

## COMPILATION OF ENERGY EFFICIENCY MEASURES FOR SUPER MARKETS

The energy efficiency measures that are presented in this document are assigned to the supermarkets in accordance with its age level and possible renovation needs. This document is present as a summary guideline for supermarkets to implement energy efficiency measures which are selected based on the features of a typical supermarket and can be applied to any site.

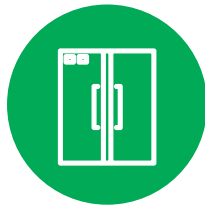
### ENERGY EFFICIENCY INTERVENTIONS



High efficiency refrigeration



LED Lighting



Cabinet's doors



HVAC Fine tuning



Smart load management

In addition, for deeper renovations other measures complete the kits presented in this document.

This energy efficiency interventions parameters were developed with estimates of:



Energy savings  
kWh/m<sup>2</sup>/y



Investment needed  
€/m<sup>2</sup>



Cost savings  
€/m<sup>2</sup>/y



Investment Pay-back  
€/y

calculated for a

**400m<sup>2</sup>**  
SUPERMARKET (medium-small)

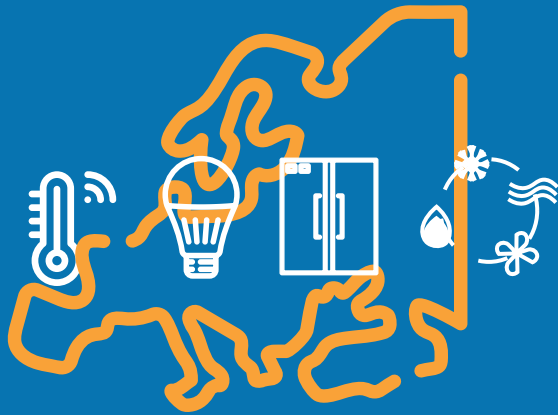


# ENERGY EFFICIENCY KITS

Each kit contains at least two of the EE interventions named before and will have additions to them in accordance with the antiquity of the supermarket, its facilities and if it is located in northern or southern Europe.

