



Agência para a Energia

ADENE's experience in EU projects The HARP project

GREENET WP3 Lowering the barriers for newcomers and participants from widening countries in CL5

19th of May 2023

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Agência para a Energia



ADENE – who we are

- A private non-profit association, established by Decree-Law no. 223/2000 of 9th September, recognized as a public interest institution
- Develop activities of public interest in the energy sector, including energy efficiency, mobility, water efficiency and in the development of the water-energy nexus
- Supervision of the Secretary of State for Energy and Climate of the Ministry of Environment and Climate Action
- Aiming at contributing to strengthen Portugal's position at the forefront of decarbonization and energy transition

ADENE – What we do

- Systems management and certification
- Development and innovation
- **Support for the design and implementation of public policies**
- Training and qualification
- **Education and information**
- Strengthening communication
- Dynamization of networks
- Digitalization and information systems
- **Institutional cooperation**
- Quality of management and processes

For whom?

- Citizens
- Companies
- Public Administration

What for?

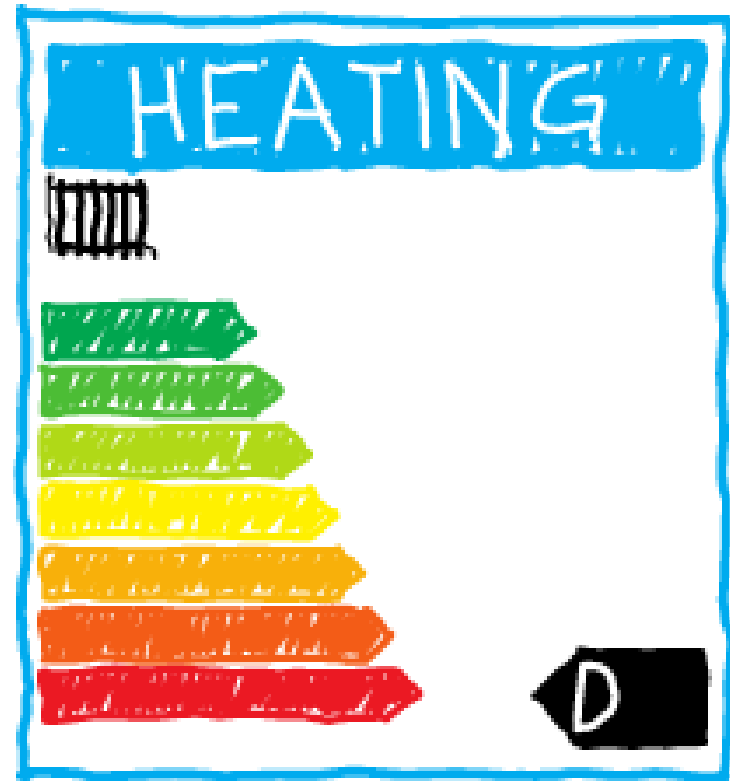
Contribute to a decarbonized and circular economy, leveraged on the energy and water transition focused in the consumer





