CLEAR-X

Consumers Leading the EU's
Energy Ambition Response, Expansion

DIGITAL TOOLS

TO HELP CONSUMERS UNDERSTAND ENERGY SAVINGS POTENTIAL

JUNE 2022

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ABOUT CLEAR-X

Consumers Leading the EU's Energy Ambition Response, Expansion (CLEAR-X) is an ambitious extension of a tried-and-tested methodology, designed and developed to address consumers' needs thus **enabling consumers to lead the energy transition by investing in renewable energy sources (RES) and energy efficient (EE) technologies**.

The project cover some of the countries where financial, administrative/regulatory and technical barriers were most often perceived by the consumers during their journey to RES technologies.

These countries, Bulgaria, Cyprus, Lithuania, North Macedonia, Slovakia & Slovenia, were therefore selected for the potential impact of introducing collective purchase schemes, geographic diversity compared with similar past projects, and the presence of suitable consumer organisations.

There are four specific objectives:

- Reliable information on RES and EE technologies suitable for consumer's homes is available
- Consumers collectively invest in suitable RES technologies through trusted schemes
- Consumers receive relevant information and advice on RES and EE technologies
- Regulatory frameworks facilitate consumers' adoption of RES and EE technologies and relevant market offers

Project Title	CLEAR-X Consumers Leading the EU's Energy Ambition Response, eXpansion
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Project Duration	30 months
Starting Date	1 September 2021
Deliverable Title	Digital tools (target countries) to help consumers understand energy savings potential
Deliverable Number	D4.2
Work Package	WP4 – Communicating the consumer benefits of the Energy Transition
Submission Date	2 June 2022
Author	Kęstutis Kupšys, Rimantė Balsiūnaitė (ALCO)
Dissemination Level	Public

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INTRODUCTION

The aim of the Work package 4 - Communicating the consumer benefits of the Energy Transition - is to inform consumers of the benefits of reducing their energy consumption. This includes the development of digital tools to help consumers understand their potential energy and money savings in the CLEAR-X target countries' energy markets.

In particular, the aim of the digital tools is twofold:

- to attract consumers to read more about potential savings from greater energy efficiency and/or energy generation;
- to help change consumer behaviour through better consumer information available in the target countries.

DIGITAL TOOLS IN TARGET COUNTRIES

The digital tools were created by the following CLEAR-X partners:

- ALCO (Lithuanian Consumers Alliance, Lithuania)
- BNAAC (Sdruzhenie Bulgarska Natsionalna Asotsiatsiya Aktivni Potrebiteli, Bulgaria)
- CCA (Kypriakos Syndesmos Katanaloton, Cyprus)
- OPM (Organizacija na Potroshuvachite na Makedonija, North Macedonia)
- SOS (Spolocnost Ochrany Spotrebitel'ov Poprad Zdruzenie, Slovakia),
- ZPS (Zveza Potrosnikov Slovenije Drustvo, Slovenia)

The tools focus on specific energy efficient (EE) and/or renewable energy sources (RES) technologies: on photovoltaic (PV) panels (3 tools), on air conditioners (3 tools) and on tumble dryers (1 tool).

The above-mentioned partners started or will soon start communicating to the consumers about the availability of these tools so they can calculate their potential savings and develop further interest in installing EE and/or RES technologies.

Below we provide an overview of the tools developed by each partner, including the link to the websites where they are deployed. These links are also available on the project website.

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Lithuania - ALCO

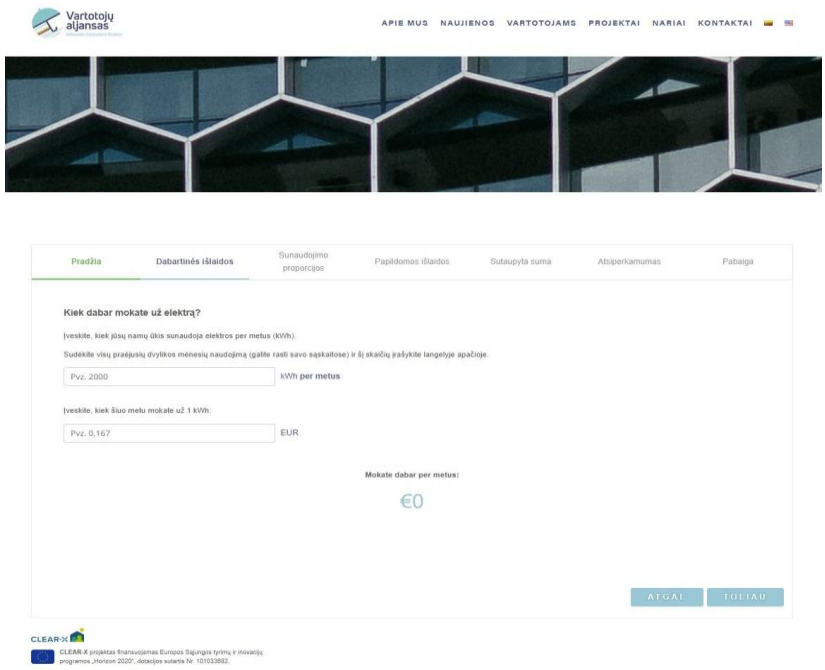
ALCO developed a solar energy payback calculator. It provides information on savings and pay-back period for two scenarios:

- Acquisition of the remote power plant (in a distant "solar park")
- Acquisition of on-site consumer-owned solar power plant

The calculation takes into account current energy consumption, energy price paid by the household, "on-site" versus "from the grid" energy usage tendency for the given household, and the choice of remote vs. on-site PV plant. In case of remote ("solar park") acquisition, the projected maintenance fee per kilowatt of purchased power is added to the calculation. The model explicitly takes into account the net-metering charge (as of May 2022, this charge amounts to 0.037 EUR per kWh plus value added tax). The outputs of the model provide net savings (EUR) from installation of a solar photovoltaic plant, size of the optimal installation (in kW), and payback period for three scenarios:

- Own investment only purchase
- Purchase with the help of state funded scheme (30 percent subsidy)
- Purchase with the subsidy from the state reaching 85% of nominal value of the installation for vulnerable people

Link to the tool: https://vartotojualjansas.lt/saules-energijos-naudos-skaiciuokle/
English language version: https://vartotojualjansas.lt/en/solar-energy-benefit-calculator/



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Bulgaria - BNAAC

BNAAC developed a tool to calculate the potential savings when installing an air conditioning system. The calculator is based on the room dimensions, for which the air conditioner installation is planned. As a result, the consumer gets the British thermal unit (BTU) value and energy consumption of the air conditioner suitable for consumer's needs as week as the value of their investment needs and the payback period. Additional inputs provided by the tool are electricity price, length of the heating season, etc.
The tool is built on two levels of calculation:

- **Calculator 1**

This calculator multiplies the room's length, width, and height to calculate the volume and determine how much heating power (kW per hour) is needed to heat the room. The calculator has the feature to include more than one room and calculates how much heating power is required for each room and as a total. The calculation of the heating power needed is done via a formula extracted from an energy table which is scientifically proven and tested. A disclaimer is included that the analysis is accurate in ideal conditions – isolation of walls, high-quality joinery, isolation of doors and 5 degrees Celsius outside. If the conditions are not met, the user is informed that they can increase the shown result by 10-20-30 per cent, depending on their own living conditions. The calculator shows the needed heating power for a home. This calculator does not show how much electrical energy per hour is consumed but rather how much heating power is needed per hour.

- **Calculator 2**

This calculator has the main function of showing the average time of a return on investment in purchasing an air conditioning (AC) system versus an electric heater (EH). The comparison is between the initial purchase of an air conditioning system and its power consumption over a whole heating season, versus the initial investment of a high-quality electric heater and its power consumption over an entire heating season.
Based on the results of Calculator 1, which shows the power consumption of an AC system and the power consumption of an EH needed for the whole heating season, the Calculator 2 takes into account the cost of electrical power per hour in Bulgarian Leva and calculates the cost of heating for the whole season for both products. It then calculates the average time of a return on investment in purchasing an AC system versus an EH. Specifically, the calculator shows how much it will cost to use an AC versus an EH system in a 10-year timeframe, demonstrating that using EH will cost more to the consumer, regardless of the significantly initial higher price of the AC against the price of the EH. This is explained to the consumers through an additional information: an electrical heater uses 3 kWh of electrical power to produce 3 kWh of heat; however, an air conditioning system uses around 0.8-1 kWh to produce 3-3.5 kWh of heat – which is why it is more efficient than EH.

Through these calculations and explanations, BNAAC aim to impact the decision of the average consumer to purchase an AC, which will reduce their electrical bills and promote a more energy efficient future.