## ENERGY EFFICIENCY KITS FOR OLD SUPER MARKETS

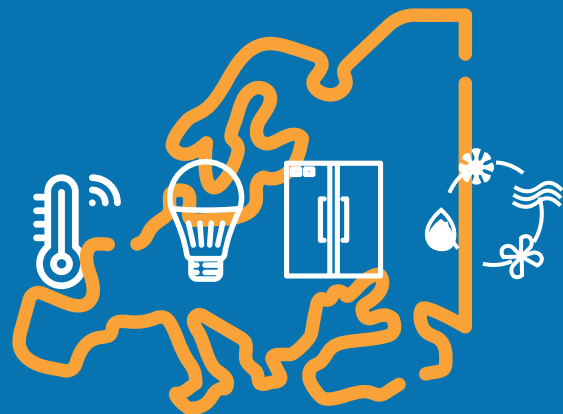
### DEEP RENOVATION



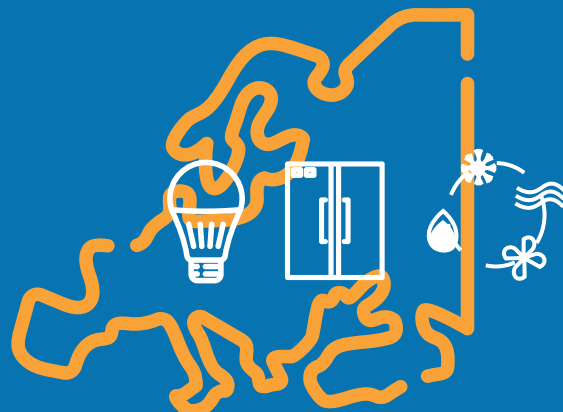
### PARTIAL RENOVATION

Northern Europe  
+ Cogeneration

Southern Europe  
+ Photovoltaic + High Efficiency heat pump



### BASIC RENOVATION



# ENERGY EFFICIENCY KITS FOR AVERAGE SUPER MARKETS

## DEEP RENOVATION



Northern Europe  
+ Cogeneration + envelope insulation

Southern Europe  
+ Photovoltaic + envelope insulation

## PARTIAL RENOVATION

Northern Europe  
+ Cogeneration

Southern Europe  
+ Photovoltaic



## BASIC RENOVATION

Northern Europe  
+ Cogeneration

Southern Europe  
+ Photovoltaic



# ENERGY EFFICIENCY KITS FOR NEW SUPER MARKETS

## DEEP RENOVATION



Southern Europe  
+ Solar thermal

## PARTIAL RENOVATION

Northern Europe  
+ Heat recovery from refrigeration

Southern Europe  
+ Solar thermal



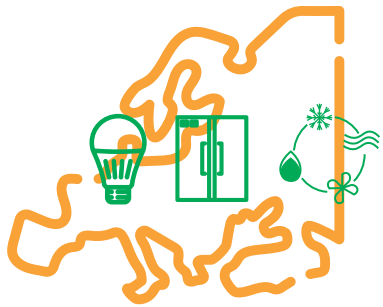
## BASIC RENOVATION



# EE INTERVENTIONS CROSSED WITH THE STIMATED VALUES FOR THE SUPERMARKET

## OLD BUILDING

### BASIC RENOVATION



			
107.5	46.3	16.1	2.9



### PARTIAL RENOVATION



<b>Northern Europe</b> + Cogeneration + High efficiency refrigeration	190.8	94.3	421.3	4.5
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<b>Southern Europe</b> + Photovoltaic + envelope insulation + High Efficiency heat pump	307.5	65.6	421.3	6.4
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### DEEP RENOVATION

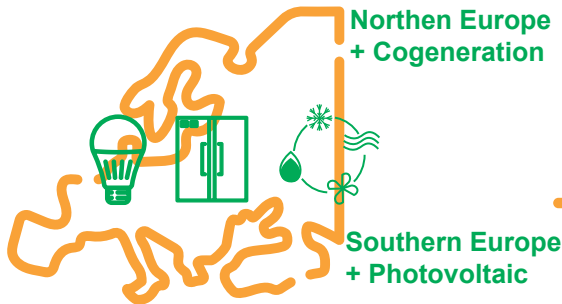


<b>Northern Europe</b> + Cogeneration + High efficiency refrigeration + envelope insulation	290.8	109.3	521.3	4.8
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<b>Southern Europe</b> + Photovoltaic + envelope insulation + High Efficiency heat pump + High efficiency refrigeration	374.2	75.6	521.3	6.9
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## AVERAGE BUILDING

### BASIC RENOVATION



			
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82.5	<b>Northern Europe</b>	281.3	78	3.6
	<b>Southern Europe</b>	131.3	31.9	4.1



### PARTIAL RENOVATION



<b>Northern Europe</b> + Cogeneration + High efficiency refrigeration	149.2	88	406.3	4.6
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<b>Southern Europe</b> + Photovoltaic + High efficiency refrigeration	245.8	56.4	418.8	7.4
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### DEEP RENOVATION



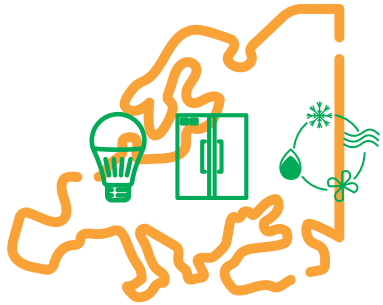
<b>Northern Europe</b> + Cogeneration + High efficiency refrigeration + envelope insulation	249.2	103	506.3	4.9
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<b>Southern Europe</b> + Photovoltaic + envelope insulation + High efficiency refrigeration	279.2	61.4	493.8	8
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# EE INTERVENTIONS CROSSED WITH THE STIMATED VALUES FOR THE SUPERMARKET

NEW BUILDING 

BASIC RENOVATION



PARTIAL AND DEEP RENOVATION



Northern Europe

+ Heat recovery from refrigeration

112.5

16.9

78.8

4.7

Southern Europe

+ Solar thermal

59.2

8.9

41.3

4.6



45.8



28.8



6.9



4.2

This document was developed as part of the project SUPER HEERO, for the Web Platform in WP3, T3.4. The information here contained is part of the D2.2 and can be further reviewed in the report delivered in M15.



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