



Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



**Insight into the attitude towards
sustainable energy use among the Slovenes**



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INŠTITUT
ZA POTOŠNIŠKE RAZISKAVE

ZPS

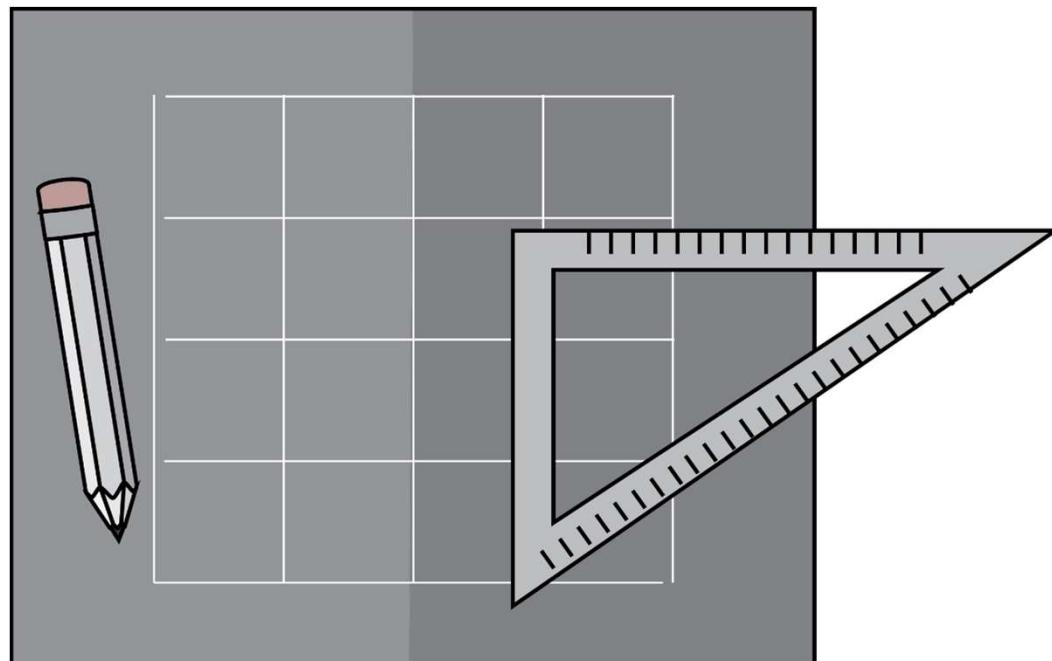
ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



CONTENT OVERVIEW

Index



1. Description of the research
2. A summary of key findings
3. Attitude towards sustainable use of energy
4. Sustainable use of energy in households
5. Motives for and barriers to sustainable use of energy
6. User profiles when it comes to sustainable use of energy



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



DESCRIPTION OF THE RESEARCH

Research objectives and approach

research
objectives



- 1.
- 2.

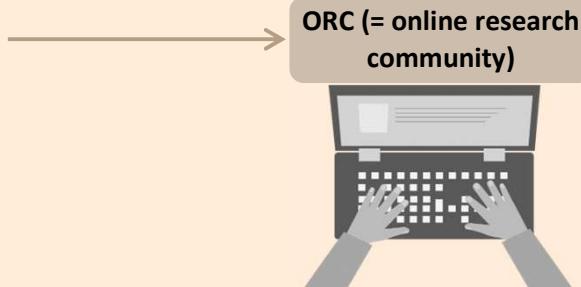
Get an insight into the motives for and barriers to sustainable use of energy in households.

Identification of user profiles when it comes to sustainable use of energy, with the aim of selecting ten families and monitoring their development towards sustainable use of energy.

research
approach



When we want to gain a deep insight into perceptions, practices, desires and expectations of consumers.



ORC (= online research community)



→ Duration of the research community: 10 days

→ Sample size: n=112*



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

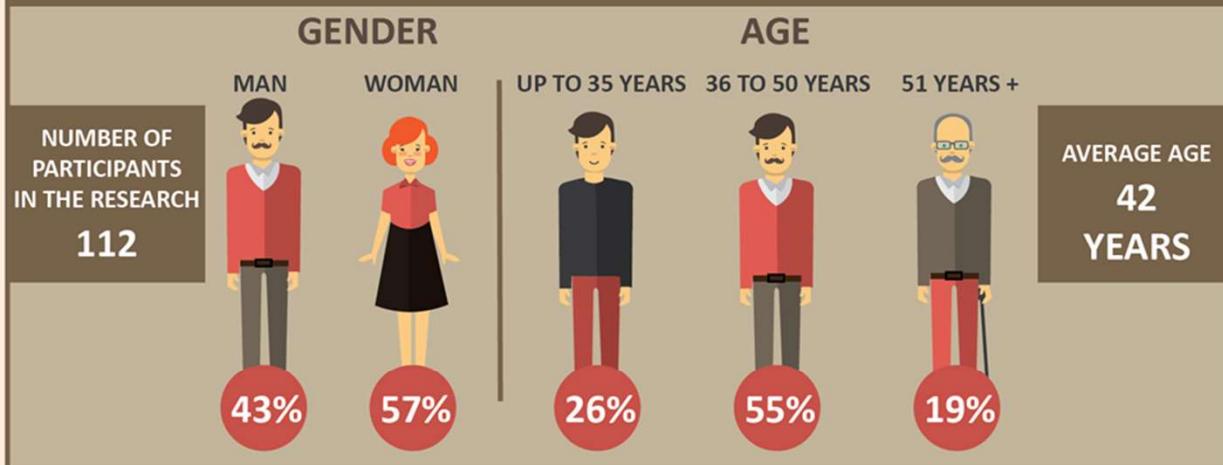


METHODOLOGY

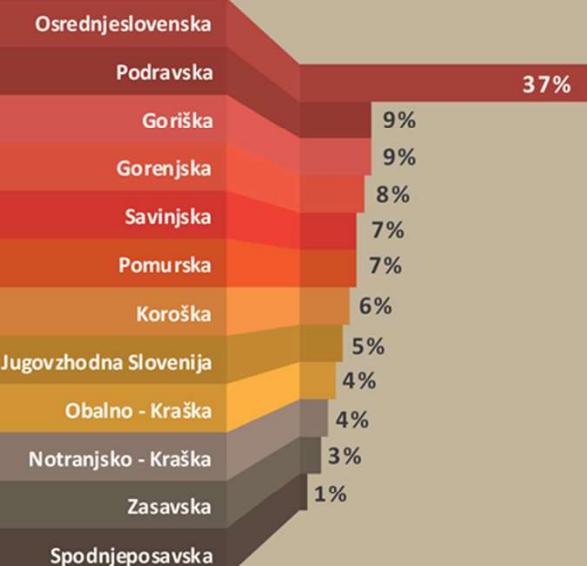
Characteristics of the sample

DEMOGRAPHY

In the ORC - an online research, 43 % of men and 57 % of women participated. The majority of participants were between 36 and 50 years old, while the minimum number of participants was over 50 years old. The average age of participants was 42 years. Participants from Central Slovenia, as well as from other regions, participated in the forum.



REGION



ZPS MEMBERS

6 % of participants are members of ZPS.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

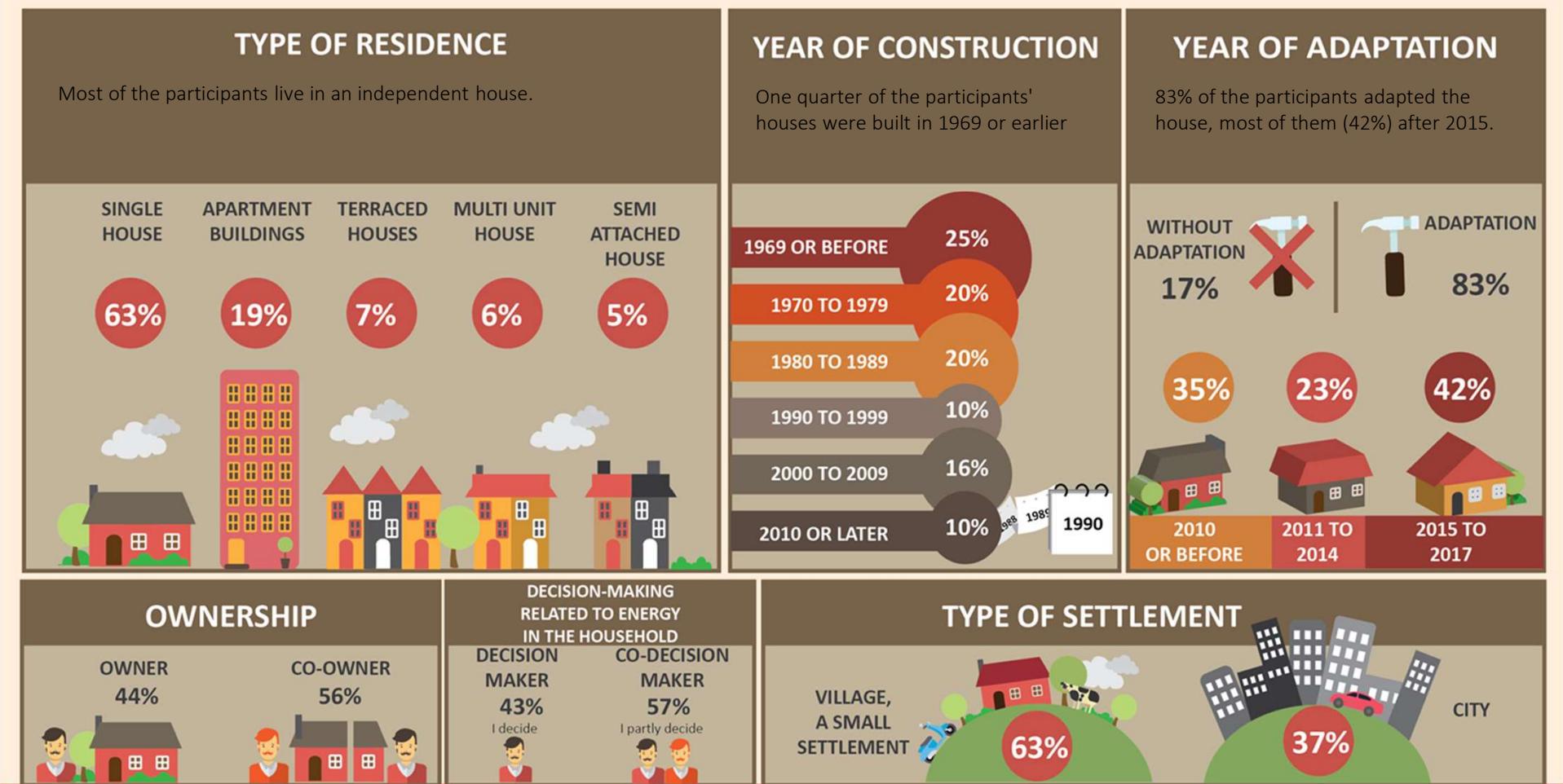
ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of vertical bars in yellow, orange, and red.



METHODOLOGY

Characteristics of the sample



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTOŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



Key findings

Attitude towards sustainable energy

ASSOCIATIONS TO SUSTAINABLE USE OF ENERGY



Most associations to sustainable use of energy are related to **renewable resources** (sun, wind, hydropower, biomass, sea, geothermal energy) and **investments** (environmentally friendly construction, energy efficiency and renovation of buildings, energy efficient devices, heat pump, electric vehicles). In connection with the sustainable use of energy, the participants mentioned the **consumption habits** that go towards saving energy and recycling. At the experiential level, their associations relate to **environmental friendliness**, including to modernity and knowledge (the use of advanced, modern technologies). Some participants emphasize the **responsibility of the politics** in terms of designing effective state and supranational strategies, so that sustainable resources are understood as a public good and every citizen will be able to access them irrespective of their social status. Attempts at the sole level of the individual seem to be quite inefficient for many participants.

ASSOCIATIONS TO SUSTAINABLE ENERGY RESOURCES

When mentioning sustainable energy resources, most participants think of **renewable energy resources** - sun, wind, hydropower, biomass, sea, geothermal energy. Their associations also relate to the **properties of these resources**: purity, harmlessness, renewability and sustainability (such sources will never run out). At the experiential level, participants in connection with sustainable resources highlight the **concern for nature, the passing of time** (past, future, such resources have always been and will always be on earth), and **life** – concern about our descendants.



MEASURES NEEDED FOR SUSTAINABLE USE OF ENERGY

The participants highlight actions at three levels: individual (individual responsibility), state (state responsibility, systemic measures) and global (responsibility of the global community, supranational entities). **Individual measures** are, on one hand, linked to consumption habits (energy saving and drinking water, waste separation and recycling, reduction of consumption, environmentally friendly food production and rational use of transport). On the other hand, they are linked to investments (renewable energy sources, environmentally friendly construction, use of environmentally friendly sources of heating, use of electric vehicles). The participants also highlighted the **necessary systemic measures at the state level**: effective policies and system solutions for sustainable energy use, systematic introduction of renewable energy resources, efficient building plans, organization of efficient and environmentally friendly public transport, efficient and more extensive subsidization - enabling sustainable energy use for all citizens. According to the participants, the measures are not enough at the individual and national level - it is necessary to **link at the supra-state level**. The global commitment (and fulfillment of commitments!) to the sustainable use of energy is also necessary.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



KEY FINDINGS

Sustainable use of energy in households

ACTIONS THAT HOUSEHOLDS ARE READY TO TAKE

As far as the **changes in consumption habits** are concerned, the participants emphasized energy savings (switching off the lights, using a washing machine and drying machine at a low flow, setting a slightly lower heating temperature). They are also paying attention to water saving - this aspect is particularly highlighted by participants from the countryside who use rainwater instead of drinking water for watering gardens. The participants also mentioned efforts to consistently separate waste. A part of the participants is also using sustainable modes of transport (bicycle, car sharing, where possible).

When it comes to **investments in home furnishing**, the participants highlighted in particular the use of energy-saving LED lamps and energy-saving appliances, energy renovation of the house (to the extent permitted by the family budget: window change, facade insulation, roof insulation), energy-saving construction, replacement of the heating source with the more modern one (heat pump, pellet stove) and the purchase of a heat pump for water heating.

ACTIONS THAT HOUSEHOLDS ARE NOT READY TO TAKE

In connection with **consumption habits** that they would not give up, the participants mostly highlight habits linked to the modern way of life. It would be difficult for them to consent to the smaller use of electronic devices (computers, smart phones, tablets, televisions), they are inconsistent when switching off and turning off devices when they don't use them, some are inconsistent when turning off the lights. Since public transport in Slovenia is underdeveloped, most of the participants would not be able to give up the use of a car. Participants who like to travel do not give up on a plane ride. It would also be difficult to give up habits related to the quality of life (long showering, baths, pleasant warmth of the rooms in the winter, frequent use of washing machines and dryers).

In connection with **investments not carried out** (energy saving appliances, energy renovation of buildings, purchase of a modern heating source) – it is mainly for measures that certain participants are not able to fully implement as family budget does not allow them. They highlight the importance of appropriate financial incentives by the state.

INVESTMENTS IN ENERGY EFFICIENCY OF HOUSEHOLDS

Participants are **investing in energy efficiency** according to their financial capabilities. The investments already carried out mostly relate to energy renovation of buildings (replacement of building furniture, insulation of facades and hollows, roof replacement) and change of heating system (switching to heat pump, pellet stove). The positive effects that participants emphasize on these investments relate primarily to saving money and increasing the comfort of stay.

The solar power plant is an investment that most of the participants do not intend to introduce - mainly because of the high investment costs and because such technology has not yet been sufficiently tested. When it comes to larger investments and the introduction of new technologies in the field of sustainable energy use, most participants are followers. This means that they are waiting for the purchase decision until the innovation is already well accepted among people (and the price is lower).



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



Key findings

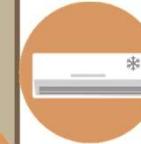
Investments → Heat pump, pellet stove, air conditioner, solar power plant

HEAT PUMP

The heat pump is a well-known source of heating among the participants. From all sources of heating the houses and sanitary water, the heat pump is a resource, which is among the participants most popular and desirable.

The key advantage of the heat pump in the perception of the participants is the good use of energy from the environment, which allows economical heating, and full automation of operation, which offers a comfortable use of this heating method.

The key weakness of the heat pump is in a high initial investment. Despite the Eko Fund subsidy, the investment in the heat pump is very high. As a result, this method of heating is inaccessible to a wider circle of people with average and lower incomes.



AIR CONDITIONER

The key emotional benefits that participants connect with an air conditioner are comfort and care. The use of air conditioning as a heating source is also linked to economy, accessibility and independence. These benefits come from the operating technology (automation, multitasking, speed), as well as from the characteristics of the investment (low price) and energy - electricity (always available, low price).

The participants do not find much of the essential disadvantages of using the air conditioner, with the exception of the negative impact on health. Due to the possibility of improper use (setting too low temperatures in the summer, too high during colder months and causing dry air in the apartment), colds and allergies can result, which leads to distress and poor human health.



PELLET STOVE

The pellet stove in the perceptions of the participants means a step forward from the wood and oil stove in terms of the operation technology, energy efficiency and sustainability of the energy product for heating. It is a heating technology that is cheaper than a heat pump and therefore accessible to a wider circle of people.

The key weakness of the pellet stove is in the perception of people associated with less convenience - the operation is not fully automated (it is necessary to regularly clean the stove, to load pellets into the storage room, to store energy) - and consequently discomfort and time of use (especially compared to the heat pump).



SOLAR POWER PLANT

In the perception of people, the solar power plant has more disadvantages than advantages. The key disadvantage of the solar power plant in the perception of people is the extremely high investment cost. The installation of the solar power plant is still uneconomic (high initial investment, long repayment of the investment, low purchase price of energy). In conjunction with solar cells, the participants exposed: dirty production and decomposition, rapid material recovery, inefficient energy storage and sensitivity of solar cells to external influences (e.g. hail, wind, lightning). Due to the inconstancy of electricity generation, solar energy is not a source that is completely reliable (inefficient storage and, consequently, lack of energy). The main advantages highlighted by the participants are connected with the energy for generating electricity - the sun. It is a clean and environmentally friendly source that does not produce waste at the time of energy conversion and has unlimited supplies in the nature thus ensuring the energy independence of the household and lower electricity prices.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



KEY FINDINGS

Motives for and barriers to sustainable use of energy and user profiles

MOTIVES AND BARRIERS FOR SUSTAINABLE USE OF ENERGY

Key motives for sustainable use of energy are **economy** (in terms of savings) and **comfort**. The use of cleaner energy and, consequently, friendliness to nature is a consequence of the use of such resources, but does not act as a key motive or as a drive towards sustainable energy use in households.

When it comes to sustainable use and energy consumption the **key barrier** is **discomfort** (in the opinion of the participants it is necessary to change the mindset and to be prepared for somewhat lower quality of life). The use of sustainable energy sources is **inaccessible** to many participants, as they have no financial opportunities for major investments. Participants also highlight the **absence of effective state-level measures** to make this kind of energy more accessible. Efforts at the level of the individual and not the entire community (the creation of effective policies) seem to be **meaningless** and **ineffective** for many participants. When it comes to introducing the use of new, yet untested technologies (especially solar cells), one of the barriers is **uncertainty** (investment risk) - technological innovation is not yet sufficiently widespread and the positive results can not be seen in the homes of relatives, friends.



USER PROFILES

Early adopters – these are the individuals that are most advanced when it comes to investments in sustainable use of energy. They carried out a complete energy renovation of the house, or built a low-energy house, they heat up on a heat pump, have a domestic power station (solar cells, a hydroelectric power station), or seriously think about it, have a rainwater reservoir or seriously think about its installation.

Early majority – these are individuals who have carried out most of the investments related to energy renovation of the house, they heat their household with a heat pump. Most do not have a reluctant attitude towards the solar power plant, but they do not fully trust innovations until they see positive results in others.

Late majority – these are individuals who are striving for energy renovation of their homes, they replaced the primary way of heating - they mostly switched from heating with oil or with wood to heating with pellets - because the cost of the investment is not excessive, and the savings are good. These are price-sensitive individuals who take innovations later than most, when they become almost a necessity. Mostly they do not favor investments in solar cells and electric cars.

Laggards – they are still heating up on oil, gas or wood. They invest in energy renovation, but due to lack of funds, the renovation has not been completed.

Dependent – these are individuals who live in apartment building and are not autonomous when investing in sustainable energy use.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTOŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



Attitude towards sustainable use of energy



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTOŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



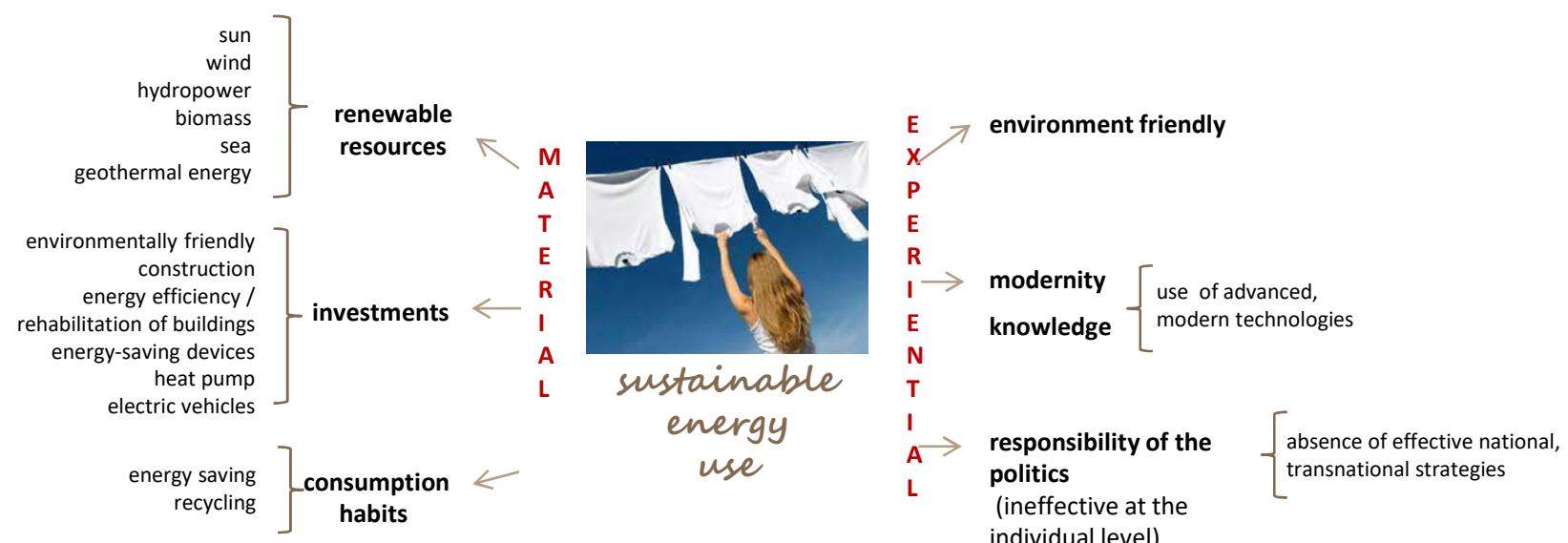
ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Associations to sustainable use of energy

With the help of associations, we got the top of mind participants' perspectives on sustainable energy use. We show them schematically on two levels, both material and experiential.

