

Presentation of the three approaches, which are implemented in Slovenia for energy efficiency (EE) and renewable energy sources (RES) for new construction and energy recovery for older buildings.

- **Eco Fund** grants and loans
- **ENSVET network** for energy advice to households
- **National Energy Path Slovenia** to discover best practices

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The Effects of Eco Fund's Grants for Energy Efficiency in Buildings: Slovenian Experience



About Eco Fund, Slovenian Environmental Public Fund

- Public fund specialized for supporting different environmental investments, implements environmental policies
- Key financial instruments to support investments in buildings:
 - soft loans
 - non-repayable subsidies (grants)
 - awareness-raising activities; financing of the network ENSVET (professional advice on energy efficiency, free for citizens)

Grants for investments in buildings for households only
(in 2011/12 also for municipalities-local authorities)
Soft loans: for citizens and legal entities

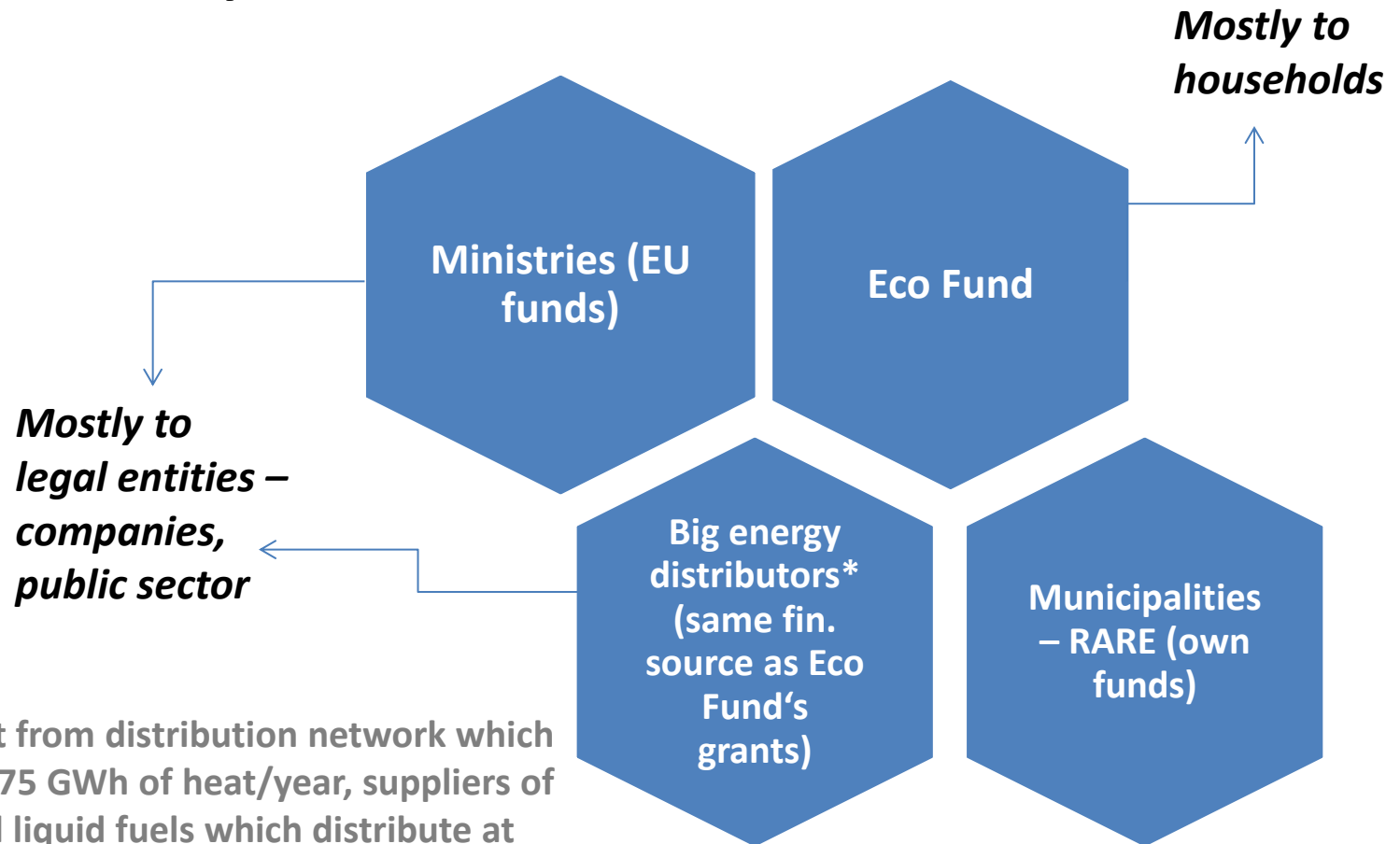
- Total funds in 2013: € 49.8 million (soft loans: € 29 million; non-repayable subsidies: € 20.8 million)





