

TIMEPAC

Academy

Session 1

Introduction to EU legislation related to long term renovation strategies of the building stock

Presenter: Erik Potocar – MOPE

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Politecnico
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REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT,
CLIMATE AND ENERGY

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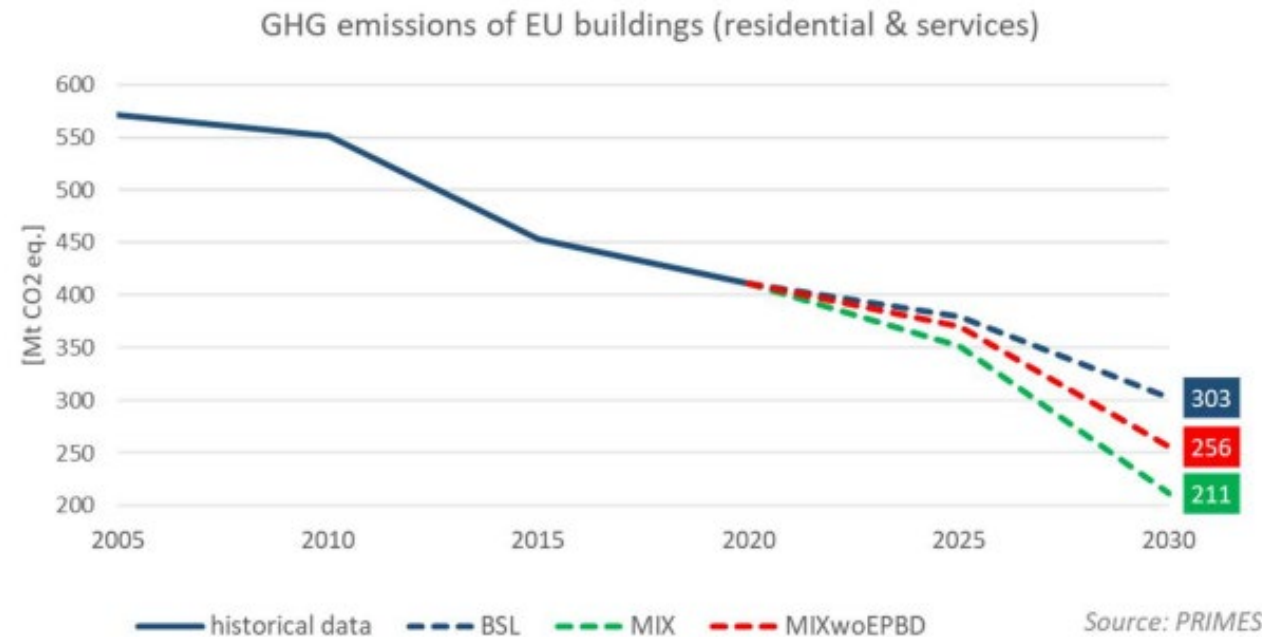
SERA

Institute for
Sustainable Energy and
Resources Availability

Revision of energy performance of buildings directive

EU target - to reduce by 2030 in the building sector:

- greenhouse gas emissions **by 60%**,
- final energy consumption **by 14%**
- energy consumption for heat. and cool. **by 18%**



Revision of energy performance of buildings directive

- **Increasing annual renovation rate** is essential to ensure a highly-efficient and fully decarbonised building stock by 2050
- only **1%** of buildings undergo energy efficient renovation every year
- over **75%** of the building stock is not energy efficient
- **85%-95%** will still be in use in 2050
- **Improving the depth and rate of renovation** is essential to meet the EU climate goals & is at the centre of the revision of the EPBD

Revision of energy performance of buildings directive

Renovation

- **Minimum energy efficiency - Solar standard**
- Energy certificates
- National building renovation plans and individual building renovation passports

Financing

- Sustainable finance and energy poverty alleviation
- Standard of comprehensive renovation
- **Passports for renovation of individual buildings**

