Construction 21 - Intelligent Energy Europe Project Number: IEE-10-184

D9.4 IEE COMMON PERFORMANCE INDICATORS

IEE common Performance indicators for Construction21 project have been calculated following the bases described below:

- As agreed, the project global impact is linked to the impact of the different building projects presented on Construction21 platform, via the case studies. The perimeter of Construction21 is in May 2013 : 424 case studies with 6198 m2 average area, i.e. 2 627 952m^2 in total, much more than initially planned (500 buildings with an average area of 300m^2).
- The figures for Construction21 case studies are based on the average of C21 database case studies data.
- We considered that each case study displayed in the database would trigger the creation/refurbishment of one building with a lower energy efficiency level (C21 average instead of market average).
- The impact during the project duration would be half of the yearly impact of the buildings presented on Construction21 at the end of the project, in May 2013. Indeed, one case study out of two has been implemented during the last 6 months of the project. (91 case studies referenced in April 2012, 191 in October 2012, 424 in May 2013).

Energy savings

The presented buildings generate primary energy savings, compared to a standard building which only responds to thermal regulation. We estimated these savings up to 130 kWh/m2/year: 90 kWh/m2/year for low consumption buildings presented in Construction 21 vs 220 kWh/m2/year for the European average. The global result, when converted in toe, is 14 690 toe.

Reduction of GHG emissions

This figure is directly calculated from the energy savings. We have used a conversion factor of 450 g CO2/kWh, which is the average level of an electric kWh in Europe. The result is 76 868 tCO_2.

Renewable energy production

We considered that a building presented in Construction21 produces in average 30kWh/m2/year of renewable energy. When converted in toe, for 1/2 year, 3 390 toe.

Renewable energy investment triggered

This figure is directly linked to energy production. We used an average cost issued from different studies giving 0,10€ investment per 1 KWh production/year (less than the initial hypothesis regarding market costs evolution). It gives a total result of 3 941 928 € investment for 1/2 year of production. (The global investment would be multiplied by 20, the average life time of renewable energy equipment).

Target by 2020

Targets for 2020 are extrapolated from 2013 targets figures for ½ year, with an estimated factor of growth of 15 in 7 years, taken from long term impact table.