

Non-financial Energy Saving policies for households. A comparative Analysis.

A Master's Thesis submitted for the degree of
“Master of Science”

supervised by
em. Univ-Prof. Dr. Günther Brauner

Rupert Wimmer, BA

01507950

Affidavit

I, **RUPERT WIMMER, BA**, hereby declare

1. that I am the sole author of the present Master's Thesis, "NON-FINANCIAL ENERGY SAVING POLICIES FOR HOUSEHOLDS. A COMPARATIVE ANALYSIS.", 82 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted the topic of this Master's Thesis or parts of it in any form for assessment as an examination paper, either in Austria or abroad.

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Signature

Abstract

This thesis titled “Non-financial Energy Saving Policies for Austrian households. A Comparative Analysis” contains a comprehensive literature review, of clarifying the state of the art on the nature and definition of public policies as such.

Secondly, it addresses the concept of energy saving policies for households and how they can be designed.

Thirdly, it goes into more detail on what can be understood by non-monetary or non-financial energy saving policies and which methods have already been applied. Based on the literature research, a theoretical framework of *nudging* according to Richard Thaler and Cass Sunstein is developed.

In the empirical part, the energy saving campaigns for households of the D-A-CH countries (Germany, Austria, Switzerland) were comparatively analyzed and interpreted. Finally, conclusions are drawn by comparing the efforts of these countries and academic literature. Recommendations for possible future energy saving policies in Austria are made based on behavioral economics.

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List of Abbreviations

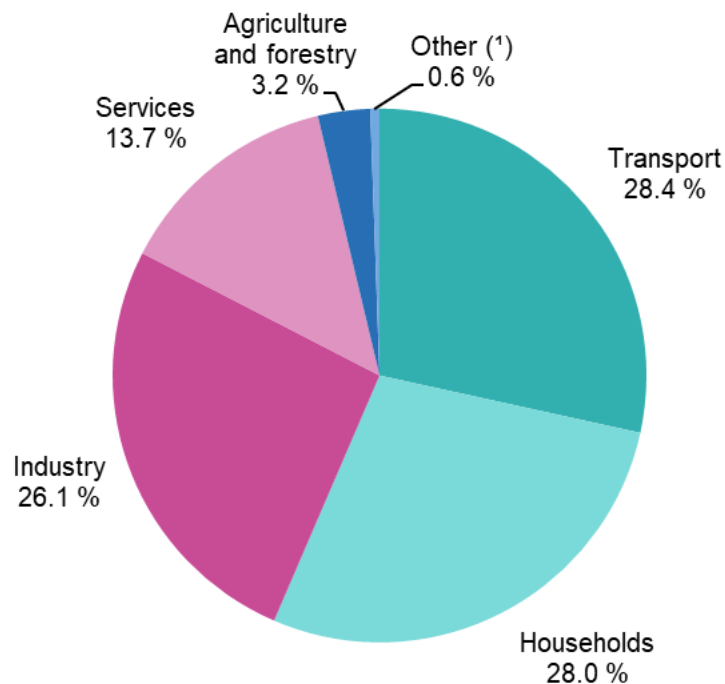
AC	<i>Air Conditioning</i>
ADEME	French Environment and Energy Management Agency
AFD	.....	<i>Agence Française de Développement</i>
CA	.....	<i>Choice Architecture</i>
CI	.....	<i>Corporate Identity</i>
DNR	.....	<i>Deutscher Naturschutzring</i>
FDP	.....	<i>Freie demokratische Partei</i>
IDAE	.....	<i>Instituto para la Diversificación y Ahorro de la Energía</i>
IPCC	.....	<i>Intergovernmental Panel on Climate Change</i>
LED	.....	<i>Light-emitting diode</i>
PV	.....	<i>Photovoltaic</i>
SPD	.....	<i>Sozialdemokratische Partei Deutschlands</i>
TWh	.....	<i>Tera Watt hours</i>
UNECE	.....	United Nations Economic Commission for Europe
UVEK	.....	<i>Departement für Umwelt, Verkehr, Energie und Kommunikation</i>
WBF	.....	<i>Departement für Wirtschaft, Bildung und Forschung</i>

1 Introduction

1.1 Background

Russia's invasion of Ukraine, which started on February 14, 2022, continues to keep the world on edge. Not only the architecture of security, especially the European one, has been turned upside down and is to be questioned, but also the energy supply of Europe and thus Austria is hovering in the greatest uncertainty since World War II. Due to a heavy dependence on Russia's fossil fuels, in particular Austria is highly affected by Russia's invasion of Ukraine. This critical situation once again forced European governments to act on the field of energy (and climate). On the one hand renewable energy infrastructure has and must be expanded rapidly on a large scale. On the other hand, European countries are forced to take other policy actions that have immediate impact. Energy saving policy initiatives were launched. More or less at the same time the German, Austrian and Swiss governments started their respective energy conservation campaigns with the objective to save energy so that the people and the economy in the upcoming winter (2022) would not suffer from insufficient energy supply and (black outs, controlled/planned shutdowns,). This dramatic situation last fall, we might see this again in 2023 too, as an acute crisis requires immediate action by responsible politicians and governments. There is often little time for the implementation of complex technology. But not only in an ongoing crisis, generally, the citizens need to change their behavior, i.e. saving energy in order to achieve goals such as the SDGs or the planned EU climate neutrality in 2050 (European Commission, 2023; United Nations, 2023). In the last IPCC report, it was also clearly stated that fast technological innovation will not be sufficient to avert a climate catastrophe, and social innovation is also needed to encourage people to make their consumption patterns more efficient (IPCC, 2022). The EU has also been trying for decades to tackle the field of energy efficiency and saving. In this connection *social innovation* is an emerging and trending term and concept (European Commission, Joint Research Centre, 2020). Since a lot of (fossil) energy is consumed by private households, especially in form of thermic energy, this work shall focus on behavioral energy saving policies applicable by members of households (Eurostat, 2022a). There is potential in households to save energy. Residential area amounts to 25 percent of the country's energy consumption. Including mobility, it would be even more share (Eurostat, 2022b).

Final energy consumption by sector, EU, 2020 (% of total, based on terajoules)



(1) International aviation and maritime bunkers are excluded from category Transport.

Source: Eurostat (online data code: nrg_bal_s)

eurostat 

Figure 1 Final energy consumption by sector in EU (Eurostat, 2022b)

1.2 Objective of the thesis

This paper aims to examine to which extent the non-monetary and non-regulatory energy saving campaigns in the D-A-CH region differ from each other. This will be done by a comparative case study analysis. A comprehensive literature review about energy saving policies is given beforehand to provide a solid fundament for the empirical research section. Through a conceptual framework, based on Richard Thaler's *nudging* the three campaigns are analyzed and interpreted (Thaler and Sunstein, 2009). Conclusions and recommendations are made for future research and policy.

1.3 Outline of the work

The paper begins with a comprehensive literature review (chapter 2) on the topic of energy consumption reduction policies, and then continues covering specific policies that do not use financial incentives. Then the conceptual framework (chapter 3) is presented and rolled out, which is based on Richard Thaler's *nudging* and complemented by further elements in order to be able to analyze and interpret the empirical data adequately. The methodology (chapter 4) of the research is described in detail to guarantee full transparency and comprehensibility for the reader. The empirical section (chapter 5) compares the energy saving campaigns from Austria, Germany and Switzerland, which all were launched in 2022. The presentation of the research results is followed by a discussion and interpretation of the respective campaigns. Deriving from this analysis and considering other sources, concrete policy recommendations (chapter 6) based on the *nudging* concept are formulated and elaborated. Finally, the conclusion (chapter 7) will summarize the research work, address its limitations and propose an outlook for possible future research.

2 Literature Review

In this chapter, literature regarding the topic of the thesis will be reviewed: non-financial policies to reduce energy consumption in households. To do so, first of all, a review will be conducted to find out what is meant by public policy in general. Based on this, the review will go into more detail and focus on energy saving policies and their concepts. This will be followed by a section on behavioral energy saving policies, which neither use regulation nor with financial incentives as policy intervention measures.

2.1 Public Policies

2.1.1 Prerequisites and Definitions

Sorin, who was mainly interested in distinguishing the term in contrast to private policy, defined public policy in his paper with the following three prerequisites: The policy must be made by an influential or powerful authority (1), must be able to communicate values to the public and thus (2) have public impact, and the authority implementing the policy must be (3) accountable (politically or legally) for its actions (1976). Dye, on the contrary, takes a much broader view of public policy and considers everything governments decide “to do or not to do” as public policy (Dye, 2017, p.1).

In the Oxford Handbook on Public Policy, one of the first chapters is devoted to the relevance of persuasion, because according to Moran, public policy is eventually always a “matter of persuasion” (Moran, Rein and Goodin, 2006, p.5). This view is remarkable because it admits that policy making requires social acceptance and participation, which is the central mechanism of behavioral policies. Because, if, like Moran puts it, at the end of the day convincing the recipients of a policy is what matters, every policy depends on the conviction and participation of the citizens, and not only a policy based on a behaviorist approach (of which we will learn more later in the chapter on behavioral economic policies); any, even those that work with simple commands and prohibitions (regulative, laws) or financial incentives need at the end social acceptance (Franco Vargas and Roldán Restrepo, 2019, p.111)

2.1.2 Types and Categories of Public Policies

In the literature, not only the definition and conceptualization of public policy is discussed, but also how public policy interventions can be categorized. In a meta-analysis different authors from the public policy theorization field were under investigation and interestingly the outcome was that almost always a regulative instrument category was mentioned by them, as well as (financial) incentives (Franco Vargas and Roldán Restrepo, 2019). Other policy instrument types, that should describe informative or communicative measures, are named more broadly such as “Information”, “Learning” “Public Information”, “Communication”, “Knowledge Enhancement” (Franco Vargas and Roldán Restrepo, 2019, pp.108–109). We can observe that policy measures beyond financial incentives and regulation also exist in theory and have a wide representation, not always however as clearly in the nomenclature.

2.1.3 Legitimacy of Public Policy

The question of the legitimacy of policies is not only about convincing the population, but also about whether the government is able to implement the policy at all. On this question, Page and Jenkins, for example, contradict each other (Jenkins, 1978; Page, 2006). Jenkins, in fact, sees as a prerequisite and as part of the definition of public policy the “capacity” of the policymaker to implement it as well (Jenkins, 1978). Howlett and Chashore, on the other hand, do not presuppose the capacity to implement, but rather to enforce; in their view, the policy maker must have the authority to impose sanctions on potential transgressors for non-compliance (Howlett and Cashore, 2014). Whereas Page considers also non-binding measures, such as internal government circulars (Page, 2006, p.2010), as public policy measures.

2.1.4 Non-decisions in public policy

As far as policy decisions are concerned, the question arises whether “non-decisions” can be seen as policies per se. Because “doing nothing” or “not doing something” by a government, respectively “omission”, has consequences for the citizens. At the same time not every omission is a policy (Dye, 2017). Dye (2017) says that only a “conscious choice of a government” makes an omission a policy. Howlett and Chashore (2014) mention exemplary the factual decision of a government to not increase taxes. That can be considered as such “non-decision” (2014).

2.2 Energy Saving Policies

2.2.1 Terminology

In the previous section it was already shown that policies can be divided into different categories. However, we can not only distinguish policies into their instruments and type of interventions, but also into their respective fields of content. According to the topic of this work, this section is specifically dedicated to energy saving policies. One can go back to published work that appeared in the 2000s years, and find e.g. WEC (2008), which is the World Energy Council that published a comprehensive study called “energy efficiency policies around the world” (WEC, 2008). Here, it can be already seen that diverse terminology for describing the topic has been used. The terms *Efficiency*, *Saving*, and also *Conservation* are often used synonymy in this context (Choong, Mohammed and Alias, 2006; Chawla and Pollitt, 2013; van den Broek, Walker and Klöckner, 2019).

2.2.2 Types and Categories of Energy Saving Policies

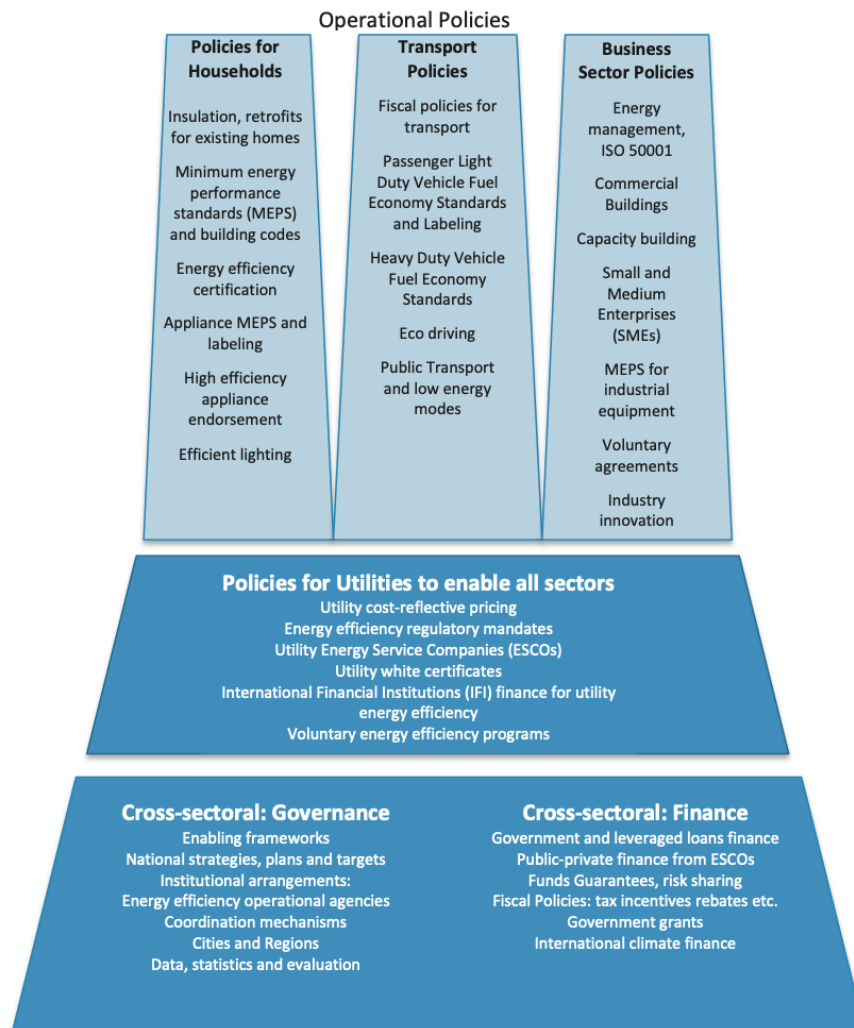
In WEC (2008) Energy Efficiency Policy differentiates into the following categories: (1) information, (2) financial incentives, and (3) regulation, of which financial incentives are seen as the most effective policy (WEC, 2008, p.10). However, it must be said that the WEC, according to this paper, is pursuing the approach of internalizing externalized costs. It should not increase social inequalities by such a policy measure and therefore, it is also recommended to introduce a progressive increase of energy prices depending on the unit of energy used. This would have the advantage of making a basic supply of energy relatively affordable for everyone. When the energy costs per kWh unit dramatically increase, this would create additional benefits of encouraging technological innovation (WEC, 2008, p.10).