The majority of associations are tied to the material level. Associations of participants to sustainable use of energy are thus connected with renewable resources (sun, wind, hydropower, biomass, sea, geothermal energy), investments (environmentally friendly construction, energy efficiency and rehabilitation of buildings, energy saving devices, heat pump, electric vehicles). In connection with the sustainable use of energy, the participants also mentioned consumption habits that are moving towards energy saving and recycling.

At the experiential level, their associations relate to environmental friendliness, including modernity and knowledge (the use of advanced, modern technologies). Some participants highlight the responsibility of the politics in terms of designing effective national and transnational strategies for sustainable energy use; that sustainable resources will be understood as a public good and every citizen, regardless of social status, will be able to access them. Efforts at the individual level seem to be ineffective to many participants.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Associations to sustainable use of energy → Collage of associations

Collage is a selection of typical image associations. Picture materials were contributed by ORC participants.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of several curved, colorful bands in shades of yellow, orange, and red.



ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Associations to sustainable use of energy → Insight into participants' thoughts

Uporabnik 24: Osebno pod tem pojmom razumem rabo kakršnekoli energije, ki jo poskuši **uporabiti varčno, preudarno**, da iz nje, kakršnegakoli je že izvora, dobiš čim več oz. jo uporabiš čim bolj smotorno.

Tudi denimo "car sharing" je zame trajnostna raba, saj se več ljudi vozi z enim avtom in posledično neobnovljivi vir energije uporabi bolj trajnostno in do okolja priazno. Potem denimo bolj trajnostna raba energije so zame tudi topotne črpalki, ker dobiš načeloma vsaj 3 kW uporabne energije iz 1 kW vhodne.

Uporabnik 83: **Gozd.** Primerena in načrtovana izraba lesa je odličen in trajnostni vir energije. Ne posega v okolje več kot je potrebno in koristno, se obnavlja, prav tako les kot vir energije ne povzroči pretiranega onesnaženja. Zaenkrat je tudi cenovno ugodno in mislim, da bi s pravim pristopom tudi ostalo.

Sončna energija je energija prihodnosti. Menim, da je prvotna investicija sicer velika, vendar se v srednjeročnem obdobju povrne. Je okolju popolnoma neškodljiva in neinvazivna.

Izraba vode kot vira energije je v Sloveniji že od nekdaj super izkorščena in uspešna.

Uporabnik 37: Trajnostna raba energije – pri tem najprej pomislim na **toplotno izolacijo hiš**. Našo hišo smo že pred 30 leti topotno izolirali s stiroporom, kar se je precej poznalo pri stroških za ogrevanje. Pred nekaj leti smo hišo nadzidali za eno nadstropje in še dodatno izolirali podstrešje. Opažamo, da je zdaj poraba kurihlega olja za obe etaži približno enaka kot prej za 1 nadstropje.

Pomembno je tudi vgraditi **energetsko učinkovita okna**. Stara okna ne tesnijo več dovolj in jih je treba zamenjati za energijsko varčna (poleti je bolj hladno, pozimi pa nam ne uhaja toplota po nepotrebnem. Mi smo izbrali aluminijasta okna.

Predvsem je potrebno **izrabiti energijo sonca, vetra in vode**. Sonce je naravna danost in njegovo energijo lahko s pomočjo sončnih celic pretvorimo v električno energijo. Energijo vetra lahko pretvorimo v električno energijo in mehansko energijo. Naravna danost so tudi reke in morje.

Uporabnik 33: **Obnova javnih stavb**, da zmanjšamo porabo energije.

Gradnja energetsko varčnih hiš da zmanjšamo tudi vplive na okolje.

Ter seveda smotorno uporabo vseh virov energije, krogotok porabe in s tem pripomoremo k boljšemu življenju.

Uporabnik 10: Mislim, da je na fotografiji **vetrna elektrarna** iz naše bližine, to je z Razdrtega pri Postojni. Glede na našo klimo in čisto energijo je to idealna možnost. Ne samo za posameznika, temveč za celo manjša naselja. Vem, da imajo ljubitelji ptic razne pomisleke (Volovja reber pod Snežnikom), toda vetrne elektrarne imajo tudi ostali in ptice tudi.

Uporabnik 113: Trajnostna raba energije je **dolžnost in poslanstvo vseh, tako posameznikov, kot družbe v celoti**. Zato morajo biti sredstva in načini za uresničevanje trajnostne rabe energije dosegljivi vsem - **ne le poslovna priložnost za posameznike, temveč javno dobro za vse**.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.

MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Associations to sustainable energy resources

Associations of participants linked to sustainable energy resources are predominantly material. Most participants think of renewable energy resources - sun, wind, hydropower and biomass. The participants also point out the sea and some of them geothermal energy. Associations of participants also connect with the PROPERTIES of these resources: purity, harmlessness, renewability and sustainability (such resources will never run out).

At the experiential level, participants in connection with sustainable resources highlight the concern for nature, the passing of time (past, future, such resources have always been and will always be on Earth), and life – thinking about our descendants.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of vertical bars in yellow, orange, and red.



ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Associations to sustainable sources of energy → Collage of associations

Collage is a selection of typical image associations. Picture materials were contributed by ORC participants.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Associations to sustainable sources of energy → An insight into the participants' thoughts

Uporabnik 129: Trajnostna energija so naravní **viri, ki so bili, so in bodo**. Se ne iztrošijo, zato jih lahko uporabimo v neomejenih količinah. Voda je zmeraj bila glavni vir življenja in energije. Človek jo je uporabljal od vedno. Veter mrši lase, vendar nam daje tudi veliko koristne energije. Izkoristimo jo.

Uporabnik 37: Pri pomenu trajnostni viri energije najprej pomislim na to, da je nekaj **čistega, naravnega in neškodljivega za človeka in naravo**, in da je tega v izobilju na razpolago

1. Najbolj so mi všeč vetrne elektrarne, saj se mi zdi, da je vetra čedalje več in kar kliče po tem da ga uporabimo v koristne namene.

2. Potem so tu sončne celice, sonca je dovolj, sije nam brezplačno, investicija je le v sončne celice, imam pa pomisleke glede tega, da pravijo, da je življenjska doba sončnih celic samo 10 let, kar se mi pa zdi premalo, na tem področju bi se morallo kaj narediti, da bi se bolj splačalo.

3. Voda in njena moč je že od nekdaj uporabljen energija. Čiste vode sicer po svetu ni dovolj, je pa morske zato, mogoče bi se iz tega lahko kaj koristnega naredilo.

Uporabnik 113: Zares nam je ponujeno, vendar ni tako zastonj. Solarni paneli so kar huda investicija. Na žalost.

Se zelo strinjam, da bi morala biti solarna energija finančno dosegljiva tudi navadnim smrtnikom. Tudi meni so zelo všeč vetrne elektrarne, vendar imam nekaj pomislekov zaradi ugovorov na škodljive učinke hrupa le-teh. Kar se pa tiče morske vode - po svetu jo že izkoriščajo, tako valove kot tudi plimo. Zelo zanimivo!

Uporabnik 4: Pomislim na **trajanje, na čas, veliko časa. Za več generacij časa**. Ob tem seveda tudi na ljudi, svoje otroke, nekoč vnuke in vse zanamce, ki še pridejo, ko nas več ne bo. Pomislim na toploto, takoj za tem pa na sonce kot ultimativni vir energije, brez katerega tudi nas ne bi bilo.

Uporabnik 10: Les, naše bogastvo, ob pametni uporabi nam ga ne more zmanjkat. Poleg tega smo ves čas v naravi in z naravo. Da ob tem ne govorim o gobah, jagodah, pohodih. Edini problem ob tem je onesnaženost z zastarelimi kurišči, kar pa z napredkom tehnike ne bi smelo bit problem, seveda ob predpostavki, da ni problem tudi denar.

Uporabnik 110: Prvi trajnostni vir, na katerega pomislim, ko se gibljem na prostem, je veter in s tem **vetrna energija**. Vedno, ko me na morju opeče ali ko me boli glava, se spomnjam na moč energije, ki nam jo oddaja sonce, torej gre za **sončno energijo**, ki jo pre malo izkoristimo s sončnimi celicami. Predvsem bi nam taka oblike energije prišla prav v bolj mrzlih mesecih. Tretji vir je **energija biomase** (les). Država je pokrita z več kot 50% gozdov, ki ga pa ne izkoristimo dovolj, da bi imeli od tega vsi več koristi. Ko se sprehajam po gozdu, dobim asociacijo na to vrsto trajnostne energije.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INŠTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON





ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Action needed for a better future

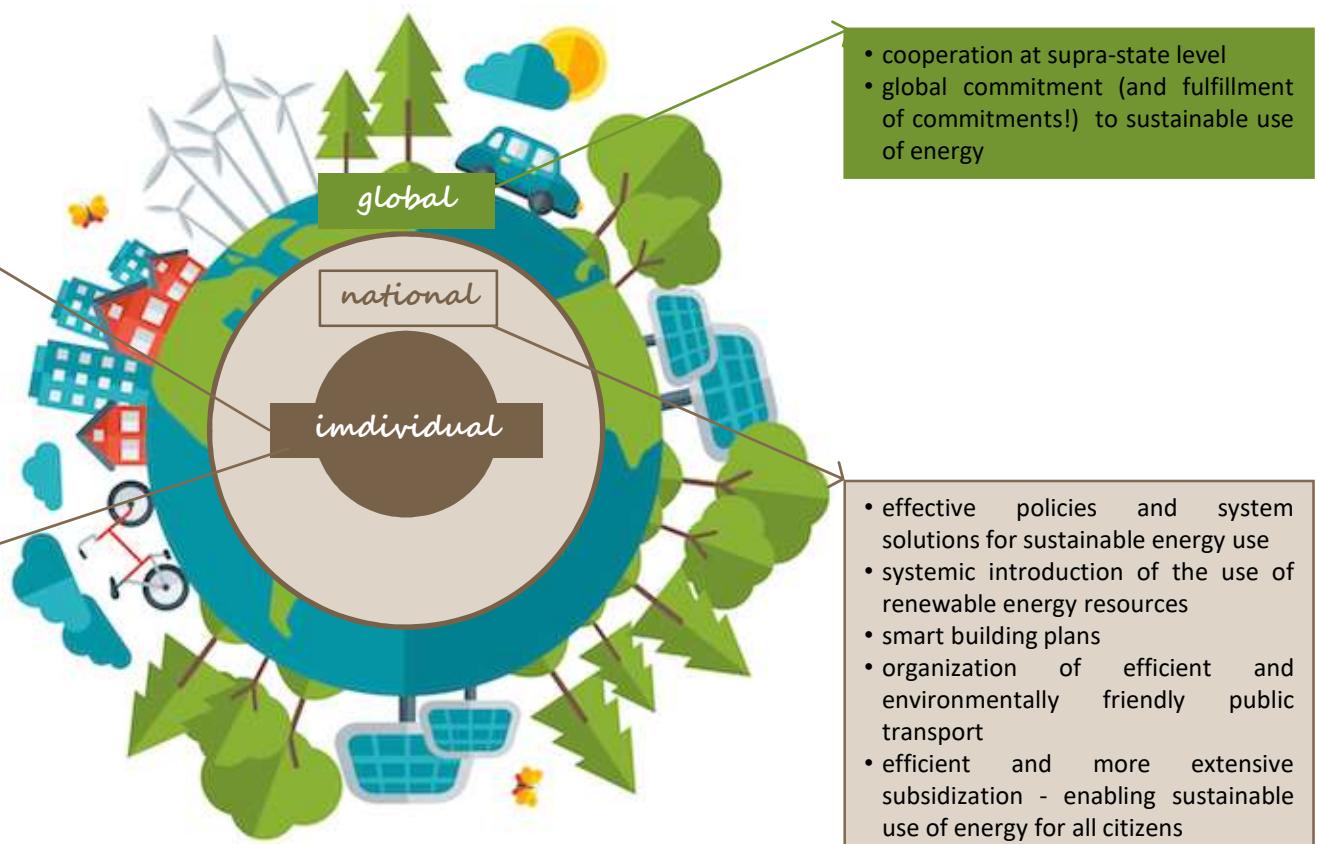
Through the metaphor of a time traveller, the participants discussed what measures would be needed to make our energy use sustainable, energy efficient, and to use energy in a way that would not have harmful consequences on the lives of our descendants.

The necessary measures, which the participants emphasize to the greatest extent, can be divided into three levels: individual (individual responsibility), state (state responsibility, systemic measures) and global (responsibility of the global community, supra-state entities).

The picture below shows the specific measures that each participant exposed for each level.

1. consumption habits

- saving of energy
- saving of drinking water
- waste separation
- recycling
- reducing consumption
- environmentally friendly food production
- rational use of transport



2. investments

- use of renewable energy resources
- environmentally friendly construction
- use of environmentally friendly sources of heating
- use of electric vehicles

- cooperation at supra-state level
- global commitment (and fulfillment of commitments!) to sustainable use of energy

- effective policies and system solutions for sustainable energy use
- systemic introduction of the use of renewable energy resources
- smart building plans
- organization of efficient and environmentally friendly public transport
- efficient and more extensive subsidization - enabling sustainable use of energy for all citizens



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Action needed for a better future → An insight into the participants' thoughts

Uporabnik 63: Živijo, ravnokar sem se vrnila iz leta 2050. Imela sem priložnost videti, kako ljudje živijo veliko bolj varčno kot mi. Precej več uporabljajo naravne vire energije. Povsod sem videla vetrnice, veliko sončnih panelov, hidroelektrarne so nekaj povsem običajnega. K zmanjšanju onesnaževanja okolja so pripomogli tudi električni avtomobili. Ljudje so bolj ozaveščeni o porabi energije, luči ne gorijo kar tja v tri dni in podobno.

Uporabnik 21: Upam, da bomo v letu 2050 znali tako izkorisčati energijo, ki je okoli nas (sonce, voda, veter, vodih, plima-oseka), da ugašanje žarnic kot način varčevanja ne bo potreben oz. bo bizaren. Menim, da je energija posod okrog nas le izkoristiti je ne znamo ali ne dovolijo.

Uporabnik 48: Če pomislim na moj življenjski stil, ugotovim, da kljub mojemu prepričanju le ne živim tako varčno, kot ves čas mislim. Predvsem zato, ker je bolj preprosto pustiti kaj prižgano, uporabljati močnejšo luč, se nekam peljati z avtomobilom. V kolikor bomo hoteli kot družba pomagati Zemlji, bomo morali posamezniki zamenjati mišlenje in svoje udobje postaviti na drugo mesto. Prva naj bo narava. Pomembno pa se mi tudi zdi, da se spremembe začnejo dogajati povsod in v glavah vseh ljudi. Nepomembno se mi zdi, da se recimo neka država trudi in presega svoje zmogljivosti glede trajne rabe virov, drugi državi in njenim prebivalcem pa je to vseeno. Ta neenakost razmišljanja zna celoten proces reševanja bivalnega planeta zavleči v čas, ko utegne biti prepozno (če še ni, kar nas nekateri že opozarjajo).

Uporabnik 32: Ajooj, da bi mene poslali iz take prihodnosti, kjer bi znali potovati skozi čas, nazaj sem v te krizne čase, bi bil pa res slabe volje :D In kot tak ne bi bil nič kaj prijazen: v eni roki bi imel šibo in bič, da bi z njima nateral skorumpirane politike in grabežljiv kapital na eno hudo predavanje. V drugi pa hologram z dvemi filmčki: - en bi prikazoval napredek planeta, ko hodita politika in kapital z roko v roki za dobrobit vsega človeštva in planeta - drugi pa bi pokazal, kam vodita pohlep za denarjem na račun uničenja planeta. Na koncu bi se zahvalil za posluh in pozornost ter zaželel, da se še kdaj vidimo - ker jaz bom na vašo žalost in mojo srečo obstajal samo v eni od možnih prihodnosti.

Uporabnik 68: Predvsem tu ne gre od malega k velikemu temveč obratno. Prvo mora imeti potrošnik na razpolago sisteme ogrevanja in oskrbe z energijo, ki so že sami po sebi varčni, proizvedeni v ekološko prijaznem proizvodnem procesu, vsi ti sistemi mu morajo biti tudi finančno dostopni.

Uporabnik 91: Uporaba naprednih, trajnostnih, okolju prijaznih sistemov za pridobivanje energije. Država naj bi uporabo le-teh spodbujala s subvencijami. Spodbuda državnih organov izredno pomembna. Da bi se ljudje odločali za tovrstne sisteme je potrebno ljudi izobraziti, ozavestiti, spodbujati k tovrstnemu obnašanju, reklamne kampanje. Konkretno: menjava vseh avtomobilov na električne, menjava dotrajanih sistemov za pridobivanje energije z negativnimi vplivi na okolje z novimi, tehnološko dovršenimi.

Uporabnik 60: Kaj bi rekel ljudem? Nič, vsak ima to, kar si lahko privošči. Vsak bi imel doma toplotno črpalko pa izolirano bajto pa ajmjeva okna. Naj država več subvencionira, naj država dvigne malo minimalno plačo, da ne bomo životarili. To so problemi, ki jih ne moremo reševat mali ljudje.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



Clear 2.0

enabling Consumers to Learn about, Engage with, and Adopt Renewables



Sustainable use of energy in households



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTOŠNIKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON



20



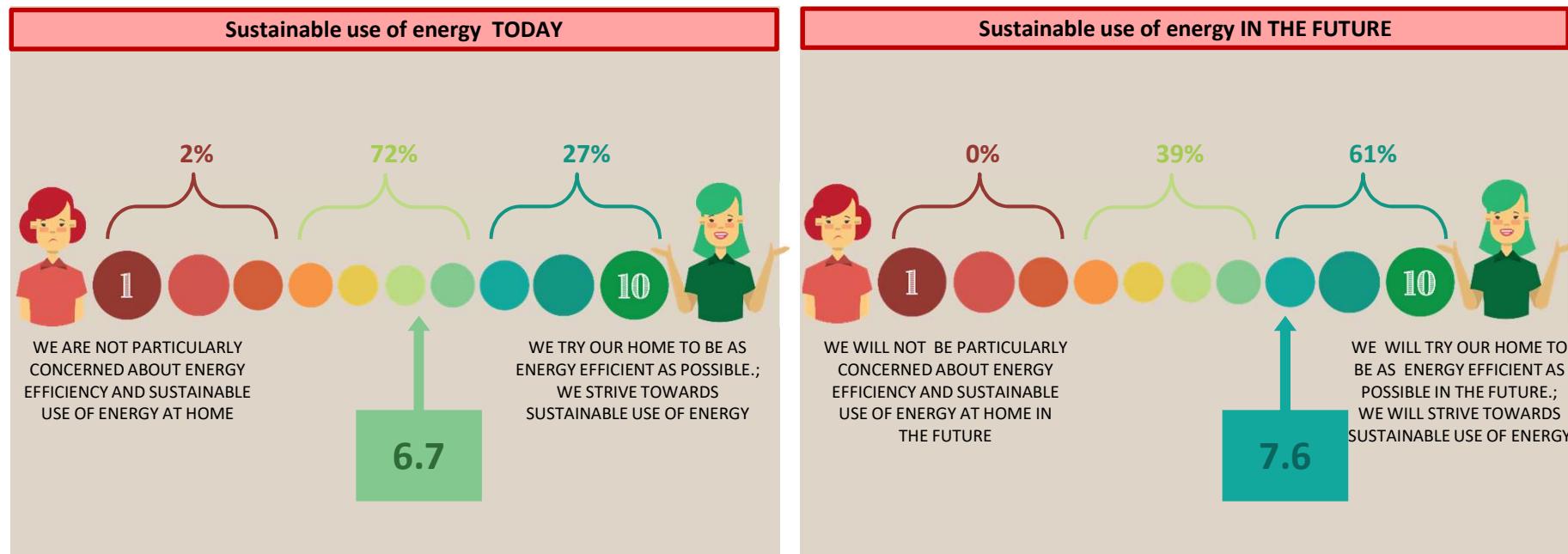
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Where on the scale from 1 to 10? → Today and in the future

In the first days of the research, the participants assessed the extent to which their households pay attention to sustainable energy use and energy efficiency through a 10-point scale. At the end of the research, however, they assessed their behavior in this regard in the future.

The average assessment of the energy efficiency of their homes and the sustainable use of energy "today" amounts to 6.7.

The average assessment of the energy efficiency of their homes and the sustainable use of energy "in the future" is 7.6.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



ATTITUDE TOWARDS SUSTAINABLE USE OF ENERGY

Where on the scale from 1 to 10? → Today and in the future

Sustainable use of energy TODAY



Sustainable use of energy IN THE FUTURE

Uporabnik 88: Žal bi rekla, da smo na lestvici nekje 5 (sredina). Trudimo se, kolikor je le v naši moči, da bi varčevali z energijo. Racionalna poraba vode, električne, ogrevanja. Žal živimo v stolpnici, ki je že tudi kar stara in nam kljub vsemu še ni vse dosegljivo. Na nekatere vire energije smo enostavno vezani in jih sami ne moremo spremenijati. Je pa to vse tudi zelo drago, kar predstavlja res velik problem.



Uporabnik 88: V drugi polovici od 5 naprej. Zavzemala se bom, da je cela stolpnica naravnana k temu, da izkoristimo vse možnosti, ki jih imamo. V svojem stanovanju sem pa že tako naredila veliko stvari in še naprej se bom trudila.

Uporabnik 2: Na lestvici smo nekje na 6 mestu. Trudimo se biti čim bolj varčni, uvajati nove varčnejše načine, a je na žalost to še vedno dosegljivo bogatejšim, saj vsaka predelava obstoječih naprav veliko stane.



