Energy Performance of Buildings

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Intelligent Energy Europe

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Energy Efficiency of Buildings - Current use and challenges for the future: feedback of CENSE project

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Outline

- **CEN standards to support the EPBD**
- **The CENSE project**
- **Current situation**
- **The future**

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European Energy Performance of Buildings Directive (EPBD, Dec. 2002)

- Required for all EU Member States, from 2006 (2009). Main elements:
  - General framework for a calculation methodology on the integrated energy performance of buildings…
  - Application of minimum requirements on the energy performance of new buildings (and major renovation of large buildings) …
  - Energy performance certification of buildings (“energy labels”)…
  - Regular inspection of boilers and of air-conditioning systems in buildings …

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CEN standards to support the EPBD

- European Commission Mandate 343 to CEN/CENELEC/ETSI (Jan.2004):

  …the elaboration and adoption of standards for a methodology calculating the integrated energy performance of buildings in accordance with the EPBD

- Result: circa 30 CEN standards published (2007-2008)
- *More details in presentation by Jaap Hogeling*

Objective of the EU CENSE project (2007-2010)

- To accelerate adoption and improved effectiveness of the EPBD related CEN standards in the EU Member States
- Benefit:
  - Increased accessibility, efficiency and harmonisation of the building energy performance assessments in the Member States

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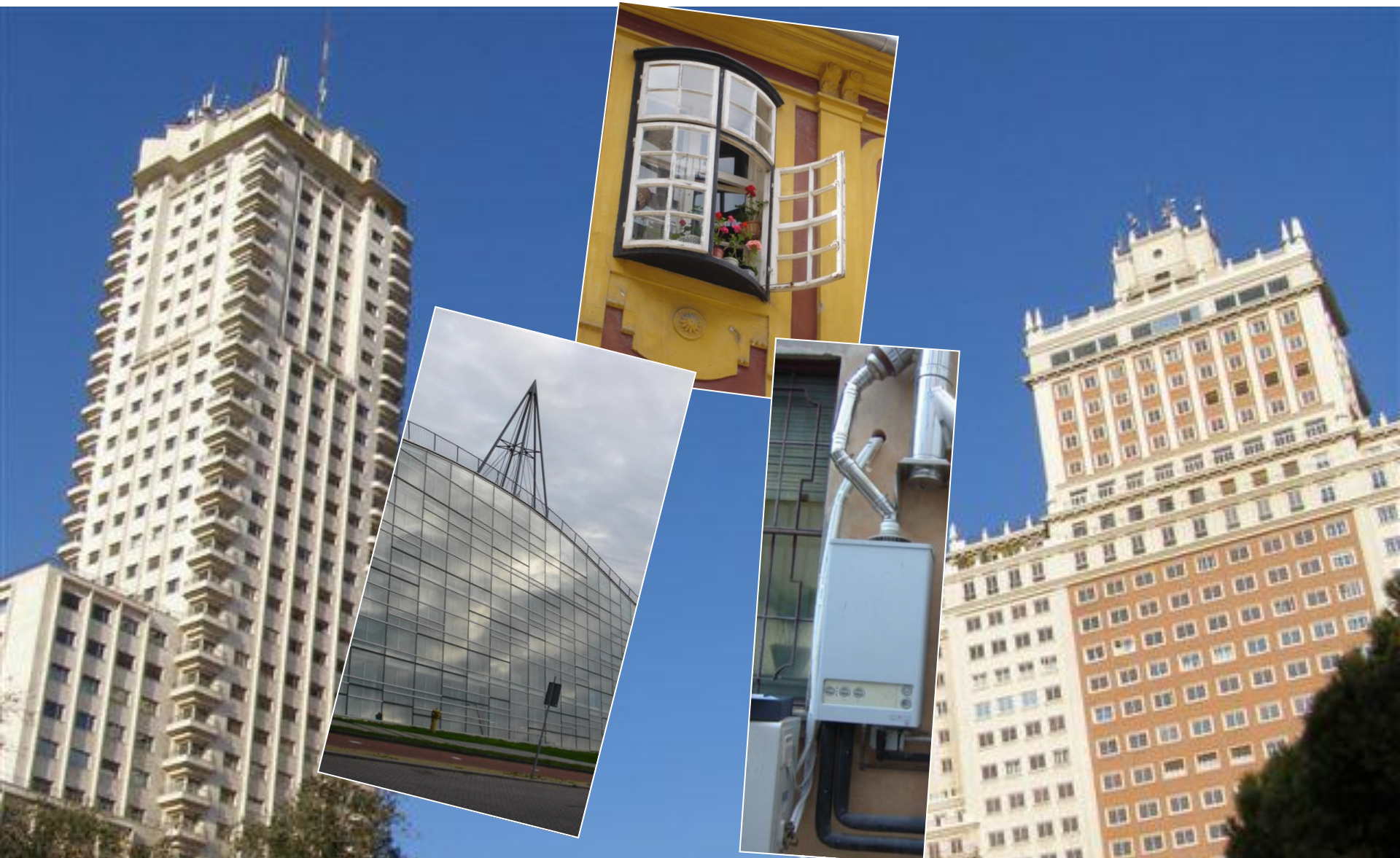
Main activities

