

HEATING AND COOLING KNOWHOW AND SOLUTIONS



HACKS Final Event – 14 February 2023



HEATING AND COOLING KNOWHOW AND SOLUTIONS



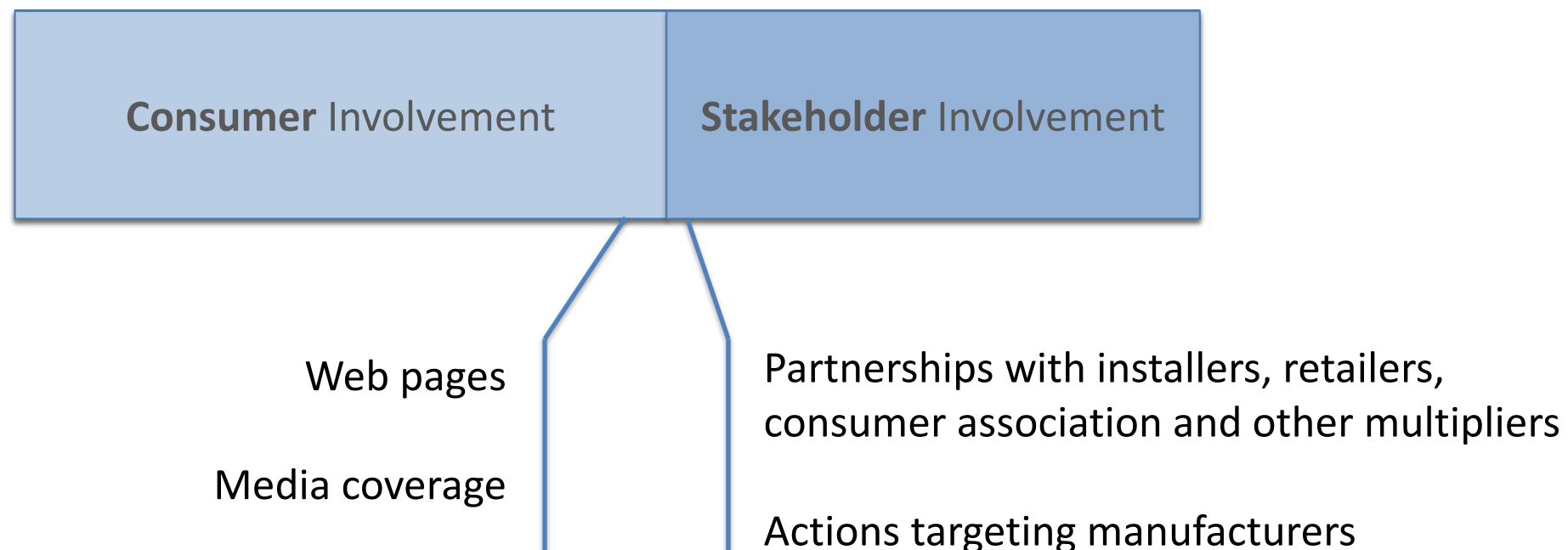
HACKS in practice

Reaching different target groups: citizens, manufacturers,
installers, retailers, multipliers and the media

HACKS Final Event – 14 February 2023



HACKS impact



Key figures

Page views on HACKS webpages*: **2,5 Million**

Media contacts (on-line, printed and social networks*): **approx. 145 Million**

Partnerships with stakeholders*: **223**

* Preliminary figures for the project period September 19 – December 2022, final numbers in the report will include January & February 2023

Assessment of accumulated energy savings

Savings generated in the area	Savings*
„Consumer“	445 GWh
„Stakeholders“	180 GWh
TOTAL Final Energy Savings	625 GWh

* Preliminary figures for the project period September 19 – December 2022, final numbers in the report will include January & February 2023

Selected best practice examples presented today

Winter energy saving campaign in Czech Republic

Promoting our products on Facebook in UK

Seminar for consumers: Heat pumps for energy independence in Germany

Awareness raising among teenagers in Sweden and Norway

Partnership with installers in Spain

Competition for efficient windows in Poland

Rebate programs in Luxemburg

Transforming the European comfort fan market

Thomas Bogner | thomas.bogner@energyagency.at

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Czech Republic

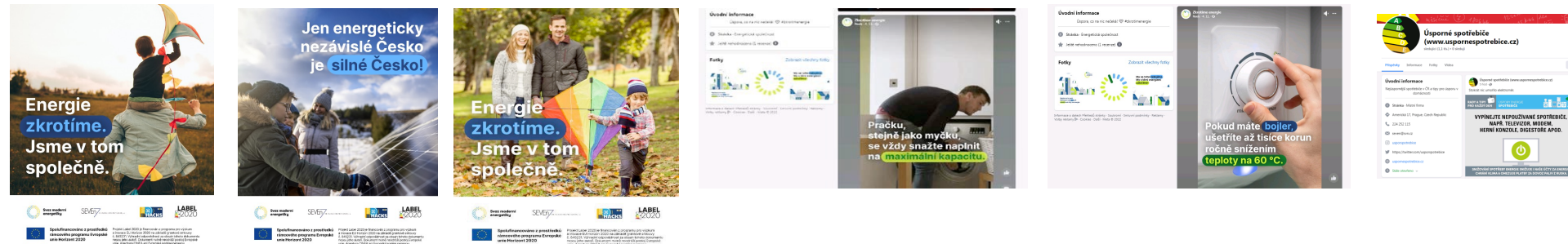
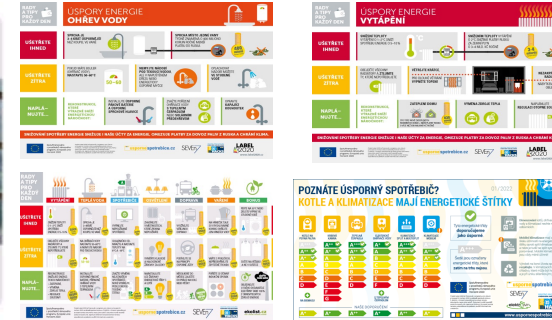
Final conference, 14 February 2023

Zkrotíme energii @zkrotimeenergie · 27. 10. 2022
Nejste v tom sami! 🍷 Zkrotit výdaje související s nárůstem cen energií vám pomůže i stát. Podívejte se, jaké formy podpory můžete využít. ❤️

Více na 🍷 zkrotimeenergie.cz / uspornespotreby.cz



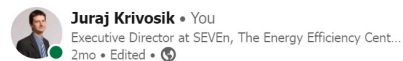
Extensive Energy Savings Campaign - Autumn 2022 / Winter 2023 (1/3)



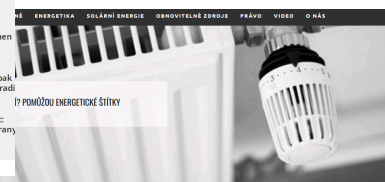
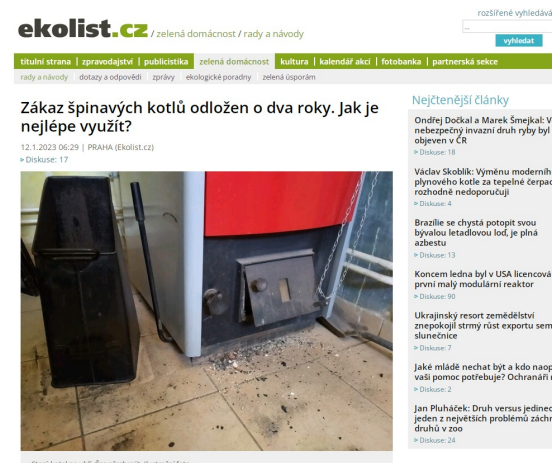
Variety of communication channels:

- Social media: Twitter, Facebook, Instagram, LinkedIn (posts/stories)
- Infographics

Extensive Energy Savings Campaign - Autumn 2022 / Winter 2023 (2/3)



Drahé Česko?
Úspory energie jsou správná věc - pomáhají snižovat naše náklady, chrání klima, omezují investice, které posíláme do zahraničí na podporu invazní armády...
Děkuji České televizi za seriál "Drahé Česko?", ve kterém přináší rady a tipy na snižování našich nákladů, například i v oblasti elektrospotřebičů:



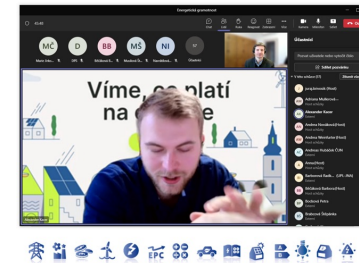
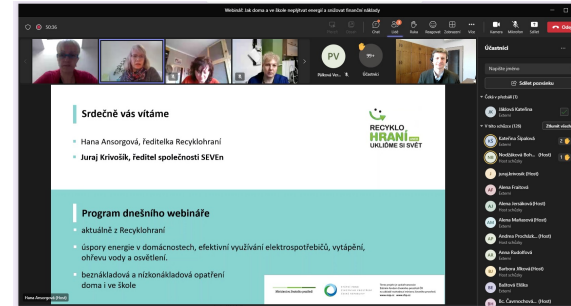
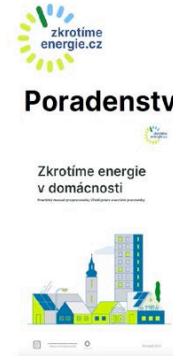
Variety of communication channels:

- Podcasts
- Radio spots
- Media interviews



Extensive Energy Savings Campaign - Autumn 2022 / Winter 2023

(3/3)



Variety of communication channels:

- Events
- Leaflets / brochures
- Municipalities
- Train-the-trainer webinars

Arguments

Energy efficiency as a tool for reducing fuel imports from Russia, to limit our sponsoring of their army & ensure energy independence

Lower energy bills

Protect climate and clean air



Important dissemination partners

Ministries	Ministry of social affairs
	Ministry of environment
Public agencies	Labour offices
	State environment fund
NGOs	Food bank
	People in need, etc.
Municipalities	Kladno, Tábor, Pelhřimov, Bystřice, Velvary, Ždár nad Sázavou, Prague 7, Prague 10, etc.
Media partnerships	Obnovitelne.cz, ekolist.cz
Other institutions	Czech Railways, Charles University, schools, etc.

