

## Press release

### Skanska Reality had one of the first passive apartment houses in Prague approved

Prague (17<sup>th</sup> January 2012) – Skanska Reality, a leader in the area of passive and low-energy apartment construction in the Czech Republic, had one of the first apartment houses approved in Prague which fulfils all the requirements for receiving subsidies from the “Zelena usporam” program\*. Specifically, this holds for house E in the Milicovsky haj – South project, 1<sup>st</sup> stage, in Prague 11 – Háje, with 14 apartments in sizes ranging between 1+kk and 4+kk. All those interested in new, energy-saving housing, may still choose from the last 4 free 2+kk apartments. The savings on the expenses for heating of these apartments is very significant, and may reach up to 65% of the heating expenses of a usual apartment.

*„We have decided to test the construction of passive apartment houses in the rough construction phase of the low-energy apartment houses in the Milicovsky haj – South project, 1<sup>st</sup> stage”, said Naděžda Ptáčková, the head of the Sales and marketing department of Skanska Reality. “We have also invited specialists from the Czech University of Technology to participate on the project – e.g. ing. Jiří Novák, Ph.D., who participated in designing the air-tightness precautions and gradually performed air-tightness measurements during various stages of the project, within the Skanska-supported CIDEAS research program. This has allowed us to obtain excellent results in the final air-tightness test (the so-called Blower door test). We have invested about 100 000 CZK more in realizing a passive apartment than in realizing a low-energy apartment”, she added.*

Similarly to the other low-energy houses in the project, passive house E also comes with installed quality wooden windows and each apartment larger than 1+kk has its own air-conditioning unit with heat recuperation connected to the central air intake and exhaust and the floor distribution of fresh air. Additional heating of apartments to the required temperature is provided by floor and wall convectors instead of usual heaters. Relatively large windowed surfaces on the front are supplemented with outside electrically controlled horizontal blinds, which protect apartments from extensive overheating during summer months.

The main adjustments which resulted in an overall improvement of the energy parameters and allowed the apartments to reach the passive standard mostly constituted changes of materials used for insulating the building – new-generation materials such as Kooltherm desks were used instead of expanded polystyrene. The developer also made partial changes to certain critical details of the houses, e.g. tightened filling of all openings, dilatation joints, heat transmission outlets etc. Now the apartment house is prepared for the installation of photovoltaic panels on the roof, which will allow it to receive a Building Energy Rating of A.

The specific heat consumption for heating obtained by these changes are lower by almost two thirds compared to other low-energy apartment houses in the project, with a primary energy consumption of 63% of the consumption of low-energy houses. The comparison of a passive apartment house to a house which doesn't use ecological technologies is, of course, even better – the specific heat consumption is almost one fifth of the consumption of a standard apartment house, and the primary energy consumption is 47% of the consumption of a standard apartment house.

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\*A passive house is a building which fulfills voluntary, strict criteria for energy savings during operation. This includes requirements on the annual consumption of heat for heating (which should be lower than 15kWh/year/1m<sup>2</sup> of heated area), annual consumption of primary energy and air tightness of the building.

### Comparison of the values of a passive, low-energy and standard apartment house

	Passive apartment house	Low-energy apartment house	Standard apartment house
Expected specific heat consumption for heating*	15 kWh/year/1m <sup>2</sup> of heated area	41 kWh/year/1m <sup>2</sup> of heated area	68 kWh/year/1m <sup>2</sup> of heated area
Expected primary energy consumption **	47 kWh/year/1m <sup>2</sup> of flooring	74 kWh/year/1m <sup>2</sup> of flooring	108 kWh/year/1m <sup>2</sup> of flooring

\*\*The specific heat consumption for heating only includes energy for heating in kWh per 1 m<sup>2</sup> of heated area per year.

\*\*\*The primary energy consumption includes energy for heating, hot water, ventilation, cooling and operating energy (circulation pumps, air conditioning etc.) in kWh per 1 m<sup>2</sup> of the building flooring per year. This also takes into account the type of heat source, its efficiency and the efficiency of energy transmission, all of which is represented by a so-called conversion factor. In our particular example this represents central heating distribution from Pražská teplotenská a.s., connected to the Mělník power plant. The conversion factor was calculated in accordance with ČSN EN 15316-4-5 as 0.71.

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*Skanska je jednou z předních světových stavebních a developerských společností s bohatými zkušenostmi v oblasti výstavby komerčních, rezidenčních i PPP projektů. Skanska disponuje značným know-how v oblasti ekologických technologií a jejím cílem je stát se preferovaným dodavatelem ekologicky šetrných řešení. Skupina Skanska aktuálně zaměstnává 52 000 zaměstnanců a působí na vybraných trzích v Evropě, Spojených státech a Latinské Americe. Ústředí společnosti sídlí ve Stockholmu a její akcie se obchodují na stockholmské burze. V roce 2010 vykázala Skanska tržby ve výši 122 miliard švédských korun.*