



MINISTRY OF THE  
ENVIRONMENT



OF THE REPUBLIC  
OF LATVIA

# Challenging climate change: energy efficiency perspective

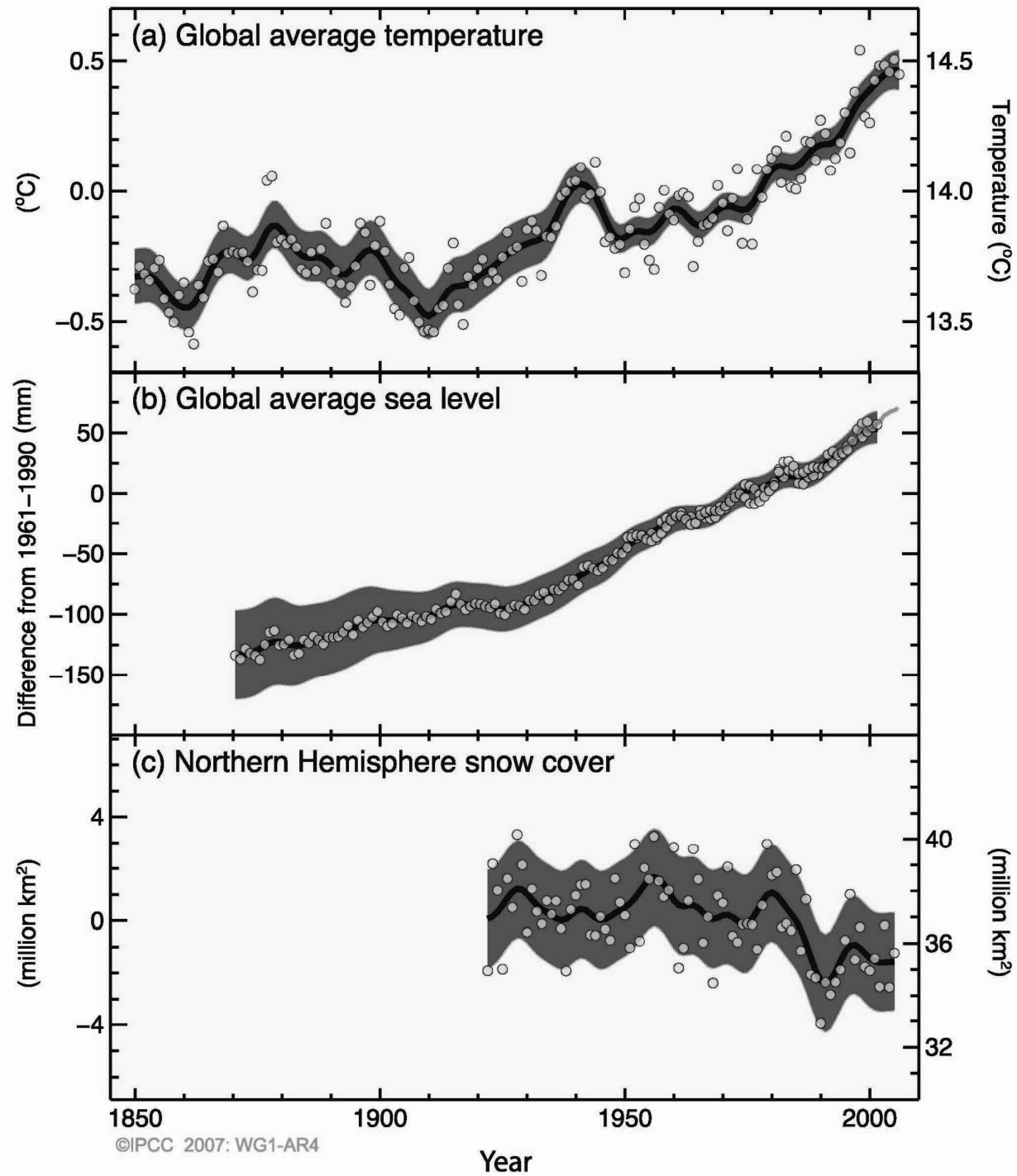
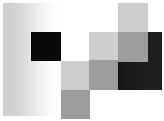
Valdis Bisters

*Director of Climate and  
Renewable Energy Department  
Ministry of the Environment, Republic of  
Latvia*

