

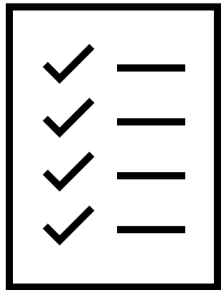
Technical workshop: Practical aspects of sustainable energy development in Kyrgyzstan

Quality control of energy performance certificates
Bishkek, October 6, 2023

Role of Energy Performance Certification (EPC) of buildings in the promotion of energy efficiency in buildings

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THE OUTLINE OF THE QUESTIONS



1. **Why energy efficiency and performance in buildings need to be addressed?**
2. **Why is it important to care about the building sector in Kyrgyzstan?**
3. What tools may help address energy efficiency and performance in the building sector?
4. How do those tools align in the building life cycle?
5. Why should we care about efficiency if we have renewable energy?
6. How to understand the difference between efficiency and performance?
7. What is the primary function of an energy performance certificate?
8. What are the different ways to express the energy performance of a building?
9. How does EPC add value to real estate development?
10. How does EPC help the construction sector to grow?
11. How does EPC build understanding about building stock?
12. What is the most important thing to unlock the benefits?

PRIORITIZING ENERGY EFFICIENCY IN THE BUILDING SECTOR (GLOBALY)



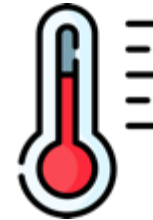
Immediate Cost Savings: Reducing energy waste translates to significant financial savings.



Environmental Impact: Buildings account for a significant portion of global emissions (40%). Efficiency reduces this footprint.



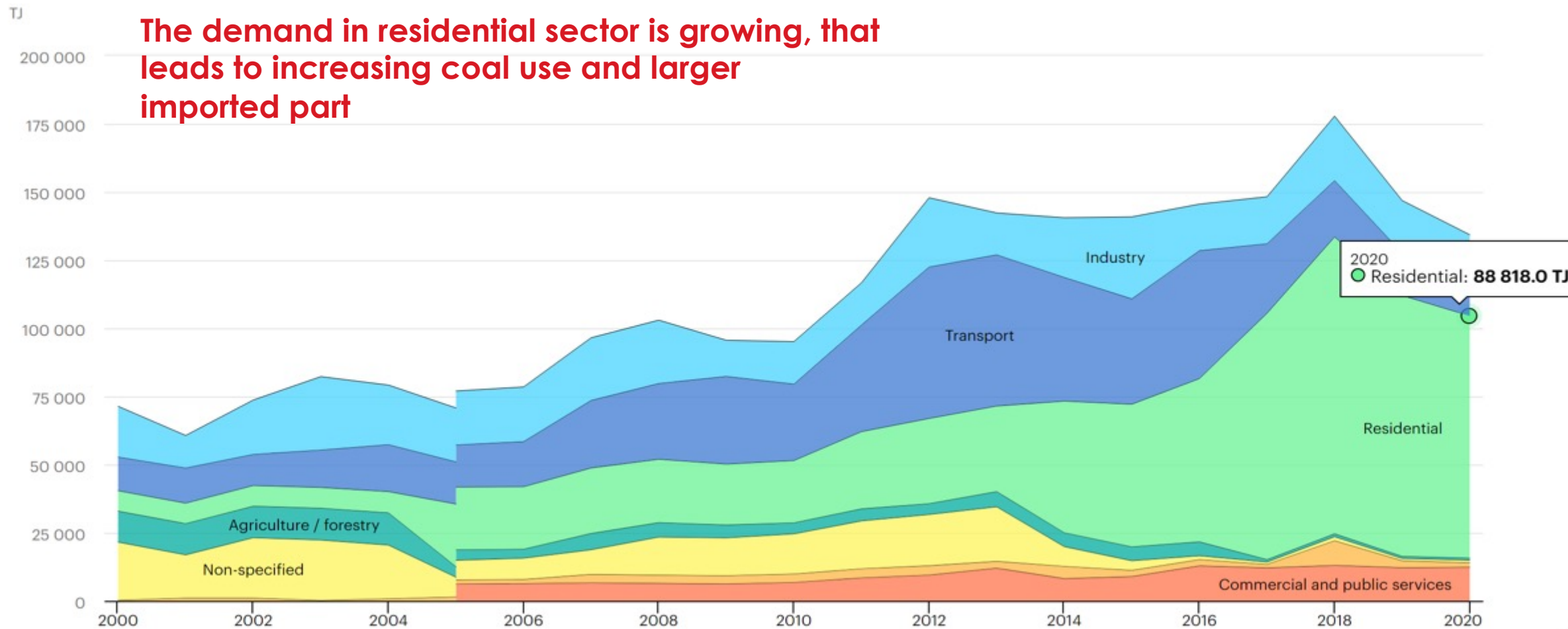
Future-proofing: As energy costs rise and regulations tighten, energy-efficient buildings are more resilient to external changes.



