

Can big data drive the market for residential energy efficiency?

Ezilda Costanzo, ENEA
David Weatherall, EST
Andreas Androutsopoulos, CRES
Virginia Gomez Onate, VITO

New data tools to stimulate building retrofit

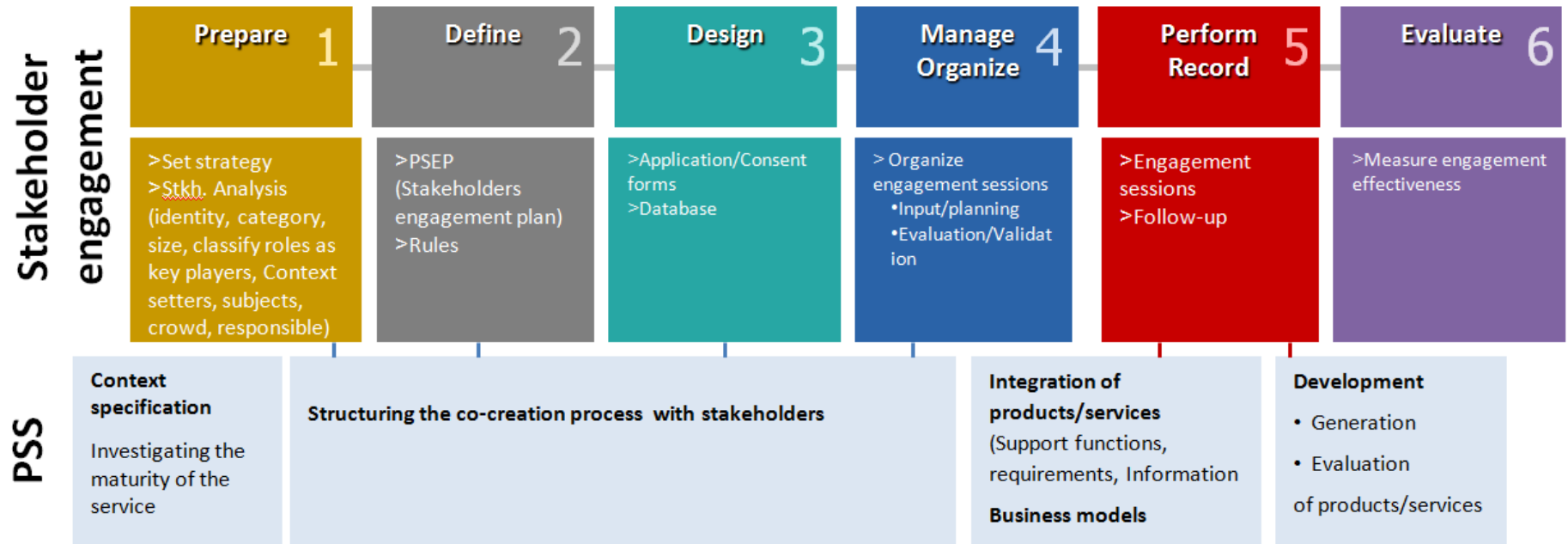
- ✓ Energy Performance Certificate (EPC): increased data source in EU
- ✓ Wider access and affordability of other data for crossed-reference
- ✓ Availability of handling and online support technologies for big data

The IEE REQUEST2ACTION project (2014-2017)

Removing barriers to low carbon retrofit by improving access to data and insight of the benefits to key market actors