Reach

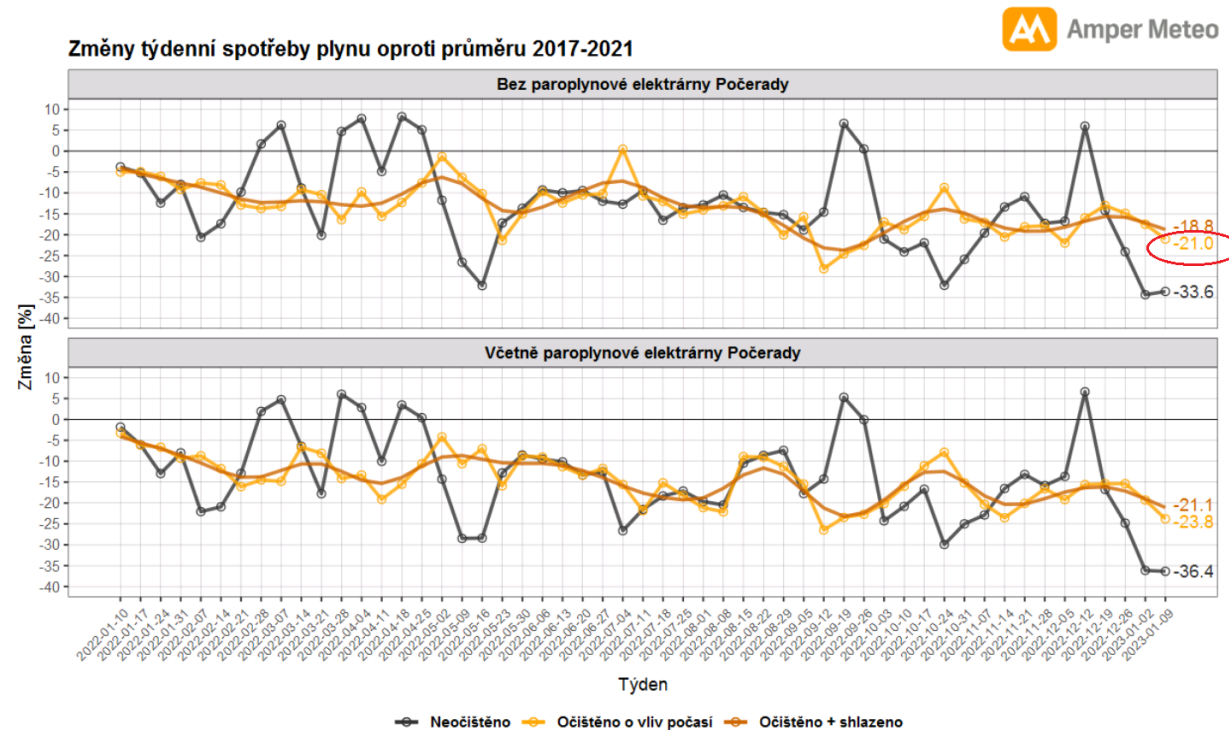
Objective	HACKS Year 3	Total
To engage consumers – page views	128k (so far)	330k
Media contacts/reach (listeners, readers, viewers)	677K	959K
Socail media reach (Facebook, Twitter, IG, LinkedIn)	665k	722k
Total reach	1.3M	1.7M
Articles	33	50
Infographics	30	51
Press releases	1	3
Social media posts	168	303
Leaflets / brochures	1800	2800
Train-the-trainers webinars	>770	>770

Over one million reached through the media campaign between Autumn 2022 – Winter 2023



Impact

- Natural gas consumption in the Czech Republic reduced by ~20% even with weather conditions counted



HEATING AND COOLING KNOWHOW AND SOLUTIONS



Promoting our products on Facebook

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energy
saving
trust




Our winter audiences

- Wood-fuelled Stoves Interests: Fireplace & Sustainable Energy
- Heat Pumps Interests
- Ground Source Interests: Heat Pumps & Environmental Technology
- Biomass Boilers Interests: Boilers & Biomass/Bioenergy
- Generic Interests: Home & Efficient Energy Use
- Generic Interests: Sustainable Energy & Home
- Generic Interests: Air Source Heat Pumps
- Generic Interests: Environmental Technology Interests
- Generic Interests: Home Appliances + Environmental Health

Our creatives

 **Top10 Energy Efficiency Guide ...** X
Sponsored · 

Energy efficient heating this winter. An air source heat pump, transfers heat from the outside air to water, which heats ...see more



toptenuk.org
Save Money While Being Energy Efficient

[Learn more](#)

 **Top10 Energy Efficiency Guide ...** X
Sponsored · 


Are you considering investing in a wood-fuelled stove this Winter? Wood-fuelled (biomass) stoves burn wood pellets, chips or logs to provide warmth in a single room. Usually, the stove isn't connected to your radiators, but it may produce hot water using a back boiler.


Topten UK brings together the most energy-efficient products on the market in one place. Explore our product information guides, section criteria, and top-rated product lists here.



toptenuk.org
Top Rated Wood-fuelled Stoves



[Learn more](#)

 **Top10 Energy Efficiency Guide ...** X
Sponsored




Are you considering investing in a biomass boiler this Winter? Bi... [more](#)

[Learn more](#)

 **Top10 Energy Efficiency Guide ...** X
Sponsored · 


Topten UK brings together the most energy-efficient products on the market in one place. Providing best-in-class listings for a variety of energy-using products, including: Heating and Cooling Products, Televisions, Refrigeration and Washing. Explore our product information guides, section criteria, and top-rated product lists here.




toptenuk.org
Discover Topten
If you wish to make your ...

[Learn more](#)

Instagram

 **Top10 Energy Efficiency Guide** Sponsored ...



[Learn more](#)

♡ 💬 📌

Energy efficient heating this winter. A heat pump works by extracting heat from the environment and ... more



**energy
saving
trust**



Our results: overall

Cost per Link Click

£0.20

Link Clicks

23,288

Cost

£4,600

Impressions

1,308,109

Frequency

4.4

CTR

1.8%

Clicks (all)

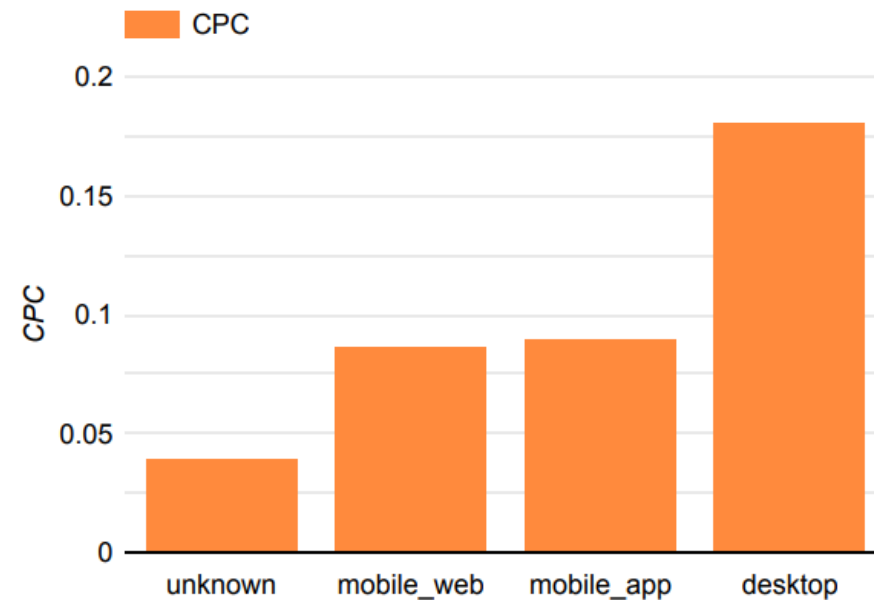
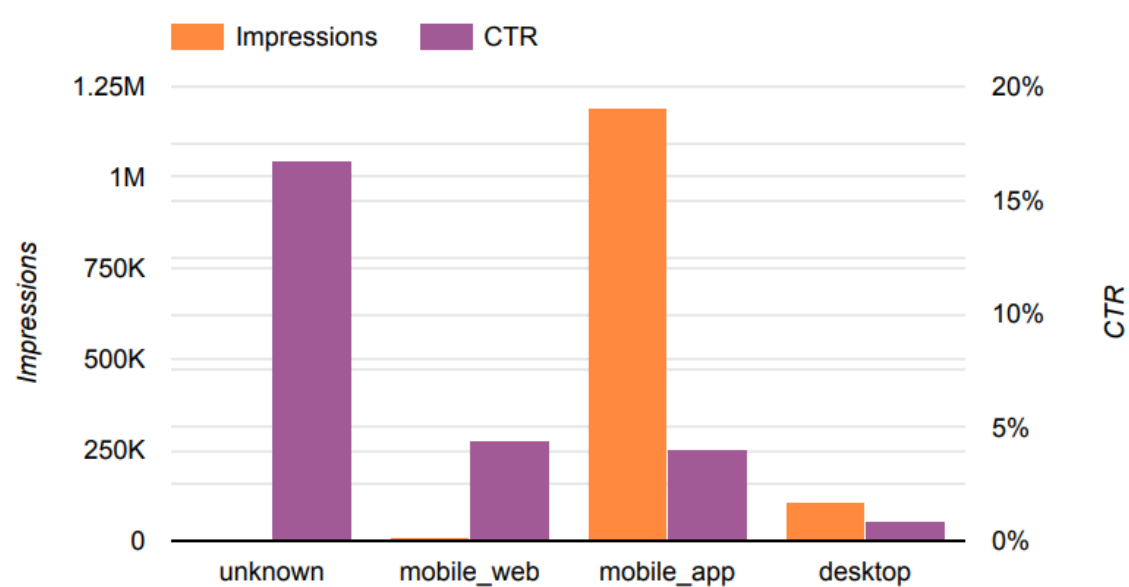
50,016

Our results: in detail

Ad name	Link clicks	Impressions	CTR	CPC
Fireplace - Single Image	18,761	968,233.0	4.14%	0.19
Ground Source Heat Pump - Single Image	2,915	236,299.0	2.57%	0.26
Water Source Heat Pump - Single Image	302	24,516.0	3.51%	0.21
Boiler - Single Image	222	12,745.0	5.64%	0.33
Biomass - Single Image	362	20,640.0	3.40%	0.21
Topten - Copy 1 - Single Image	348	25,770.0	2.63%	0.18
Hot Water Heat Pump - Single Image	164	9,724.0	4.94%	0.23
Topten - Copy 2 - Single Image	206	9,207.0	4.56%	0.22
Air Source Heat Pump - Single Image	8	975.0	1.44%	0.23



Our results: in detail



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HEATING AND COOLING KNOWHOW AND SOLUTIONS



Seminar for consumers: Heat pumps for energy independence

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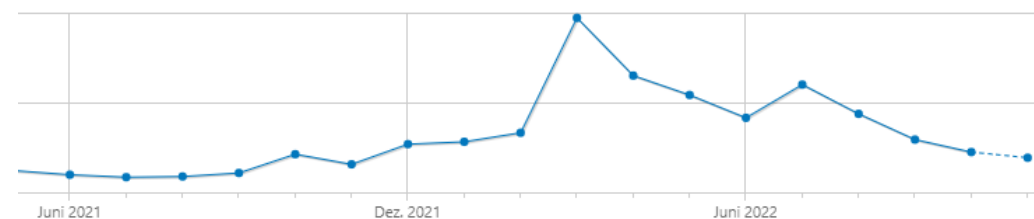


Background

- High demand on information about heat pumps since war in Ukraine and energy crisis
- Consumer inform themselves on their own



