



Schweizerische Eidgenossenschaft
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Department of the Environment, Transport, Energy and
Communication DETEC

Swiss Federal Office of Energy SFOE
Energy Research

Annual report 2016

Green by Default – Welfare Effects of Green Default Electricity Contracts



Date: 19 December 2016

Town: Bern

Publisher:

Swiss Federal Office of Energy SFOE
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SFOE contract number: SI/501109-01

The author of this report bears the entire responsibility for the content and for the conclusions drawn therefrom.

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Project goals

Several Swiss utility companies offer green electricity contracts as a default option. At first glance, these defaults seem to be successful since more households hold green contracts than in the case of grey electricity defaults or no defaults. However, little is known about the welfare effects of green defaults. Defaults may result in a mismatch between preferred and contracted electricity mixes, in undesired spillover effects of an initial positive behavior to a subsequent negative behavior, and may have adverse distributional effects for certain groups in society. This project aims at assessing these welfare effects.

Summary

Several Swiss utility companies offer green electricity¹ contracts as a default option. This implies that unless customers actively opt out and select a different contract, they will be supplied with a green electricity contract. The rationale for green electricity defaults is to increase the relative share of green electricity with respect to the total demand for electricity and, hence, generate socially beneficial effects on climate and energy policy targets, while maintaining freedom of choice and respect for heterogeneous consumer preferences (Sunstein & Reisch 2013). At a first glance, these green electricity defaults seem to be an attractive instrument for policy makers and utilities alike, since more households hold green electricity contracts than in the case of defaults non-green mixes.

However, only little is known about the individual welfare effects when using green electricity defaults. There is a rich discussion on the effectiveness of defaults in domains other than electricity markets, for instance when applying default rules in relation to organ donations (Johnson & Goldstein 2003) or in the context of pension plan savings (Choi et al. 2003). In general, it is recognized that default options influence individual decision making, i.e. respondents often stick to a default. Yet, it is not clear a priori whether in the electricity context the benefits of a choice architecture involving green electricity defaults outweigh their potential costs resulting from various inefficiencies.

This project aims at addressing and discussing three types of potential inefficiencies. First, behavioral inefficiencies due to a potential mismatch between consumers' true preferences and their actually chosen electricity contracts will be assessed. This involves the development of a sound experimental method to measure consumers' true preferences for an electricity mix. Subsequently, individual decisions taken in the absence and the presence of a default option can be assessed. Second, while

¹ Green electricity is refereed to electricity predominately produced by renewable sources, such as wind, solar, hydro, or biomass. Conventional electricity is produced by fossil or nuclear sources.



pro-environmentally set defaults are remarkably successful when judging their effects on the targeted behaviors in isolation, there is scant knowledge on whether their effects may backfire on subsequent related choices. Theoretically, such inefficiencies due to spillover effects could both amplify or eliminate the positive effects of defaults in the medium to long run. Hence, this part of the project aims to explore the wider effectiveness of defaults. Third, distributional inefficiencies may occur due to (strong) preference mismatches of “weaker” groups in society. There is reported evidence in other domains than electricity markets that the group of people who normally opt out of a default option is significantly different from the group staying with the default. More sophisticated and better informed individuals are more likely to opt out, whereas less educated and less experienced individuals may stick with the default (Brown et al. 2012; Löfgren et al. 2009). This may be of particular policy relevance, as generally prices of green electricity contracts increase with the “greenness” of a contract. Hence, a green electricity default may act like a tax burden on the most vulnerable segments of a population.

Work undertaken and findings obtained

Project 1: Preference Match and Defaults

In 2015, the project focused on analyzing potential behavioral inefficiencies arising when green electricity defaults are applied. Therefore, a primary interest was to develop a sophisticated experimental method to measure individual preferences for an electricity mix, i.e. the elicitation of baseline preferences. This baseline is then used to assess potential mismatches in decision behavior in the presence and in the absence of green electricity defaults.