Uporabnik 2: Nekje med 6 in 7...se trudimo a ni vse odvisno od mene.

Uporabnik 66: Na lestvici smo skoraj na 9; trudimo se, da bi bila naša hiša kar se le da najbolj približana samooskrbi z energijo (toplnota črpalka, sončna elektrarna, varčni uporabniki, maksimalna izolacija in čim več ponovne uporabe vseh virov).



Uporabnik 66: Kot sem prejšnje dneve napisala, smo nekje okrog 9-ke. Kolikor bo to naših močeh, se bomo trudili in nadaljevali naša prizadevanja v to smer. Cilj je 10-ka.

Uporabnik 45: Na lestvici smo na nekje na osmeh mestu. Ogresvamo se s toplotno črpalko. Stroje imamo vse +++. Hišo smo prenovili pred sedmimi leti in ji vgradili nova okna, podstreje izolirali in naredili odkop hiše ter deževnico speljali v poseben zbiralnik, s katerim zalivamo. Fasada je oblečena s kameno volno.



Uporabnik 45: Na lestvici smo na 9. Na podlagi te raziskave sem ugotovila, da smo zelo veliko naredili s prenovo hiše in skrbjo za okolje.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INŠTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Sustainable use measures → Already introduced

The participants discussed what measures they had already introduced to make energy consumption in their household more sustainable.

Changes aimed at sustainable energy use are dual in nature: they are associated with a change in consumption habits and investments in home furnishings.

In connection with the **change in consumption habits**, the participants mention in particular the energy savings (switching off the lights, using a washing and drying machine at a low flow, setting a slightly lower heating temperature). They are also paying attention to water saving - this aspect is especially highlighted by participants from the countryside who use rainwater instead of drinking water for watering gardens. The participants also mentioned efforts to consistently separate waste. A part of the participants is also concerned with transport (riding a bicycle, where possible; car sharing).

When it comes to **investments in home furnishings**, the participants highlighted the use of energy-saving LED lamps and energy-saving appliances, energy renovation of the house (to the extent permitted by the family budget: for example, windows replacement, facade insulation, roof insulation) energy-saving construction, replacement of the heating source with the more modern ones (heat pump, pellet stove) and the purchase of a heat pump for domestic water heating.



- energy saving
- economical use of drinking water
- waste separation
- rational use of transport



- energy saving LED lamps
- energy saving appliances
- energy rehabilitation of buildings
- economical, environmentally friendly construction
- more modern sources of heating (heat pump, pellet stove ...)
- heat pump for domestic hot water

Uporabnik 14: Že kar nekaj časa skuša cela družina varčevati na več načinov; z nakupom toplotne črpalke za ogrevanje, likanje in pranje ob večerih in vikendih, deževnica za pranje avtomobila in zalivanje vrta, varčne žarnice, kjer gorijo luči dalj časa, striktno ločevanje odpadkov, predelava avtomobila na plin, nakup varčnejših aparatov bele tehnike. Zaenkrat si kaj več ne moremo privoščiti. Za zamenjavo oken in vrat ter fasado nimamo sredstev. Navad, ki jih ne bi mogli spremeniti, ne vidim.

Uporabnik 93: Zamenjali smo varčne svetilke za LED žarnice; ugašamo elektriko; varčujemo pri ogrevanju, da ne presegamo 22 stopinj, v določenih sobah pa ne 21; peremo večinoma pri cenejšem toku, nimamo sušilca, ki pokuri veliko elektrike, likamo le kar je nujno.

Uporabnik 5: Že pred leti smo v stanovanju v bloku zamenjali stara, dotrajana okna z novimi. Zasteklili smo sicer odprt balkon. V bloku smo pristopili k zamenjavi peči za centralno ogrevanje na zemeljski plin ter izdelali toplotno fasado. Po vgraditvi števcev porabe toplotne energije na radiatorje centralnega ogrevanja, smo radiatorje opremili s termostatskimi ventilimi. Posledično so se stroški za ogrevanje stanovanja krepko zmanjšali.

Uporabnik 110: Zamenjali smo okna, vhodna vrata, 15 cm dodatne izolacije podstrešja in streho, ki je kovinska, z dodatno izolacijo. Na računih smo opazili, da pozimi plačujemo manj za toplotno energijo in da potem ko ugasnemo toploto, ostanejo prostori dalj časa topli.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Sustainable use measures → Not introduced

We have also gained an insight into what are the measures for the sustainable use of energy in households that the participants are not ready to introduce (or can not introduce). The barriers to the sustainable use of energy in households are also connected, on one hand, with consumption habits and, and on the other hand, by investments.

In connection with **consumption habits** that they would not give up, the participants mostly highlight habits linked to the **modern way of life**. It would be difficult to consent to the reduced use of electronic devices (computers, smart phones, tablets, televisions), and they are inconsistent when switching off and turning off devices at the times when they are not being used, and some of them when turning off the lights. Since public transport in Slovenia is underdeveloped, most of the participants would not be able to give up the use of a car. Participants who like to travel would not give up on a plane flight. It would also be difficult to give up habits related to **the quality of life** (long showering, baths, pleasant warmth of the rooms in the winter, frequent use of washing machines and dryers).

In connection with **investments** not introduced (energy-saving appliances, energy rehabilitation of buildings and the purchase of a modern heating source), it is mainly for measures that some participants are not currently able to fully implement as family **budget** does not allow them. In this connection, they highlight the **importance of appropriate financial incentives by the state**.



- reduced use of electronic devices
- turn off, switch off devices at the time of inactivity
- use of cars, planes
- long showers, baths
- pleasantly warm rooms in winter
- frequent use of washing and drying machines



- energy saving appliances
- energy rehabilitation of the house
- modern sources of heating (heat pump, pellet stove)
- solar power plant

Uporabnik 60: Vsem mojim nonstop trobim, da vgašujejo luči, pa se tega nena najbolj držijo, te pa sveti stanovanje ko v Las Vegasu, pa samo hodim zadaj pa vgašujem vse. Drugače pa mamo varčne sijalke, čim več nočnega toka, toplotno črpalko. Odpovedal se pa ne bi nikoli 'modernemu' načinu življenja. Internet, računalnik, tablica, smartphone... Tudi kdaj recimo bi lahko šel na busa pa grem vseeno z avtom, ker je bolj komot.

Uporabnik 101: V razmislek: Dokler ne bo ustreznih vzpodbud države, bomo sami težje kaj spremenjali. Država bi morala dajati spodbudo/nagrado/davčno olajšavo, ki pa ne bi bila samo enoletna, pač pa toliko, kot imamo na primer kredit za hibridni avto/ novo fasado/ toplotno črpalko. Subvencije Eko sklada se mi zdijo premajhne. Mislim, da bi se potem vsak lažje odločal o naložbah, ki so relativno visoke in dobre za naše zanamce.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Investments → Reasonable and unreasonable investments

The participants further presented their views on energy efficiency investments. They became involved in the role of advising a friend Primož, who was considering renovating a house built in the 1990s to make it more energy efficient and thus make the use of energy in his household more sustainable.

When it comes to investments in energy efficiency, the participants point out that virtually all solutions, which return the cost of the investment in the foreseeable future, are worthwhile. They would only advise against the investment in solar cells, domestic wind or hydroelectric power plants, since such systems are currently inaccessible to the average consumer (too long a return on investment - ROI).

From their own experience, they say that this kind of project is best done step by step, gradually, depending on the financial capabilities of the household "from the outside to the inside" (replacement of building furniture, increased insulation of the facade and roof, changing of the heating system). It is necessary to start with investments that have the shortest return time, but they give a satisfactory effect on energy savings (e.g. thermostatic valves, LED lamps), and then gradually increase investment.

The participants also favour the advice of energy advisers - Eco Fund energy offices, as well as specialized companies that help them with free advice on optimal renovation of buildings, preparation of the renewal plan as well as possibilities for obtaining subsidies, were mentioned.

1. thermostatic valves, LED lamps

2. replacement of building furniture

3. insulation of the roof

4. insulation of the facade

5. changing the heating system



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized graphic of overlapping colored bars in yellow, orange, and red.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Investments → Reasonable and unreasonable → An insight into the participants' thoughts

Uporabnik 2: Ker imam tudi jaz adaptacijo stare hiše bi mu svetovala nekako tako, kot smo se tega lotili mi. Prvo naj **zamenja okna, močno izolira hišo, namesti termostatske ventile** na radiatorjih po nekaj letih pa toplotno črpalko. Problem vseh ostalih stvari je v denarju, ker je res zelo drago. Najmanj pametna mi je sončna elektrarna, saj je zelo draga in traja precej let, da se finančno povrne.

Uporabnik 10: Predpostavljam, da je v hiši na deželi in ima verjetno tudi kaj zemlje oz. gozda. Tako bi mu najprej svetoval, da **temeljito izolira hišo (stene in podstrešje) ter zamenja okna in vrata**. Tako izolirana hiša bo veliko manj porabila za kurjavo. Ko si opomore od prve naložbe, naj si montira vsaj **toplotno črpalko za sanitarno vodo** (zrakovoda), ki je majhna investicija in veliko pripomore k manjši porabi kurilnega olja. Ob priliki pa lahko zamenja tudi peč (drva ali peleti).

Uporabnik 15: Cenovno je najmanjši strošek nakup termostatskih ventilov na radiatorjih – glede na vložen finančni vložek bi v relativno kratkem času lahko že zelo veliko privarčeval. Če je v naselju, kjer živi, že bila izvedena plinifikacija, bi mu priporočal, naj bo prehod na ogrevanje s plinom njegov naslednji korak. Odsvetoval pa bi mu sončno elektrarno, ker sedaj ni več subvencij in bi bil zato vložek prevelik. Smotrne so vsekakor tiste investicije, ki se ob relativno nizkem strošku v zelo kratkem času povrnejo.

Uporabnik 36: Najprej naj naredi **nekaj majhnih korakov**, ki bodo hitro začeli prinašati **manjše prihranke**, pomemben je začetek in smer. Zamenjava žarnic, termostatski ventili na radiatorjih, znižanje temperature v prostorih, ugašanje luči. To bo prineslo nekaj prihrank, katerega naj varčuje. V naslednjem koraku pa s tem prihrankom in morda še kakšni finančni rezervi, ki jo morda premore, in še dodatno subvencijo države ter kreditom, izolira stavbo, ki bo prinesla večje prihranke. Po teh večjih prihrankih bi pa lahko zamenjal peč na kurilno olje s toplotno črpalko. Pred izoliranjem ni smiseln menjati peči, ker je po izolaciji potrebna črpalka z manjšo močjo, to tudi pomeni nižje stroške nakupa. Zelo pomembno je načrtovati vse posege in se odločiti za pravilni vrstni red ukrepov. Nasvet energetskega svetovalca je pri tem lahko zelo koristen.

Uporabnik 85: Primož, kolega, najprej **zamenjaj okna**. To, da zavese plapolajo, ko piha burja, pomeni da boš z menjavo oken za res varčna prihranil 30% pri strošku letnega ogrevanja. **Izoliraj podstreho**. Vsekakor pa **zamenjaj peč**. Glede na to, da sedaj ogrevaš na olje, si navajen udobja avtomatike - torej bi ti svetoval bodisi dobro kondenzacijsko **plinsko peč**, bodisi **ogrevanje na pelete**... če ti pa **denarnica omogoča**, pa kar **toplotno črpalko**. Na radiatorje pa naštela **termostatske ventile**. Karkoli boš delal, predhodno preveri na Eko skladih za subvencije, a bodi pozoren, ker njihove izbire so včasih nelogične... Sami smo montirali super okna od M-Sore, troplastna, z vmesnim plinom za večji izolacijski učinek, zunaj aluminij, notri les, ampak ti z Eko sklada tega niso subvencionirali, ker so tisto leto subvencionirali varčna plastična okna. Plastična - si morš mislit...pa taki ekologi.

Uporabnik 75: Tudi sam bi mu svetoval **naj povpraša nekega strokovnjaka** glede vseh teh energijskih sprememb, katere bi bilo potrebno ulti za v bolj varčno prihodnost, saj ta poleg vseh **izračunov, poznavanja materialov** in celotnega področja pozna tudi **možne subvencije**, ki so na voljo za obnove in sledenje načelom trajnosti. Mnogi strokovnjaki oziroma podjetja **brezplačne nasvete**. Taki strokovnjaki se spoznajo tudi na financiranje obnov, pri čemer pa se seveda lahko posvetuje tudi z banko.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.

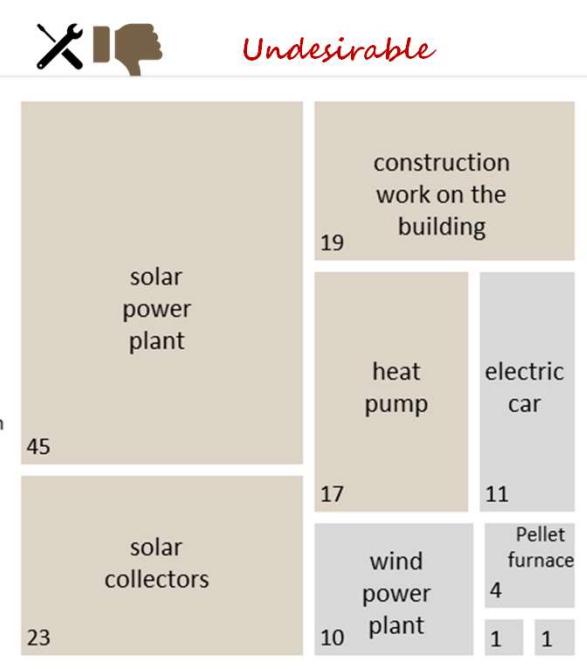


SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Investments → Already carried out / On the wish list / Undesirable

Similarly as advising a friend Uros, the participants - in view of their financial capabilities - also invest in the energy efficiency of their homes. Already carried out investments mostly relate to energy renovation of buildings (replacement of building furniture, insulation of facades and hollows, roof replacement) and change of heating system (switching to heat pump, pellet stove). The positive effects that participants emphasize in these investments relate primarily to saving money and improving the comfort of stay.

The solar power plant is an investment that most of the participants do not intend to introduce - mainly because of the high investment costs and because in their opinion such technology is still not sufficiently tested. When it comes to larger investments and the introduction of new technologies in the field of sustainable energy use, most of the participants are followers. This means that they are waiting for the purchase decision until the innovation is already well accepted.



7=solar collectors; 5=changing radiators, underfloor heating;
3=storage tank for water, rainwater collector;
2=solar power plant; 1=hydroelectric power plant, hybrid cars

3=energy-saving home appliances, sanitary water heat pump,
electric car; 2=storage tank for water, energy saving lamps, air
conditioning, pellet stove

1=rainwater collector, underfloor
heating



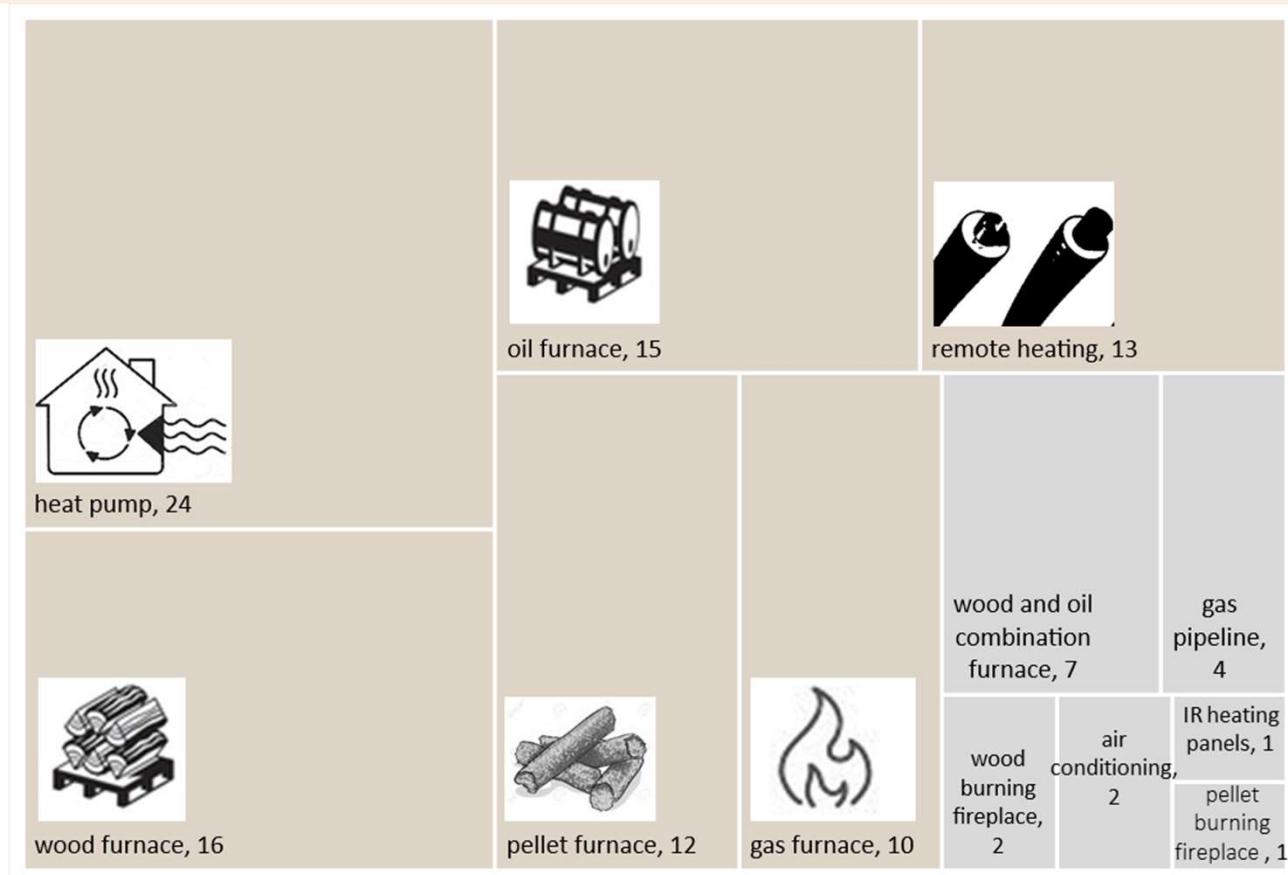
The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Investments → Primary sources of heating

When it comes to the primary source of heating, some of the participants in the online forum have already switched to more advanced technologies (heat pump, pellet stove), while others are heated by oil or wood. Households in apartment buildings were mostly reported to be heated by district heating or gas pipeline.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

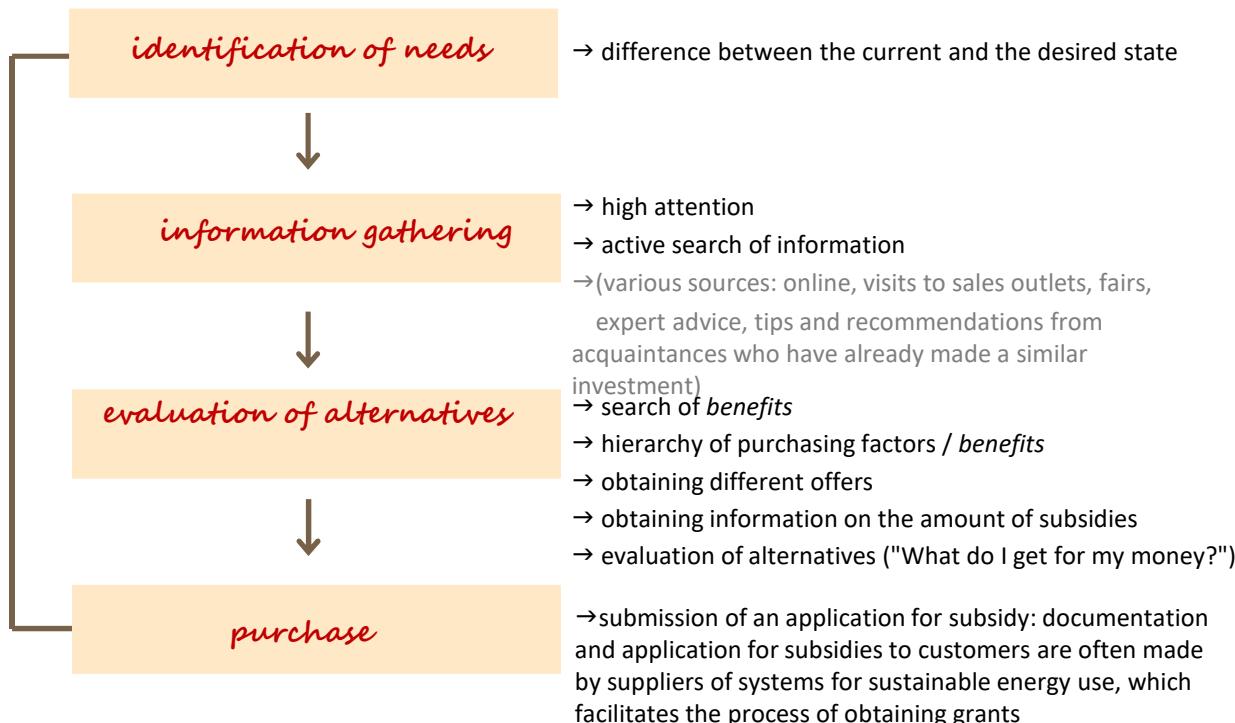


SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Investments → Purchase of systems for sustainable use of energy

Purchasing systems for sustainable energy use in households can be defined as an extensive problem solving. These are purchases where the financial input is high and consumers rarely perform them as they are poorly familiar with the product category and therefore devote a lot of time and energy to the purchase. The purchasing decision-making of sustainable energy systems in households consists of the stages shown in the scheme below.

Comparing the complexity of purchasing in the perception of people when it comes to purchasing air conditioners, pellet stoves, heat pumps and solar power plants, this increases according to the amount in proportion of the financial input or the amount of investment and the necessary building interventions in the facility.



EXTENSIVE PROBLEM SOLVING

- expensive products
- rare purchases (high consumer involvement)
- poor knowledge of the category
- decision making takes a lot of time and energy



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of overlapping yellow, orange, and red curved bands.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Investments → Purchase of systems for sustainable use of energy → Insight into thoughts



Purchase of an air conditioner

Uporabnik 106: Z možem sva vedela, da bova klimatsko napravo kupila in sva gledala, da je **čim višje v energetskem razredu ter da je v akciji** oziroma, da je **vključena montaža**. To so bili kriteriji za izbiro.