Enhanced Comfort: Efficient buildings offer better thermal comfort, improving occupant satisfaction

Prioritizing energy efficiency in buildings is the cornerstone to achieving sustainable energy goals and reducing environmental impact.

THE RAISING IMPORTANCE OF THE BUILDING SECTOR IN KYRGYZSTAN



Source: <https://www.iea.org/countries/kyrgyzstan>

SUSTAINABLE GROWTH COULD BE ENABLED BY EMPLOYING TRANSFORMATIONAL TOOLS



To enable that, the energy professionals is needed:

Energy performance certification experts

Energy auditors

Heating and air conditioning systems inspectors

Tools to transform energy consumption:

Energy performance design for new construction

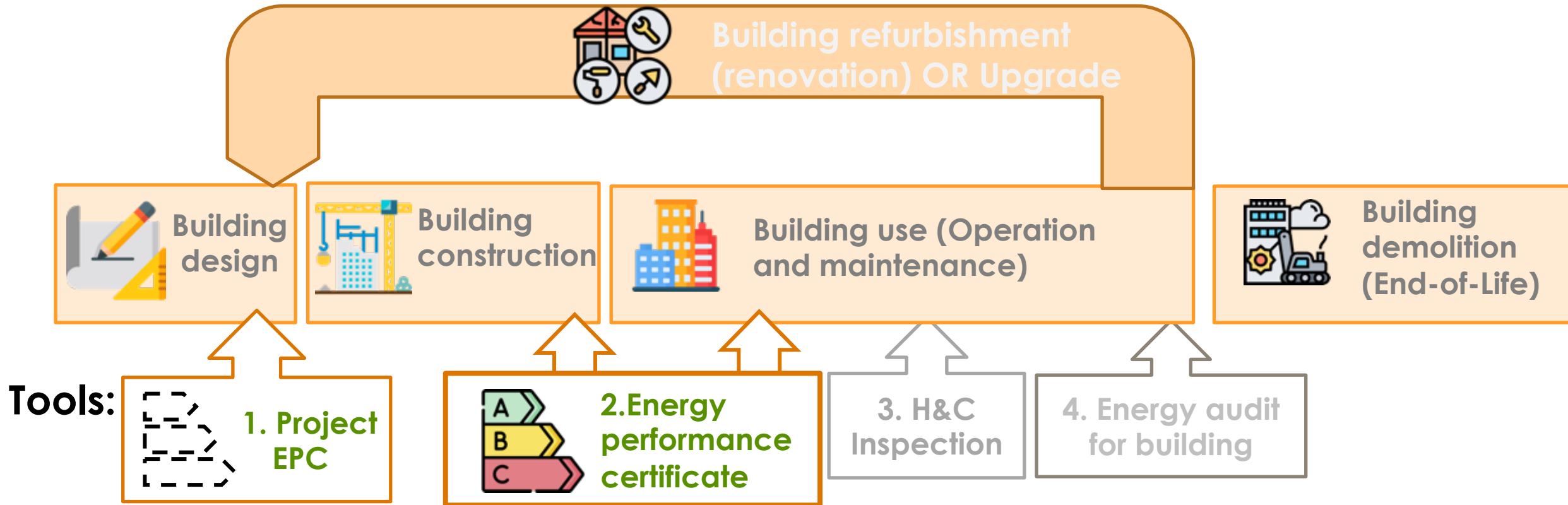
Energy performance certificates of existing buildings

Energy audits in building

Heating and air conditioning systems inspection reports

Sustainable growth is enabled by the tools, which are important to foster energy efficiency and promote sustainable economic growth.

