

# The Latvian Example

## Aspects

- social transformation to cooperation is under transformation
- Money for full refurbishment is lacking
- Activating municipal enterprises seems to be an engine for low cost investments

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other owners

owner

bank

state

energy supplier

tenant

landlord

# Flat ownership structure

- Private flat owners (privatized flats): approx. 535,000 flats
- Private multi family building owners (denationalised): approx. 78,000 flats
- Municipality owned (social houses under Latvian law): approx. 2,500 flats



# Assessing existing financing schemes

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- (1) Commercial loan in banks
- (2) Municipal support with non-interest loan (Valmiera case)
- (3) TPF – municipality as ESCO (Daugavpils case)
- (4) Extension of building (Ikšķile case)
- (5) European Structural funds
- (6) Green Investment Scheme (GIS)

# Commercial loan in banks

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requirements for applicants:

- at least 75% of apartment owners have to agree to take loan.
- max terms of loan 12-15 years.
- loan is taken by legal entity.
- amount of loan can reach up to 100% from project costs but not more than 57€/m<sup>2</sup> of living space (in Hansabanka) or 284,000 € (in LVL) (Mortgage bank).

# Commercial loan in banks

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- loan is paid back from maintenance costs that are increased by amount of loan and interest.
- loans are available both in USD, EUR and LVL.
- loan has to be paid back on monthly basis.
- certain level of debtors among apartment owners and tenants.
- interest rates in LVL: 7.5-9% or 2-4% plus 6 month RIGIBOR; in USD 2-4% plus 6 month LIBOR; in EUR 2-4% plus 6 month EURIBOR

# European Structural funds

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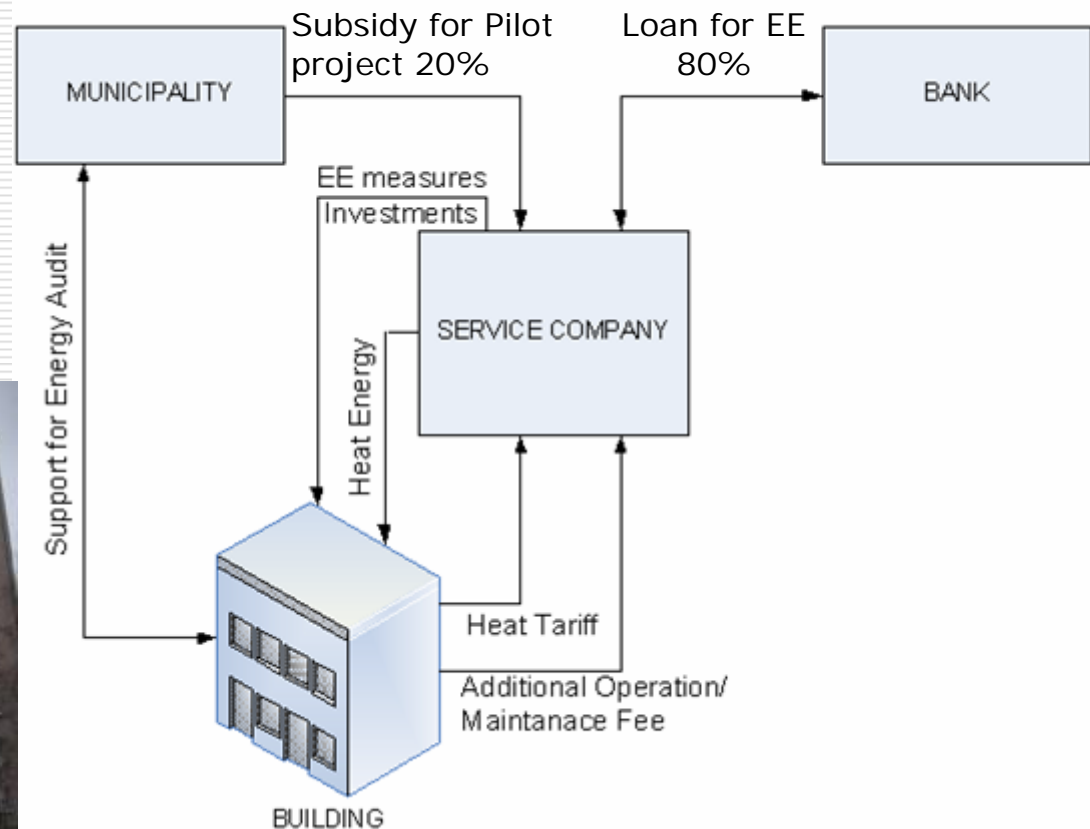
Latvian government has taken decision that ~43 million EUR from EU structural funds for 2007-2013 will be allocated to energy efficiency projects in housing sector.