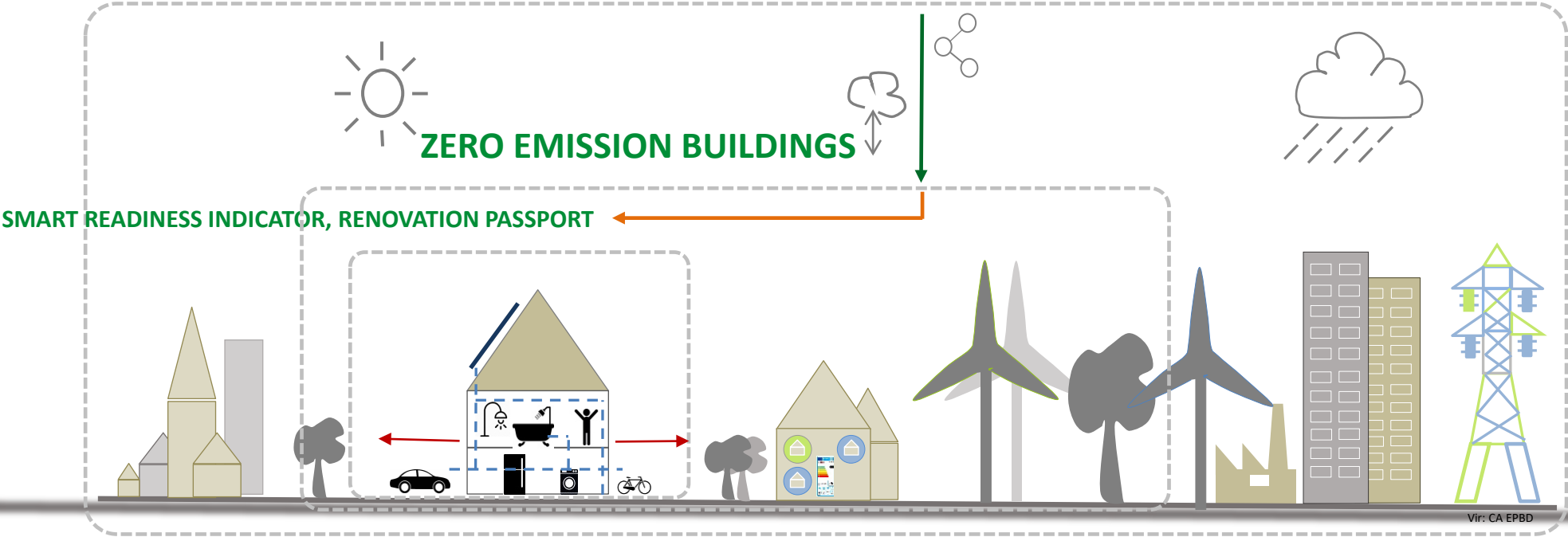
Decarbonization

- **Introduction of zero emission buildings as a new standard for new buildings**
- **Carbon throughout the life cycle**
- Phase-out of fossil fuel incentives and a new legal basis for national bans

Modernization and system integration

- Infrastructure for sustainable mobility
- Smart building readiness indicator
- Indoor air quality: ventilation and other technical building systems

SMART CITY, MINIMUM ENERGY EFFICIENCY STANDARDS



Minimum energy efficiency standards

Gradual abandonment of **the worst buildings** in the EU



Non-residential buildings

by **2030**: **16% of** the worst non-residential buildings exceed the threshold of minimum requirements

by **2033**: **26% of** the worst non-residential buildings exceed the threshold of minimum requirements

Residential buildings (primary energy use)

by **2030**: reduce by at least **16%** compared to 2020

by **2035**: reduce by at least **20-22%** compared to 2020

definition of deep renovation

from **2028**: new public buildings, from **2030**: all new buildings



ZERO EMISSION BUILDINGS



"zero emission building" means a building with very high energy efficiency that requires no or very little energy, produces zero on-site fossil fuel carbon emissions and produces no or very low operational greenhouse gas emissions

Life cycle global warming potential (GWP)



from **2028**: for all new buildings over 1000 m²

from **2030**: for all new buildings

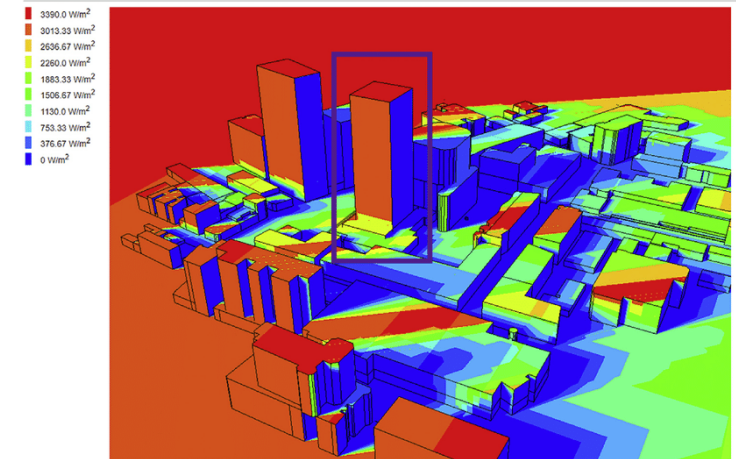
„**GWP warming potential**“ means an indicator that quantifies the global warming potential of a building over its entire life cycle

