

## From Waste Recycling to Waste Prevention by Households : Could Eco-Feedback Strategies Fill the Gap?

**Authors :** I. Dangeard, S. Meineri, M. Dupré

**Abstract :** large body of research on energy consumption reveals that regular information on energy consumption produces a positive effect on behavior. The present research aims to test this feedback paradigm on waste management. A small-scale experiment on residual household waste was performed in a large french urban area, in partnership with local authorities, as part of the development of larger-scale project. A two-step door-to-door recruitment scheme led to 85 households answering a questionnaire. Among them, 54 accepted to participate in a study on waste (second step). Participants were then randomly assigned to one of the 3 experimental conditions : self-reported feedback on curbside waste, external feedback on waste weight based on information technologies, and no feedback for the control group. An additional control group was added, including households who were not requested to answer the questionnaire. Household residual waste was collected every week, and tags on curbside bins fed a database with waste weight of households. The feedback period lasted 14 weeks (february-may 2014). Quantitative data on waste weight were analysed, including these 14 weeks and the 7 previous weeks. Households were then contacted by phone in order to confirm the quantitative results. Regarding the recruitment questionnaire, results revealed high pro-environmental attitude on the NEP scale, high recycling behavior level and moderate level of source reduction behavior on the adapted 3R scale, but no statistical difference between the 3 experimental groups. Regarding the feedback manipulation paradigm, waste weight reveals important differences between households, but doesn't prove any statistical difference between the experimental conditions. Qualitative phone interviews confirm that recycling is a current practice among participants, whereas source reduction of waste is not, and mainly appears as a producer problem of packaging limitation. We conclude that triggering waste prevention behaviors among recycling households involves long-term feedback and should promote benchmarking, in order to clearly set waste reduction as an objective to be managed through feedback figures.

**Keywords :** eco-feedback, household waste, waste reduction, experimental research

**Conference Title :** ICWM 2015 : International Conference on Waste Management

**Conference Location :** Copenhagen, Denmark

**Conference Dates :** June 11-12, 2015