Further, the WEC emphasizes that many policy measures are generally applicable in many countries, but always with an adaptation to cultural, linguistic, and legal circumstances, to make a policy more powerful, rather than a “one size fits all” solution (WEC, 2008, p.12).

This is relevant since the three considered for this master thesis countries that are relatively similar in terms of culture, legal situation and geographic location. The countries were deliberately chosen and thus the question of country specificity will be also dealt in the empirical section (chapter 5).

According to a UNECE policy paper (2015), which is dealing with best practices of energy efficiency policies, one must be aware of energy inefficient infrastructures of countries. This means that by not changing the infrastructure, which of course has been and still is shaped by many other policies, the scope of action of energy efficiency policies is limited to the potential that is given by the existing infrastructure (Unruh, 2000; 2002; UNECE, 2015).

This is exactly what this master thesis will analyze: policies that focus on the potential within the existing infrastructure, and how energy can be used more efficiently with small behavioral changes, or certain *nudges* without creating large infrastructural changes. Figure 2 shows the clustering of best practice policies. Here, policies are separated into addressees (households, transport, business, utilities), and according to these categories, individual instruments are listed.



A foundation of cross-sectoral governance and finance policies

Figure 2 UNECE categorization of policies (UNECE, 2015, p.XII)

Another typology is provided by an EU funded Energy Efficiency program, called *Behave*, which includes: (1) regulatory instruments, (2) economic, (3) communicative instruments, (4) infrastructural Instruments (IDAE, 2009). Here, it is difficult finding a distinction in this blurring between 1st “regulatory instruments”, and the 4th instrument “infrastructure”. This is since this paper does not give a clear delineation of these two categories (1) and (4).

If we look specifically at *Behave*’s definition of a “communicative instrument”, we may learn again that relying solely on communication is “seldom effective”, which should better work in combination with other instruments (IDAE, 2009, p.30). It is also mentioned that the more the communication is adapted to the target group, the more promising the measure should be, in full accordance to the WEC (2008). According to WEC (2008), communicative tools would have the widest impact, unlike all the other tools. This is because they affect “awareness, knowledge, attitudes and perceived capability”, which is what make communicative tools so effective (IDAE, 2009, p.33). The *Behave* paper by IDEA (2009) deals exclusively with policy guidelines for behavioral change, so a little bias might be present.

Rousseau and Grégory (2010) distinguish public policies in the following way: communication campaigns, incentives, restrictive regulation, and capacity development. When it comes to energy reduction policies, the question arises how energy policies, particularly public campaigns can be defined. Hereby, the definition of *ADEME* (French Environment and Energy Management Agency) seems useful. According to (Rousseau and Grégory, 2010, p.3) public campaigning can be defined “as a measure of public policy aiming to encourage consumers to adopt greener behaviour”, while other measures, such as “tax shelters, training, quality-labels, restrictive regulation”, aim at the same objective but in a different manner.

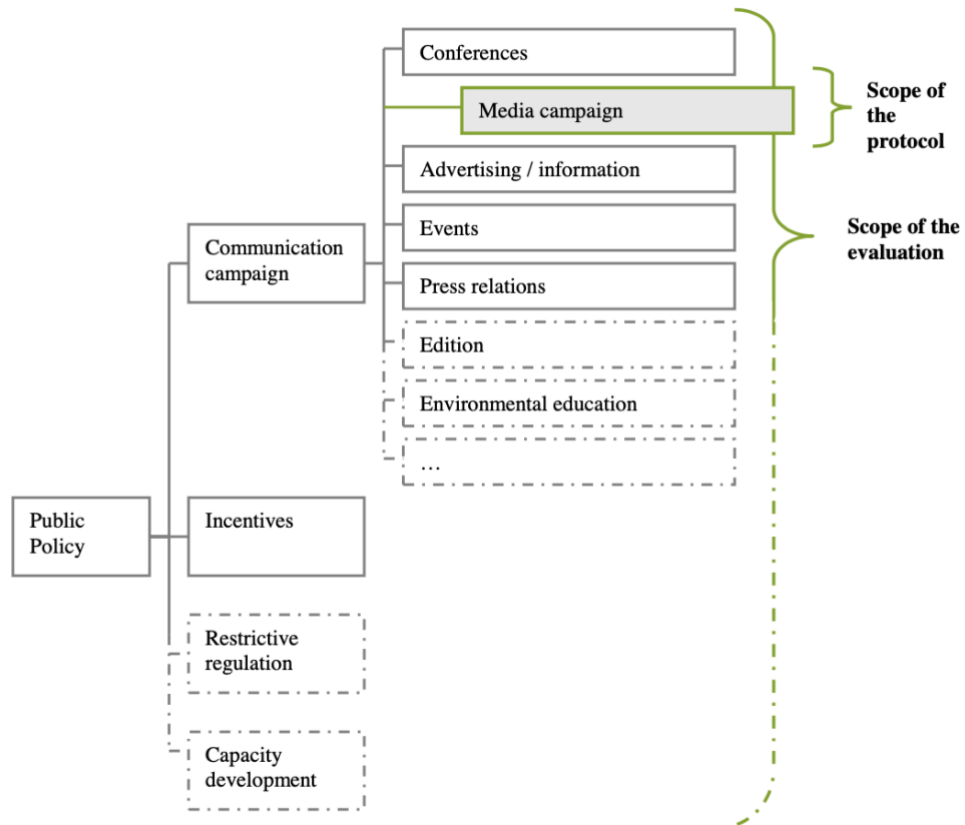


Figure 3 Scope of the protocol from (Rousseau and Grégory, 2010, p.3)

In an essay by Cass R. Sunstein, “Nudging: A Very Short Guide” from 2014, he explains the concept of *nudging* in a compact way. It is also typologized that policies are measures in the form of “mandates” and “bans”. In other words, commandments and prohibitions. In addition to the regulative ones, Sunstein also knows policies that work with “economic incentives”, “including disincentives” (Sunstein, 2014, p.583).

2.2.3 Energy Saving Policies as part of Environmental Policies

Energy saving policies, and energy policy in general, can of course also be considered as and environmental policy, and vice versa (Huppel, 2001). The typologization of policies in the environmental discipline is not fundamentally different from that in the field of energy saving. The usual three-part division is only called differently here: (1) command-and-control (CCI), for regulatory instruments, (2) market-based, for operating with financial incentives, and third (3) information/education-based, the policy relevant for this master thesis (Bengtsson et al., 2010; Liao, 2018).

2.3 Behavioral Energy Saving Policies

The approach of behavioral energy savings policies arises from the assumption that humans act irrationally, unlike as in the neoclassical field of economics, where it is assumed that humans are rational actors striving for maximum economic benefit (Croson and Treich, 2014). This irrationality is particularly reflected in underestimating ecological consequences such as climate change, biodiversity loss and others (Ismail and Abd Elkhalek, 2021).

2.3.1 Types of behavioral energy conservation methods

Choong et al. (2006) take a behavioral approach by building a theoretical framework of the development process of energy awareness, where they coin two types of “energy conservation methods – technology fixed and behavioral approach.” (2006, p.58) According to the authors the latter can be characterized by the requirement of changing human attitudes and habits, which shall be made possible by developing their skills, and increasing their awareness. Choong et al. (2006) emphasize on the theory of how to raise the consumers awareness, to reach more energy conservation. Regarding the question of who is implementing those behavioral measures, this paper detects more potential at employees in the working environment rather than in private households. This statement is reasonable, since there is usually a certain level of hierarchy existing that supports and facilitates the implementation of such measures in offices and factories.

Choong et al. also define technology-fixed approaches that are “based on instruments such as motion sensor control lighting and photovoltaic.” (2006, p.8)

2.3.2 Long- and short-term impact and effectiveness

In Allcott and Rogers (2014) the long- and short- term consequences and the impact of behavioral interventions are discussed, where one major statement confirms that long-term effects of behavioral interventions are difficult to achieve, whereas short-term effects are easier to observe after “behavioral interventions” (Allcott and Rogers, 2014). Another important part of this paper is the section citing the “home energy report”, which is counted among the famous examples for successful *nudging*. The report describes how it was achieved to make the energy consumers to use less energy by means of a “social norming” *nudge*, i.e., showing them always on the bill that they consume more than neighboring energy consumers under the same conditions.

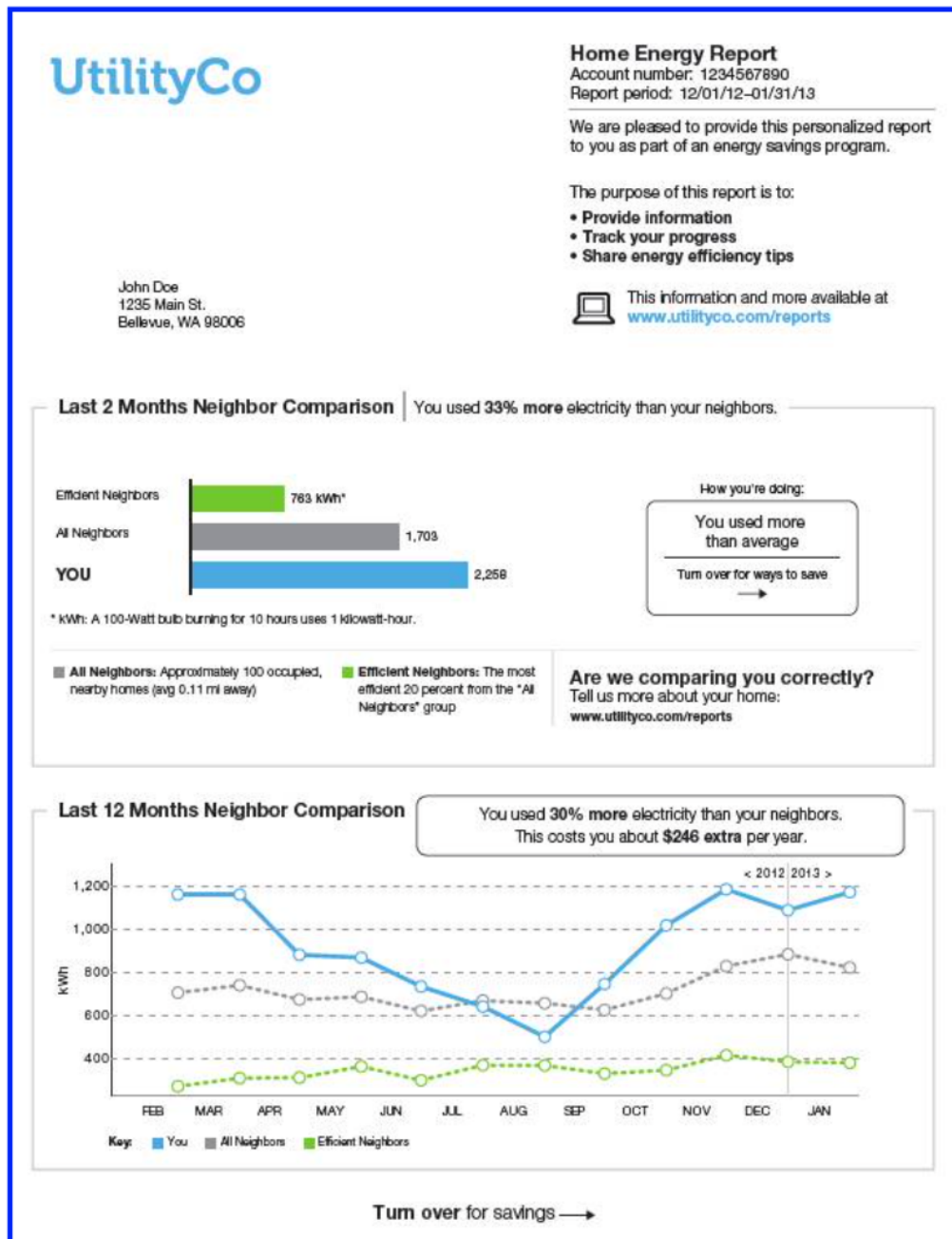


Figure 4 Home Energy Report (Allcott and Rogers, 2014, p.3008)

One can see the comparison illustrated in the bars and curves (Figure 4). The user consumes more than twice as much as a comparable efficient consumer. The average usage of the neighborhood is also significantly lower than that of the user in question. The report of the energy supplier shows not only the comparing bars and curves. Three concrete “action steps” to save energy and also money are suggested.