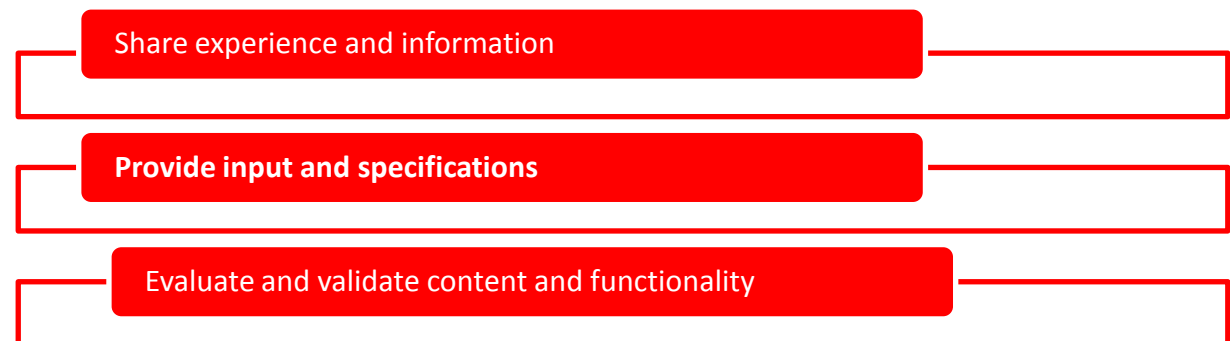
- European action to provide large data related to building energy performance and retrofit uptake
- Developed databases and web oriented applications/ services to help understand the housing stock, monitor EE progress and develop strategy, inform business, allow comparison on EP
- Engaged relevant stakeholders through a PSS approach

Co-creation of services with potential users



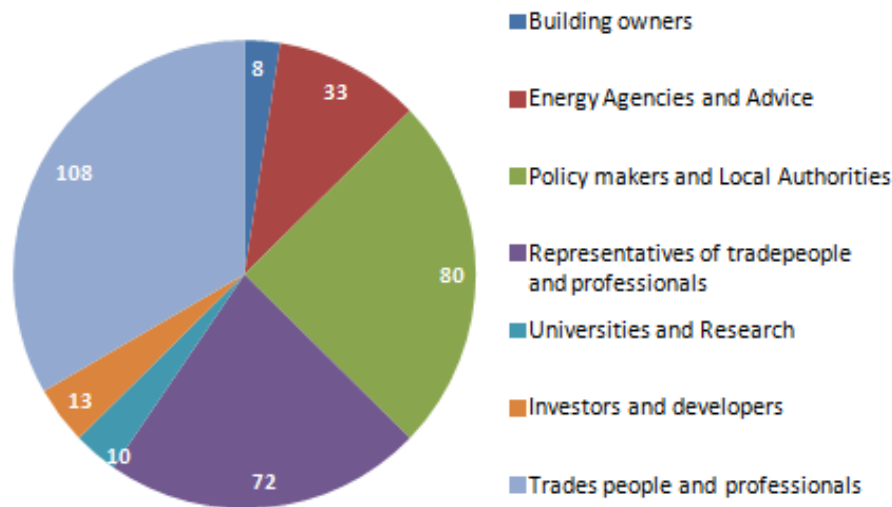
Two-way dialogue with Stakeholders for optimised analysis of building EE

