



An integral approach to reducing the environmental burden by incentivizing efficient energy management in Slovenia

The electronic publication MY HOME has been prepared as part of phase 2 of the project "Preparation, Use and Promotion of Environmental Indicators for Energy Management Awareness and Personal Transport" by Interreg MED Renewable Energy. Its target audiences are municipalities and local communities with the aim to inform and raise the awareness of household energy consumers and educate them in achieving environmental and energy goals.

The publication contains a Communication Ecosystem for Efficient Energy Management (EURE) presentation, a summary of environmental indicators, infographics and regional maps of awareness, energy management and personal transport in Slovenia as well as guidelines to municipalities and local communities for raising the awareness of household energy consumers.

MY HOME



An integral approach to reducing
the environmental burden by
incentivizing efficient energy
management in Slovenia



Idea

An ecosystem as
a starting point



Potential

Results of the Survey on Energy Efficiency in Slovenia
(REUS) and summaries of environmental indicators



Guidelines

for achieving energy
and environmental goals

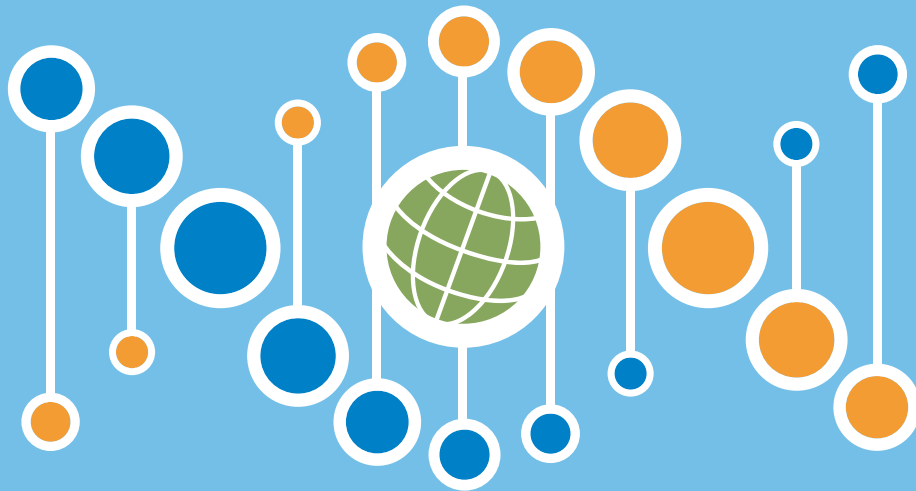




**An ecosystem
as a starting
point for
efficient energy
management**



Idea



Planet Earth is our common global ecosystem,

which enables vital natural resources such as water, food, minerals, and energy sources to be restored.

A country is also an ecosystem

that strives to ensure optimal living conditions for its citizens through its socio-political regulation and infrastructure.

Every individual is an ecosystem

containing numerous processes that are constantly being coordinated with one another, enabling it to function harmoniously.

A family is an ecosystem

that maintains the harmony of relations among its members through mutual coordination.

Is my home also an ecosystem?

Efficient Energy Management Ecosystem - EURE



The Efficient Energy Management Ecosystem (EURE) is a comprehensive approach to promoting the efficient use of renewable energy sources, which has been developed in Slovenia by Informa Echo agency.

The EURE ecosystem is a development project prototype based on linking the efforts of the EU, the state, the economy and citizens to reduce energy consumption and the related negative impacts on the environment and to establish climate neutrality.

The EURE ecosystem, which is established in Slovenia at all of the above three levels, **can be a unified approach** for all European countries. It enables the continuous monitoring of behavioural change in energy efficiency and thus, supports implementation of the energy and environment related goals set in EU legislation. (The system can be adapted to the circumstances of individual EU Member States).

<https://www.reus.si/ekosistem-eure/>

The EURE ecosystem has four components:

- 1** The Survey on Energy Efficiency in Slovenia (REUS) provides insights into households energy management, changes over time and investment intentions.
- 2** Energy consumers are motivated and their awareness is raised through the pozitivnaenergija.si website and social media.
- 3** The porabimanj.info website provides information and advice, while the porabimanj.si web application enables users to calculate energy savings.
- 4** The purpose of analysis and environmental indicators is to answer key policy questions and support all phases of environmental and climate policy making, from designing policy frameworks to setting targets, and from policy monitoring and evaluation to communicating to policy-makers and the public.





Potential

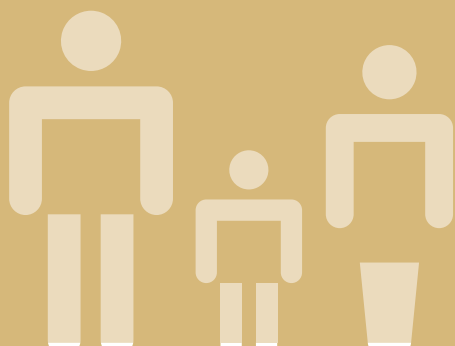
Energy efficiency has major environment preserving potential



The section Potential summarizes environmental indicators, also presented for the individual Slovenian regions. Here are some facts and forecasts encourage and help raise the awareness of citizens about these issues and provide them with the right information.

Six environmental indicators were developed in 2020 on the basis of the time series in the Survey on Energy Efficiency in Slovenia (REUS) that enable the monitoring of attitudes, levels of awareness and energy management in households. The results indicate great potential for reducing energy consumption and relieving the environmental burden by improving energy efficiency and increasing energy use from renewable sources.