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* kWh: A 100-Watt bulb burning for 10 hours uses 1 kilowatt-hour.

Action Steps | Personalized tips chosen for your home

Smart Purchase
An affordable way to save more

Program your thermostat
A programmable thermostat can automatically adjust your heat or air conditioning when you're away, then return to your preferred temperature when you're home to enjoy it.

If you don't already have a programmable thermostat, look for one at your local home improvement store. For comfort and convenience, be sure to program your thermostat with energy-efficient settings.

If you need help installing or programming your thermostat, consult your manual or call the manufacturer for assistance.

SAVE UP TO \$80 PER YEAR

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An affordable way to save more

Check your air filters every month
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First, remove the filter — it usually slides right out. Next, hold the filter up to a light to see if it is clogged.

You can find an inexpensive replacement for a clogged disposable filter at your local hardware store. Check your manual for cleaning instructions if you have a permanent filter.

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Smart Purchase
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To find leaks, follow drafts to their source. Check where materials meet, like between the foundation and walls, the chimney and siding, and where gas and electricity lines exit your house.

Seal any small cracks you find with caulk and larger ones with polyurethane foam.

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Figure 5 Smart Purchase (Allcott and Rogers, 2014, p.3009)

According to a review by Uitdenbogerd et al. (2007), purely habitual behavior can have an energy savings potential of about 19 %. This behavior would be enforced by a change of the factors “conservation, lifestyle, awareness, low-cost actions, and small investments.” (Uitdenbogerd et al., 2007, p.8) The campaign initiated by the Austrian government (*Mission 11*, see chapter 5) claims that up to 11 % energy can be saved by small habitual changes in daily household life, a figure that is also based on a study done by the Austrian Energy Agency (Tretter and Knaus, 2022). It seems that in the Netherlands, the energy saving potential is 8 % higher, compared to Austria, through

minor behavioral change. To discuss the reasons behind this country difference is beyond the scope of this work. It may be either that Dutch households are intrinsically much more inefficient, or that Dutch people would be more willing and cooperative undergoing minor behavioral changes.

According to the paper *Behave*, behavioral policies should belong to national multi-year strategy (10-30 years) or even short interventions, as in the three cases from Germany, Austria and Switzerland (see chapter 5).

A long-term policy would be more promising than mere interventions for a “quick fix” (IDAE, 2009, p.11). This is comprehensibly logical and self-explanatory, especially since behavioral change works with repetition, and the longer a policy is applied to citizens, the sooner and more often the desired behavioral change can be expected. Another aspect of effectiveness is not only how long policies have been executed, but also how much time has been spent for preparation and introduction. It is recommended to take sufficient time for developing behavioral change-based policies to benefit from possible synergies through cooperation with other departments, institutions or utilities (IDAE, 2009). Learning from best practices and observing tested strategies of other countries is useful (IDAE, 2009). Nevertheless, it needs to be again mentioned that “one size fits all” rarely applies (WEC, 2008; IDAE, 2009; Breukers, Mourik and Heiskanen, 2013). According to Breukers et al (2013), it is an “enormous challenge” to bring about a long-lasting change through communication policies. As in Thaler’s and Sunstein’s book, permanent behavioral change requires “reinforcement” (Thaler and Sunstein, 2009, p.14). This raises the question of how it can be accomplished in *ad hoc* campaigns such as those implemented by Germany, Austria and Switzerland. How long do these measures have to be in use as a “quick tool” to obtain permanent effects?

2.3.3 Challenge of measuring behavioral change

In a case study by the *AFD - Agence Française de Développement*, it is proposed how energy savings campaigns can be monitored and evaluated with a standardized protocol (Rousseau and Grégory, 2010). They also criticize the fact that it is difficult to track behavior change that has taken place as a result of communication campaigns. So, the dilemma of traceability is criticized here as well.

The paper by Breukers et al. (2013) reveals barriers and challenges that come along with communication policies. On the one hand there is the forementioned problem such as

traceability, on the other hand there is the problem of monitoring but also permanency and sustainability of changed behavior. Grüne-Yanoff (2016) also expresses doubts about the effectiveness of behavioral approaches. This means that it is not undisputed in the literature whether behavioral policies really function to their promised extent.

2.3.4 Guidelines by the *Behave* program

An EU-funded program called “*Behave*” (IDAE, 2009), as conducted by several energy agencies in Europe published a report in 2009, presenting guidelines for successfully changing energy behavior. Strategic approaches are presented, which helps to a better understanding of energy use issues:

First, it is said that energy use behavior is a question of structure. It incorporates the dimensions of conventions regarding housing, quality of buildings and compatible energy requirements. It is apparently proposing creating structures that in themselves require little energy in the first place: “Build structures with low energy needs” (IDAE, 2009, p.6).

Secondly, technology is seen as a crucial aspect: what kind of devices fill this (infra)structure? What kind of mobility is commonly used? Electric cars? Internal combustion cars? There is a clear necessity for providing energy efficient technology to appropriately operate the structure. “Complement the structure with energy-efficient technology” (IDAE, 2009, p.7). This demand can also be understood as a demand for more green defaults, which is one of Thaler’s *nudges* (see chapter 4). Basically, to choose the basic setting in such a way that the technology, the device in its default setting, consumes less or as little as possible.

The third aspect concerns the nature of consumers: This involves the manner how the existing technologies are deployed and used. What are the behavioral patterns of the users? How well informed are they? Are they able to use the devices and machines adequately and intelligently in an energy-saving way? Are there circumstances that keep consumers from using technical features in an energy-efficient way?

The main part of *Behave* (IDAE, 2009) addresses this third issue: “to influence the way consumers use energy and interact with technology” (IDAE, 2009, p.7) According to *Behave*, energy behavior can be divided into two types: Investment or habitual behavior. The former is about the use of new technologies that one typically acquires as a consumer. The latter describes behavior, often repetitive routine behavior, such as “turning off the

lights when leaving the room” (IDAE, 2009, p.8). The authors also identify the challenge of finding the right mix of policies, like suggested in the WEC paper (WEC, 2008). The implications of this idea are not discussed further. This aspect just should be paid attention to.

In any case, whatever policy should come from the highest level. The fact that the countries surveyed all, a federalist state and administrative structure will be taken into consideration later when it comes to an analysis of the campaigns. Since the individual consumer is ultimately responsible for deciding how and how much energy is used, he or she must be personally involved in policies for energy conservation and efficiency (IDAE, 2009, p.10).

2.3.5 Lucrativeness of behavioral policies

When it comes to behavioral energy policies, the question arises whether it is cost-effective to implement such policy measures. In the paper of Henry et al. the effectiveness of non-monetary policies is shown and proven (2019). They also are emphasizing the dilemma of costs and benefits, with the question on how people are capable estimating future costs or benefits of our behavior and whether are people rational enough to individually pro-actively contribute to the preservation of resources (2009, p.73). According to Sunstein and Thaler (2009) people truly struggle when calculating about how much suffering will be experienced, which is then followed by a time of pleasure. They provide examples such as eating chocolate doughnuts, which could later lead to obesity, or the excessive consumption of alcohol, that might cause hangovers on following mornings. Their conclusion is: Humans act potentially irrational. Therefore, their concept of libertarian paternalism is justified (see later in chapter 3).

However, the authors stress that prices and incentives, according to the assumption of the homo economicus, are essential. Stating this, Sunstein and Thaler (2009) recommend considering pricing and incentive components when creating a choice architecture (CA). According to Sunstein (2014), in “recent years” there has been an increasing interest in both the private and public sectors for *nudges* as an effective tool, since it costs little and has great potential (2014). Policy institutions share this view, and are intensively engaged in behavioral economics policies (Mont, Lehner and Heiskanen, 2014; Marron, 2015; OECD, 2017; European Commission, 2023)

2.4 Research Gap and Research Question and Hypotheses

As this literature study shows, there is extensive research on energy consumption reduction/conservation policies, based on non-financial incentives. Comparative research with Richard Thaler's *nudging* concept on energy reduction policies for households across the D-A-CH area (Germany, Austria, Switzerland) is currently not available. Furthermore, there are no policy recommendations specifically for Austrian households based on this behavioral economic concept.

Thus, this work is addressing the following research questions:

RQ1: To what degree do the three Public Policy Campaigns mentioned above contain *nudging* elements, as stated in the Theoretical Framework chapter?

RQ2: To what extent do the energy saving campaigns in Germany, Austria and Switzerland differ?

RQ3: What can behavioral energy policies for Austrian households look like?

Based on the research questions, the following hypotheses are stated:

H₁: Germany, Austria, and Switzerland have very similar saving campaigns.

H₀: Germany, Austria and Switzerland have very different energy saving campaigns.

3 Nudging as a Behavioral Concept

3.1 The concept

The concept of *nudging* is used as an analytical framework. As mentioned in the literature review, this is a form of behavioral economics approach. The concept of *nudge* was coined by Richard Thaler and Cass Sunstein in their books (Thaler and Sunstein, 2009; Sunstein, 2014; Thaler, 2016).

3.1.1 Definition of Nudging

Thaler and Sunstein (2009) coined the term “libertarian paternalism”. The term “libertarian” basically means that people are free to do what they want. “Paternalism” strikes the aspect that a person strives to enable as many people as possible to do what they want. The deeper meaning of “paternalism” is, from a convincing attitude that legitimizes one, to try, or assert to influence people’s behavior towards a “longer, healthier, and better” life. According to this definition, green, climate action related behavior needs to be included. Why there is a passage about libertarian paternalism in the section on the definition of the concept of *nudging* results from the fact that Thaler and Sunstein (2009, p.1 ff) vaguely distinguish between these two concepts, and one can also conclude that they are somehow overlapped and interlinked (Hansen, 2016).

As one can learn from our literature review, minimum since 2007, there has been an effort at the EU level, to take economic action against man-made climate change by trying to influence the behavior of citizens in a way that it becomes more climate and environmentally friendly (IDAE, 2009).

A clear distinction between *nudging* and simple information has also not been definitively made (Ölander and Thøgersen, 2014). In any case, in this work an information-inclusive concept of *nudging* is presented.

The exact definition of *nudges* is also somewhat fuzzy. There is the wording by Schubert (2016): “These mean *nudges* would be purposeful changes of people’s choice architecture (CA) that steer their behavior in certain directions without significantly changing their monetary incentives or coercing them” (Schubert, 2016). “Soft paternalism” is the term used in the essay by Sunstein, to describe “steering people in a certain direction” (2014, p.584).

3.1.2 Benefits of Nudging

One benefit of *nudging* would be primarily to avoid coercion. However, this promise should be regarded with caution. As stated before, the individual has supposedly free choice, theoretically seen, someone who must reckon with a legal punishment for a deviating behavior from a rule as well.

In addition, Sunstein says that *nudges* should never take a form of “manipulation or trickery” (2014, p.584). However, this raises the question on how someone can be resistant to this? And where to draw the line between subtle *nudging* and manipulation? In the paper “Green Nudges: Do they work? Are they ethical?” by Schubert (2017), questions how ethical *nudges* are organized in a transparent manner, in a way recipients of a *nudge* can detect it, were dealt with.

3.1.3 Types of Nudges

Sunstein lists the top 10 types of *nudging* (2014, p.585 ff). They are:

- “Default Rules”: They are supposed to be the most effective *nudges*. They are automations that require a productive behavior of the subject to get rid of them. The actual default is reversed (double-sided printing, eco mode for washing machines or dishwashers, etc.).
- “Simplification”: The author sees complexity as a hurdle to change the behavior to the desired. Complexity would produce confusion. Simplification can be understood as any form of clarification or education that helps people to make something clearer and more understandable.
- “Social norms”: Humans want to be socially compliant. Therefore, it is obviously particularly effective to inform people about the behavior of their peers and through this comparison, they would also adjust their subsequent behavior as well.
- “Improving ease and convenience”: It must be simple and easy for people to implement. According to the author, resistance to implementing is rarely due to rejection or skepticism, often the effort to do it is perceived. Therefore, the behavioral change should be as easy as possible and carrying out a pleasure for people.
- “Disclosure”: Another type that focuses on conveying information, educating. The information should be “comprehensible and accessible” (p. 586). As the

Austrian government advertises in its *Mission 11* campaign, it wants to convey that 11% is easily comfortably achievable as a common social mission. In purely scientific terms, it would be possible to save even a higher percentage of energy in households, by means of small behavioral measures.

- “Warn and deter”: This method, or this form of *nudging*, can be well recognized in the Swiss *Nicht verschwenden* (=Don’t waste) – campaign (see later in chapter 5). Thermal images warn of objects in households that can be very inefficient and lose energy mainly due to wasted heat which is not the frequent main target of the appliance or object.
- “Precommitment strategies” involve tying people to self-selected goals by encouraging them to commit more to a behavior that they have chosen as a goal by themselves. According to Sunstein (2014, p.587), people committed to a particular action, are more likely to behave “in accordance with their goals.” They should commit themselves to a certain action related to a certain future moment. Increasing motivation and less likely procrastination can be expected. Traits of this *nudge* precommitment come up in the German campaign (see later in chapter 5) as well. Using the illustrations of a happy family, with several generations linked together, an ideal picture of some sustainable future lifestyle is drawn. The synchronized combination of the energy saving campaign and the expansion of renewables underlines the attempt to transform the shaping of such an image of the future into a goal in practice.
- “Reminders” are designed to remind and prompt people to perform the desired behavior. The author sees the combination of “inertia, procrastination, competing obligations, and simple forgetfulness” as the reason for people’s reluctance. Therefore, reminders are necessary (Sunstein, 2014, p.587). Obviously, reminders are simply about asserting oneself against the other pressing actions and impressions on the person in question. In times of stimulus overload, new information must gain more attention than plenty of the other stimuli to succeed, i.e., to be noticed and comprehended. Often this method is also misused. Speaking of “flood the zone with shit”, a discourse or other thematic landscape is often flooded with such an amount of “information garbage” that actual meaningful content is not visible any longer. Awareness for the fight over the information

arena in terms of domination or abuse is needed. According to the author, the application of the same weapons is crucial in the battle against it.