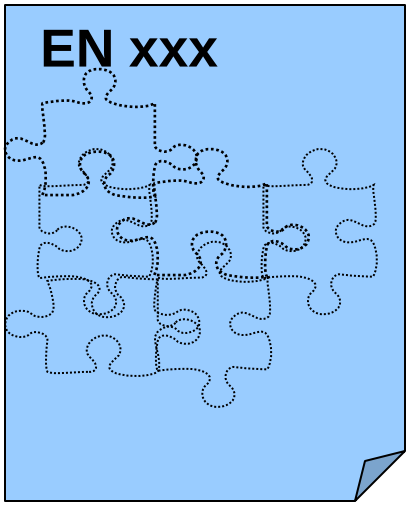
A. To widely communicate the role, status and content of these standards; to provide guidance on the implementation
B. To collect comments and good practice examples from MS aiming to remove obstacles
C. To prepare recommendations to CEN for a “second generation” of standards on the integrated energy performance of buildings

A. To give guidance: examples

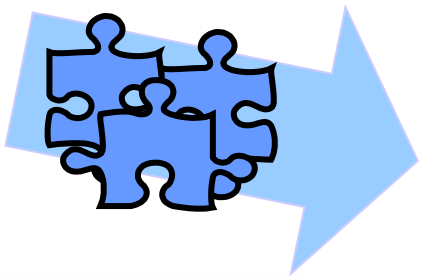
B. To collect feed back

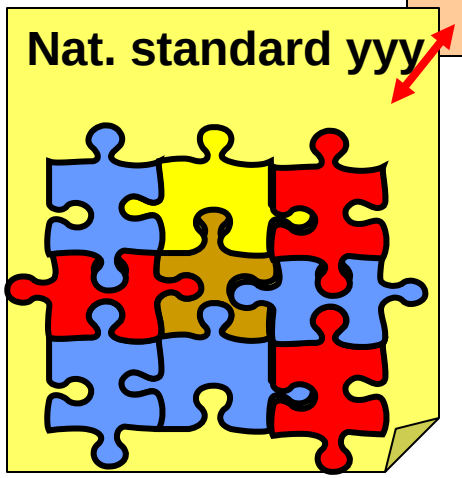


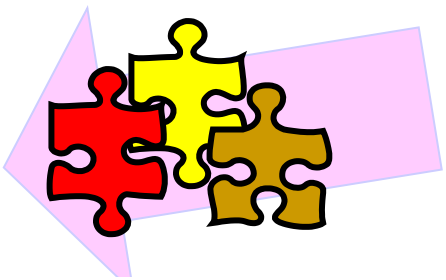
Current situation:
Several EU Member States implemented 1st generation CEN-EPBD standards «in a practical way»



Specific elements from CEN standard are adopted …..