Link to the tool: https://aktivnipotrebiteli.bg/страница/365/Избор-на-климатик

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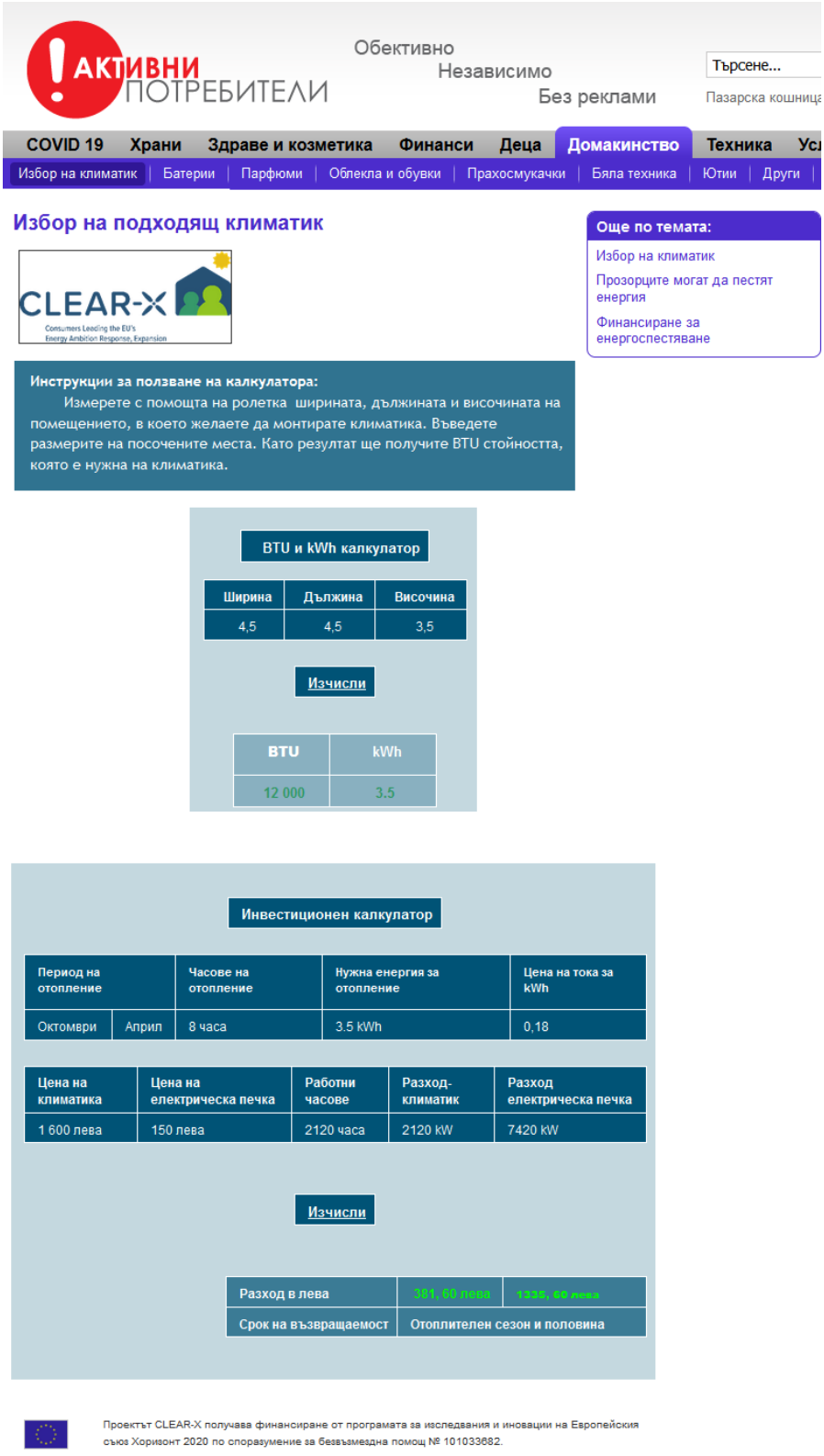

АКТИВНИ ПОТРЕБИТЕЛИ
Обективно
Независимо
Без реклами
Търсене...
Пазарска кошница

COVID 19 | Храни | Здраве и козметика | Финанси | Деца | Домакинство | Техника | Ус
Избор на климатик | Батерии | Парфюми | Облекла и обувки | Прахосмукачки | Бяла техника | Ютии | Други

Избор на подходящ климатик

CLEAR-X
Consumers Leading the EU's Energy Ambition Response, Expansion

Още по темата:
- Избор на климатик
- Прозорците могат да пестят енергия
- Финансиране за енергоспестяване

Инструкции за ползване на калкулатора:
Измерете с помощта на ролетка ширината, дължината и височината на помещението, в което желаете да монтирате климатика. Въведете размерите на посочените места. Като резултат ще получите BTU стойността, която е нужна на климатика.