Solar energy on buildings

- until the end of **2026** on **new public** and **non-residential buildings** (from 250 m²)
- until the end of **2027** on **existing non-residential buildings** (from 500 m²) that are undergoing major renovation
- on all **existing buildings** owned by public authorities with a usable floor area greater than (2000 m² by end **2027**; 750 m² by end **2028**; 250 m² by end **2030**)
- by the end of **2029** on all **new residential buildings** and **new covered parking lots**
- possible exceptions (technical, economic)

Solar Energy Analysis - radiation report

Location: -33.88373665609893, 151.2010359764099 | Analysed period: 2019-01-11 05:01:21 UTC - 2019-01-11 19:04:44 UTC

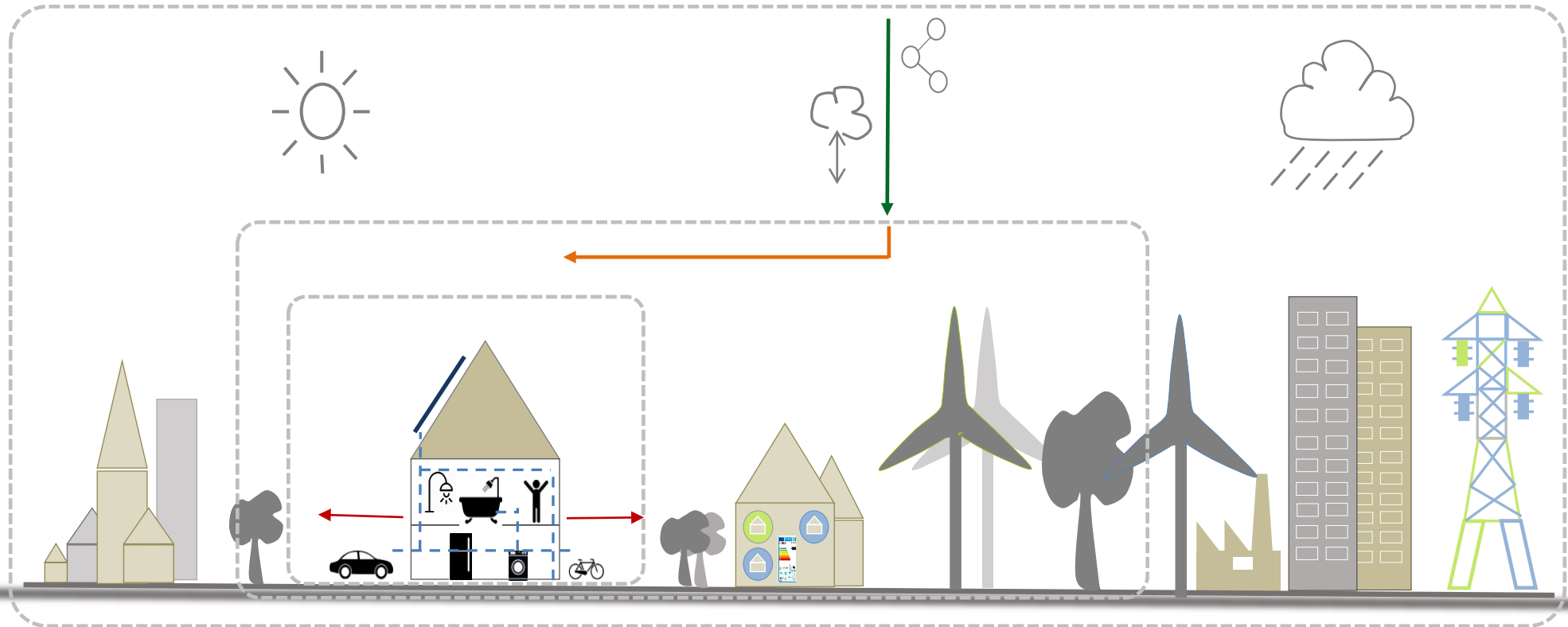


new buildings optimize their potential for RES production

- Article 10 on Renovation Passport

RPs aim to provide better and more tailored information about the renovation of a building

RENOVATION PASSPORT



Renovation passport

Renovation passports can accelerates deep renovation by providing personalised renovation roadmaps to building owners

Key features of the RP

- Renovation roadmap for renovating a **specific building**
- Comprehensive audit & long-term perspective
- Must indicate expected benefits: energy & cost savings, health and comfort, adaptation to climate change, etc.
- Information about **potential financial support**
- Issued by **qualified experts**