About Eco Fund

- Not the only institution in Slovenia which offers grants for energy efficiency investments in Slovenia



* Suppliers of heat from distribution network which distribute at least 75 GWh of heat/year, suppliers of electricity, gas and liquid fuels which distribute at least 300 GWh of energy/year



Problem

- Buildings contribute **40 % of end energy use** and cause **1/3 of greenhouse gas emissions**
- Mainly for **central and water heating**; also through the production and use of **materials and equipment** necessary for construction and refurbishment of buildings



Solving the problem

- The building sector has the **biggest potential** for delivering significant and cost-effective GHG emission reductions (United Nations) – goes for refurbishment as well as new buildings – proven policies, technologies and knowledge already exist on the market
- Countries should **prioritise the building sector** as key to meet their national targets on energy efficiency
- Directive 2006/32/ES; National action plan AN URE (2008-16) - Slovenia should save at least 9 % of end energy use (4,261 GWh) by 2016
- **One of the policies to achieve this goal: Eco Fund's non-repayable subsidies (grants) for different investments in energy efficiency of buildings**



Eco Fund's non-repayable subsidies (grants)

- Financial source for Eco Fund's subsidies for energy efficiency: **Regulation on energy savings ensured to final customers** (valid until 2014) specifies:
 - Every year energy distributors and Eco Fund have to ensure energy savings in the amount of at least 1 % of energy distributed to the final customers in the previous year
 - Range of eligible investments
 - The amount of fees per unit of distributed electricity, heat and fuel, which have to be collected
- In order to reach the goal, Eco Fund and big energy distributors publish public calls for allocation of grants



Eligible investments in buildings for which Eco Fund allocated grants under public calls, published in 2012

Households; investments in single dwelling and two dwelling residential buildings

- solar heating system
- wood biomass boiler for central heating
- heat pump
- first central heating system in the case of first connection to district heating on renewable energy sources
- replacement of old windows with energy efficient wooden windows
- thermal insulation of the façade
- thermal insulation of the roof
- heat recovery ventilation
- low-energy or passive residential building
- purchase of individual dwelling in three or more dwelling buildings, constructed or retrofitted in passive standard

Households; joint investments of energy reconstruction of three or more dwelling residential buildings

- thermal insulation of the façade
- thermal insulation of the roof
- installation of central heating devices on renewable energy sources
- installation of thermostatic valves and hydraulic balancing

Municipalities; buildings for public education

- construction or reconstruction of buildings for public education (schools, kindergartens, libraries etc.) in low-energy or passive standard

