An aerial photograph of a city, likely Budapest, showing a dense urban landscape with a river winding through it. In the bottom left corner, there is a vertical energy rating scale with seven colored arrows pointing right, labeled A through G. The background is a high-angle view of the city's buildings and streets.

# Developing, financing and promoting a local building renovation strategy

Dan Staniaszek

Buildings Performance Institute Europe

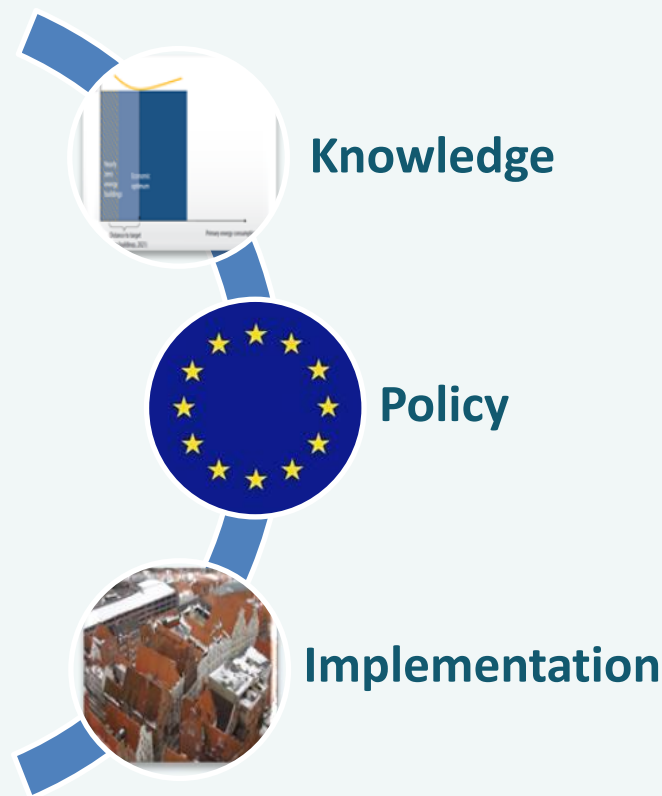
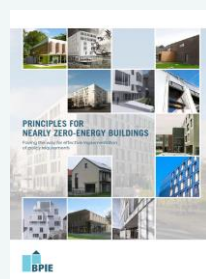
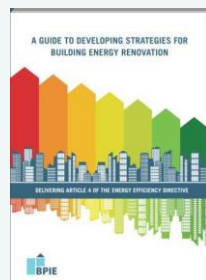
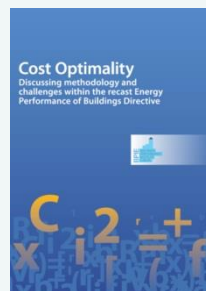
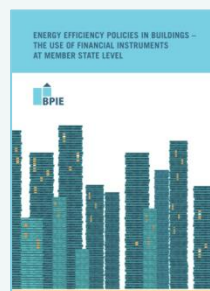
CITYInvest Hungary Workshop

Budapest

12<sup>th</sup> May 2016



# About the Buildings Performance Institute Europe



[www.bpie.eu](http://www.bpie.eu)  
[www.buildingsdata.eu](http://www.buildingsdata.eu)



# About this presentation

- Why should a local authority develop a renovation strategy?
- What financial schemes can be utilised?
- What other support measures can be utilised?
- How can a local authority get its residential sector engaged?

# Positive Benefits - MORE/BETTER:



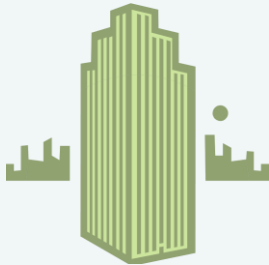
**Jobs**



**Economic activity**



**Energy security**



**Regeneration of urban areas**



**Comfort and indoor climate**



**Health**



**Productivity**



**Purchasing power**



**Property values**

# Mitigation Benefits – LOWER:



Greenhouse Gases



Energy use



Fuel poverty



Social costs



Air Pollution

# Economic Impact

- Increasing investment in energy efficiency could boost global economic output by US\$18 trillion to 2035, = growth rate of 0.25–1.1% p.a. (IEA, 2014).
- Renovation of European buildings could deliver annual societal benefits of €175 billion in 2020 and generate up to 1.5 million jobs (Copenhagen Economics, 2012)