The main results are as follows: (1) The existence of a match between actual preferences and a default electricity contract is dependent on the relative prices of green electricity. (2) At low relative prices for green electricity individual preferences do not match with a green default. (3) At high relative prices for green electricity individual preferences match with a green default. In conclusion, we find that elicited baseline preferences for an electricity mix in our sample may not correspond to the preferences elicited when a green electricity default is present. Therefore, the rationale for using defaults in order to improve individual decision-making may be questioned. With respect to policy recommendations in terms of a choice architecture that balances potential costs and benefits when using green electricity defaults, it may be argued that defaults should be set essentially on products with higher relative prices for green electricity. According to our results this ensures a match in preferences and still provides sufficient incentives for a further widening of green electricity capacity.²

Project 2: Licensing and Consistency – Spillover Effects of Defaults

In early 2016, we began to experimentally investigate whether well-intended defaults may result in undesired spillover effects in subsequent behavior. While pro-environmentally set defaults are remarkably successful when judging their effects on the targeted behaviors in isolation, there is scant knowledge on whether their effects may backfire on subsequent related choices. Empirically there is rich, but ambiguous evidence on how initial positive behavior may affect subsequent behavior: (a) initial behavior may fortify subsequent behavior, an effect called consistency (Cialdini et al. 1995), (b) initial behavior may lead to adverse subsequent behavior, an effect termed licensing (Meritt et al. 2010), or (c) initial behavior has a neutral effect on subsequent behavior, an effect termed bracketing (Rabin and Weizsäcker 2009). However, it is unclear how and whether a well-intended default affects subsequent behavior. Especially, the effect of licensing is of high relevance when evaluating the effectiveness of, for instance, green electricity defaults. If the initial positive effects of a default are equalized or overcompensated in subsequent behavior, then such a finding could have powerful implications for the application of defaults in policy making.

² Please consult the Working Paper for detailed results: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2732662



To further examine this issue, we have run an economic laboratory experiment to put the aforementioned research questions to a rigorous test. Based on the first analysis, we report that well-intended defaults, although they have a significant impact on initial behavior, do not lead to licensing tendencies in subsequent behavior. Hence, ‘good’ defaults should not lead to ‘bad’ behavior. The results provide first evidence on the subsequent behavioral mechanisms of defaults. Presently, there are no substantiated reasons to believe that pro-socially set defaults pose any threat for the pro-socialness of subsequent decision-making. Yet, pinning down the interplay of contextual factors that could affect subsequent behavior remains a future task for experimental and empirical research.

Project 3: Distributional Effects of Defaults

Preparations for the last part of the project have started in autumn 2016. In this part of the project we will investigate further into the distributional effects of defaults. So far, only few studies have examined whether different groups in society are affected differently by a default. Furthermore, to the best of our knowledge there is no existing study that reports such effects for a green electricity default. Thus, a major aim of this project is to empirically assess how and whether green default electricity contracts may affect different groups of society.

For this purpose we are currently setting up a field study with a national electricity utility sending out questionnaires to households across various social ranks. Data collection will start in March 2017, first results may be reported in June 2017.

National cooperation

We had occasional exchanges of ideas with a related project by Prof. Diekmann (ETH Zurich) and Prof. Liebe (University Bern) within SNF NFP71.³ We may use the conference ‘Human Dimensions of Environmental Risks, Behavioural Experiments, Field Experiments, Survey Research’ in May in Ascona to further exchange information and ideas. Additionally, we also had exchanges concerning the preparation of the field study in project 3 with the Center of Energy Policy and Economics (CEPE) at ETH Zurich.

International cooperation

No international cooperation is planned for the year 2017.

Evaluation 2016 and outlook for 2017

The progression of the overall project is in line with the proposed schedule between the contracting body and the contractor. This has been confirmed at a joint meeting on November 4th, 2016. The first part of the project is accepted for publication in the Journal of the Association of Environmental and Resource Economists. The second part of the project is planned to be published as a working paper in early 2017. The data collection for the third part of the project is aimed to begin in March 2017. A final report of the complete project is scheduled for November 2017.

³ Project title: “Reducing Energy Consumption and Promoting Green Electricity. The Role of Soft Incentives”



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