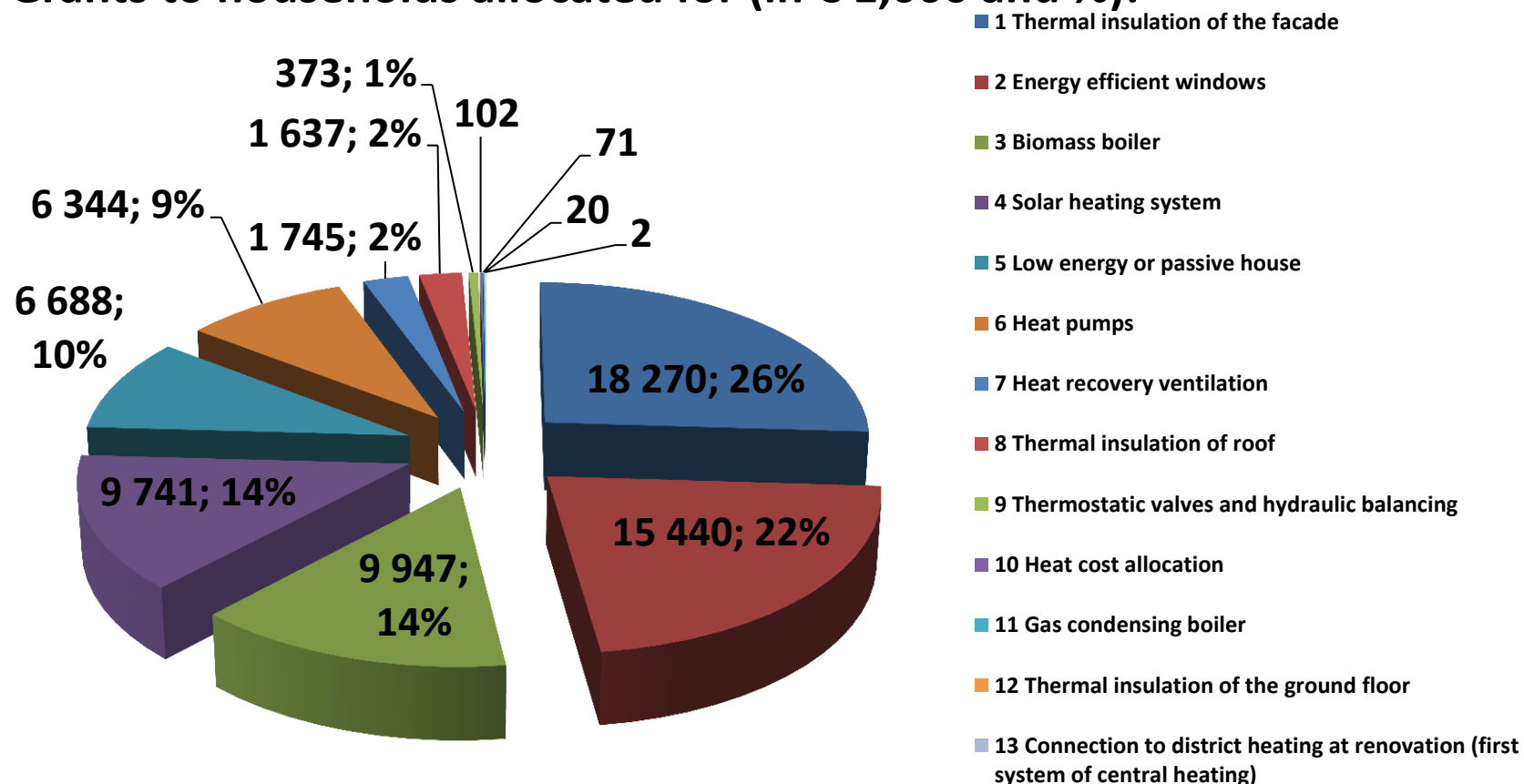


2008 – January 15th 2013:

- € 70.4 million of grants allocated to households for 50,300 investments
- € 5.4 million of grants allocated to 14 municipalities

At least one of Eco Fund's grants was allocated to about 10 % of Slovenian households and to about 8 % of Slovenian municipalities

Grants to households allocated for (in € 1,000 and %):






Abstract of the article

The role of Eco Fund, Slovenian Environmental Public Fund, as a public actor in the process of achieving the goal of energy efficiency and lower emissions in the sector of buildings

The case study of Eco Fund has shown that the policy of grants for investments in buildings stimulates investors' decisions which are above standard from energy efficiency perspective and reverses the negative effect of buildings on environment while also stimulating important economic and social goals



Financial instrument in focus: grants which Eco Fund can allocate to households (2008-) and to local authorities (municipalities) (2011-12) for different investments in energy efficiency in buildings



Positive effects of grants that have been found & discussed

- Sustainable decisions of investors



- Environmental effect



- Grey economy decrease, budget revenues increase, jobs



- Adaptation of the building business in sustainable direction



- Encouraged use of strategic materials (wood)





Positive effects of grants that have been found & discussed

Decisions of investors – the carrot principle

- A survey shows that Eco Fund's grant encouraged investors to engage in investments which are above average in terms of energy efficiency
- 30 % of investors who received Eco Fund's grant for low-energy or passive house said they would not perform the same investment without the incentive
- Since the incentive for this measure is relatively low vis-a-vis the whole investment costs, it can be concluded that the incentive is even more important for other investors
- Based on the survey, it can be concluded that in the absence of grants, a lot of investors would not engage in the investment in the same scope and some would perform investments which are less energy efficient



Positive effects of grants that have been found & discussed

Environmental effect (lower energy use & CO₂ emission reduction)

- Investments for which grants were allocated to households until January 15th 2013 (ca. € 70 million for aprox. 50,000 investments) will provide for about 390 GWh/year of lower energy use and 64,000 tons/year of lower CO₂ emissions
- Even though the state received less excise duties with regard to less energy sold, the funds which were used for grants are quickly reimbursed in the form of households' energy savings as well as the savings of the state which will use less for solving the emissions problem in the future

Budget revenues, employment

- Grey economy diminishes since formal invoices and proofs of payments have to be presented to Eco Fund
- Grants which have been paid out in 2011 (€ 17.3 million for investments worth € 101 million) have brought budgetary income of at least € 8.6 million and provided work for more than 1,000 workers (does not include the production of relevant materials and equipment)