Our daily living depends on energy. However, the rapid growth of the global population, economy and use of fossil fuels has put the planet and nature under tremendous pressure. Fossil fuels account for most of the energy we use today. The energy systems of the future should strike a balance between efficient energy use, the use of energy from renewable sources and a **sustainable lifestyle**, with the preservation of the environment and nature as its basic guiding principle.



Did you know?



Electrical appliances

Nearly every Slovenian household owns a washing machine and a refrigerator. The number of dishwashers, dryers and microwave ovens is also on the rise. While the consumption of electricity and other resources is being reduced due to rapid and impressive technological improvements (such as smart appliances), the number of these appliances in households is increasing, thus cancelling any gains made in resource efficiency. This phenomenon is referred to as the rebound effect. We can only expect changes to happen if we implement circular economy practices such as purchasing processed products and leasing or sharing products or appliances more swiftly and consistently.

Source: <http://kazalci.arslo.gov.si/sl/content/opremljenost-gospodinjstev-z-belo-tehniko>

Climate change



A European survey of public attitudes towards climate change has shown that health is the most serious problem for four out of 10 people in the EU at the moment. The environment and climate change are in fourth place, right behind the economic situation and public finances.

Source: EU - eurobarometer 2020-2021: <https://europa.eu/eurobarometer/surveys/detail/2355>

Mobility

Transport accounts for nearly a quarter of Europe's greenhouse gas emissions and is a major cause of urban air pollution in the form of particulate matter (PM) and nitrogen oxides, which affects human health. Since 2009, EU legislation has set mandatory emission targets for new cars and, since 2011 also for new vans. These regulations have gradually resulted in the introduction and promotion of use of more fuel-efficient and less polluting vehicles. Being informed about alternative propulsion vehicles can help, among other things, to improve fuel efficiency in road transport, reduce emissions and achieve environmental goals.

Forecasts point to a further increase in demand for transport and mobility services in Europe and worldwide. According to European Commission data, passenger and freight transport is expected to increase by about 42% and 60% respectively by 2050 compared to 2010. Given the similar trends in most other high-income countries and the rapid growth in demand in low- and middle-income countries, more people and goods are likely to be moving around the globe in the future than ever before.

Source: Europe on the move: an agenda for a socially fair transition towards clean, competitive and connected mobility for all (COM(2017) 283 final).



Potential

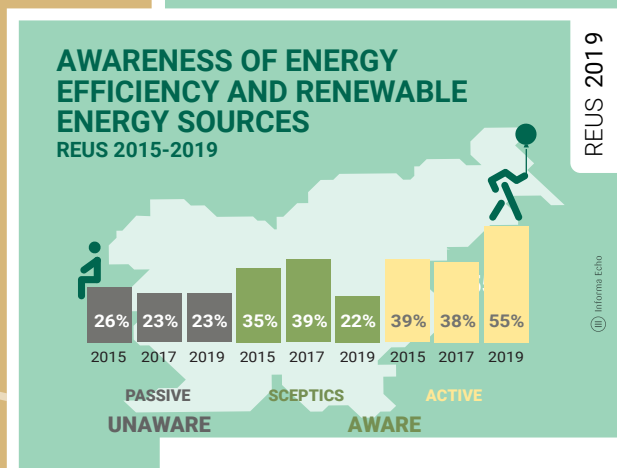
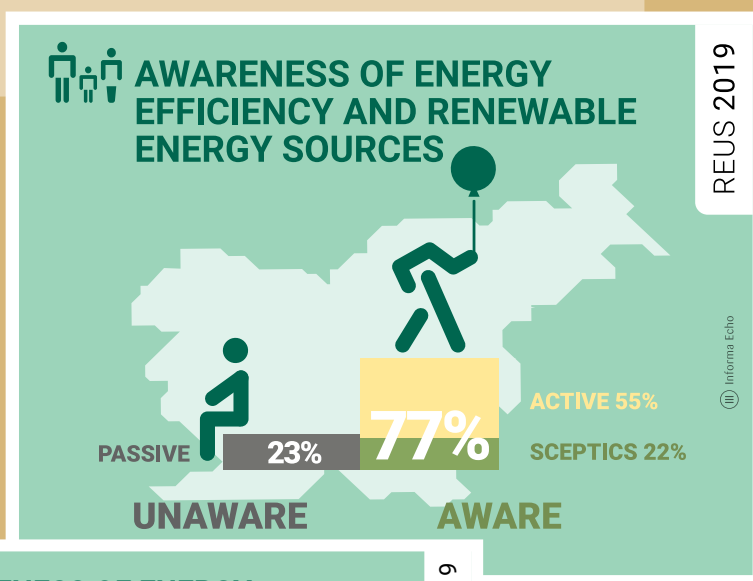


Public awareness of energy efficiency

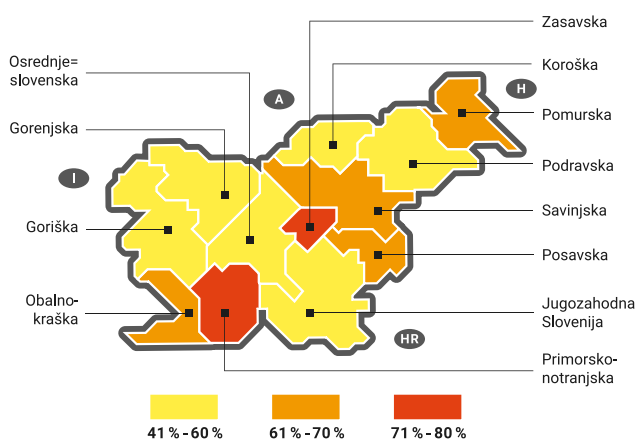


Based on the actual energy management, more than three quarters (77%) of Slovenian households belong to the aware group.

