

GUIDELINE: HOW PERSONAL GOALS CAN MOTIVATE BEHAVIOURAL CHANGE

Abstract

This guideline provides information to project managers and researchers on how setting personal goals can be a (non-monetary) incentive for energy customers to change their behaviour. Also, it explains how setting the right goal can be facilitated by default options and offers best practice examples. Options to combine a goal setting component with other incentives into an overall scheme are explained as well.

What is it?

The desire to attain a goal can be a strong source of motivation, and setting an energy-related goal can therefore work as an incentive for customer engagement and behavioural change. The introduction of a personal goal for your customers to achieve can act as an incentive to improve performance from the beginning of a smart grid project, but can also be useful to re-engage and re-activate people and alleviate fatigue effects during later stages. Although only the cumulative effect of all consumers is relevant for the utility, e.g. if peak demand decreases they have to invest less in peak capacity, making the goals realistic for an individual or household – making them personal goals – is what gets the consumer motivated. Personal goals in smart grid projects are often related to household energy savings, peak consumption reduction, emission reduction, environmental performance, etc. An example of a goal-setting approach is described in the box below.

Staying below a set consumption amount (eTelligence, DE)

One of the tariff structures implemented within the eTelligence project was a Quantity-Tariff, which indirectly contains a goal setting component. The tariff structure was set as a flat-rate, where users were offered a set quantity of energy that they could consume at this (cheap) flat-rate price per month. If they consumed more than the pre-set quantity, the price per kWh increased. The quantity of energy that participating users could obtain at a cheaper price was set individually for each customer at 80 % of their average monthly consumption. Participants in eTelligence testing the Quantity-Tariff consumed on average 11 % less than in the corresponding period the year before.

More information: <http://www.e-energy.de/en/>

Studies have proven that ambitious goals often coincide with successful project results. Setting a goal is a particularly powerful strategy to motivate people, since it appeals to positive motivation. It is rather unlikely to trigger a fear of failure and small successes can be celebrated and internalised as personal achievements. For more information on different types of motivation, have a look at the S3C guideline [Choosing and combining monetary and non-monetary incentives](#).

When to use?

A goal setting component can be implemented in various scenarios. However, due to regulations it might, in most European countries, not be possible to integrate the goal setting feature directly into a tariff structure. Rather, a goal setting feature can be offered as an additional feature to support the targeted behavioural change, e.g. via an online portal, a social comparison feature or integrated into a gaming approach via a smartphone app.

Another possibility is testing a goal setting feature by setting up a fake tariff (for more information, have a look at the S3C guideline [Testing tariff schemes in a pilot context](#)). The fact that the game/the goal setting component is separated from the actual tariff, i.e. the selling of mere kWh, can work as an advantage for the utility or retailer, as they gain an image as actual service provider in the eyes of the customer, rather than simply offering necessary, yet uninteresting goods. These features, coupled with new and well conceptualised communication channels such as flagship stores or customer support lines, can greatly boost the utilities or retailers image and brand.

One of the advantages of applying a goal setting component as an incentive is that it is not necessarily dependent on a roll-out of (costly) smart grid technologies. Goal setting can be applied as a low technological, low cost incentive to incite behavioural change. Depending on how detailed the metering and change periods for the participants are set, a smart meter rollout is not strictly necessary. If the task for the participants is to make changes over the course of a year, the current metering system in most European states is fully sufficient to provide them with the necessary data. In countries like Italy or Sweden with a full-rollout, the changes in behaviour or effects of new equipment can be tracked easily on a monthly or even daily basis. This enables an easier way to monitor and, thus, support further behaviour changes. However, a smart meter is not a necessary prerequisite for a weekly or monthly feedback. An example for this case from the energy sector is Velix, presented in the box below.

Setting goals is possible without smart meters (VELIX, CH)

Velix is an online portal for energy conservation of the Swiss utility Voralberger Kraftwerke. Users of Velix could either choose a saving goal without reference or were assigned a default goal for reducing their energy consumption within a set period of time (0 %, 15 %, 30 %). The program could be carried out before a smart meter rollout, as the utility's customers were urged to regularly enter their meter readings manually. Participants could either keep the defaults or adjust according to their wishes. The study proved that ambitious default goals achieved better results (Graml *et al.*, 2011).

What do you need to do?