HARP

Heating Appliances Retrofit Planning



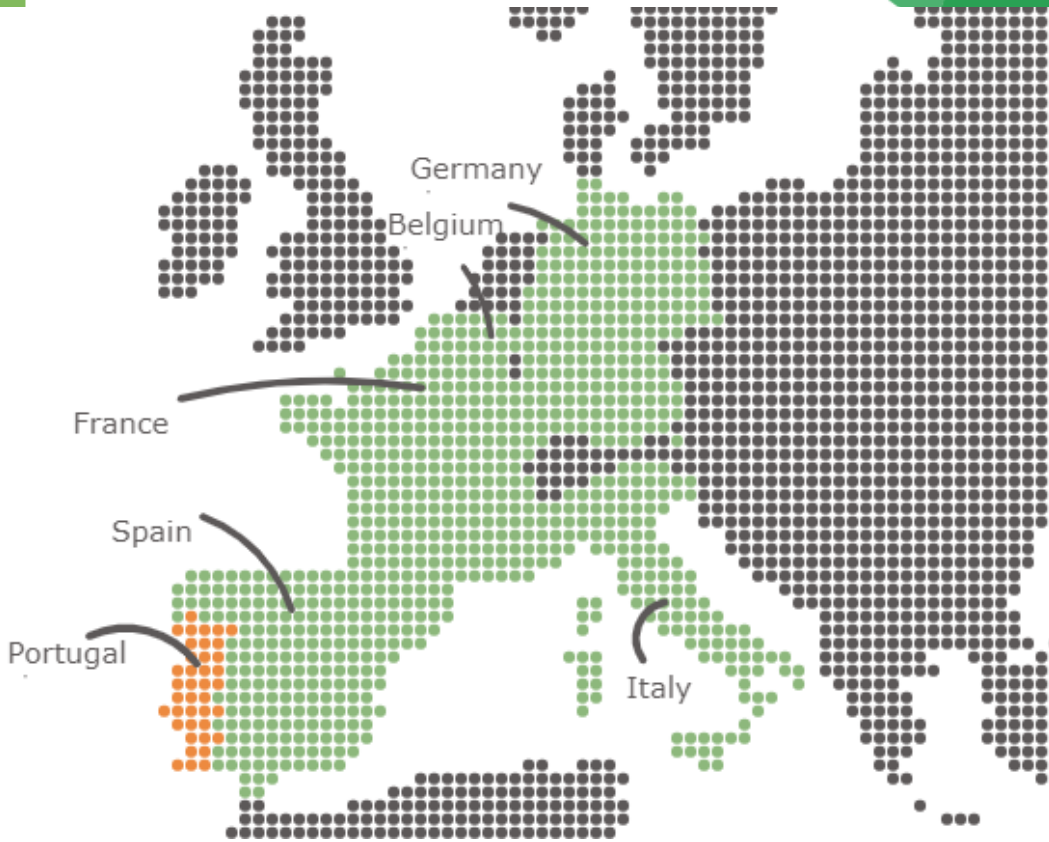
THE HARP project - consortium



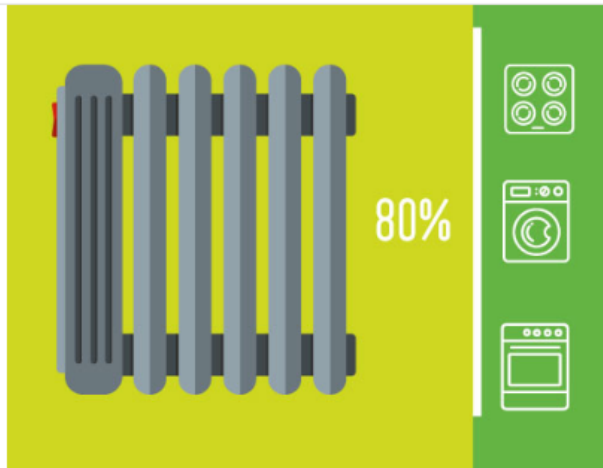
EUROPE France Germany Italy Portugal Spain

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heating-retrofit.eu/contact/

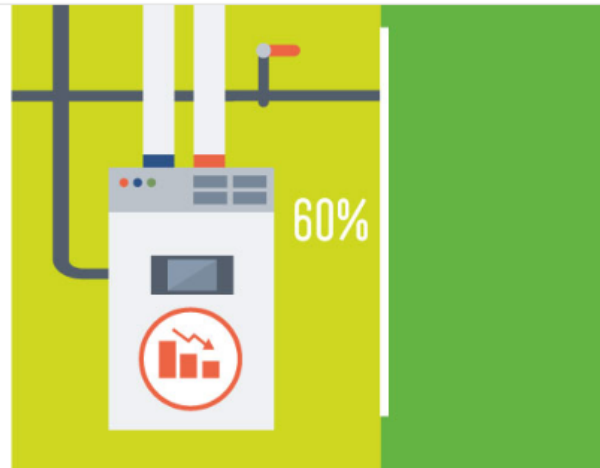


Heating's role in the path for energy efficient buildings



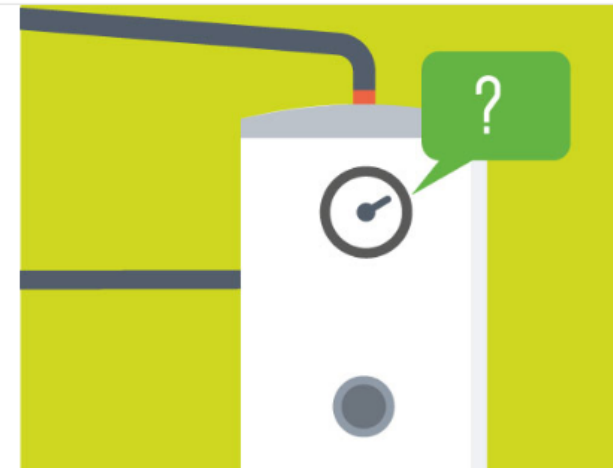
Heating and hot water represents 80% of the energy demand of EU households.

and 84% of it is generated from fossil fuels. A sharp decrease in the energy consumption and use of fossil fuels is needed for the EU to fulfil its climate and decarbonisation goals.



60% of the heating stock consists of inefficient boilers (class C or lower).