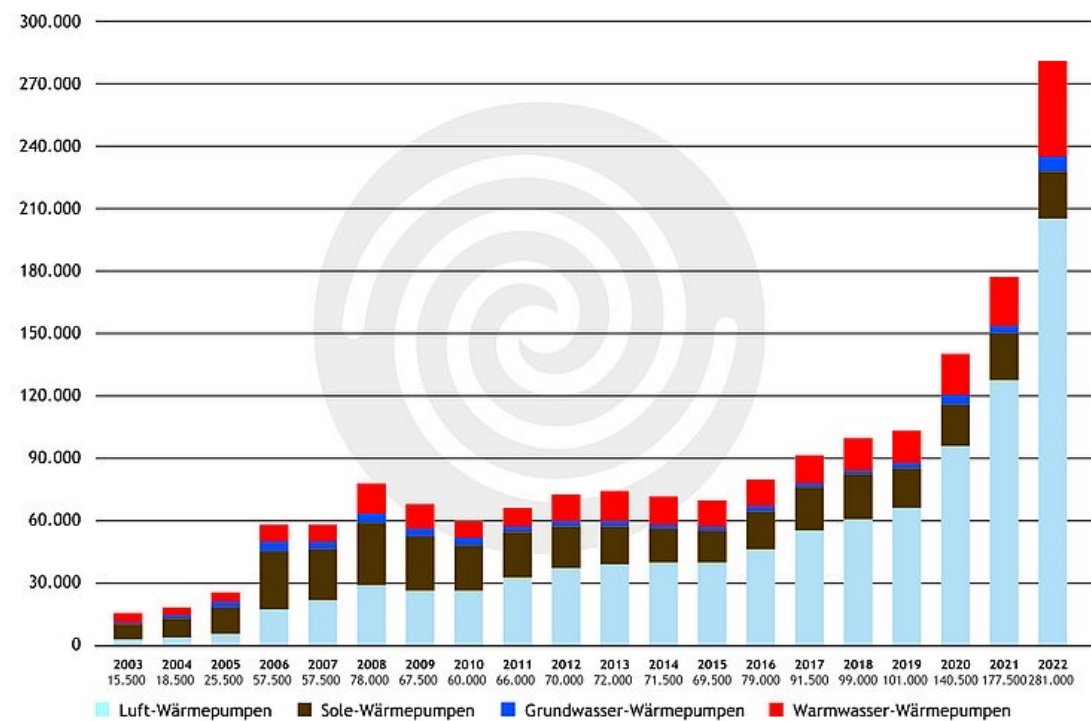
Google Search Volume on heat pumps 2017 - 2022



Page views of heat pump content on co2online.de 2021 - 2022

Background

Absatzentwicklung Wärmepumpen in Deutschland 2003-2022
Nach Wärmepumpentypen



Quelle: BWP/BDH-Absatzstatistik

bwp Bundesverband
Wärmepumpe e.V.

Number of sold heat pumps in Germany 2003 - 2022

Our approach:

Supporting consumers and multipliers

- ✓ Online content for first information
- **Online seminar as a solution for first consultation**
- ✓ Online energy calculators for individual consultation
- ✓ Product lists for product decisions

The seminar:

What the consumers want to know

- Prerequisites for the installation
- Delivery times, brands, installation services
- Differences in the heat pump technology
- Combination with gas or solar heating technic
- Technical details and consumption values
- Economic efficiency and subsidy programmes

The seminar:

Our concept and experts

- Heating installer: expert on heat pumps, gives technical and practical information and also builds trust in the craftsmanship
- Energy consultant: the critical voice with focus on data and performance
- co2online on subsidy programmes and buying advice
- Two consumers: one installing, one using



The seminar

- Free registration
- 90 minutes on a Thursday evening (10/29/2022)
- Online via Zoom Webinar
- Interactive surveys and Q&A function



Liebe Energiespar-Fans,

haben Sie Fragen zur **Wärmepumpe**? Überlegen Sie, ob eine Wärmepumpe auch für Ihr Haus infrage kommt? Oder stehen Auswahl und Einbau schon kurz bevor? Dann besuchen Sie unseren **Online-Infoabend** zur Wärmepumpe, um Ihre Frage zu stellen und von den Erfahrungen anderer zu profitieren.

Online-Infoabend zur Wärmepumpe

Donnerstag, 29. September 2022

19:00–20:30 Uhr

Livestream mit Fragerunde

[Jetzt anmelden](#)

Die Veranstaltung findet unter Beteiligung des EU-Projektes HACKS statt. Ich freue mich auf Ihre Teilnahme und bin gespannt auf Ihre Fragen!

Klimafreundliche Grüße



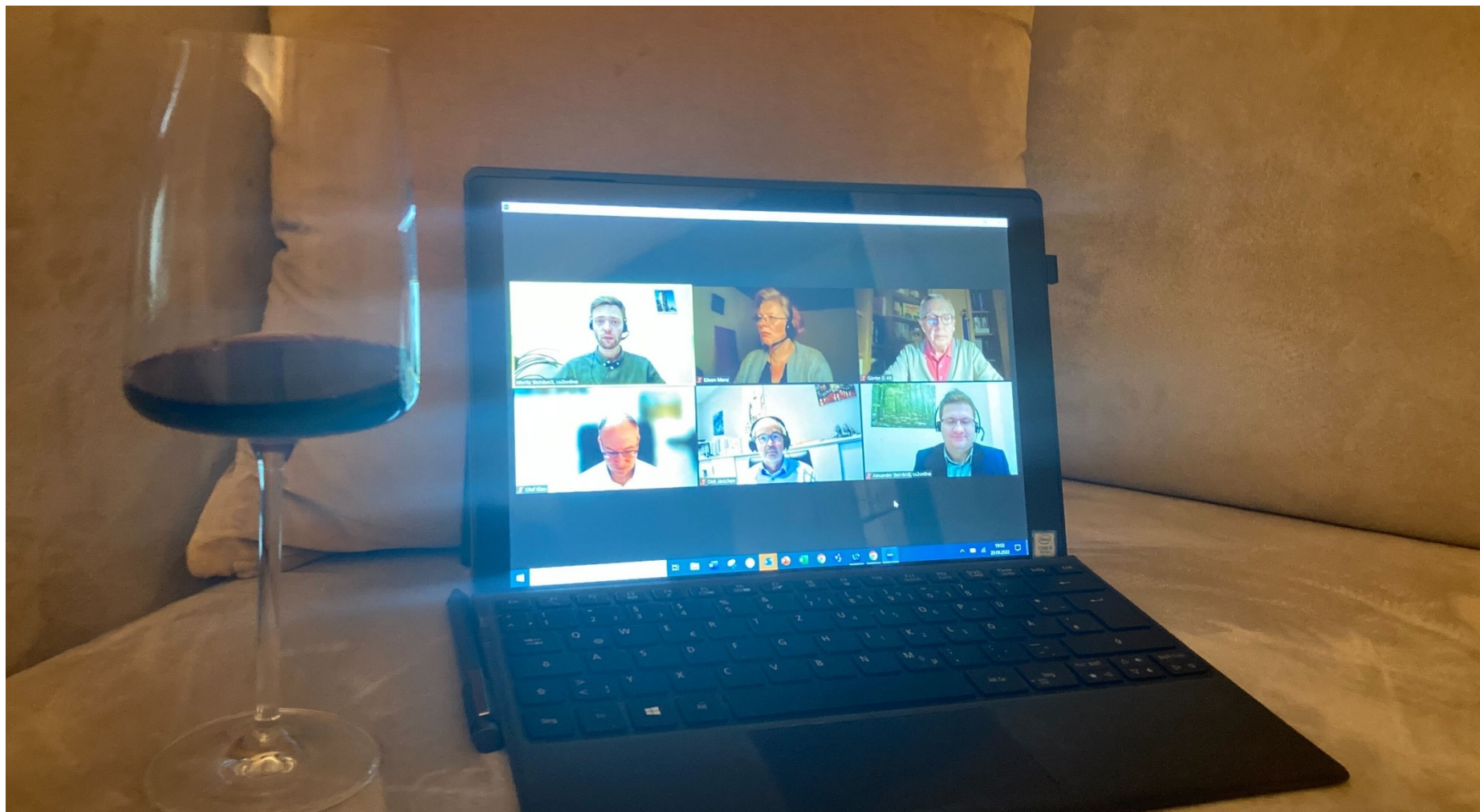
Ihre Mirka Jedamzik
Newsletter-Redaktion

Über die Kampagne „HACKS“

HACKS ist eine europaweite Kampagne über effiziente Heiz- und Kühltchnik. Als deutscher Projektpartner klärt co2online Verbraucher*innen und Multiplikator*innen über energieeffiziente Produkte und Lösungen auf. „Heating And Cooling Know-how and Solutions – HACKS“ ist finanziert über das Rahmenprogramm der Europäischen Union für Forschung und Innovation „Horizon 2020“, Grant Agreement No 845231.



The seminar



The result

- 1.200 registrations, 560 participants

Post-survey:

- 77 % rated the seminar positive, 3% negative
- 96,5% want more online seminars
- Participants wished for more information on:
 - Basic information
 - Technical details
 - Overview of product costs and maintenance costs
 - Information on the products and manufacturers

Moritz Steinbeck
moritz.steinbeck@co2online.de

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HEATING AND COOLING KNOWHOW AND SOLUTIONS



Teaching Materials for Schools and Quiz Competition Sweden vs Norway

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School Material - Purpose

- Spreading awareness regarding energy efficiency
 - Requested by The SSNC and teachers
- Spreading awareness regarding HACKS
 - The Topten Sweden website



The screenshot shows the 'top ten' website header with navigation links: 'Produkter privat', 'Produkter företag', and 'Om Top Ten'. The main heading is 'Sveriges mest energieffektiva produkter'. Below it, a paragraph states: 'Har du bestämt dig för att köpa nytt? Vi listar Sveriges energieffektivaste produkter. Här finns även tips och råd för dig som vill minska din energianvändning utan att köpa nytt.' To the right is a bar chart with a lightning bolt icon. Below the text is a 'Läs vidare' button. A row of four category icons follows: 'Elektronik' (lightning bolt), 'Vitvaror' (refrigerator), 'Värme & kyla' (house with dollar sign), and 'Bil & båt' (car/bike). Below this is a section 'Aktuellt på Top Ten Sverige' with four images and captions: 1. Norwegian flag with caption 'Norge vann med en hårsnål'; 2. Red shoes on a radiator with caption 'Tips för energieffektiv värme'; 3. Wind turbine with text 'Förnybar? Grön? Ursprungsmärkt? Ren? Miljömärkt?'; 4. Child turning off a light with caption 'Sänk din elförbrukning!'.

School Material – what was included?



KWB

Easyfire 8-35

Easyfire är en serie pelletspannor från KWB. Pannan finns med effekterna 8 kW, 12 kW, 15 kW, 22 kW, 25 kW, 30 kW och 35 kW och passar därför i både små och stora hus. Den är byggd för att passa även i små utrymmen och kräver endast en golvyta på 0,75 kvadratmeter. Enkel konstruktion med askbehållare som mycket sällan behöver tömmas. Utrustad med styrsystemet Comfort 4 som även går att styra på distans. Svensk återförsäljare för pannan är GotFire.