- “Eliciting implementation intentions”, a rhetorical trick. By bringing up certain questions and drawing attention to the vital topic action can be provoked. There is also evidence in the media that a mere question as a headline is easily understood as a statement (p.587). Boulevard magazines regularly use this method. By means of questions, they find a way to make the inexpressible expressible.
- “Informing people about the nature and consequences of their own past choices”, basically means informing people about the nature and consequences of their primary action. Unlike *nudge* 6, however, it is not about the future and possible scenarios, but rather about past behavior influencing the present. This can possibly encourage people to reflect.

3.2 The Ethics of Nudging

According to Sunstein (2014, p.584), no ethical concerns are evident, because *nudges* would not interfere with freedom of choice. As an example, he cites “road signs, speed bumps, disclosure of health-related or finance-related information [...]”

3.2.1 Manipulation

Nevertheless, there are ethically questionable aspects, as defined in the paper of Schubert (Schubert, 2017). For example, (Grüne-Yanoff, 2016) sees *nudging* as too “paternalistic”. “If you want to nudge people into socially desirable behavior, do not, by any means, let them know that their current actions are better than the social norm” (Schubert, 2017, p.68).

3.2.2 Dishonesty

According to Sunstein (2014) one benefit of *nudging* would be primarily to avoid coercion. This promise, however, should be regarded with caution. Theoretically seen the person has supposedly free choice, but, as already explained above, someone, who must reckon with a legal punishment for deviating behavior has free choice as well. In addition, Sunstein says that *nudges* should never take the form of “manipulation or

trickery” (2014, p.584). This leads to the question on how one can be immune against this? And where is the line between subtle *nudging* and manipulation?

According to Sunstein, more and more “*nudge* units” are being formed around the world, dedicated solely to the task of formulating policies using the concept of *nudges*. The White House, for example, has a “Social and Behavioral Sciences Team” (Sunstein, 2014, p.584).

Other policies, mainly communicative and non-mandatory in nature, or as Sunstein says “liberty-preserving approaches” would be *nudges*. Certainly, nobody is obliged to pay the higher price or on the contrary does not pay in case of a tax increase (economic incentive). Likewise, one is not unhindered breaking a rule anyway, as long one you can cope with the sanctions and consequences that the law threatens. Objectively, in all three categories (regulative, financial, behavioral), the citizen is free to behave as he or she wishes. Only the consequences are different. The varying policies are rather distinguishable by their subsequent consequences of compliance and non-compliance, and not as much with the type of the policy itself.

3.3 Building a Nudging Framework

This section deals with the development of a framework to analyze the content of the three press conferences held in conjunction with the three energy saving campaigns. A heuristic approach is chosen for building, and simplifying the *nudges* to attain 4 categories, that build the base for analyzing the texts.

For simplicity and a way to better and smoother proceed in the empirical research, the 10 *nudges* by Sunstein and Thaler (2009; 2014) were combined and merged with the typification from Schubert (2016). As a result, four categories were formed, serving as categories according to Mayring (2015).

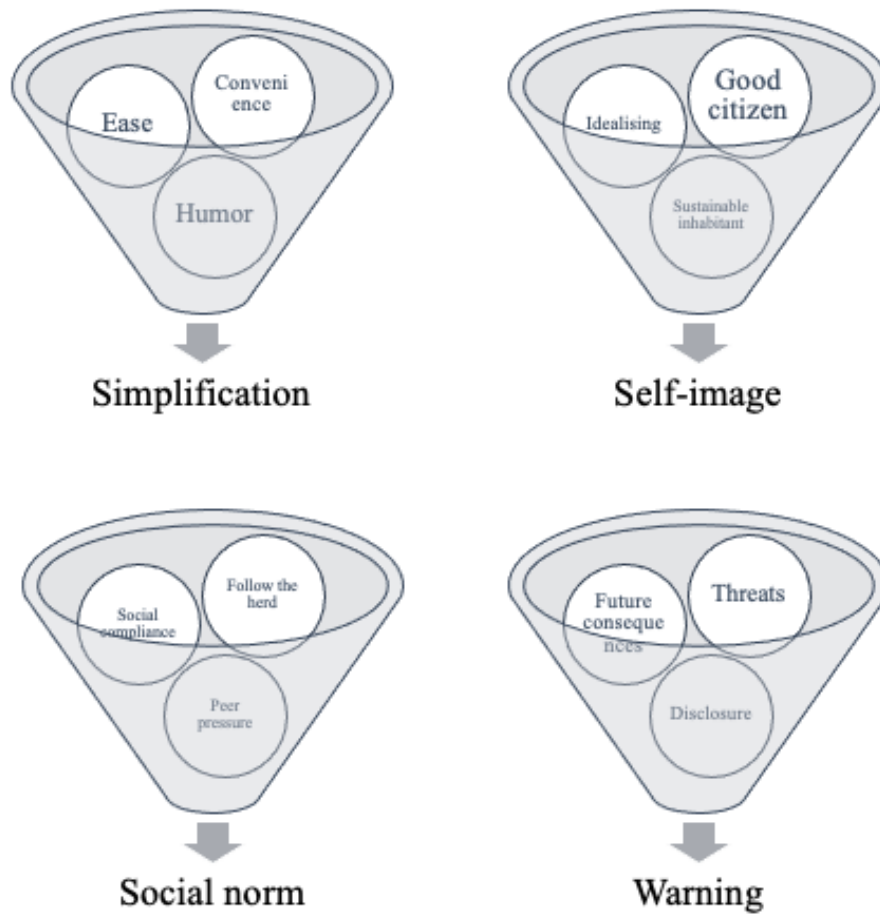


Figure 6 Merging nudge types (own illustration)

In the following part, the four *nudges* are presented and explained. Afterwards a framework is formed, with which one can analyze and interpret the three communication campaigns.

3.3.1 A Simplification

The first category is a merger of “simplification” (2nd nudge), “ease and convenience” (4th nudge) and “disclosure” (5th nudge). Since in this work mainly rhetoric is content of analysis, quite a lot can be understood under “ease and convenience”. Humor will also be subsumed.

3.3.2 B Self-image

This is the 7th nudge presented by Sunstein. In addition, self-image refers to all *nudges* that address an individual’s self-image and self-expectation and thus trigger a change in behavior.

3.3.3 C Social norm

The category C is to be understood like the 3rd *nudge*. People want to behave in a socially compliant way. All *nudges* in form of statements and messages that take advantage of this human being need are to be understood as a “social norm” category.

3.3.4 D Warning, disclosure, reminder, consequences of their past (wrong) choices

For category D, *nudges* 6 and 10 were merged. All messages that warn of negative consequences or point to (past) incorrect actions and their subsequent consequences are included in this category.

3.3.5 Non-represented types

Three of the 10 *nudges* will not be represented in the formed categories of the framework. The 1st default is not included because these are mainly *nudges* that are implemented technically. In this work, however, rhetoric and language are analyzed. Reminders are also not represented because it would be methodologically difficult to count repetitive *nudges* as well. A *nudge* is repeated if the content of this *nudge* is presented again in almost the same text/image. The type “eliciting implementation intentions” (9th) will be included in the empirical research neither, since the *nudge* has a very specific nature. From the inductive categorization process the result was the creation of 4 categories.

Table 1 Nudge types (own illustration)

Categories	<i>Nudge</i> Type
A	Simplification
B	Self-Image
C	Social norm
D	Warning

4 Research Design

A qualitative research design was chosen. According to the content analysis by Mayring (2015), in the setting of three case studies (Baxter and Jack, 2015), three held press conferences of the three conducted energy saving campaigns as behavioral public policy interventions from Germany *Energiewechsel*, Austria *Mission 11* and Switzerland *Nicht verschwenden* were taken as the content of this analysis. All three campaigns commenced in 2022 (summer/autumn) and some are still ongoing. The selection of the three country cases (D-A-CH) had the advantage of being able to compare three behavioral energy saving policies from countries with very similar and different conditions at the same time.

All three countries are German speaking, have a federalist structure, are democratic, have a similar economic development and are geographically located in the heart of Europe. Thus, they have many cultural, legal and economic aspects in common. The conceptual framework chosen was the theory of *nudging* by Thaler and Sunstein.

To collect data, various sources were researched online. The video recordings of the three press conferences were easy to retrieve (YouTube, Twitter, government pages), and therefore optimal to be researched, analyzed and interpreted within a short period of time (April 2023-May 2023). The opportunity comparing results of the three cases facilitated the identification and elaboration of nuances of different approaches in the respective campaigns.

Furthermore, for the theoretical framework, four categories were inductively developed, which systematized the individual counted *nudges* found during the press conferences. This added the research a quantitative component, extra to the qualitative case study. If *nudges* of the same kind repeated, they were not counted again. *Nudges* are considered exclusively when they appear first time in the enumeration.

The number of *nudges* could thus be compared and can be accessed as lists in the appendix.

Regarding the question what or which communication channel of the campaign can be applied as content of research, the decision fell on the press conferences. With the press conferences it was possible to clearly and easily define scope and range of research. The

data were readily accessible, and the duration of the press conferences were similar in all three country cases. In addition, press conferences in general have a very standardized and conventional formal procedure. Choosing other communicative channels of the campaigns was no option. For example, the website of the campaigns would have been too heterogeneous and individual, as well as social media channels, the latter being too challenging to comprehend to what extent the collected data in the form of ads for the respective social media consumer are personalized. Most likely, this would have created a bias to the research.

The chosen research method allowed a flexible and easily applicable comparative in-depth analysis of the three similar but in some respects very diverging country cases. It was also possible to draw connections and associations between the three cases, which clarified the differences and similarities. On both this basis and the literature review considered, three recommendations could be formulated for Austrian policymakers (see chapter 6).

Regarding the limitations of this method, it should be mentioned that a bias to the research cannot be excluded. The researcher was careful rigorously testing the hypothesis. Nevertheless, qualitative methods are characterized by subjectivity. Therefore, they are often subjected to reliability testing for guaranteeing more objectivity. This was not possible due to time constraints. Furthermore, while case study methods excel at identifying individual and specific cases, they are not designed to produce broadly representative statements.

4.1 Clustering Content of Analysis

For analyzing and interpreting the press conferences, two rough clusters were formed and defined to get more structure into the process. On the one hand “text” and on the other hand “image”:

4.1.1 Text cluster

Research object and under the cluster “text” falls everything that is spoken or written and conveys content in the form of language. The content must be transported via text.

4.1.2 Image cluster

The cluster “image” is about all elements of the press conference that are not spoken or verbalized. It is about design, colors, shapes, formations, in general the appearance and optical impression.

5 Empirical Research

5.1 German Case Study (D) *80 Millionen gemeinsam für Energiewechsel*

5.1.1 General Information

The communication campaign *Energiewechsel* (=energy transition) of the German government, more precisely of the Federal Ministry of Economy and Climate, led by its Federal Minister Vice Chancellor Robert Habeck, a green politician, was already presented and launched on June 12, 2022 (BMWK, 2022a). In terms of its cost structure, it is still difficult to assess the amount, as it is scheduled to run until 2025. However, in 2022 40.9 Million Euros were spent (Deutscher Bundestag, 2022). The time span of the campaign covers the legislative period of the coalition currently in office. It consists of the Liberal Party of Germany (FDP), the Social Democratic Party of Germany (SPD), and the Green Party in Germany (Bündnis 90/Die Grünen). It should also be noted, and this is probably the reason for the long duration of this large-scale campaign, that the objective to save energy is only one goal in the campaign. The campaign *Energiewechsel* should not only encourage the population to consume less energy in households. *Energiewechsel* is mainly an initiative, as the name indicates, to push forward energy transition in Germany, from fossil fuels to renewable energy. Nevertheless, the temporal connection to the outbreak of the war in Ukraine, caused by the invasion of Russia into Ukraine in February 2022, is of course hard to neglect. The objective of the campaign is not only energy conservation, but a huge, formulated objective for making the energy supply of Germany more independent and ecologically viable and sustainable. The full slogan verbalized: “80 millions, together for energy change” (own translation) (BMWK, 2022c). In this slogan a *nudge* from the stated four categories can be already recognized. With *80 million together for energy change*, addressees are encouraged to socially comply with the “we”, because it implies all citizens living in Germany are participating. Eighty million persons are involved in this *Energiewechsel* accordingly, this constitutes also the first *nudge*.

5.1.2 Press conference

5.1.2.1 Background and context

The press conference, presenting the campaign *80 million, together for energy change*, was held on June 12, 2022, in Berlin. To enhance the understanding of the background, it is important to note that the press conference was not only set up for the launching of the campaign, but also a gathering, after the so-called energy summit where up to 13 associations, like business representatives, employee representatives, tenant representatives, municipal representatives, environmental protection associations were talking to media after attending the so called *Energiegipfel* (BMWK, 2022c).

The press conference lasted an hour in total; with half of the time different stakeholders speaking, for example DNR (Deutscher Naturschutzring) and others (BMWK, 2022b).

After the first half of the press conference, the presentation of *Energiewechsel* was given, solely performed by the Federal Minister of Economy and Climate Protection, Mr. Robert Habeck. The object of investigation is exclusively the part of the press conference that covers the launch of the campaign *Energiewechsel*.