The Ecodesign and Energy Labelling regulations for boilers, in place since 2015, remove the worst performing products from the market, while driving consumers towards the most efficient choices. But installed boilers can last for over 15 years, and their replacement rate is very low (4% per year). As a result, a large number of inefficient boilers is still in use today.



Except in Germany, consumers are not informed about the efficiency of their installed heating systems.

This information is crucial to trigger a replacement of the least-efficient heating appliances. HARP will build on the experience of the mandatory labelling of installed boilers in Germany. Recommendations will be issued for the implementation of the labelling methodologies for installed heating systems at the EU-level, and specifically in countries not participating in HARP.

Consumer's relation with heating

It works 😊, all is well!

It does not work, urgente decisions are necessary:

The **consumer knows and considers the energy label** of new heating appliances:

- When acquiring a new heating equipment, **>70% of the consumers acquires the same technology it had installed before**
- **43%** of the consumers refer that their house, the architectural and infrastructure characteristics, do not allow for the installation of a different heating solution
- **28%** don't know other heating technologies
- **25%** did not have the time or availability to look for more information

(Source: EHI/Centerdata, October 2021)



Consumer's relation with heating

HARP's main goal is to motivate individuals to plan the replacement of their often outdated and fossil-fuel operated heating appliances, with more efficient and renewable alternatives.

To promote consumers conscious regarding energy efficient heating solutions the HARP consortium **invited consumers** to know more about their **current heating systems** and **plan** the potential replacement of their heating system with **more efficient and renewable solutions**, relying on the energy label as the main instrument to communicate energy efficiency.



HARP's approach

Allow the consumer to compare, on the same basis, the label energy efficiency scale, old and new heating appliances, promoting its planned replacement.

Awareness: raising consumers' interest in the heating topic
Consumer Theory of Change Model, key issues and communication channels

Quantification: labelling the existing heating system
Methodology to calculate the efficiency and class of space, water and combi existing heaters

Overview of solutions: presenting the most efficient heating technologies on the market
Assessment of heating solutions with the heating industry

Analysis of benefits: providing information on potential energy, money and CO₂ savings
Estimate potential savings, new energy class and added co-benefits upon the replacement

Motivate the replacement: extending the information to professionals and incentives
List of professionals that can support the consumer and available incentives

HARP's activities

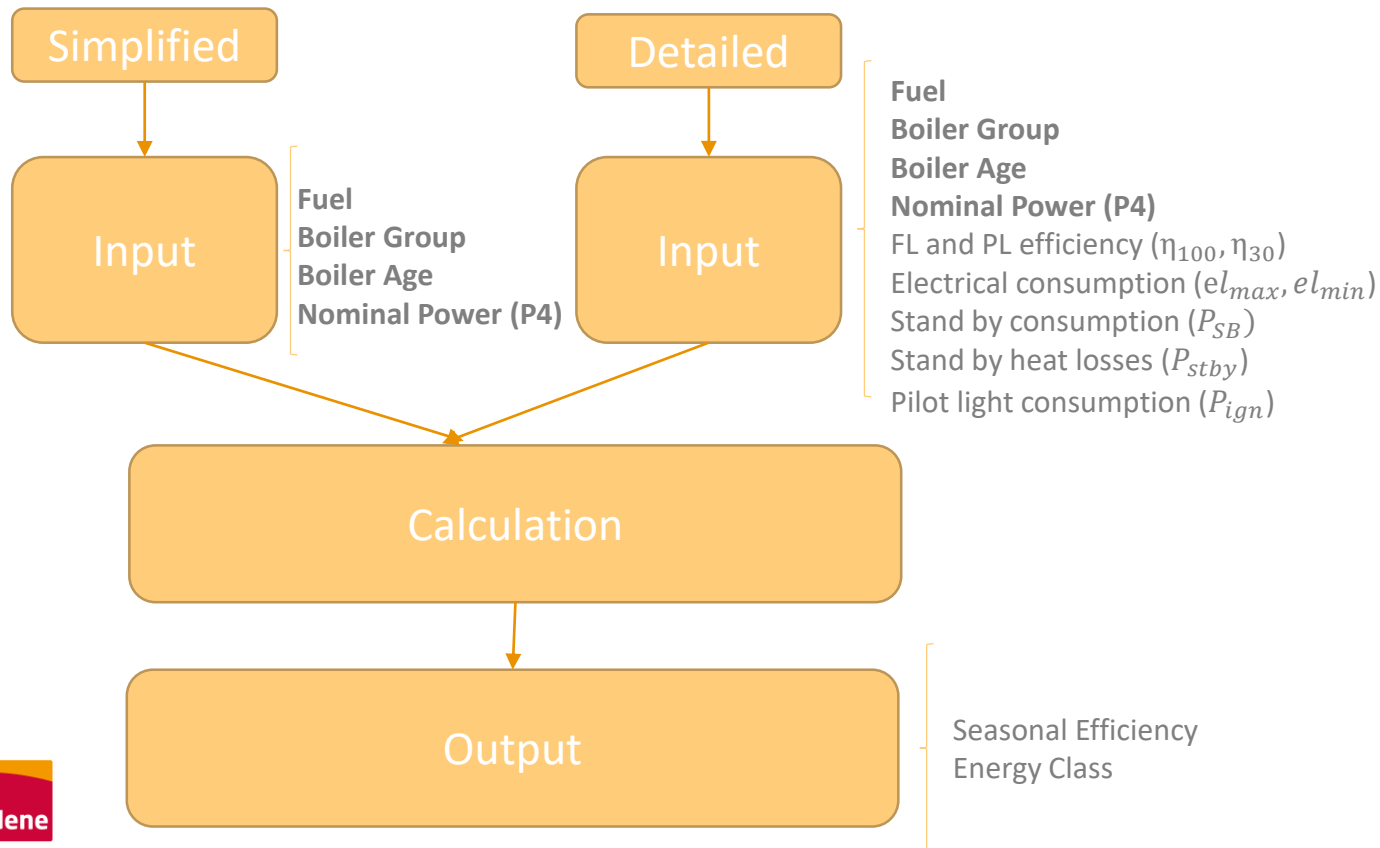
- ❑ Definition of the consumer behaviour change model when adopting new heating systems
- ❑ Analysis of the heating stock in EU households and current offer of heating solutions
- ❑ Evaluation of the co-benefits associated with energy efficient heating solutions
- ❑ **Labelling methodologies** for classifying existing space, water and combi heaters
- ❑ HARPa, **online application** (consumers and professionals)
- ❑ Materials toolbox about energy efficient heating solutions for consumers & professionals
- ❑ Two heating season communication campaigns Feb/May 21 and Oct21/April 22
- ❑ **Policy Integration scenarios** for the energy labelling of existing heating appliances in the EU and MS context

