SECCA
Sustainable Energy Connectivity in Central Asia

Funded by the European Union

WORKSHOP
ENERGY LABELLING OF BUILDINGS AND COST-OPTIMAL LEVEL CALCULATIONS

24 April 2025 - Almaty, Kazakhstan

The European Union's experience in energy efficiency and certification of buildings

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Stantec | intec | ACTED | European University Institute | Robert Schuman Centre for Advanced Studies | FSR Energy | Florence School of Regulation

General information on SECCA

Sustainable Energy Connectivity in Central Asia (SECCA):

EU-funded regional cooperation project between the European Union and its partner countries in Central Asia in the field of sustainable energy

Partner countries:

Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan

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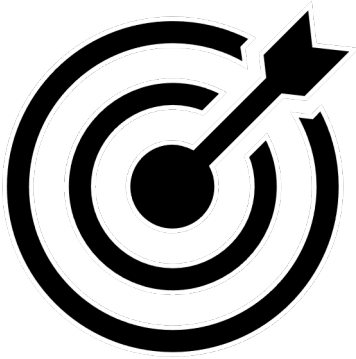
Project objective and outputs



Overall Objective:

to promote a more sustainable energy mix in the Central Asia region in line with EU best practices

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EUROPEAN UNION'S EXPERIENCE IN ENERGY EFFICIENCY

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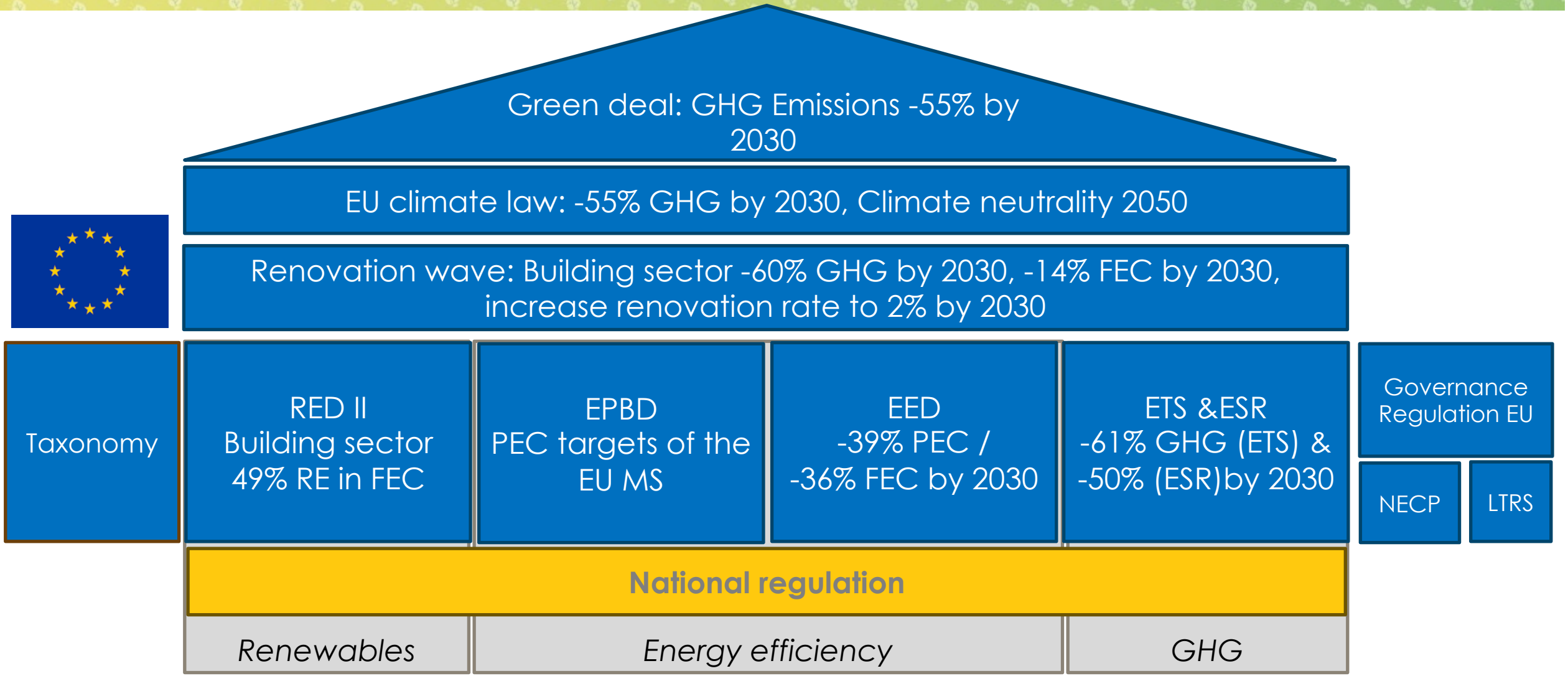
EU policy framework for integrated Energy and Climate planning