Compared to previous measurements, the share of active households in the aware group has increased significantly (2019: 55%, 2015: 39%) while the share of skeptical households has gone down (2019: 22%, 2015: 35%).



Share of households hoping to reduce consumption through more efficient energy use.



Potential

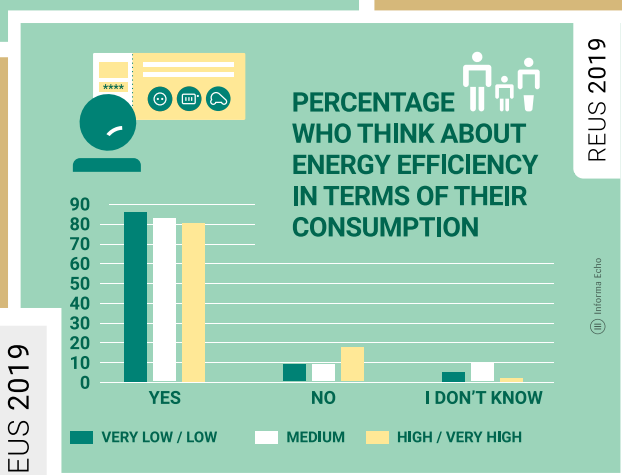
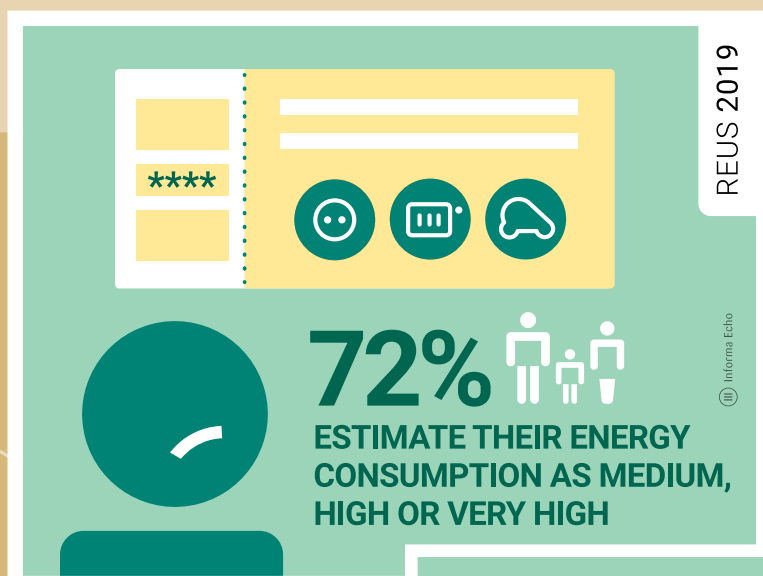




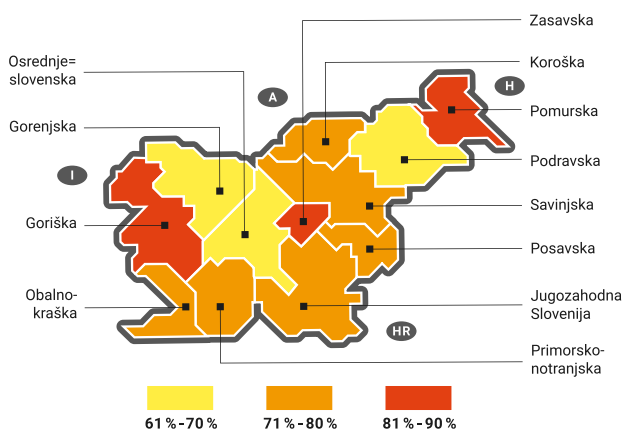
Public attitude towards energy use in Slovenian households

The results of the REUS survey indicate great potential for further reductions in energy consumption in almost three quarters (72%) of Slovenian households that rated their energy consumption as medium, high or very high.

Households with low or very low consumption (86%) think the most about energy efficiency. They are followed by households with medium (82%) or high or very high energy consumption (80%)



Share of households who believe their energy consumption is medium, high, or very high.