53
engagement
sessions



Stakeholder engagement – issues

Stakeholders are being engaged to develop services for insight on EE

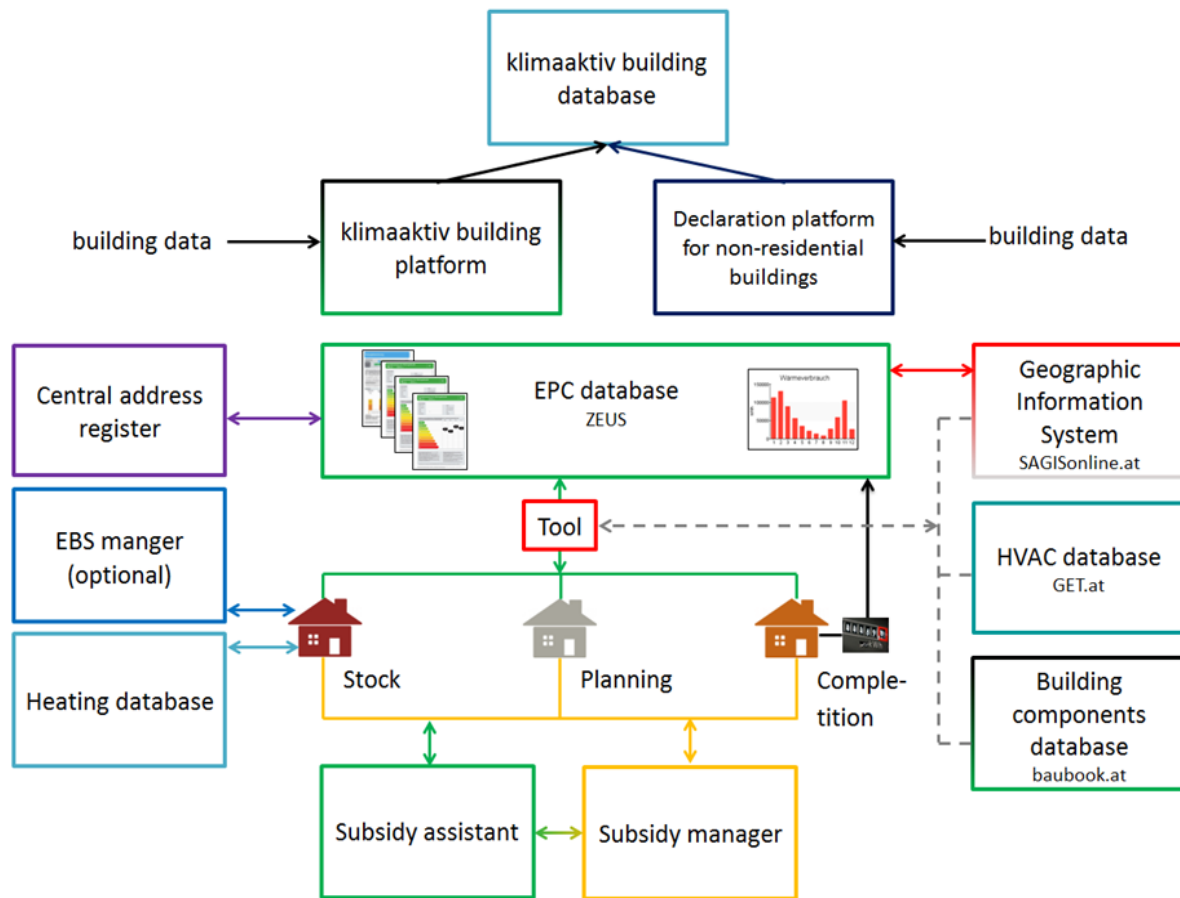


94 stakeholders involved in R2A stand alone **data tools**

230 stakeholders involved in R2A **Retrofit hubs**

- What EPC information can be used to monitor retrofit?
- What is the added value of using EPC data for decision making?
- Which additional data is needed for wider use of EPC databases?
- What is the recommended user interface and data format?
- Which characteristics should the Hubs have to stimulate renovation?

Data services to improve insight on EE



Austria

Integration of KlimaActiv declaration

information (including EPCs) from different province sources) / research institutes

access to market actors and provinces

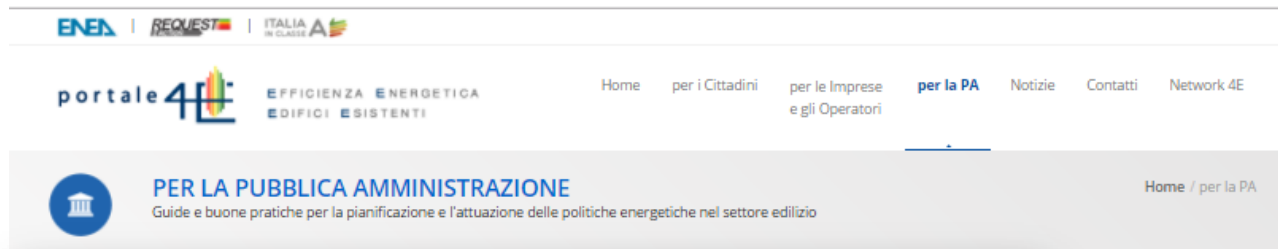
Slovakia

Supporting 55 cities in handling data (NZEB, U-values, retrofits, EP) and building retrofit roadmaps.

