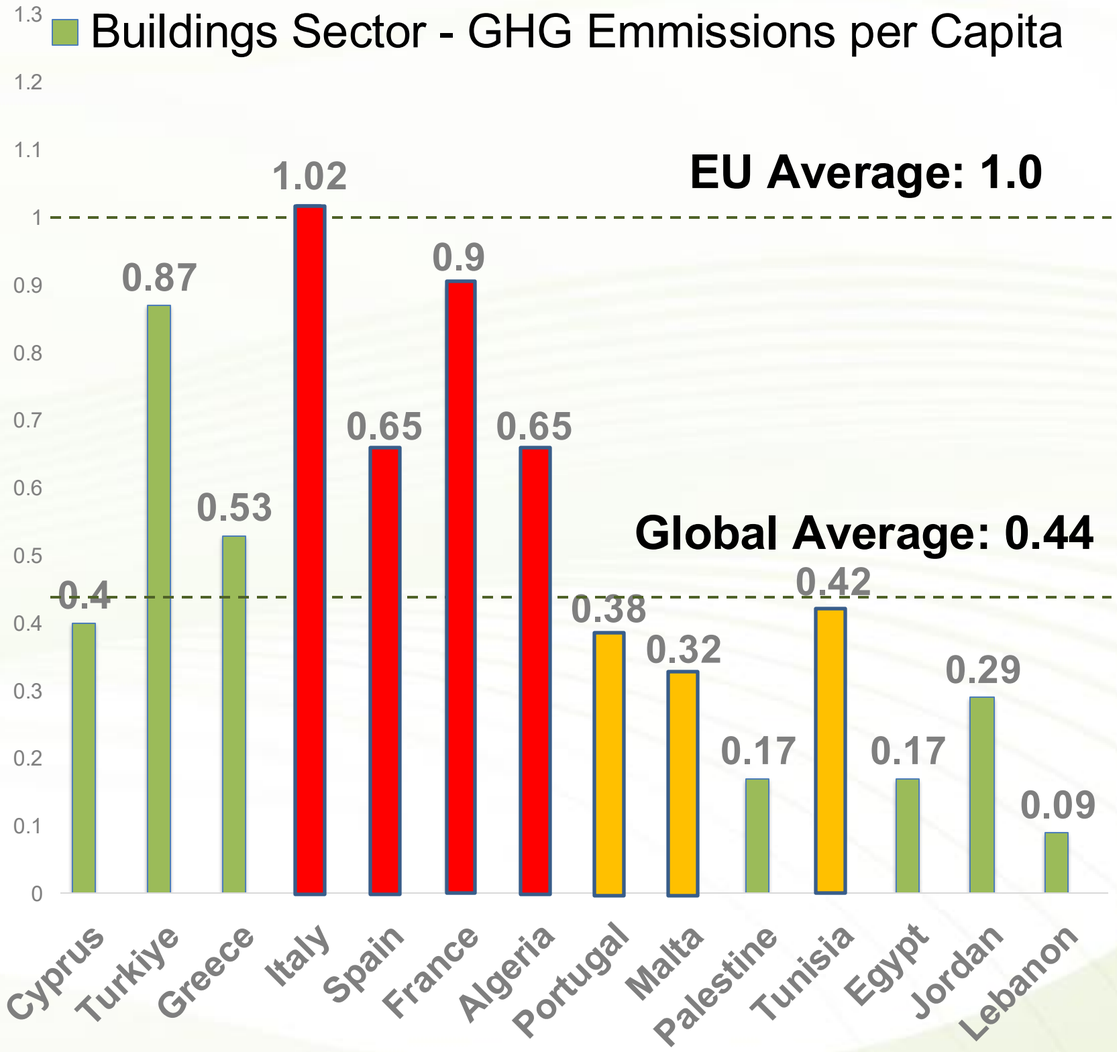
1 The Mediterranean Energy Challenge

Space + Water Heating vs GHG Emissions

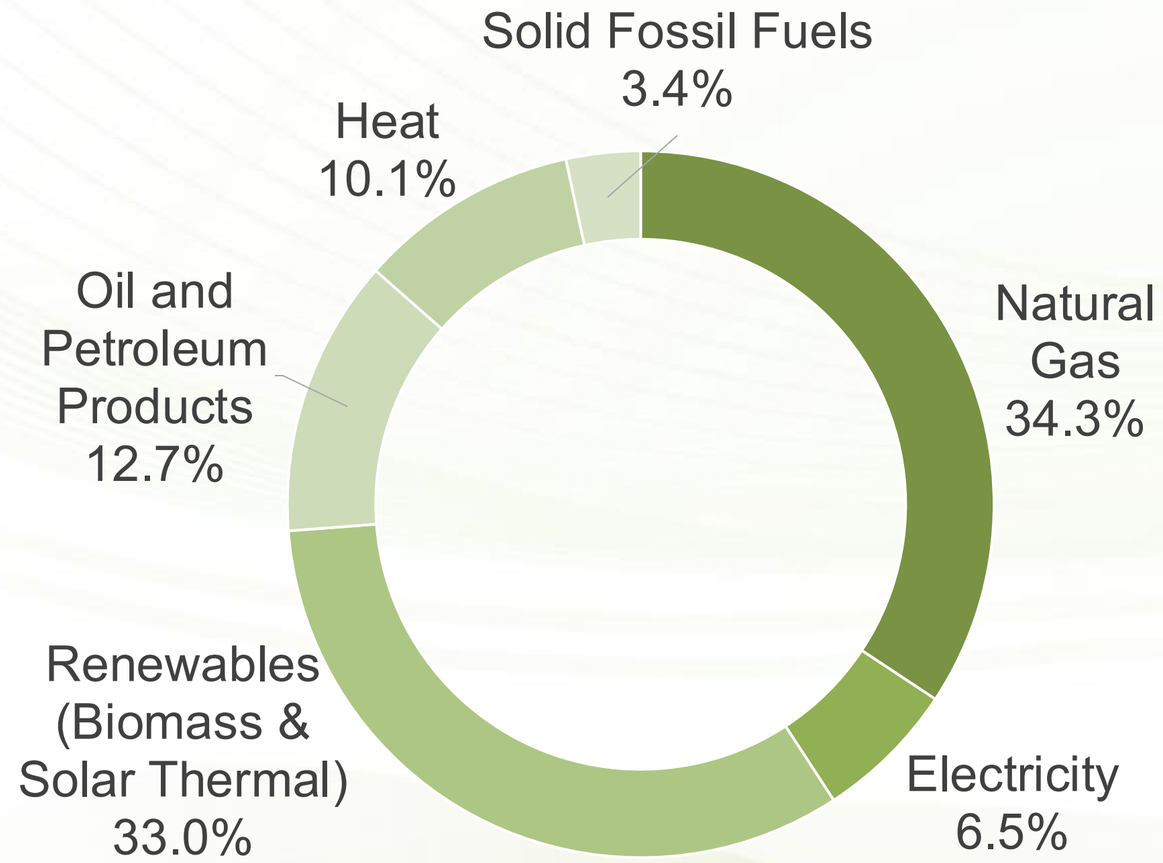