Another aspect worth mentioning is the formalized procedure of a press conference. After press conferences or speeches of the respective actors, a question-and-answer session is following. Here, several *nudges* were visible as they got applied. But, since the object of this investigation is purely concerned on what is said by the political actors, those nudges will not be counted. In the case of Germany, the campaign presentation was held relatively concise, compared to the speaking time when talking on the results of the energy summit, which of course also included energy saving elements on its agenda. In the first half of the meeting, when the energy summit was discussed, energy saving related topics were also touched upon, including *nudges*. These were then probably not repeated by Robert Habeck in the second half of the meeting, because they had already been mentioned. This is a pity, because it means that a few potential *nudges* cannot be taken into account in the research due to the scope that begins with Robert Habeck's.

5.1.2.2 Text analysis

Analyzing the text, we must once again distinguish between two ways of delivering information in the press conference. On the one hand we find essential content in the speech of Robert Habeck himself and on the other hand supplemental advertisements displayed on the screens.

Robert Habeck's language and wording is remarkably informal. Robert Habeck speaks almost exclusively freely and his sentence formations, which are characterized by many sentence structures, are accordingly accessible. Already at the beginning of Robert Habeck's speech he puts in place a *nudge*, which is to be understood rhetorically as simplification (type A). Habeck explains what energy saving means and that energy saving is also related to the expansion of renewable energies. He does not explain why it is related, but he gives an illustrative example of what energy transition means. "So, from gas and oil boilers to a heat pump." (own translation) (BMWK, 2022c)

Labeling the governmental campaign as a *Dachkampagne* (=umbrella campaign) is irritating, since it is clear to us, that it is neither an umbrella campaign in the sense of cooperation between Germany Austria and Switzerland (=DACH) nor the term *Dachkampagne* sufficiently implies that the width of society is part of this campaign. Nevertheless, this formulation seems to be important considering the D-A-CH countries being subject of the investigation. We may assume pure coincidence of the formulation. A clear *nudge* of the category C is stressing the fact, that the linking of the federations and associations as an alliance for the campaign on the website is documented. This shows the broad foundation on which this campaign is based: many, many organizations.

In a later section of the speech Robert Habeck chooses the phrase "people made; people achieved". This formulation fits the *nudge* of social norming (category C). This statement implies that there are also other members of society following and genuinely developing and supporting this campaign. The example of the participation of the associations and that the campaign is made by people for people coincides well with the recommendations in the literature how to design such behavioral economic campaigns or policies (WEC, 2008; UNECE, 2015): A campaign that is as broad as possible and supported by a broad alliance promises the most success.

Not necessarily relevant to the *nudges*, but worth mentioning is that Robert Habeck emphasizes in his speech that the campaign would be different from campaigns of neighboring countries. In chapter 5 this claim will be proven.

Robert Habeck points out that showing how people seem to work inefficiently is not meant to imply that they are bad people. He rather wants to show what can be learned from their mistakes. Nevertheless, of course by saying that, he exposes people with wrong behavior (category D). People per se are not reprehensible, but it is quite well stated that a person did not show the desired behavior before, as soon as one encourages for a change of his/her energy consumption pattern.

Robert Habeck also uses the phrase that one wants to be proud of what one has accomplished and what one will accomplish. This can be qualified as clear *nudge* (category B). Robert Habeck wants to evoke a common self-image, an ideal version of a citizen, causing that as many as possible adopting the idea and wanting to become this kind of citizen by joining the movement of *Energiewechsel*.

Furthermore, Robert Habeck stresses, as it is also recommended in the literature (see chapter 2), that solely adopting behavioral campaigns as public policy measures cannot be sufficient in order to achieve the objective of a successful *Energiewechsel*. Additional “regulative policies”, new legal frameworks, as well as funding programs and subsidies, namely financial incentives, are indispensable (BMWK, 2022c).

Next, he clarifies that he does not want to pursue the idea that the “political is privatized” quoting a fictitious person, a politician demanding “you must do everything alone”. He clearly disagrees with this idea (BMWK, 2022c), probably because he is fearing that through such attitudes of politicians people might believe that the political class seeks to escape responsibility by putting it on the citizens’ shoulders.

Another message that was important to him, can be found on an advertising poster that depicts a person traveling by train and being tired. Habeck highlights this advertising poster and says that he wants to thank people for doing what is considered the right thing, namely taking the train. Here another *nudge* is recognized (category B), because of his reference to someone’s self-image, the desired praise, the motive of being a good sustainable and responsible citizen. A respected member of our society should travel by train, use public transports, and not by car and therefore they are rewarded and praised

by the government. Eventually Habeck reiterates the slogan *80 million, together for energy change* and closes his speech.

Analyzing the posters and illustrations of the press conference regarding their text and contents, we discover the following:

It is perceptible, as it can be seen later in the section *5.1.2.3 image analysis*, that the slogan of the campaign is depicted on the background and on the screen itself.

It is stated that saving energy facilitates independence from energy imports (see figure 8). This information is also promoting self-image, because you can draw the conclusion that by helping Germany to become more independent and stronger, you will be perceived as a good citizen. The basic assumption is that being an independent country is positive and desirable.

The second ad (see figure 9) addresses “shower fans” (own translation) and reveals that 30% energy savings on hot water can be achieved by investing in an energy saving shower head (otherwise it wouldn’t be a *nudge*). This text is clearly informative and promoting ease. Therefore, it can be subsumed under *nudge* category A.

The third poster (see figure 10) addresses people who are owning a house or building one. However, this poster clearly does not fall under *nudging* or under behavioral economic incentives for behavioral changes on a small scale. It advocates for solar power, which is supposed to save money, is subsidized and would help with the process of energy transition. It is a clear example of a poster that has nothing to do with the energy saving campaign in the narrower sense. Of course, energy is saved by replacing less efficient technologies with more efficient ones, but according to the subject of this master thesis, including the study of policies that aim to save energy by small changes in people’s behavior, this illustration does not fit the criteria. Linguistically, it is worth mentioning that the expression is more target group oriented, especially to Germans. This is a popular term from Southwest Germany, and for describing Southwest Germans, which transports certain ideals and stereotypes. One can classify this vocabulary as country and culture specific, which is welcomed if one considers the literature about how a good behavioral economic policy has to look like (WEC, 2008).

The fourth poster (see figure 11) also does not necessarily address purely individuals in households but addresses businesses and stores. Gratitude is expressed for switching higher the AC's temperature by two degrees Celsius. Like the campaign title tells, it insinuates a reality of many people already participating. By giving this impression it releases a certain social pressure on the fellow citizens, pushing them towards the same behavior as members of the herd, according to *nudging* category C.

The fifth and last poster (see figure 12) addresses so-called “ice cream fans” (ice cream fans) and thanks them for defrosting the freezer, which is supposed to save up to 50% energy (category B). It also contains the information that the campaign is launched by the Federal Ministry and that by saving energy the whole nation would become more independent from energy imports.

5.1.2.3 Image analysis



Figure 7 Beginning of German Campaign Launch (BMW, 2022c)

As already mentioned in the section about the background of the press conference, the launch of the campaign *80 million together for energy change*, was only a relatively small part of the whole press conference event on 12 June, 2022.

While Robert Habeck is speaking, the stage design gives the impression of a lonely individual representing an insufficient small alliance supporting the project. Merely Robert Habeck being present on stage, does not look very convincing.

There is only a sky-blue background on which the title of the campaign is depicted in white capital letters. To the left of the writing, we detect a three-part symbol. Three elements going from left to right, which could represent three arrows. These arrows probably symbolize motion, change and progress rather than reduction or efficiency increase, which suggests that the arrows represent more the objective of achieving energy transition in Germany rather than saving energy.

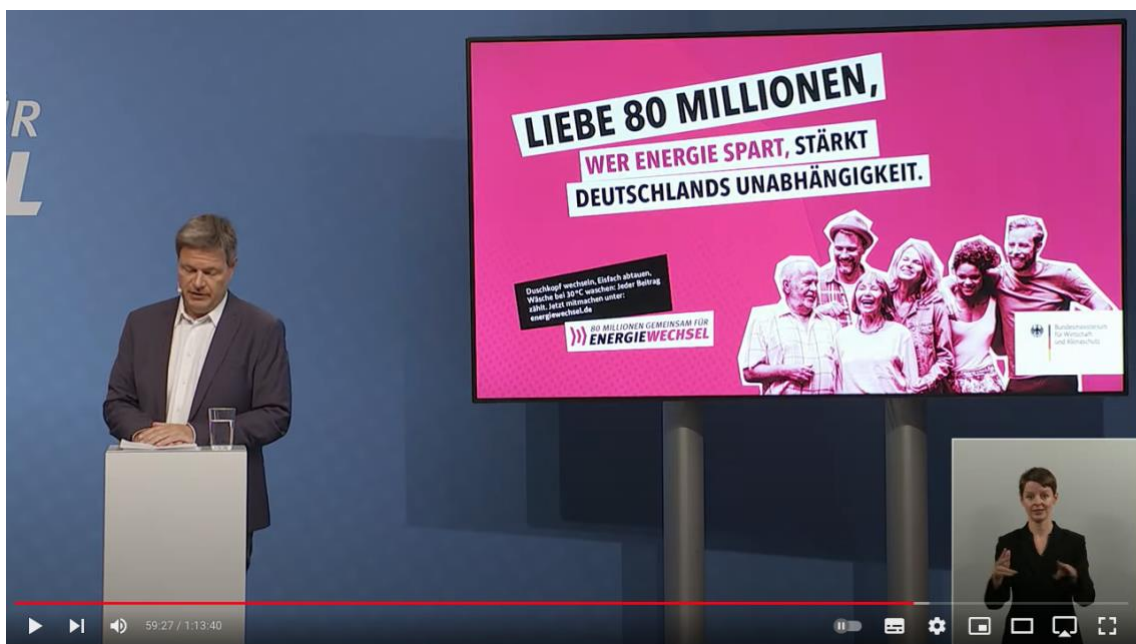


Figure 8 Advertising poster "Liebe 80 Millionen" (BMWK, 2022c)

The first presented subject (see figure 8) is dominated by the pink color of the background and shows the message in a youthful and modern font. The slogan covers almost 50% of the surface as main message in capital letters. The small informational text in the black block is much smaller and written in the usual mode of small letters. It appears inconspicuous and less important. Striking is the picture of a group, supposedly family or friends, which is also colored in light pink color, corresponding with the background. It

also conveys a youthful style since it is inserted collage-like to the image, recognizable by the edge of the cutout of the people. The group is formed by three ladies and three gentlemen, presumably three couples from different generations, a couple around 70 years of age, one in their forties, and one around 20 years. The people in the group have different skin colors, demonstrating diversity and the width the campaign wants to represent. This photography can serve as a *nudge*. It is difficult to rate this being an ideal self-image or a social standardization. In any case, this photo has a positive connotation, because all individuals are smiling or laughing. However, one can rather tend to social norming since it reinforces the idea of a society participating throughout several peer groups (category C).

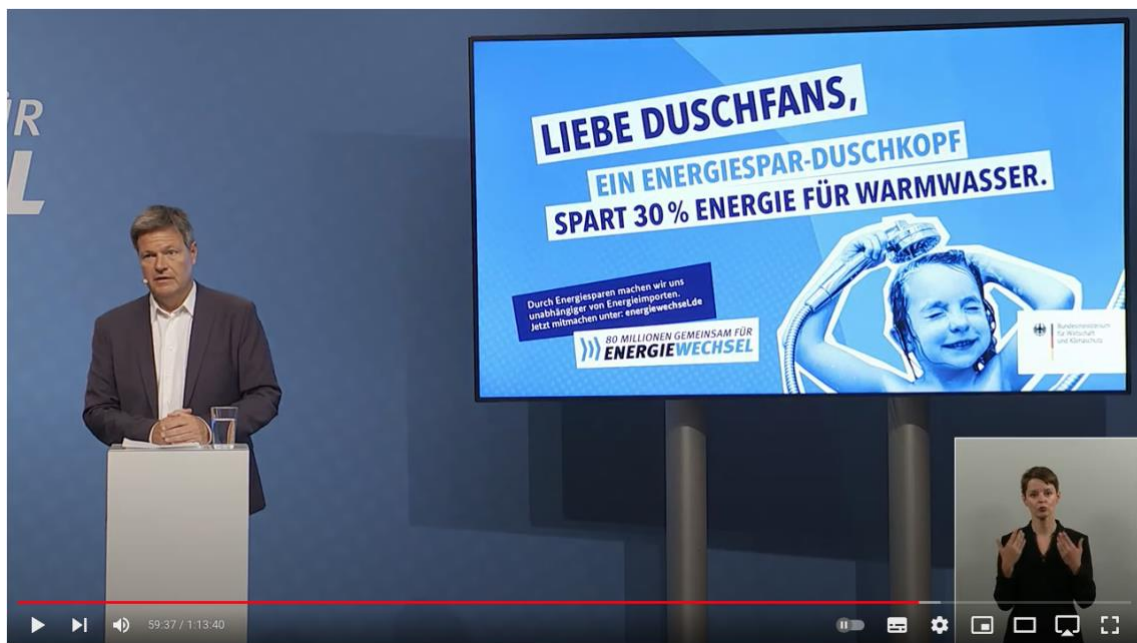


Figure 9 Advertising poster "Liebe DusCHFans" (BMWK, 2022c)

Like the first one, the second subject (see figure 9) has a youthful touch addressing fans of a bathroom shower. Using the same font as in the previous subject, this time the photo shows a young girl washing her head under a shower head, her eyes closed and a friendly smile on her face. Technically nobody can determine the energy saving standard of the shower device. The poster definitely communicates the intention to arouse sympathy and positive emotions and is therefore more likely to be classified to the social norm or simplification categories of *nudges*. It does not appeal to a specifically positive self-image or warning, but simply shows a child coming from any imaginable background of society,

apparently taking a proper shower. The humor and positivity may open the mind of any recipient to take a shower more thoughtful and sparing (*nudge* category A).