The Netherlands

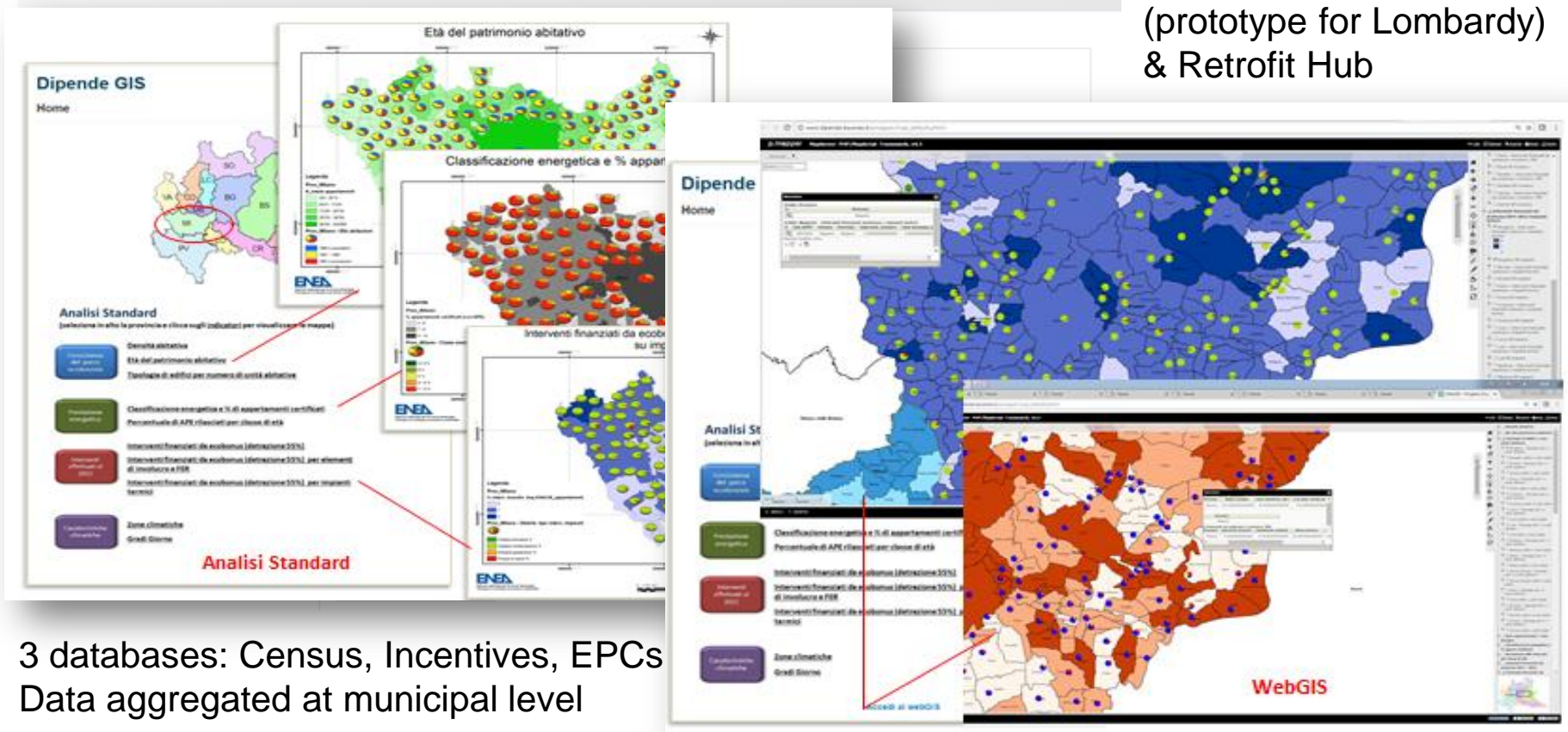
Banks and financiers engaged on EPC potential to provide advice on co-financing EE measures and issue loans.