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Adopted from: Tobias Kropp, M.Sc. and Univ.-Prof. Dr.-Ing. Kunibert Lennerts, Institute of Technology and Management in Construction, Division Facility Management

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Energy Efficiency first principle

- **Energy Efficiency** is **one of the key pillars** not only **to meet EU's climate objectives** but also to **reduce dependence on fossil fuels** and **increase security of supply** and the **use of renewable energy**

- **Energy Efficiency first (EE1st) principle** is generally understood as a **guiding principle for energy-related policymaking, planning, and investments**

- The principle aims **to treat energy efficiency as a source of energy** in its own right in which the public and the private sector can invest ahead of other more complex or costly energy sources

- This includes **giving priority to demand-side solutions** whenever **they are more cost-effective** than investments in energy infrastructure to meet policy objectives

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Role of Building stock

- Buildings account for approximately **40% of final energy consumption**
- Investing in EE measures in buildings can yield **substantial energy savings**, while **supporting economic growth**, **sustainable development** and **creating jobs**
- Greater use of **energy-efficient appliances** and **technologies**, combined **with renewable energy**, are cost-effective ways of enhancing **the security of energy supply**

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EUROPEAN UNION'S EXPERIENCE IN CERTIFICATION OF BUILDINGS

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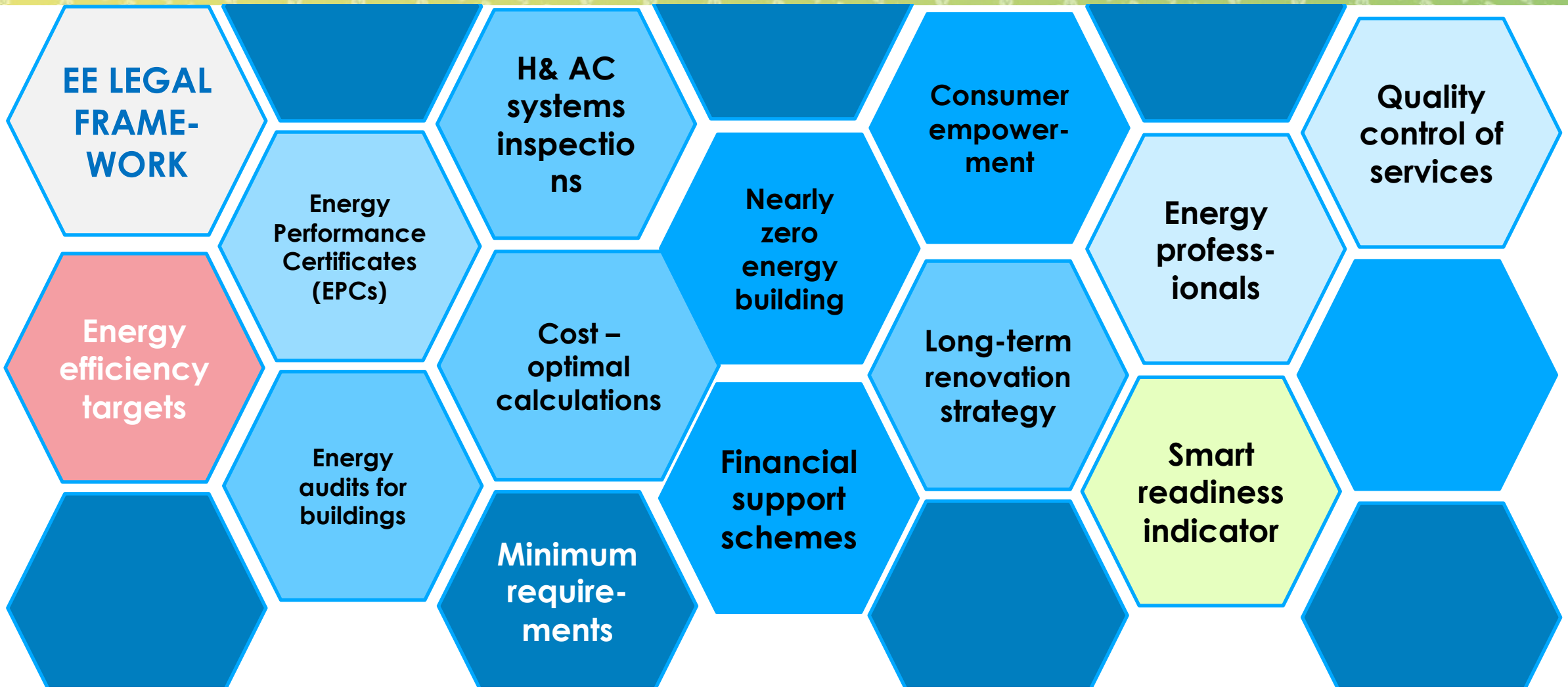
Policy elements and instruments/ tools for EE in Buildings