Positive effects of grants that have been found & discussed

Adaptation of the building business in sustainable direction

- The business adapts to the terms of public calls which require high standards of energy efficiency and develops experience with sustainable buildings, production and services
- Low-energy and passive houses: Eco Fund set the requirements in 2008, in the first years, professional advice was given to investors for free, progress: from nearly zero such houses in 2008 to nearly 500 in 2013 (approx. 160 of these passive)

Encouraged use of strategic materials (wood)

- Low-energy and passive houses: grant is progressive so it encourages more decisions for natural thermal insulation materials and wooden windows
- Since 2011, Eco Fund's grant for replacement of old windows is allocated only if the new windows are wooden

ENSVET network for energy advice to households



ENSVET
ENERGETSKO SVETOVANJE

- Energy Advisory Network, ENSVET includes **75 licensed energy advisors** working on a part-time basis. Creation of a structured network of independent energy certification assessors. A national network guaranteeing a certain level of quality or that serves as a communication and exchange platform for energy certification assessors.

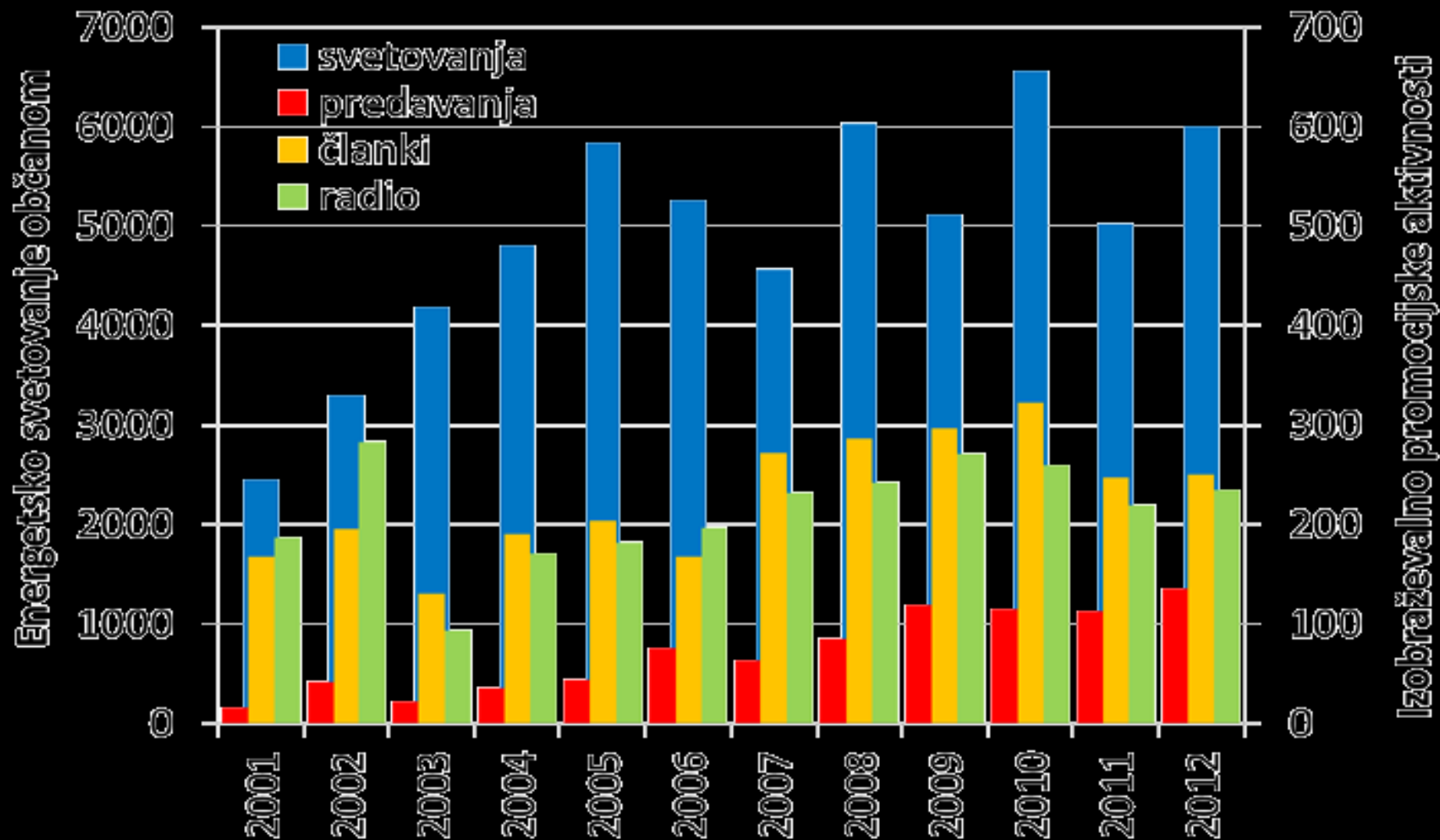


- Energy Advisory Network, ENSVET, has been giving advice since 1991. It includes **35 energy advisory offices at the municipal level** (2 million inhabitants). These activities have proven successful throughout the years and there is a visible trend for the final energy consumption for heating in the country to lower. A Slovenian network has been set up on a volunteer basis (there still is no national legislation governing such a network).