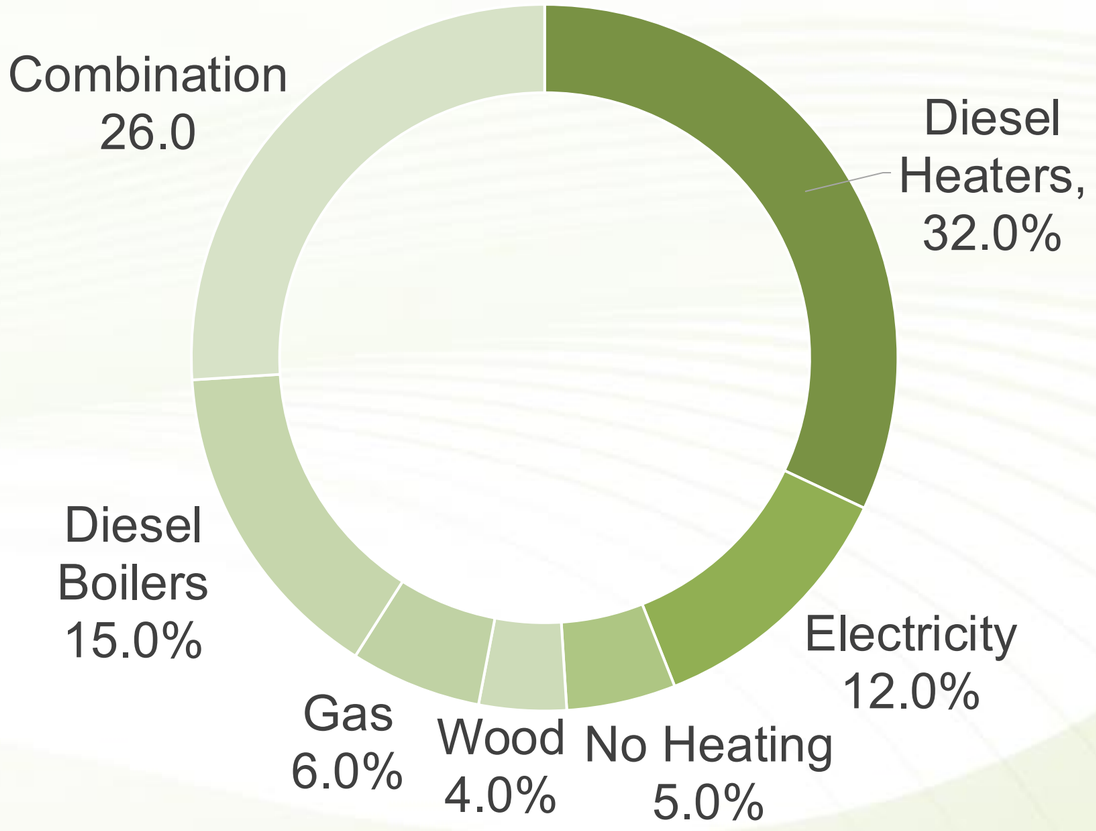
1 The Mediterranean Energy Challenge

Space Heating – Energy Sources

EU (2023)[1]



Lebanon (2018)[2]