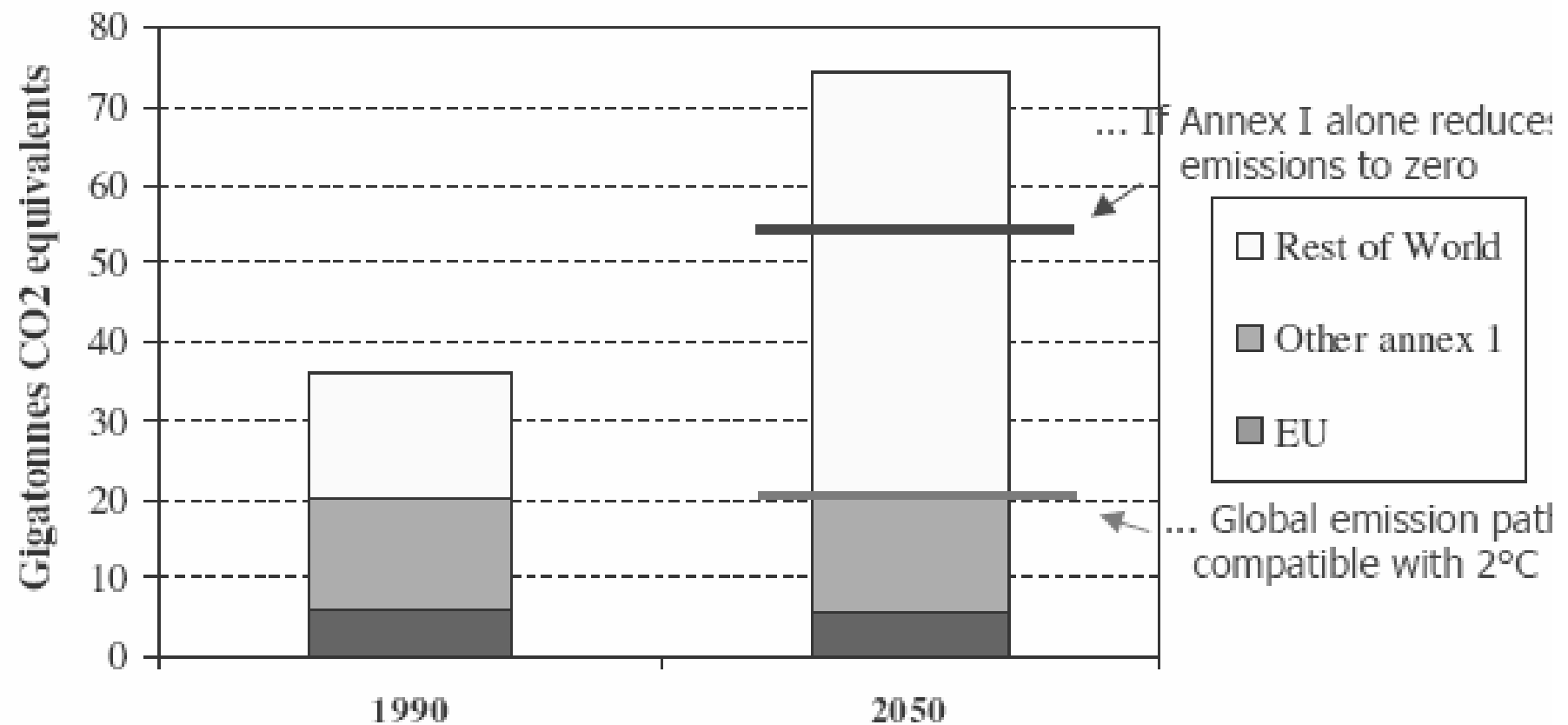


## Main points of the presentation

- Climate change challenge - shift of paradigm
- Carbon flows and stabilization opportunities
- Co-benefits of climate change mitigation
- Energy efficiency and climate change mitigation measures
- Leverage for low carbon economy



# Emission projections



Source: Greenhouse gas reduction pathways in the UNFCCC process up to 2025, CNRS/LEPII-EPE, RIVM/MNP, ICCS-NTUA, CES-KUL (2003).