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Evolution of Energy Performance Certification of Buildings concept

2002 — 2010 — 2018 — 2023

Directive 2002/91/EC – EPBD 2002

- Introduced EPCs for buildings when constructed, sold, or rented
- Emphasized improving energy performance of buildings
- Mandated regular inspection of boilers and air-conditioning systems

Directive 2010/31/EU – EPBD Recast

- Introduced "nearly zero-energy buildings" (NZEB) concept
- All new buildings to be NZEB by end of 2020
- Enhanced user-friendliness of EPCs and promoted wider dissemination

Directive (EU) 2018/844 - EPBD Revision

- Aims to decarbonize building stock by 2050
- Promotes smart technologies and e-mobility
- Encourages use of financial tools for energy efficiency improvements
- Stresses the use of EPC for the Long-term renovation strategy

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The revised Building Energy Performance Directive introduces various changes

2020 — **2025** — **2030** — **2050**

All new buildings in EU must be **Near Zero Energy Buildings** (NZEB)

Energy performance certificates (EPCs) must be based on a **harmonised energy performance scale** by 2025

All buildings must have a **smart readiness indicator** (SRI) by 2026 to assess their ability to integrate smart technologies

All new buildings in the EU must be **zero-emission buildings** (ZEBs) from 2030

DECARBONIZED BUILDING STOCK IN 2050

Existing PUBLIC buildings must be **renovated to a high energy performance level**, with minimum energy performance standards set at the EU level

Building **life cycle carbon emissions calculation** will be introduced

All new **PUBLIC** buildings must be **zero-emission buildings** (ZEBs from 2027)

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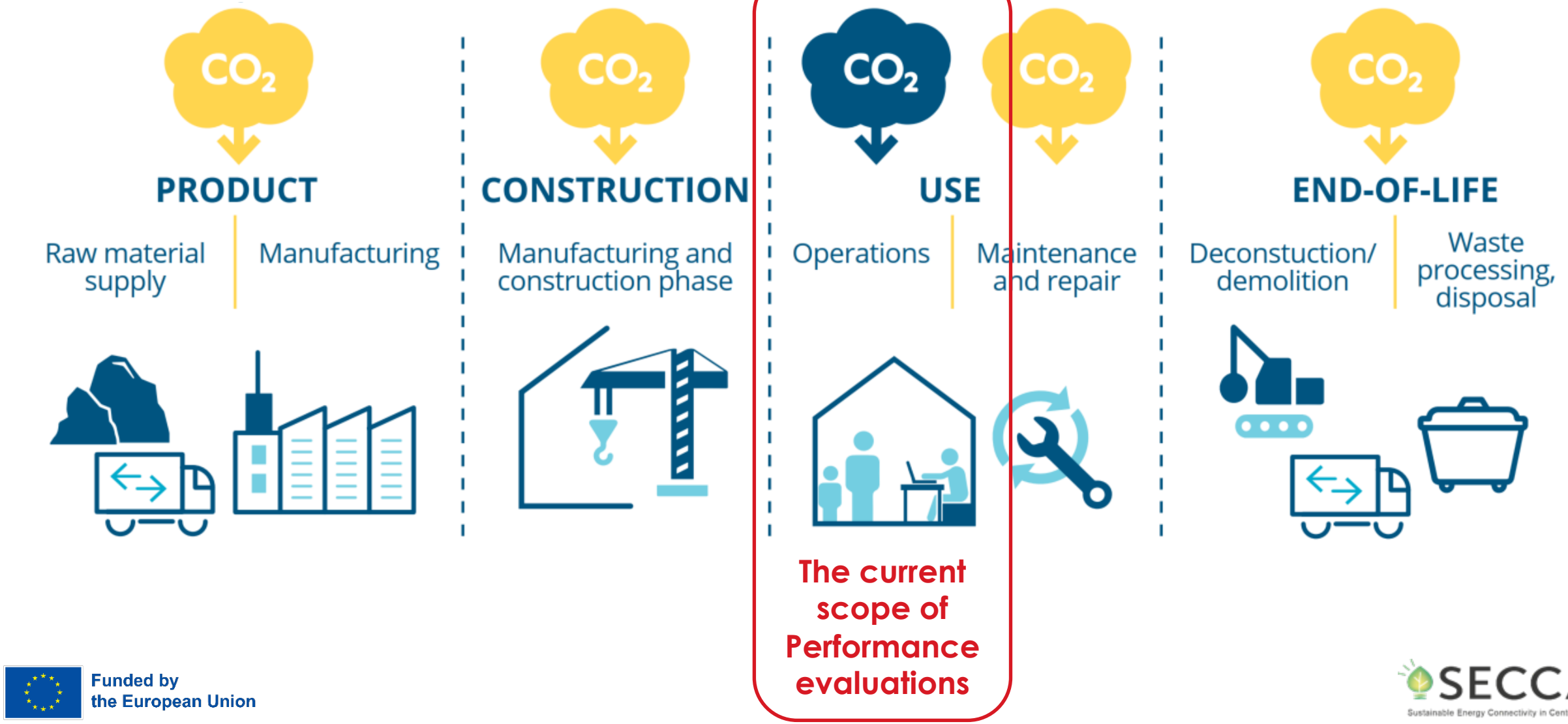
Zero-emission buildings are a new aim for making buildings more climate friendly



