



# SRI-ENACT

Co-creating Tools and Services  
for Smart Readiness Indicator Uptake

## MODULE 2 / Policy framework and national context for SRI

SRI in National Context (PART 1)



The LIFE21-CET-SMARTREADY-SRI-ENACT project has received funding from the European Union's LIFE Programme under grant agreement N°101077201

# Content of Module 2

SRI in National Context

PART 1:

Policy landscape and regulatory framework at national level

Overview of the building stock in Latvia

The climate of Latvia and climatic zoning

SRI in National Context

PART 2:

Tailoring of smart-ready services catalogue

Weighting factors

Conclusions

SRI-ENACT pre-pilot insights :

SRI-ENACT initial assessments in Latvia

Preliminary results of the initial assessments in Latvia

Lessons learnt after initial assessments

# Policy landscape and regulatory framework at national level in Latvia

- The review of the Latvian SRI-related legislation shows that the readiness and applicability of the corresponding regulatory texts are at an early stage and therefore inconsistent and unsynchronised.
- To date, no specific studies have been identified that mention indicators for the assessment and evaluation of smart systems and their impact on the energy efficiency of buildings through intelligent control, neither on the comfort of occupants nor on the quality of services and on other SRI factors.

- Existing energy efficiency regulation in Latvia does not explicitly look into the concept of smart readiness of buildings.
- Assessment of energy efficiency in buildings is carried out in accordance with the requirements of the “Law on energy efficiency of buildings” (2020), which is further detailed in the Regulations of the Cabinet of Ministers No. 222 (2021) “Energy efficiency calculation methods for buildings and energy certification rules” (<https://likumi.lv/ta/id/322436-eku-energoefektivitates-aprekina-metodes-un-eku-energocertifikacijas-noteikumi>)
- A sample of policies and measures implemented in Latvia towards establishing a well-integrated energy efficiency framework and eventually increasing the actual energy efficiency of the entire building stock, is listed below (Odyssee-Mure, 2023):
  - *Energy certification and Energy Performance (EP) classes of residential buildings*
  - *Increasing energy efficiency (EE) in multi-apartment buildings*
  - *Information programme “Let’s Live Warmer”*
  - *National Construction Standard LBN002-19 “Thermotechnics for building envelopes”*

- SRI assessments are not mandatory, however, they can be conducted as part of inspections of heating and air conditioning systems with an installed capacity greater than 70 kW. (<https://likumi.lv/ta/id/322436-eku-energofektivitates-aprekina-metodes-un-eku-energocertifikacijas-noteikumi>)

In conclusion, the current Latvian legislation and regulations do not clearly support SRI certification and smart building control systems.

However, there is a relatively favorable basis for SRI integration in the existing EPB certification methodology and practice.

# Overview of the building stock in Latvia

The aim of the overview of the current state of the building stock is to identify the opportunities for different building categories that will be set for large-scale implementation of the SRI scheme in the country.

## A. Residential buildings:

- Single-family houses or duplex buildings
- Multi-family residential buildings (low-rise, medium-rise and high-rise apartment buildings)
- Mixed-use buildings
- Social housing

## B. Non-residential buildings:

- Office buildings
- Education buildings, including research institutes
- Health facilities
- Hotel buildings
- Commercial buildings, including shops and restaurants
- Sports facilities
- Cultural / arts facilities
- Industrial buildings