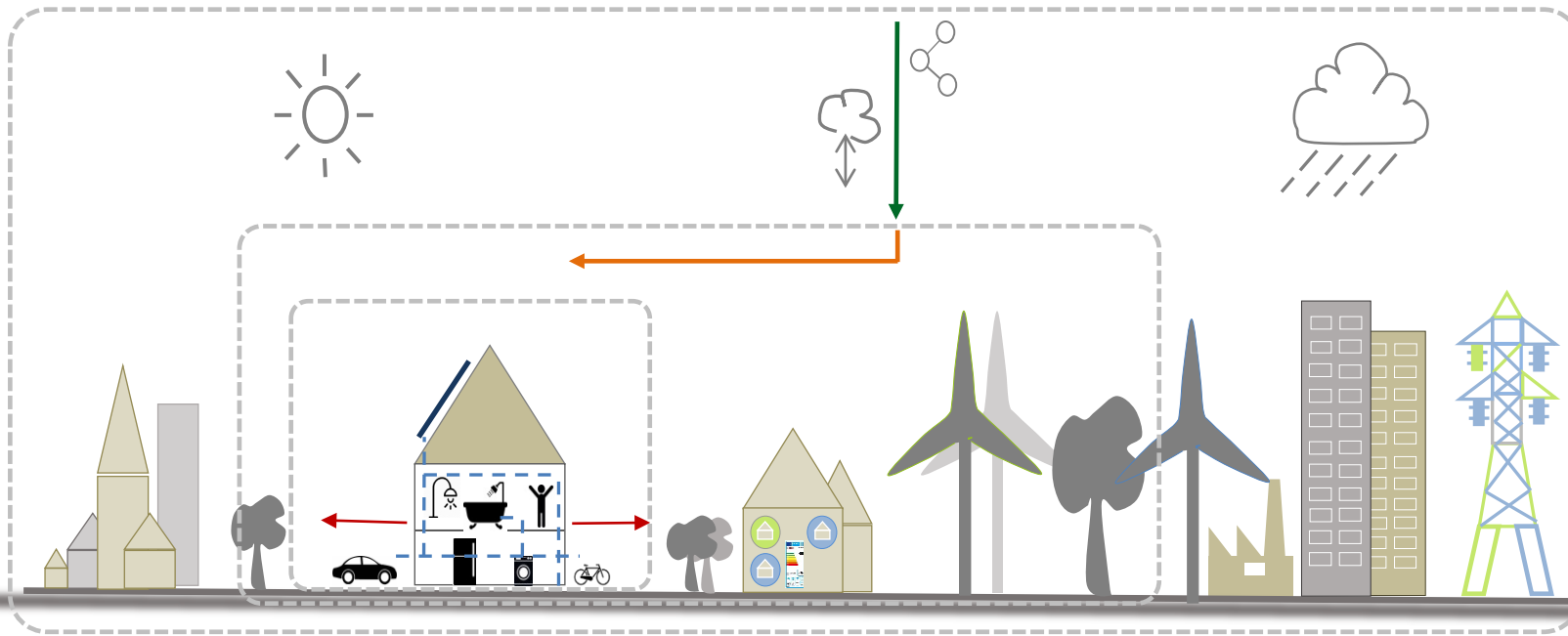
Renovation Passport

The building renovation report includes:

- information on the **current energy efficiency of the building**
- graphic presentation of the plan and the steps of the gradual comprehensive renovation
- information on **minimum energy efficiency requirements for buildings**
- information on possible connection to an efficient DH&C
- share of **energy consumption from RES**, which should be achieved after renovation
- information on available financial resources
- information on **technical advice and consultancy services**, including contact details and links to 'one stop shop' websites
-

Smart technologies will be an essential enabler to decarbonise the building sector, while offering healthier, more efficient, and comfortable living environments

SMART READINESS INDICATOR



by June 30 (2027) the EC will adopt an act that will prescribe the classification of buildings according to readiness for smart systems **for non-residential buildings**

Smart readiness indicator (SRI)

SRI includes elements for **greater energy savings**, the use of benchmarks and adaptability, **improved functionality and performance arising** from more interconnected and smart devices

The methodology will have key functionalities of the building and its technical building systems:

- ability to maintain the energy efficiency and operation of the building **by adjusting energy consumption** (e.g. RES)
- ability to adapt the mode of operation to the resident's needs with due regard **to the availability of user friendliness**
- **flexibility of the building's** total energy needs, including its ability to enable participation in active and passive demand adjustment
- ability of the building to improve its energy and overall performance **through the use of energy saving technologies**

and the interoperability of systems and the positive impact of existing communication networks

**If you would like more information,
please visit www.timepac.eu or contact us at
erik.potocar@gov.si**

Thanks for your attention!