

Heating & Cooling equipment: Fixing problems (sufficiency) and/or investing in a new equipment (efficiency)

eceee 2021 – A New Reality – Panel 9

Sophie Attali – Guide Topten
Maïke Hepp, Eric Bush – Bush Energie

Our goals within H2020 funded project

HEATING AND COOLING
KNOWHOW AND SOLUTIONS



- Work on the Heating and Cooling energy stakes in Europe - crucial but users are not aware
 - 50% of EU GHG emissions come from space and water heating
 - High number of installed systems old and inefficient
- Promote energy efficiency and sufficiency
 - Identify most energy efficient models (per technology)
 - Promote no/low costs measures to reduce energy demand, bills, improve comfort
- Runs from Sept 2019 to September 2022



Digression: The Topten approach

HACKS teams have been working together for the past 15 years applying the Topten methodology

- Topten goal: contribute to climate change mitigation by transforming markets towards more energy efficient products
- Energy efficiency differences between electrical appliances for the same service are still significant
- Topten facilitates product selection process by displaying, on its websites, in free access, the latest market information on best products
- Transparency has benefits for consumers, producers, retailers, policy makers, NGOs



Digression: The Topten approach

- Heating and cooling devices are different from standardised plug-in products because they interact with the building
 - Recommended super-performant but oversized products may consume more than poor performing products
 - Consumers (rightly) rely on installers and don't choose themselves
 - Reducing energy needs is the most beneficial action – from collective and individual perspective
- Need to go further than “just” display best available products
- HACKS “Base line report” to map out the situation and prioritise pragmatic action



HACKS works on 2 axes

- For all consumers, especially for those who do not want to or cannot invest in a new system, it recommends strategies on how to improve comfort and air quality and lower energy bills with the existing system.
- For consumers ready to invest, it provides lists of most energy efficient products, enabling them to make informed decisions.
 - E.g. once decision taken to invest in a heat pump system, all other things being equal, there are large performance differences between products on the market → lifetime costs can increase twofold between products selected for their efficiency and least efficient models allowed on the market



Investment in new equipment (efficiency measures)

- 15 websites tailored to national context + 1 European platform www.topten.eu/hacsk

HACKS - Heating and Cooling Knowhow and Solutions

Home > HACKS - Heating and Cooling Knowhow and Solutions

**HEATING AND COOLING
KNOWHOW AND SOLUTIONS**



Heating and Cooling Knowhow and Solutions (HACKS)

The objective of the project Heating and Cooling Knowhow and Solutions "HACKS" is to achieve market transformation for heating and cooling (HAC) appliances and improve comfort and health of European citizens.

Across the EU, almost half of all buildings have individual boilers that were installed before 1992 with efficiency of 60% or less. The expected energy savings of a speedy replacement are immense.

To achieve this goal, 17 HACKS partners in 15 countries are working together, thanks to the financial support of the [European Horizon 2020 programme](#).

National best products lists











	Austria		Norway
	Belgium		Poland
	Czech Republic		Portugal
	France		Spain
	Germany		Sweden
	Italy		Switzerland
	Lithuania		UK
	Luxembourg		



Investment in new equipment

- Lists of Best Available Technology – BAT - products

	<u>Air Conditioning Units</u> Single split Multi split		<u>Comfort Fans</u> To the product list
	<u>Electric Water Heaters</u> To the product list		<u>Circulation Pumps</u> To the product list
	<u>Solid Fuel Boilers</u> To the product list		<u>Local Space Heaters</u> To the product list
	<u>Heat Pumps</u> To the product list		<u>Taps & Shower Heads</u> Taps Shower Heads

BAT product lists

- Set of 8 **Criteria papers** gathering information on each product category: regulation, how do product works, how to select most efficient one, important topics for consumers (download from [Topten.eu](https://topten.eu))
- Each HACKS team works on the most adapted product categories and adapts the selection criteria → Continuous market study to develop markings in the jungle of products



Energy Efficient Electric Water Heaters

Home > Building Components > Energy Efficient Electric Water Heaters

★ Energy Efficient Electric Water Heaters

📄 Selection Criteria Electric Water Heaters

📍 Policy Recommendations water heaters

Brand

COP A20



Select one or more options...