Labelling methodologies for existing appliances

- 1) Harmonized methodologies with the EU energy labelling regulations Reg. 811/2013 (space heating) and Reg. 812/2013 (water heating)
- 2) Introduction of a degradation factor according to the appliance's age, defined in cooperation with the heating industry and considering the existence of regular maintenance procedures
- 3) Considered the existing compulsory and voluntary heating labelling schemes for existing heating appliances in EU countries (Germany, France, Italy and Spain)
- 4) For validation, the methodologies considered the technical data of more than 5.000 appliances and also laboratory testing of water heaters
- 5) Definition of standard values, in accordance with EU norms (EN 15316), to use when not all the technical information is available to characterize the heating appliance.

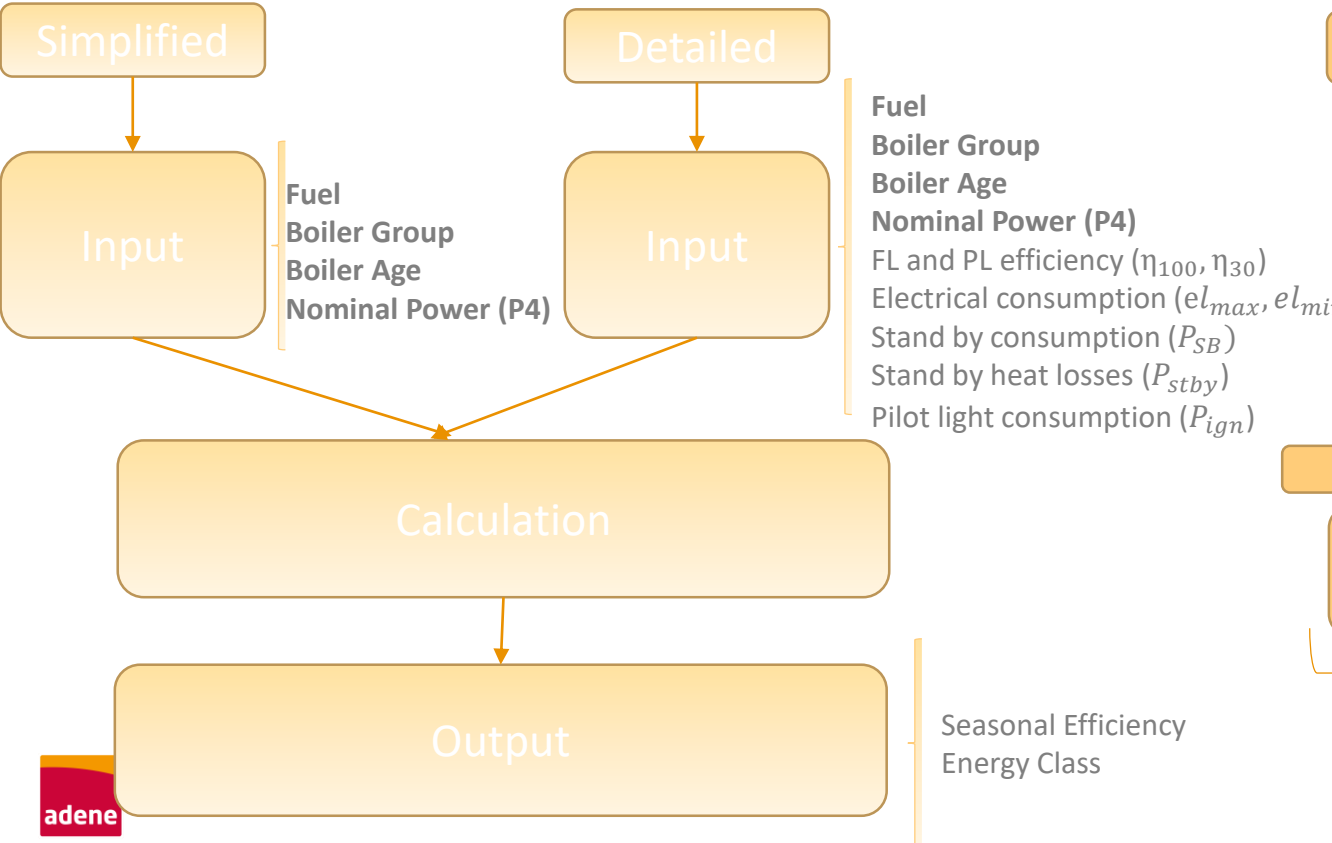
Labelling methodologies for existing appliances