Figure 10 Advertising poster "Liebe Häuslebauer" (BMWK, 2022c)

The third poster (see figure 10) shows a young man mounting photovoltaic panels. The font of the slogan is in capital letters, additional information in a dark box as seen before. Since this poster advertises the installation of a photovoltaic system, purchasing PV is too immense to be qualified as minor behavioral change, because it is related to a

considerable investment. Therefore, this image is not compatible with one of our *nudging* definitions.

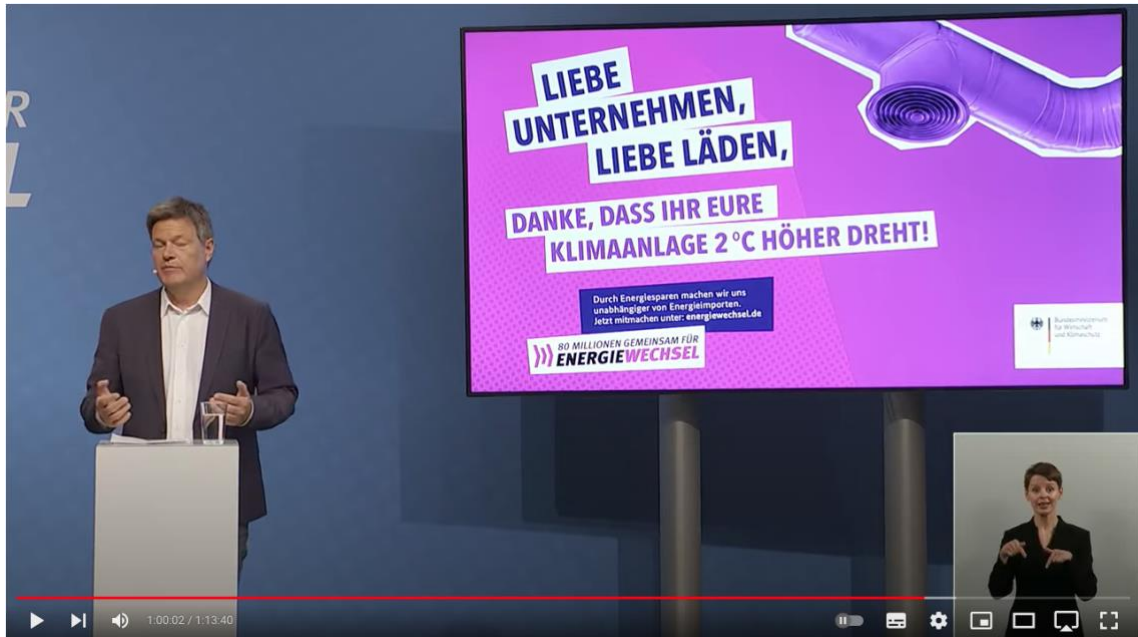


Figure 11 Advertising poster "Liebe Unternehmer" (BMWK, 2022c)

The fourth poster (see figure 11) addresses companies and businessmen. Its photograph shows the part of a ventilation or respectively air conditioning or heating system. It does

not have a particularly large *nudging* character, which irrelevant in this case, since here not private households are addressed, but explicitly companies and businesses.



Figure 12 Advertising poster "Liebe Eisfans" (BMWK, 2022c)

The last poster (see figure 12) presents a message clearly directed towards private households. Consumers are praised for saving energy by regularly defrosting their icebox. The poster shows ice cream on a stick, held by a small hand. The image does not give any further *nudging* but merely supports the *nudging* message expressed by the text.

5.2 Austrian Case Study (A) *Mission 11*

5.2.1 General Information

On September 12, 2022, the energy saving campaign of the Austrian Federal Government and the Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology was launched. The title of the campaign is *Mission 11*, which is based on the common goal of saving 11% of energy through small and minor behavioral changes in households (BMK, 2022c). The actual impulse for the launch of Austria's campaign is Russia's aggression against Ukraine, which once again highlights the dependence on fossil fuels and the general need to reduce energy demand when relying on renewable energies (Gewessler, 2022). Austria has about four million households that consumed 90 TWh of energy for heat and electricity in 2021. Austria presently has about

nine million inhabitants (Statistik Austria, 2023). The costs of the campaign amount to 3.6 million € (Österreichisches Parlament, 2022). This is the necessary budget estimated for all expenses of this initiative for the time period September 12, 2022, to March 2023. The campaign is based on a survey conducted by the Austrian Energy Agency selecting a sample of households in order to estimate how much energy is used in an average home in everyday life. As a result of the study (Tretter and Knaus, 2022) the authors came up with the number 11 %, derived from the potential possibilities of saving energy through small efficiency measures caused by changed behavior, according to data presented by Franz Angerer in the press conference (Gewessler, 2022).

5.2.2 Press Conference

5.2.2.1 Background and context

As in the German case study, the press conference, which took place on September 12, 2022, in Vienna, serves as the launch of the energy saving campaign *Mission 11* of Austria. The press conference was convened exclusively for the presentation of this campaign (BMK, 2022a). Participating as speakers for this press conference were the Federal Minister for Climate Protection Environment Energy Mobility Innovation and Technology Leonore Gewessler, Barbara Schmidt, Secretary General of *Oesterreichs Energie*, an association representing all electricity producing utilities in Austria, Minister of Labor and Economy Martin Kocher and Franz Angerer, Managing Director of the Austrian Energy Agency. The press conference oriented towards the representatives of the media as much as towards the digital means of publication, namely Twitter, where the recording was found for the research purpose of the master thesis.

5.2.2.2 Text analysis

Text producing sources of the press conference are the four key speakers, but also a short commercial clip of the campaign. This was followed by a Q&A session for questions from the journalists. The press conference starts with a short introduction of the contributors by the host, who then hands over the microphone to Minister Leonore Gewessler.

Minister Gewessler begins her speech by outlining the critical situation of the energy supply in Austria. As the main reason for the recent changes and the critical situation in Austria, Leonore Gewessler refers to the Russian war of aggression in Ukraine. The war would disqualify Russia to be a reliable partner, because President Putin would allegedly

have said that governments should meet his expectations, otherwise he would turn off the gas, respectively stop the supply. This outlining, drawing a threat situation can certainly be seen as *nudging* (category D).

By a viewer it can only be perceived as a warning and an urgent request to save energy in order to avoid the realization of this threatening indication. The Federal Minister also mentioned that gas and electricity consumption has already been noticeably reduced through energy-saving measures, thereby indicating that it is not impossible or unrealistic to save energy in times like these.

Similar to *Energiewechsel*, the Federal Minister embeds the energy saving campaign in a general energy strategy. This consists of renewable expansion, as well as the transformation of the present industry to a decarbonized industry in the long term. In this context the third pillar would be “saving energy”, according to Gewessler.

Later on, she talks about a common challenge, a common effort, which can be understood as a social norm (category C), because here she deliberately changes her language to “we”. Creating a sense of togetherness, approaching a common goal. Similar to what Robert Habeck is performing, Gewessler already thanks people at the beginning of the campaign, hoping that this will reliably inspire and prompt more people. This “thanking in advance” can be understood as attribute to the self-image, because a person listening and receiving thanks in advance, might naturally want to live up to the common standard and try to fulfill the expectations.

Also, part of the thank you section are remarks regarding the associations, which support the campaign. This is a clear case of social norming, insinuating that the whole society is involved in governmental campaign. Follow the herd - *Nudge* category C.

The second speaker at the press conference is the Minister of Economy and Labor, Martin Kocher. He also speaks of conflict and of an exceptionally challenging time. He emphasizes that the situation is serious, and that everyone can make an important contribution. He draws a positive picture of the future and speaks of the fact that the winter can be lived through like usual as long as everybody prepares for the cold season and makes an effort to use energy sparingly. This formulation of the possibility that the winter could be different, can certainly be qualified as a warning (*nudge* D).

Another picture that Martin Kocher draws is, that Austria would be a society and a business location that has already survived serious crises in the last 70- and 80-years,

calling this a condition for mastering the present crisis. This picture drawn by Kocher can also be seen as a self-image *nudge*, because he introduces once again the idea of an ideal society that is strong and resilient and supported by the people upholding, this property and this virtue.

The Secretary General of Oesterreichs Energie, Barbara Schmidt, expresses her support for the campaign. She recalls her childhood in the seventies, when it would be quite natural for her to turn off the light when leaving a room or putting the lid on the pot. This formulation includes some warning, because it implies that behavior has changed nowadays and that it will have negative consequences, if we continue being wasteful. This way she appeals probably especially to people of her generation, that they should nowadays pay again more attention to the use of energy (category D).

The last speaker, Franz Angerer, managing director of the Austrian Energy Agency, demonstrates, by showing three utensils that he brought with him, how easy energy saving can work. He gives three clear examples for improving ease, convenience and simplification (category A). The objects, he has with him, are a notepad to daily document electricity and gas consumption, a kilowatt-hour meter for the socket and a thermometer for measuring the temperature of rooms. These three *nudges* are to be understood hybrid. They would not work purely without text. Therefore, they are counted once in the list in the appendix.

During the speech of Martin Kocher, posters were also shown in the livestream. What is striking about the texts on the posters and in the video are the playful formulations, such as rhymes (see figure 16), or paradoxes, like the one in the advertising poster “because less helps more now” (own translation) (see figure 15). Or terms are exchanged, by simply changing letters: “Schluss mit luftig” (see figure 17).

The country-specific language is also striking and worth mentioning, as with the advertising poster shown under Martin Kocher (“Spar Energie & Marie”, see figure 14) and under Barbara Schmidt (“Koch dein eigenes Supperl”). The terms “Marie” (=money, (Sedlaczek, 2011)) and “Supperl” (= Austrian diminutive for soup, (Kim, 2012; Sedlaczek, 2022)) are exclusively Austrian terms, which are good examples with

reference to policy recommendations (WEC, 2008; Breukers, Mourik and Heiskanen, 2013) on how they should look and how they should be targeted. In general, it can be said that the slogans have a prompting character, but according to the definition of *nudges*, they do not fulfill the criteria. They are prompting, because they are humorously formulated, simplifying a complex issue and providing convenience.

The audiovisual text source is the voice of the commercial, which playfully appeals in short sentences to save energy and, if interested, to retrieve the website for more information. The contemporary language and the youthful “per Du” (being on first name terms) language, e.g., no formal expression, of the commercial is remarkable in comparison to the press conference as a formal event.

5.2.2.3 Image analysis



Figure 13 Protagonists of the Austrian press conference (Gewessler, 2022)

Regarding the first visual impression (see figure 13), the presentation did not differ much from other ordinary press conferences of Austrian Ministers. However, it took place in the Ministry of Climate Change unlike to the usual venue in the Federal Chancellery, where press conferences take place after the Council of Ministers. In the background we have the standard placard “Republic of Austria” with subtle pattern in gray on white, representing the symbol of the government: the red-white-red Austrian flag. The background wall is decorated by one Austrian and one European flag on each side. The

speakers from left to right, Angerer, Kocher, Gewessler and Schmidt, stand in front of the press representatives behind podiums made of LED screens, which show the names of the speakers and display the corporate identity (CI) of the campaign.

This CI on the LEDs (see figure 12) is kept very minimalistic and indicates a power button, a tube (from a heating system), a lightning, and ice crystals/snowflakes, which probably stand for electricity and heat energy, a television power button and a refrigerator. The symbols used are too abstract to be considered *nudges*. All these symbols are elements that reappear in the single and thematic spots that are outside the scope of the research.

The speeches are mainly solely verbally, which we already analyzed in the section above. In the case of Mr. Angerer from the Austrian Energy Agency, in addition to spoken communication, non-verbal communication is added, which goes beyond mere gesticulation. Mr. Angerer uses the three devices, kilowatt-hour meter, notepad and thermometer. These illustrative elements were already counted in the above section as *nudges* since they are difficult to separate from the spoken communication.

During the speech, as it can be seen from the illustrations (see figures 15-25, 26), the advertising posters were faded in. The first advertising poster, which was faded in during the speech of Minister Kocher, shows a call to action on a red background in bold capital letters, to save energy. The other posters differ little from the first. They work with intense

colors and contrasts, not only on an illustrative level, as described above, but also linguistically.



Figure 14 Angerer showing a red notebook (Gewessler, 2022)



Figure 15 Advertising poster "Spar Energie & Marie" (Gewessler, 2022)



Figure 16 Advertising poster "Weil weniger jetzt mehr hilft" (Gewessler, 2022)



Figure 17 Advertising poster "Dreh klein, spar ein!" (Gewessler, 2022)



Figure 18 Advertising poster "Schluss mit luftig" (Gewessler, 2022)



Figure 19 Advertising poster "Kleiner Riesenunterschied." (Gewessler, 2022)



Figure 20 Advertising poster "Supperl" (Gewessler, 2022)



Figure 21 Advertising poster "Beende die Eiszeit" (Gewessler, 2022)



Figure 22 Advertising poster "Wer isoliert, profitiert" (Gewessler, 2022)



Figure 23 Advertising poster "Wenn's geht, dann geh ich" (Gewessler, 2022)



Figure 24 Advertising poster "Weil weniger jetzt mehr hilft" (Gewessler, 2022)



Figure 25 Angerer showing kWh meter (Gewessler, 2022)



Figure 26 Angerer showing thermometer (Gewessler, 2022)



Figure 27 Mission 11 TV Spot "Wie du bist" (Gewessler, 2022)

In the commercial itself, only the *nudges* and CI elements that were already shown and placed on the advertising posters, were repeated. Therefore, the commercial does not deliver for enumeration.



