

# KEKEC KINDERGARTEN

Kekec kindergarten is an extension of a typical Slovene prefab kindergarten from the 1980s. The extension was built in 2010, with a construction time of only 2 months. The main energy related targets were to achieve low energy standard, to use prefabricated timber facades and the use of quality insulation, good materials, big windows on the exterior and glassed surfaces for the toilet areas so that the lights would be used as seldom as possible.





# RENEW SCHOOL

## GENERAL INFORMATION

Location:	Ljubljana, Slovenia
Project type:	New building, extension
Net cost:	170 000 EURO
Structural engineer:	dr. Bruno Dujič, CBD d.o.o.
Architect:	Arhitektura Jure Kotnik
Main contractor:	Riko Hiše d.o.o.
Building owner:	Municipality of Ljubljana
Gross floor area:	123 m <sup>2</sup>
Number of storeys:	1
Construction time:	2010

## COOPERATION MODEL

The owner and investor is the Municipality of Ljubljana.

## TECHNICAL SOLUTIONS AT A GLANCE

- Low energy house
- Prefabricated timber facade
- District heating
- Focus on indoor air quality

## DESCRIPTION OF CONSTRUCTION

The Kecec's colourful facade is the signature design feature of the kindergarten.

In addition to functioning as the protective outer skin of the building and a shading element which opens or closes as needed, the all-in-one façade offers a simple yet clever play element along all three exterior walls, inviting children to experience it. The revolving vertical toy slats are the colour of natural wood on one side but painted into nine different bright colours on the other, giving the building either a playful or a discreet outfit: depending on what the children decide.

The u-values of the wall and roof are 0,20 and 0,19 W/m<sup>2</sup>K.

The kindergarten was constructed in 2 months.







Co-funded by the Intelligent Energy Europe Programme of the European Union



---

#### ENERGY DATA / SUPPLY

---

The heating demand is 40 kWh/m<sup>2</sup>a GFA. In Slovenia the average heating demand of old kindergartens is over 200 kWh/m<sup>2</sup>a GFA.

The reduction was mostly based on quality insulation, good materials, big windows on the exterior and glassed surfaces for the toilet areas so that the lights would be used as seldom as possible.

The building lies close to the district heating plant and the existing type of heating was used in the extension of the kindergarten.

The town district heating used coal and wood chips. 8% of all produced energy are from renewables.

---

#### VENTILATION AND INDOOR ENVIRONMENT QUALITY

---

Air quality has been designed in a way to use mechanical air exchange as seldom as possible. The building window openings are oriented to the northeast wind in the area and there are window openings from three sides, including the roof windows.

---

#### LESSONS LEARNED

---

The main design concept of Kekec kindergarten derives from the existing kindergarten's lack of play equipment. The new façade eliminates this weakness by offering a play element along all three exterior walls. The revolving vertical toy slats are the colour of natural wood on one side but painted into nine different bright colours on the other side. They offer shade for the windows, as well as provide for children's play and learning: as the children manipulate the colourful wooden planks they get to know different colours, experience wood as a natural material and change the appearance of their kindergarten, all at the same time. Children rarely get the opportunity to connect with their kindergarten in such a way, to play with it and change the way it looks, as is the case with Kekec.



---

Picture 1  
View of the facade from the inside.

Picture 2  
Kids playing with the facade elements

Picture 3  
All furniture and interior is also made of wood.

---

## THE RENEW SCHOOL PROJECT WILL DISPLAY 18 RENOVATED OR NEW SCHOOL BUILDINGS ALL OVER EUROPE

The RENEW SCHOOL project aims at retrofitting a large number of school buildings to Nearly Zero Energy Building (nZEB) standard. The project will promote and increase high-energy performance and prefabricated timber-based renovation of school buildings in Europe.

The project assists municipalities, school owners/-financiers and companies with appropriate tools and solutions and offers exchange possibilities for them.

Integrated and multifunctional solutions are based on:

- Timber prefabrication (with integrated facilities)
- Ventilation (indoor air quality)
- Intelligent daylight / shading (control)
- Renewables (on-site or nearby)

The project has chosen 18 frontrunner buildings, presenting them to municipalities, school owners, companies and users as good examples and solutions for the renovation of existing school buildings to fully nZEB standard.



1. Romsdal Secondary School
2. Søreide Primary School
3. Risør Technical College
4. Bacsippans Preschool
5. School CVO Heusden-Zolder
6. Detmold Vocational College
7. Gymnasium Reutershagen
8. Schwanenstadt
9. Rainbach
10. Neumarkt
11. St.Leonard
12. Tišina kindergarten
13. Lavrica kindergarten
14. Kekec kindergarten
15. Storžek kindergarten
16. Siemianowice
17. Vibeengen
18. Capriva del Friuli kindergarten

#### CONTACT INFORMATION:

Bernard Likar, Wood Industry Cluster  
(grozd@sloles.com, +386-1-5898284)

Armin Knotzer, AEE INTEC (a.knotzer@aee.at, +43-3112-5886-369)  
- Coordination Renew School

Follow us on [www.renew-school.eu](http://www.renew-school.eu)

The sole responsibility for the content of this folder lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.