Potential

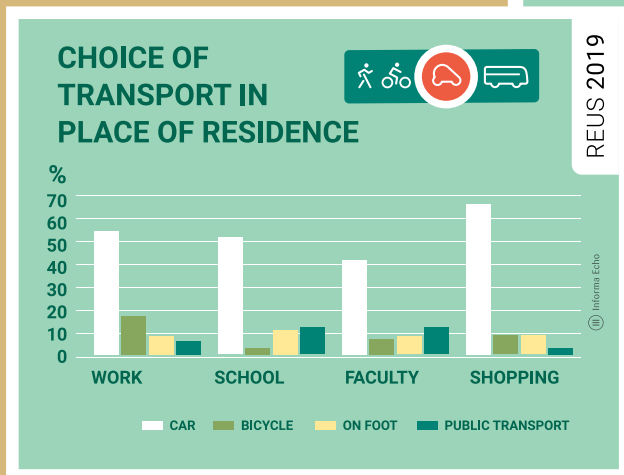
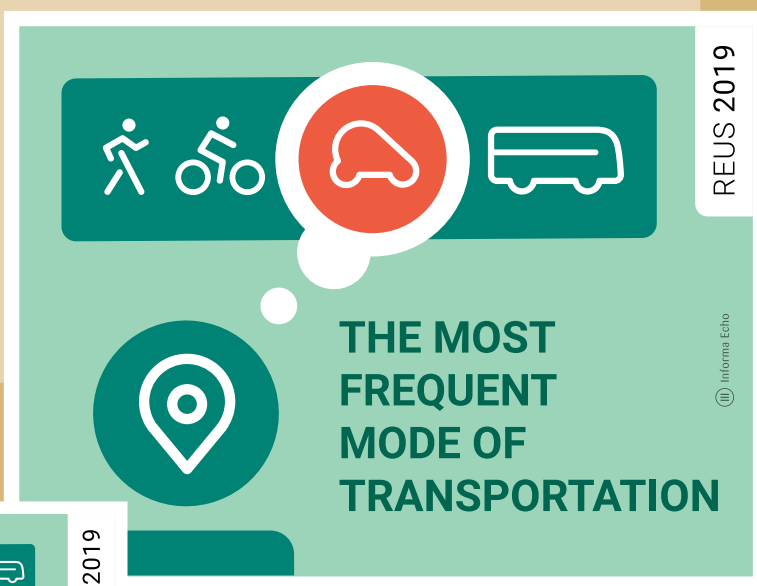




Public attitude towards eco-friendly transportation



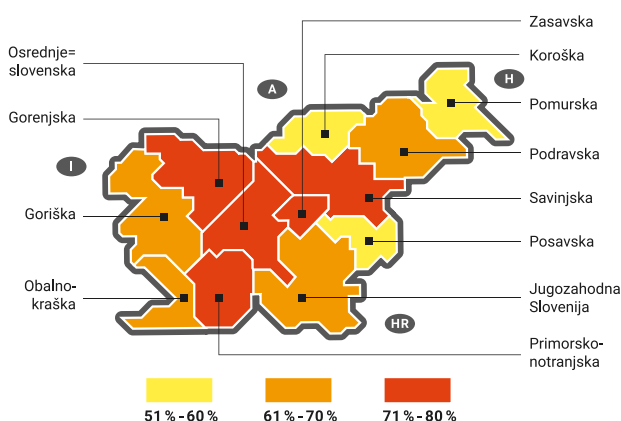
Personal vehicles are the most frequent mode of transportation regardless the destination or distance from the destination. The results of the public survey show positive trend in using the eco-friendly modes of transportation in the period 2010 - 2017 (public passenger transport, bicycles, walking) as a form of transport additional to the passenger car for moving around one's area of residence, for getting to work outside one's area of residence and for going on outings.



Within one's area of residence (for distances up to 5 km), passenger cars are most often used for doing errands and shopping (67%) and for trips to kindergarten (62%). They are followed by trips to work (55%), trips to school (51%) and trips to college (42%).



Share of households willing to combine a passenger car with public transport or other forms of transport in their daily transport schemes, if available at the appropriate time.



Potential





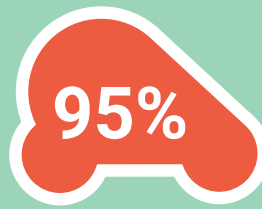
Public attitude towards fuel consumption in transport in Slovenia



According to the results of the 2019 REUS Survey the vast majority of passenger cars registered in Slovenia use conventional engine fuels such as petrol and diesel (95%). Only a small share (3%) of Slovenian households use alternative propulsion passenger cars.

PERCENTAGE OF CARS IN RUNNING ON

CONVENTIONAL FUELS



PETROL, DIESEL

ALTERNATIVE FUELS

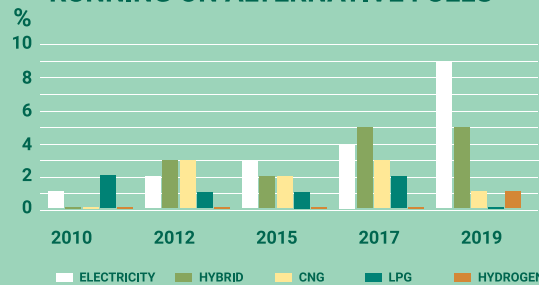


ELECTRICITY, HYBRID CNG, LPG, HYDROGEN

REUS 2019

Infirma Echo

PERCENTAGE OF PLANNED RUNNING ON ALTERNATIVE FUELS

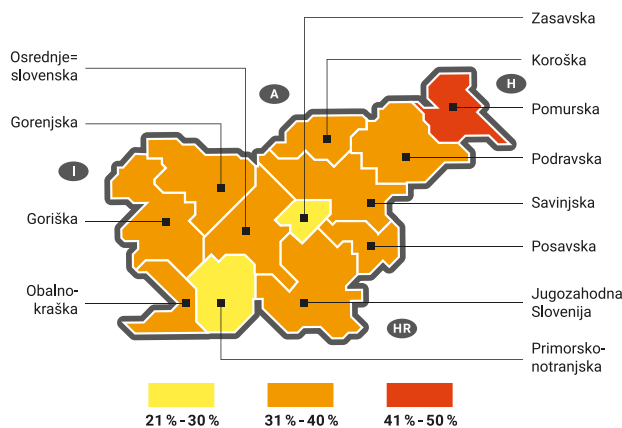


REUS 2019

Infirma Echo



Share of households with cars that consume more than 6.5 l of fuel per 100 km.