# EU Legislative Drivers

## Energy Performance of Buildings Directive

2010/31/EU

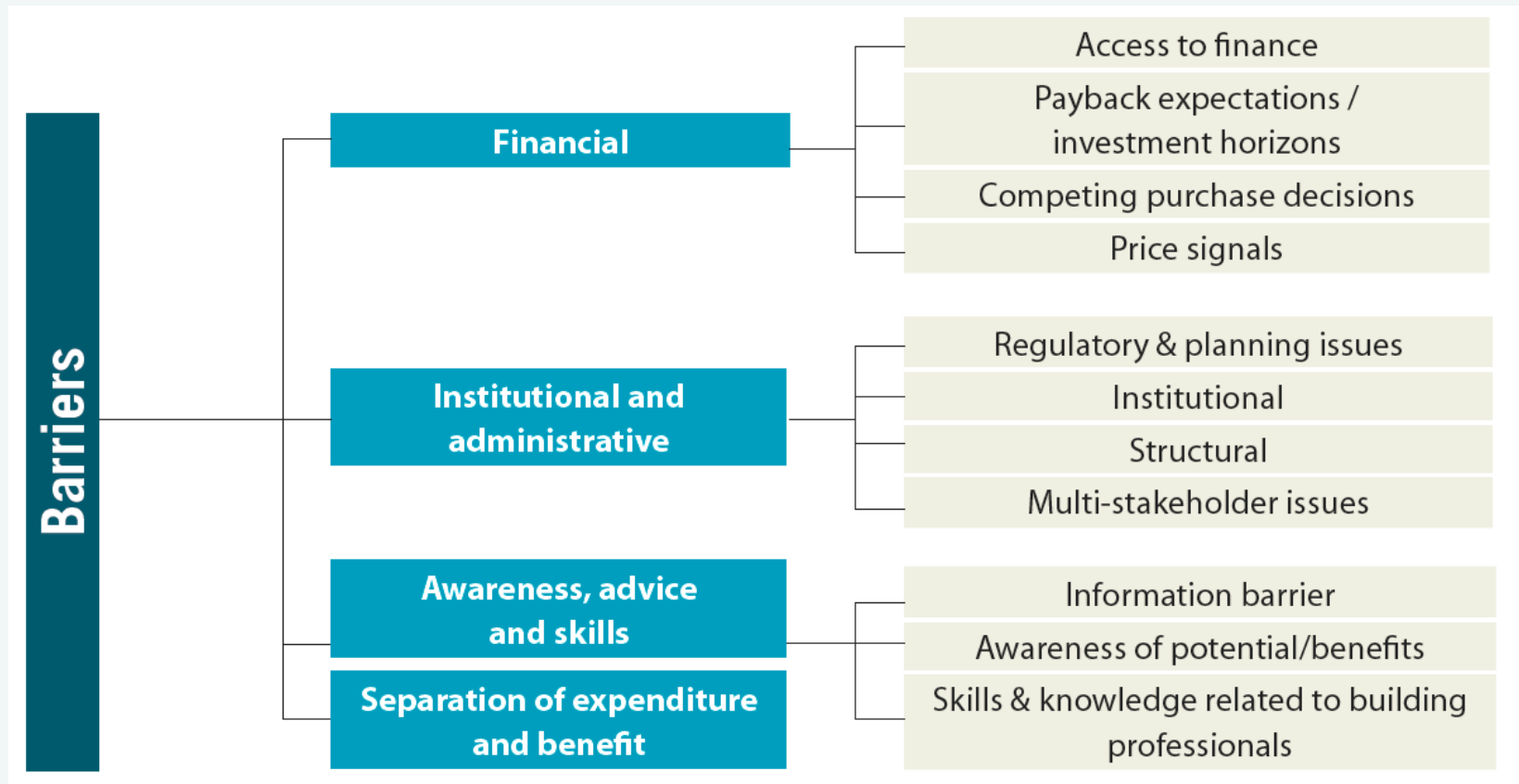
- Setting of minimum energy performance levels, based on cost optimality
- Major renovations to meet minimum performance requirements
- Nearly zero energy buildings
- Energy Performance Certification
- Inspection of heating ventilation and air conditioning systems
- Provision of financial incentives
- Tackling market barriers