Data services to improve insight on EE



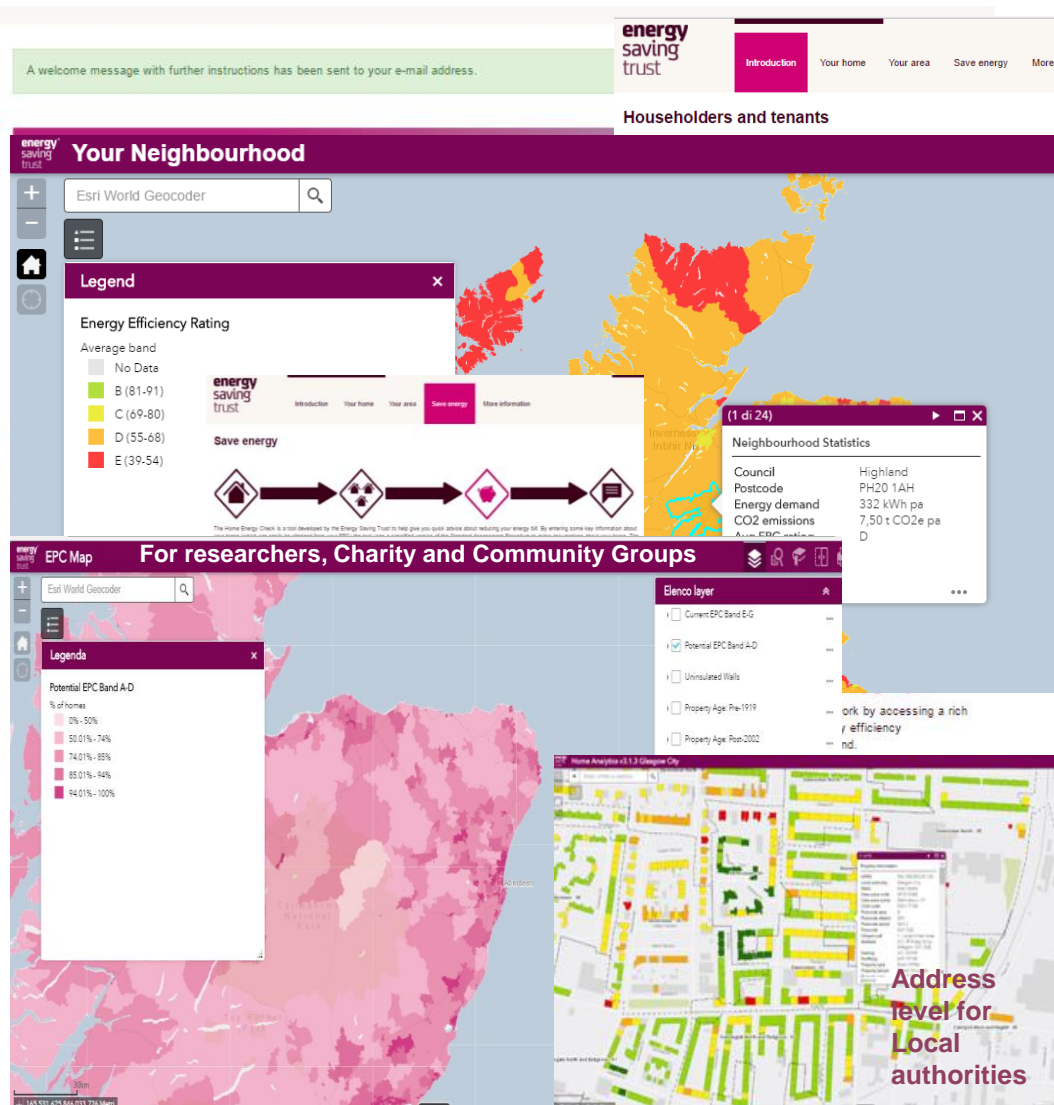
Italy

Integrated database for energy planning at regional/district level (prototype for Lombardy) & Retrofit Hub



3 databases: Census, Incentives, EPCs
Data aggregated at municipal level

Data services to improve insight on EE



United Kingdom (Scotland)

Make data on energy efficiency more accessible to a range of individuals, businesses and organizations

EPC data are combined with 10 other datasets to create a profile for 100% of properties in Scotland

Data to consumers and the supply chain at local community area level (500-1000 homes) to prevent door-selling and privacy concerns

