Title: Study of the human factor in the assessment of the energy performance of existing urban houses and in the strategies of residential retrofitting in Wallonia.

One of the existing tools that could help creating smart energy policies is the Energy Performance Certification (EPC) of residential buildings, by introducing energy efficiency as a comparative criterion for real-estate purchase choices, influencing real-estate market value, stimulating energy saving investments, moving the housing market towards greater energy efficiency and creating comprehensive databases which are fundamental for shaping smart strategies on urban / regional / national levels.

But EPCs in their actual form, calculated with a standardized approach which purposefully (and understandably) gets human factor out of the equations, do not allow appropriation of the results by potential buyers or tenants: often distant from reality, overestimating consumption, they usually result in a general misunderstanding and misuse of the document.

This thesis therefore focuses on the integration of the human factor in the Walloon energy performance calculation methods, to develop complementary “custom-made” certification, advice, recommendations and help in renovation strategies decisions.