Transforming Energy Performance Certificates to Buildings Renovation Passports for energy poverty alleviation

Eleni Kontonasiou
Researcher
Buildings Performance Institute Europe
Introduction

Energy poverty

Energy Efficiency

Energy Performance Certificates

Buildings Renovation Passports
Energy Poverty - Analysing solutions

- Low household income
  - Income increase / Income support schemes
  - Strongly dependent on economic factors
- High cost of energy
  - Fuel prices regulation / Fuel subsidies
  - Continuous and even increased public funding
- Low energy efficiency of the property
  - Deep energy retrofits in dwellings
  - Do not generate added value or economic growth
Interesting approaches (in England)

The fuel poverty target is to ensure that as many fuel poor homes as is reasonably practicable achieve a **minimum energy efficiency rating of Band C**, by 2030.

**Doctors prescribing boilers** (£3 million funding): Davey said: “Talking to GPs and other health professionals, they get frankly fed up when they’re just dealing with the symptoms and not the root causes... I want to deal with the root causes.” (Ed Davey, Energy Secretary)

From April 2016, residential private landlords **will not be able to unreasonably refuse** consent to a tenant’s request for EE improvements.

From April 2018, private domestic and non-domestic landlords will need to ensure that **their properties reach at least an E EPC rating**.
Mapping fuel poverty in Ireland - EPCs for strategic energy planning

- Online dynamic fuel poverty map of Dublin based on EPC database
- Fuel Poverty indicator based on Building Energy Rating and a Deprivation score

Do you think there is a link between EPC’s and the improvement of the EE of buildings?

- Yes: 31%
- No: 45%
- Don't know: 24%
ENERGY PERFORMANCE CERTIFICATE
- Informs potential buyers/tenants on the buildings’ energy performance

BUILDING RENOVATION ROADMAP
- Guides (new) owners with a personalised step-by-step renovation roadmap

FOR RENT - SALE
DEEP AND QUALITATIVE RENOVATION

HOLISTIC RENOVATION PROCESS

BUILDING RENOVATION ROADMAP

Source: Energiesprong

Source: ifeu
Common barriers

Building owner lacks information
- What to do, where to start, and which measures to implement in which order?

Renovation perceived as a burden
- Time, money and dust

Insufficient training for auditors beyond technical aspects
- How to convince to start renovation after the audit?

Limited financial resources
- Upfront costing

Complex legislation and ‘stop and go’ support measures
Policy tools to improve energy performance

BUILDING RENOVATION PASSPORT
What is a Building Renovation Passport?

**RENOVATION ROADMAP**
- Step-by-step guidance
- Resulting from an on-site energy audit
- Long-term: 15 to 20 years
- Considers individual context

**LOGBOOK**
- Repository of all building-related information
  - Energy consumption
  - Energy production
  - Executed maintenance
  - Construction plan
  - ...

[Image of a building with a passport and a logbook]
BUILDING RENOVATION PASSPORT

INFORMATION ON INDIVIDUAL BUILDING LEVEL

EXISTING EPC

ON-SITE GATHERED INFORMATION
- Energy audit
- Building professionals, e.g. construction plan, info installations, BIM, etc.
- Building owner or tenant
- Public authorities

AUTOMATED DATA
- Smart meters
- Monitoring systems, e.g. RES, heating, CO₂ meters, etc.

RENOVATION ROADMAP
- Systematic renovation in a sensible order and packages
- Comprehensive audit
- Long-term perspective
- Considers individual context

LOGBOOK
- Inventory of non-dynamic information
- Manage and monitor real time energy consumption
- Linking building owners (users) and third parties, e.g. public authorities, market place, etc.
Key elements and common trends (DE, FR, BE-FL)

- Voluntary tool
- Political support
- Stakeholder engagement
- On-site audits
- Training for the auditors
- Dialogue with building owners
- Logbook
New Horizon 2020-project: iBROAD

- Starts in June 2017
- Develop, test and demonstrate the full concept of iBROAD in pilot countries
  - methodology for energy audits
  - database structure
  - interfaces and modules
- Feasibility and replicability analyses to other building typologies and countries

<table>
<thead>
<tr>
<th></th>
<th>Starting concepts</th>
<th>Test run concept &amp; tools</th>
<th>Stakeholder involvement &amp; promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Belgium - FL</td>
<td>V</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Bulgaria</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Greece</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Poland</td>
<td>V</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Portugal</td>
<td></td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
<td>V</td>
</tr>
</tbody>
</table>
Thank you...

Eleni Kontonasiou
eleni.kontonasiou@bpie.eu

WWW.BPIE.EU