Energiklass: A+

Effekt: 8 kW, 12 kW, 15 kW, 22 kW, 25 kW, 30 kW och 35 kW

Höjd/bredd/djup: 1260/880/930 mm (mindre modellerna)

Pelletsmatning: Lufttryck/skruv

Energieffektivitetsindex (EEI): 118

[Läs mer och se återförsäljare](#)

- Ages 13-15
- Two different webpages
 - Energy concepts
 - Exercises
- Using information on the Top Ten product pages to calculate efficiency

School Material - Results

- Page views and sessions
 - SSNC pages and news letter for schools
 - 2325 page views
 - 2649 opened news letters March 2022
 - Topten Sweden
 - 18 076 page views March 2022
 - 12 439 page views January and February 2022



School Material - Conclusion



- Overall appreciated
- Increased awareness
- In the process of updating
- Aiming to retrieve more detailed feedback

Quiz – Purpose

- SSNC and the Norwegian Society for the Conservation of Nature
 - Energismart.no
- Aimed at younger audiences
- Inform about energy, energy efficiency and HACKS in a fun way





Vilket är det vanligaste sättet att värma sin bostad i Sverige?

☐ Pellets
☒ Fjärrvärme
☐ Värmepump

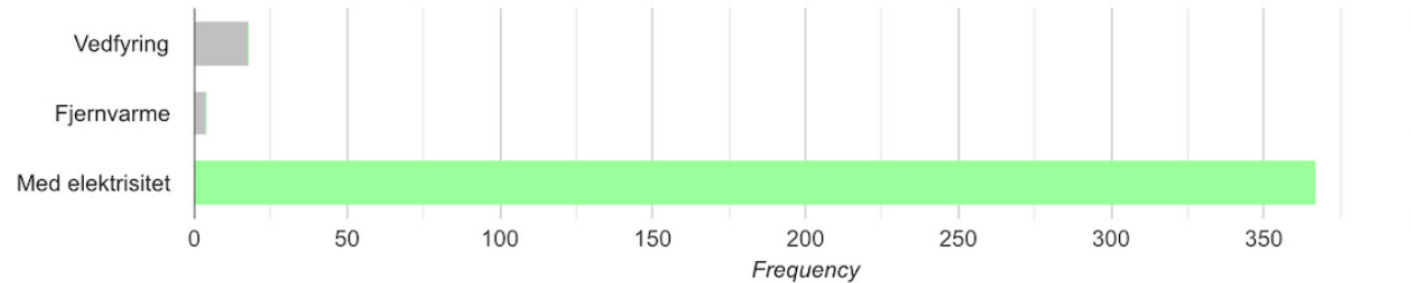
Rätt svar: Fjärrvärme Fjärrvärme är ett smidigt sätt att värma upp många bostäder samtidigt i en tätort. Men olika fjärrvärme kan vara olika hållbar och komma från olika källor som t ex sopförbränning, skogsråvaror eller restvärme från industri. På toptensverige.se finns en lista över miljömärkta fjärrvärmeavtal.

Hva er den vanligste måten å varme opp private boliger på i Norge?



Correct: 367 (94%)

Incorrect: 22 (6%)



Which is the most common way to heat private housing in Norway?

- a) Fire wood
- b) District heating
- c) With electricity

Quiz - Results

- Winner.... NORWAY!
 - Sweden: 6.22/10 average score
 - Norway: 6.67/10 average score
- Participants
 - Sweden: 190
 - Norway: 389
- Page views
 - Peak Topten Sweden: 1269 in one day
 - June: 26 973 page views





Naturskyddsföreningen



Naturvernforbundet



Clara Jonsson

The Swedish Society for Nature Conservation

clara.jonsson@naturskyddsforeningen.se

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HEATING AND COOLING KNOWHOW AND SOLUTIONS



The role of installers as multipliers to help
their customers save on energy bills

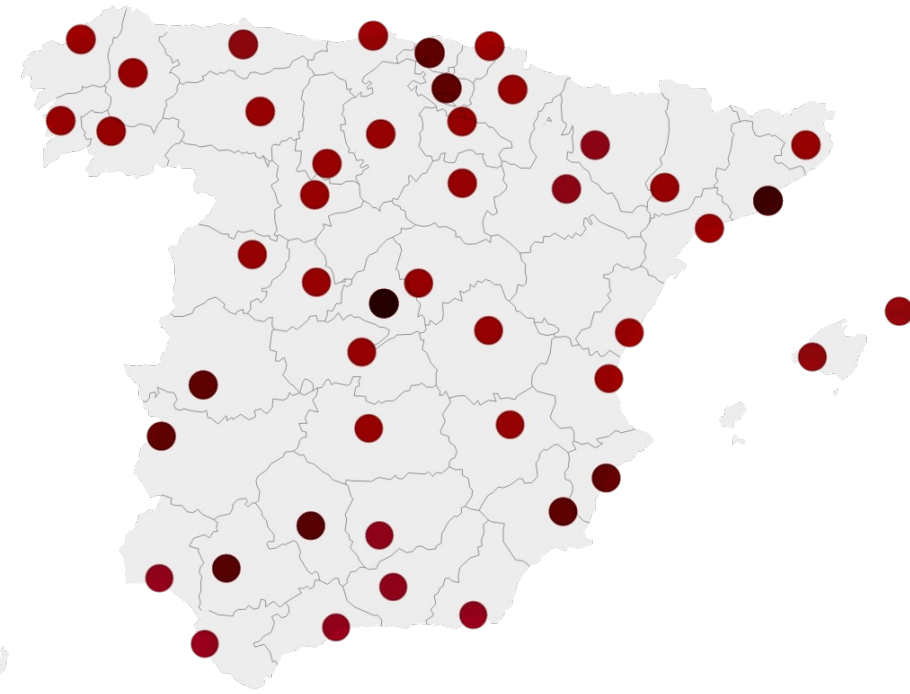
HACKS Final Event – 14 February 2023



The role of installers as multipliers to help their customers save on energy bills

- Who is the stakeholder best positioned to advise consumers on how to become more efficient and save on bills?
 - In Spain the **installers** play a very important role, normally **people consult installers and technicians about which system to choose**. They are real **energy advisors**.

We established a synergy with a National Confederation of Installers.



Map: ECODES • Created with Datawrapper

The role of installers as multipliers to help their customers save on energy bills

- Give advice for everyday life and to explain technical issues in a simple and friendly way.
 - VIDEO 1 **How to save** energy and money?
 - VIDEO 2. **Tips** to improve the temperature of your home and maintain comfort in winter.
 - VIDEO 3. What **types of heating systems** can we choose from?
 - VIDEO 4. **How to choose** the right heating equipment for your needs?

The aim was to create materials that can also be used by other stakeholders

1. send to their customers
2. social networks and websites
3. used in trainings




The role of installers as multipliers to help their customers save on energy bills



The role of installers as multipliers to help their customers save on energy bills

ECODES
@ecodes

A través de [#Hacks](#), te traemos una serie de consejos sobre como ahorrar energía y  en tu factura. Aplica estas prácticas que reducen el consumo de energía sin disminuir las prestaciones y el confort.



youtube.com/watch?v=ZiOAMa...

¿Cómo podemos ahorrar energía y dinero en nuestro hogar?

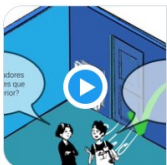


Con prácticas que reducen nuestro consumo de energía sin disminuir las prestaciones y el confort


ECODES
@ecodes

Con la llegada del invierno buscamos que nuestros hogares se adecuen a estas temperaturas con ideas que mejoren el confort en su interior.  Aplica simples consejos para acondicionar la casa en invierno  youtube.com/watch?v=0FVB2l...


[#HACKS](#) [#AhorroEnergético](#) [#EficienciaEnergética](#)



youtube.com
¿Cómo seguir manteniendo el confort en el hogar maximiz...
¡A través de Hacks te damos la respuesta! Burletes, redistribución de muebles, reguladores... todo lo que ...

Ecodes -Fundación Ecología y Desarrollo
Publicado por Hootsuite · 17 de enero a las 10:00 · 

¿Sabías que la aerotermia y la geotermia son dos excelentes opciones para producir calor sostenible y con el que podemos ahorrar energía y reducir nuestro impacto ambiental? Estas tecnologías usan la energía que se encuentra en el aire o en el suelo para calentar nuestras casas de forma eficiente. ¡Descubre todos los beneficios de estas técnicas sostenibles! [#calorsostenible](#) [#energia](#)


 <https://www.youtube.com/watch?v=-pkd77PCVL4>
vía [#Hacks](#) v



ECODES

equipos más sostenibles para la calefacción a través de [#Hacks](#)
que la aerotermia y la geotermia son dos excelentes opciones para producir calor sost...


ECODES
@ecodes

✓ ¿Qué debo de considerar a la hora de elegir un buen sistema de calefacción? Desde [#Hacks](#) te traemos una serie de consejos para que realices la compra más óptima de tus equipos de calefacción y climatización. 

 youtube.com/watch?v=RvAQg7...




ECODES (Fundación Ecología y Desarrollo)
8.199 seguidores
1 mes · 

A través de [#Hacks](#), te traemos una serie de consejos sobre como ahorrar energía y  en tu factura. Aplica estas prácticas que reducen el consumo de energía sin disminuir las prestaciones y el confort.

<https://lnkd.in/dwwRTsvR>



 Recomendar  Comentar  Compartir  Enviar

 Añadir un comentario...



ecodes
tiempo de actuar



Daniel Sanz - Jeannette Bain
Jeannette.bain@ecodes.org

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Window Competition

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Short History of the TOPTEN Competition



Window energy label

The energy labels of the products were drawn up in the "Window Energy Label" programme, an in-house programme created by the DAEiŚ to calculate the energy efficiency of doors and windows.

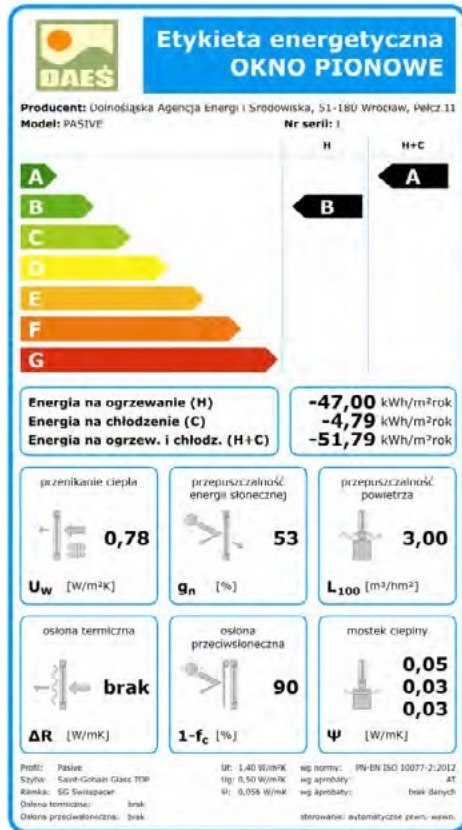
HEAT TRANSFER COEFFICIENT FOR WINDOWS AND DOORS - **UW**
The basic parameter most often used to characterise the thermal properties of windows and doors.

SOLAR ENERGY TRANSMITTANCE - **G**

When selecting the glazing, the g value should be as high as possible, but then provision should be made for the use of solar shading.

WINDOW AIR PERMEABILITY - **L100**

The air permeability of a window (infiltration) determines how airtight the joinery is.



