

JOINT FINAL CONFERENCE

Next Generation Energy Performance Assessment, Rating and Certification

Towards a Smart and Decarbonised Future for European Buildings

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Le Plaza, Brussels



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Joint Final Conference of Horizon 2020 projects D²EPC, E-DYCE and ePANACEA, successfully concluded

Three EU-funded Horizon 2020 projects, [D²EPC](#), [E-DYCE](#) and [ePANACEA](#), joined forces in organizing a final conference to present their outcomes, as all of them are reaching their end after 3 years of hard work. The event was held physically on the 24th of May 2023 at La Plaza Hotel in Brussels. The conference focused on “*Next Generation Energy Performance Assessment, Rating and Certification: Towards a Smart and Decarbonised Future for European Buildings*” where each project presented its own findings on how to optimize and extend the use of Energy Performance Certificates.

We had the opportunity to host several experts in this field, including

- [Pau Garcia Audi](#) from the European Commission, working at DG ENER/B.3 focusing on the Energy Performance of Buildings Directive and issues related to EPCs and calculation methodology.
- [Anastasiya Yurchyshyna](#) from ECTP, Built4People partnership, SmartBuilt4EU project
- [Flourentzos Flourentzou](#) from Estia, consulting, research and development in energy field, focusing on what is missing regarding EPC

A quick introduction and perspective were presented by each project coordinator. [Dimosthenis Ioannidis](#) (D²EPC), [Michal Pomianowski](#) (E-DYCE) and [María Fernández Boneta](#) (ePANACEA) highlighted the objectives and goals of each project.

Part 2 of the conference summarized the insights of each project, starting with [Stavros Koltsios](#) and a summary of the D²EPC framework and a demonstration of the D²EPC digital platform. [Michal Pomianowski and Giacomo Chiesa](#) presented the technology and market insight of E-DYCE, followed by the expert and policy recommendations. Last but not least were [Aitor Dominguez and Laura Muhr](#), presenting technological perspective outcomes and user related achievements in ePANACEA.

In part 3 specific results of each project were presented by [Paris Fokaides](#) (D²EPC), [Olena Larsen, Giacomo Chiesa and Vagelis Alifragkis](#) (E-DYCE) and [Mohsen Sharifi and María Fernández Boneta](#) (ePANACEA). In particular:

- As part of the D²EPC project, a proposal for a new standard was introduced to the European standardization body, the “Energy Performance of Buildings – Operational rating Requirements for assessing Operational rating”.
- E-DYCE presented the three key developments, namely DEPC protocol towards dynamic EPCs and considering shift from standard to adapted condition of use, PREDYCE tool - Python driven tool to facilitate parametric and operational data driven dynamic simulations, FusiX middleware to facilitate operational assessment and dynamic modelling towards performance gap detection.
- The tools developed by the ePANACEA project to carry out three different assessment methods were presented: the SEPAP tool allows the entire workflow of the "EPC cycle" to be carried out, based on the auto-calibration of white-box BEMs for EPCs, improving the accuracy and quality of the results and reducing the effort required for this type of detailed energy performance assessment.

The Q&A session triggered some interesting discussions and highlighted the topics that were the most interesting ones for the audience, for example, one question was related to *the existing AI boxes which are enabling the proactiveness of buildings and whether they affect the calculation procedures, presented in the projects*. It was explained that the proactiveness of buildings can be considered as the smartness of buildings and many projects are introducing SRI into their assessments of buildings performance. Nevertheless, proactiveness is a topic that should be considered for future development though concerns were raised whether there is available infrastructure in existing buildings to accommodate AI developments and whether real operational data are available to train AI models. Further on, the audience wanted to know whether *there should be any intermediate step before implementing project results in real life in terms of verifying the accuracy of solutions but also from the policy perspective in order to avoid the leap being too big*. A midterm for adaptations at national level to current EPCs and

procedures most probably will be needed as well as to prove that the proposed tools work and data needed are available. The matter of having consent to access available data was also discussed. The final question of the session was related to the *potential of the operational labels from the compulsory perspective and not only from the informative perspective. If operational labels are going to be imposed and verified, should there be a technical or legal solution for that?* From D²EPC perspective, operational rating will not and doesn't aim to substitute the asset rating which is needed for the design stage and securing that the building fulfills the minimum requirements of the legislation. On the other hand, living in a digital era, we want to raise awareness on energy information and smarten EPCs and we can exploit for that the operational rating.