Uporabnik 63: Za nakup klimatske naprave **nismo imeli nikakršnih posebnih priprav**, šli smo v trgovino in se pustili svetovati trgovcu.

Uporabnik 91: Ker investicija ni visoka, je bila odločitev precej spontana, **brez pridobivanja predhodnih ponudb** in odločanja med ponudniki.

Purchase of a heat pump

Uporabnik 87: Pred nakupom sem se **zelo aktivno ukvarjal s tem**. Naj povem, da sem razmišljal o tem še preden je bilo to sploh možno za moj tip hiše, saj so obstajale toplotne črpalki, namenjene zgolj novogradnjam, kjer je mišljeno talno gretje. Takojo ko so na trg prišle prve TČ namenjene tudi za ogrevanje že obstoječih stavb z radiatorji, sem se podal v akcijo in **zbral kup predračunov in raznih informacij**. Ko sem se odločil za izbranega ponudnika, je vsa stvar potekala izredno gladko. Črpalko so pripeljali ob 9.00 zjutraj ob 14.00 smo se z njo že ogrevali. Res profesionalna storitev.

Uporabnik 102: Odločitev je bila sprejeta na osnovi izračuna stroškov energije za ogrevanje, v investicijo pa so me prepričale **izkušnje drugih uporabnikov**. Od trenutka, ko so številke pri znancih / uporabnikih pokazale pozitivne rezultate, je vse potekalo razmeroma hitro. Iskanje najustreznejše naprave, izbira proizvajalca in iskanje najugodnejše ponudbe.

Uporabnik 117: Pozanimali smo se in nekako prišli do ugotovitve, da se dolgoročno ta investicija obrestuje, okolje se tako ne onesnažuje, rabi malo prostora, subvencija Eko sklada, **dali narediti predračun**, ugotovili, da se **povrne v 7 letih...** Vse to nas je **prepričalo**.

Purchase of a pellet stove

Uporabnik 26: Ravno, ko sem se odločil nabaviti peč, je v Celju potekal **sejem**, kjer sem dobil vse informacije o ogrevanju ter spoznal različne izvajalce oziroma ponudnike. Tam sem dobil celo **sejemskega popusta** in **izvajalec** mi je tudi uredil **vse za subvencijo**.

Uporabnik 79: Za peč na pelete smo se odločili, ker smo bili zelo dobro informirani o pozitivnih učinkih investicije v smislu manjše uporabe sredstev za nakup energenta. Obenem smo prejeli tudi nepovratna sredstva za investicijo s strani države. Res pa je, da je bil **pri distributerju zaposlen en naš bližnji sorodnik** in tako še bliže razložil smotrnost investicije. Po nakupu smo se prijavili na razpis, predložila sem vso potrebno dokumentacijo in nato smo sredstva prejeli.

Uporabnik 82: **Naš sosed** je ravno takrat kupil peč na pelete. Omenil je, da so peči v redu, ter so cenovno zelo ugodne. Tako smo se glede peči tudi **sami pozanimali pri prodajalcu** in ga prosili za **ponudbo**. Cena je bila res **ugodna** in odločili smo se za nakup.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Investments → Purchase of systems for sustainable use of energy → Insight into thoughts



Within the ORC discussion two participants were already a solar power plant user. We present our experience related to the purchase and use of the solar power plant below - they do not consider the purchase procedure to be too demanding (it is only time consuming to obtain approvals). Otherwise, the opinions of participants who do not have an experience with the investment in solar cells regarding the purchase process are mixed. Some of the participants estimate that the process is complicated (decision-making between offers, preparation of documentation, construction). Part of the participants points out that there are many companies that offer the purchase of a complete turnkey service (including an application for subsidies). They therefore estimate that the entire process is most likely not excessively demanding.

Purchase of a solar power plant



Uporabnik 70:

Sončna elektrarna je bila plod predvsem moje skorajda romantične zaljubljenosti v tovrstno pridobivanje energije. Nekaj privlačnega je na tem, da zgolj zajameš tisto, kar je na nebu, brez da bi tisto kakorkoli oskrnul. V investicijo me je prepričala tudi ugodna ponudba, ki sem jo dobil v tistem času.

Pravzaprav je **izjemno ugodna ponudba** prišla do mene, pred tem pa sem se zgolj sramežljivo spogledoval s to idejo. Nato sem pregledal še ostalo ponudbo in videl, da je meni dana ponudba dejansko tako ugodna, kot se je zdela. Sam nakup je bil dokaj preprost. **Montaža** pa tudi ni bila ne vem kako zahtevna, saj jo je izvedlo podjetje, od katerega smo to tudi kupili. Napram inštalaciji topotne črpalk ali naprave za zemeljski plin to **ni zahtevna stvar**.

Začetna investicija je dokaj visoka navkljub ugodni ceni, ki smo jo dobili. Seveda je tudi količina energije, ki jo taka elektrarna lahko pridobi, manjša od konkurenčnih naprav, poleg tega pa je še odvisna od ne samo letnega časa, temveč tudi dneva v letnem času.

So sončna in manj sončna leta in tako si lahko prepuščen materi naravi.

Bi priporočal drugim, če dobijo ugodno ponudbo, po možnosti kakšno subvencijo iz Eko sklada. Predvsem pa gre za nizko stroškovno ter okolju zelo prijazno črpanje energije. Seveda [ima akumulator, op. mod.], če se ne motim je to tu in zdaj dokaj standardna stvar pri "celicah". Gre za to, da lahko v sončnih mesecih več energije prihraniš za mesece, ko te energije ni.

Uporabnik 66:

Doma imamo sončno elektrarno. Zanjo smo se odločili, ker je kljub večjim zagonskim sredstvom to **cenovno ugoden vir** energije, uporablja se **energija iz obnovljivih virov** in s tem pripomoremo tudi k skrbi za čistejše okolje.... V investicijo so nas prepričale **pozitivne izkušnje uporabnikov** in občutek, da je to **dobro za nas in okolje**, tudi **subvencija** je prispevala svoj delež k hitreje sprejeti odločitvi.

Pred nakupom smo se dodobra seznanili s tipi sončnih elektrarn, možnostmi koriščenja subvencij, nabavnimi stroški.... pregledali smo več forumov, spletnih strani proizvajalcev in monterjev, pa obiskali nekaj sejmov ter že delujočih malih sončnih elektrarn...pozanimali smo se tudi glede pridobivanja dovoljenj.

Sam postopek nakupa je bil precej preprost, čeprav se nismo odločili za nakup „na ključ“; kupili smo opremo, se dogovorili za priključitev in pričeli s proizvodnjo. Je bil pa **dolgotrajnen postopek pridobivanja dovoljenj in soglasij**, to nam je vzelo več mesecev.

Osnovno vodilo je bilo cenejša energija iz obnovljivih virov; **politi in ob lepem vremenu se proizvede skoraj zadost energije**. V **obačnih dneh ter pozimi**, ko so dnevi krašči, je proizvodnje **zelo malo**. Ni dosti dela, ko zadeva enkrat obratuje, se pa precej pozna pri mesečnih računih za elektriko. Negativen vidik je dolgotrajnejši postopek pridobivanja soglasij, nekoliko slabši občutek je tudi dejstvo **po kako nizki ceni presežno elektriko odkupijo**.

Sončno elektrarno bi vsekakor priporočila vsem, ki imajo možnost postavitev panelov, saj se mi zdi to bistveno bolj primerna energija, kot pa energija pridobljena iz fosilnih goriv, pa še neprimerno cenejša je.

Trenutno **akumulatorja** za hranjenje energije **še nimamo**, smo pa že razmišljali o tem. To je v planu za prihodnje leto, saj je odkupna cena električne energije semešno nizka (politi bomo proizvedli več, kot bi potrebovali, v zimskem času pa bi tako lahko porabili pridelano, prav tako smo se navadili, da določene stroje (pralni, sušilni, pomivalni) uporabljamo ponoči in bo nakup akumulatorja še dodatno prispeval k izkoristku proizvedene elektrike.

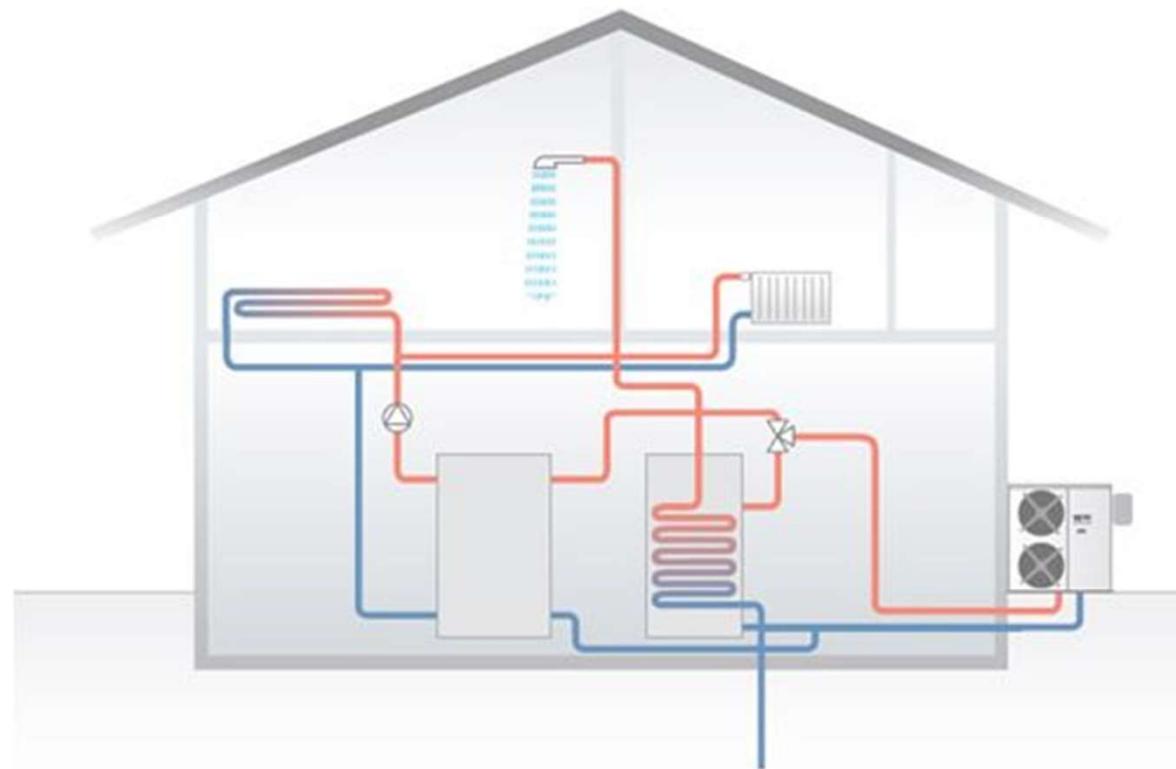


The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



Attitude towards use of the heat pump



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTOŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

32



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

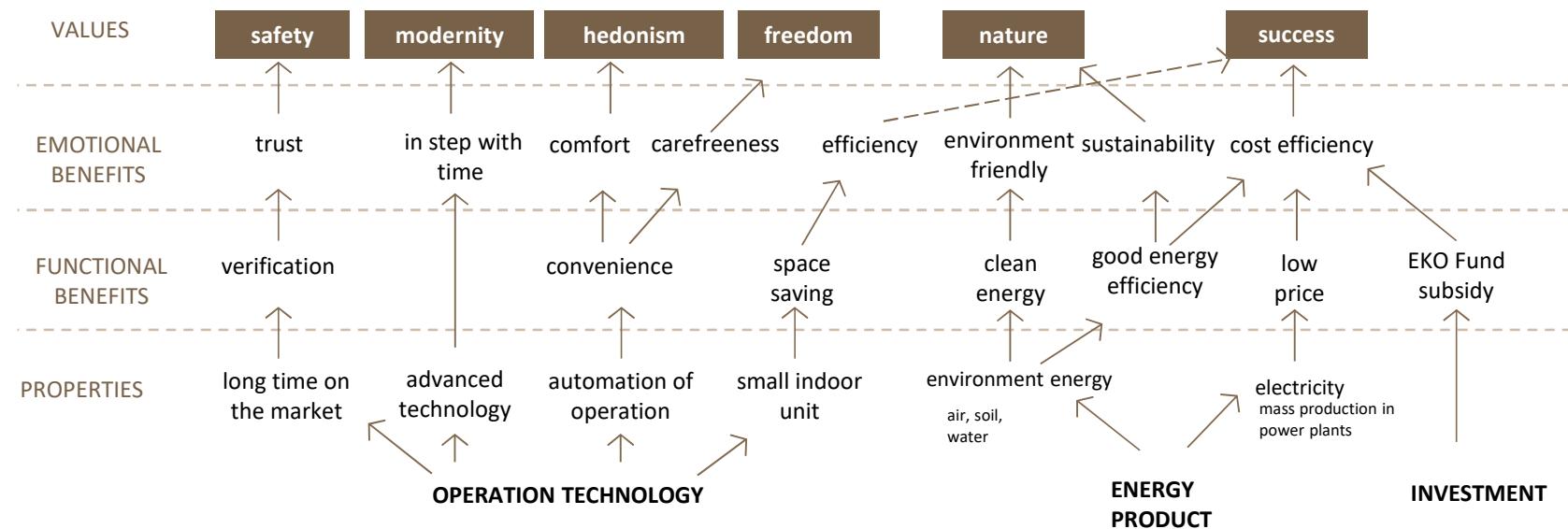
Heat pump → Advantages, motives for use



The heat pump is a well-known source of heating among the participants. From all sources of heating the houses and sanitary water, the heat pump is a resource, which is among the participants most popular and desirable.

The key advantage of the heat pump in the perception of the participants is the good use of energy from the environment, which allows economical heating, and full automation of operation, which offers a comfortable use of this heating method.

Each of the advantages of using a heat pump is presented below.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of yellow, orange, and red horizontal bars.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

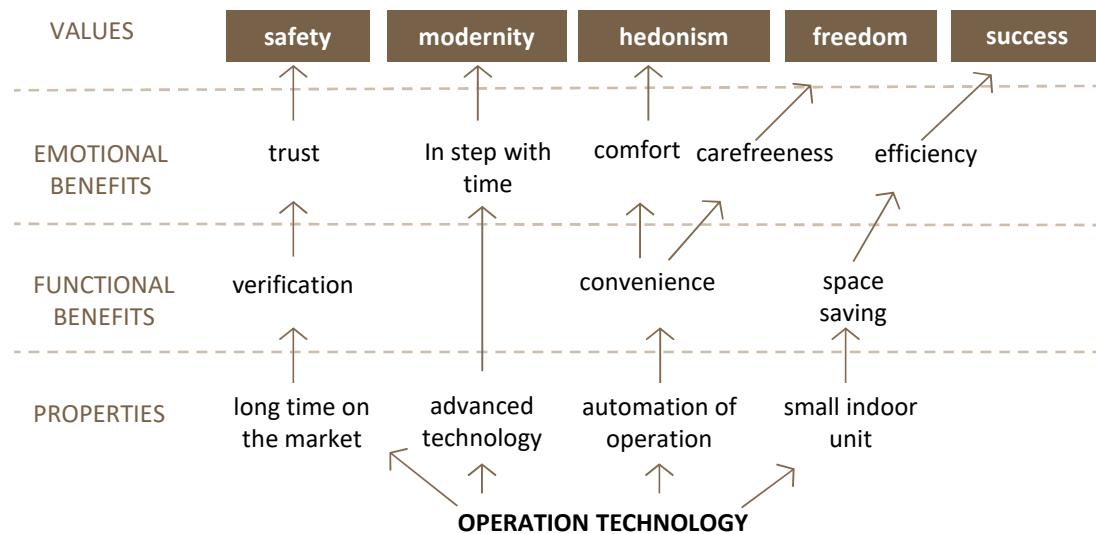
Heat pump → Advantages, motives for use → OPERATION TECHNOLOGY



In connection with the operation technology, one of the key advantages of the heat pump is fully automated operation. In the perception of people, it is a convenient source of heating with a little work. An emotional advantage is comfort and carefreeness, which is linked with hedonism and freedom.

The heat pump has a **small indoor unit** that does not take up much space. For this reason, it is perceived as a more efficient way of heating compared to stoves that use energy products that need to be stored (pellets, wood, fuel oil).

The heat pump is perceived as a mode of heating that people can trust - especially because it is a proven way that has already been on the market for some time. This aspect relates to the value of security.



AUTOMATION OF OPERATION

Uporabnik 100: Vse dela avtomatika, nastaviš in to je to. Ogrevanje nonstop, enakomerno, ni nobenega čiščenja, spravljanja drva, pelet.

Uporabnik 105: Nobenega dela. Jeseni jo prižgem, spomladis izključim, strošek električne energije pa je skoraj zanemarljiv.

SMALL INDOOR UNIT

Uporabnik 25: Positivni vidiki so predvsem v finančnem prihranku pri ogrevanju in pri manjšem prostoru za kuirilnico.

ADVANCED TECHNOLOGY

Uporabnik 49: Trenutno so najbolj aktualne toplotne črpalke.

Uporabnik 53: Ko smo se odločili za zamenjavo stare kuirilne oz. centralne smo si izbrali kombinacijo toplotne črpalke ter zemeljskega plina. Nimamo peči na pelete. Je tudi manj tehnološko sodobna kot top. črpalka ter zemeljski plin.

LONG TIME ON THE MARKET

Uporabnik 90: Zaradi daljšega trajanja le-teh na tržišču so prednost tudi izkušnje - ni neka nova zadeva, o kateri si seznanjen le teoretično.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
=



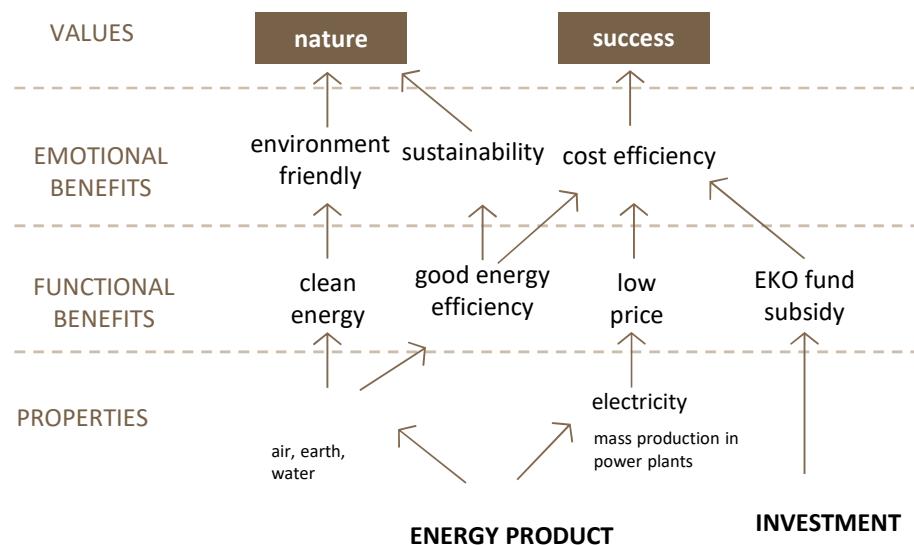
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Heat pump → Advantages, motives for use → ENERGY PRODUCT, INVESTMENT



The energy consumed by the heat pump for heating is the energy from the environment (air, water or earth) in combination with electricity. The use of energy from the environment provides good energy efficiency and clean energy. Heating with a heat pump is thus perceived as environmentally friendly, sustainable and of course economical. (Also, in the opinion of the participants, the electricity needed for its operation is currently affordable in comparison with other sources of energy).

The motivation for investing in the heat pump is also the subsidy of the EKO fund, which reduces costs and investments and makes it more economical; which at the level of values relates to the value of success.



COST EFFICIENCY

Uporabnik 20: Trenutno črpalko uporabljam 2 meseca, v tem trenutku zadovoljstvo popolno, priporočam vsekakor. Strošek zanemarljiv, do sedaj smo za ogrevanje v teh dveh mesecih porabili manj, kakor je cena dveh m² drv.

Uporabnik 33: Ko smo preračunali, koliko bi nas prišla peč na drva in koliko TČ smo prišli do zaključka da, če vzamemo peč na drva, moramo računati še nakup drv, delo in prostor, kjer so drva. Če pa kupimo TČ, pa je investicija trenutno večja za par tisoč evrov pa od tega ti povrnejo 1000 eur subvencije. Konec sezone, ko preračunamo, za kurjavo odštejemo manj, kot bi porabili za nakup in spravilo drv.

Uporabnik 119: Prijatelji, ki imajo toplotno črpalko, pravijo, da porabijo za družinsko hišo cca 60 € mesečno energije, kar je seveda nič.

SUSTAINABILITY

Uporabnik 97: Prednost investicije v toplotno črpalko je seveda dosti boljša investicija kot v peč na pelete. Majhna poraba, velik izkoristek.

Uporabnik 104: Je torej zelo enostavna za uporabo in uporablja obnovljive vire energije.

ENVIRONMENT FRIENDLY

Uporabnik 93: Če (poleg topotne črpalke) dobivaš elektriko iz obnovljivih virov oz. zeleno elektriko, si resnično ogrevaš hišo na okolju prijazen način.