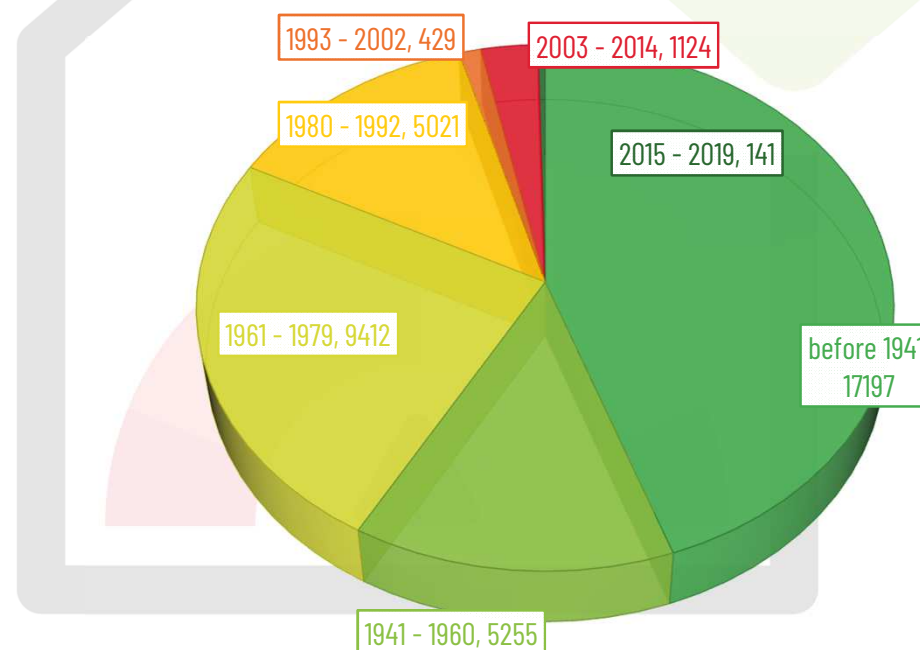
## Residential building stock

Residential building stock in Latvia

(Source: MoE, 2020)

Total number of residential buildings	<b>363,991</b>
Total built-up area, million m <sup>2</sup>	<b>91.08</b>
Total number of dwellings	<b>1,063,939</b>

Distribution of the useful area of occupied residential buildings by year of construction. As it can be seen, 60% of the useful area belongs to multi-family residential buildings built between 1960 and 1989.



## Summary of the residential building stock

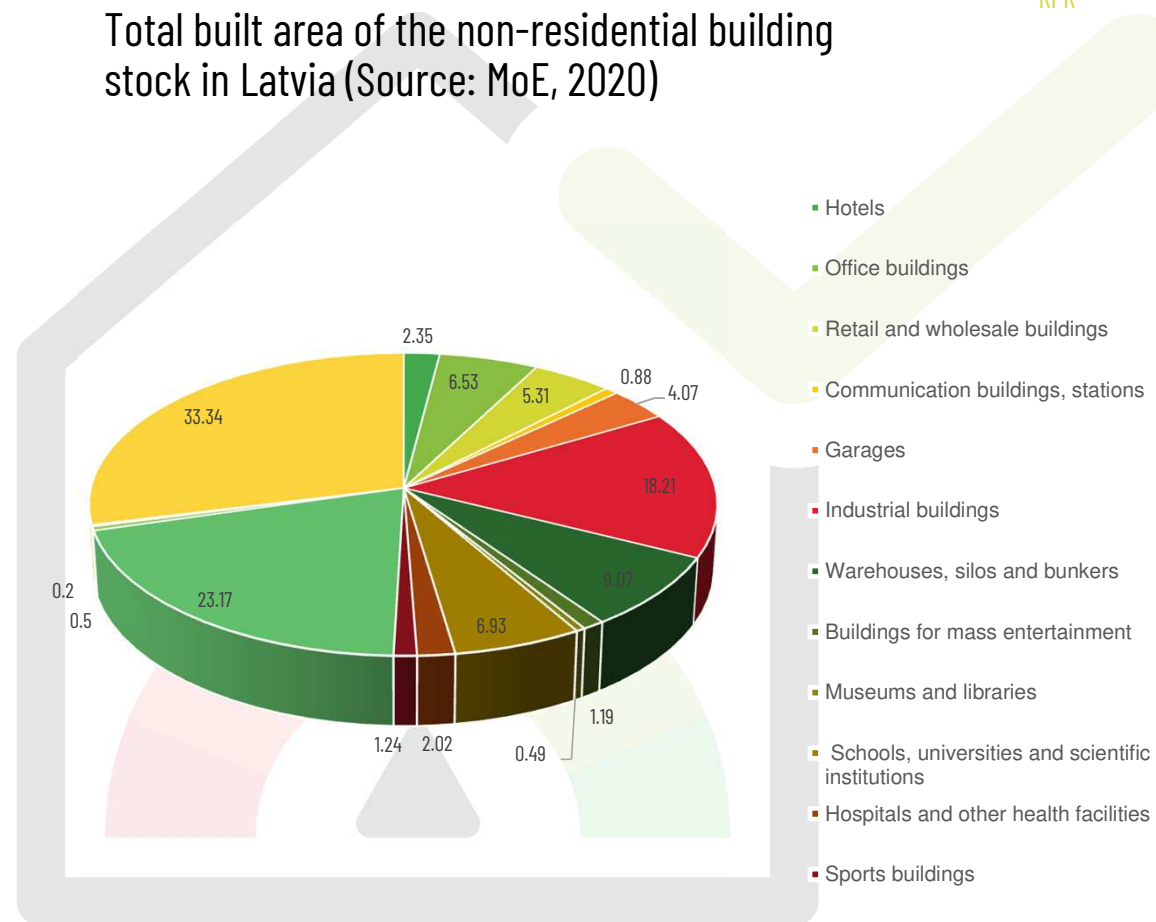
- 85.14% of the total number of occupied residential buildings in Latvia are single-family houses, with a useful area of 40.15% of the total.
- Multi-family residential buildings represent 10.5% of the total number of occupied residential buildings, but their useful area (56.6%) is larger than the useful area of single-family houses (40.08%).
- Nearly 62% of the population live in apartment buildings, both low-rise and high-rise. As energy efficiency measures in multi-apartment buildings depend on decisions taken by the homeowners, and these decisions require the involvement of 50%+1 vote of the homeowners, the legal and financial framework is very important to overcome such a potential barrier to the uptake of SRI.
- In terms of the "Form of ownership" it is established that:
  - ✓ 87.08% of existing residential buildings are private and 3.7% of the total stock owned by legal entities.
  - ✓ Only 5.2% of the buildings are owned by state or local municipalities.