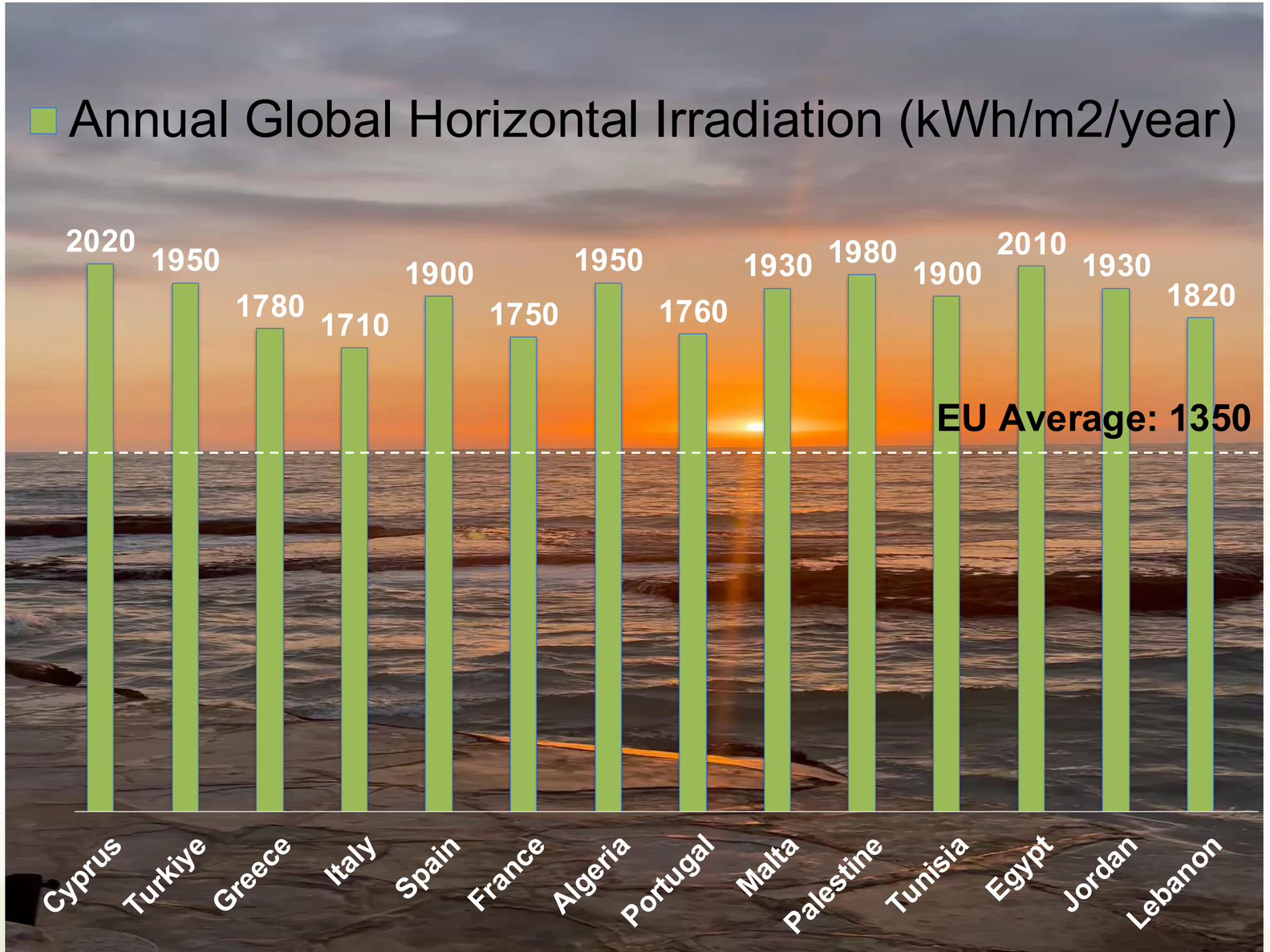


[1] Source: Statistics Explained (https://ec.europa.eu/eurostat/statisticsexplained/) - 27/08/2025

[2] Source: First Energy Indicators Report of the Republic of Lebanon – 2018 - LCEC

2 Opportunity for Renewable Heating/Cooling

The Mediterranean's Solar Potential