REUS 2019

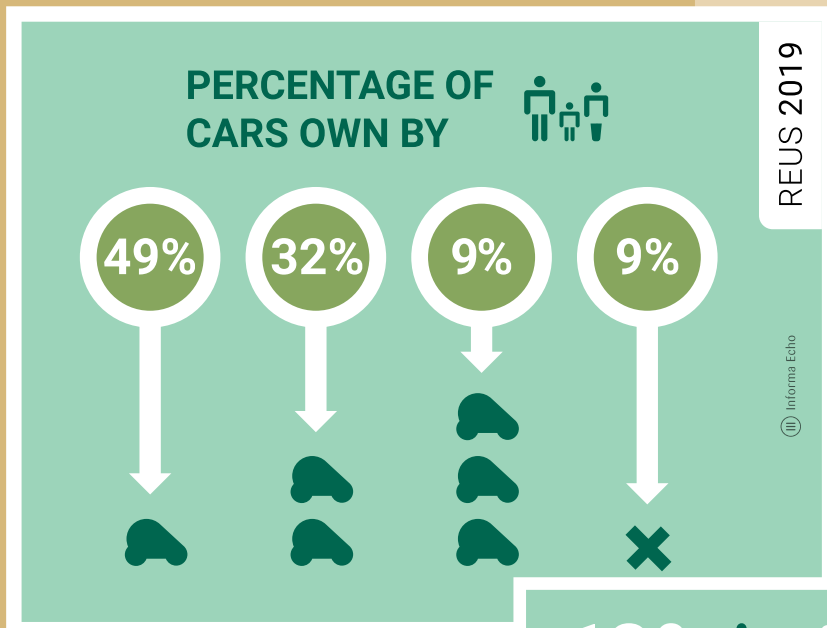
Infirma Echo

In 2019, more than two thirds (69%) of households planning to buy a car answered that they were planning to buy a conventionally powered vehicle, while just under a fifth of all households (19%) were planning to buy an alternative propulsion car (electricity, hybrid, CNG, LPG and hydrogen).

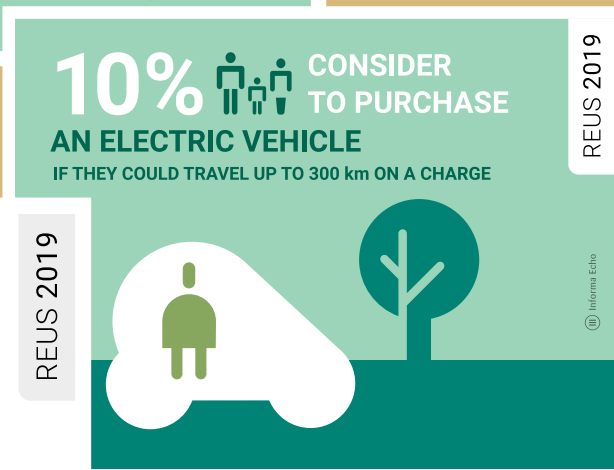
Potential



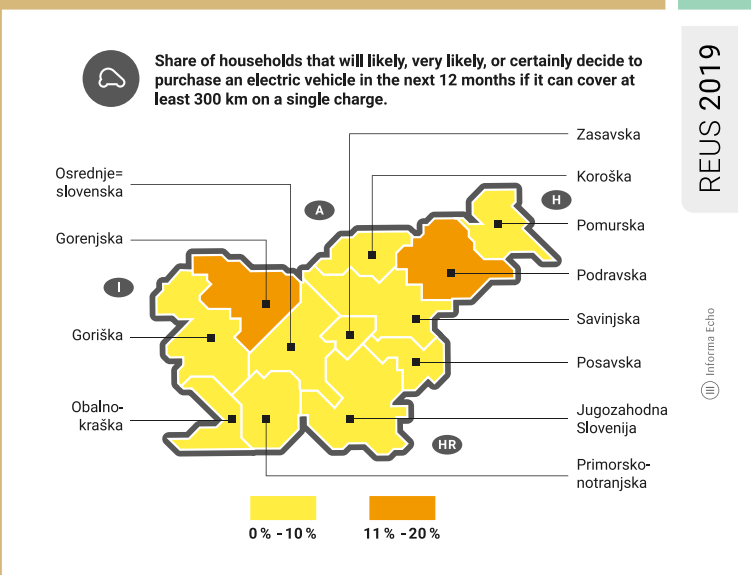
Public attitude towards battery electric vehicles and plug-in hybrid vehicles



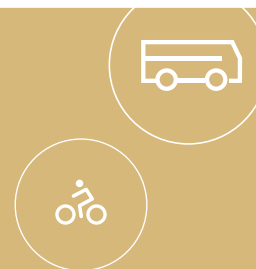
The 2019 Survey on Energy Efficiency in Slovenian (REUS) suggests that just under a half (49%) of surveyed households owned one car, just under a third (32%) owned two cars, while 9% of households owned three or more cars. The share of households without a car in 2019 was 9%.



One tenth (10%) of households gave the answers of “definitely”, “very likely” and “likely” to the question of “How likely would your household be to decide to buy an electric vehicle in the next 12 months if you could drive up to 300 km on a single charge?”



