

\$20-bills on the ground? An investigation of the Energy Efficiency Gap in the light of households' potential present bias

The current Danish government has put forth an agenda of "Green realism" aiming at reducing CO₂ emissions through cost effective means. Here energy efficiency seems relevant as it has been celebrated as the "invisible fuel" with the lowest levelized costs. However, for decades it has been debated whether or not the so called Energy Efficiency Gap (EEG), which measures the difference between the optimal and actual diffusion of energy efficient technologies, is large or small. The aim of this thesis has therefore been to analyze EE in general and the EEG in particular with a focus on potential present bias in agents utility optimization.

Central issues in relation to EE in the form of additionality and rebound are therefore discussed and it is demonstrated how present bias could play an important role in the apparent underinvestment in energy efficiency through the use of a dynamic discrete choice model.

The most important policy takeaway is that effective EE programs randomizes program participants. This is because potential "behavioral failures", like for example present bias, needs to be identified before correction is possible. Furthermore additionality needs to be correctly measured before cost effectiveness can be quantified.

With respect to future research, structural estimation ought to be used on data from intelligent randomizations in order to quantify the size of potential present bias together with additivity and rebound.