## Energy Efficiency Directive

2012/27/EU

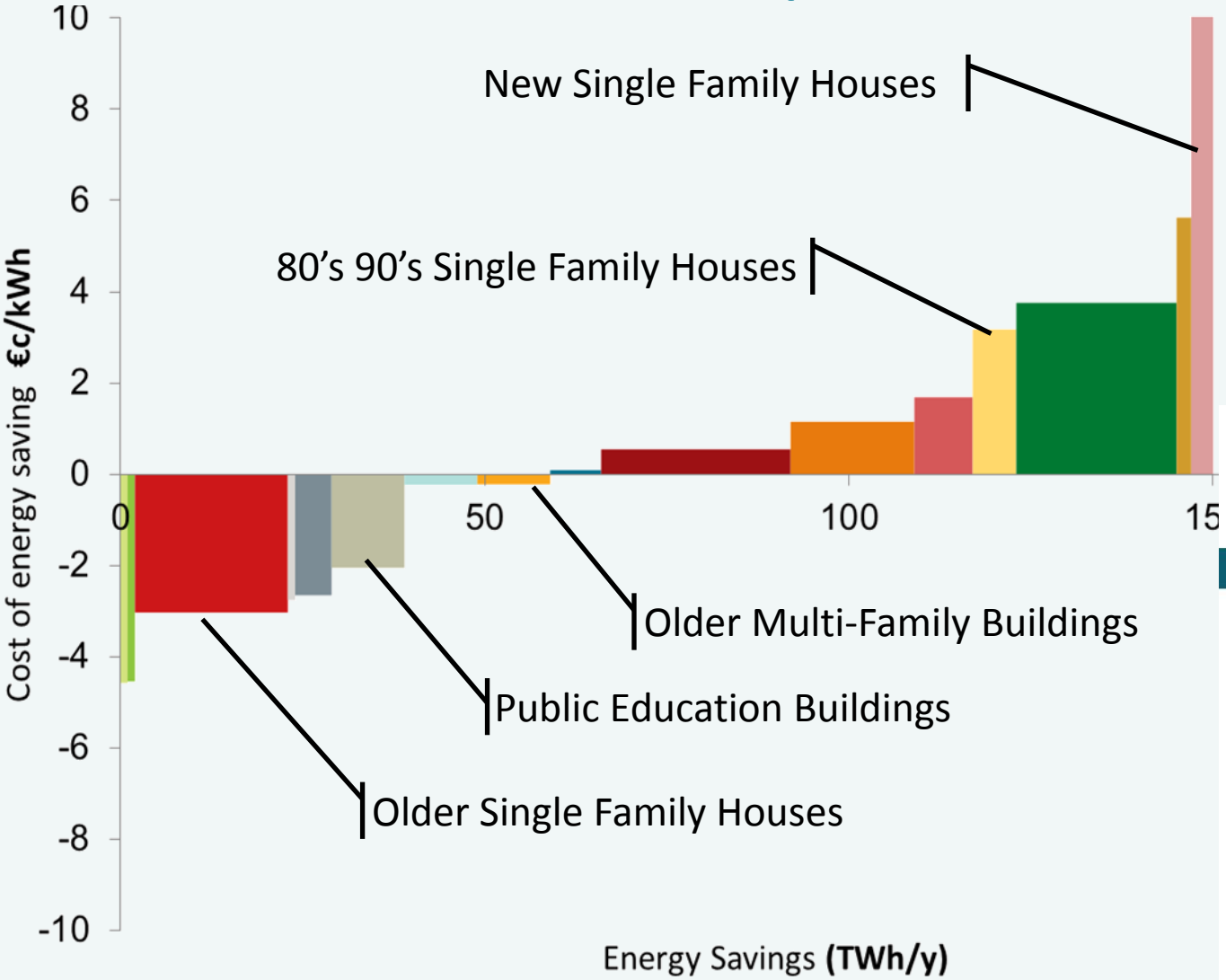
- Annual energy saving target
- National building renovation strategies
- 3% p.a. renovation rate for central government buildings
- Energy efficiency obligations on energy suppliers
- Energy audits
- Metering and billing
- Promotion of efficiency in heating and cooling
- Promotion of energy services
- Facilitate the establishment of financing facilities