Potential



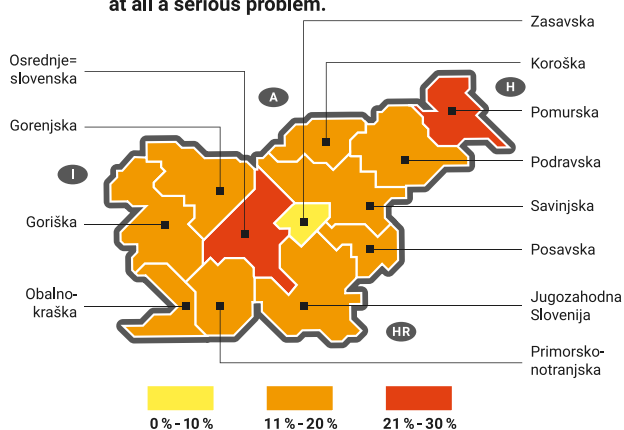


Public awareness of climate change impacts

In 2019, three quarters (77%) of Slovenian households consider the problem of climate change as very serious.



Share of households that consider climate change a relatively serious problem, not a serious problem, or not at all a serious problem.



About four-fifths (79%) of households believed that the problem of climate change was very serious "in general". More than two thirds (69%) of all households considered the problem very serious "for Slovenia". Only slightly more than half of all households (56%) believed the problem to be very serious "for the daily life of their household".

Potential





Guidelines

how to achieve energy and environmental goals.



Guidelines for municipalities and other public institutions to promote efficient energy management and the use of energy from renewable sources by consumers. With these guidelines, we promote a sustainable lifestyle and help the implementation of measures to achieve energy and environmental goals.



Overview of tools and online communication channels provided by the EURE ecosystem





Reliable data on energy management



The Survey on Energy Efficiency in Slovenia (REUS) enables continuous energy management monitoring. Data and time series constitute the basis for information, awareness raising and theme-based analysis. In line with the guidelines of the European Green

Deal. The REUS Survey provides reliable data on energy management in households and in the public and service sector.

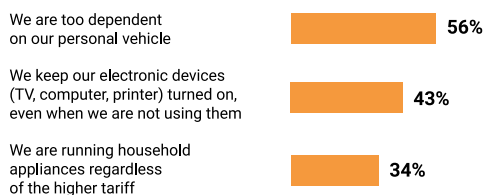


SYMBOLS

- ENERGY MANAGEMENT
- COOLING OF PREMISES
- ENTERTAINMENT AND WORK
- STATE OF BUILDING
- ELECTRICAL POWER
- ELECTRICAL POWER PRODUCTION
- HEATING
- LIGHTING
- TRANSPORTATION
- VENTILATION
- COOKING
- TRANSPORTATION TYPE
- USE OF SOURCES OF ENERGY
- FOOD REFRIGERATION
- ALTERNATIVE TRANSPORTATION
- WATER HEATING
- WASHING, DRYING

REUS 2019

THE 3 KEY WASTEFUL HABITS ACCORDING TO HOUSEHOLDS (multiple answers possible)



REUS 2019

www.reus.si

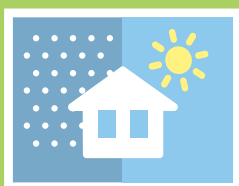
REUS



The REUS survey covers:



Energy management



The condition of buildings and heating and cooling equipment



Electrical appliances



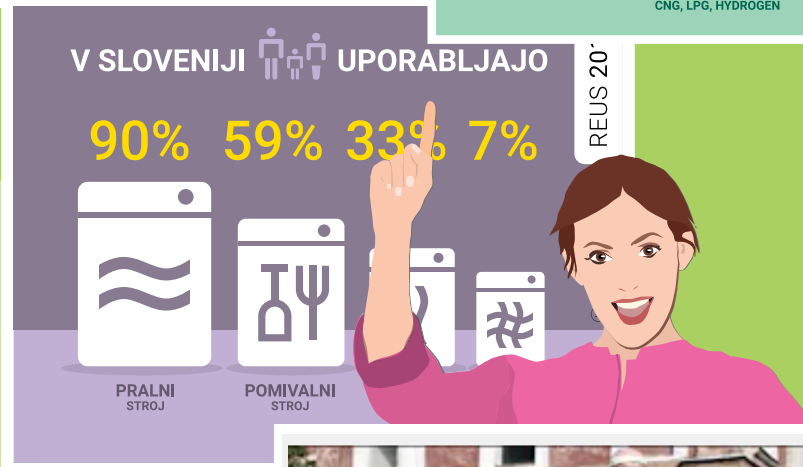
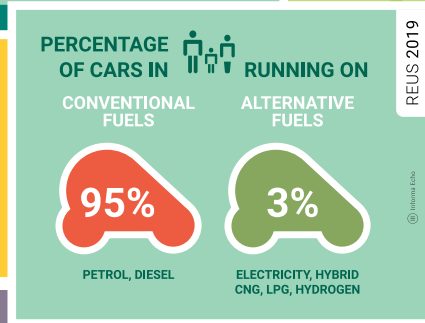
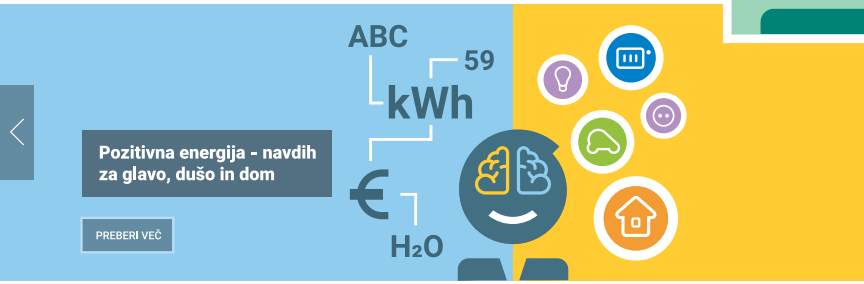
Mobility