Sort By

n average













Desc

🗑️ Clear all filters

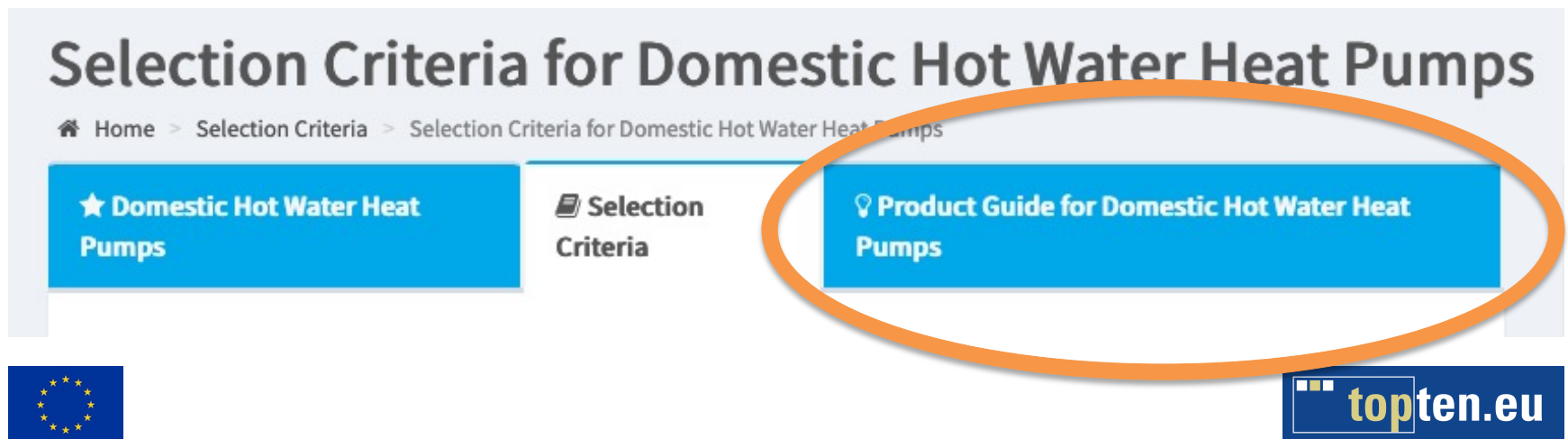
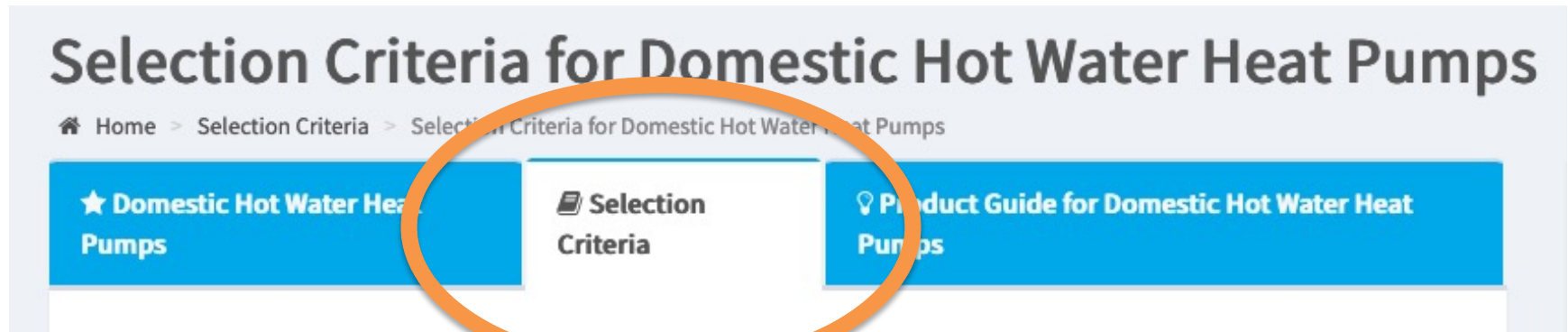
📄 Export

Total 42 items.

Last Updated: 1 Jun 2021

		Brand & Model	Energy		Dimensions	
		Atlantic Suisse AG Atlantic by Austria Email WPA 303 ECO-2	n average:	158	Content (l):	300
			Energy (kWh/year):	1'058		
			COP A20:	3,8		
		Domotec NUOS III S 250 Further models: NUOS III S 250 W1 / NUOS III S 250 W2	n average:	156	Content (l):	250
			Energy (kWh/year):	1'074		
			COP A20:	3,9		
		Elcotherm AG DHW 250.2	n average:	156	Content (l):	250
			Energy (kWh/year):	1'074		
			COP A20:	3,8		
		Peter Wärmepumpen Heatmaster AP 452	n average:	156	Content (l):	450
			Energy (kWh/year):	1'402		
			COP A20:	3,6		
		Atlantic Suisse AG Atlantic by Austria Email WPA 450 ECO	n average:	156	Content (l):	450
			Energy (kWh/year):	1'402		
			COP A20:	3,9		
		Ochsner Europa 333 Genius	n average:	155	Content (l):	300
			Energy (kWh/year):	1'086		
			COP A20:	3,8		