# But there are significant barriers – especially finance





# Which buildings sectors are most cost effective? - example from Germany



# Forms of energy efficiency financing

(source – IEA World Energy Investment Outlook)

	Self-financing	Consumer loan	Energy savings performance contract	Energy service agreement	Property assessed clean energy	Utility on-bill financing	Public loan programmes (syndicated loans / grants)	Mortgage-backed financing
<b>Market penetration</b>	High	High	Medium	Low	Low	Low	Medium	Low
<b>Market segment</b>	All	Transport, households	Services, industry	Services, industry	Services, industry	Households, services, industry	All	Households, services
<b>Typical project size</b>	Unlimited	\$1 000 - \$20 000	\$0.5 million - unlimited	\$250 000 - \$10 million	\$2 000 - \$2.5 million	\$5 000 - \$350 000	\$1 000 - \$10 million	\$2 000 - \$25 000
<b>Repayment method</b>	-	Credit card bill, loan payment	Service contract	Terms of service agreement	Property tax bill	Utility bill	Loan payment, none for grants	Mortgage
<b>Collateral</b>	-	None	Equipment	Equipment	Assessment lien	Equipment, service termination	Equipment, government backing	Property
<b>Description</b>	Energy efficiency project is financed through savings or available cash flow.	The loans are generally unsecured and include credit card financing, bank overdraft or personal loans.	Typically an energy service company (ESCO) designs the project and assures financing in exchange for a portion of the energy savings.	A special purpose entity is set up by a third-party and takes charge of financing and monitoring. It retains ownership of the equipment.	Capital provided by local government and repaid through assessments levied on the property.	A utility or third-party covers upfront costs and charges customer on monthly bill.	Public banks offer low-interest loans, grants or underwrite loans to lower capital costs and to leverage private capital.	Home mortgage is extended to cover cost of energy efficiency.

# Scale of funding required

- **€60-100 bn/a** needs to be invested in EU buildings to achieve Europe's 2020 EE targets
- Current investments are **below half** of these requirements
- Investment needs to **increase five-fold** to meet the 2050 decarbonisation targets for buildings.

Energy Efficiency – the first fuel  
for the EU Economy

How to drive new finance for energy  
efficiency investments



**Energy Efficiency**  
Financial Institutions Group

**FINAL REPORT**

covering Buildings, Industry and SMEs

February 2015



# Available EU funding

# ESIF and EFSI

- European Structural & Investment Funds (ESIF) - more than €27 bn is ring-fenced to support the shift towards a low-carbon economy.
- European Fund for Strategic Investments (EFSI) – will mobilise €315 bn in additional investment over the next three years, triggered by initial funding of €21 bn (= a €16 billion guarantee, plus €5 bn from EIB)

Examples of growth-enhancing areas being targeted by EFSI:

- Infrastructure
- Education and training, health, R&D, ICT, innovation
- **Renewable energy and energy efficiency**
- Support to SMEs and mid-cap companies.



# EFSI – who can benefit?

## Eligible counterparts

Corporates of all sizes

Utilities and public sector entities (non-sovereign)

SMEs (up to 250 employees) or midcaps (up to 3 000)

National Promotional Banks or other banks for intermediation

Dedicated Investment Platforms

## Contact

EIB Group directly via InfoDesk or relevant Operations Department  
[www.eib.org](http://www.eib.org)  
[www.eif.org](http://www.eif.org)

# EBRD

- The European Bank for Reconstruction and Development (EBRD) **invested €13 bn in energy efficiency** over the past 10 years
- EBRD's **Sustainable Energy Financing Facility** (SEFF) supports smaller companies to invest in sustainable energy projects.
- **Strategic priority for Hungary:** Improving energy security through strengthening market-based regional interconnections, optimising use of storage capacities and **enhancing energy efficiency**. *(source EBRD Strategy for Hungary, 2016)*