Sustainable lifestyle



The purpose of the website www.pozitivnaenergija.si and supporting social media is to motivate citizens, raise their awareness and promote a sustainable lifestyle as a condition for realizing the identified potential. The website's My Home and Mobility menus offer visitors illustrated tips for efficient energy management and eco-friendly transportation/mobility as well as interesting research findings presented through infographics. The articles are prepared on the basis of analyses of REUS Survey data intended for the preparation of indicators of how effectively the measures are being promoted.

Pozitivnaenergija
RAZVIJA INFORMA ECHO



In addition to environmentally friendly and efficient energy management, a sustainable lifestyle also includes other, more personal aspects. The Personal Energy menu provides experiences and examples of how to manage and coordinate the energy of thoughts and emotions with daily activities such as work, learning, relationships, health care, hobbies, etc.



The Zero Point - Skate flow by Rajko Dolinsek

www.pozitivnaenergija.si

Pozitivnaenergija
(Positiveenergy)



Getting information on efficient technologies

<https://www.porabimanj.info>



The online energy consultant **porabimanj.info** provides information on efficient technologies in a way suitable for non-experts and information on energy use savings. They are both key to promoting energy efficiency and the use of renewable energy sources.



Prvi korak do toplotne črpalke
Katero vrsto toplotne črpalke lahko ugradim?

Več informacij

Jure, Eneja and their family will take you through short illustrated articles containing useful guidelines and tips for good energy management and will vividly explain the technical concepts to improve the knowledgeability of energy consumers in households.



Checking energy savings

www.porabimanj.si

The web application **porabimanj.si**

enables you to calculate your approximate savings for free and thus make decisions to invest

in energy efficient solutions related to heating, air-conditioning, electrical devices and mobility.



Porabimanj

(Spendless)



Data analyses - the basis of the right



Environmental indicators for monitoring energy management are available on the website of the Environmental Agency of the Republic of Slovenia. They are selected, agreed-upon data that enable the monitoring of trends and the identification of potentials for reducing energy consumption and thus the resulting environmental impact.

The purpose of environmental indicators is to answer key policy questions and support all phases of environmental and climate policy making, from designing policy frameworks to setting targets, and from policy monitoring and evaluation to communicating to policy-makers and the public.

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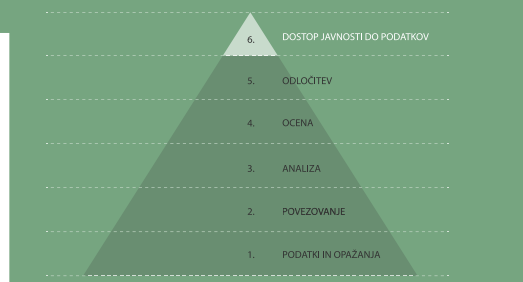
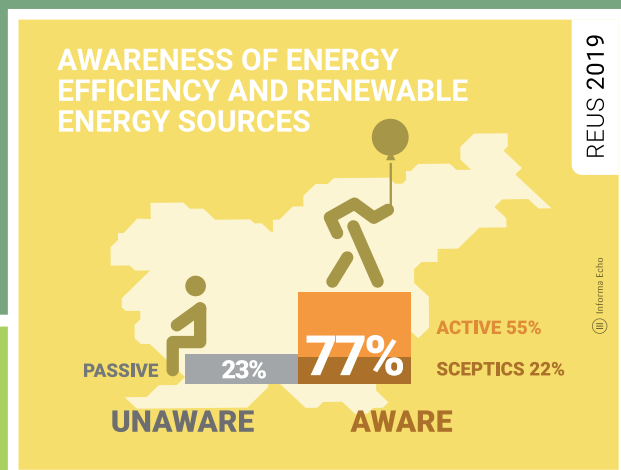
<http://kazalci.arso.gov.si>

Kazalci okolja (Environmental indicators)