Uporabnik 137: Prednosti so nižji stroški, ki jih imamo z ogrevanjem posledično pa tudi zmanjšanje onesnaževanja okolja, zaradi manjše porabe energije in s tem izpustov škodljivih snovi.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Heat pump → Disadvantages, barriers to use

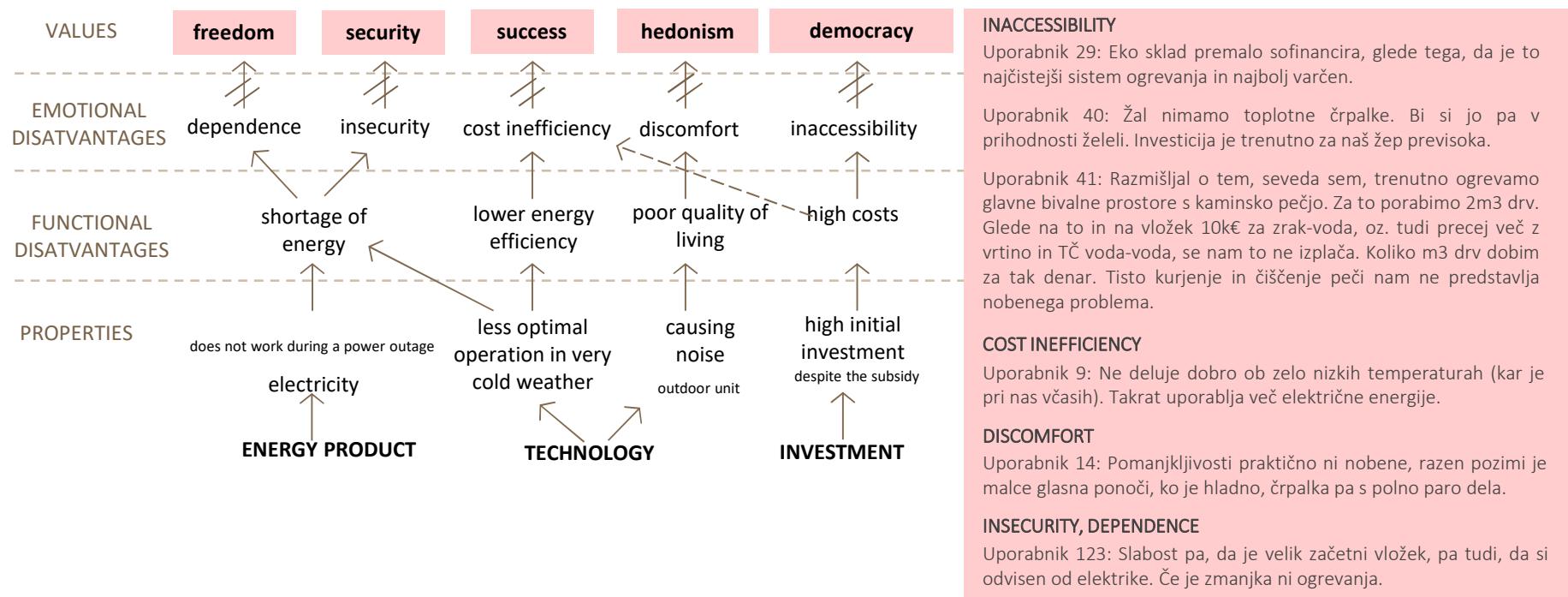


The key disadvantage of the heat pump is in a high initial investment. Other exposed disadvantages have a more marginal role in people's perception. Despite the EKO Fund subsidy, the investment in the heat pump is very high. As a result, this mode of heating is inaccessible to a wider circle of people with average and lower incomes. This aspect is negatively linked to democracy at the level of values.

As minor disadvantages of the heat pump, the participants also mentioned **less optimal operation in cold weather**, which makes the energy efficiency worse and the economy of use is lower (negative link with the value of success).

The external unit of the heat pump causes noise, which makes the quality of living worse, decreases comfort, which is negatively linked to the value of hedonism.

Since **the use of electricity** is necessary for the operation of the heat pump, the participants stress the lack of energy and heating in the event of power failures. At an emotional level, this means dependence and uncertainty; at the level of values, it is a negative link to the values of freedom and security.

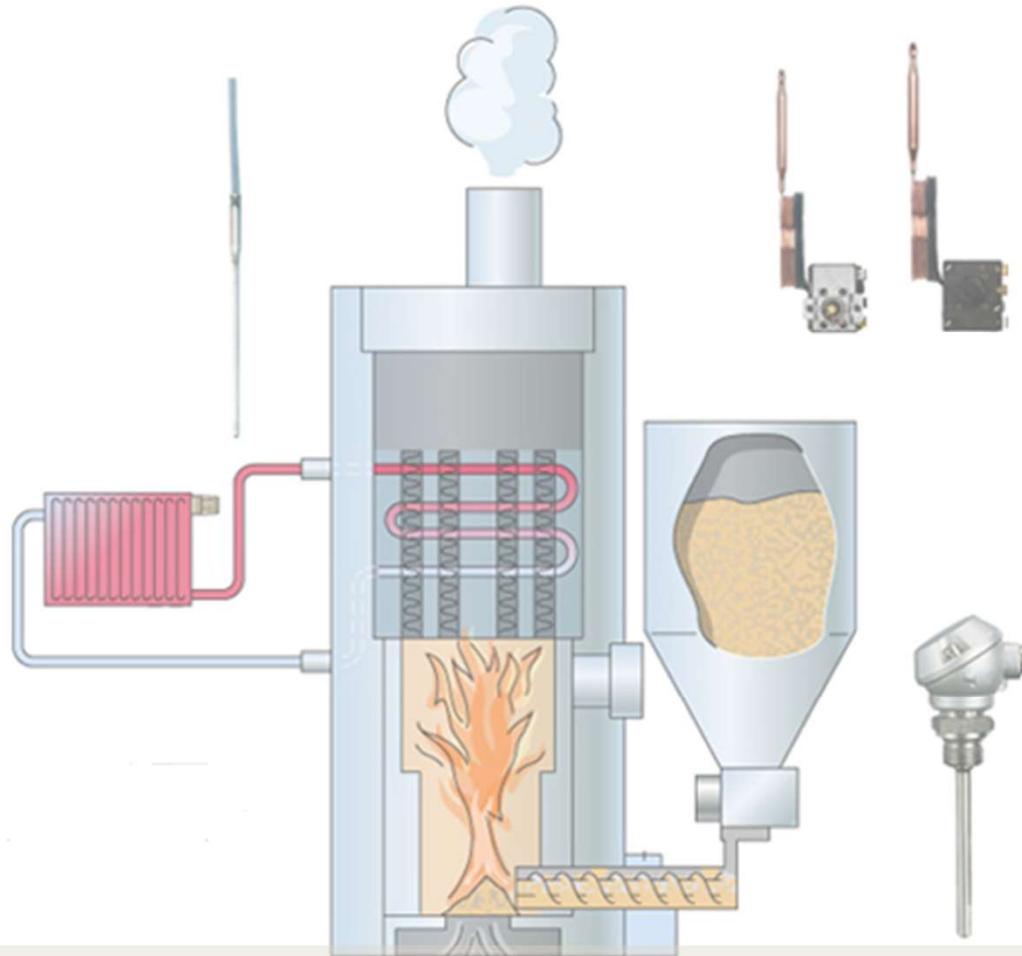


The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



Attitude towards use of the pellet stove



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTOŠNIKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



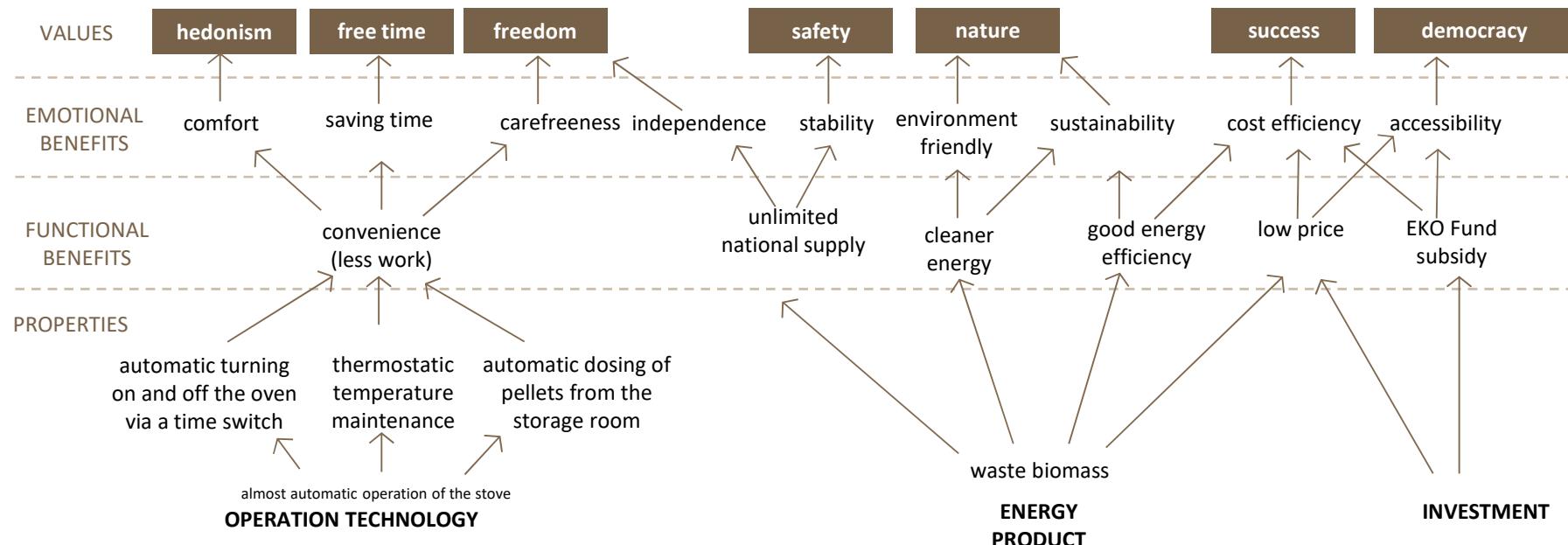
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Pellet heating → Advantages, motives for use



The pellet stove in the perception of the participants means a step forward from the wood and oil stove in terms of the operation technology, energy efficiency and sustainability of the energy product for heating. It is a heating technology that is cheaper than a heat pump and therefore accessible to a wider circle of people.

Below we present in detail each of the advantages of the pellet stove.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of yellow, orange, and red horizontal bars.

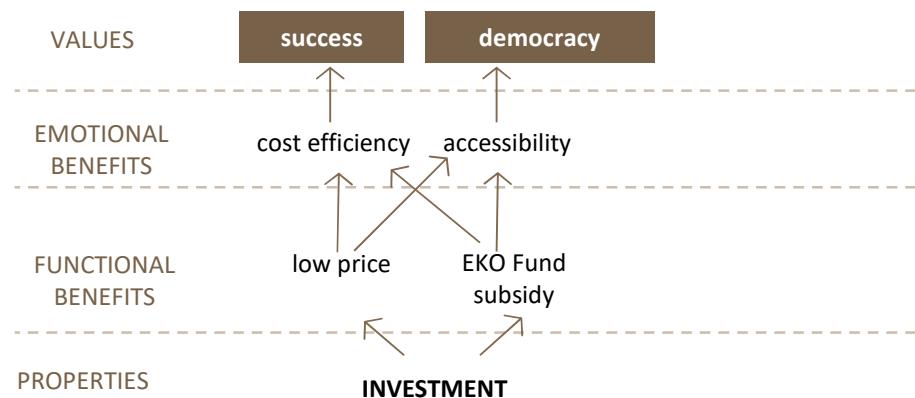


SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Pellet heating → Advantages, motives for use → INVESTMENT



The key advantage of the pellet stove is the lower investment cost (in combination with the EKO Fund subsidy) compared to the heat pump. This kind of investment is thus economical for participants, especially for those with fewer resources, as it enables them to access a more modern heating source (compared to a wood stove or heating oil). At the level of values, these attributes are linked to the values of success and democracy.



ACCESSIBILITY, COST EFFICIENCY

Uporabnik 55: Prednosti so sigurno nizki stroški. Peči so relativno poceni, lahko tudi samo nadgradite že obstoječo peč. Cena peletov je tudi normalna. Sploh, če jih kupite pred sezono.

Uporabnik 92: Za peč na pelete smo se odločili, ker smo bili zelo dobro informirani o pozitivnih učinkih investicije, v smislu manjša uporaba sredstev za nakup energenta. Obenem smo prejeli tudi nepovratna sredstva za investicijo s strani države.

Uporabnik 82: Peleti so cenejši kot kurilno olje in tistega časa ko sem menjaval peč so bili cenejši tudi od drv - in še zraven imaš manj dela!

Uporabnik 102: Peleti kot gorivo pri centralni peči na pelete, so trenutno pol cene kurilnega olja. Prednost pred drvmi pa je tudi avtomatizacija kurjenja v povezavi s sobnim termostatom, časovnikom, zalogovnikom. Tudi investicija, če menjaš peč, ni velika.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of yellow, orange, and red horizontal bars.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

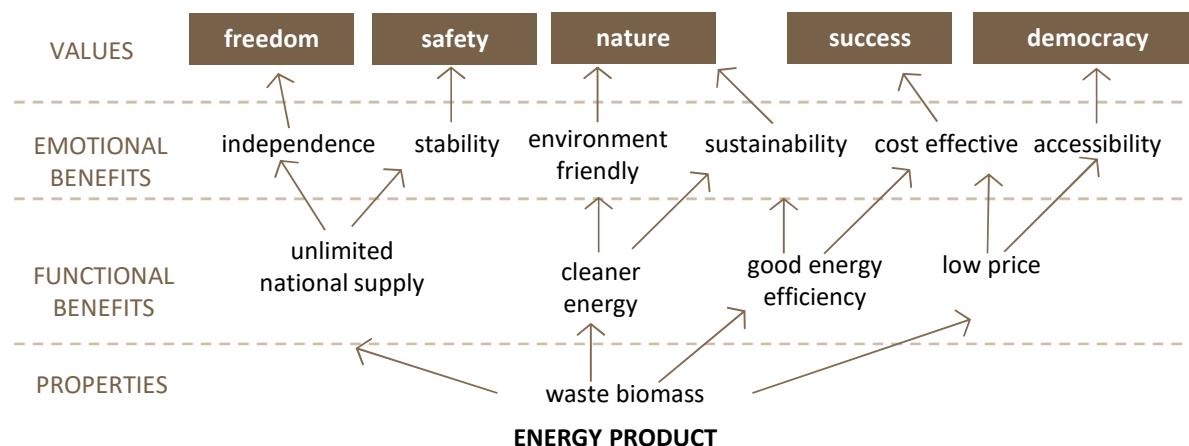
Pellet heating → Advantages, motives for use → ENERGY PRODUCT



Energy product - waste biomass - has a fairly low price compared to other fuels (natural gas, heating oil) and offers favourable heating. This is connected with the economy in an emotional level, but with value in success.

In the case of waste biomass, it is compared to natural gas, heating oil and wood for cleaner energy with better energy efficiency. The use of pellets is thus more environmentally friendly and sustainable.

Since Slovenia is exceptionally forested with wood, one of the advantages of using pellets is also the unlimited national supply of energy, which ensures users to be independent (from large energy corporations) and, consequently, stability. This is at the level of values linked to freedom and security.



COST EFFECTIVE

Uporabnik 121: Definitivno gre za čistejšo obliko ogrevanja kot je peč na olje. Hkrati imajo sodobne peči na pelete boljši izkoristek kot peči na olje.

ENVIRONMENT FRIENDLY, SUSTAINABILITY

Uporabnik 49: Predvsem okoljevarstveno gledano je tako ogrevanje boljše. Gre tudi za trajnostno rabo, predelavo odpadnega lesa v pelete. Ogrevanje je po vsej verjetnosti cenejše kot na olje. Ampak le če greš v osnovi v tako obliko ogrevanja.

Uporabnik 34: Verjetno so tudi izpusti v ozračje manjši kot pri kurjavih s fosilnimi gorivi.

INDEPENDENCE, STABILITY

Uporabnik 85: Peč na pelete je nekako pisana na kožo Sloveniji, ki je tako poraščena z gozdovi... v bistvu bi se lahko maksimalno skrbelo za gozdove, stranski produkt tega pa bi bili peleti... se pravi povsem obnovljiv vir, neomejene zaloge, dokler seveda gozdov ne bi slučajno začeli krčiti v takem obsegu, da bi se površina njih začela zmanjševati. Se pravi + + rezultat: skrb za gozdove in lokalni material za ogrevanje, ki je cenovno ugoden.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



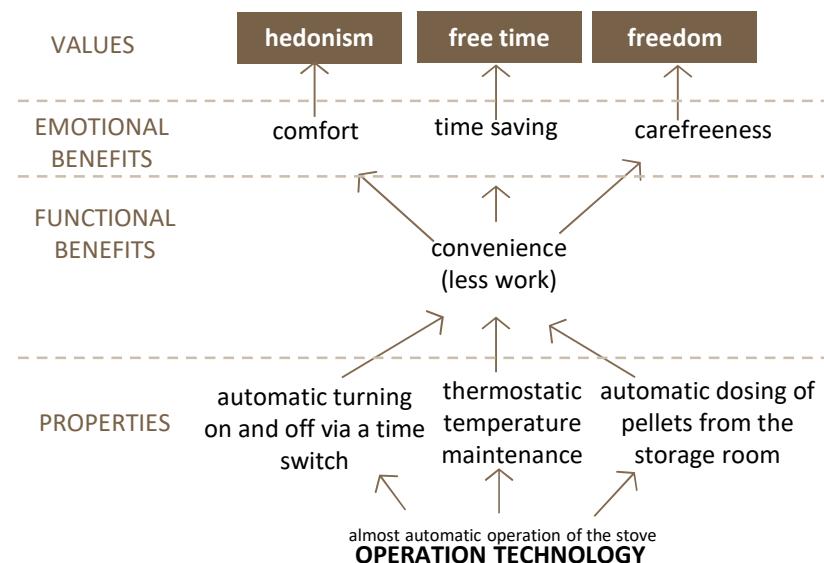
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Pellet heating → Advantages, motives for use



Depending on the technology - almost automatic operation of the stove - the pellet stove is one step ahead of the wood stove.

Due to its operation via a time switch, thermostatic temperature maintenance and automatic dosing of pellets from the storage room, its use is convenient, it creates less work for users than, for example, a wood stove where you need to take care of loading the energy product. At the emotional level, all this provides comfort, time saving and carefreeness. These emotional benefits are linked to the values of hedonism, leisure and freedom.



COMFORT, TIME SAVING, COST EFFECTIVE

Uporabnik 66: Vsi mislijo, koliko je dela z polnjenjem peletov ter čiščenjem peči in morem reči da ni tako hudo oz. ni tako veliko dela. Enkrat na teden napolnim zalogovnik za pelete (cca.5 min), peč pa očistim enkrat na 14 dni (včasih tudi na 3 tedne). Čiščenje mi vzame cca. 20 min.

Uporabnik 96: Zanimiva je, ker ima zalogovnik in se sama nalaga tudi čez noč ali če nas ni doma.

Uporabnik 44: Seveda pa bi bila po drugi strani prednost v lažjemu delu (v prihodnosti glede na našo starost), velikem izkoristku in tudi v čistejših izpustih skozi dimnik.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



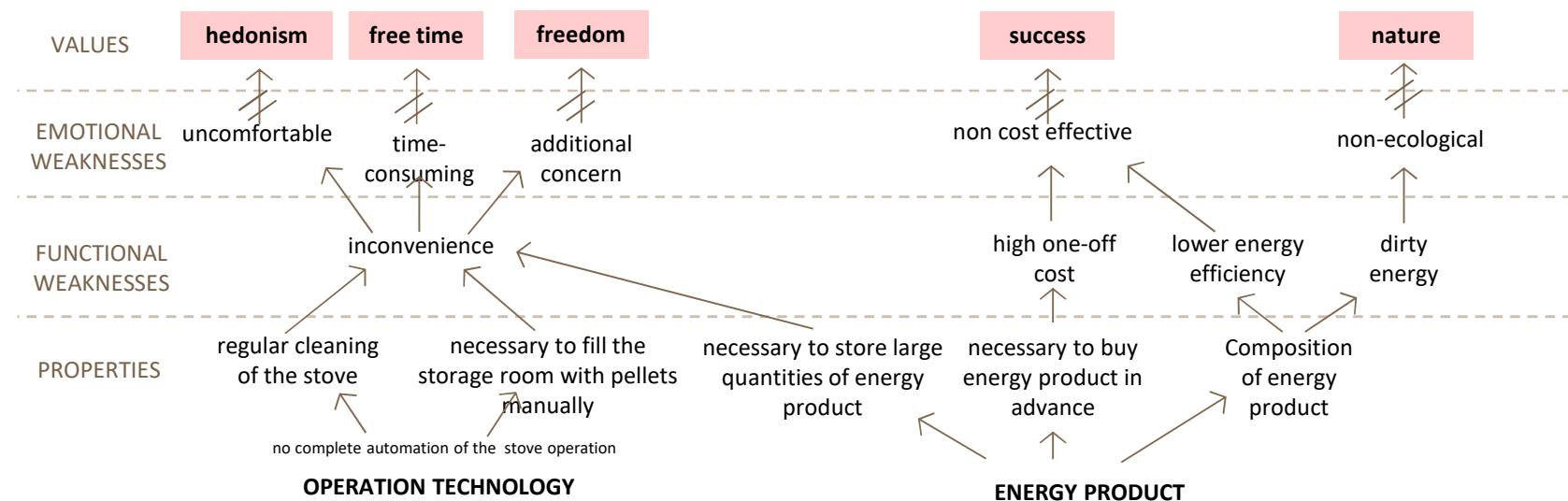
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Pellet heating → Disadvantages, barriers to use



The key deficiency of the pellet stove is in the perception of people associated with less convenience - operation is not fully automated - and consequently discomfort and time-consuming use (especially in comparison with the heat pump).

The disadvantages of the pellet stove use are presented in more detail below.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of yellow, orange, and red horizontal bars.



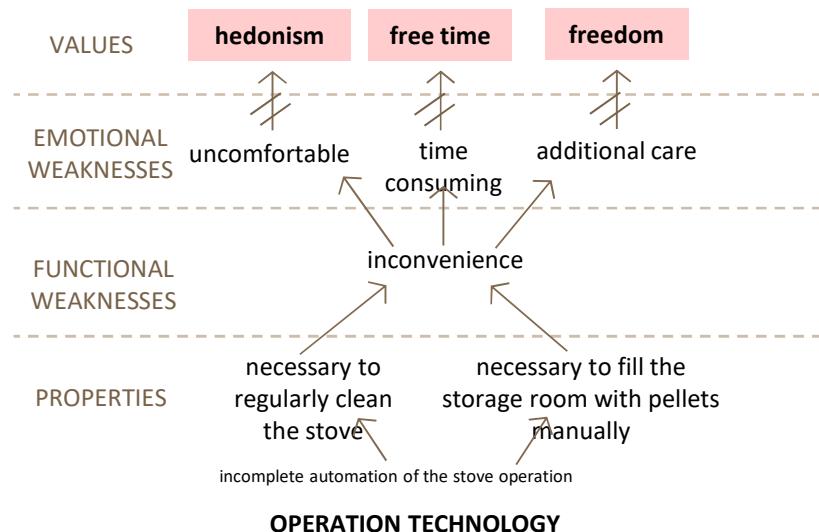
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Pellet heating → Disadvantages, barriers to use → OPERATION TECHNOLOGY



Depending on the technology - almost automatic operation of the stove - the pellet stove is one step ahead from the wood stove, but a step back compared to the heat pump.