1. Define your aim

The purpose of introducing individual goals for customers is to stimulate change. Thus, you need to have a clear picture of what behaviour you'd like your customers to change and if personal goals could contribute to this. The introduction of personal goals should add value both to you and your customers, while establishing engagement and stimulating change from the users. To plan the goal-setting you need to consider what the desired outputs and/or results are and how they relate the overall aim of your smart grid project. For instance, if energy efficiency or grid stability is a main goal for your utility, the goal-setting would preferably be contributing to these aspects.

2. Goal-setting and commitment

It is time to consider the goals to be introduced to your customers. When introducing this type of action, you need to get your customers to accept and commit to a goal. Some of the key aspects are that customers need to be convinced of the importance of the goal as well as believing that the goal is attainable. In other words, they need to know why they want to reach this goal, including the outcome when the goal is reached. They also need to believe that they have the ability to reach the set goal. Goal commitment can be increased by making the process participatory, e.g. letting your customers choose their own goals. However, this also presents some risks as customers might not have sufficient know-how to assess e.g. how much energy they would be able to save in a month. Goals can also be reinforced by using additional incentives to the goal itself. Here, a number of monetary and non-monetary incentives or a combination of them is possible. For more information on incentives, please have a look at the corresponding guidelines [Choosing and combining monetary and non-monetary incentives](#), as well as [Choosing from different types of monetary incentives](#) and [Choosing from different types of non-monetary incentives](#).

In general, it is important to set specific and measurable goals, as a high specificity of the goal has proven to affect people's performance positively regarding goal attainment. If a goal is specific and measurable, your customers will be able to monitor their progress. Furthermore, specific goals (e.g. save 10% of your annual

consumption) as opposed to vague goals (e.g. save energy) positively affect motivation. Specific goals are also related more directly to the customers' lives (e.g. I will use my bike instead of my car to go to work at least three times next week) and are therefore more likely to be perceived as more engaging.

In order to function as an incentive, goals should not be too easy to reach. In fact, it is ambitious and challenging goals that drive people to keep on reaching for them. However, goals should remain believable and attainable in their difficulty as goals that are too ambitious can decrease motivation and commitment. Therefore, it is important to consider the potential for goal attainment carefully and support the users in setting the goal just high enough to facilitate behavioural change.

Realistic goals are key (CUB Energy Saver Program, USA)

The Citizens Utility Board (CUB) is a non-profit, non-partisan consumer group that is working together with the leading energy provider to implement the CUB Energy Saver Program for residential consumers in Illinois. Within the program, users were able to strive for non-binding, self-set goals. The goal setting feature is combined with further incentives to conserve energy, such as reward points and energy saving tips. Research from the program showed that participants choosing realistic goals had a high potential for saving energy (average electricity savings of 11%) while participants choosing too high or too low goals were less successful in saving energy.

In the CUB Energy Saver Program e.g. the possible default options from which customers could choose were based on the amount of investments the customers were willing to make to enhance their energy efficiency. Thus, the customers could categorize themselves into the options 'no cost', 'low cost' and 'home investment' and would receive a corresponding target and action recommendations to fulfil this target (Harding & Hsiaw 2013).

More information: <https://www.cubenergysaver.com/>

One of the main challenges in using goals as motivation is thus related to setting the right goals for each customer that is tailored to a) the segment(s) of customers that you are appealing to and b) the reasoning or business case behind the overall initiative launched by your project or utility (e.g. increasing efficiency, integrating renewables etc.). Some people are not aware of what they could or should reach for (or how to achieve it), and might need support when setting their individual goal. Reaching for the right goals can for instance be supported and influenced by default options; predetermined options that are chosen for a customer and have to be changed specifically if unwanted. These are described in the following step.

3. Consider introducing default options

In order to offer your customers default options, you must have sufficient information and insight into their behaviours to choose the right default to motivate them to change their behaviour. Default options are necessary as even those consumers

who are already aware of their consumption and are willing to participate in a goal-based programme, are very heterogeneous (Harding & Hsiaw 2013). Different customer segments might have different reference points or preferences they identify with (see the S3C guideline [Using segmentation to better target user groups](#)). Different defaults attributed to these reference points are therefore attractive to different customer segments. A choice between different default options should thus be presented to the customers to choose from (see Figure 1). Like with goals, defaults need to be ‘just high enough’ to be challenging without being discouraging. If defaults are implemented, it is especially important to carefully consider the customer’s potential for goal attainment.

