


Name of the public building renovation:		Centre fo Renewable Energy Resources Research and Application
Description	Category	
	Address	LVN STU, Technická 5, 821 04 Bratislava, Slovakia
	Photo	
	Public sector contractor	Slovak University of Technology in Bratislava
	Characteristic of Public Building	High volatge laboratory of Slovak University of Technology in Bratislava (laboratories, classrooms, offices)
	Date of Construction	1966, 1968
	Date of Renovation	Begining of reconstruction 2009, first period (exchange of windows on the third floor and interal reconstruction at the third floor) finished in December 2010, second period finished in 2012.
		
Implementation	Nature of the works	<p>Thermal Insulation of External Walls - styrofoam thickness 100mm; Insulation of roof with new hydroisolation (Fatrafol) - styrofoam 100 mm; Exchange of Windows and Doors for plastic; Reconstruction of conservatory - Insulation of the walls, Exchange of glass wall; Exchange of the heating system - instalation of funcoils and transformation of the cooling system Exchange of Light Luminaires; Exchange of electroinstalation at the third floor; Add of the cogeneration unit.</p>

		
	Budget/Financial resources	
	Supervisor	External construction supervision
Energy savings	Methodology for savings calculation	Energy audit - expected is energy audit with professional advice which help to calculate the energy saving
	Savings calculation in 2012	
	Estimated savings by 2022	
Assets of the project		Comprehensive renovation of third floor of the building, Thermal insulation of the external walls and Exchange of windows, Increase of energy efficiency, Energy and subsequent financial savings, Increasing of overall usage of the building, Better usage of the building for the pedagogical activities, Increasing the Values of the Building, Prolongation of the Life Cycle of the Building Itself, Increase of the building safety
Available results	What were the big problems in terms of energy efficiency to tackle	It was not possible to reach all results because of lack of the money e.g. for insulation of main laboratory hall and affiliation places
	Has this building been already analysed and certified	No, it will be realized via energy audit
	What are the key innovative energy efficiency measures undertaken through renovation	In comparison to initial conditions of the building all measures undertaken through the project have innovative character
	What are the measurable improvements in terms of energy efficiency in electricity and heating	Savings of the fuel, electricity, maintenance costs, emissions of CO ₂
	Simple payback period	
Energy Efficiency Measures	Envelope	Wall: styrofoam thickness 100mm, thermal conductivity coefficient 0,038 W/(m.K)
		Windows: insulation double glass windows with 5 chambers, PVC frame
		Roof: To achieve the desired value of the roof thermal resistance (in an unheated attic ceiling), the original roof over the administrative building was insulated with styrofoam thickness 100mm thermal conductivity coefficient 0,037 W/(m.K)
	Heating system	Part of the original equipments have been removed. Radiators were exchanged and replaced with fancoils (except the radiators in the stairways, corridors and toilets, they use classical radiator with thermostatic regulator)
	Lighting	Exchange of light sources and luminaires.
Sustainability of the Renovation	Design and Choice of Sustainable Materials	Materials and products used meet all technical standards and requirements All required certificates have been issued.
Building maintenance after renovation	Water and Waste Treatment	Exchange of Water and Waste Treatment system on the third floor
	Application of Evaluation Methods	Application of the cogeneration unit for the heating system and installation of the photovoltaic panels 20kWp
Building maintenance after renovation	Is in the building energy monitoring system?	The building is fitted by measurement devices of natural gas, electricity and water.
	Who is in charge of the maintenance of the heating system of the building?	Employee of the SUT and technical department responsible for the maintenance, under the supervision of the building's administrator.
	Are there any specific measures to raise energy awareness and to implicate users?	
Transferability	Transferable aspects according to the partners in charge of this example of good practice	The project addresses the comprehensive renovation of the building. The ideal way which is possible and even appropriate to apply in other public buildings. Achievement of significant improvements in energy efficiency and reducing the costs of the municipality to ensure the purchase energy media.
	Transferable aspects according to all the partners of Serpente project	
Resources	Publications	
	Web site	http://www.keef.stuba.sk/buxus/generate_page.php?page_id=181
	Interviews	