

To change energy behaviors of electricity end-users, some *Demand Side Management* and *Demand Response* (DSM/DR) tools have to be used. DSM/DR tools will be effective, only if electricity consumers are equipped with the so-called smart meters (SM) and will adopt regular monitoring of their energy consumption and prices via e-platforms (or SM platforms).

The experiences in many countries show that most of the electricity consumers are not interested in innovative solutions and products available on the energy market. Consumers lack knowledge, awareness and engagement in energy conservation. Moreover there is a discrepancy between their opinions and behaviors, as they declare to be willing to decrease energy consumption but at the same time they do not want to take some efforts to change their habits and routines. In the last years a great number of research was run in order to explain and describe the mechanism of making decisions about energy saving behaviors and adoption of innovative products like green energy or dynamic electricity tariffs. Moreover the willingness to pay, consumers' preferences and factors enhancing the adoption of these new products have been examined. However the segmentation of the consumers regarding their knowledge, awareness, attitudes and behaviors towards energy conservation and innovative DSM/DR tools has not been done yet.

Till 2017 all households in Wrocław will have smart meters and an access to the *e-licznik* SM platform. We want to take this opportunity and conduct a longitudinal study among the electricity consumers in Wrocław and check what influences their acceptance of innovative products and solutions in the energy market (in particular, the smart meters and the e-platform). Taking into account that energy consumers differ in respect to their readiness to engage in efficient energy usage, **we aim to perform the consumers' segmentation** regarding their readiness to accept new solutions on the energy market, especially adoption of smart meters and e-platforms. The segmentation will be based on the theoretical *stage model of self-regulated behavioral change* – SSCB, which was so far successfully used in modeling mobile behaviors. According to this model a decision to engage in a given behavior is a gradual process and consumers in different stage require different means (interventions) to proceed to the next one. We want to divide the consumers according to their behavioral stage regarding their awareness, knowledge, attitudes and behaviors towards energy conservation after installation of SM. We will also consider economic and psychological attributes of consumers, like their income per capita, willingness to pay, preferences and values, education, conformity, etc. Segmentation will allow us to propose appropriate DSM/DR tools for the certain categories of consumers. It will also let us evaluate various marketing strategies promoting usage of e-platform and others DSM/DR tools. We will check the effectiveness of various technics (interventions) leading to increase of adoption of e-platform.

Moreover we will check how pro-ecological attitudes (measured by *New Ecological Paradigm* and *General Environmental Behavior* scales) influence the decision making of the consumers regarding their adoption of SM and e-platform. The results will be analyzed with some statistical methods (Manova, Mancova, linear mixed effects, IRT models) in Winsteps and R program and in the SPSS package. Effectiveness of interventions will be checked by the means of process macro. To perform the consumers' segmentation we will use the cluster analysis.

Summing up, the project will contribute to development of behavioral and energy by adoption of stage-change model to the analysis of adoption process of innovative DSM/DR tools on the energy market. The results of the project will have a general meaning, as the observed relations and mechanisms can be also useful for the analysis the diffusion of other innovative products. Moreover the results will contribute to better understanding the mechanism of effective promotion of energy saving behaviors, what will be valuable for the electricity distribution system operators and for the whole societies.