BTU и kWh калкулатор

Ширина	Дължина	Височина
4,5	4,5	3,5

Изчисли

BTU	kWh
12 000	3.5

Инвестиционен калкулатор

Период на отопление		Часове на отопление	Нужна енергия за отопление	Цена на тока за kWh
Октомври	Април	8 часа	3.5 kWh	0,18

Цена на климатика	Цена на електрическа печка	Работни часове	Разход-климатик	Разход електрическа печка
1 600 лева	150 лева	2120 часа	2120 kW	7420 kW

Изчисли

Разход в лева	381, 60 лева	1335, 60 лева
Срок на възвращаемост	Отоплителен сезон и половина	

Проектът CLEAR-X получава финансиране от програмата за изследвания и иновации на Европейския съюз Хоризонт 2020 по споразумение за безвъзмездна помощ № 101033682.

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Cyprus - CCA

CCA developed a tool to explain the potential savings of installing solar PVs. It takes into account net-metering scheme's impact and calculates how much CO_2 is saved as well as how many trees need to be planted to absorb the resulting CO_2.

Link to the tool: https://www.katanalotis.cy/solar-energy-benefit-calculator/

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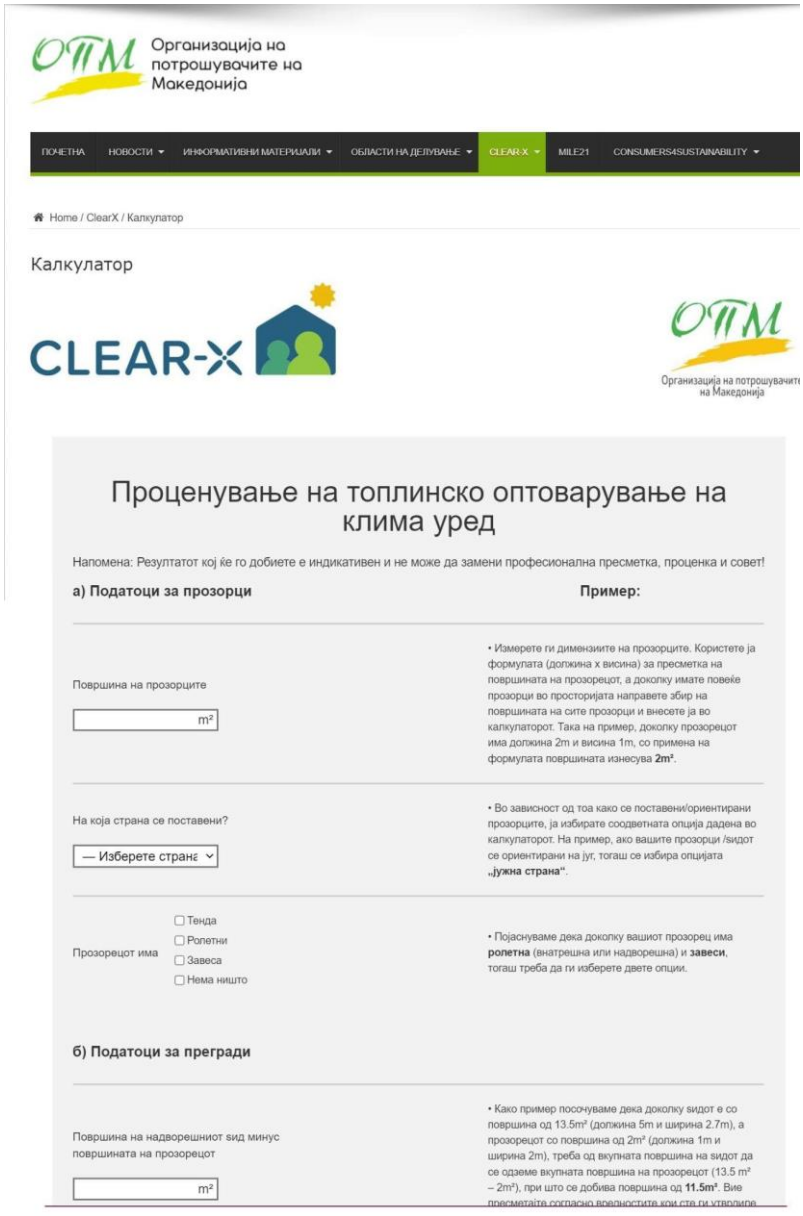
Republic of North Macedonia - OPM

OPM developed a tool on AC potential savings: this calculator gathers data about the space that needs heating and cooling, and provides information on the required air conditioner's power for cooling and for heating.