This money will cover co-financing costs for

- ~570 buildings assuming that
- co-financing from EU  $\leq 75\%$
- total refurbishment costs  $\leq 100,000$  EUR per building

# Pilot project in Daugavpils (2,261 m<sup>2</sup>)

- Energy Audit
- Financing for EE Project implementation
- Project Monitoring





# Energy audit and EE measures in building

## Implemented EE measures

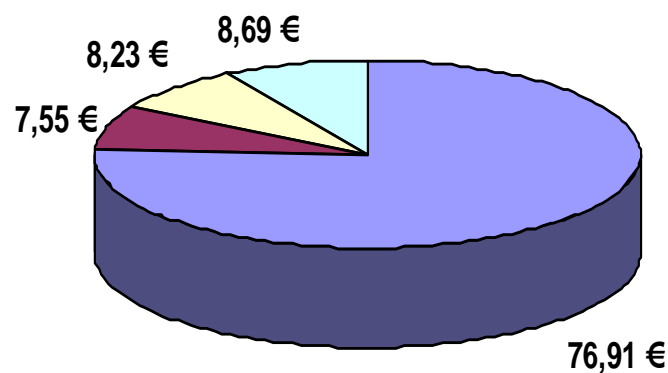
- Insulating of all outer walls (10cm polystyrene)
- Insulating of cellar ceiling (8cm rock wool)
- Insulating of roof (12cm rock wool)
- Replacement of staircase windows with insulation panels and plastic windows
- Renovation of buildings heat substation