# Efficiency and Conservation

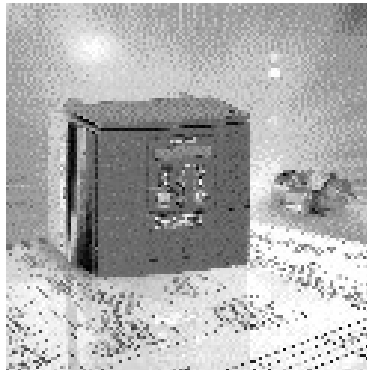
transport



buildings



industry

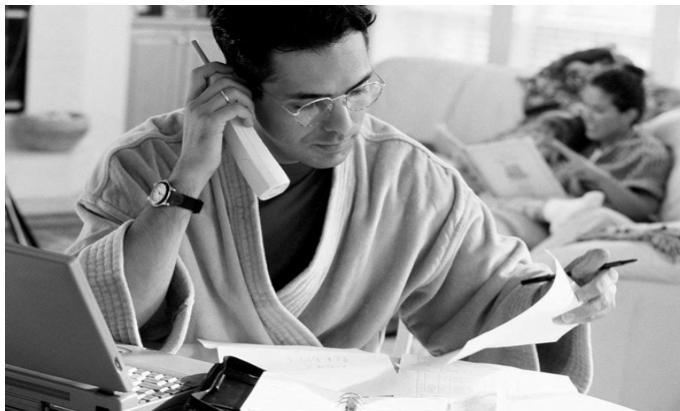


**Efforts needed to stabilize  
GHG emissions**

power

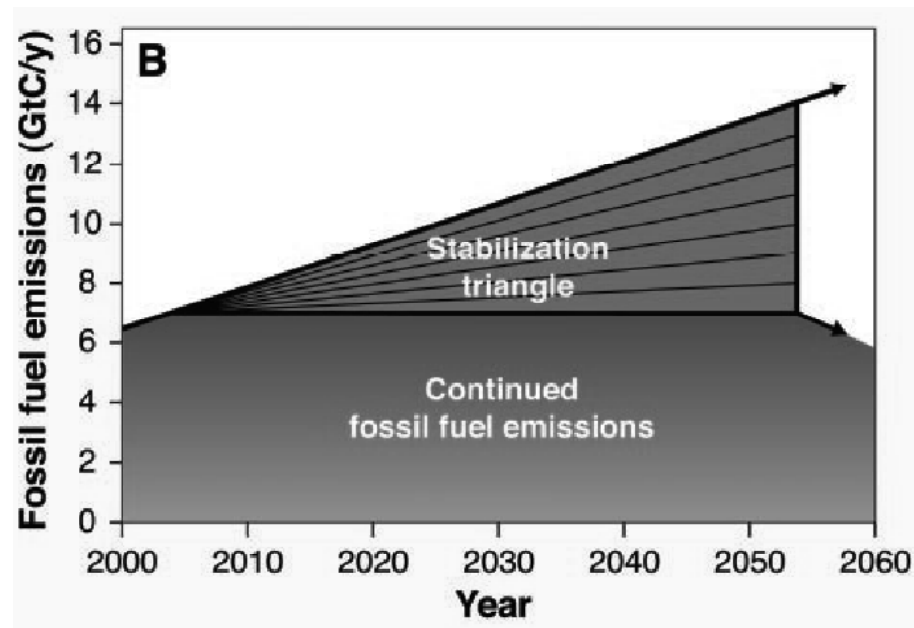


lifestyle



# Pacala & Socolow's “Stabilization Wedges”

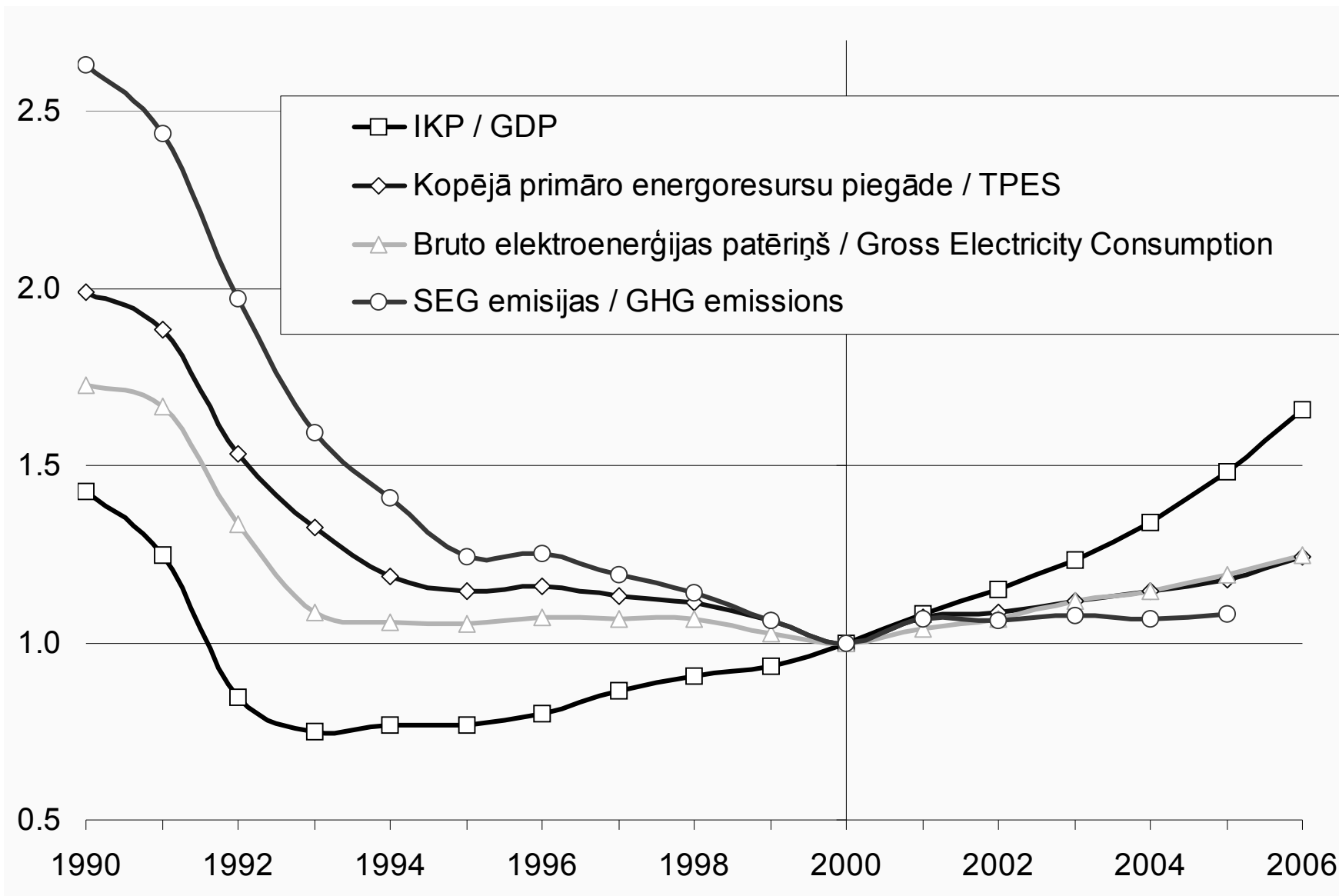
- The blue area indicates a level of emission that would result in a stabilization of greenhouse gas levels within an “acceptable” 550 ppm \*
- The green area indicates projected growth in greenhouse gas emissions over the next fifty years
- Each “wedge” in the green area represents 1 gigaton of carbon that must be removed from these growth projections



Source: Pacala, S. and R. Socolow. "Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies." *Science*, 13 Aug 2004, p. 968-972.