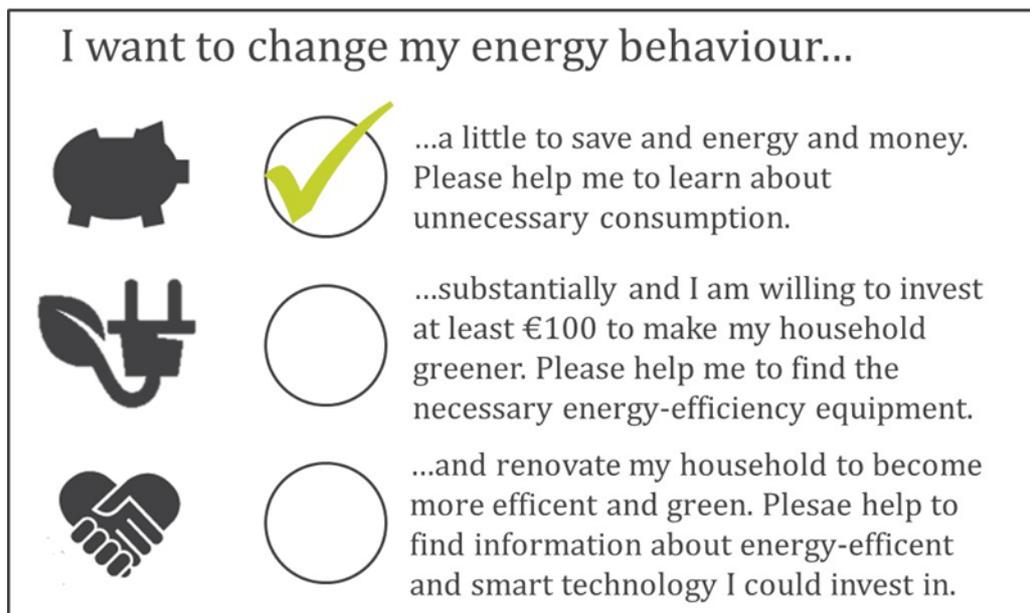


Figure 1: Examples for energy-saving defaults

The first decision to make is whether to set mass defaults or personalised defaults (Goldstein *et al.*, 2008). Mass default options are not customised for the individual consumer. If applying a mass default, it is imperative that you have a good idea about which default setting would be feasible as well as acceptable for most of the consumers. Personalised default options are customised for the individual consumer. However, data for the individual consumer must be accessible.

Discontinuity and nudging: When to approach your customers with new schemes like goal setting? How do you do this?

Changes in the context of people’s lifestyle interrupt routines and render a window of opportunity to nudge them towards building up new routines and/or abandoning old ones. The context of people’s lives can change with one big event (e.g. moving to a new

apartment or new city entailing the switch of the utility, the arrival of a new child, etc.) or can be triggered by a series of cumulative events. The so-called habit discontinuity hypothesis states that in these phases of life, people regularly reconsider their habits, since they become aware of them. In these cases, nudging intrinsic motivation that is already present in a person's set of attitudes and beliefs can actually trigger change (Verplanken *et al.*, 2008). This motivation can e.g. be incited by a goal setting game for energy saving offered to a new customer by its utility.

Another theoretical framework to be considered when trying to motivate consumers is nudging theory. Based on the hypothesis that people are not always rational actors, that consumers are aware of some of their actions while others are taken rather unconsciously (dual practices theory), a nudge is supposed to render the unconscious behaviour active and subject to change (Thaler, Sunstein 2009).

A default option as described in this guideline is the simplest form of a nudge. Imagine the situation: A family moves to a new city and thus also switches their electricity supplier and plans to buy new household appliances. Suddenly, previously unconscious energy consumption decisions take the spotlight. If a utility catches this moment and sends out participation information for an energy saving program together with the contract, default settings can help to capitalise on already existing intrinsic motivation. Figure 1 could be an example of the defaults in that energy saving program. Since the family plans to buy new household appliances anyways, they will be nudged to ask for energy-efficient appliance information and to prolong the phase in which their energy consumption choices are conscious.

However, the potential of nudging can go even further and incite people to make even unpopular decisions by default. A classic example is the organ donation policy in the USA: Since 1996, legislation forces everyone applying for a driver's license to be confronted with different default options on organ donations. By the end of 2012, more than 120 million Americans had registered as an organ donor. Their decision is marked with a red heart on their driver's license. Furthermore, a UK energy saving awareness and incentive programme was re-designed to receive greater attention and create substantial input based on nudging theory. The results were promising (Cabinet Office Behavioural Insights Team 2011).