ENERGY PERFORMANCE CERTIFICATION HELPS TO SET AND CORRECT THE COURSE OF BUILDING PERFORMANCE IN ITS LIFE CYCLE



WHY CARE ABOUT ENERGY EFFICIENCY IF WE USE RENEWABLES AS AN ENERGY SOURCE?



ENERGY EFFICIENCY IMPROVEMENT

- Efficiency ensures optimal use of RES
- Reduced energy demand decreases infrastructure costs and prolongs RES system's lifespans
- Efficiency reduces the scale RES of installations needed
- Energy-efficient buildings reduce grid loads, ensuring stability and resilience during supply interruptions

SUSTAINABLE & OPTIMIZED ENERGY

Using energy wisely with renewables saves money, helps nature, strengthens our systems, and prepares us for a green future

RENEWABLE ENERGY SOURCES UTILIZATION

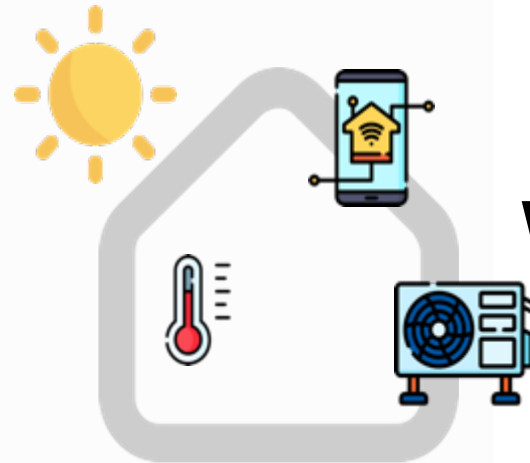
- Renewables, though sustainable, aren't infinite
- While renewables are cleaner, their production has environmental costs

UNDERSTAND THE DIFFERENCE BETWEEN ENERGY PERFORMANCE AND ENERGY EFFICIENCY



ENERGY PERFORMANCE OF BUILDING

Energy Performance is a broader concept than ENERGY EFFICIENCY. It considers the overall energy use and environmental impact of a building. This not only includes energy consumption but also factors in emissions, thermal comfort, and other environmental factors



VS

ENERGY EFFICIENCY OF BUILDING

Energy Efficiency refers to the ratio of energy output to energy input in a building system. It's about how well the building uses the energy it consumes

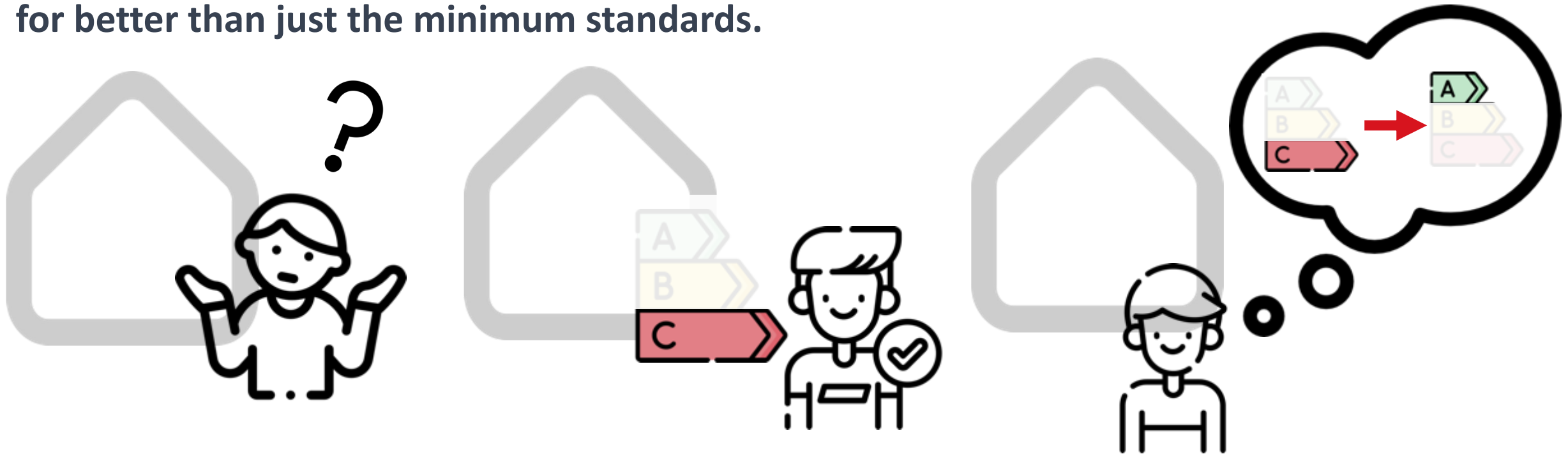


Energy efficiency is about how well a building uses energy, while energy performance encompasses the building's broader energy and environmental impact.