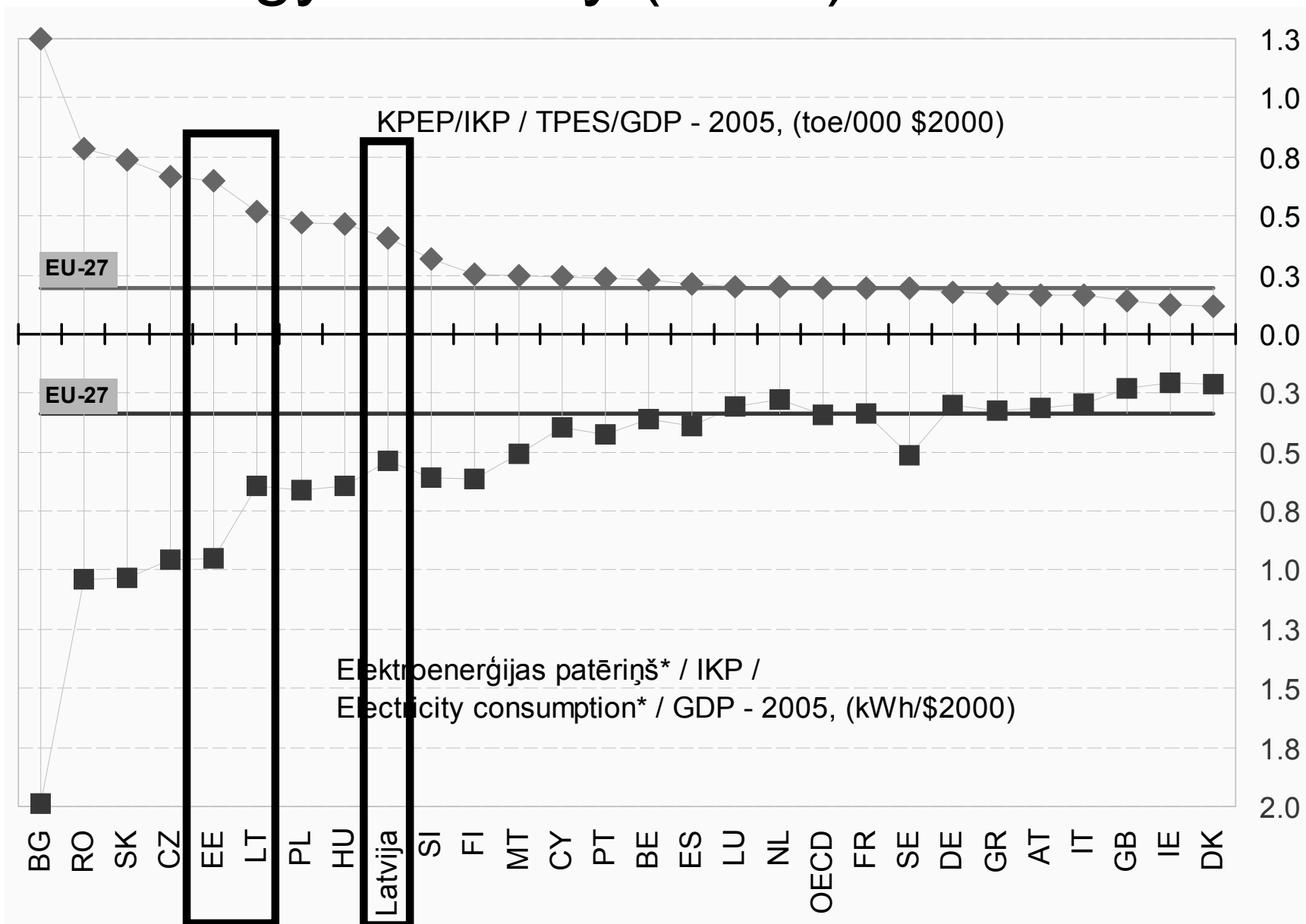
\* Note: Others place the maximum “acceptable” level much lower, at 440 ppm