Link to the tool: https://opm.org.mk/clear-x-kalkulator/



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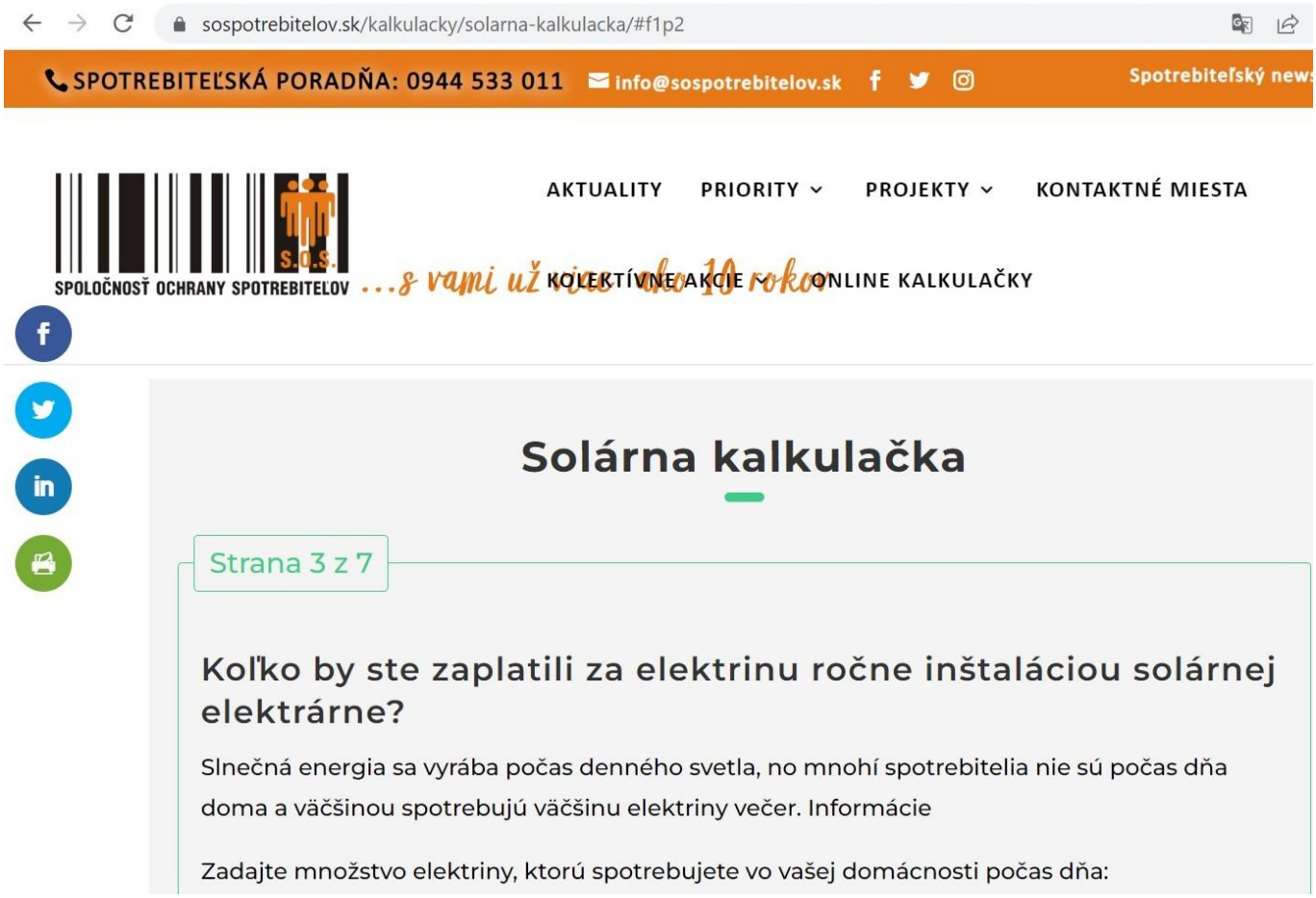
Slovakia - SOS

SOS developed a tool to explain and calculate the potential savings from installing solar PVs.

Link to the tool: https://www.sospotrebitelov.sk/kalkulacky/solarna-kalkulacka/



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Slovenia - ZPS

ZPS developed two tools, for air-conditioners and tumble dryers, connected with and in support of ZPS's collective purchase campaign. With both tools ZPS aims to encourage present owners of air conditioners and tumble driers to join the campaign for a new, more energy efficient device.

The tool calculates energy cost savings if a consumer replaces an old device with a more energy efficient one. Additionally, the tool calculates how much CO_2 is saved and how many trees need to be planted to absorb the calculated CO_2.

Link to the tools: https://www.zps.si/clear-x/

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