Methodology and Advice published



Product detail view

Atlantic Suisse AG Atlantic by Austria Email WPA 303 ECO-2

[Home](#) > [Electric Water Heaters](#) > [Atlantic Suisse AG Atlantic by Austria Email WPA 303 ECO-2](#)



Energy Class



[Go back to the product list](#)

Atlantic Suisse AG Atlantic by Austria Email WPA 303 ECO-2

Purchase and operating cost

Product Details

Brand	Atlantic Suisse AG
Model	Atlantic by Austria Email WPA 303 ECO-2
Efficiency class	A+
n average	158
n cold	158
n warm	158
Energy (kWh/year)	1'058
Energy (kWh/year) cold	1'058
Energy (kWh/year) warm	1'058
COP A20	3,8
Heat source	ambient air
Electric heating (kW)	2,0
Additional heat exchanger	yes
Load profile	XL
Ambient temperature (°C)	15°C



Advice pages – one way of promoting sufficiency measures

- In the **Advice pages**
 - Encourage upstream consultation of impartial energy advisers → building renovation
 - Links to certified installers
 - Propose alternative solutions – especially to avoid installing cooling equipment
- **Catalogue of key topics** for the HACKS teams to provide advice on heating and cooling
 - Concepts of comfort and air quality
 - Solutions for reducing the use of heating and cooling
 - Contextual information
 - Relating to the equipment itself
 - Relating to users' behaviour
 - Advice for choosing highly efficient HAC equipment
 - Advice for using HAC equipment in an efficient way



HACKS Calculator

- Help consumers and installers to get a first generic assessment of current heating system.
- Compare performance with alternative new systems
 - Enter simple personal data on their homes (dwelling area, climate zone, number of inhabitants, current heating system, production of sanitary hot water, etc.)
 - select alternative heating systems (more efficient)
 - select possible home insulation measures (reduce the energy demand)
 - and compare the results in terms of energy needs, energy consumption, costs and CO2 emissions.
- The calculator shows that insulation measures are often more beneficial than only changing the heating system

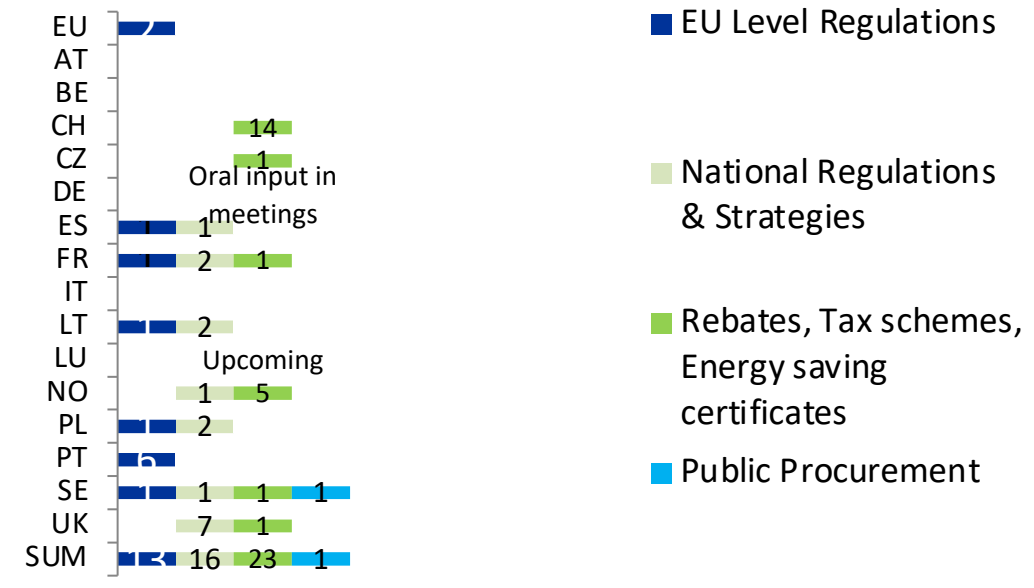
English version and access to other customised versions:

<https://calculator.topten.eu/?country=uk>



HACKS websites are the basis

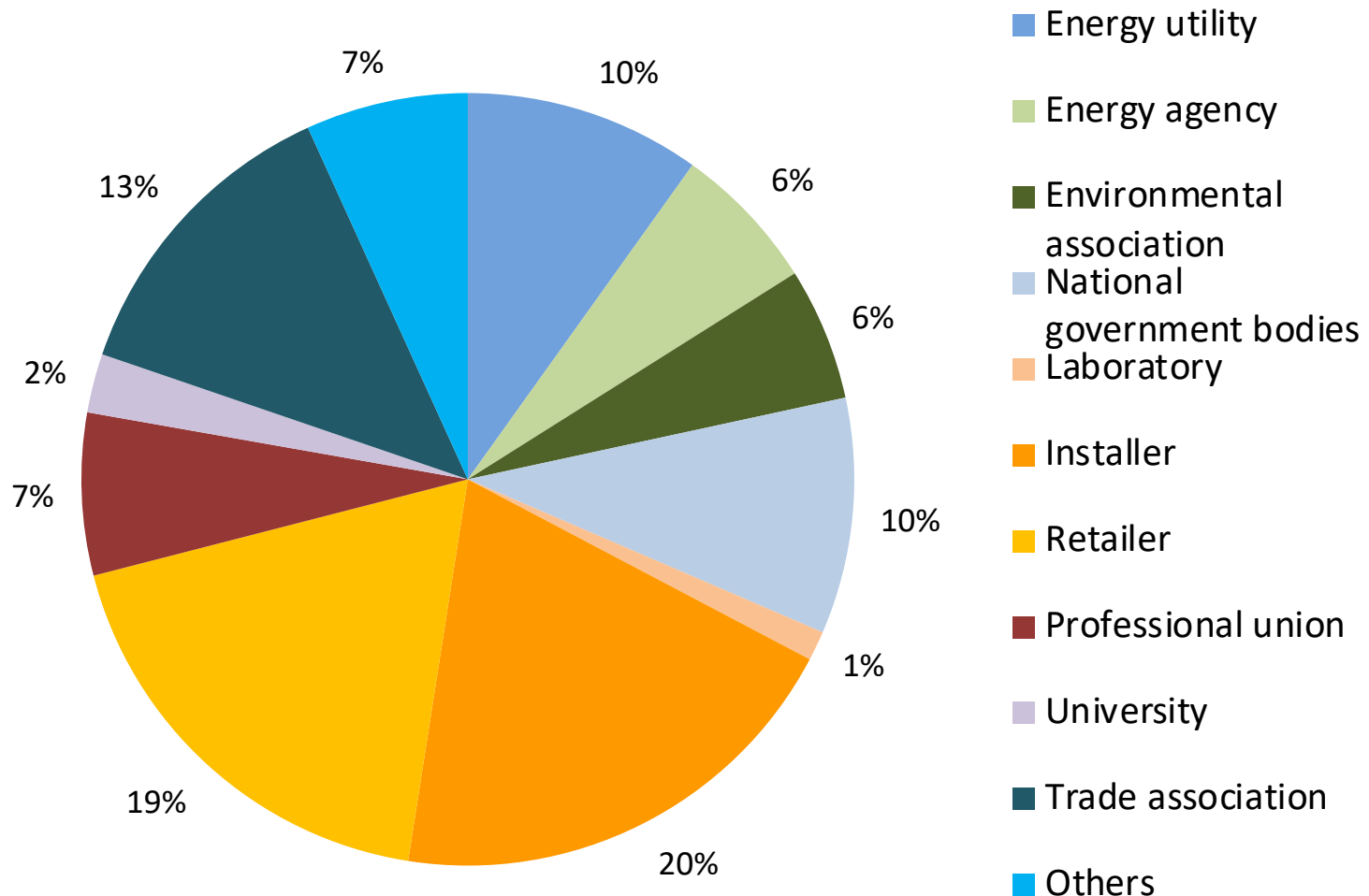
- For many **communication** activities: reach visitors and involve them
- For policy recommendations



- For **partnerships** with stakeholders / multipliers



162 partnerships with a wide variety of multipliers that use the HACKS content



Thank you!

- Guide Topten, Sophie Attali: sattali@guidetopten.fr
- HACKS coordinator, ADEME
Therese Kreitz: therese.kreitz@ademe.fr



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 845231.

The sole responsibility for this content lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.