<https://topten.info.pl/private/selection-criteria/okna-drzwi>

TOPTEN Web Page

Aktualności
O nas
Partnerzy
Finansowanie inwestycji
FAQ
Kontakt

Szukaj...

Urządzenia AGD
Monitory & TV
Komponenty budynkowe
Silniki i pompy
Oświetlenie
Transport

★ Okna

Okna i drzwi - kryteria wyboru

Klasa energetyczna dla chłodzenia

Wybierz jedną lub więcej...

Klasa energetyczna dla ogrzewania

Wybierz jedną lub więcej...

Typ okna

Wybierz jedną lub więcej...

Klasa odporności na obciążenie wiatrem

Wybierz jedną lub więcej...

Sortuj według

Izolacyjność akustyczna (dB)
As

Wyczyść wszystkie filtry

Eksport

Wyświetlone 1-10 z 40 rekordów.
Ostatnia aktualizacja 3 cze 2021

	Producent, model	Parametry energetyczne	Parametry techniczne	Koszt
	Fakro FTT U8 Thermo	Współczynnik przenikania ciepła (W/m ² *K): 57,00% Klasa energetyczna dla chłodzenia: A Klasa energetyczna dla ogrzewania: A	Typ okna: Połaciowe Klasa odporności na obciążenie wiatrem: C5 Wodoszczelność: Exxx Izolacyjność akustyczna (dB): 36	Średni koszt stolarki (zł/m2): 7 865 zł
	Rybak Przedsiębiorstwo Budowlane ALUPROF MB-104 SI	Współczynnik przenikania ciepła (W/m ² *K): 68,00% Klasa energetyczna dla chłodzenia: C Klasa energetyczna dla ogrzewania: A	Typ okna: Pionowe, aluminiowe Klasa odporności na obciążenie wiatrem: C5 Wodoszczelność: Exxx Izolacyjność akustyczna (dB): 35	Średni koszt stolarki (zł/m2): 1 833 zł
	AdamS Passiv-line PLUS	Współczynnik przenikania ciepła (W/m ² *K): 69,00% Klasa energetyczna dla chłodzenia: C Klasa energetyczna dla ogrzewania: A	Typ okna: Pionowe, PCV Klasa odporności na obciążenie wiatrem: C4 Wodoszczelność: Exxx Izolacyjność akustyczna (dB): 35	Średni koszt stolarki (zł/m2): 861 zł
	Ecowindow YAWAL TM 102HI	Współczynnik przenikania ciepła (W/m ² *K): 70,00% Klasa energetyczna dla chłodzenia: C Klasa energetyczna dla ogrzewania: A	Typ okna: Pionowe, aluminiowe Klasa odporności na obciążenie wiatrem: C5 Wodoszczelność: Exxx Izolacyjność akustyczna (dB): 31	Średni koszt stolarki (zł/m2): 1 551 zł
	Empol Bis Living MD (70)	Współczynnik przenikania ciepła (W/m ² *K): 70,00% Klasa energetyczna dla chłodzenia: C Klasa energetyczna dla ogrzewania: B	Typ okna: Pionowe, PCV Klasa odporności na obciążenie wiatrem: C1 Wodoszczelność: 4A Izolacyjność akustyczna (dB): 31	Średni koszt stolarki (zł/m2): 896 zł
	OknoPlus	Współczynnik przenikania ciepła (W/m ² *K): 70,00%	Typ okna: Pionowe, PCV Klasa odporności na obciążenie wiatrem: C2	

Windows catalogue

Ogólnopolski Konkurs NA NAJLEPSZĄ STOLARKĘ BUDOWLANĄ



/ Historia TopTen

Idea **TopTen** powstała w 2000 r. w Szwajcarii. W 2004 i 2005 r. podobne inicjatywy z sukcesem powstały we Francji i Austrii, a od 2006 r. projekt jest realizowany w Polsce. Obecnie trwa jego czwarta edycja – TOPTEN ACT – w którą zaangażowanych jest 17 partnerów (z Austrii, Belgii, Czech, Francji, Hiszpanii, Szwecji, Litwy, Luksemburga, Niemiec, Norwegii, Polski, Portugalii, Rumunii, Szwajcarii, Wielkiej Brytanii i Włoch). Inicjatywa TopTen rozwija się także poza kontynentem europejskim – w Chinach, Chile oraz Argentynie.



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tel./fax. +48 32 203 51 20
e-mail: office@fewe.pl

Kierownik projektu:
Anna Bogusz
(a.bogusz@fewe.pl)

HEATING AND COOLING
KNOWHOW AND SOLUTIONS

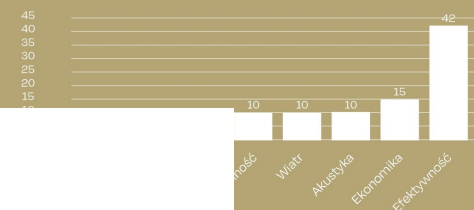


Konkurs jest realizowany w ramach projektu „**HACKS – Heating And Cooling Know-how and Solutions**”. Projekt uzyskał finansowanie z unijnego programu badań i innowacji Horizon 2020 w ramach umowy dotacji nr 845231, którego celem jest zachęcać do wdrażania w domach rozwiązań, które zużywają mniej paliwa, obniżają rachunki za energię oraz poprawiają komfort życia, a także wsparcie konsumentów w wymianie nieefektywnych urządzeń grzewczych i chłodzących (HAC) na nowe, energooszczędne.

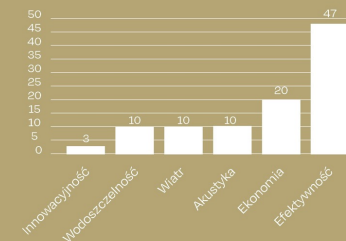
/ TOPTEN Okna 2019 – Kryteria oceny

W V edycji konkursu brano pod uwagę następujące parametry charakteryzujące stolarkę:

PUNKTACJA W KONKURSIE TOPTEN 2019 OKNA



PUNKTACJA W KONKURSIE TOPTEN 2019 DRZWI



stawowe wynikające z Prawa budowlanego

Stalarki budowlanej wbudowanej w budynek mają wpływ następujące parametry:

przenikania ciepła U [$W/m^2 K$]

przepuszczalności energii słonecznej – g

okna,

starki z konstrukcją budynku opisany za pomocą wartości mostka cieplnego połączenia,

ział powierzchni szyby do powierzchni całego okna,



Windows catalogue



T-PASSIVE ENERGY

T Passive to nowoczesne okno PCV, które dzięki futurystycznemu kształtowi profilu doskonale wygląda, a dzięki trzem szybom, ośmiokomorowym profilom i uszczelce również doskonale izoluje termicznie i akustycznie. Okna T Passive sprawdzą się świetnie wszędzie tam, gdzie potrzebujesz energooszczędności i maksymalnej redukcji utraty ciepła. Okno wykonane jest w Tytanium Technology® z najwyższej jakości komponentów co daje gwarancję na długie lata. zwiększona ilość komór - 8 komorowy profil skrzydła o grubości 86 mm. Profil ma nowoczesny zaokrąglony wygląd projektowany pod kątem aktualnych trendów i oczekiwań klienta a gładka powierzchnia ułatwia czyszczenie.



RW
34 (-1,-5)



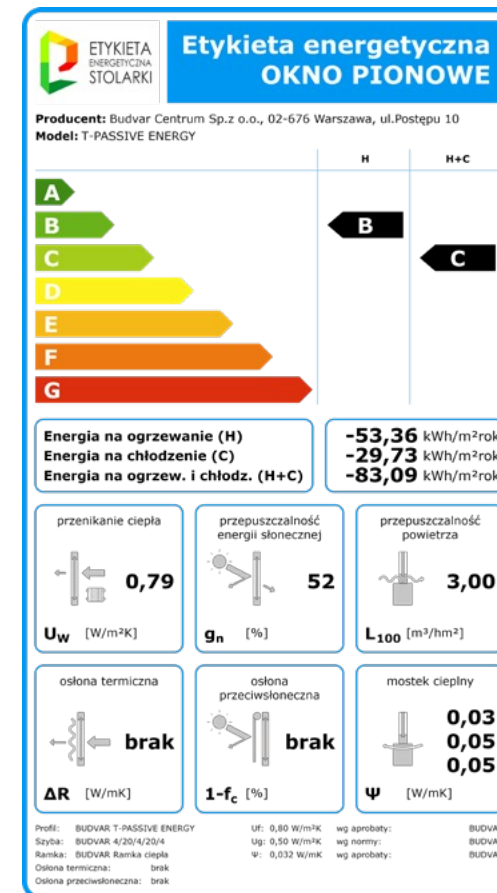
Wiatr
C4



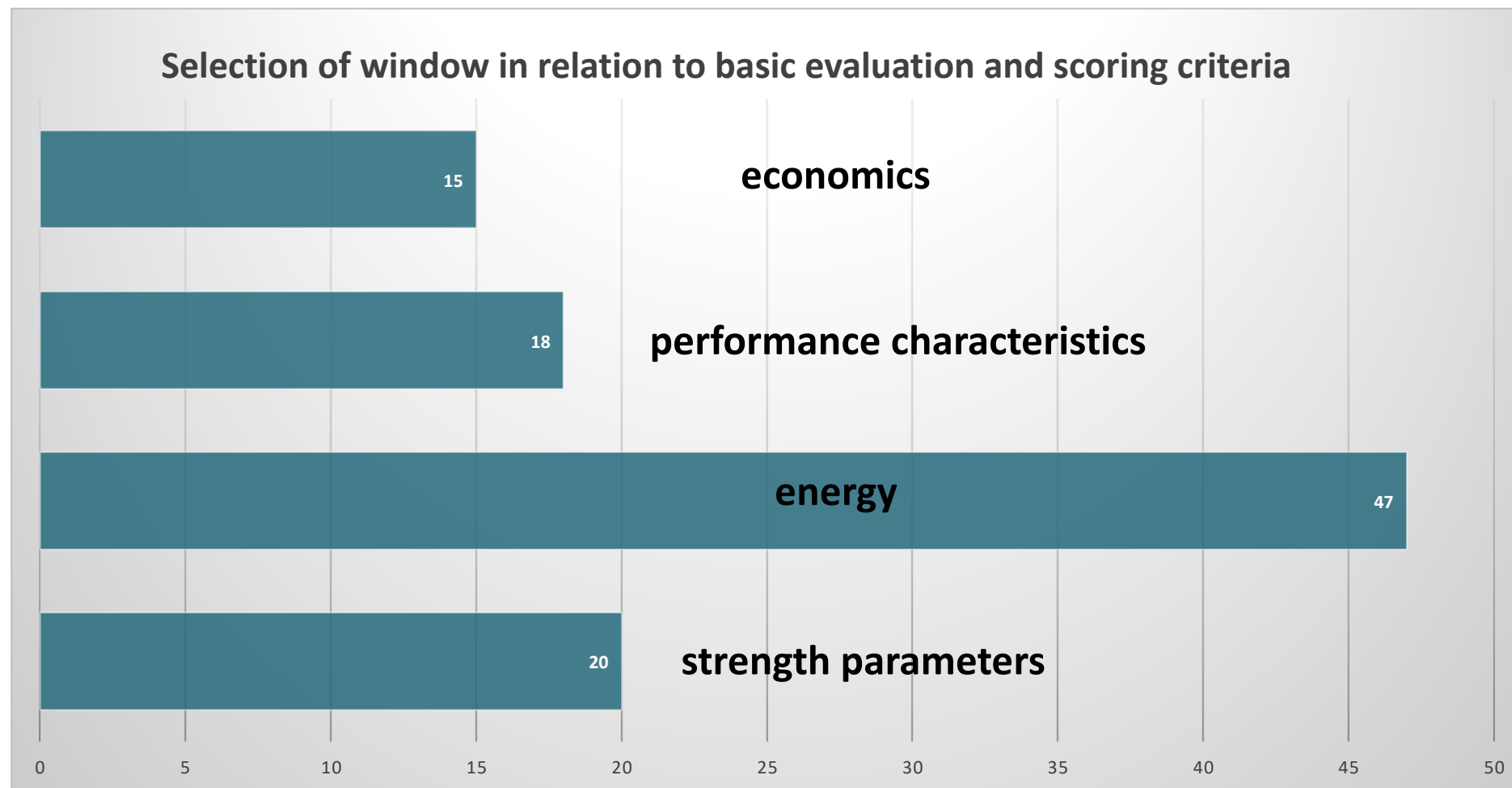
Woda
8A



Światło
70%



Evaluation criteria



Participants

Product categories	Manufacturers	Products
exterior doors	19	23
roof windows	7	21
vertical aluminium windows	26	26
vertical wooden windows	15	15
vertical PVC windows	25	25
SUM	92 (unique 78)	89