# Climate and energy indicators, Latvia

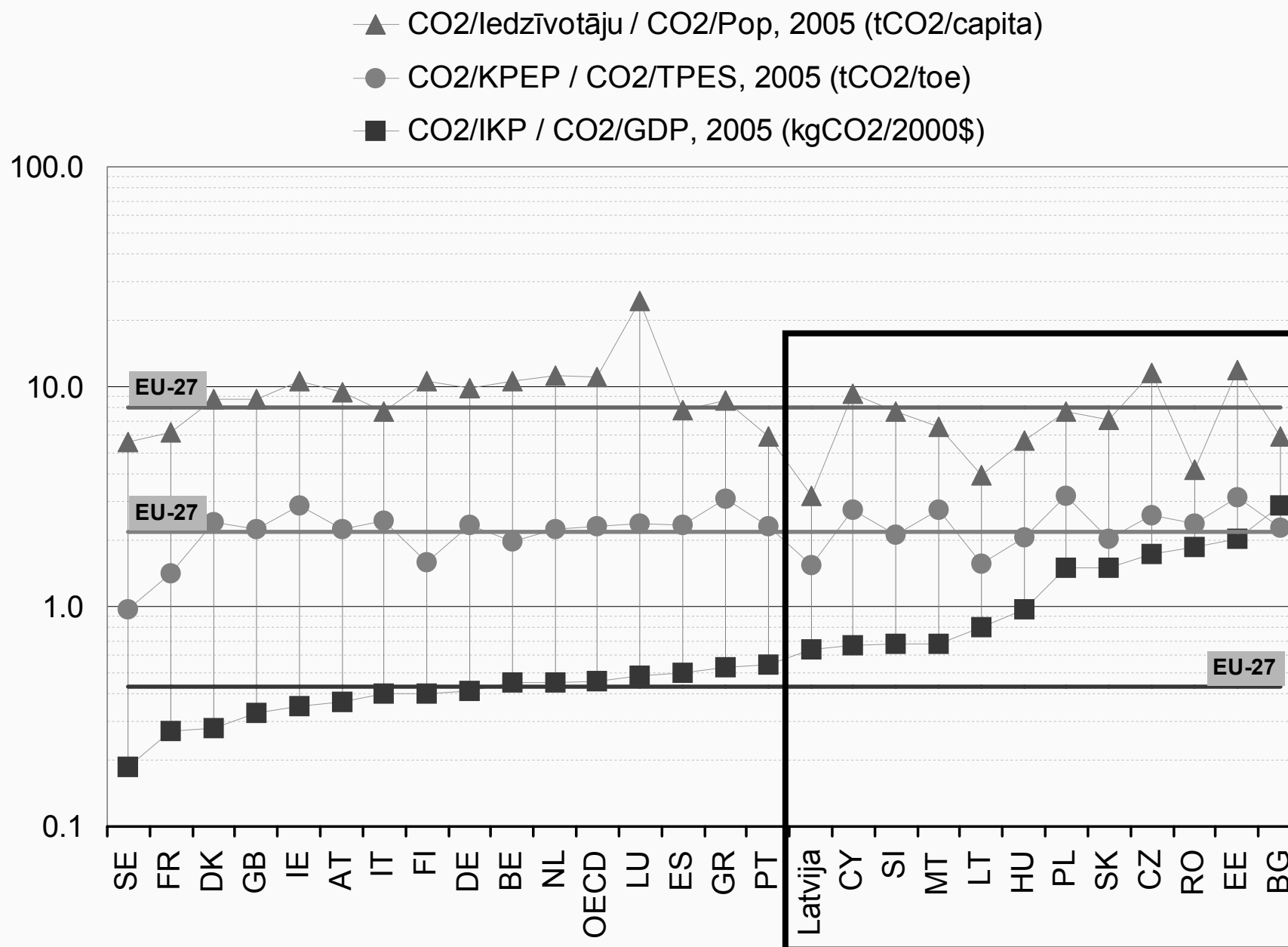


Avots: LIAA

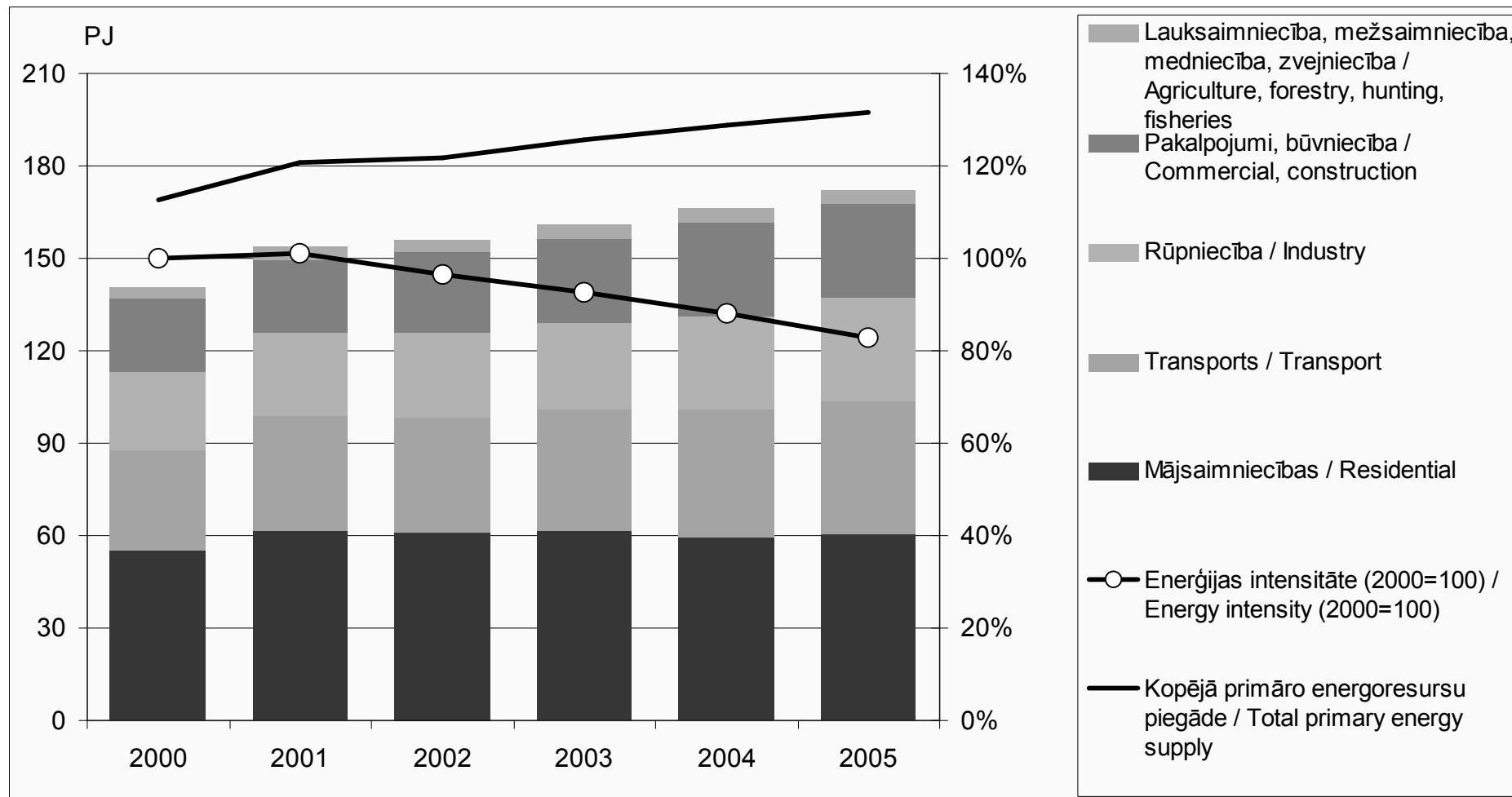
# Energy intensity (2005)