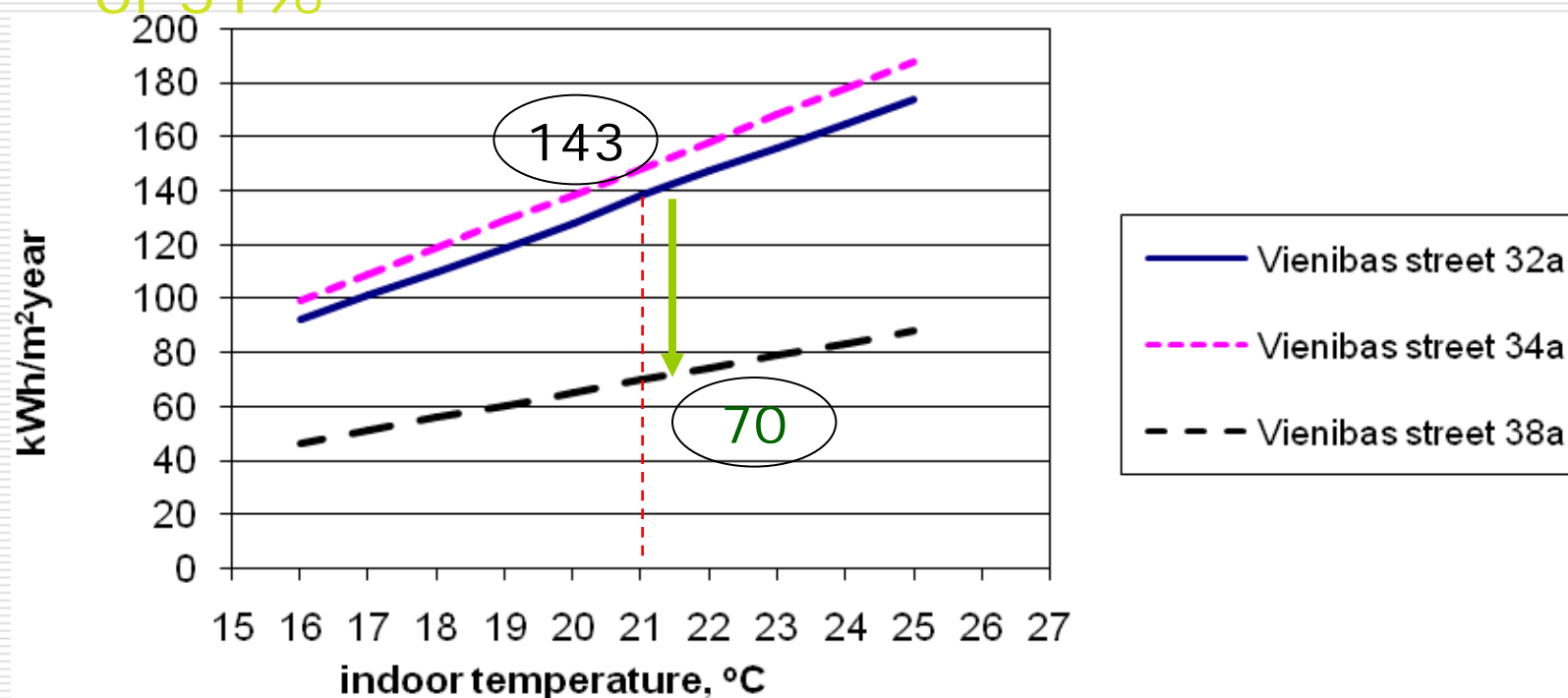


# Specific refurbishment costs

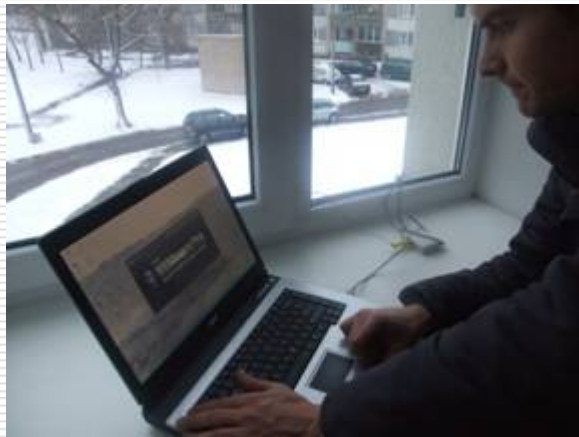
- Foam polystyrene 100mm (1,862 m<sup>2</sup>) of stone wool 100mm (247.4 m<sup>2</sup>)
- „Paroc” wool 80 mm
- „Paroc” wool 80mm + 40mm
- Wall panels filled with mineral wool 150mm, PVC windows



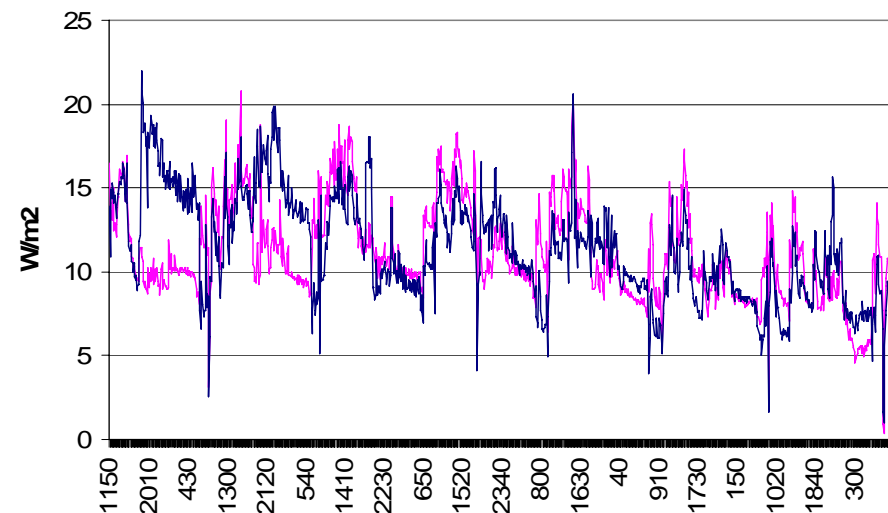
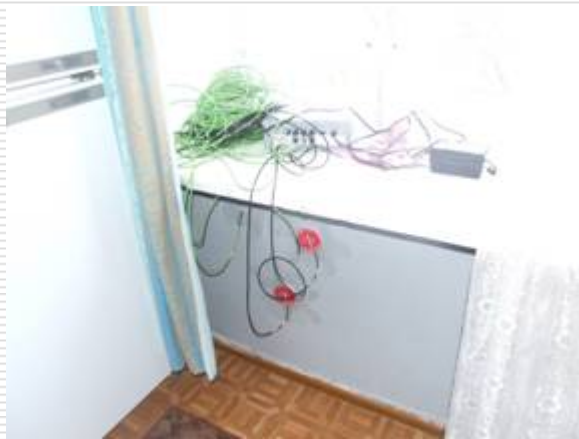
Implementation of EE measures has given heat energy savings comparing to neighbours of 51%