PVC windows

		TOPTEN 2015	TOPTEN 2019	TOPTEN 2022
U [W/m ² K]	maximum	0,81	0,86	0,9
	average	0,72	0,76	0,82
	minimum	0,50	0,69	0,74
		TOPTEN 2015	TOPTEN 2019	TOPTEN 2022
Average costs [EUR/m ²] / %	maximum	200 / 100%	275 / 138%	353 / 177%
	average	124 / 100%	196 / 158%	200 / 162%
	minimum	71 / 100%	125 / 176%	151 / 213%
		TOPTEN 2015	TOPTEN 2019	TOPTEN 2022
energy efficiency index EE h [kWh/m ² rok]	maximum	49,97	55,59	88,6
	average	43,36	47,54	56,7
	minimum	34,19	34,6	45,4

To be continued



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HEATING AND COOLING KNOWHOW AND SOLUTIONS



Rebate programmes in Luxembourg

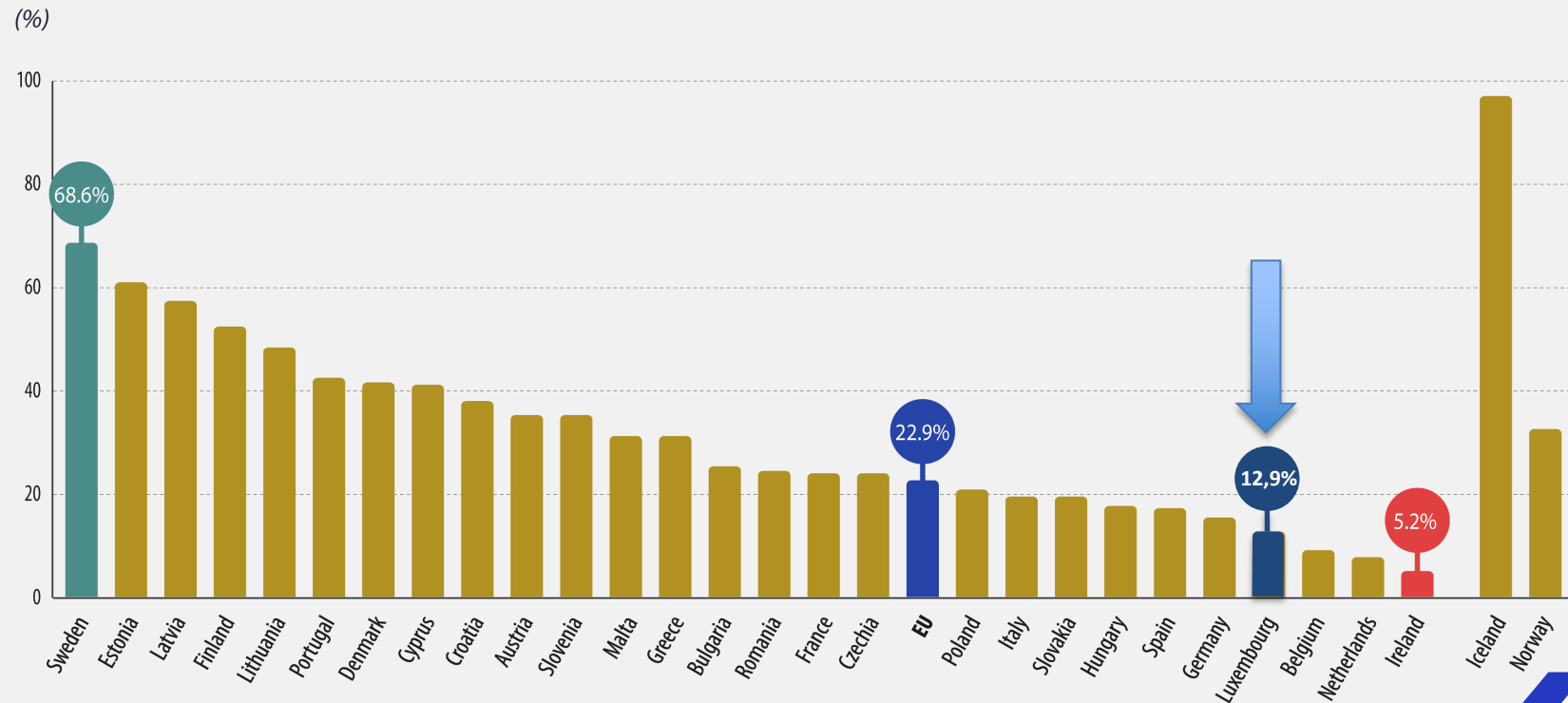
HACKS Final Event – 14 February 2023



Heating and cooling from renewables

Fourth-last place for Luxembourg

Share of energy from renewable sources for heating and cooling, 2021



According to Eurostat, Luxembourg scores particularly poorly in terms of energy efficiency in residential buildings.

Around **1.6 tonnes** of greenhouse gases were produced per capita in Luxembourg in 2021 to heat or cool private households.

eurostat 

3 February 2023

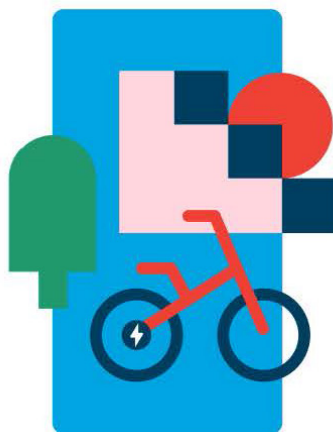


Klimabonus

Luxembourg's national grant scheme



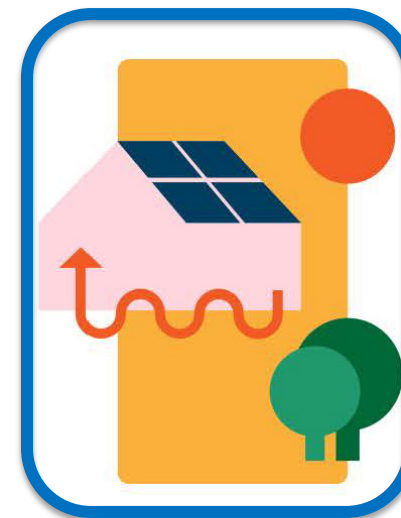
Protection of
biodiversity



Sustainable
mobility



Sustainable
housing

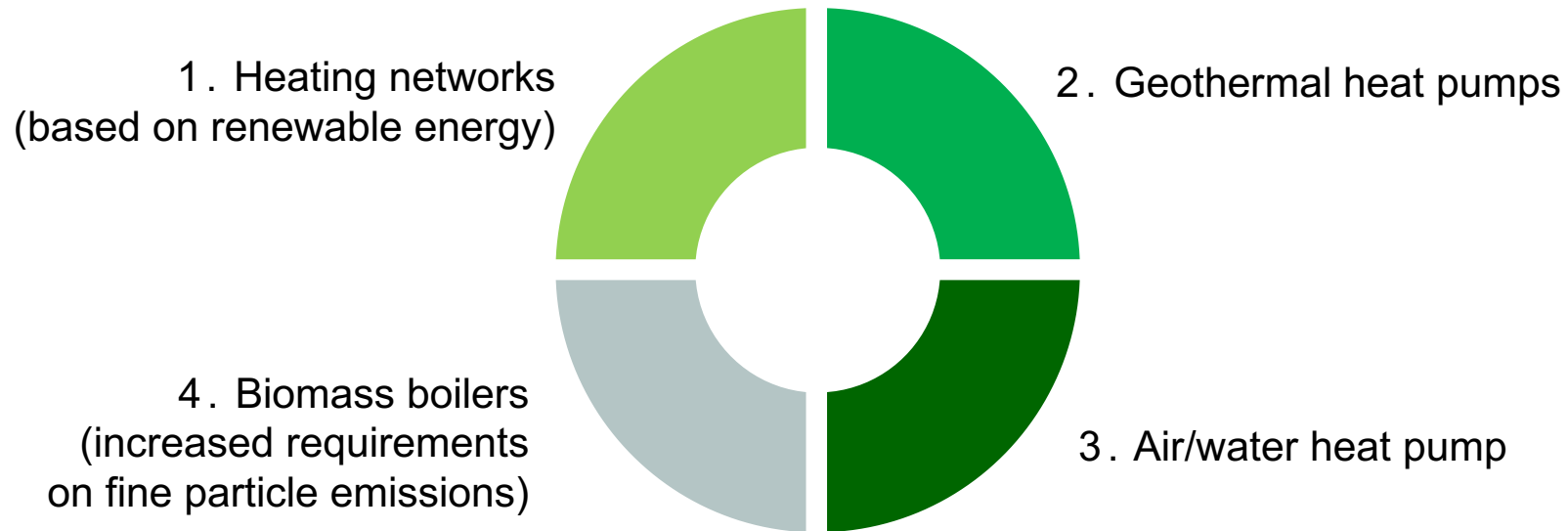


Renewable
energy

Klimabonus

Financial support for heating systems based on renewable energies

The four alternatives to fossil fuels



Bonus

«Fuel replacement program» for all replacements from fossil to renewable!