Automation of the pellet stove operation is not complete: it is necessary to fill the storage room with pellets manually, and it is also necessary to regularly clean the stove. Due to these factors, the use of the pellet stove is perceived as less convenient compared to the heat pump (as well as compared to stoves on natural gas and heating oil). At the emotional level, these disadvantages are associated with discomfort, delay and additional care. These characteristics are negatively linked to the values of hedonism, free time and freedom.



INCONVENIENCE

Uporabnik 103: Zelo nas moti, da nas prodajalec ni opozoril, da je peč potrebno redno temeljito čistiti (ne samo pepel). Pepel je tako fin, da sem vedno, ko jo čistim, kot iz dimnika. Pozimi se pepel čisti na tri do štiri dni. Zalogovnik za pelete je dokaj majhen (12 vreč), tako, da ga moramo pozimi polniti vsak dan.

Uporabnik 4: Ker živimo v naši hiši samo ženske, so nam svetovali naj ostanemo pri ogrevanju na kurično olje, saj je peč na pelete precej zahtevna za čiščenje, za uporabo pelet pa je potrebno tudi kar nekaj moči: kupovati je treba težke žakle in pelete dvigovati v peč.

Uporabnik 35: Ko sem delal kalkulacijo med topotnimi črpalkami in pečmi na drva ali pelete, sem prišel do zaključka, da je investicija približno enaka, je pa več dela s pečmi. Potrebno spremljati porabo, da ne zmanjka pelet. Potrebo je naročiti dobre pelete. Vsake pelete niso v redu. Potem je potrebno še čakati na dostavo in jih iz dvorišča prenesti do zalogovnika pelet. Potem je še čiščenje pepela, dimnikarske storitve, ... Veliko dela za samo delovanje peči.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

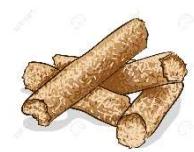
ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of yellow, orange, and red horizontal bars.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLD

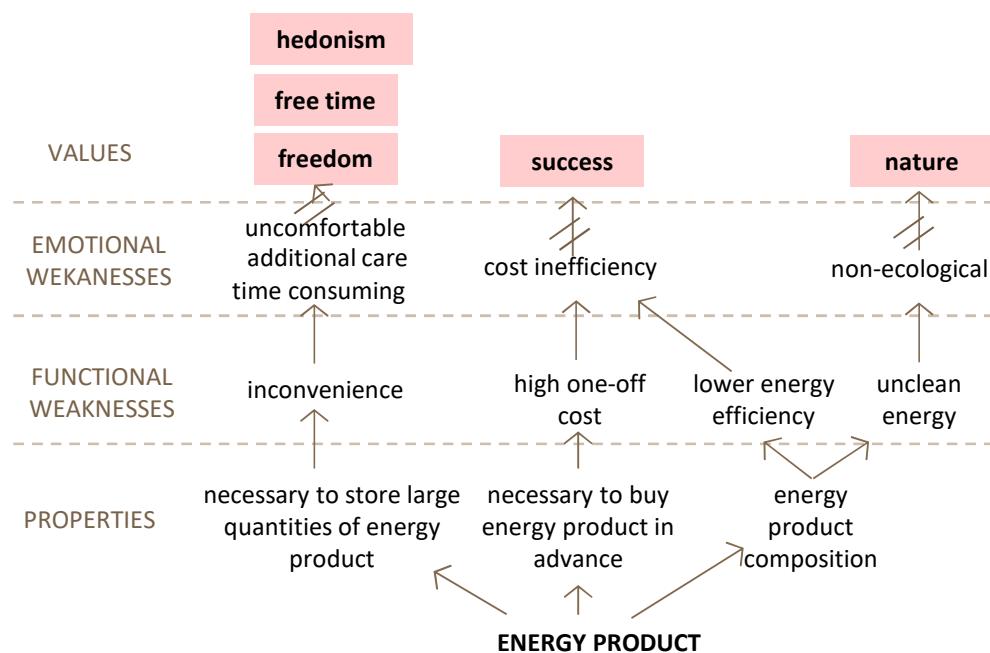
Pellet heating → Disadvantages, barriers for use → ENERGY PRODUCT



When it comes to energy product - pellets - space should be provided for their storage, the purchase is done in advance (upon delivery it is required to carry heavy bags to the storage room). Because of these factors, the use of the pellet stove is perceived as less convenient compared to the heat pump (as well as compared to stoves on natural gas and heating oil). At the emotional level, the mentioned defects of the pellet stove are associated with discomfort, delay and additional care. These characteristics are negatively linked to the values of hedonism, free time and freedom.

According to the participants, the composition of the energy product is also often questioned - certain pellets are of a lesser quality composition, which results in lower energy efficiency and cost inefficiency (negative relationship with the value of success).

When burning, the pellets are perceived as contributing to more unclean energy (releases into the atmosphere) compared to the heat pump. Pellets are perceived as less environmentally friendly and ecological source of energy.



INCONVENIENCE

Uporabnik 35: Ko sem delal kalkulacijo med topotnimi črpalkami in pečmi na drva ali pelete, sem prišel do zaključka, da je investicija približno enaka, je pa več dela s pečmi. Potrebno spremljati porabo, da ne zmanjka pelet. Potrebo je naročiti dobre palete. Vsake palete niso vredu. Potem je potrebno še čakati na dostavo in jih iz dvorišča prenesti do zalogovnika palet. Potem je še čiščenje pepela, dimnikarske storitve, ... Veliko dela za samo delovanje peči.

Uporabnik 16: Problem je najti prostor, saj je poleg peči potreben še polž za doziranje vzorcev in prostor za shranjevanje pelet.

Slaba stvar je tudi, da je treba prenašati težke vreče pelet, kar je v kasnejših letih lahko problem.

NON-ECOLOGICAL

Uporabnik 1: Poleg tega vidim pri sosedih, da je to ena izredno umazana tehnologija, predvsem za sosedje. Kaj vse jim ne leti iz dimnikov, nemogoče je perilo sušiti zunaj. Ne vem, od česa je to odvisno: slabi peleti, slabo izgorevanje.

Uporabnik 33: Seveda je problem tudi kvaliteta peletov, saj velikokrat, pripovedovanja prijateljev, vsebujejo zmleto gumo.... se pravi nekvalitetna sestava in s tem ni izkoristka in pa onesnaževanje ozračja.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



Attitude towards use of the air conditioner



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTOŠNIŠKE RAZISKAVE

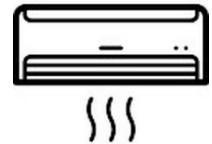
ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



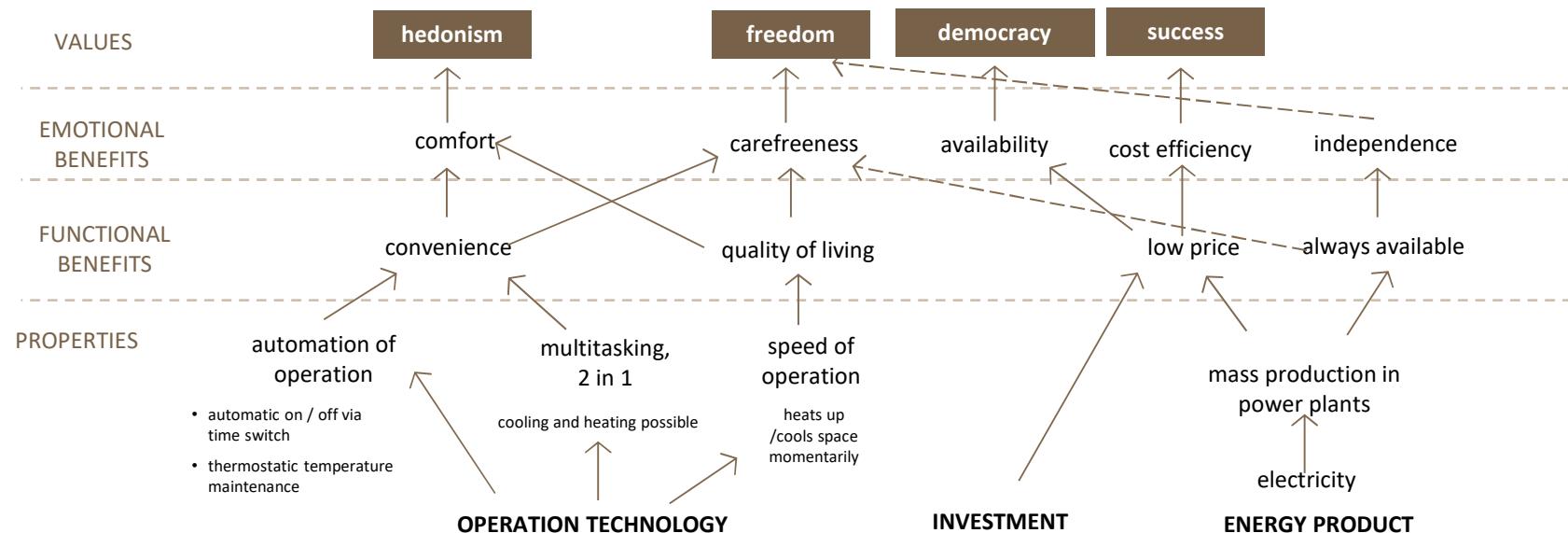
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS



Air conditioner→ Advantages, motives for use

The key emotional benefits that participants connect with an air conditioner are comfort and care. The use of an air conditioner as a heating source is also linked to economy, accessibility and independence. These benefits come from the operation technology (automation, multitasking, speed), as well as from the characteristics of the investment (low price) and energy product- electricity (always available, low price).

Below we present each of the benefits in more detail.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402





SUSTAINABLE USE OF ENERGY IN HOUSEHOLD

Air conditioner→ Advantages, motives for use→ OPERATION TECHNOLOGY



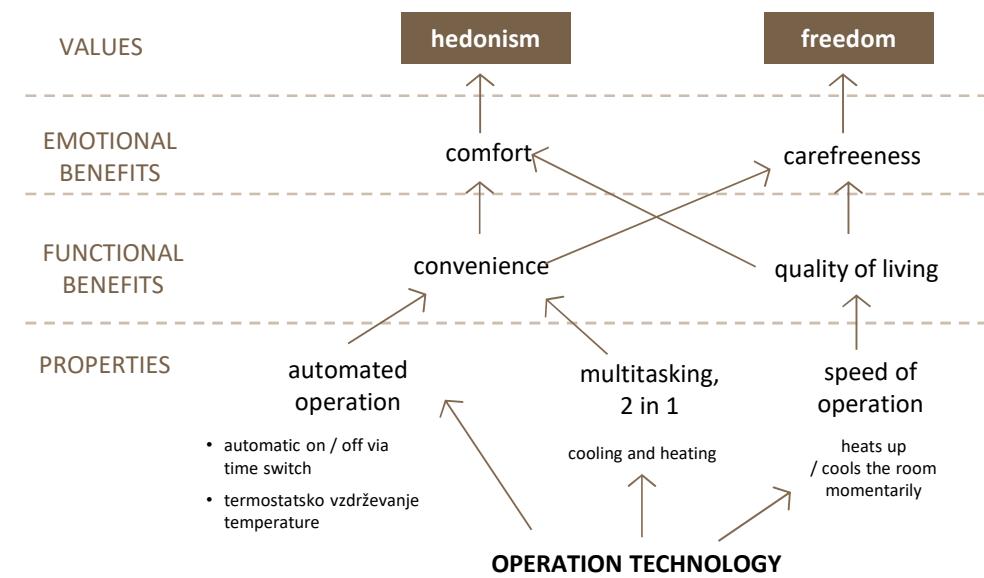
Air conditioning technology is convenient and enables a better quality of life.

Its operation is fully automated. Automatic switching on and off via timer, and thermostatic temperature maintenance are possible.

Many air conditioners on the market are multi-functional, they allow for both cooling and heating. In the summer they allow for a quick cooling of the apartment. During the transition months in autumn and spring (when the primary source of heating, for example, the heat pump, the pellet stove are not yet switched on), the participants use it for heating or warming up the apartment.

One of the characteristics of air conditioners is also rapid operation - the room is heated or cooled almost instantly.

At the emotional level, all of these characteristics relate to comfort and care, and at the level of values to hedonism and freedom.



COMFORT AND CAREFREENESS

Automated operation

Uporabnik 73: Najbolje pri vsem je da si s pomočjo timerja nastavimo vklop in izklop. Prostor je na 22 stopinj celzija segret v cca 15 minutah.

Uporabnik 67: Klima je lahko časovno vodená, tako da ko prideš domov, je prostor shljen ali jeseni ogret ob določenem času na določeno temperaturo, izklop ob uri.

Multitasking

Uporabnik 89: Ker še nimamo nove fasade in s tem izolacije, bi bilo poleti brez klime v našem stanovanju čisto prevroče, podobno pa je zelo hladno, preden začnejo z ogrevanjem. V hudem mrazu pa se še dodatno pogrejemo s pomočjo klime.

Uporabnik 95: Klimatsko napravo uporabljam že daljše obdobje predvsem za hlajenje in pa v prehodnem obdobju tudi za ogrevanje. Za hlajenje je normalno, ko so zunane temperature visoke, ogrevanje pa v prehodnem obdobju, ko toplotna črpalka ker je vezana na zunanje tipalo ne zagotovi potrebne toplote v prostoru.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



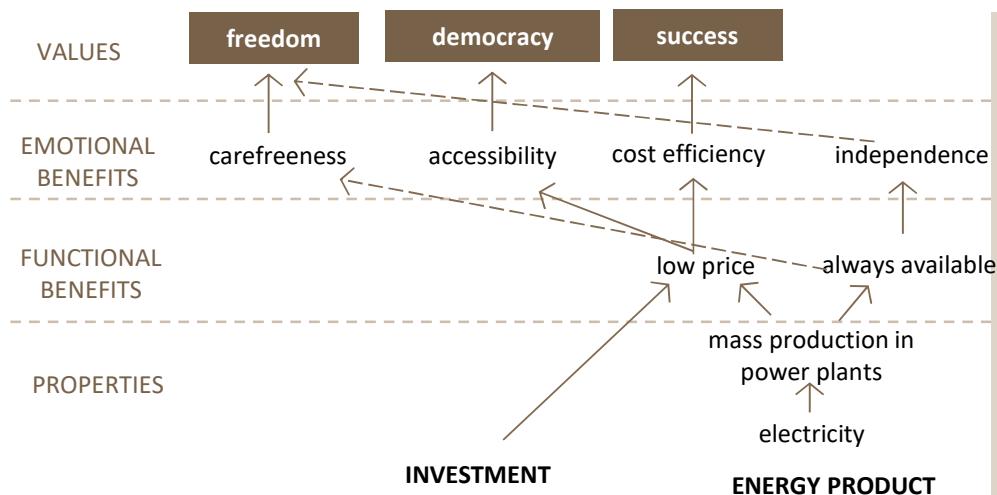
SUSTAINABLE USE OF ENERGY IN HOUSEHOLD



Air conditioner → Advantages, motives for use → INVESTMENT, ENERGY PRODUCT

The investment in air conditioning is relatively low compared to other heating appliances, and the cost of energy (electricity that is mass produced in power plants) is not too high in terms of its rational use. All this is connected with the cost efficiency and accessibility at the emotional level, and at the level of values with success and democracy.

As the air conditioner works with electricity, both heating and cooling are always available. This (especially in blocks of flats) allows for independence in the heating of the apartment and is carefree (no work with the preparation of energy product, maintenance of the stove). At the level of values, these emotional benefits are linked to the value of freedom.



COST EFFICIENCY, ACCESSIBILITY

Uporabnik 106: Priporočala bi jo tistim, ki imajo poleti "prevoče" v stanovanju, saj ni tako velika investicija, večinoma jo ponujajo na obroke, pred poletjem se vedno pričnejo razne akcije.

Uporabnik 31: Prednost pa ugodno dogrevanje (v prejšnjem stanovanju sem imela prižgan en radiator.. klima skos gorela...50 eur ceneje je bilo ogrevanje s klimo.

Uporabnik 2: Z leti so vse bolj cenovno ugodne in dostopne vsakemu.

INDEPENDENCE, CAREFREENESS

Uporabnik 56: Klimatsko napravo imamo namen kupiti in glavna prednost investicije v klimatsko napravo je neodvisnost od ostalih v bloku, torej si jo prižegeš kadarkoli. Po drugi strani s klimo privarčuješ, ker ne trošiš toliko radiatorjev.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

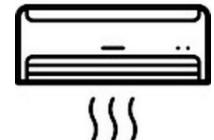
ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized graphic of overlapping colored bars in yellow, orange, and red.



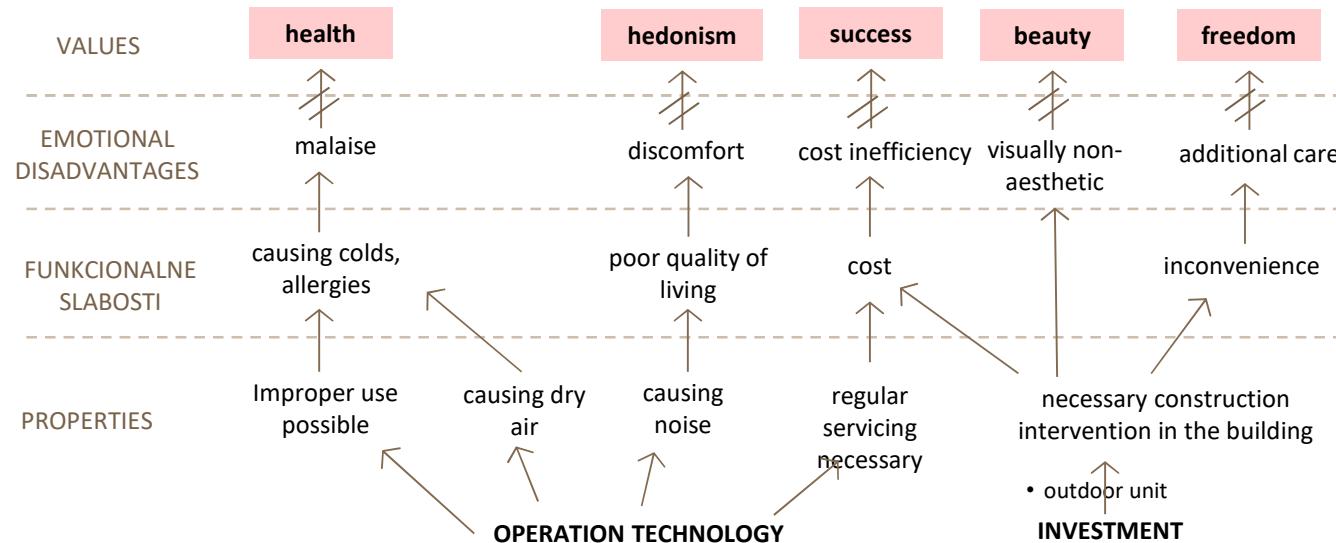
SUSTAINABLE USE OF ENERGY IN HOUSEHOLD

Air conditioner→ Disadvantages, barriers to use



The participants do not mention many of the essential disadvantages of using the air conditioner, except for the negative impact on health. They mentioned the noise caused by the appliance and thus the poor quality of living, the cost of servicing and the construction intervention in the facility in case of installing an outdoor unit.

In the following, we present each of the disadvantages in more detail.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

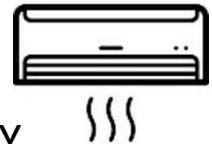
ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



SUSTAINABLE USE OF ENERGY IN HOUSEHOLD

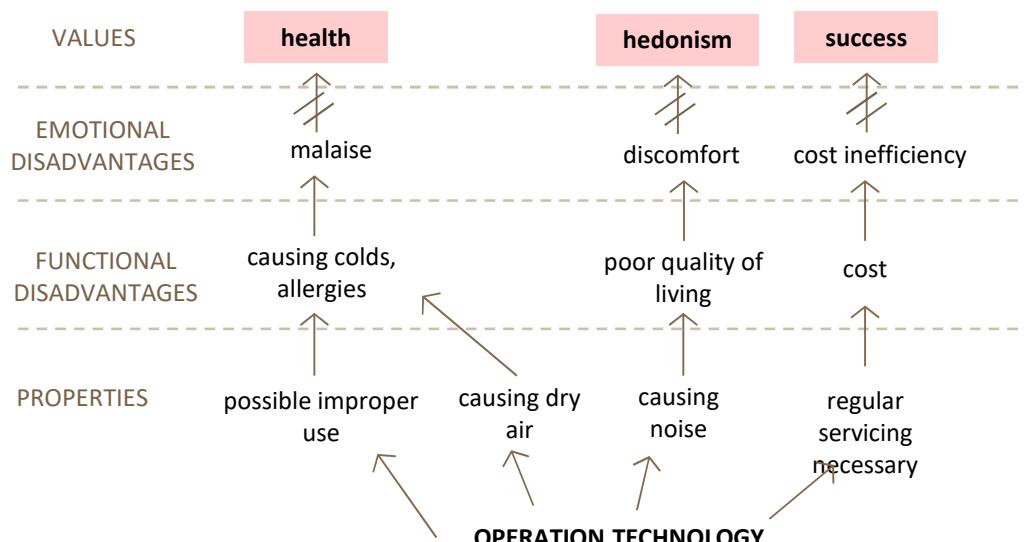


Air conditioner→ Disadvantages, barriers to use→ OPERATION TECHNOLOGY

In connection with the negative aspects of the use of the air conditioner, the participants mention the possibility of incorrect use (setting too low temperatures in the summer and too high during the colder months). The device also causes dry air in the apartment. All of this can lead to colds and allergies, which leads to malaise and poor health.

The air conditioner does not work completely silent, it also causes some noise, which induces the poor quality and comfort of living (negative connection with the value of hedonism).

The device needs to be serviced, which is additional cost in the family budget. In the event that the use of the air conditioner is not really necessary, the participants perceive it as uneconomical (unnecessary luxury).