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2 Opportunity for Renewable Heating/Cooling

The Mediterranean's Solar Potential

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Solar Thermal

Solar PV

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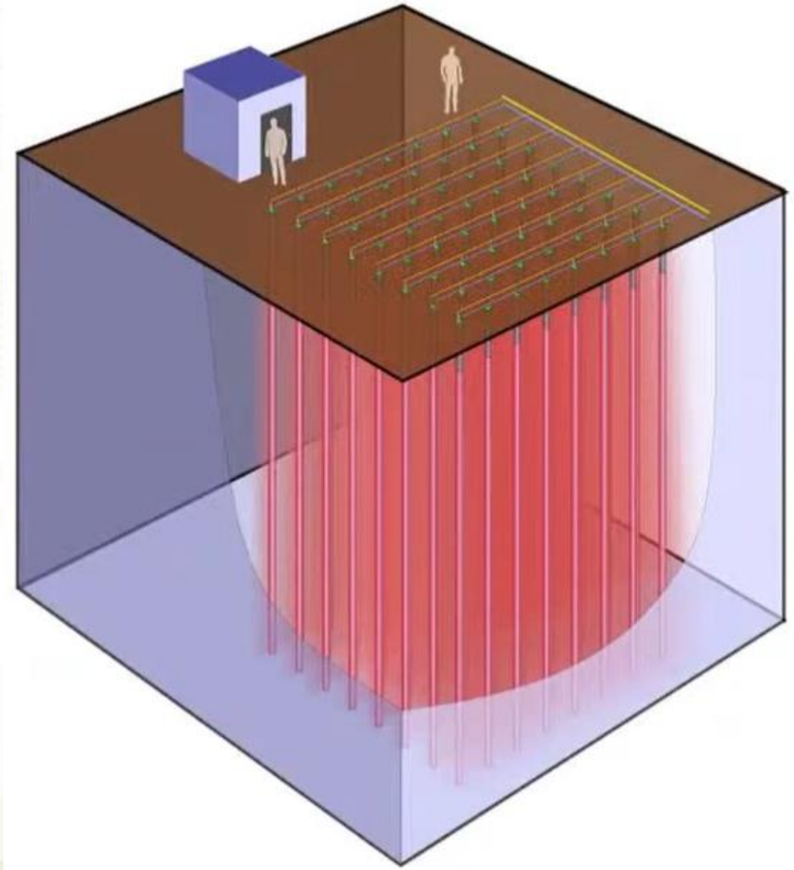
3 Seasonal Thermal Energy Storage