Different interest from small or big trades

Almost **500** unique visitors from February 2017

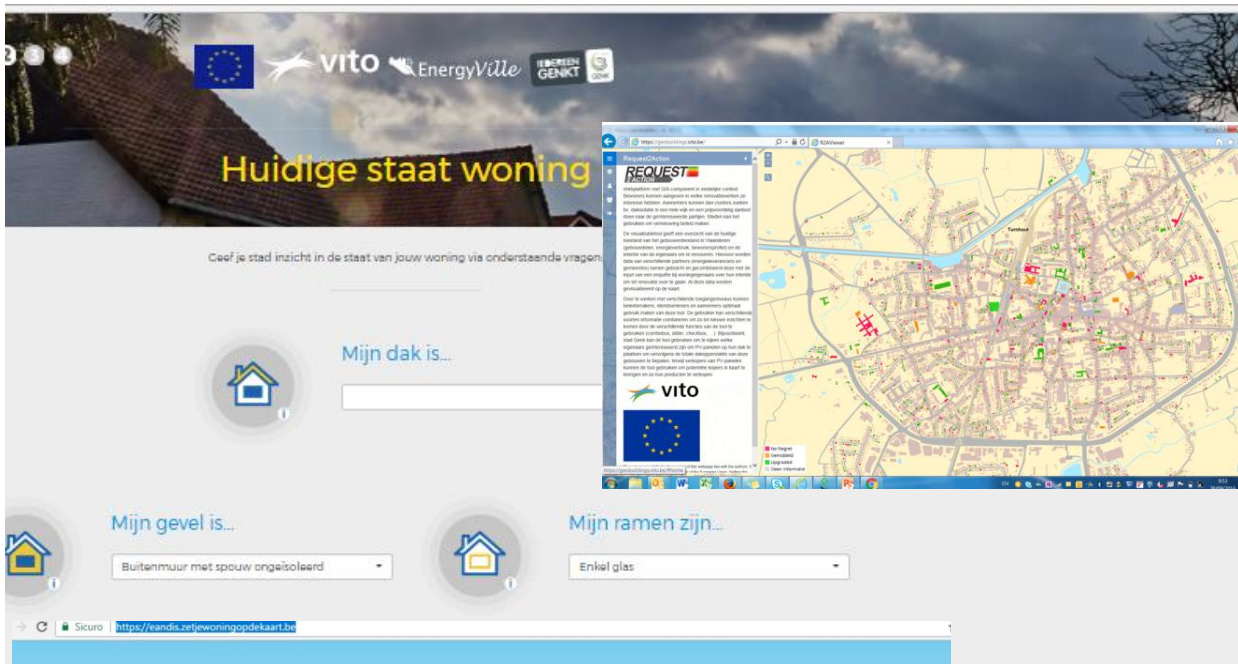
Data services to improve insight on EE

Belgium - Retrofit Hub

Several cities and DSO involved

Existing housing stock and energy performance data combined with information from homeowners