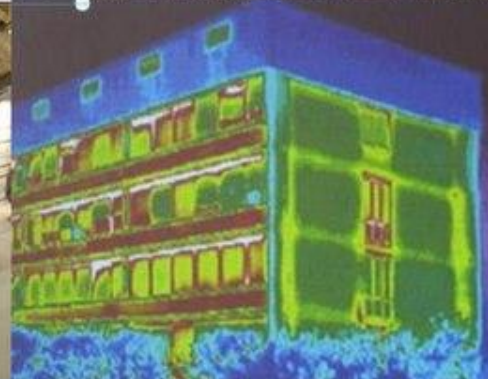
Our results





Nacionalna
energetska pot
Slovenija

- <http://nep.vitra.si>
- <http://www.facebook.com/NEP.Slovenija>





Nacionalna
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Slovenija

NEP Slovenija omogoča lažje odločanje
Izkustveno znanje dobrih energetskeh praks je potrebno deliti novim graditeljem.
Slabe in dobre rešitve so predstavljene v člankih, fotografijah, komentarjih,
nasvetih in video posnetkih.

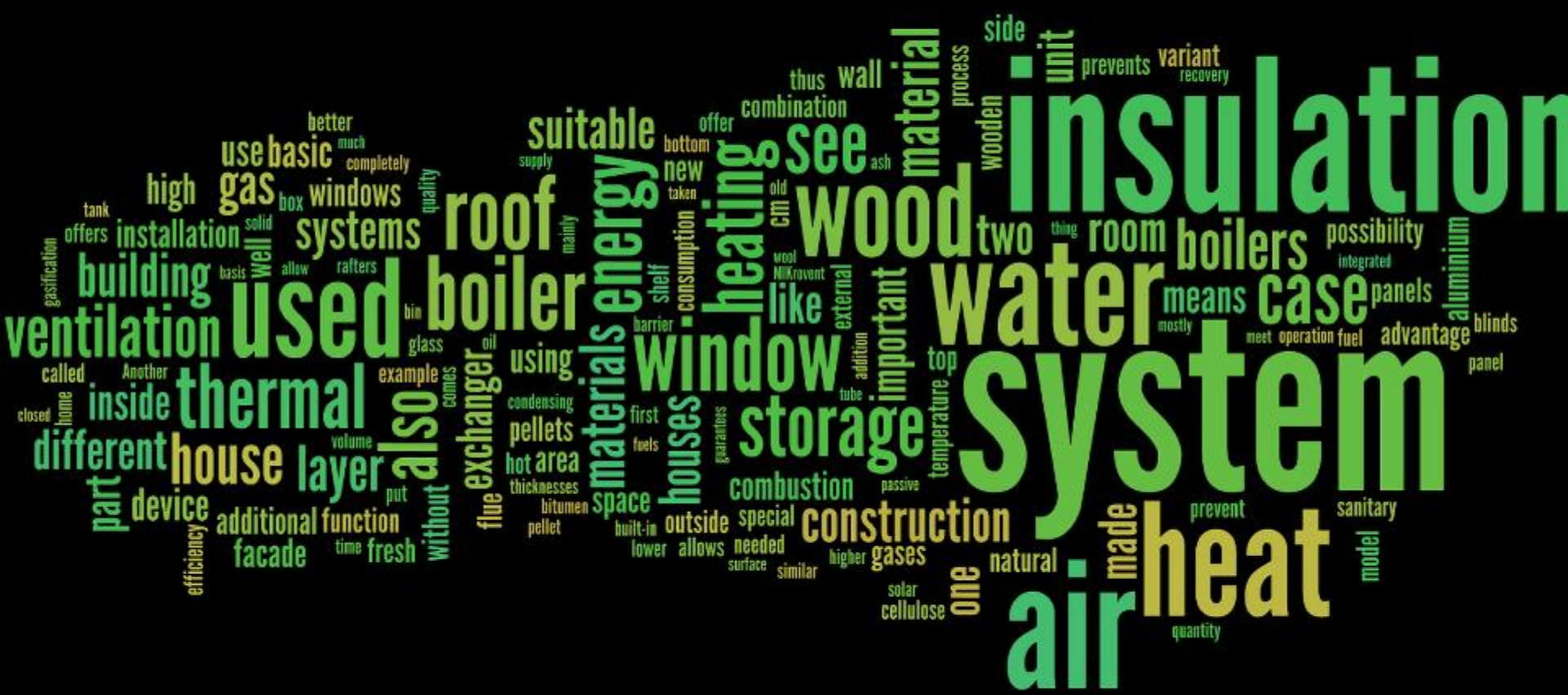
Slovenian households are spending 21% of primary energy, but the full support of effective decision making for investment and organizational energy measures in new buildings or renovations of residential buildings is missing. Energy advisory network ENSVET satisfies those needs, but not enough. Advice office can not offer the **view of the residential building in real situation and can not give real experiences of users.** The **view** and **conversation** with the user are two main reasons for NEP Slovenia formation.