Figure 28 Mission TV Spot "Beende Eiszeit" (Gewessler, 2022)

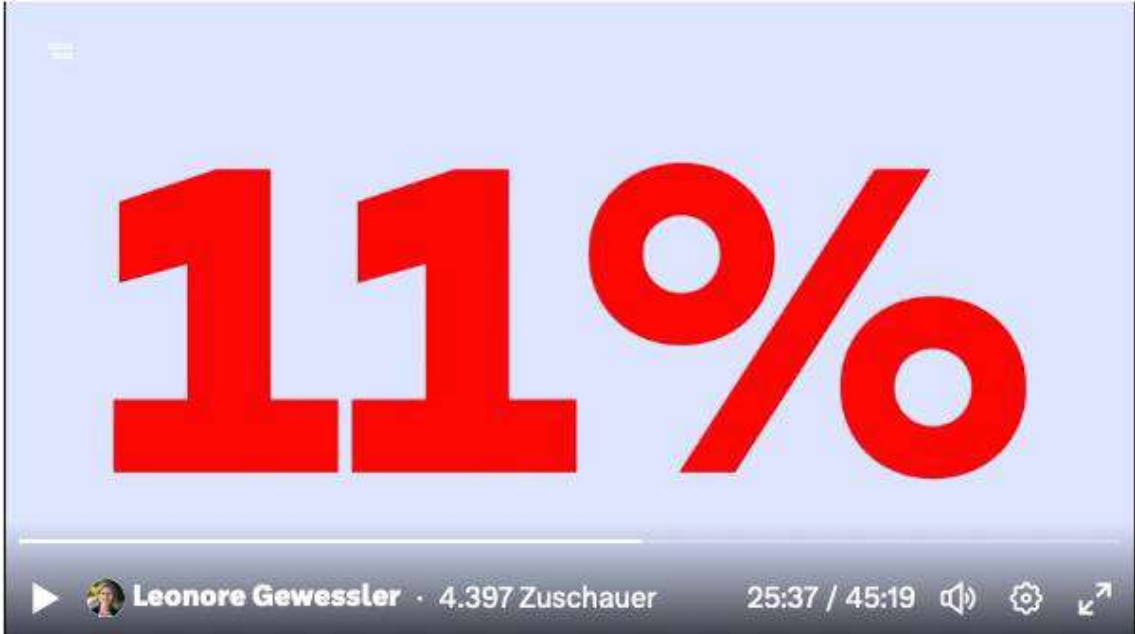


Figure 29 Mission 11 TV Spot "11 %" (Gewessler, 2022)



Figure 30 Mission 11 TV Spot Closing Credits (Gewessler, 2022)

5.3 Swiss Case Study (CH) *Nicht verschwenden*

5.3.1 General Information

Switzerland has launched the energy saving campaign *Nicht verschwenden* (=Don't waste) in late summer 2022, which aims to inform and encourage the approximately 3.9 million households in the country to consume less energy that can be achieved through small simple steps that are easy to implement. Switzerland is, like Germany and Austria, a federally structured state, which has internalized federalism intensively. This may explain the very large number of participants at the Swiss press conference. The campaign is scheduled from September 1, 2022, to April 2023. About 13 million francs have been budgeted of which the majority is dedicated for commercials and advertisements and only a small part goes to the creative agency responsible for the concept, design and content. The agency is by the way the same, that is responsible for *Energiewechsel* in Germany: Scholz and Friends (Anon., 2023).

5.3.2 Press Conference

5.3.2.1 Background and context

The press conference has taken place on August 31, 2022, in the conference hall of the Swiss Federal Government (Bundesrat) in the city of Bern. Participants included Federal Councillor Guy Parmelin, who also heads the Department of Economic Affairs,

Education and Research (WBF), Simonetta Sommaruga, the head of the Department of the Environment, Transport, Energy and Communications (UVEK), and Monika Rühl, the chairwoman of *Economiesuisse*, an umbrella organization of the Swiss economy. Other participants at the press conference were Roberto Schmidt, President of the Conference of Cantonal Energy Directors (EnDK), an association representing all energy utilities in the respective cantons, Michael Frank, Director of the Swiss electricity industry, and Stefan Brupbacher, Director of Swissmem, which represents the interests of Swiss industry in the technology sector.

5.3.2.2 *Text analysis*

The opening of the press conference was conducted by Federal Councilor Sommaruga. Right at the beginning a clear picture of danger (category D) is drawn, where it is explicitly stated that Russia is responsible for this critical situation: “Russia has turned off the gas tap” (own translation) (Der Schweizerische Bundesrat, 2022). Federal Councillor Sommaruga leads with another *nudge*, namely that the situation is tense (category D), besides the campaign saying: “Energy is scarce. Let’s not waste it.” (own translation) This sentence is permanently shown in all four official languages of Switzerland during the press conference and is also repeated by the different protagonists on the podium in different languages except in Rhaeto-Romanic language. The press conference is multilingually performed, but nothing new or different is added to the information by use of another language.

After the insistent warning, *nudges* of the category D are followed by recommendations that are supposed to make life easier for the target group by informing and illustrating how easy it is to save energy (*nudge* number 4 and *nudge* number 5 (type A)).

Later on, in the speech, she sets an appeal that together the Swiss people can meet this challenge, and that together they can achieve a lot (*nudge* 6, category C). The remark that many associations and organizations boost this campaign and support it composes a *nudge* of the category C (*nudge* 7).

Her colleague Federal Councillor Parmelin basically reproduced Sommaruga’s remarks in French.

Monika Rühl, the president of *Economiesuisse*, an interest group for businesspeople, also tries to make clear what potential economic damage is to anticipate and that this could

mean over 100 billion Franken in costs (*nudge* number 11 type D). The survival of companies would be at stake, according to her estimation. Such a statement with a clear warning effect stands for a *nudge* type D (number 12).

Stefan Brupbacher is the one who uses rhetoric means upholding the self-image and established Swiss values and virtues. The Swiss would keep up virtue of honoring the “Rappen” (small Swiss currency unit), to be worthy of the “Franken”. Thus, frugality and efficiency would belong to Switzerland’s national cultural understanding. Commenting this, he clearly appeals to the self-image *nudge* (category B).

Concerning the content of the text, we can note that the Swiss press conference contains a lot of *nudges* that warn and point out the consequences. Right at the beginning it is made clear how tense the situation is, and the title of the campaign is a clear *nudge* of the category D. “Energy is scarce. Let’s do not waste it.” These two sentences contain clear terms that indicate seriousness and the need for action. However, the speakers at the press conference also used category A, such as “one degree fewer heating saves 5 % to 6% of energy” (own translation).

5.3.2.3 *Image analysis*

Regarding the arrangement of the Swiss press conference, a total number of seven people including the moderator (Vice Chancellor) were seated on the stage. Behind them we recognize two Swiss flags. Via beamer two advertising posters are made visible on the wall.



Figure 31 Seating formation during Swiss press conference (Der Schweizerische Bundesrat, 2022)

Here we find very creatively implemented *nudges*, which clearly warn and show consequences. These are thermal images, of areas from the household that give off a lot of heat. On the left poster, we see a faucet, presumably filling a bathtub with hot water. On the right poster we see an oven with the door open showing a freshly baked hot pizza. These advertising posters contain elements of commercials that were not played at the press conference, but were later in use on television. The images provide a reference to these commercials (Gundelach, 2022), comparable to Austria's symbols on the LED screens.

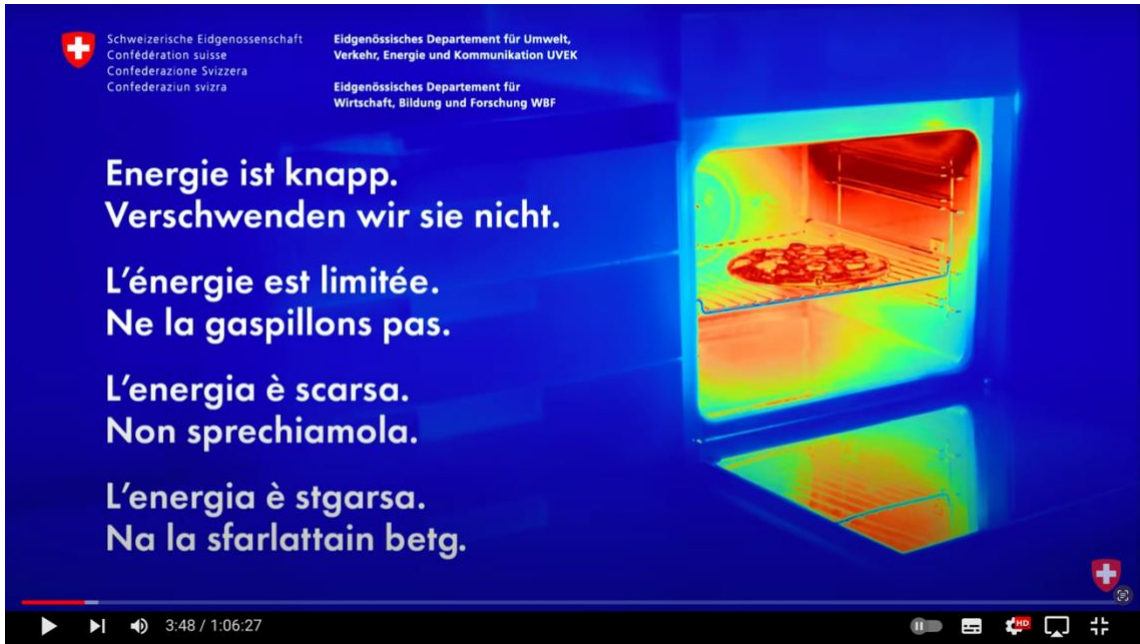


Figure 32 Swiss advertising poster in 4 languages (Der Schweizerische Bundesrat, 2022)

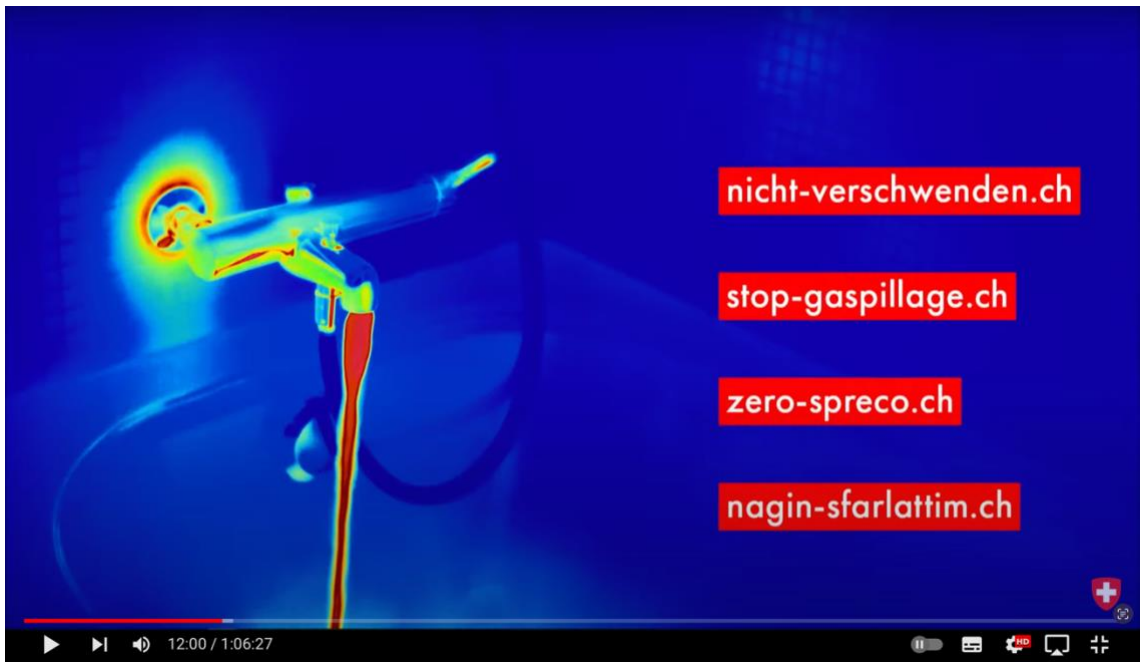


Figure 33 Swiss advertising poster with URLs for 4 languages (Der Schweizerische Bundesrat, 2022)

5.4 Findings

5.4.1 Comparison of General Data

When we now compare the three campaigns in general, we see that they significantly differ in scope. With the (activation) campaign *energy change*, the German government

is clearly not only pursuing energy saving as a goal, mainly due to the critical situation caused by Russia's invasion of Ukraine and the subsequent unstable supply situation of oil and gas. It simultaneously aims to achieve a transformation in the energy sector, which goes beyond the desired minor rapid changes in behavior by household members (Deutscher Bundestag, 2022). On the website you can find that funding and subsidy programs (financial incentives) are offered for companies as much as for homes, and for municipalities. The expansion of renewable energies is strongly promoted, which in most cases requires the investment of significant amount of money.

The Austrian and Swiss campaigns, on the other hand, are more narrowly defined in their objectives and therefore more comparable. They both have the exclusive goal of making your households more energy efficient, purely through minor behavioral changes.

Looking at the wording of Austria and Switzerland, you can clearly see that Switzerland is much more dramatic in describing the situation. *Don't waste* is a more drastic wording than *Mission 11*. Switzerland warns against being wasteful and states that *energy is scarce*. In Austria the campaign is characterized by a more subtle tone, not as clearly recognizable as an energy saving campaign. The title only reveals that it is about a mission (in which we should all participate). So, one can already tell from the titles in which direction, and with which means the campaigns are working and trying to convince people.

The planned campaign durations are also in line with the framework and goal of the campaigns. Since Germany has more ambitions and goals, which is going to run until 2025.