…. but mixed with several national choices, deviations and input data

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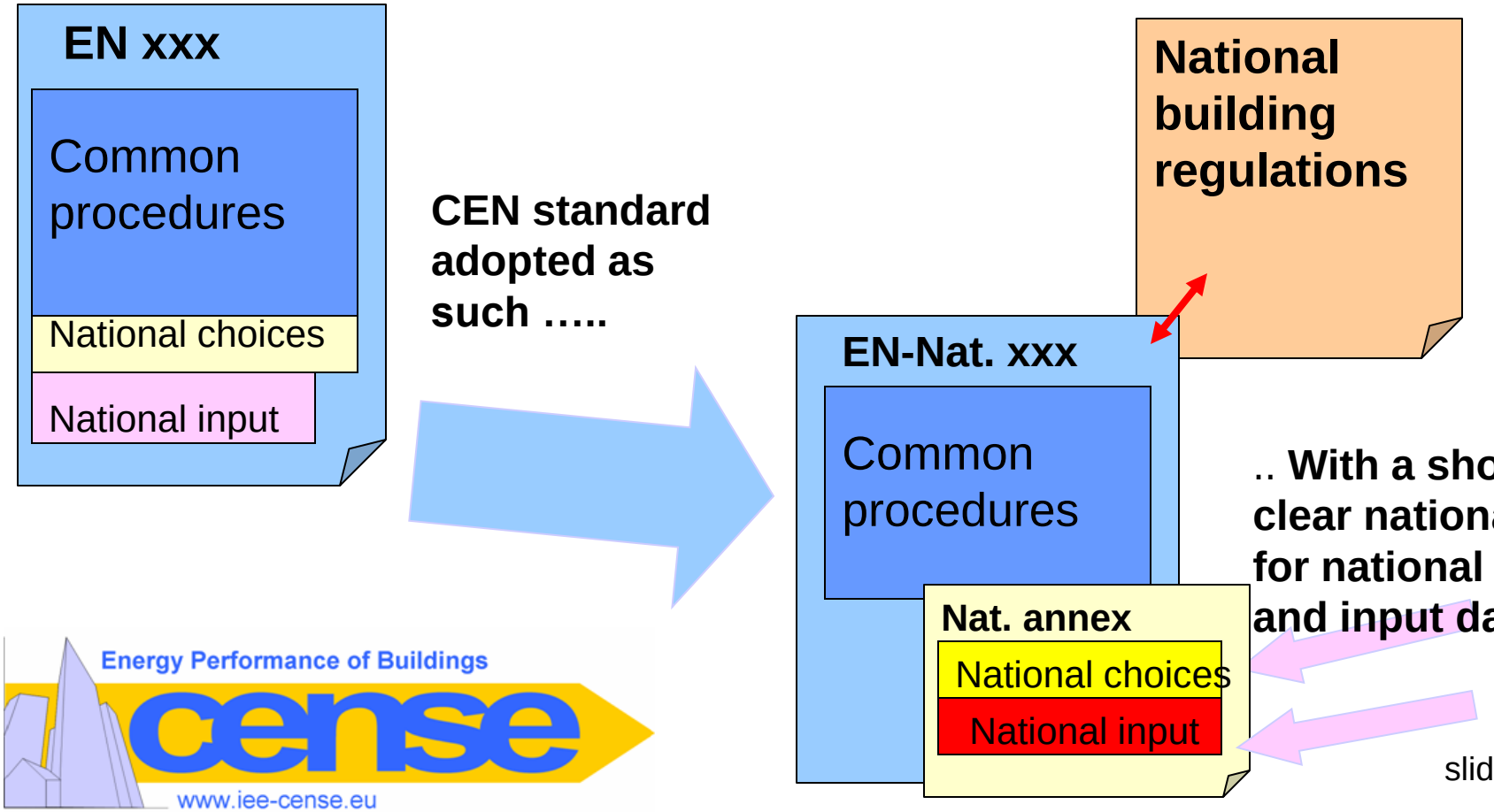
Desirable situation