# Final Energy Use





## Energy efficiency projects in Latvia (example)

### ■ 2004 - 2006

- ☐ Broceni, Skolas St. 21
- ☐ Broceni, Skolas St. 23
- ☐ Broceni, Lielcieres St. 34
- ☐ Broceni, Lielcieres St. 36
- ☐ Riga, Celmu St. 5
- ☐ Liepaja, Ganību St. 135/141
- ☐ Salacgriva, Tīrgus St. 3

*Under the pilot project initiative by the Ministry of the Environment of Latvia and German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety*

## Riga, Celmu St. 5





## Renovated house

- Key characteristics:

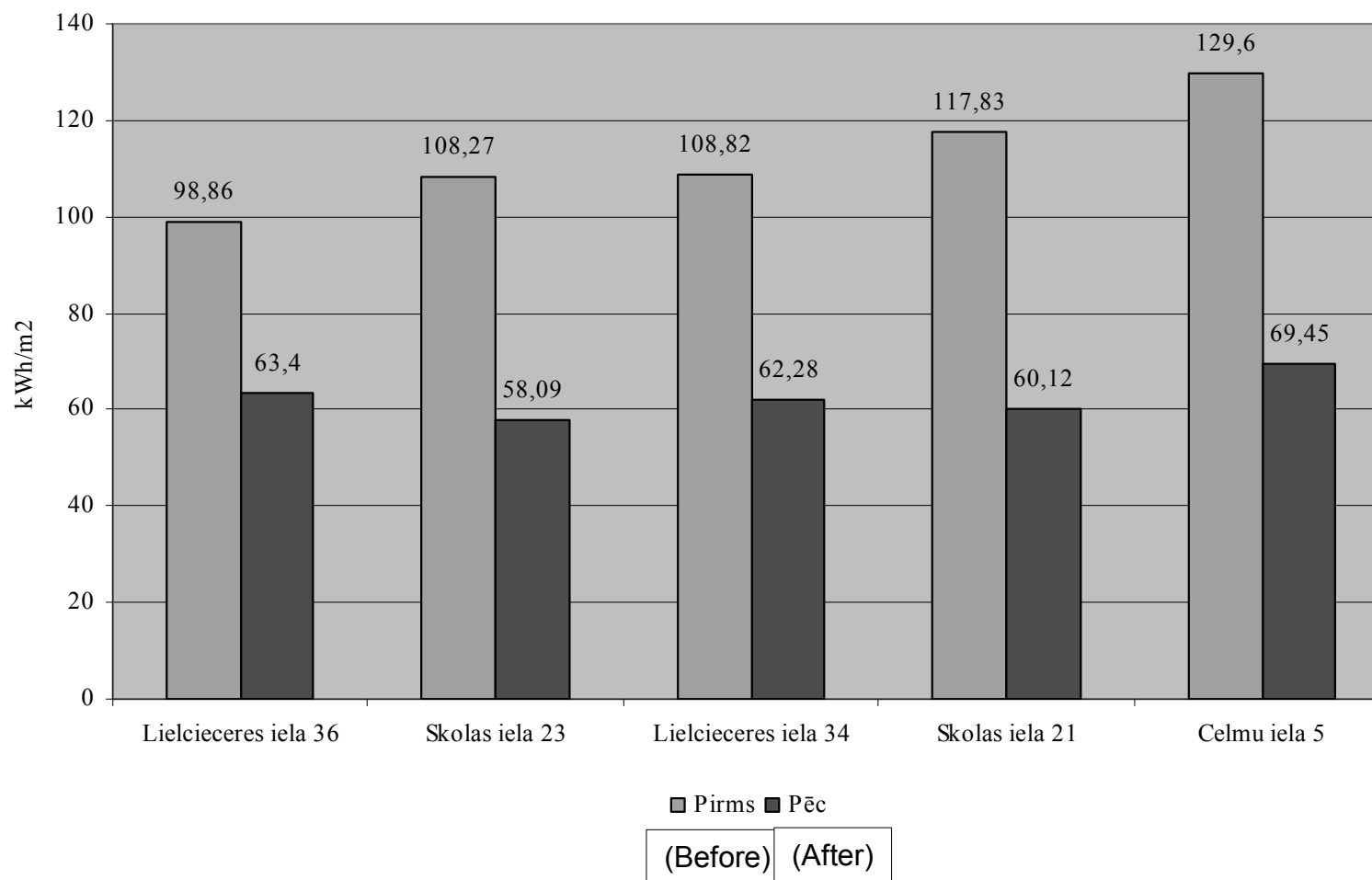
- ☐ Floors – 5
- ☐ Apartments – 60
- ☐ Inhabitants – 151
- ☐ Heating area – 2972 m<sup>2</sup>
- ☐ Hot water provided all year around

- Undertaken measures:

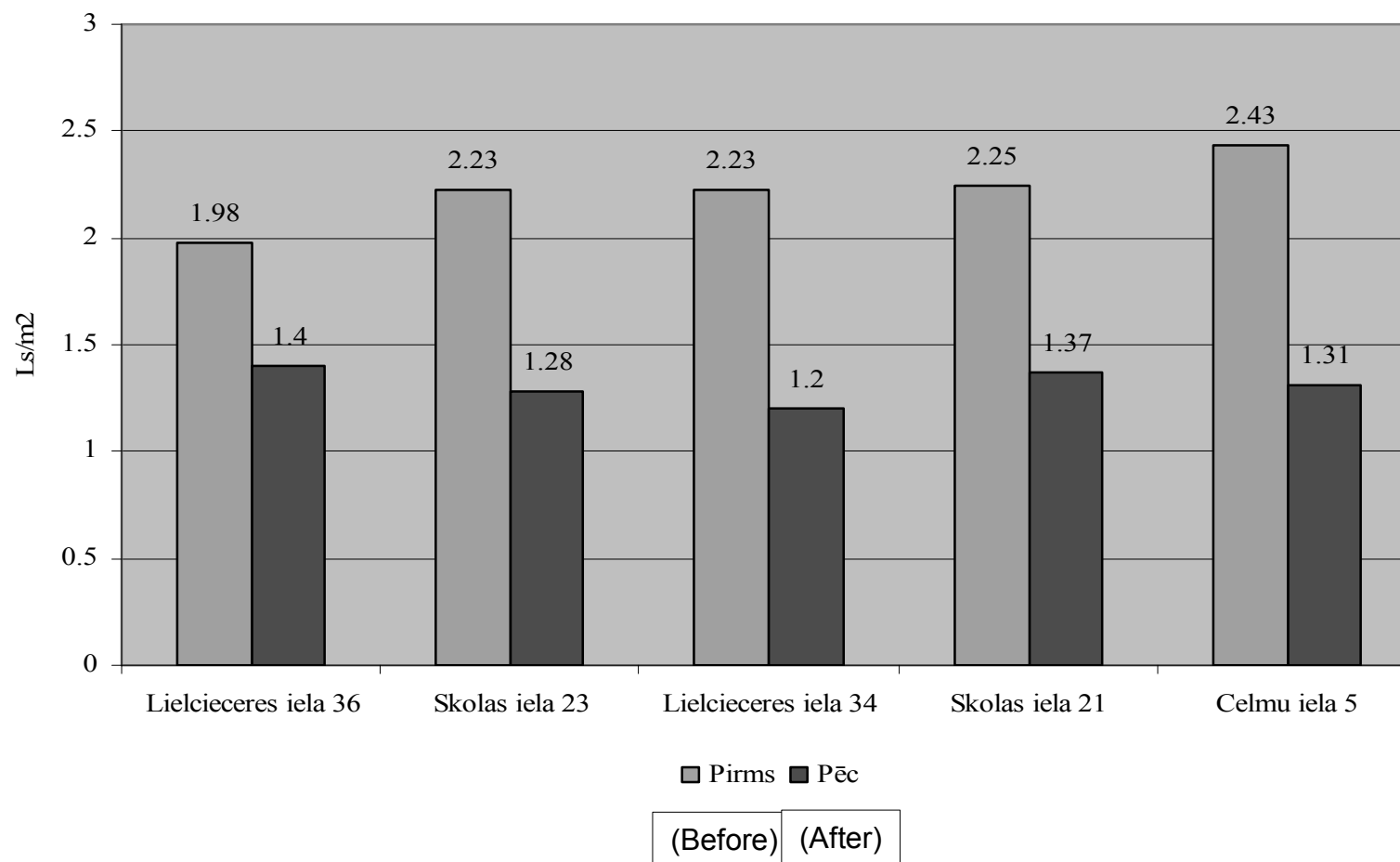
- ☐ Changed windows, m<sup>2</sup> – 541
- ☐ Insulated walls, m<sup>2</sup> – 2023
- ☐ Insulated top ceilings, m<sup>2</sup> – 780
- ☐ Termoregulators with metering on each battery– 190
- ☐ Basement insulation was not done