For Austria and Switzerland, we observe a very similar situation. Both campaigns started in fall 2022 and ended in spring 2023 (end of the heating season). It is striking that the same media agency was commissioned for Germany and Switzerland.

To better understand the dimensions, the following table illustrates that Germany with around 40.9 million households (Statistisches Bundesamt, 2023) has a budget of around 85 million € (Graichen, 2022). Austria with approximately four million households (Gewessler, 2022) has a budget of 3.6 million € (Österreichisches Parlament, 2022) and Switzerland with 3.9 million households (Bundesamt für Statistik, 2023) could spend 14 million Franken (Der Schweizerische Bundesrat, 2023).

Table 2 Summary of compared general data (BMWK, 2019; BMK, 2022b; EDA, 2023)

	D	A	CH
Title	<i>Energiewechsel</i>	<i>Mission 11</i>	<i>Nicht verschwenden</i>
Budgeted expenses	85m Euros	3.6m Euros	14m Franken
Duration	06/2022-XX/2025	09/2022-03/2023	09/2022-04/2023
Objective	Energy transition and saving	Energy saving	Energy saving
Creator	Scholz & Friends	Jung von Matt	Scholz & Friends
Amount households	40.9m (2022)	4m (2022)	3.9m (2021)
Import % of primary energy consumption	70.1 % (2019)	72.5 % (2021)	70.3 % (2021)

5.4.2 Comparison of Campaign Launches

5.4.2.1 Text

As we can see at table 4, the press conferences of the three countries in terms of *nudges* do not differ dramatically, but they do differ slightly. Germany, for example, has a balanced ratio of simplifications (*nudge* type A), self-image (*nudge* type B), social norms (type C) and warnings (D). The fact that fewer *nudges* were used in Germany is probably due to the shorter duration of the campaign launching. The presentations of Austria and Switzerland were 20 to 30 minutes longer and included more speakers than the German. In any case, the accumulation of warnings and the linguistically formulated drama at the Swiss press conference is striking. This clearly differentiates Switzerland from Austria and Germany.

When it comes to the advertising posters, we note that in Switzerland only two posters were presented being permanently projected on the wall in the background. On the screen of the German presentation five posters were shown alternately. The Austrians have chosen the biggest visual support for their presentation. Advertising posters were shown

on the screen and an additional TV spot at the end of the four speeches. The language of the Austrian posters is very playful and positive, which contrasts with the serious Swiss approach, using only little text on the two posters presented, sharing mainly information and the appeal “do not waste”. Unlike the Swiss version Austria and Germany have both worked with country-specific terms (“Supperl” and “Häuslebauer”) on the posters.

Austria was the only country where audiovisual material was presented at the press conference. A commercial was played after the speeches of the four protagonists were held. This spot, however, only repeated the slogans and word jokes, that had already been shown on the screen during the press conference.

5.4.2.2 *Image*

If we think about “the image” of the three press conferences, we already see clear differences in the setting. The Germans announced the campaign with only one person, minister Robert Habeck. The Austrians, on the contrary, presented four people, who would much better embody the idea of solidarity and broad alliance. The previous energy summit might have been the reason for Mr. Habeck not to involve secondary speakers avoiding the decision to select a small number from a rather big group of experts.

In Switzerland we have a quite classical picture of a press conference and by far the most speakers. Representatives from the two departments, Energy and Science, present the campaign, and next to them are seated some business leaders and energy industry representatives. The people in the Swiss press conference were sitting, whereas the Austrian speakers and Robert Habeck were standing.

Table 3 Amount of people presenting during press conference (own table)

Country	D	A	CH
Amount	1	4	6

5.4.2.3 *Nudges in comparison*

Table 4 Counted nudges in D-A-CH countries (own table)

Types of Nudges	D	A	CH
A Simplification	4	9	3
B Self-image	4	1	1
C Social Norm	5	4	2
D Warning	1	3	11
TOTAL	14	17	17

The total numbers of *nudges* do not differ significantly. In terms of content, we can point out that Austria uses relatively many illustrations and simplification *nudges* of the category A, while the Swiss work with a lot of warning and pointing out consequences compared to other types of *nudges*.

6 Recommendations

Based on the literature and the empirical findings the following three items can be recommended for Austrian policy makers for potential further *nudge*-based behavioral policy measures:

6.1 Implementation of comparisons on energy reports

As Allcott and Rogers (2014) demonstrated, comparisons on the energy report of energy suppliers have proven to be a useful behavioral energy saving policy instrument. This type of social norm is therefore also recommended to Austrian policy makers. Such an implementation potentially also raises data protection issues. Nevertheless, no attempt should be missed to encourage the population to use energy more sparingly and, above all, more consciously in times of energy shortages triggered by geopolitical upheavals and the challenge of the energy transition.

6.2 Intertwining energy saving and energy transition strategies

With its *Energiewechsel* campaign Germany is adopting a much longer path than Switzerland and Austria. Not only do they want to get people to save quickly, but they are also linking this measure to the major goal of powering the country with renewable energies and thus achieving climate neutrality. Austria can also learn from this forward-looking approach, for example, by transparently and honestly demonstrating and communicating that energy saving and energy efficiency are not only necessary in the event of invasions by Russia, but are generally imperative for a successful energy transition and electrification of the energy sector (Brauner, 2016).

6.3 Promote energy education

In general, there is a lack of energy education. As Barbara Schmidt also stated in her speech, there is perhaps simply a lack of awareness of what energy means and how valuable it is (Gewessler, 2022). To strengthen this awareness and to educate the population, in the sense of the *nudges* “ease and convenience” and “disclosure”, a more intense enlightenment in energy issues is needed. Initiatives and measures for this already exist in Austria. Recently, the Minister of Education attracted attention with the idea of establishing energy ambassadors in schools (DER STANDARD, 2022).

One way to improve the awareness and comprehensibility of energy use is gamification. For example, in 2015 a video was produced in which an athlete on a bicycle shows how much energy it takes to toast a slice of bread (Olympic Cyclist Vs. Toaster: Can He Power It?, 2015). But also, simpler educational measures that illustrate, for example, how much energy is produced per wind turbine rotation, or how much a car consumes at a faster speed; or the kinetic energy of an object, which is directly proportional to the mass of the object and to the square of its velocity instead of being linear, as one might assume. All these would be small educating *nudges* that would give people more understanding and clarity.

7 Conclusion

7.1 Summary

This Master Thesis is dealing with behavioral energy saving policies for households. Three research questions were addressed:

Firstly, to what extent do the three non-financial energy saving policies in the form of campaigns possess *nudging* elements according to Thaler and Sunstein? Here, the conducted research revealed that all three cases utilize *nudges*. On the one hand, it was striking to learn that Switzerland used many warning *nudges* in the related press conference. On the other hand, Austria and Germany have chosen a more positive and motivational approach. These two countries thanked the audience in advance, in the hope that the population would respond positively, which means they would more likely follow and support the campaign with their behavior. Individual *nudges* were also counted as a quantitative element of this research (see appendix). All three analyzed press conferences reported approximately the same number of *nudges* (14; 17; 17). The fact that Austria and Switzerland had more than Germany, is probably due to the simple fact that these press conferences had several speakers and they also lasted longer.

Secondly, as far as the differences among the campaigns are concerned, it is worth mentioning that Germany and Austria are most similar. Both countries mention other policy measures that are of economic and regulatory nature and highlight their necessity. Behavioral policies alone would not be sufficient and irresponsible to execute exclusively. Further, Germany put its energy saving campaign under the big umbrella of energy transition called “activation campaign”, named *80 Millionen, gemeinsam für Energiewechsel*, a longer enduring campaign lasting until 2025. On the contrary, Switzerland and Austria only launched saving campaigns lasting until spring 2023.

Austria’s campaign operates, regarding the advertising poster, with humoristic rhetoric, minimalistic and reduced design, youthful and informal language with single Austrian specific, also according to literature recommendation, language like “Marie” or “Supperl”. Germany also provides country-specific elements such as the Southwest German expression “Häuslebauer”, which according to literature is advantageous.

Switzerland, in contrast, tends to showcase relatively old-school. There, the speakers were seated classically. They also refrained from showing several posters. Instead, Switzerland had by far the most speakers, which was the strongest reflection of the broad alliance behind the campaign among the three countries.

Thirdly, three policy recommendations for Austrian policy makers could be derived from the findings. It is recommended to include comparative elements on energy reports. Linking energy saving and transition, as Germany is practicing with its *Energiewechsel*, is also recommended. The third proposal suggests more education about energy as well as a better understanding of the value of energy. By gamification and information initiatives, this shall be achieved.

7.2 Limitations

Several limitations are evident in this work. Firstly, it needs to be reminded that the time available for conducting the research was rather limited (April 2023-May 2023). As a result, it was decided to apply a qualitative research approach, which aimed at analyzing and interpreting easily accessible sources, i.e. press conferences, without conducting personal interviews or similar methods. With the choice of a case study method, a research bias cannot be excluded. This is because the elaborate testing the reliability checks were not possible to conduct.

Second, *nudging* is a controversial method of getting people to behave in a certain way. No matter how well one tries to ensure that the addressees can detect the manipulation, there remains a bitter taste in choosing such an approach. As a remark, there is perhaps a good reason why the Behavioral Unit webpage of the White House is no longer updated and maintained (US Government, 2017) .

Lastly, the question of how successful behavioral policy approaches are in practice is also not finally settled. There are many positive examples, but at the same time critics, about the way the efficacy of behavioral policy instruments is measured. It remains a controversial field as shown in the literature (Rousseau and Grégory, 2010; Allcott and Taubinsky, 2015; Österreichisches Parlament, 2022)

7.3 Outlook

Three points are proposed for future research: Firstly, further and more attention should be paid to the issue of the effectiveness of behavioral policies. Secondly, specifically related to the research subjects of this master thesis, it would be insightful to compare other channels of campaigning. This would have the advantage of providing even more depth and nuances regarding the differences and similarities of the respective cases. Thirdly, the analysis of the press conferences themselves could be made even more detailed and differentiated. One could use evaluation programs to compare the texts of several campaign elements and evaluate them on a large scale. Including other similar countries would also make the results more representative and thus more powerful.

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Annex

Counted Nudges in German press conference

Number	Cluster	Nudge	Evidence
1	text	A	“Also vom Gas und Ölkessel/Ölheizung hin [...]“
2	text	C	“[...] im Bündnis sich befindlichen Verbänden [...]“
3	text	C	“[...] von Menschen gemacht wird, von Menschen erzählt.“
4	text	D	“Wir lernen voneinander.“
5	text	B	“[...] wir stolz sein wollen auf das [...]“
6	text	B	„Und dafür sagen wir danke [...]“
7	text	C	“80 Millionen für Energiewechsel“
8	text	A	“[...] spart 30 % [...]“
9	text	B	“[...] stärkt Deutschlands Unabhängigkeit” “[...] machen wir uns unabhängiger [...]”
10	text	A	“[...] bis zu 50 % Energie“
11	text	C	“Danke, dass ihr eure Klimaanlage [...]“
12	text	B	“Danke fürs Gefrierfachabtauen“
13	image	C	photo of diverse group of happy people
14	image	A	Photo of smiling child taking a shower

Counted Nudges in Austrian press conference

Number	Cluster	Nudge	Evidence
1	text	D	“[...] das ist auch ein Krieg gegen uns.“
2	text	C	“[...] gemeinsame Herausforderung [...]“
3	text	C	“[...] wir gemeinsam weniger Energie [...]“
4	text	C	“[...] bei allen Institutionen und Partner [...]”
5	text	D	“[...] wird der Winter auch nicht anders [...]“
6	text	C	“[...] als Gemeinschaftsaufgabe sehen.“
7	text	B	“[...] schwere Krisen [...] geschafft haben.”
8	text	D	“[...] ganz klar, dass man das Licht abdreht [...]”
9	text/image	A	Showing and explaining red notebook
10	text/image	A	Showing and explaining kWh meter
11	text/image	A	Showing and explaining thermometer
12	text	A	“Jetzt Geräte vom Strom trennen [...]“
13	text	A	“[...] Raumtemperatur um 2° senken [...]”
14	text	A	“[...] stoßlüften statt dauerkippen [...]”
15	text	A	“ [...] Deckel auf Topf und Pfanne [...]“
16	text	A	“[...] Gefrierschrank abtauen [...]“
17	text	A	“Jetzt Fenster abdichten [...]“

Counted Nudges in Swiss press conference

Number	Cluster	Nudge	Evidence
1	text	D	„[...] Gashahn zgedreht hat [...]“
2	text	D	“[...] angespannt und [...] ungewiss [...]“
3	text	D	“[...] Energie ist knapp. [...]“
4	text	A	“Ein Grad weniger heizen spart bereits 5 bis 6% Energie [...]“
5	text	A	„[...] Wasserkocher statt einer Pfanne benutzt, spart 50% Energie.“
6	text	C	“[...] über 40 Verbände und Organisationen in diese Kampagne einbezogen [...]“
7	text	C	“[...] gemeinsam können wir viel erreichen.“
8	text	D	“[...] so lange wie möglich zu verhindern.“
9	text	D	“[...] wie schwierig es sein wird [...]“
10	text	D	“[...] Energiemangellage [...] realistisches Szenario [...]“
11	text	D	“[...] potenziellen volkswirtschaftlichen Schäden [...]“
12	text	D	“[...] Existenzen auf dem Spiel.“
13	text	B	“[...] Schweizer Tugenden bei Volk [...]“
14	text	A	“Sparen wir [...] Strom, sparen wir [...] Gas.“
15	text	D	“[...] Mangellage [...] verhindern.“
16	image	D	poster with thermal image of faucet
17	image	D	Poster with thermal image of pizza in oven