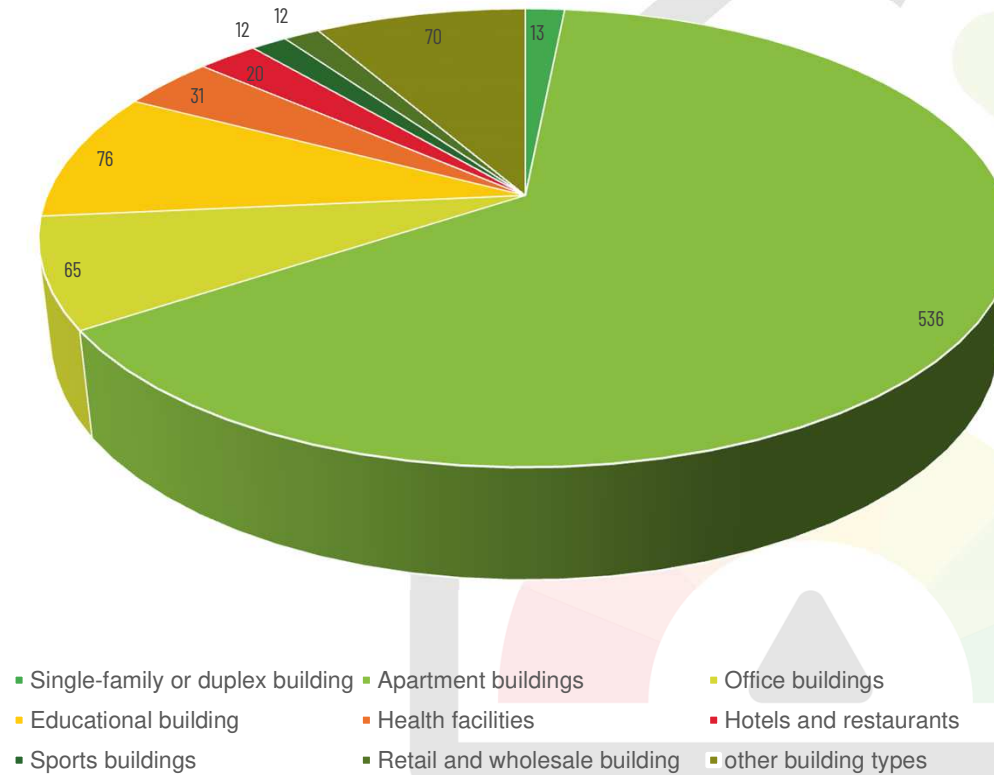
## Non-residential building stock

Non-residential building type	Total built area, million m <sup>2</sup>
Hotels	2.35
Office buildings	6.53
Retail and wholesale buildings	5.31
Communication buildings, stations	0.88
Garages	4.07
Industrial buildings	18.21
Warehouses, silos and bunkers	9.07
Buildings for mass entertainment	1.19
Museums and libraries	0.49
Schools, universities and scientific institutions	6.93
Hospitals and other health facilities	2.02
Sports buildings	1.24
Non-residential farm buildings	23.17
Cultural, historical, cult buildings	0.50
Temporary housing	0.20
Other, previously not classified	33.34
<b>TOTAL non-residential</b>	<b>115.50</b>