MALAISE, DISCOMFORT

Uporabnik 4: Uporaba klime s seboj prinaša precej tegob. Na delovnem mestu, kjer smo imeli klimo, smo bili non stop prehlajeni, imeli smo glavobole, hude bolečine v vratu in ramenih in še kaj.

Uporabnik 33: Res pa se bojim prehladov: lahko mimogrede nastaviš prenizko temperaturo in je prehod iz hise ven prevelik. Tako kot nekateri pretiravajo v avtomobilih, potem pa so tukaj prehladi.

DISCOMFORT

Uporabnik 5: Poleg tega je moteč tudi hrup delovanja naprave. Zanemarljiv pa ni niti videz, saj klimatske naprave, sploh v večstanovanjskih objektih, z zunanjimi enotami klimatskih naprav, kvarijo videz objekta..

COST INEFFICIENCY

Uporabnik 37: Pomanjkljivosti se mi pa zdijo prehladi, zaradi nepravilne (prehladne) nastavitev klime, stroški vsakoretrega čiščenja in vzdrževanja klime, ker drugače nastanejo bakterije.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.

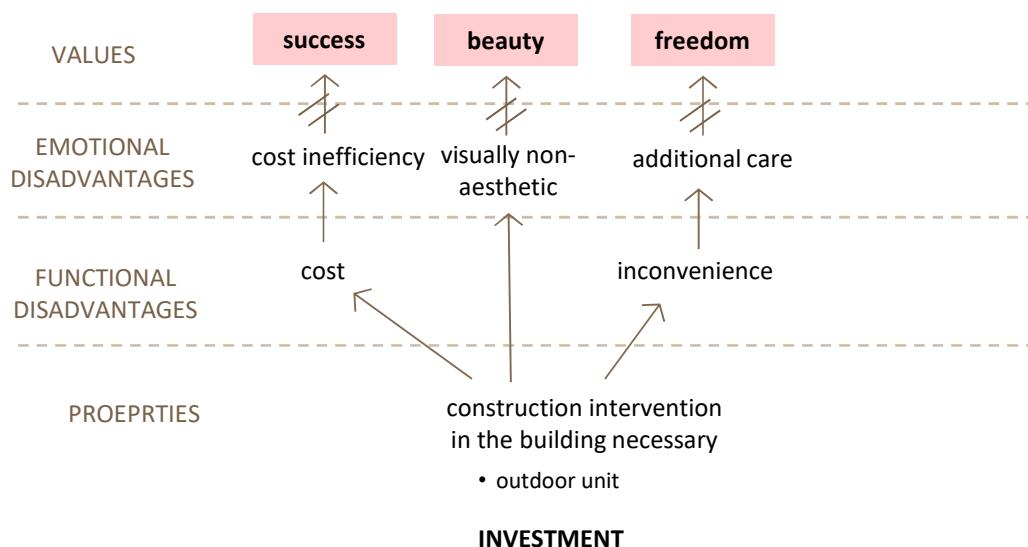


SUSTAINABLE USE OF ENERGY IN HOUSEHOLD

Air conditioner → Disadvantages, barriers to use → INVESTMENT



Installation of an outdoor unit of a device requires a construction intervention in the facility, which is associated with additional costs and additional concerns. The outdoor unit also seems to be non-aesthetic to certain participants. All this is negatively linked to the values of success, freedom and beauty.



CONSTRUCTION INTERVENTION IN THE BUILDING

Uporabnik 90: Negativni vidik klimatske naprave je višji strošek porabe elektrike, ko je ta v uporabi, grši izgled zunanjosti hiše (sploh tam, kjer je so že rjaste), kjer je nameščena zunanjega enota, večja možnost prehlada, vnetij, če ni primerno nameščena, recimo, da ni druge možnosti in ti mrzel zrak piha direktno (npr. v spalnici, ki spiš).

Uporabnik 56: Pa investicija je, da napelješ npr. v sredino stanovanja, moraš preko sten pa po stenah, pa ven na fasado in to pride kar nekaj kablov.

Uporabnik 15: Če se kupi neprenosno, potem je potrebno prebijati steno, postaviti nekam zunanjega enota klimatske naprave itd. Strošek je kar velik, še posebej, če se tu doda še strošek za povečano porabo električne energije. Redno jo je potrebno tudi vzdrževati, kar je še dodaten strošek.



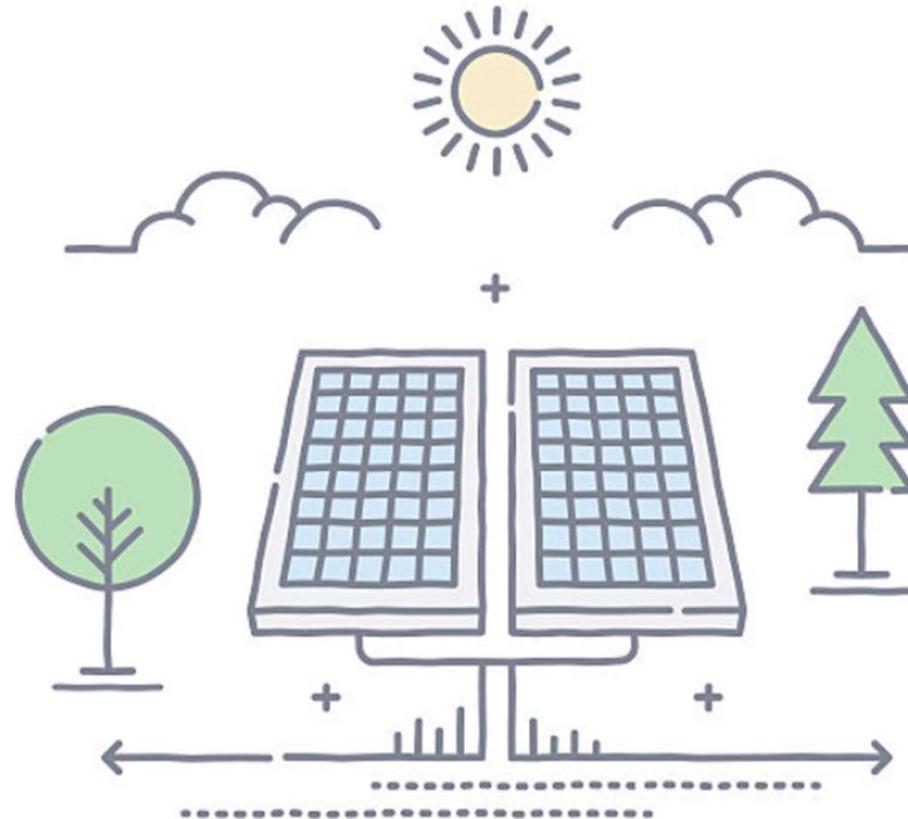
The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402





Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



Attitude towards use of the solar power plant



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

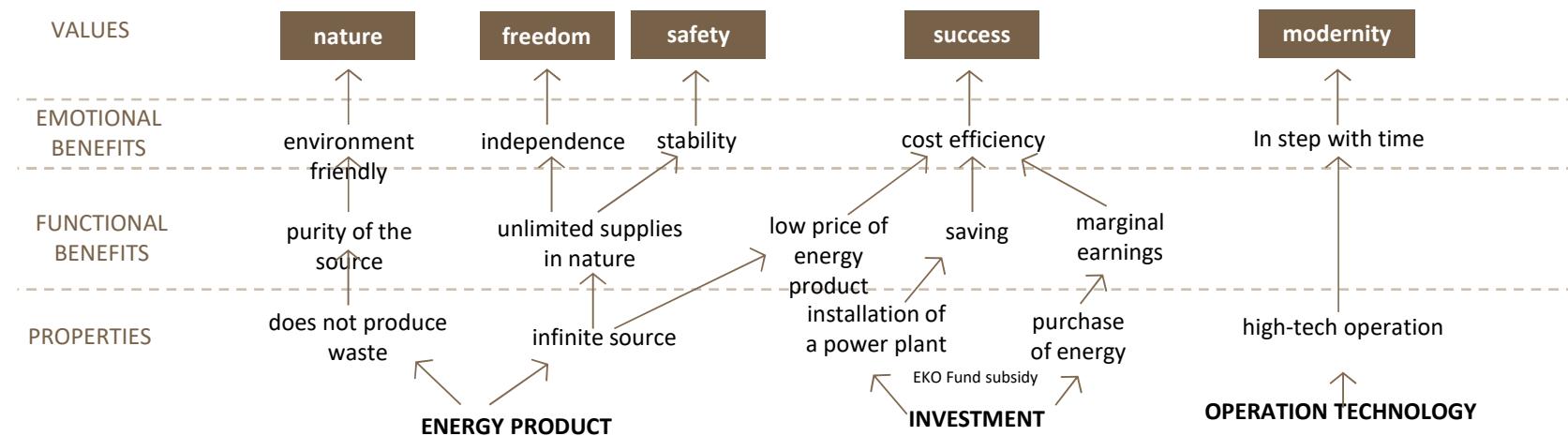
Solar power plant → Advantages, motives for use



In the perception of people, the solar power plant has more disadvantages than advantages.

The main advantages highlighted by the participants are connected with the energy for generating electricity - the sun. It is a clean and environment friendly resource that has unlimited supplies in nature.

All the highlighted advantages are summarized below.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

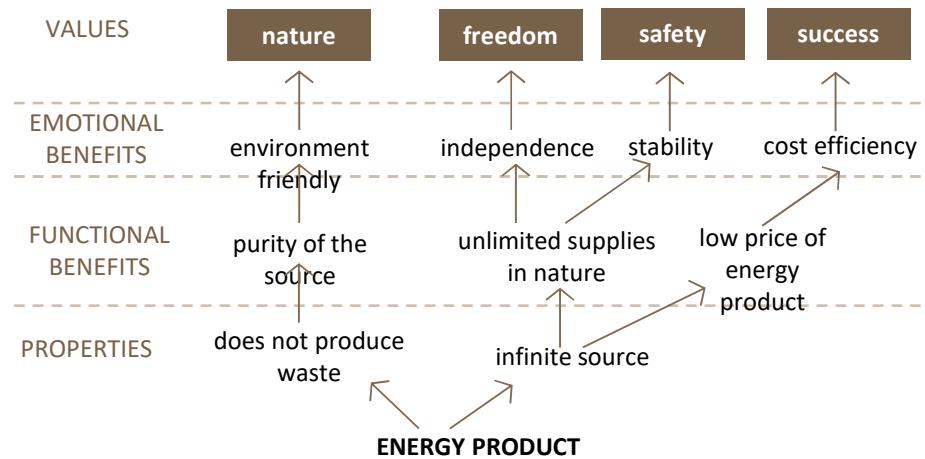
Solar power plant → Advantages, motives for use → ENERGY PRODUCT



The energy product, by means of which the solar power plant generates electricity, is the sun. In the perception of the participants, this is a clean and environmentally friendly source that does not generate waste when converting energy, which is positively linked to the value of nature.

The sun is also an endless source of energy with unlimited supplies in nature. Own source for the production of electricity, which is naturally available in unlimited quantities, also makes the household independent from big energy corporations and stable.

The infinity of the source also means a low price of this energy, and thus the cost efficiency of its use, which is linked to the value of success.



ENVIRONMENT FRIENDLY

Uporabnik 70: Sončna elektrarna je bila plod predvsem moje skorajda romantične zaljubljenosti v tovrstno pridobivanje energije. Nekaj privlačnega je na tem, da zgolj zajameš tisto, kar je na nebu, brez da bi tisto kakorkoli oskrnil. V investicijo me je prepričala tudi ugodna ponudba, ki sem jo dobil v tistem času.

Uporabnik 119: Zatem je to trajnostni način v okolju, saj ta elektrarna porablja sončno energijo in ne onesnažuje okolja.

INDEPENDENCE, STABILITY

Uporabnik 90: Z lastno sončno elektrarno takoj postaneš energetsko samooskrben in za vedno neodvisen od nihanja cen na trgu.

Uporabnik 102: Prednost je energijska neodvisnost (vsaj delna) in nižji stroški porabljenih energij ob manjšem onesnaževanju okolja.

COST EFFICIENCY

Uporabnik 129: Ker stanujem v stanovanjskem bloku, seveda nimamo sončne elektrarne in verjetno bo preteklo še veliko vode, preden se bo ta način uporabe sončne energije začel uporabljati tudi v takih vrstah bivanja pri nas. S tem bi seveda veliko prihranili.

Uporabnik 139: Prednosti vidim v prihranku na računu za elektriko.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
=

54



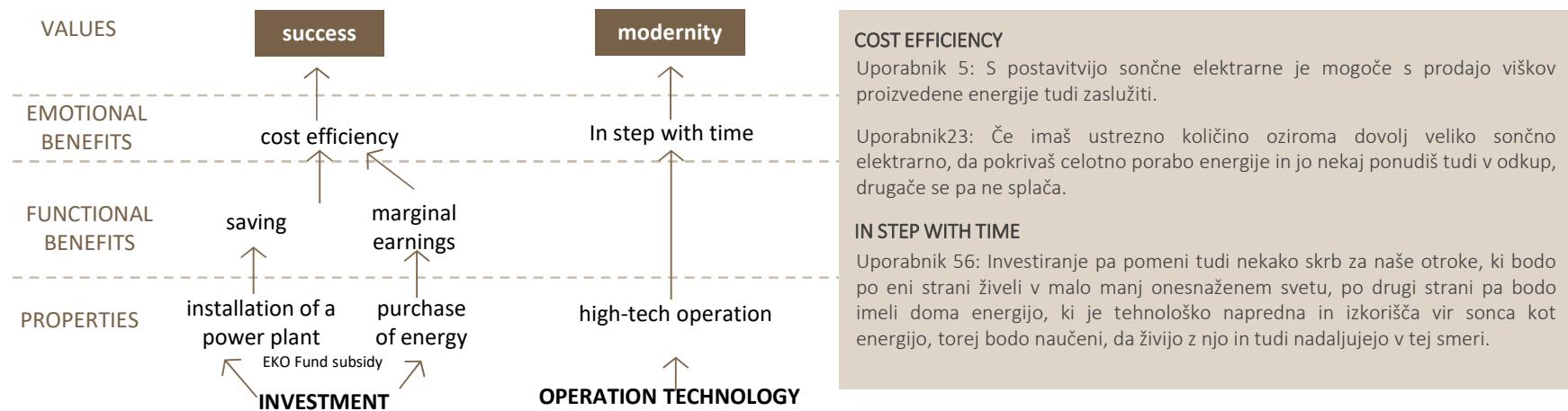
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS



Solar power plant → Advantages, motives for use → INVESTMENT, TECHNOLOGY

Participants also point out that the investment in the solar power plant is subsidized by the Eco Fund - both the installation of a solar power plant and the purchase of energy - which enables savings and additional earnings. At the emotional level, this is associated with cost efficiency, and at the value level with success.

The technology of the solar power plant is high-tech. This allows users to keep up with the latest technological trends, which is linked to the value of modernity.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized sun logo

55



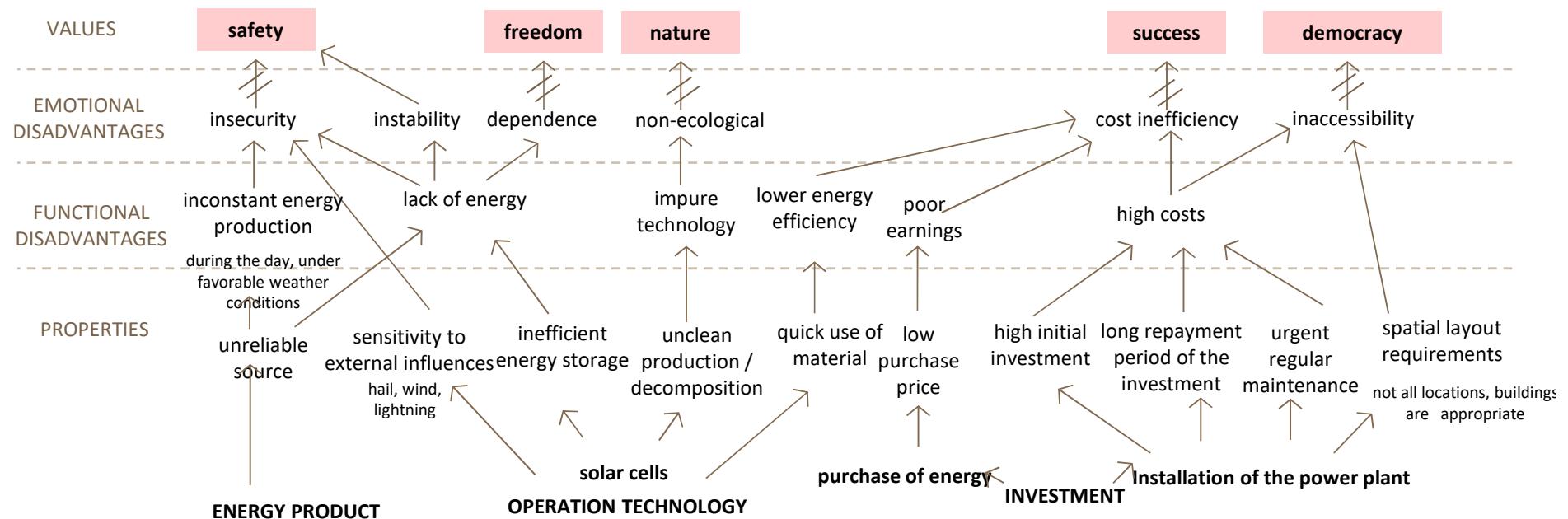
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS



Solar power plant → Disadvantages, barriers to use

In the perception of people, the solar power plant has more disadvantages than advantages. The key weakness of the solar power plant in the perception of people is a very high initial investment, which is not reimbursed for a very long time (if ever).

All the highlighted disadvantages are summarized below.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

56

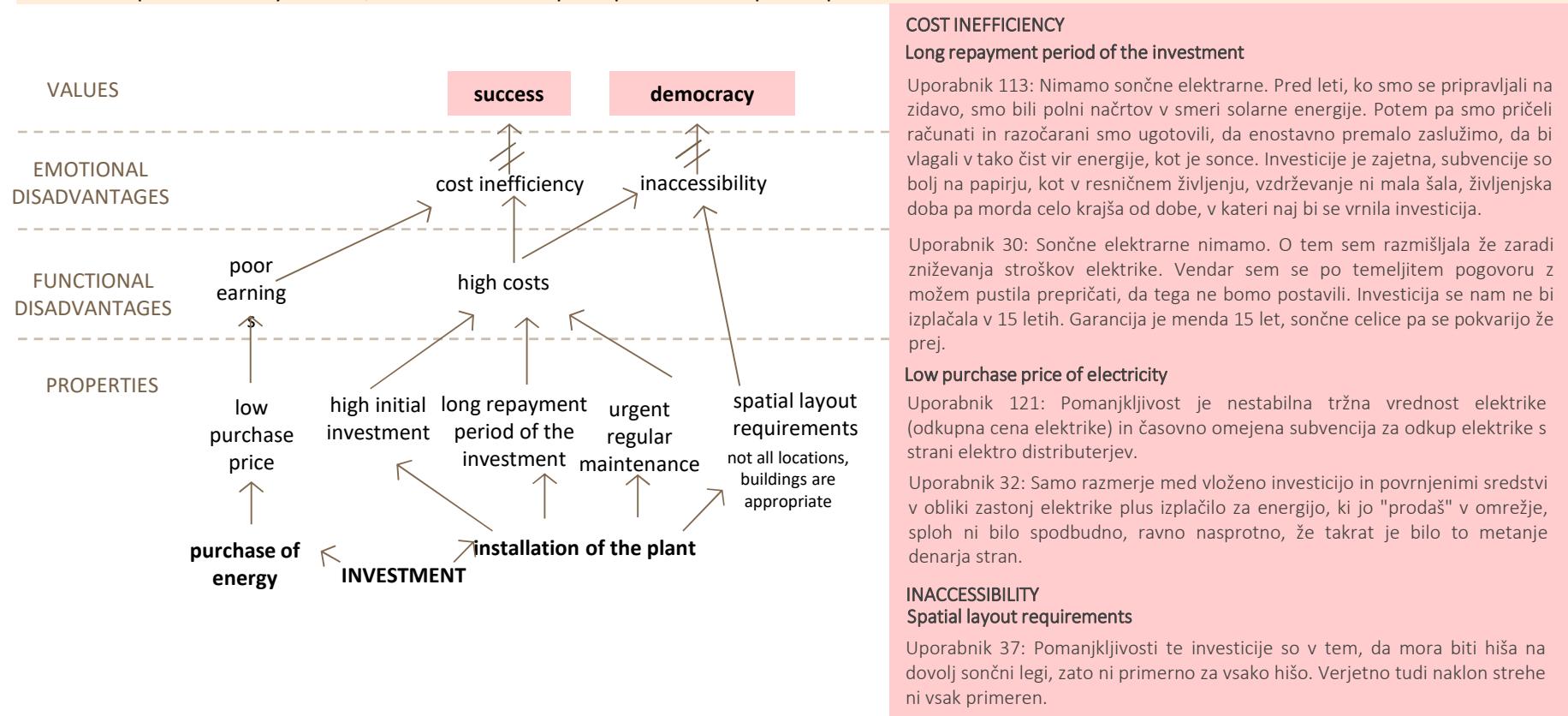


SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Solar power plant → Disadvantages, barriers to use → INVESTMENT



The key deficiency of the solar power plant in the perception of people is a very high initial investment, which does not return for a very long time (if ever). It is also necessary to maintain solar cells regularly. All of this is linked to high costs and the uneconomical layout, which is negatively linked to the value of success. These aspects also negatively affect the democratic nature of the solar power plant as a source of electricity (inaccessibility). When it comes to the installation of a solar power plant, it is necessary to satisfy certain space requirements, all locations and buildings are not suitable for the installation of solar cells. This aspect also affects the inaccessibility of solar power plants to certain individuals. Participants also mention the low redemption price of electricity as a negative aspect of the investment in the solar power plant. The profit from the sale of surplus electricity is small, which affects the perception of solar power plants as cost inefficient.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Solar power plant → Disadvantages, barriers to use → OPERATION TECHNOLOGY

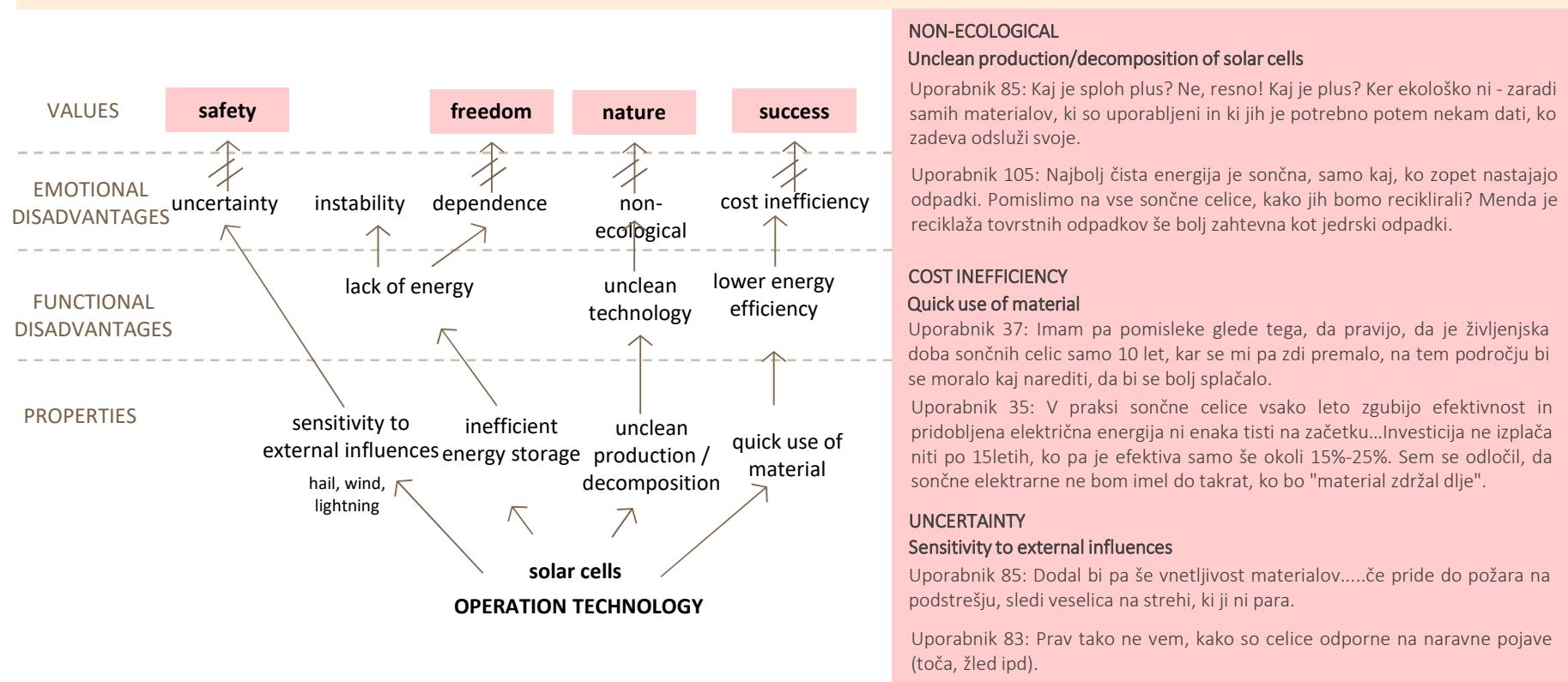


In connection with the operation technology- solar cells - participants exposed the following negative features: unclean production and degradation, rapid material recovery, inefficient energy storage and sensitivity of solar cells to external influences (e.g. hail, wind, lightning).