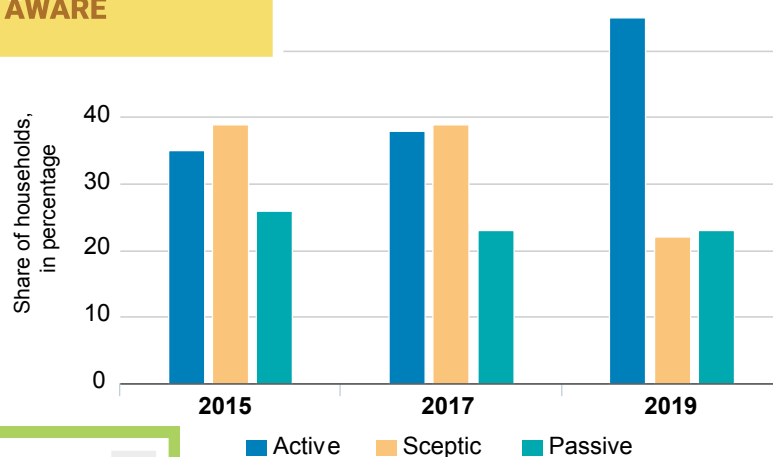
ARSO.GOV.SI | ARSO VREME | ARSO VODE | ARSO POTRESI | ARSO NARAVA | ARSO OKOLJE

ARSO OKOLJE
Kazalci okolja

Kazalci okolja v Sloveniji



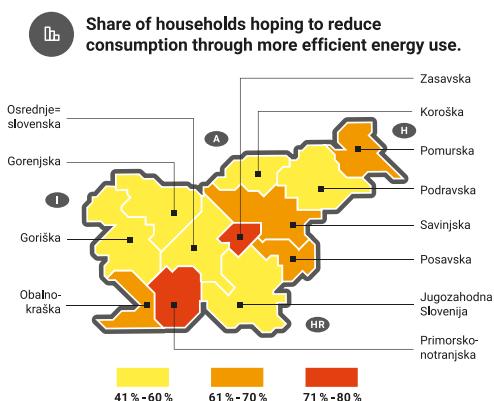
Actual attitudes towards energy use and ecological awareness, Slovenia, 2019



Sources:
Survey on Energy Efficiency in Slovenia,
Infirma Echo d.o.o. (26th Feb, 2019)

REUS 2019

Infirma Echo



Key resources for citizens in promoting efficient energy use and the utilization of renewable energy sources (1)

Environmental indicators in Slovenia, Climate Change Fund of the Republic of Slovenia, Ecological footprint of Slovenia

- Ministry of the Environment and Spatial Planning, Environmental Agency of the Republic of Slovenia

<http://kazalci.arso.gov.si/sl/content/ekoloski-odtis-0>



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE IN PROSTOR
AGENCIJA REPUBLIKE SLOVENIJE ZA OKOLJE

Energy portal - Ministry of Infrastructure <https://www.energetika-portal.si/>



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA INFRASTRUKTURU

Proposed recovery and resilience plan

Office of the Government of the Republic of Slovenia for Development and Cohesion Policy

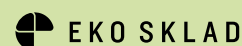
<https://www.eu-skladi.si/sl/po-2020/nacrt-za-okrevanje-in-krepitev-odpornosti>



REPUBLIKA SLOVENIJA
SLUŽBA VLADE REPUBLIKE SLOVENIJE ZA RAZVOJ IN EVROPSKO KOHEZIJSKO POLITIKO

Subsidies and favorable loans for environmentally friendly investments - Eco fond

www.ekosklad.si/



Energy consulting - Eco fond

www.ekosklad.si/prebivalstvo/ensvet



Renewable resources and energy efficiency - Energy Agency

<https://www.agen-rs.si/domov>



Agencijski za energijo



Key resources for citizens in promoting efficient energy use and the utilization of renewable energy sources (2)

Information Center for Information on Energy Efficiency and Renewable Energy Sources -

Sustainable Energy Portal
www.trajnostnaenergija.si/

TRAJNOSTNAENERGIJA 

Calculation of savings, units of measurement and physical facts

- Electricity distribution system operator (SODO)

<https://prihranki.uresnicujmo.si/>

<https://sodo.si/si/za-odjemalce/ucinkovita-poraba-energije/uresnicujmo-z-energijo-varcujmo>

SODO

Climate mirror - Institut »Jožef Stefan«, Energy Efficiency Center and partners

<https://www.podnebnapot2050.si/rezultati-slovenije/letno-podnebno-ogledalo/>

 Institut "Jožef Stefan"

Sustainable construction

- Civil Engineering Institute ZRMK
www.trajnostnagradnja.si

Gradbeni inštitut 

Energy poverty - Focus

www.focus.si/projekti/empowermed/

<https://www.empowermed.eu/wp-content/uploads/2020/11/Primorska-Pilot-Site.pdf>

<https://focus.si/focus-prispeval-poglavje-za-knjigo-o-energetski-revscini/>

FOCUS

Your ecological footprint - Institute of Health and Environment

<https://izo.si/izracunaj-ekoloski-odtis/>

 Inštitut
za zdravje
in okolje

Calculate the carbon footprint - Umanotera

<https://www.umanotera.org/CO2>

UMANOTERA



Partners and co-providers of funds of the REUS survey

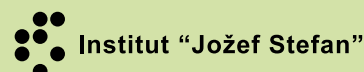
Leading partner

- Informa Echo



Partners of REUS survey

- Center za energetska učinkovitost pri Inštitutu Jožef Stefan
- Gradbeni inštitut ZRMK
- Statistični urad Republike Slovenije
- Ipsos - raziskovanje trga, medijev in javnega mnenja



Co-provider of funds

- Borzen



Further information

Conceptual design, infographics, regional maps and publication preparation:

Informa Echo

Preparation of documents:

Informa Echo, Agencija Republike Slovenije za okolje

Ecosystem for Efficient Energy Management – EURE:

Informa Echo



Rajko Dolinšek
Informa Echo
rajko.dolinsek@informa-echo.si
+386 31 688 423



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT AND SPATIAL PLANNING
SLOVENIAN ENVIRONMENT AGENCY

Nataša Kovač
Slovenian Environment Agency
natasa.kovac@gov.si
+386 1 478 4413