Nacionalna
energetska pot
Slovenija

NEP Slovenija omogoča lažje odločanje
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NEP Slovenia is public accessible base of **770 residential, business and public buildings from Slovenia**. They are describing **more than 1000** efficient use of energy (EUE) and renewable energy sources (RES). There are simple and transparent described good practice examples, intended to private and public investors for thoughtful implementation of quality measures by renovations and reconstructions. Web portal <http://nep.vitra.si> is an optimal ICT tool for good practice of EUE and RES searching and new household's registration.



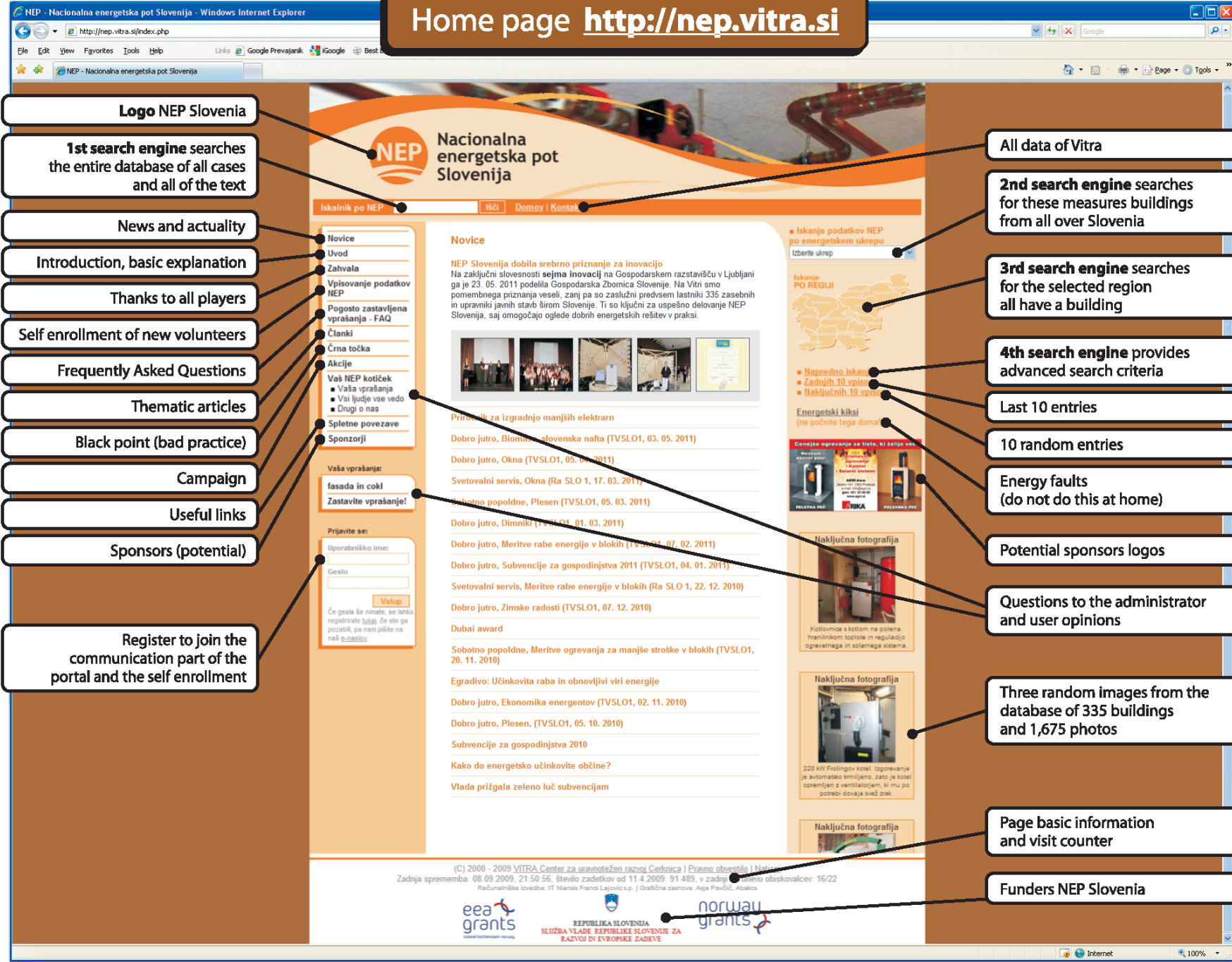
The most frequently spoken words in 20 videos! :)
<http://www.youtube.com/NepSlovenija>