SPACE HEATING – data input

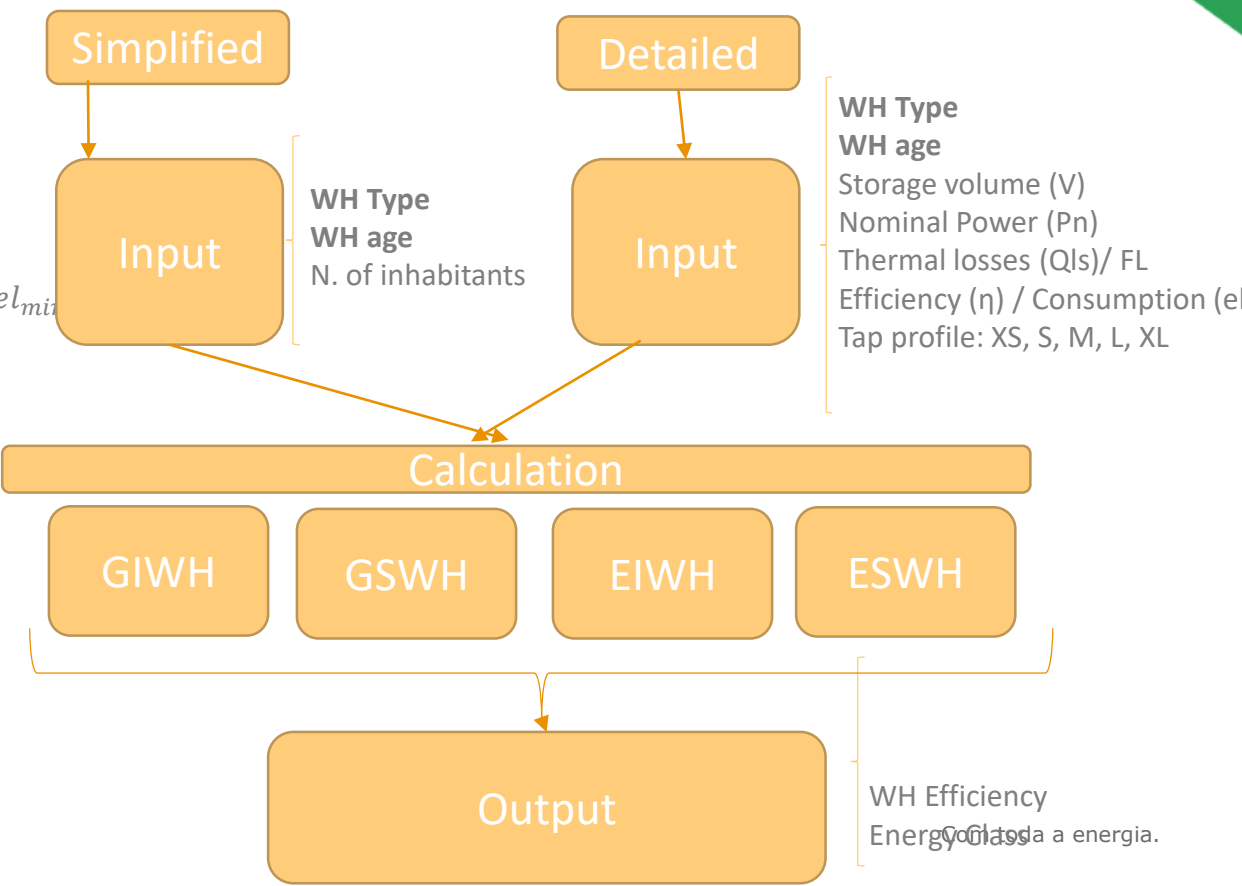


Labelling methodologies for existing appliances

SPACE HEATING – data input



WATER HEATING data input



HARPa online application

HARPa, an online application supports consumers (and professionals) in the identification of their current heater's energy class and finding an energy efficient replacement solution.

Furthermore it strengthens the contact with professionals and identifies incentives available at national level.



HARPa online application

Efficient Heating System
Online-check

Start Existing combi heating system Your building Requirements Finished

In order to tailor this app to your situation, we need to start with a few general questions.

What would you like to calculate?
Please choose your heating system

In which country is the building located?
Please choose one country

Climate zone
Please choose

■ colder
■ average
■ warmer



What describes best your role? I am a ...
End User Heating Professional

Let's start!

Country and existing solution

Existing Heating System
Calculate Energy Label

Start Existing space heating system Your building Requirements Finished

Previous

Please tell us a little about your existing heating system.

System type
Boiler

Energy source used by your installed heating appliance
Please choose

Age of heating system (installation year)
Please choose

Maintenance
Has the heating system been professionally maintained in the last 5 years?
Yes No

Optional field(s) below. Leave empty if you are not sure.
The values missing will be filled with default values

Nominal power (in kilowatt, kW)

Calculate Label

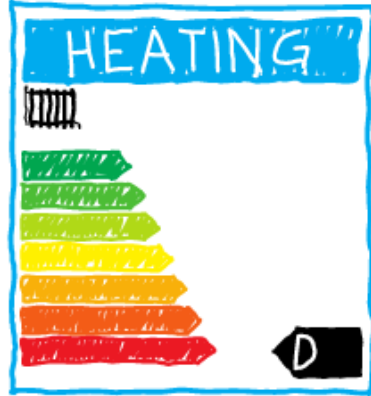
Characteristics of the existing solution

Existing Heating System
Calculate Energy Label

Start Existing space heating system Your building Requirements Finished

Previous

Your existing boiler has an estimated efficiency of 37%, reaching an energylabel class of D.



Calculate Your Options

Label for the existing solution

HARPa online application

Intended use

Estimate Your Energy Demand

Start Existing space heating system Your building Requirements Finished

Previous

Now, we need some information about the building.