Klimabonus

Heating pumps

Geothermal heating pumps	Single-family home	Building/apartments
Existing building & New building	8.000 € - 12.000 €	7.500 € - 37.500 €

Air/water heating pumps	Single-family home	Building/apartments
Existing building	5.000 € - 12.000 €	5.000 € - 12.000 €
New building	3.000 €	2.000 € - 10.000 €

Klimabonus

Wood-fired boiler

Pellets and wood chips	Single-family home	Building/apartments
Existing building	max. 7.500 €	max. 30.000 €

Wood logs	Single-family home	Building/apartments
Existing building	max. 3.500 €	

Pellet stove	Single-family home	Building/apartments
Existing building	max. 2.500 €	-

Klimabonus

Energy poverty

“Topup social 100% Klimabonus – Wunnen”

For whom:

- ✓ Beneficiary of Klimabonus grants
- ✓ Income level: below the median

What:

- ✓ The “Topup social 100%” can result in a doubling of the aid
 - depending on the beneficiary's household income
 - tripartite: increase of the initial maximum amount from 40% to 100% of the financial support

Objective: **Avoid energy poverty!**



List of eligible products on oekotopten.lu

oekotopten USAGE PRIVÉ PROFESSIONNEL





Actualités A notre sujet Partenaires commerciaux et consultatifs Contact Recherche ... Langue / Sprache ▼

Ménage Télévisions et Smartphones Eclairage Mobilité électrique Subsidés Chauffage et isolation

Matériaux d'isolation Pompes de chauffage **Chauffe-eau** **Pompes à chaleur** Poêles - foyers

Systèmes de chauffage **Granulés de bois - Pellets**

Affichage de 1-10 sur 18 éléments. dernière mise à jour 10.10.2022

	Marque & Modèle	Énergie	Coût (€)
	Buderus WPS 22.2 HT	Classe d'efficacité énergétique à 35°C: Classe d'efficacité énergétique à 35°C:	A+++ A+++
	Hoval Belaria pro compact 13/100/270	Classe d'efficacité énergétique à 35°C: Classe d'efficacité énergétique à 35°C:	A+++ A+++
	Hoval Belaria pro compact 8/100/270	Classe d'efficacité énergétique à 35°C: Classe d'efficacité énergétique à 35°C:	A+++ A+++
	Hoval Belaria pro confort 8	Classe d'efficacité énergétique à 35°C: Classe d'efficacité énergétique à 35°C:	A+++ A+++

- With the exception of the heating networks, all eligible heating systems of the “Klimabonus” funding programme can be found on the Oekopten.lu website of the HACKS project.
- In the recommendation section on Oekotopten.lu there is a link to the simulator of the national funding programme “Klimabonus” for more information.

HACKS criteria as basis for Klimabonus

oekotopten **USAGE PRIVÉ** **PROFESSIONNEL**

Actualités A notre sujet Partenaires commerciaux et consultatifs Contact Recherche ... Langue / Sprache ▼

Ménage Télévisions et Smartphones Eclairage Mobilité électrique Subsidés Chauffage et isolation

Critères techniques

Toutes les pompes à chaleur Oekotopten répondent aux critères suivants:

- Le coefficient de performance COP s'élève pour
 - les pompes à chaleur eau glycolée-eau à: min. 4.6 (1ère condition d'essai B0/W35-30)
 - les pompes à chaleur air-eau à: min. 3.6 (1ère condition d'essai A2/W35-30)
- Tous les modèles conviennent bien pour le réchauffage de l'eau chaude sanitaire, c.-à-d. que le COP correspondant s'élève pour:
 - les pompes à chaleur eau glycolée-eau à: min. 2.5 (condition d'essai B0/W55)
 - les pompes à chaleur air-eau à: min. 1.8 à la condition d'essai A-7/W55 et min. 2.6 à la condition d'essai A7/W55
- Tous les modèles ont obtenu le certificat de qualité valable pour la Suisse (pour des informations détaillées, voir ci-dessous).
- Tous les modèles sont fabriqués en série (pas de prototypes, pas de fabrication à l'unité).
- Les caractéristiques correspondent aux résultats des essais, conformément à la norme EN 14511, réalisés par un organisme de contrôle accrédité (prioritairement le Centre d'essai des pompes à chaleur WPZ à Buchs SG).

Ordre de présentation

L'ordre de présentation correspond à la valeur du COP (Coefficient of Performance). L'ordre de présentation peut être modifié individuellement en cliquant sur une autre ligne.

Définitions

Modèle
Désignation du modèle

Série
Autres modèles, dont les coefficients de performance se situent dans une plage semblable, car ils sont de la même série. Une série est définie par les caractéristiques suivantes:

- The criteria for HACKS products were used by the Luxembourg government as the basis for the criteria of its funding programme.



Subsidy simulator

A practical and customisable solution at the heart of the Klima-Agence website

Subsidy simulator

The basis of the simulator is the state subsidy programme. Some subsidies offered by energy suppliers and municipalities may not be included.

My details
I have selected the categories [heating](#).

[Change my details](#) [Continue to my selection](#)

Heating

KLIMABONUS 510
Geothermal heat pump

KLIMABONUS 511
Air-to-water heat pump

KLIMABONUS 512
Wood log boiler

KLIMABONUS 513
Pellet or woodchip heating

KLIMABONUS 514
Pellet stove

KLIMABONUS 515
Retrofit wood heating

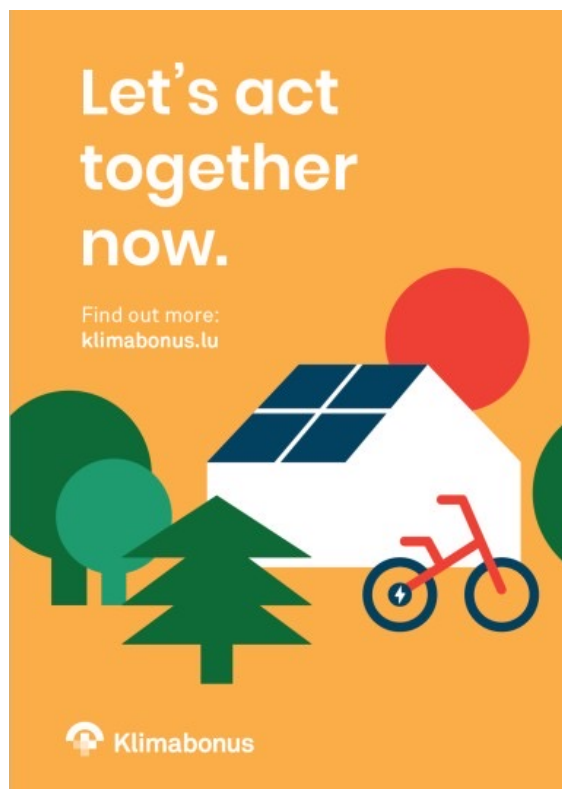
KLIMABONUS 516
Set up district heating

KLIMABONUS 517
Connection to district heating

KLIMABONUS 518
Oil tank removal

KLIMABONUS 520
Solar hot water

KLIMABONUS 521
Solar heating



Thierry LAGODA
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HEATING AND COOLING KNOWHOW AND SOLUTIONS



Transforming the European Comfort Fan Market

HACKS Final Event – 14 February 2023



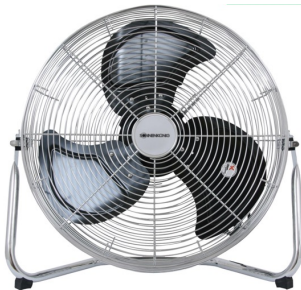
What is an efficient fan?



Pedestal fan



Ceiling fan



Floor standing fan

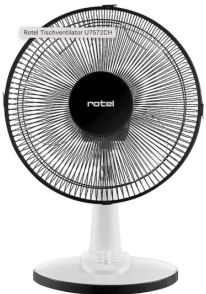


Table fan



Tower fan

- Appliances that are designed to create air movement around or on part of a human body for personal cooling comfort.
- Over 52 million units sold in the European Union in 2020. High correlation with heat waves. Potential savings: 1-2 TWh by 2030
- Fan efficiency is measured with the Service Value (the higher, the better)

$$- \text{Service Value} = \frac{\frac{m^3}{min}}{W}$$

How it started: Local Subsidy programme (2017)

- Existing Commission Regulation (EU) No 206/2012 for air conditioners, where **comfort fans are only a minor part**. But it does include information requirements for comfort fans.
- To push for energy efficient comfort fans, a **Swiss subsidy programme** from EKZ (a Swiss cantonal electricity supplier) was started.
- To create a product list on Topten, a **market assessment** needed to be done.

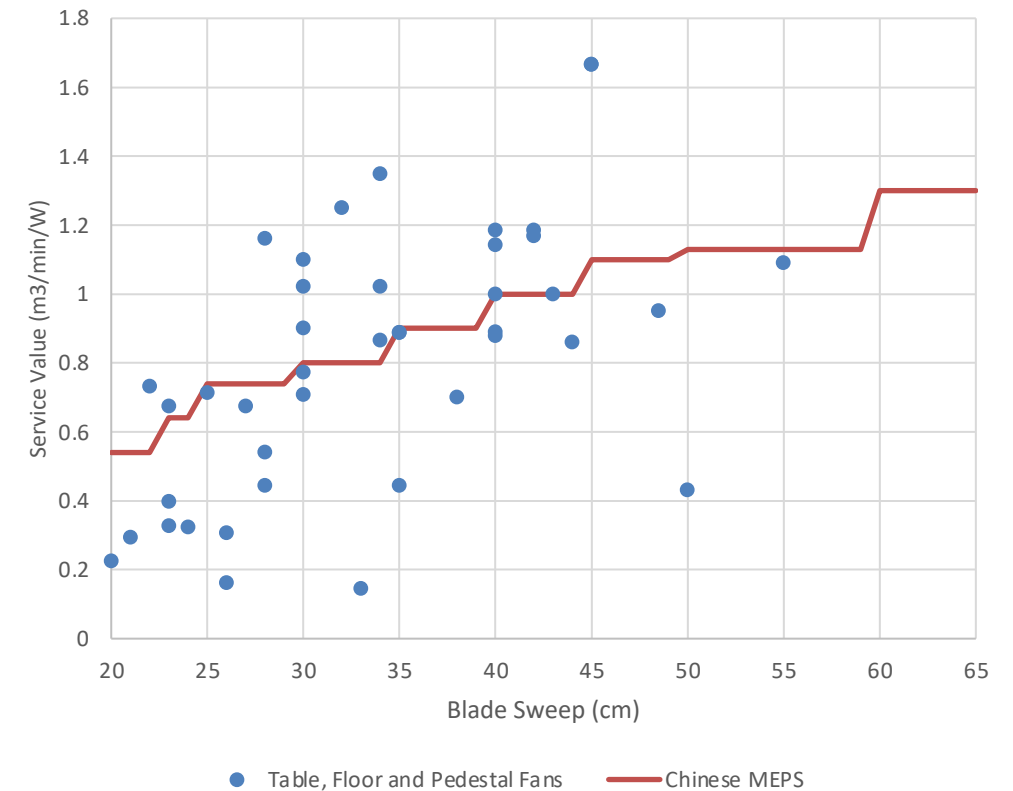


Findings from the market assessment (2017)

- Products evaluated: **158**
- Products with complete information requirements: **8**
- Information requirements received upon request to the manufacturer or importer: **67**
- Total number of products used in the market assessment for the Topten list: **75**
- **89% of products did not comply with the current regulation that is in force!** (missing product information)

Environmental Dumping from China

- Since 95% of products are imported from China, the energy efficiency of the fans in the sample were **compared to the Chinese MEPS**.
- Out of the 75 models evaluated, 32 models **(42%) did not comply** with the Chinese MEPS.
- It is expected that the amount is even higher as there is a reporting bias where good performers tend to report more than bad performers.