# Other sources

- **European Energy Efficiency Fund (EEEF)** provides market-based financing for public sector EE/RE projects <http://www.eeef.eu/>
- **Private Finance for Energy Efficiency (PF4EE)** supports the implementation of National Energy Efficiency Action Plans or other energy efficiency programmes of EU Member States. ([search PF4EE](#))
- Register project @ **European Investment Project Portal** to reach potential investors worldwide ([search EIPP](#))

# Essential reading!



## TECHNICAL GUIDANCE

Financing the energy renovation of buildings with Cohesion Policy funding

## FINAL REPORT

A study prepared for the European Commission  
DG Energy



### Programme design

1. Establish programme and set objectives and priorities

- a) Assess barriers
- b) Assess the national/local context and legislation
- c) Use technical assistance to develop programmes

2. Define eligible buildings and final recipients

- a) Identify target building categories
- b) Identify beneficiaries and eligible final recipients

3. Define targeted level of renovation and energy savings

- a) Define level of ambition for energy savings and use of renewables
- b) Determine eligible types of measures
- c) Identify packages of measures and performance thresholds
- d) Assess options for deep renovations
- e) Define eligibility criteria
- f) Identify desirable co-benefits

4. Choose financing mechanisms

- a) Choose an implementation option
- b) Assess individual financial mechanisms
- c) Evaluate potential combinations of forms of support
- d) Choose the right options

5. Choose accompanying activities

- a) Project development assistance
- b) Certification and pre-selection of contractors
- c) Supporting development of local SE supply chain

6. Develop programme objectives and indicators

- a) Refer to the EU guidance on monitoring and evaluation
- b) Develop an intervention logic model
- c) Define appropriate indicators

7. Launch application process

- a) Define process and timeline
- b) Define project evaluation criteria
- c) Define information that should be provided by participants

8. Select projects

- a) Leverage previous steps to conduct project selection
- b) Establish the appropriate framework to select projects

9. Disburse funds

- a) Assess options to disburse funding
- b) Ensure compliance

10. Monitor individual project performance

- a) Assess options for project monitoring
- b) Develop a Measurement & Verification plan

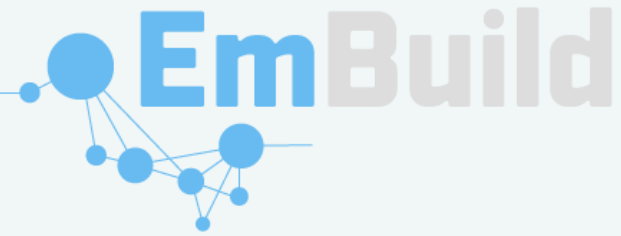
11. Evaluate programme performance

- a) Refer to the EU guidance on monitoring and evaluation
- b) Adapt requirements to the specific programme

### Programme implementation

### Programme management & evaluation

Empower public authorities to establish a long-term strategy for mobilizing investment in the energy efficient renovation of the building stock



**Goal:** To empower public authorities at local, regional and national level, to formulate renovation strategies for the building sector that foster deep renovation and facilitate the acceleration of the renovation.

→ Implement EED, Articles 4 & 5!



HORIZON 2020

The EU Framework Programme for Research and Innovation



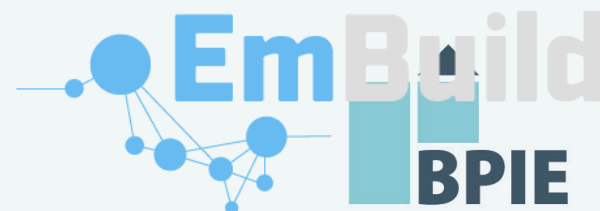
# Why focus on public buildings?

Analysis: Huge untapped energy efficiency potential in European building stock.

Political Goal: Building sector to save 90% of CO<sub>2</sub> by 2050

How?