The final and most interactive part of the meeting was introduced by [Vivian Dorizas](#) from BPIE who presented the policy update related to EPCs. The roundtable on the Next Generation EPC cluster included representatives of other sister projects, namely the CrossCert (**Naghmeh Altmann**), EPC Recase (**Andrei Vladimir Litiu**), iBRoad2EPC (**Vivian Dorizas**), SmartLivingEPC (**Stavros Koltsios**) and TIMEPAC (**Leandro Madrazo Agudin**). Several questions were discussed:

- *What would you consider key benefits and key handicaps of EPCs?*
- *Which actions are needed to reinforce and complement the current EPC schemes?*
- *Where on the axis from conservative to high ambition would you set the target for the Implementation of new EPCs?*

In the final interactive session **Susanne Bruner-Lienhart** and **Laura Muhr** talked about end-users through a questionnaire, asking the audience three main questions, coming from each project.

Questions, coming from the D²EPC project:

- How often should we re-calculate the operational class of the building?
 - o Once in a year – 55%
 - o Every 6 months – 14%
 - o Every 3 months – 10%
 - o Every month – 21%
- Are building owners/ tenants willing to install metering devices and share their data?
 - o Yes – 4%
 - o No – 7%
 - o Efforts are needed to engage them – 89%
- Is BIM mature enough to facilitate and automate EPC issuance process?
 - o Yes, it is a well known procedure – 0%
 - o Yes, but it is not an easy-to-use tool – 50%
 - o No, further advancements are required – 50%

Questions, coming from the e-Dyce project:

- Do you think the building energy label should be accompanied with an indoor climate label?
 - Yes: 57%
 - No: 18%
 - I don't know: 25%

- How would you prefer to receive notification about your house/flat actual (metered) energy use?
 - By mail:14%
 - By special desktop/mobile application with GUI: 86%
 - By text application (twitter, WhatsApp, ...): 0%
 - I do not wish to receive notification: 0%

- As a private house/flat owner how frequently would you be interested to receive information about your home actual (metered) energy use?
 - Once per day: 18%
 - Once per week: 32%
 - Once per month: 46%
 - Once per year: 4%
 - I don't want to receive such information: 0%

- As a private house/flat owner would you allow a third party to install energy and indoor climate monitoring in your home for the purpose of operational assessment?
 - Yes: 61%
 - No: 7%
 - I don't know: 32%

Questions, coming from the ePANACEA project:

- With the new ePANACEA EPC layout, we believe that EPCs will become more attractive for end-users. By increasing attractiveness also the number of issued EPCs increases?
 - It's possible – 48%
 - I don't think so – 37%
 - I don't know – 15%

- The auto-calibration of the Building Energy Model (BEM) in ePANACEA requires actual building (e.g. from smart meters) data and actual weather data with hourly frequency. Is this type of data available in your country?
 - o Yes, both categories – 43%
 - o No, any of them – 9%
 - o Just one of the two categories (energy use or weather data) – 22%
 - o I don't know – 26%
- Do you think that the energy efficiency measures based on actual consumption proposed by the ePANACEA methodology will boost energy renovation more than the current measures based on standardised consumption?
 - o Yes – 50%
 - o No – 21%
 - o I don't know – 29%

The event was concluded with a few words from each coordinator, pointing out that similar gaps related to EPCs were identified and how each project took its own trajectory to address them and to include operational data in the assessment. Collaboration is crucial in disseminating the results in order to find a common solution that could be ready for real life, resulting in the improved energy performance of the building stock.

The event was live-streamed and recorded. It can be watched [here](#) on demand. Photos from the event are available [here](#).