

## **Summary from the PhD Thesis**

### **“Promoting energy conservation and environmental protection with behavioral economics: Theory and evidence”**

#### **Chapter 2: “Behavioral intervention to conserve energy in the workplace”<sup>1</sup>**

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Non-price conservation programs informed by insights from behavioral sciences have grown in popularity as strategies to prompt households’ energy saving. Yet, little is known about their effectiveness outside the residential sector. This chapter contributes to this gap by evaluating the effect of a large-scale behavioral intervention to conserve energy in the workplace, consisting of an energy-saving competition among a bank’s branches. More than 500 branches were involved for a period of one year (Jan. – Dec. 2019). Every month the three branches that save the most were announced through the company’s newsletter, thereby ensuring social recognition to the winning employees. We implement a difference-in-difference (DID) specification from mid-2017 to the end of 2019 on monthly branches’ electricity consumption subdivided per time-of-use and on their sum. We find that the competition significantly reduces monthly consumption outside the work schedule (i.e., by 7 percent), but that overall electricity use does not change significantly (reduction of 2.5 percent). A heterogeneity analysis reveals that branch characteristics (such as size and pre-intervention consumption) do not lead to differentiated program response, in stark contrast with the residential sector. These findings are robust to alternative specifications and an in-time placebo test. In the same setting, we also evaluate a technological intervention automating building energy management on a different subsample of about 70 branches using a staggered DID specification. The renovation leads to significant energy savings (of 18 percent), which are highest outside the main work schedule. Our results question the applicability of behavioral interventions in the workplace or at least underscore how the context shapes their effectiveness. Finally, we show potential overlaps between different types of energy conservation programs when these tackle the same drivers of energy waste.

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<sup>1</sup> The article based on this chapter is currently under review at the Journal of Environmental Economics and Management.