4. Provide feedback

It is essential to give feedback to your customers on their progress regarding goal attainment in order to avoid fatigue effects and to rebuild motivation continuously. Also, feedback may enable consumers to adjust their goals according to their individual realistic potential. Feedback should be offered on the process as well as the outcome. While giving feedback on the process includes supporting the user actively in goal attainment by offering tips and tasks to increase the likelihood of goal attainment, feedback on the goal outcome is mostly restricted to just that. Lastly, offering feedback will reassure your customers that their work is being observed and achievements are appreciated. See also the guideline on feedback [How to make energy visible through feedback](#).

Do's and don'ts

- **Incentivize goal commitment.** The possibilities to add extra incentives to achieve goal commitment among your customers are manifold. Incentivizing, here, can be as easy as a public announcement of the users' commitment to their peers, but can also include any number of monetary and nonmonetary incentives. For more information, have a look at the S3C guideline on Incentives [Choosing and combining monetary and non-monetary incentives](#). In some cases, making goal commitment mandatory by default at a certain point in time can be a good option.
- **Strive for S.M.A.R.T. goals.** S.M.A.R.T. stands for Specific, Measureable, Assignable, Realistic and Time-based. Goals combining those five characteristics are most effective in increasing motivation and performance. Consider the steps needed to make goals measurable – a measurement of the status quo before the goal setting might be necessary. However, as mentioned above, it is not necessary for smart meters to be installed in order to offer a goal setting feature. Work with the information you have.
- **Consider combining your goal attainment with gamification approaches.** Goal setting functions can easily be set in a playful context. Consider combining your goal setting function with a serious game. For more information, have a look at the S3C guideline [Gamification – making energy fun](#).
- **Consider combining your goal attainment with a social comparison feature.** A goal setting component can also be implemented within a social comparison feature. For further information, have a look at the S3C guideline [Motivating consumers with social comparison and competition](#).
- **Choose the right default according to the information you have.** Great consideration has to be taken when applying defaults. Just as goals, defaults have to be set just high enough to be motivating and challenging. Therefore, it is imperative that existing data on the users' behavioural patterns are integrated in the process of choosing the right default setting or default options for your customers. Inadequate defaults can be counterproductive.
- **Don't let your customers make goal choices unaided.** Consider carefully whether your customers are informed enough to choose the right goals when given the option to choose goals freely. If not, consider offering specific goal choices or implementing a default.

Goodreads: How many books will you read this year?

Goodreads, the world's largest portal (25 million members) for sharing book reviews, recommendations, etc., offers its members a reading challenge feature. The feature is rather simple: Members can put in the number of books they challenge themselves to read within a year. As the challenge is completed, the members can follow their success on a progress bar that offers them information on how many books they have read so far and what percentage of the challenge has been fulfilled. Furthermore, progress can be shared with friends at several social media channels.

More information: www.goodreads.com

Further reading

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This guideline was developed in the S3C project, and is freely available from www.smartgrid-engagement-toolkit.eu.

S3C paves the way for successful long-term end user engagement, by acknowledging that the "one" smart consumer does not exist and uniform solutions are not applicable when human nature is involved. Beyond acting as a passive consumer of energy, end users can take on different positions with respective responsibilities and opportunities. In order to promote cooperation between end users and the energy utility of the future, S3C addresses the end user on three roles. The *smart consumer* is mostly interested in lowering his/her energy bill, having stable or predictable energy bills over time and keeping comfort levels of energy services on an equal level. The *smart customer* takes up a more active role in future smart grid functioning, e.g. by becoming a producer of energy or a provider of energy services. The *smart citizen* values the development of smart grids as an opportunity to realise "we-centred" needs or motivations, e.g. affiliation, self-acceptance or community.

S3C (2012-2015) performed an extensive literature review and in-depth case study research on end user engagement in smart grids, resulting in the identification of best practices, success factors and pitfalls. The analysis of collected data and experiences led to the development of a new, optimised set of tools and guidelines to be used for the successful engagement of either Smart Consumers, Smart Customers or Smart Citizens. The S3C guidelines and tools aim to provide support to utilities in the design of an engagement strategy for both household consumers and SMEs. The collection of guidelines and tools describe the various aspects that should be taken into account when engaging with consumers, customers and citizens. More information about S3C, as well as all project deliverables, can be found at www.s3c-project.eu.