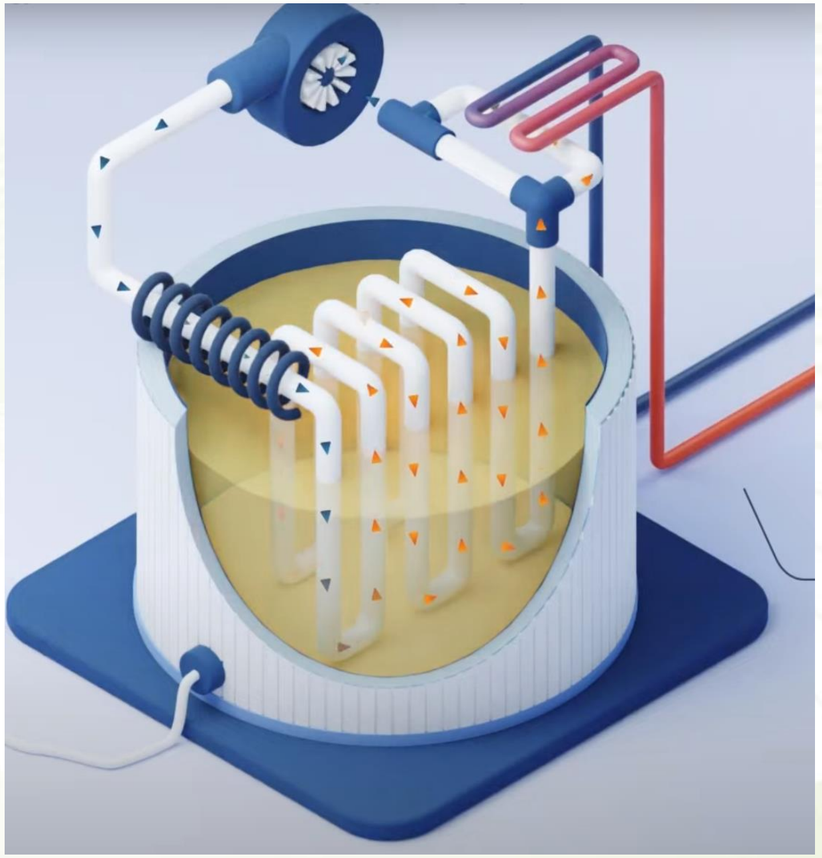
The Technology

Borehole versus Tank Storage Technologies

Borehole Thermal Energy Storage
(Energy stored in natural soil/rock in the ground)



Tank Thermal Energy Storage
(Energy stored in geomaterials or Water in a Tank)



Integrating Seasonal Thermal Energy Storage in the Mediterranean Region (STORM)

For a Greener Mediterranean

Total Budget
€ 2.7 Million

EU Contribution
€ 2.4 Million (89%)

Project Duration
36 Months

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KIMBCN
Knowledge Innovation Market

4 STORM – Partnership, Objectives, Scope

Aims and Output

Demonstrate and validate seasonal borehole and tank thermal energy storage technologies in Mediterranean settings .

Increase the energy efficiency of Mediterranean buildings and reduce dependence on fossil fuels for heating and cooling.

4
Innovative Full Scale Pilots

Build knowledge, tools, and policy support for wider uptake of STES technologies across the region.

1
Mediterranean Design Toolkit

Raise awareness on the benefits and usage of STES in the Mediterranean communities.

1
Immersive Digital Platform

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How Does STORM align with the Green Living Areas (GLA) Mission?

1. **Accelerates Energy Transition:** STORM deploys seasonal thermal energy storage (STES) to cut fossil-based heating and cooling, supporting **GLA's "energy transition" focus topic**

2. **Advocates for a Green Energy System:** STORM's main goal is to introduce seasonal thermal energy storage technologies to complement the existing mix of Green Energy Systems in the Region, supporting **GLA's mission of promoting green living areas.**

3. **Provides regional evidence and mapping:** STORM maps STES potential across the Mediterranean and documents case studies, complementing **GLA's territorial coverage across the Mediterranean**. A major output for STORM is a Mediterranean Zonation Mapping for Energy

4. **Presents Replication Tools:** STORM's digital platform + design toolkit are strongly synergetic with **GLA's shared toolboxes,** which aim at transferring tools/solutions developed by projects.

5. **Supports policy and strategic planning:** STORM develops strategies/policies to integrate STES into energy plans, contributing concrete solutions to **GLA's "financing the green transition" Thematic focus.**