Type of Buildings

Building Construction

Heating area (in m²)

Part-time usage?
Is the building used only for a part of the year?
Yes No, the building is used throughout the year.

Next questions

This heating check tool was developed within the [HARP project](#), which received [funding from the European Union](#). [Contact details](#)



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Heating needs

Intended use

Some technical requirements

Start Existing space heating system Your building Requirements Finished

Previous

In order to recommend certain heating options, we need to ask a few last questions.

Storage space available?
Is a minimum of 1.5 m³ available (1 m² x 1.5 m height)?
Yes No

Roof/Garden available?
Is at least 6 m² available?
Yes No

Large Garden/Land available?
Is at least 40 m² available?
Yes No

Gas network
Is the house connected to the gas grid?
Yes No

Electric capacity sufficient?
Yes No

Show Results

Characteristics of the house

Efficient Heating System

Possible Heating Solutions

Start Existing space heating system Your building Requirements Finished

Previous

Please find below the results for different technologies and your situation. These are indicative average values. For more details check the detailed information.

Best Energy Bill Savings

Technology	Energy	Energy bill savings
Solar thermal + Heat pump, air/water	Solar, Electricity	2,460 €/year

Best Energy Savings

Technology	Energy	Energy savings
Solar thermal + Heat pump, air/water	Solar, Electricity	36,200 kWh/year

Best CO₂ Savings

Technology	Energy	CO ₂ savings
Biomass boiler	Biomass	10.9 t/year
Solar thermal + Biomass boiler	Solar, Biomass	10.9 t/year

Additional benefits

The replacement of old and inefficient heating appliances allows the consumer to benefit not only in terms of energy and money savings but also from additional benefits such as reduction of environmental footprint, reduction of fossil fuels dependence, real state valuation of the house, improved air quality, etc. To know more about these benefits and consider these in the replacement decision process check the information materials available on the HARP project's website.