Data in a geo-related map at building level and area level



Portugal - Retrofit Hub

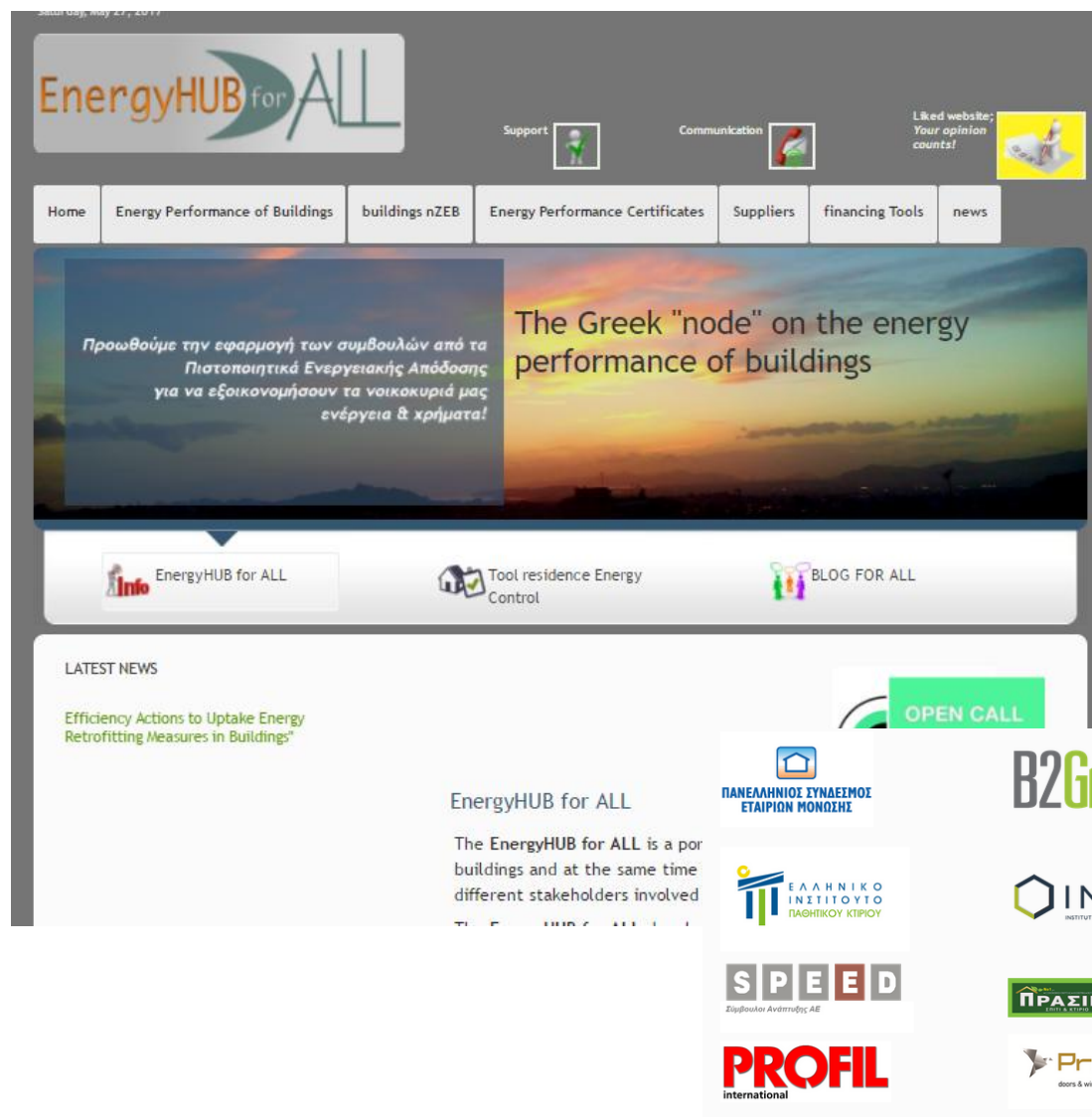
Homeowners can report on new retrofit measures and give feedback on quality

Cities' area to access EPCs

Marketing of accredited and qualified experts and suppliers



Data services to improve insight on EE



Greece

Retrofit Hub: a market place to connect demand and supply side actors

Increases trust and reputation for the EPC systems: statistics, NZEBs, search tool on energy retrofit action

Number of unique visitors: **7,810**
(from January 2016)

How the different market actors respond?

- Easy to interpret R2A data-services are attractive for **policy makers** (different levels)
- **Distributors, providers** are interested to spot areas for potential deal
- **Trades unions and larger trades** or corporations would access data to expand and develop their business or targeted services
- **Banks and little trades** are not interested

Request for:

- evidence of data **reliability** and **impartiality** of the insight
- appealing ad-hoc **graphical interface** and targeted information
- **clear rules for access and data sharing**
- Privacy

A Partners

Energy Saving Trust, EST, UK

<https://localhomeportal.est.org.uk>

Italian National Agency for New Technologies, Energy and Sustainable Economic Development ENEA, Italy

www.portale4e.it

Austrian Energy Agency, AEA, Austria

<http://www.klimaactiv.at/bauen-sarienen.html> &
<http://www.klimaactiv.athaushalte.html>

Centre for Renewable Energy Sources and Saving, CRES, Greece

<http://www.energyhubforall.eu/>

Flemish Institute of Technological Research, VITO, Belgium

genk.zetjewoningopdekaart.be &
eandis.zetjewoningopdekaart.be

Portuguese Energy Agency, ADENE, Portugal

Slovak Innovation and Energy Agency, SIEA, Slovakia

Thank you for your attention

Netherland Enterprise Agency, RVO, NL

ezilda.costanzo@enea.it

Polish National Energy Conservation Agency, KAPE, Poland