



CEE residential building renovation programs: what lessons can we learn?

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EE WORKSHOP
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1 Lessons learnt at C4E events

C4E Forum in Balchik, Bulgaria, 2016

C4E Workshop in Prague, Czech Republic, 2017

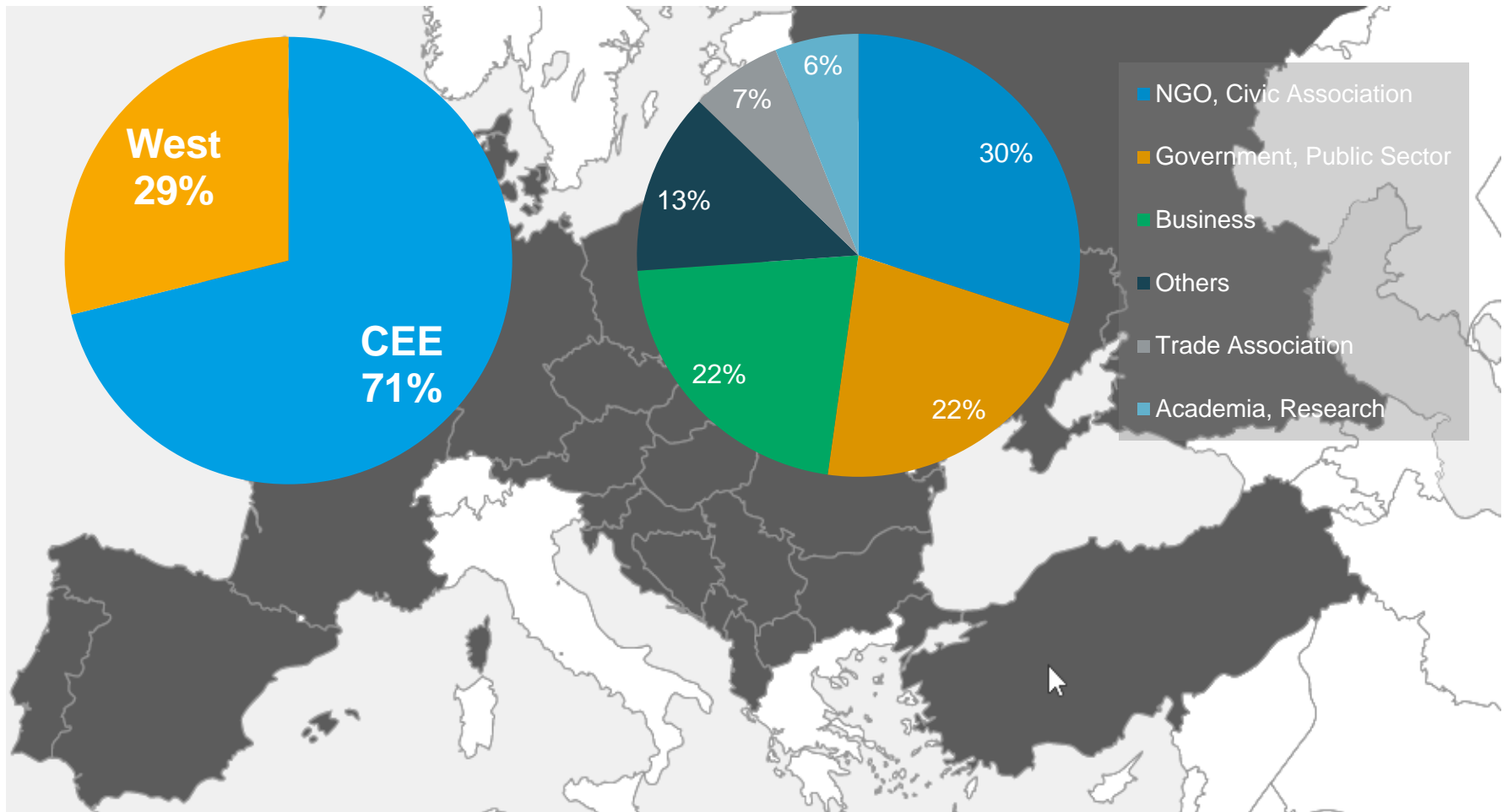
C4E Forum in Poland, 2018

- C4E is a bi-annual community-building event
- Half-week interactive program – practical sessions, creative workshops, evening plenaries and plenty of informal networking opportunities
- All in one place – government, industry, NGOs, think-tanks, financial institutions, etc. from across CEE region



2 C4E Forum 2016

More than 250 participants from 30 countries



3 CEE specifics

■ General

- Modernization deficit
- Low income of households
- Constrained public budgets
- High energy dependency
- Personal and expert capacities
- Corruption
- Public investment = EU Funds

■ Residential buildings stock

- Occupant-owned
- Low level of urbanization
- Mass and relatively recent construction
- Heating sources vary
- Low level of energy efficiency
- Reaching the limits of lifetime
- DIY culture / grey economy



Key challenges

POLITICAL

FINANCIAL

TECHNICAL

- Allocation of public budgets for incentive programs
- Create demand for EE renovation
- Availability of affordable funding
- EE regulation / general building codes



Multiple players & factors to address challenges

**GOVERNMENT &
MUNICIPALITIES**

OWNERS

BANKS

**CIVIL
ENGINEERS**

CONTRACTORS

LEGISLATION

Political challenges

- Fragmented decision making
- Multi-annual budgeting
- EE viewed as policy imposed by Brussels
- Public funding / private property
- NGO / business pressure needed, capacity and skills must come first



Technical challenges

Challenge	Solution
Lack of demand for renovation	Energy advisors / audits Campaigns Reduce transaction cost
Slow & complicated application	Personal capacities Automation / online based tools
High cost / low income	Social policy vs energy efficiency High rates + higher for deep renovation Soft loans in addition
Effectiveness of programs	Quality checks of sample projects
Fraud	Fixed amount of subsidies per application

Financial challenges

Challenge	Solution
Low income households	Social policy Subsidized energy tariffs
Risk assessment	Knowledge transfer Guarantees
Loan aversion	Soft loans General HOA legislation Linking loan to building / apartment
Project pipeline	Technical advisory / Energy advisors General HOA legislation (HOA obligatory, decision-making, payment procedures & cost recuperation, repair funds, etc.)
Currency risk	Guarantees

(Good) practice

nová

zelená

úsporám

ŠIFIRB

ŠTÁTNY FOND ROZVOJA BÝVANIA



EnEffect

MAŁOPOLSKA
IN A HEALTHY ATMOSPHERE



Feasible!!!

MAB in Bratislava – Deep Renovation 2016



- All envelope insulation
- All windows and pipelines
- Heat pumps and PV
- Ventilation / heat recovery

- Heating energy need reduced by 74,8 % to 20 kWh/(m².a)

- 920 000 € (42 apartments)
- Monthly payments down by 13 €/app./month

Register at c4eforum.net

Thank you for the attention!