Total built area of the non-residential building stock in Latvia (Source: MoE, 2020)



Number of Energy Certificates Issued by Building Type, 2019



## Pre-estimated potential for SRI increase of EP certified buildings in Latvia

Aggregated building type, EP-certified	Potential for SRI increase
Hotels, sports facilities	Very high
Office buildings, health facilities	Very high
Commercial buildings	High
Residential buildings	Medium to high
Cultural, historical facilities	Medium to high
Schools and other educational facilities	Low to medium

## SRI implementation pathways in Latvia

- Most experts suggest linking SRI with the existing system of energy performance certificates and energy auditing.
- Remote metering system is already foreseen in the existing regulation, thus providing opportunities for successful adoption of the SRI approach in Latvia.
- There should be an emphasis on a certain energy efficiency class of buildings; the SRI assessment should be a voluntary option for non-priority types of buildings.
- The SRI assessments must encourage certain measures that allow improvement of energy efficiency and certain benefits for the end user thereafter.
- capacity-building activities providing training and education for building owners, architects, engineers, and contractors on the importance of SRI and the best practices for implementing it.
- Ministry of Economics of Latvia has already elaborated amendments to the national regulatory acts that require that all buildings be energy certified. According to their plan, the amendments will be approved by the Cabinet of Ministers in 2023. Thus, energy certification of buildings, including the introduction of the "smart" dimension, will provide a basis for the gradual progress.

## Challenges for SRI adoption in Latvia

- Additional cost to building owners/tenants/managers for implementing smart ready technologies.
- Lack of support instruments and insufficient number of experienced and most importantly certified energy auditors/SRI assessors
- The preparation and implementation of an SRI-driven project can be time-consuming and complex
- Insufficient number of professional SRI service providers and lack of quality control during project implementation
- Reluctance to take on new financial obligations by investing in expensive energy efficiency measures to support the SRI uptake
- Lack of publicly available information on SRI best practices to be used as examples

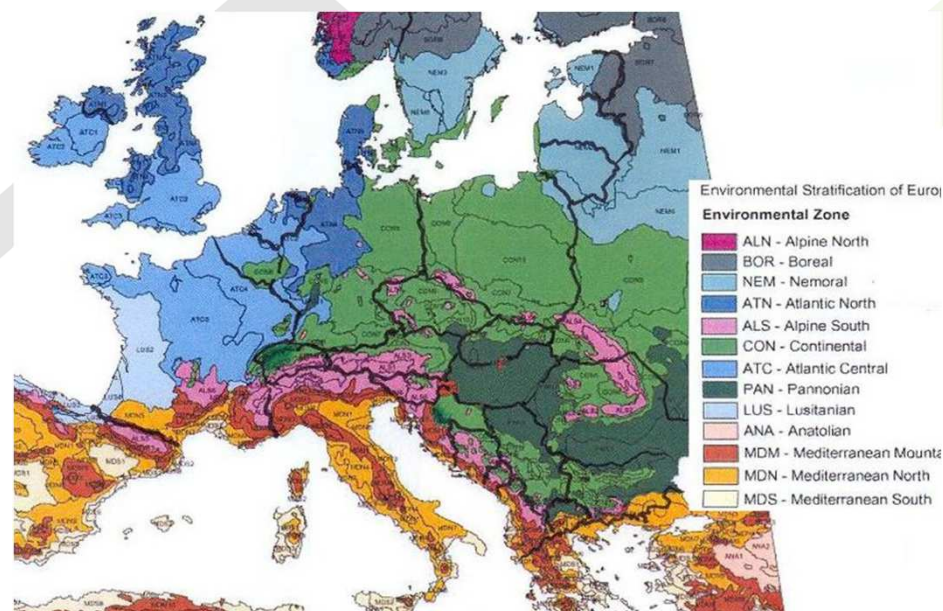
The Latvian national SRI-ENACT project team, together with the Liaison Group and the Stakeholder Group, believes that the uptake of SRI could be successful if the certification procedure becomes a mandatory part of EPB practice and if supporting financial incentives and schemes are available.