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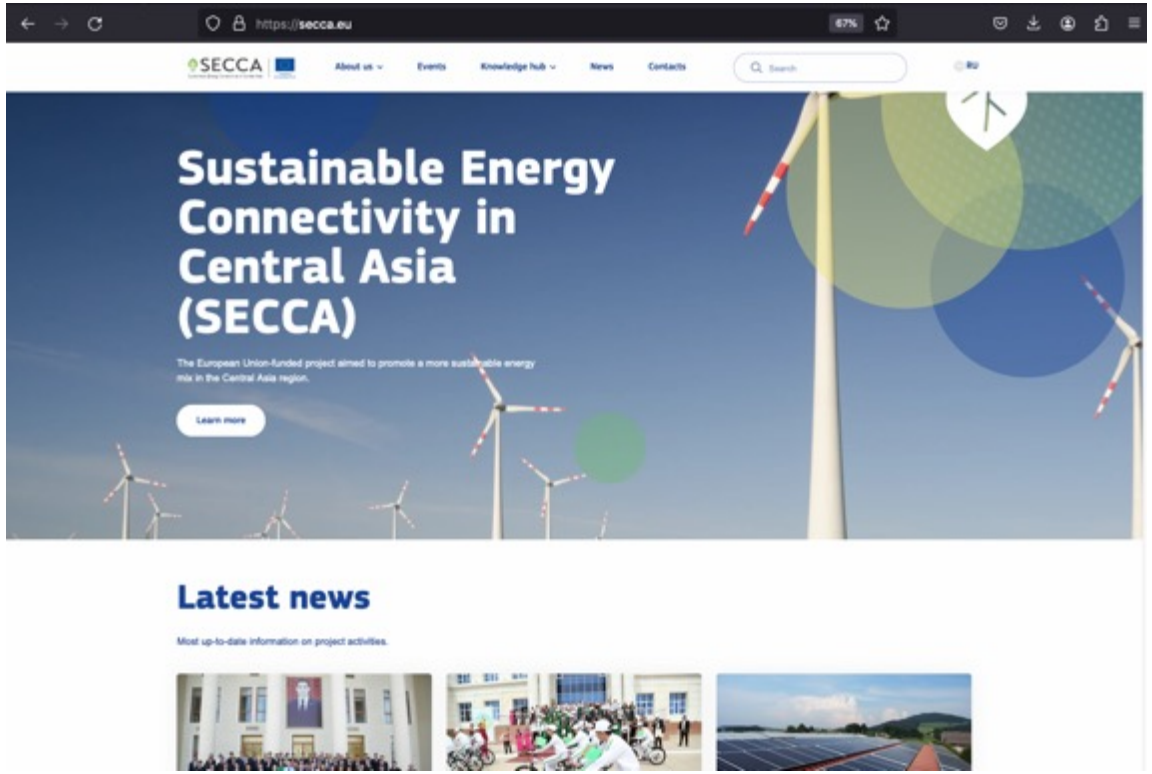
HE-related section on the SECCA website

Latest News and Events

www.secca.eu



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