- Total investments – 148 560 €

# Heat Consumption (per year)

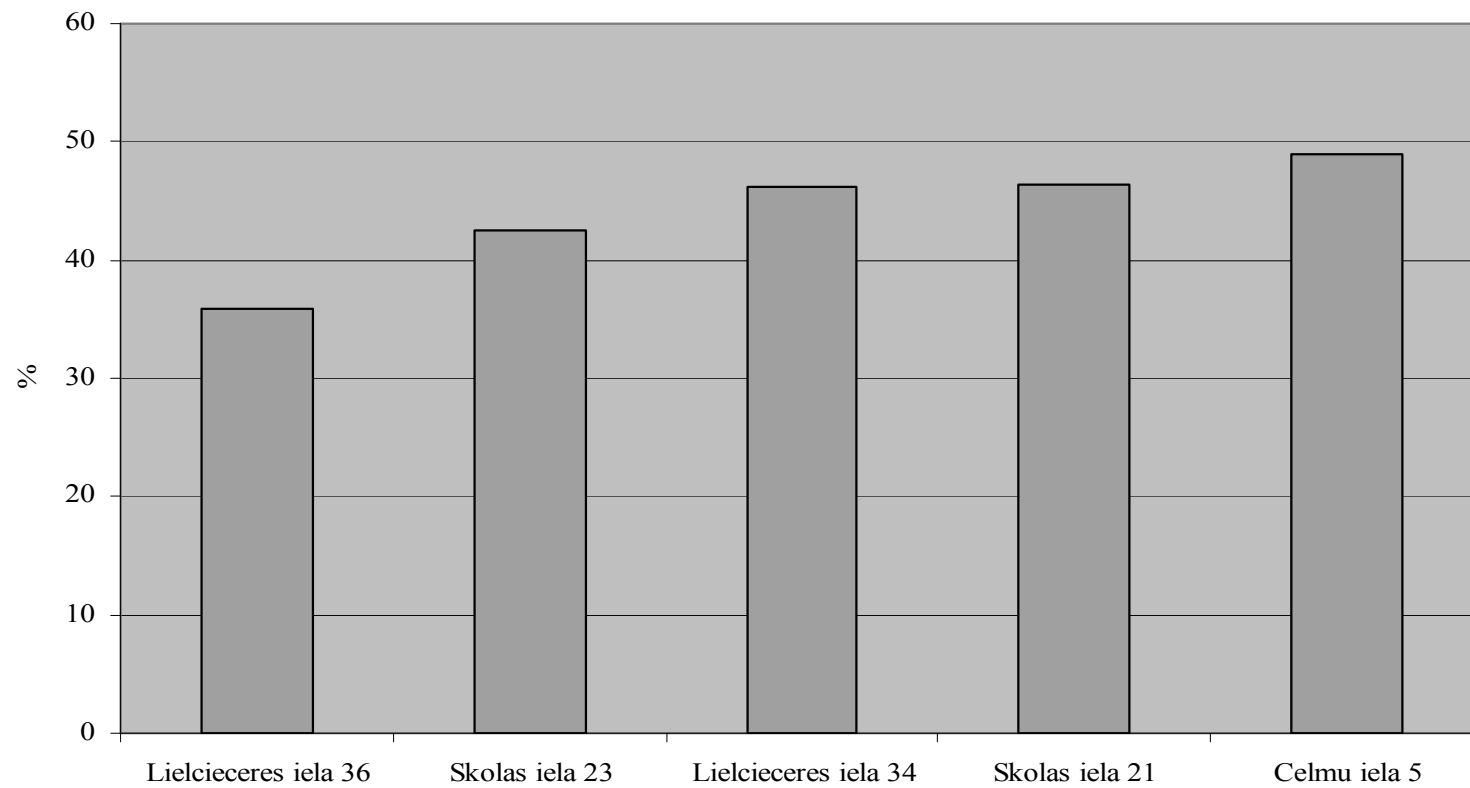


# Heating costs (during heating season)





# CO<sub>2</sub> reduction



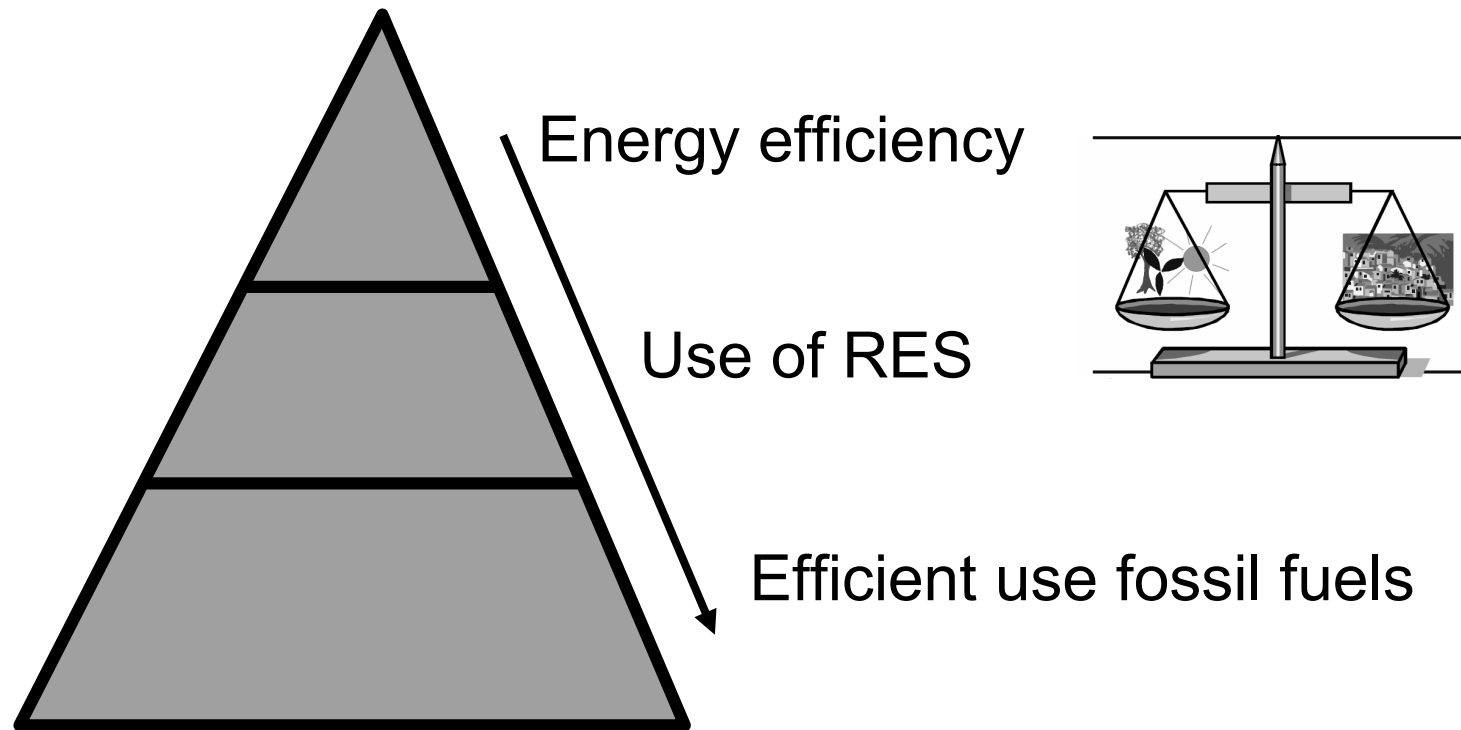




# Thinkins “out of the box”

- Carbon flows in economy
- Beyond building code and towards carbon neutral housing
- Life cycle approach (setting system boundaries for building material and building maintenance)
- Environmental policy integration (horizontal and vertical)
- Multistakeholder cooperation
- Demand side and supply side management with a view on technical standards and measures

# Conslusions: Leverage for low carbon economy





## Further information

Ministry of the Environment  
Republic of Latvia

Ph: +371-7026 417  
+371-7026 512

[valdis.bisters@vidm.gov.lv](mailto:valdis.bisters@vidm.gov.lv)

[www.vidm.gov.lv](http://www.vidm.gov.lv)