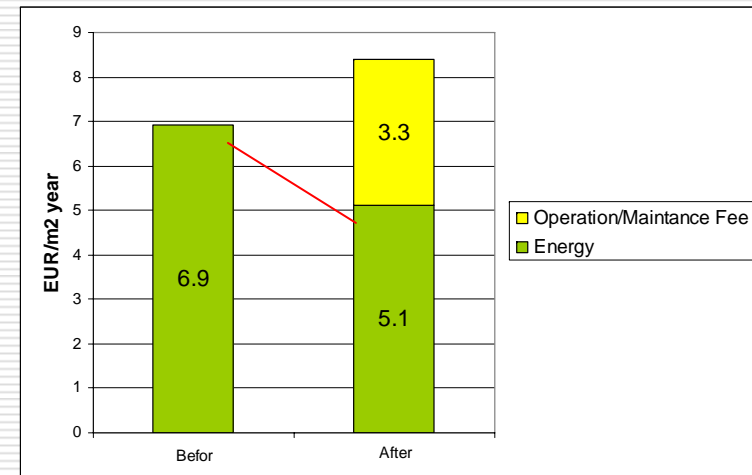
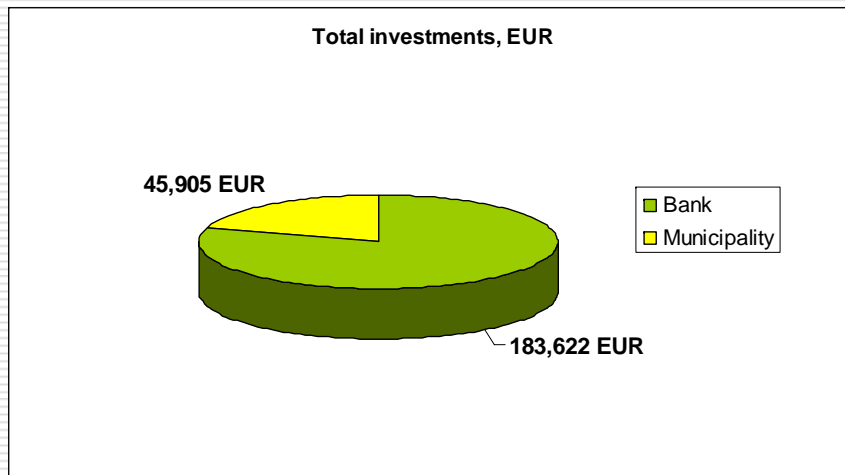
# Project Monitoring



- Temperature measurements;
- Heat flux measurements;
- Energy consumption measurements.



# 229,528 € (101.5 €/m<sup>2</sup>) refurbishment costs



## Municipal support:

- Reduction of investments by 20 %
- Motivation for EE measurers

## For flat owners with grant:

- Calculated Payback time – 23.7 years
- Real Payback time – 18.5 years (60 EUR/ MWh)

## Without support:

- Saved energy costs - 1388,5 EUR
- Energy costs – 46.86 EUR/MWh

## For flat owners without grant:

- Payback time – 29.6 years

**Thank you !**

**At your demand  
Hope it was worthwhile listening**



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