The Ministry of Economics (MoE), the Ministry of Energy and Climate (MoEC), State Construction Control Bureau of Latvia, as well as financial institutions such as the Central Finance and Contracting Agency and the state-owned development finance institution ALTUM are expected to lead the initiative of the adaptation and implementation of SRI in the regulatory documents in Latvia.

# Climate of Latvia

Two options are evaluated:

1. 5 climate zones, or
2. 6 regions with 22 meteo stations could be used.

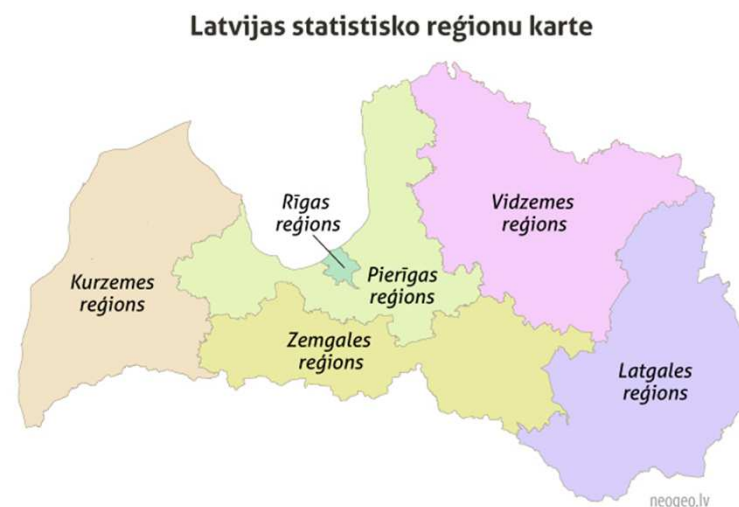


Latvia is classified within the **North-East climate zone**. While it is possible to adjust weighting factors based on the climatic zone in different regions the approach may introduce unnecessary complexity to assessments and impede the comparability of SRI scores across buildings considering that climate conditions are not very different across all regions in Latvia.

## Adoption of representative regional subdivision suitable for SRI assessment procedure in Latvia

To simplify the audit process, but not for the sake of accuracy, the sub-zones are aggregated into six SRI-representative climate zones according to the statistical regions:

REGION
Kurzeme region
Latgale region
Riga region
Pierīga region
Vidzeme region
Zemgale region





## Average HDD in different regions in Latvia

	Average HDD (2012 - 2022)	Difference in % from average (HDD = 3910,39) in Latvia
Latvia	3,910.39	baseline
Kurzeme region	3,707.13	5%
Latgale region	4,032.83	-3%
Riga region	3,626.08	7%
Pieriga region	3,842.3	2%
Vidzeme region	4,083.5	-4%
Zemgale region	3,828.8	2%

Over the past decade, the average annual heating degree days amounted to 3910.39

# Evaluation of climate impact on BTS

## Heating

- There are relatively minor variations among different regions in Latvia, with the heating season typically being a few days shorter in the Riga region.
- According to the Latvian building code, the shortest heating season occurs in Riga city, lasting 192 days with an average air temperature of  $+1.1\text{ }^{\circ}\text{C}$ , while the longest heating season is in Zosēni, spanning 206 days with an average air temperature of  $-0.5\text{ }^{\circ}\text{C}$ .



## Cooling

- Regarding the annual cooling degree days, they are still relatively low in Latvia (13.6) and there are no statistics available about energy consumption for cooling in buildings.
- However, with climate change comes overheating, including summer overheating in cold and moderate climates.
- The importance of cooling could be reviewed for commercial and other buildings with relatively high internal heat gains, although the energy consumption in the energy balance for cooling is currently low.





# SRI-ENACT

Co-creating Tools and Services  
for Smart Readiness Indicator Uptake



<https://srienact.eu>

<https://www.srienact-tool.eu>



The LIFE21-CET-SMARTREADY-SRI-ENACT project has received funding from the European Union's LIFE Programme under grant agreement N°101077201