According to the participants, the technology of solar cell production is not environmentally friendly as it causes environmentally harmful waste. Therefore, the solar power plant is not entirely green and ecological source of energy.

The next barrier in people's perception is that solar cells are quite rapidly exploited so that their energy yields are less each year, making this kind of investment uneconomical.

Participants are also concerned about the sensitivity of solar cells to external influences (hail, lightning, wind), which is emotionally reflected in the uncertainty about the feasibility of using such technology. This aspect is negatively linked to the value of safety.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



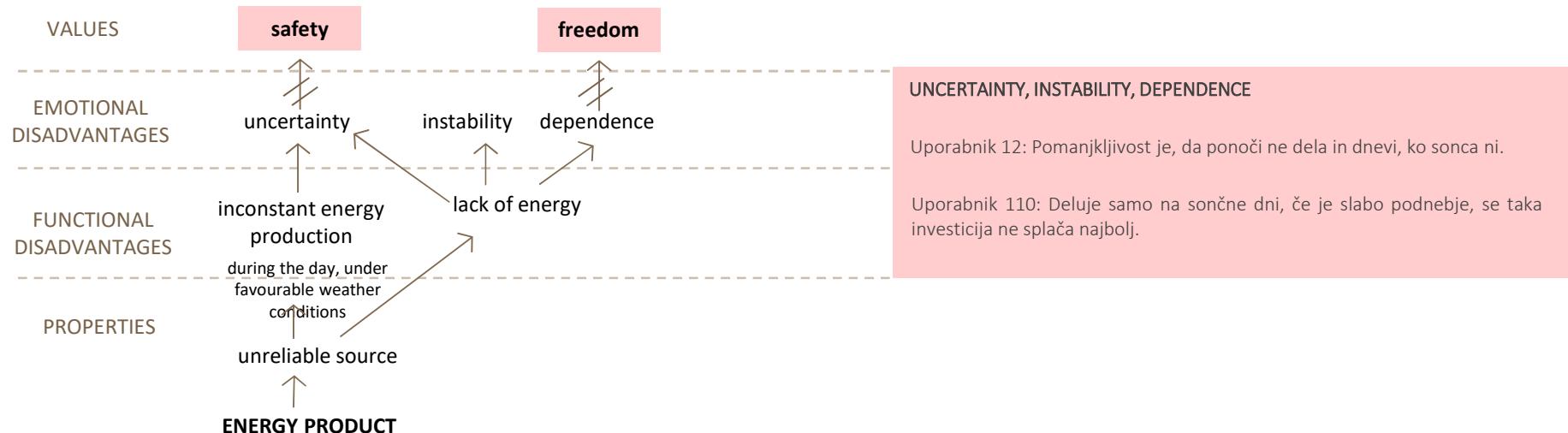
SUSTAINABLE USE OF ENERGY IN HOUSEHOLDS

Solar power plant → Disadvantages, barriers to use → ENERGY PRODUCT



According to the participants, the solar energy is a source that is not completely reliable due to the inconstancy of electricity generation (production only during the day and at favourable weather conditions). This disadvantage is also emotionally reflected in the uncertainty about the rational use as well as in the lack of electricity.

According to the participants, electricity generated in the solar power plant can not be effectively stored, which can lead to energy shortages. This aspect is connected at the emotional level with uncertainty and instability and dependence on conventional sources of electricity.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

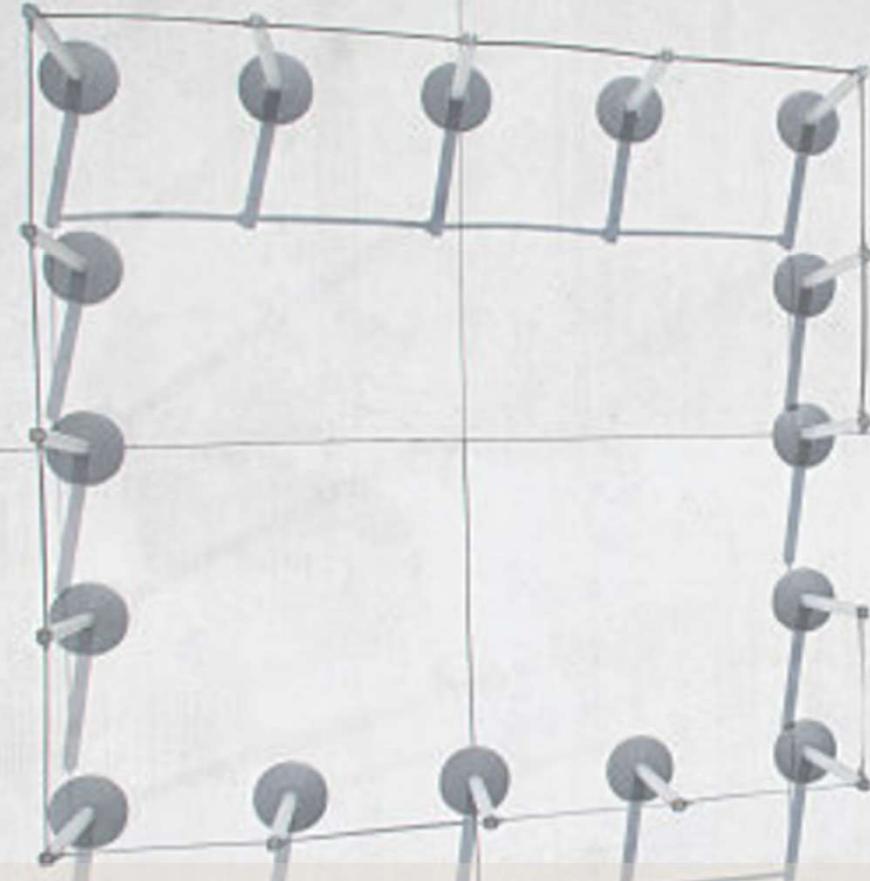
ARAGON | =
Stylized sunburst logo consisting of yellow, orange, and red curved bars.

59



Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables



Motives for and barriers to sustainable use of energy



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

60



MOTIVES FOR AND BARRIERS TO A SUSTAINABLE USE OF ENERGY

Motives for sustainable use of energy → At the declarative level

With the help of the technique of complementing sentences and *pro et contra* debate, we have gained a set of motives for sustainable use of energy. At the declarative level, the main motive for sustainable use of energy is the care for a cleaner environment and our descendants.

When it comes to sustainable use of energy I would like to change my habits because ...

lower costs.
energy saving
care for a cleaner environment
preserve the planet
less pollution
nature conservation
care for the future generations
better quality of life
better life less waste
social responsibility
changes ecological awareness

Uporabnik 113: Svoje navade, ko gre za trajnostno rabo energije, bi rad/a spremenil, ker bodo spremembe prijazne okolju in našemu proračunu, z veseljem bom dober zgled znancem, sorodnikom in prijateljem, posebej si želim navdihovati mlade.

Uporabnik 25: Svoje navade, ko gre za trajnostno rabo energije, bi rad/a spremenil/a, ker občudujem naravo in cenim okolje v katerem živimo in želim da tako ostane.

Uporabnik 4: Svoje navade, ko gre za trajnostno energijo, bi rada spremenila, ker se mi zdi izredno pomembno misliti na naše zanamce. Na naše otroke in vnuke, za katere želim, da bodo lahko mirno dihalni naš zrak, se kopali v morju in ležali na travi. Zato, ker želim tudi sama živeti mirno življenje, ne da bi mi vse okoli mene predstavljalo grožnjo za moje zdravje.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =



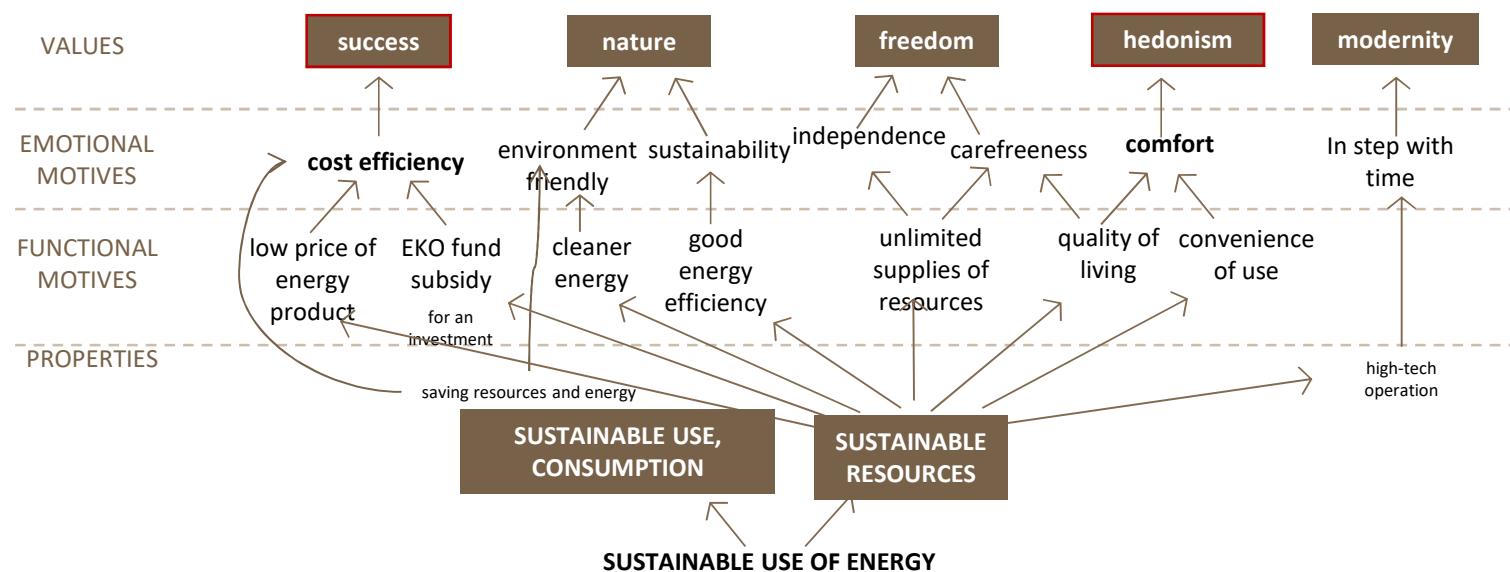
MOTIVES FOR AND BARRIERS TO A SUSTAINABLE USE OF ENERGY

Motives for a sustainable use of energy → Synthesis based on all the findings

The picture below shows the motives for a sustainable use of energy - synthesis based on all the findings of the research.

Key motivations for a sustainable use of energy are cost efficiency (in terms of saving) and comfort (quality of living, convenience of use).

The use of a cleaner energy and friendliness to nature is a consequence of the use of such resources, but does not act as a key motive, a gear in the direction of a sustainable use of energy.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of overlapping yellow, orange, and red curved bands.



MOTIVES FOR AND BARRIERS TO SUSTAINABLE USE OF ENERGY AND USER PROFILES

Barriers to sustainable use of energy → At the declarative level

With the help of the technique of complementing sentences and pro et contra debate, we have also obtained a set of barriers to a sustainable use of energy. At the declarative level, the largest barrier to a sustainable use of energy is the cost associated with investments, so that individuals can consume energy consciously.

When it comes to sustainable use of energy I would like to change my habits but ...

financially incapable
lack of will low awareness I don't have enough influence
not beneficial enough bureaucracy too high investment established habits
i live in an apartment building changes are difficult time consuming

Uporabnik 32: Svoje navade, ko gre za trajnostno rabo energije, bi rad spremenil, ampak ... sem na žalost v neki meri omejen tako s financami kot prostorom. Tako da tisto kar bomo lahko še spremenili, bomo, česar ne bomo zmogli sami ali pa ne bo razumevanja okolice/države, pač zaenkrat ne bomo. Sicer rad rinem z glavo skozi zid, ampak razbiti si je pa ne mislim.

Uporabnik 113: Svoje navade, ko gre za trajnostno rabo energije, bi rad spremenil/a ampak, vse prevečkrat se mi zdi, da se borim z mlini na veter. Medtem, ko sem sama odgovorna kot majhen uporabnik, veliki razmetavajo ali se celo sprenevedajo. Vseeno ne bom dovolila, da bi bil ta "ampak" ovira pri mojih prizadevanjih. V zadnjih letih smo pri nas kar precej zavedni, saj smo dom spremenili v varčen in ekonomičen, pazimo pri reciklaži, izogibamo se nepotrebni vožnji z avtomobilom, avto smo zamenjali za hibridni, dvakrat smo že zamenjali dobavitelja električne energije za ugodnejšega, sami pridelamo kolikor je mogoče sadja in zelenjave, in še kaj bi se našlo. V tem duhu gremo naprej.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

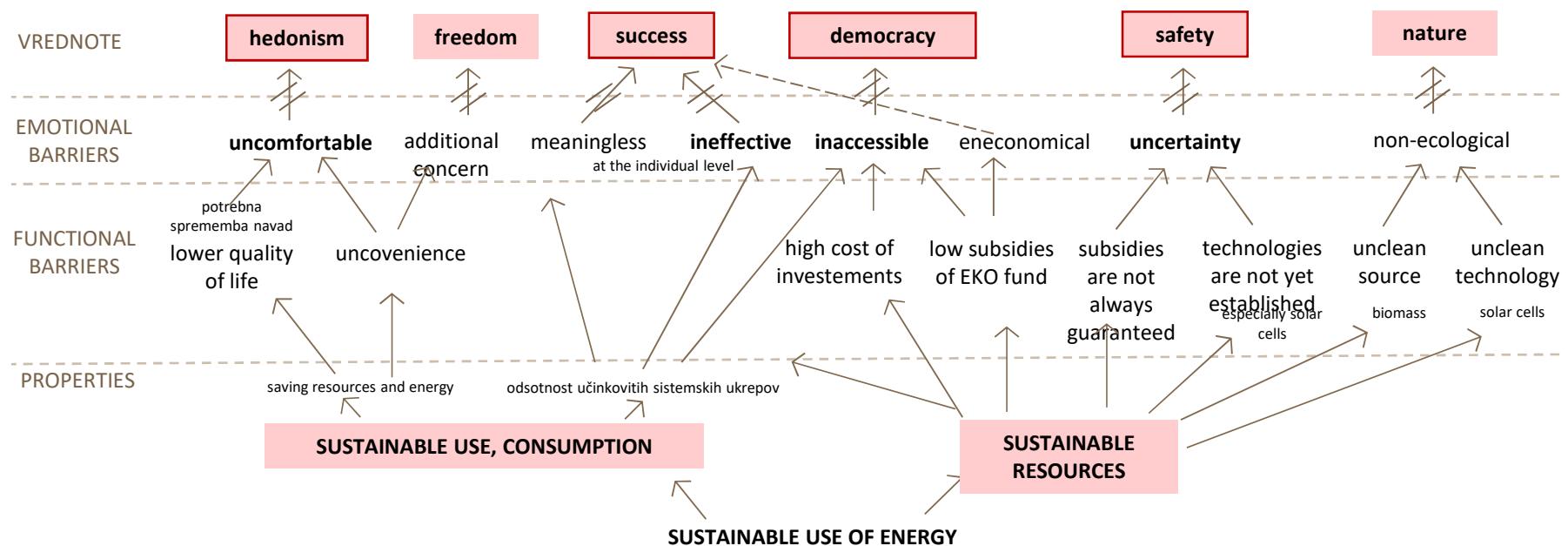


MOTIVES FOR AND BARRIERS TO A SUSTAINABLE USE OF ENERGY

Barriers to a sustainable use of energy → Synthesis based on all research findings

The picture below illustrates the barriers to a sustainable energy use - a synthesis based on all the findings of the study.

The key barrier when it comes to sustainable use and energy consumption is **discomfort** (in the opinion of participants it is necessary to change the mindset and to be prepared for somewhat lower quality of life) for saving energy and resources. The use of sustainable energy sources is **inaccessible** to many participants as they have no financial opportunities for major investments. Participants also highlight the absence of effective state-level measures to make this kind of energy more accessible. Efforts at the level of the individual and not the entire community (the creation of effective policies) for many participants seem to be **meaningless** and **ineffective**. When it comes to introducing the use of new, yet untested technologies (especially solar cells), one of the barriers is **uncertainty** (investment risk) - technological innovation is not yet sufficiently widespread and the positive results can not be seen in the homes of relatives, friends.



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =
Stylized logo consisting of overlapping yellow, orange, and red curved bands.



Clear 2.0

enabling Consumers to Learn about, Engage with, and Adopt Renewables



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

65



USER PROFILES WHEN IT COMES TO SUSTAINABLE USE OF ENERGY

In designing user profiles, we used Rogers¹ concept of instilling innovations. (The content through which we designed the profiles is as follows: primary mode of heating, investment in households when it comes to the sustainable use of energy - which the participants have already performed, which would like to perform, which they have no intention to perform, and their habits when it comes to a sustainable use of energy.) We have created 5 user profiles:

Early adopters - these are individuals who are most advanced when it comes to investments in sustainable energy use. They carried out a complete energy renovation of the house, or built a new low-energy house, they heat with a heat pump, have an individual power station (solar cells, a hydroelectric power station), or seriously think about it, have a rainwater reservoir or seriously think about its installation.

The Early majority - these are individuals who have carried out most of the investments in connection with the energy rehabilitation of the house, are heated with a heat pump. Most do not have a reluctant attitude towards the solar power plant, but they do not fully trust innovations until they see positive results in others.

Most people in the Late majority are individuals who are trying to energetically repair the house; they replaced the primary mode of heating - they mostly switched from heating oil and wood to pellets - because the cost of the investment is not excessive, and the savings in heating are good. These are price-sensitive individuals who take innovations later than most, when they become almost a necessity. Mostly they do not favour investments in solar cells and electric cars.

Laggards are those that are still heating on heating oil, gas or wood. They invest in energy rehabilitation of the house, but due to lack of funds, the rehabilitation has not been completed. Individuals living in blocks or high-rise buildings are included in the group Dependent and they are not autonomous in the case of major investments in sustainable energy use.

*Due to the methodology of data collection - qualitative research on an unrepresentative sample - user profiles identified can not be generalized to the entire Slovenian population!

*The selection of ten participants for the second part of the research from a particular user profile will be given to the subscriber at a later date when the second term of the research will be known.



¹ Rogers, Everett M. (2003): Diffusion of innovations. 5th ed. New York: The Free Press



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIŠKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON





Clear 2.0

enabling Consumer to Learn about, Engage with, and Adopt Renewables

"The researchers see what everyone can see and think about something that no one else has ever thought of."

Če bi tudi vi radi vstopili v vznemirljivi svet raziskav...

Thank you for your trust.



Virtualno obiščite ...

www.aragon.si

www.plusplet.com



Pišite ...

info@aragon.si



Pokličite...

01 547 17 08



Se oglasite na kavi...

Aragon, d.o.o., Leskoškova 9E, 1000 Ljubljana

ARAGON | =
ESOMAR
INTERNATIONAL RESEARCH
RESEARCH AND PLANNING



The project leading to this application has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No 749402.



MEDNARODNI INSTITUT
ZA POTROŠNIKE RAZISKAVE

ZPS

ZVEZA
POTROŠNIKOV
SLOVENIJE

ARAGON | =

67