Full table

New heating solutions

Com toda a energia.

HARP results

8,9 m consumers reached
(KPI = 1,5 m)

34.367 Energy labels issued for existing heating systems

17.681 simulations for more energy efficient solutions

18.979 consumers motivated to change
(KPI=10.000)

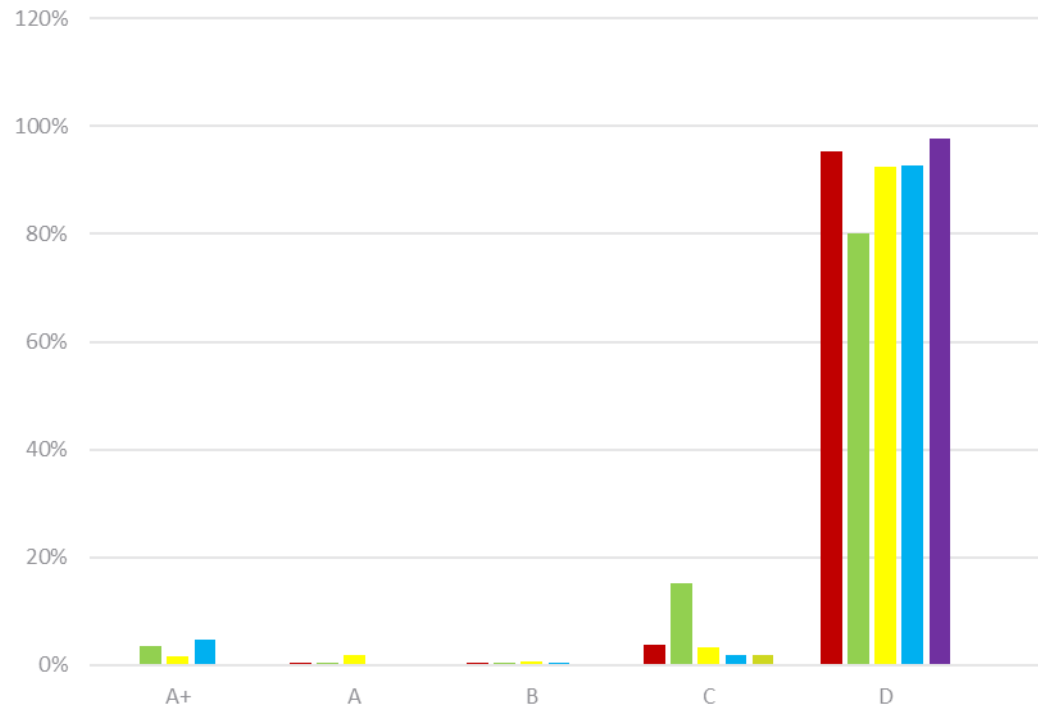
134.355 professionals reached

1.037 professionals trained
(KPI = 1.000)