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- NEP Slovenija (<http://nep.vitra.si>) makes decisions easier:**
- firsthand experience of the users of good energy practices from 770 buildings for the new builders
 - bad and good solutions are presented by means of the articles, photos, comments, advice and videos.



Logo NEP Slovenia

1st search engine searches the entire database of all cases and all of the text

News and actuality

Introduction, basic explanation

Thanks to all players

Self enrollment of new volunteers

Frequently Asked Questions

Thematic articles

Black point (bad practice)

Campaign

Useful links

Sponsors (potential)

Register to join the communication part of the portal and the self enrollment

All data of Vitra

2nd search engine searches for these measures buildings from all over Slovenia

3rd search engine searches for the selected region all have a building

4th search engine provides advanced search criteria

Last 10 entries

10 random entries

Energy faults (do not do this at home)

Potential sponsors logos

Questions to the administrator and user opinions

Three random images from the database of 335 buildings and 1,675 photos

Page basic information and visit counter

Funders NEP Slovenia

Search results

NEP - Nacionalna energetska pot Slovenija - Windows Internet Explorer
http://nep.vitra.si/index.php

File Edit View Favorites Tools Help Links Google Prevojanik iGoogle Best

NEP - Nacionalna energetska pot Slovenija

NEP Nacionalna energetska pot Slovenija

Iskalnik po NEP: [Domov](#) | [Kontakt](#) | [Nep v številkah](#)

Novice
Uvod
Zahvala
Vpisovanje podatkov NEP
Pogosto zastavljena vprašanja - FAQ
Članki
Črna točka
Akcije
Vaš NEP - letiček
■ Vaša vprašanja
■ Vsi ljudje vse vedo
■ Drugi o nas
Spletne povezave
Sponzorji

Iskanje po bazi ukrepov NEP

Gorenjska regija
1. Stanovajska hiša, Srednja vas 5, 4275
Ukrepi:
■ Kotel na biomaso
■ Sprejemniki sončne energije (SSE) [Podatki >>](#)

Notranjsko-kraška regija
2. Stanovajska hiša, **Begunje** 203, 1382
Ukrepi:
■ Sprejemniki sončne energije (SSE)
■ Termoozolacija oboda stavbe
■ Ogrevalni sistem [Podatki >>](#)

3. Stanovajska hiša, **Begunje** 37a, 1382
Ukrepi:
■ Obnovljena starejša hiša
■ Ogrevalni sistem
■ Sprejemniki sončne energije (SSE)
■ Pasivna izraba sonca [Podatki >>](#)

4. Stanovajska hiša, Bezuljak 21C, 1382
Ukrepi:
■ Termoozolacija oboda stavbe
■ Pasivna izraba sonca
■ Toplotna črpalka
■ Deževnica [Podatki >>](#)

5. Stanovajska hiša, Selšček 1, 1382
Ukrepi:
■ Kotel na biomaso [Podatki >>](#)

6. Stanovajska hiša, Selšček 29, 1382
Ukrepi:
■ Kotel na biomaso [Podatki >>](#)

■ Iskanje podatkov NEP po energetskem ukrepu
Izberite ukrep

Iskanje PO REGLIJ

■ Napredno iskanje
■ Zadnjih 10 vpisov
■ Naključnih 10 vpisov

Energetski kiksi
(ne počnete tega doma!)

MT merilna tehnika
Vaš partner za energijo
Pregledni obračuni in letna poročila
Obvezno merjenje rabe energije za ogrevanje blokov po 1. oktobru 2011

Naključna fotografija

Kotlovnica s kotlom na polena, hranilnikom toplote in regulacijo ogrevalnega in solarnega sistema.

Naključna fotografija

220 kW Frolingov kotel. Izgorevanje je avtomatsko krmiljeno, zato je kotel opremljen s ventilatorjem, ki mu po potrebi dovaja svež zrak.