- Exemplary role of public buildings (EED, Article 5)
- Improvement in depths of renovation needed
- Rate of renovation needs to increase from the current 1% to the expected 3% of the public building stock of Central Governments to a high energy performance level per year from 2014 onwards



# EmBuild Implementation Strategy

National renovation strategies for the building sector (as part of NEEAP)



EmBuild: Bottom-up approach. Municipalities in

**Romania**

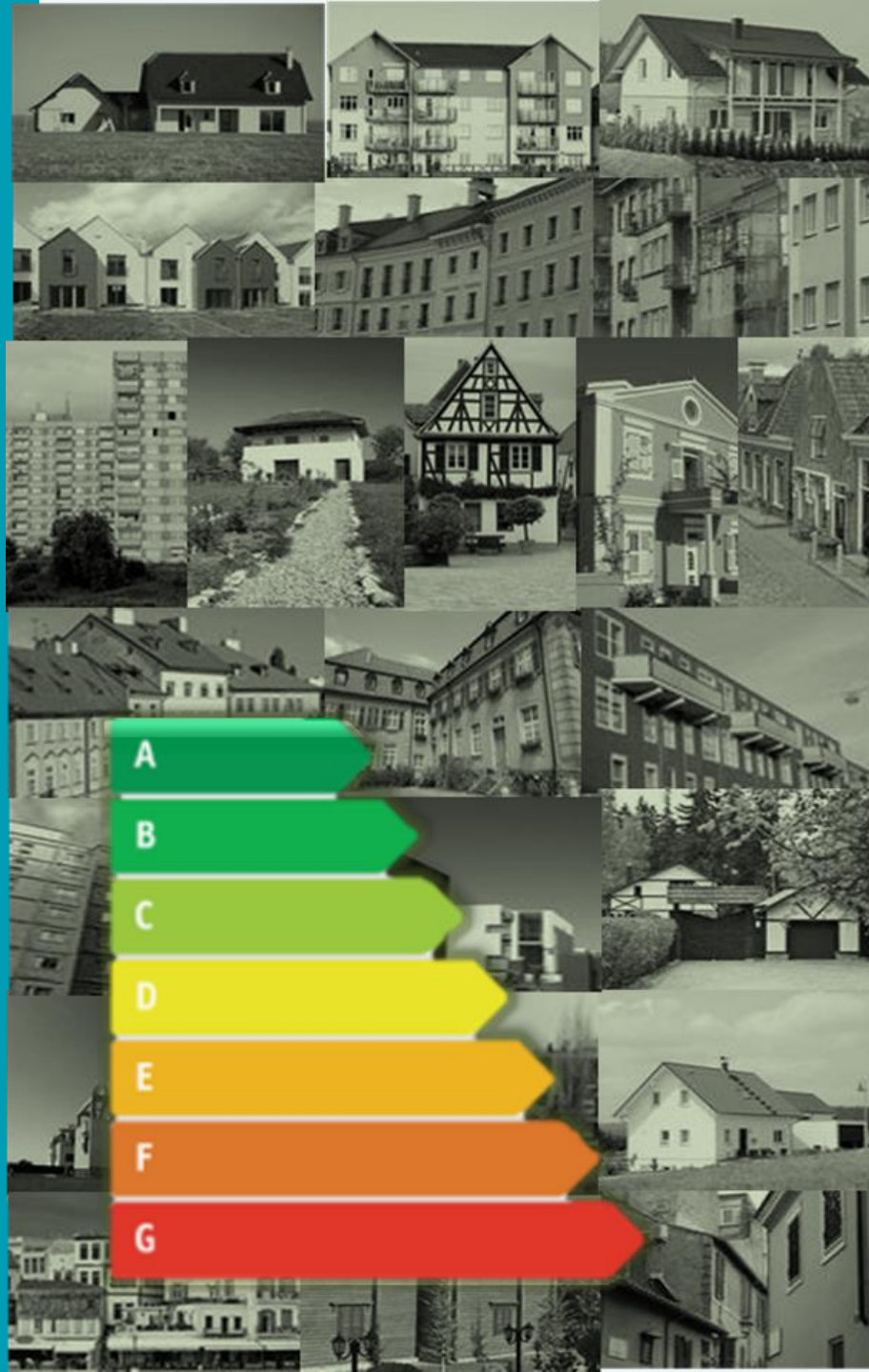
**Bulgaria**

**Croatia**

**Serbia**

**Germany**

**Slovenia**



**Dan Staniaszek**

Buildings Performance Institute  
Europe

[Dan.Staniaszek@bpie.eu](mailto:Dan.Staniaszek@bpie.eu)

[www.bpie.eu](http://www.bpie.eu)

BPIE datahub:

[www.buildingsdata.eu](http://www.buildingsdata.eu)