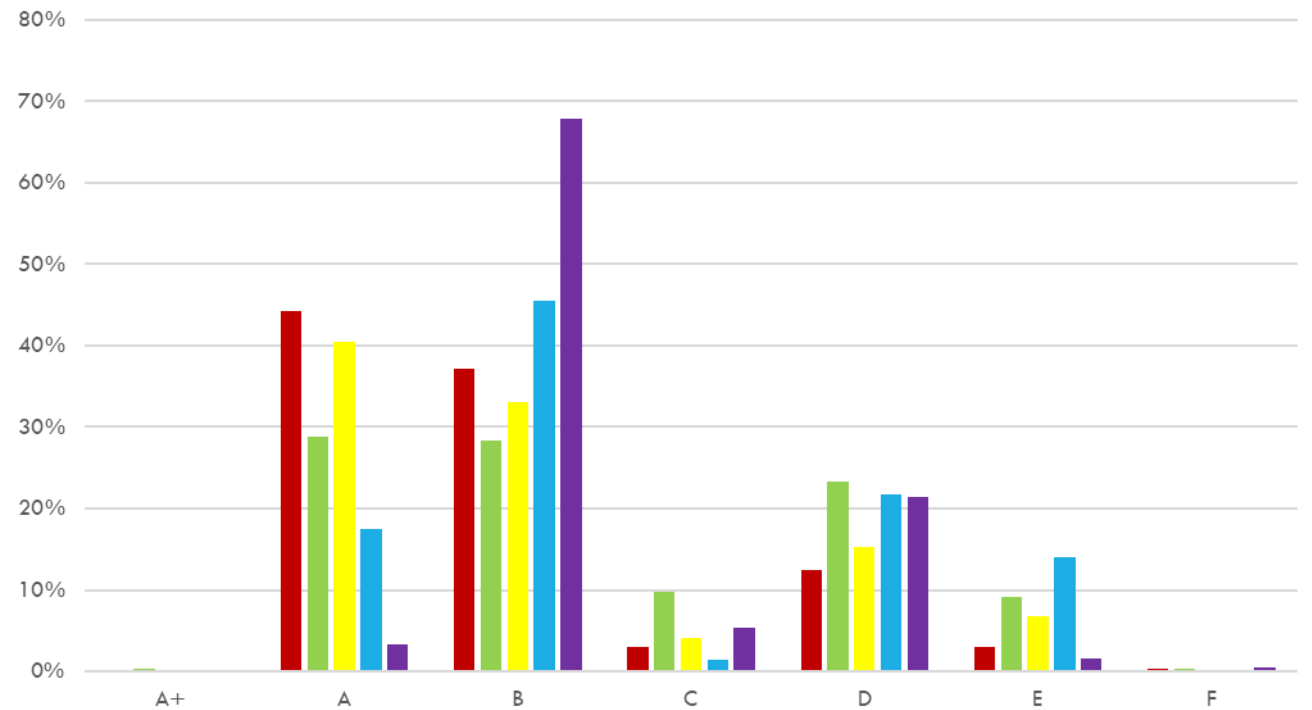
HARP results

LABELS ISSUED FOR EXISTING HEATING APPLIANCES WITH HARPA

Space heating, distribution of energy classe



Domestic hot water, distribution of energy classes



HARP policy integration scenarios

Harmonize the existing systems for the energy labelling of existing heating appliances (voluntary and compulsory)

Take the opportunity to make these systems compatible with the EU regulations and considering both space and water heating

Reinforce the link to EPBD

harmonizing the heating appliances performance evaluation with labelling regulations

Prioritize energy efficiency incentives and support the energy transition

boosting the replacement of the oldest and most inefficient heating appliances, targeting those more in need and achieving the highest revenues in terms of energy savings

Maintenance procedures of heating appliances

providing more information on the energy performance and class of the existing appliance

One-stop-shops/renovation passports

support the consumer in the adoption of energy efficiency measures in their house, namely addressing the heating system

Reinforce the link to EPREL – European product database

Allowing for the comparison between the efficiency of old and new heating appliances

HARP project – challenges faced

- **Covid 19:**
 - big consortium and the restraint on physical meetings was challenging as these are important to set the tone, get everyone on board with the project activities and reinforce support and cross activities
 - No physical events with market professionals and consumers implied deep changes in the communication plans focusing on social media
- **Diverse national contexts:** compulsory vs voluntary energy label for existing heating appliances, market driven and non market driven
- **Rising energy costs:** raises awareness to the energy and heating topics but also drives attention to pressing situations and not to the “planned replacement” topic

Best practices for networking and designing a successful proposal (I/IV)

THE CALL

THE PROPOSAL

THE CONSORTIUM

THE BUDGET



Best practices for networking and designing a successful proposal (I/IV)

THE CALL

- **Respond to the call**, do not make a project fit a call. Stick to the call goals and respond in an innovative way
- **State of the art**, a lot has already been done in all the topics. Be sure to make your homework and research for similar projects, ideas and results. Build on other projects setbacks and gaps, addressing market failures and opportunities that others could not tackle.
- **Define a draft concept**, and send it to the programme supporting services for feedback as it will allow enriching your work

Best practices for networking and designing a successful proposal (II/IV)

THE PROPOSAL

- **Three main stages: define, implement, exploit**
- **Impact** – be clear on what you are aiming to achieve and quantify it with clear metrics and reasonable assumptions
- **Communication and Dissemination:**
 - Communicate that the project exists and what is trying to achieve
 - Disseminate its results
- **Exploitation:** EU level and even cross borders, knowledge transfer to the MS not involved in the project but to whom your learning surely are beneficial

Best practices for networking and designing a successful proposal (III/IV)

THE CONSORTIUM

- **Circulate the draft concept**, when inviting partners to join, let the draft concept speak for itself and to make sure everyone understands the idea and is on board with it
- **Make sure to address the whole value chain**, from the policy makers, to the industry, R&D centres and citizens (if relevant for the call)
- **Carefully select your partners**, choose trustworthy partners, with the necessary competences for the tasks attributed and preferably with some know-how on EU funded projects

Best practices for networking and designing a successful proposal (IV/IV)

THE BUDGET

- **Be aware of the co-financing rates** and the implication self financing may be to potential partners
- **Carefully estimate the timeline for your project**
- **Be clear on the partners activities**, and provide adequate funding
- **Try to have a diversified budget**, also addressing the different cost categories. It is easier to manage if transfers are needed during the project.



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Thank you