Naključna fotografija


(C) 2008 - 2009 VITRA Center za uravnotežen razvoj Cerkljica | [Pravno obvestilo](#) | [Natisni](#)
Zadnja sprememba: 08.09.2009, 21:50:56, število zadetkov od 11.4.2009: 91489, v zadnji uri/dnevu obiskovalcev: 16/22
Računalniška izvedba: IT Niansis Franci Lajovic s.p. | Grafična zasnova: Ajša Pavčič, Abalos

eea grants
REPUBLICA SLOVENIJA
SLUŽBA VLADE REPUBLIKE SLOVENIJE ZA
RAZVOJ IN EVROPSKE ZADEVE
norway grants

Internet 100%

Search term (Begunje)

Search results from the database
NEP Slovenia (2 region, 6 buildings)

The region in which
the word match

Searched and selected text
from a database portal

Click to enter the data page

Typical side presented the building and measures

NEP Nacionalna energetska pot Slovenija

Zadevek: 91.827 | Nativno

Pozanimajte se pri:

- Bojan Žnidaršič, lastnik
- Begunje 203
- 1382 Begunje pri Cerkljani
- Tel: 041 830 867
- E-naslov: info@vitra.si

Zadnja sprememba: 21.04.2009
Bojan Žnidaršič, info@vitra.si

Podatki o stavbi:

- Tip stavbe: Stanovanjska hiša
- Leto zaključene gradnje: 2004
- Leto zadnje obnove: Ni bilo obnove
- Skupna površina ogrevanja: 124 m²
- Število ogrevanih etaž: 1
- Število prebivalcev: 3
- Energent za ogrevanje: ELKO, 1.000 l
- Dopolnilno ogrevanje: polena v kaminu, 2 m³
- Prilava tople vode: SSE, 7.5 m², ELKO, 100 l, elektrika

Kaj boste videli?

- Sprejemniki sončne energije (SSE)
- Ogrevanje sanitarne vode
- Ploščati, Samogradnja
- Ploščati SSE (5 kom., 7.5 m²) so bili narejeni v skupini za samogradnjo leta 2005, instalirani so v streho, 400 l solarni bojler je v kotelnicu, letni prihranek se ocenjuje na 3 500 kWh (350 l ELKO). Sistem ne deluje optimalno (nezadovoljstvo z avtomatiko), bojler bi bil lahko večji, vzdrževanja še ni bilo, le menjava stekla na enem SSE, na katerega je verjetno priletel kamen.
- Termoizolacija oboda stavbe
- Temelji, Tlaki, Fasada, Strop proti hladni podstrehi, Streha
- Steklena volna, Ekspandirani polistiren (EPS), Ekstrudirani polistiren (XPS)
- Montaža penjenega (stiroporjin ekstrudiranega (stiroduru) polistirena v samogradnji; tlak v neogrevani kleti 5 cm; v ogrevani 12 cm (talno gretje); obodne stene 20 cm modularna opeka + 15 cm TI, tankoslojna fasada; strop proti hladni podstrehi 20 cm TI + prežračevani leseni tlak; streha nebivalnega podstrešja 15 cm steklene volne + 1 cm gradbene pene Plama, ki služi kot pama ovira.
- Ogrevalni sistem
- Nizkotemperaturno
- Talno
- Nizkotemperaturni kotel Sigma – edini vir ogrevanja. Regulacija Seltron z zunanjim tipalom je težavna za nastavev, verjetno je to razlog, da ogrevalni sistem ne deluje optimalno. Vsaj 2 x letno je potrebno očistiti šobo (saje, nafta). Posledica tega je večja letna poraba ELKO (8 l/m² ogrevane površine), kot je pričakovano (6 l/m² ogrevane površine).

Opis

Primer novejšje energetsko učinkovite gradnje v brežini, vseljena decembra 2004. Ker je zasnovana za pasivno koriščenje sonca, ima južna stran veliko oken, severna je brez. Obodne stene imajo 15 cm termoizolacije, zadnja plošča 20 cm, streha 15 cm (podstreha ni naseljena). V kletni etaži so notranje stene in strop tople cone ločene od hladne z 10 cm kombi ploščami. V zasutem delu so obodne stene termoizolirane z 5 cm (neogrevano) in 10 cm (ogrevano). Hiša je brez toplotnih mostov, urejena vertikalna in horizontalna drenaža preprečuje pritisk vode na vkopani del. Svetlobo v kletno etažo dovajajo svetlobni jaški. V prehodnih obdobjih se hiša ogreva z kaminom.

Five photos from the examples of good practice, each with its own commentary

Information on the owner

Data on enrollment and registrar

Highlights examples of good practice (1-5)

Measure (from the code)

Sub measure (from the code)

Technical, procedural, financial and maintenance description of the measure

A general description of the building

Basic information on building

eea grants
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RAZVOJ IN EVROPSKE ZADEVE
norway grants