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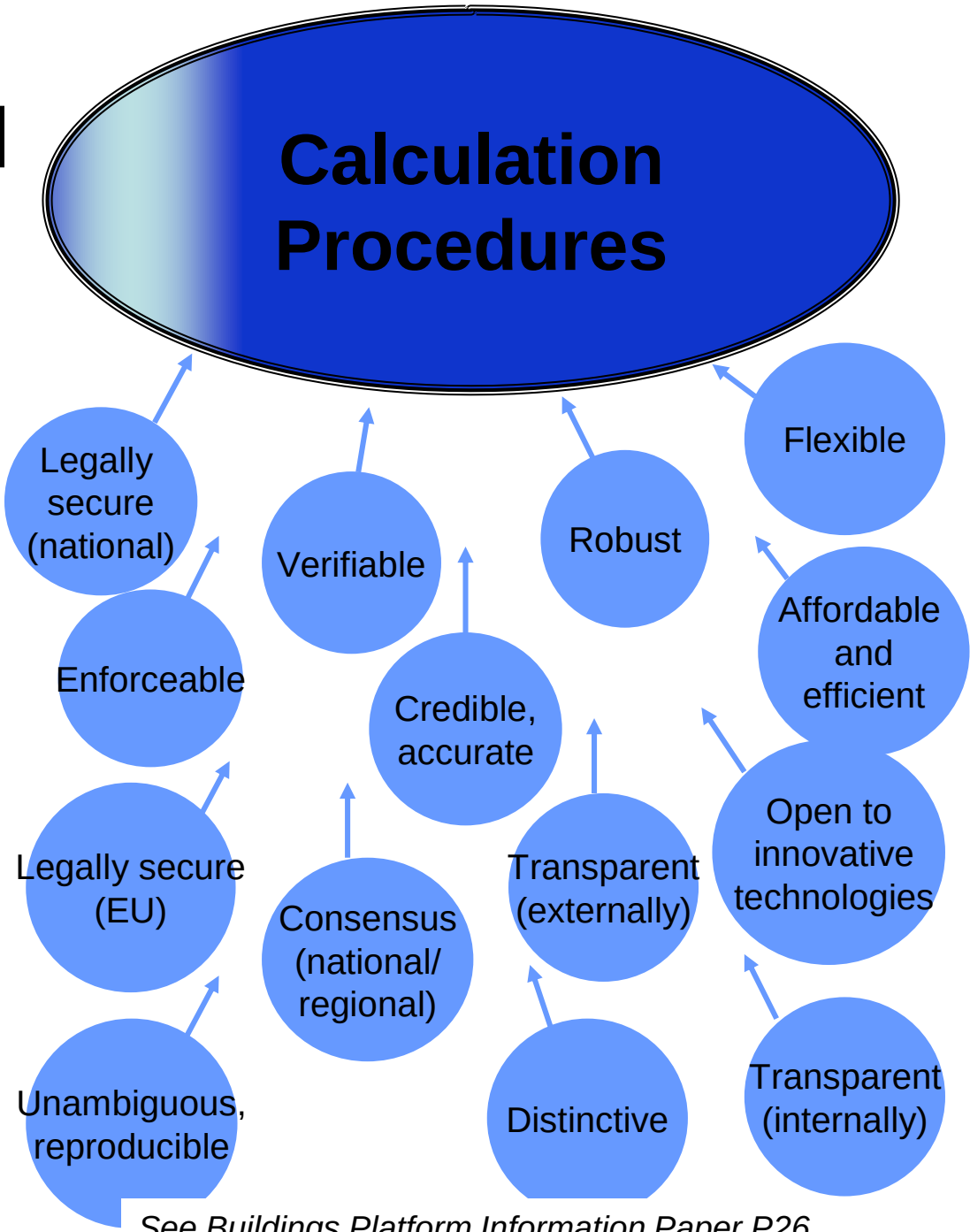
Challenge to find the right balance

Many -*sometimes conflicting*- quality criteria



See Buildings Platform Information Paper P26

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Challenge: balance between harmonized procedures & national choices (1)

- Differences between countries/regions, on use of energy performance methods in the context of building regulations:
  - Climate data: Obvious..
  - Building traditions, cultural differences:
    - Use of attic and cellar..
    - Average conditioned floor area per person…
    - Market penetration of products/technologies..
    - Architectural traditions, …
  - Occupant/user behaviour

Challenge: balance between harmonized procedures & national choices (2)

- National policy:
  - e,.g.: Conversion factors electricity (oil, wood, ..) ➔ primary energy and/or CO_2)
  - Which energy uses included (cooling? Appliances?)
  - Differences in rating scales (A-G, 0-100, ..)
- Legal context:
  - Links with other regulations, e.g.
    - Indoor air quality ⇔ ventilation needs
    - Definition and size of conditioned floor area
    - Daylight/view from office spaces

Challenge: balance between harmonized procedures & national choices (3)

- Legal context (continued):
  - Type of government control:
    - On bldng design or on realized bldng?
    - Penalties?
    - Strict control or not?
    - ➔ Effect on relevance of detailed input
  - Status:
    - Energy label purely informative or linked to mandatory measures (improvement) or incentives (subsidies, cheaper mortgages, ..)?

Next steps

- Recommendations to CEN for second generation of CEN standards on energy performance of buildings
  - Aim: Increased accessibility, efficiency and harmonisation of the building energy performance assessments in the Member States
- ➔
  - Increased consistency and clarity
  - Basis for (common?!) software tools
  - Balance between harmonized procedures and national choices and input
  - …

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CEN & ISO

- Already many of the CEN-EPBD standards developed as EN-ISO standards under Vienna Agreement

In particular:
EN TC89 & ISO TC163

New (2009):
Joint Working Group of
ISO/TC 163 “Thermal performance and energy use in the built environment”
ISO/TC 205 “Building environment design”

Outlook: CEN & ISO

CEN standards published in 2007-2008 and implemented in many Member States ”in **practical** way”) ➔ 2nd generation needed in **2010-2012**

CENSE project:: **Recommendations** for **2nd generation** of CEN standards: **late 2009-early 2010**

ISO: Joint Working Group TC 163 -TC 205 established June 2009 to develop **ISO standards** on EP of Buildings **2009-2011**

High expectation s in ISO

With anticipated active input from European experts ➔ **Global EN-ISO standards?!!**

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CENSE Project website

More information about the CEN standards can be found at the CENSE project website

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