Topten Product list with the best comfort fans

- The Topten product list went online with 41 models (2018).
- Topten defined selection criteria per fan type by selecting the 50% of most efficient products according to their Service Value.
- But even with the top efficient 50% of European products, **almost ¼ of the products did not comply with the Chinese MEPS** (in force since from 2008!).
- In 2021 the Topten list still contained products that do not comply with the Chinese MEPS (9%, 12 models of 123 models).

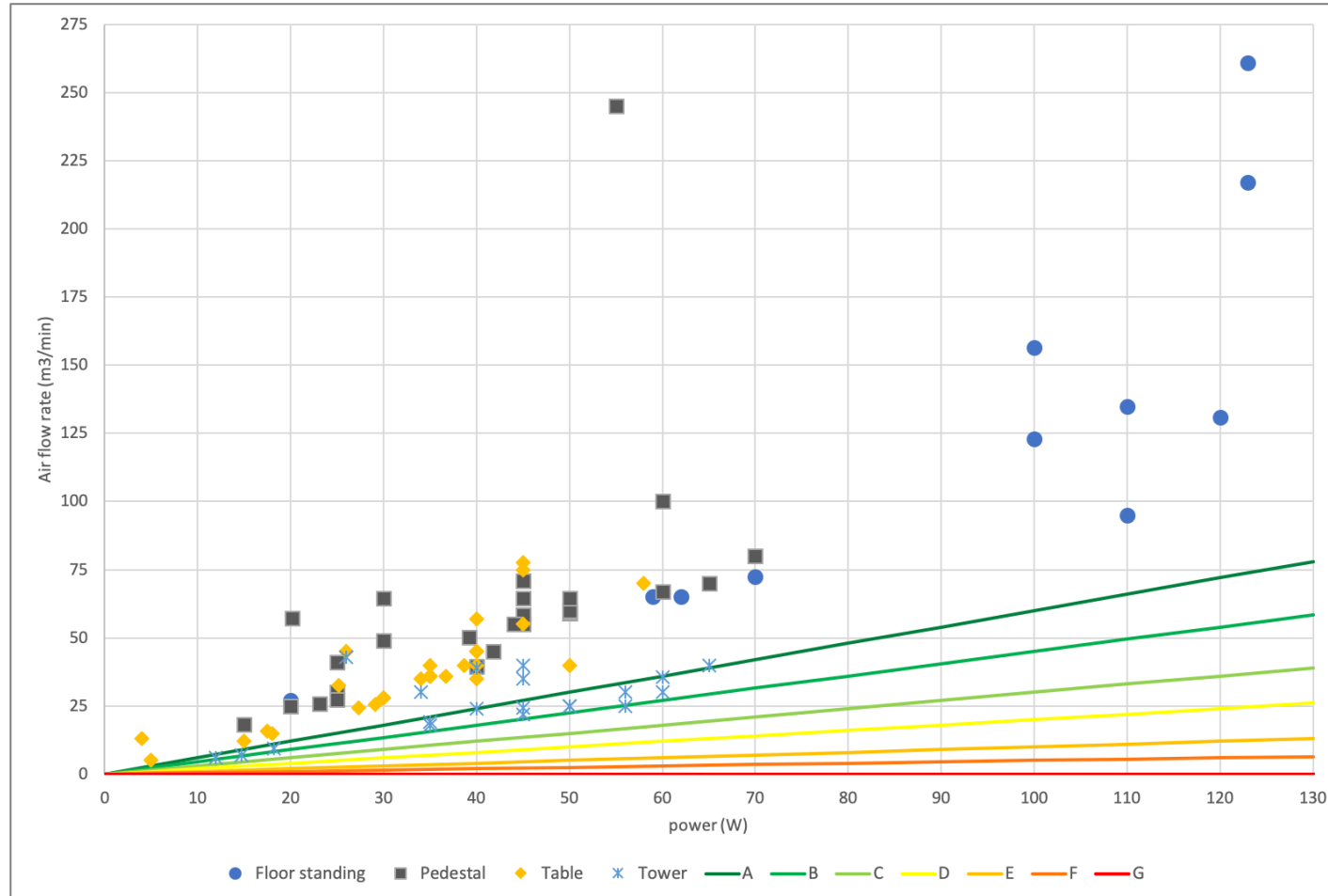
Policy Recommendations for the EU (2021)

- Environmental dumping can be easily avoided: **Align product requirements with those of exporting countries** (like China, who has much stricter MEPS, in force since 2008)
 - The EU should align or introduce more stringent requirements
- Comfort fans were neglected in the review study (2018)
 - **Strong MEPS and an ambitious Energy Label** should be included in the revision of Commission Regulation (EU) No 206/2012.
- 52 million units sold in 2020, 1-2 TWh of savings possible
 - These products should be seriously **addressed in their own regulation, not together with ACs and local space heaters**

Review process of EC No 206/2012 (2017 - ongoing)

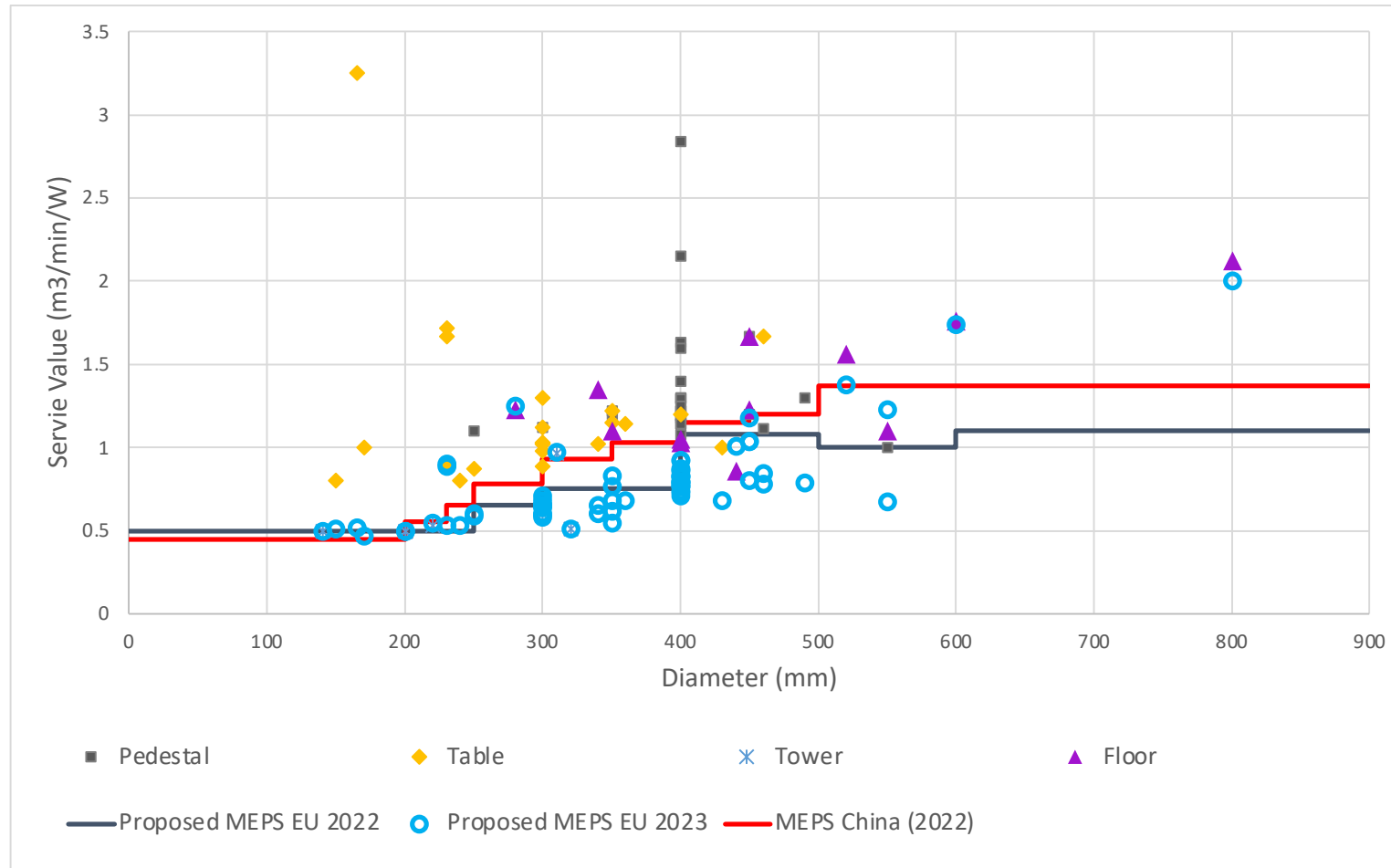
- The preparatory study (2018) did not contain relevant information regarding comfort fans (use of old data from 2008, old measuring standards). Topten provided **additional, updated information** during the Consultation Forum and to Policy stakeholders.
- Because of this new information, the Consultation Forum (2021) asked for **MEPS and Energy Labelling** for comfort fans.
- At the Consultation Forum (2022), a draft for MEPS and Energy labelling was presented.
- Based on market data, Topten was able to show that the **thresholds are too low already today** (see next slide) and proposed new, **more ambitious thresholds for the label** and asked for **alignment with Chinese MEPS**.

Proposed Energy Label for Comfort Fans (2022)



Most of the models on Topten already now are a lot better than the best class of the proposed Energy Label.
Class A should be empty when the label is introduced.

Newest draft EC No 206/2012 (2023)



Even after Topten's input in 2022, MEPS presented in the newest draft on Ecodesign (2023), only **43% of the best models** (Topten list) would comply with Chinese MEPS.

How it's going: Summary

- Local subsidy programme as a trigger
 - Motivation for producers to provide product information.
- Product information on Topten raises awareness in EU
 - Knowledge about markets, regulations & products allowed Topten to support the policy process
- HACKS enabled Topten to continue the research of market and products
 - Continuous support at the Consultation Forum with new thresholds and comparative studies (e.g. March 7th 2023)

THANK YOU FOR YOUR ATTENTION!

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HEATING AND COOLING KNOWHOW AND SOLUTIONS



Wrap-up and Conclusions

HACKS Final Event – 14 February 2023



- Although far too slow: market transformation *is* happening and energy consumption *starts* reducing
→ Topten is part of this process, supported by European funds within HACKS and national funds.
- Millions of energy consuming products are sold each year – HAC equipment, domestic appliances, professional products.
→ Their energy consumption must be courageously framed if Europe wants to fulfil its Paris agreement commitments, and maintain a livable climate.



- The HACKS project will finish soon, but Topten continues!
 - Check out the European platform [Topten.eu](https://www.topten.eu)
 - And the national websites
- Stay tuned for the HACKS report early May 2023 and check out the HACKS deliverables at: <https://www.topten.eu/private/page/hacks-deliverables>



THANK YOU FOR YOUR ATTENTION!

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