ENERGY PERFORMANCE CERTIFICATES MAKE BUYERS AND OWNERS LIVES EASIER



Energy Performance Certificates (EPCs) make it easier to understand how good in terms of energy consumption the building is. They help customers know more and aim for better than just the minimum standards.



EPC affects the perspective of owners, renters and buyers. And as they are customers of construction and real estate development sectors, it also makes the impact to those sectors

EPC HELPS TO UNDERSTAND THE BETTER NATIONAL BUILDING STOCK AND ITS PERFORMANCE



ESTABLISH THE BRIGHTER PICTURE OF THE SITUATION IN THE BUILDING STOCK

Identifying Renovation Priorities: Pinpoint less energy-efficient buildings/areas for prioritized renovations.

Tailoring Regional Strategies: Address specific energy efficiency needs and challenges of different regions..

Protect Vulnerable Consumers: Identify regions at risk of energy poverty and develop support measures.

Develop Renovation Strategies: Forecast future energy demands and prioritize renovation areas.

Evaluate Policy Impact: Monitor changes in EPC ratings to assess policy effectiveness

DIFFERENT APPROACHES ARE USED TO EXPRESS THE ENERGY PERFORMANCE



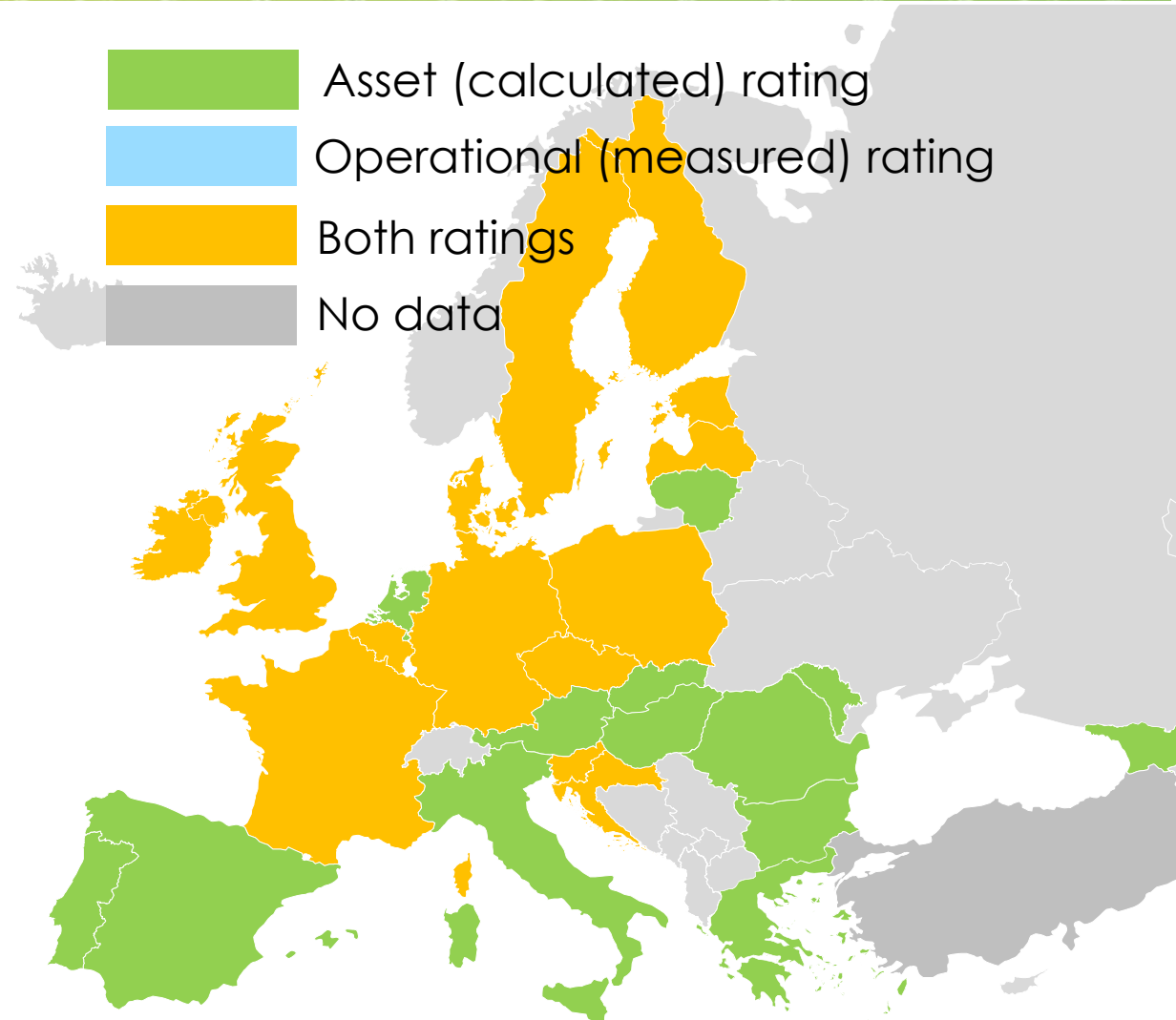
A methods that evaluates a building's **energy performance** based on:

CALCULATED (ASSET) rating

Rely on **built-in design and construction** information. This method uses **standardized conditions** and **calculation procedures** to estimate the theoretical **energy needs**, without considering actual operational patterns.

MEASURED (Operational) rating

Rely on **actual energy consumption** data obtained from **direct measurements**. It reflects real-world **energy use**, influenced by **occupant behaviour, maintenance, and external influences**.



ENERGY PERFORMANCE CERTIFICATION PUSHES THE REAL ESTATE MARKET FORWARD



Informed Decision-making for Buyers and Renters: have clarity on the energy performance of a property, aiding them in making informed decisions.

Property Valuation and Pricing: Properties with better EPC ratings might command higher prices or rent due to their energy efficiency and the associated cost savings

Demand Shaping Through Positive User Experience: As consumers experience the benefits of higher EPC-rated buildings, their demand for similar standards in future property purchases or rentals grows

Facilitating Sustainable Financing for Buyers: Better EPC ratings can lead to favorable financing terms for property buyers, as these properties are seen as future-proofed against rising energy costs

Stimulation of building modernization: Low EPC ratings can lead to the realization for the need of building modernization and ignite the further actions

Demand for higher-performance buildings, created by real estate sector

THE CONSTRUCTION SECTOR IS PUSHED BY THE DEMAND STIMULATED BY EPC



Stimulation from real estate sector

Demand for Energy-Efficient Construction

Materials and Products: Investment in R&D by manufacturers, emergence of innovative materials and technologies. Attraction of additional materials import and local manufacture

Upskilling and Training for Construction

Workers: Increased training programs, raised skill levels, and adherence to high energy performance standards.

Enhanced Competitive Advantage for Proactive Construction Companies: Winning more contracts, adapting to stricter environmental standards, and meeting client demands.

TRANSFORMATION AND GROWTH OF CONSTRUCTION SECTOR

THE IMPORTANCE OF TRUST IN ENERGY PERFORMANCE CERTIFICATION



SUMMARY: KEY TAKE AWAYS

1. Energy Performance Certification (EPC) serves as a roadmap to optimize building performance throughout its life cycle, from design to operation.
2. Even with renewable energy sources, improving energy efficiency is essential to reduce energy demand and ensure sustainable growth
3. EPCs provide clarity and assurance to buyers and owners about a building's energy performance, easing decision-making processes
4. EPCs offer valuable insights into the national building stock, facilitating better policy and decision-making towards energy efficiency
5. EPCs can boost the real estate market by promoting transparency and encouraging energy-efficient constructions
6. The demand for EPCs can drive growth in the construction sector by promoting standards for energy-efficient buildings
7. **Establishing trust in the EPC system is fundamental to unlocking its benefits and achieving the goals of energy efficiency and sustainability**

ROLE OF EPC IN BUILDINGS SECTOR

***THANK YOU FOR
YOUR ATTENTION !***



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„Helping to Unlock the Value of Energy Efficiency and Sustainability for a More Resilient Future “



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