

CHALLENGING THE ASSUMPTIONS OF ENVIRONMENTAL
POLICIES – RE-HUMANISING DECISION MAKING

Peer-reviewed author version

TARANU, Victoria & VERBEECK, Griet (2019) CHALLENGING THE
ASSUMPTIONS OF ENVIRONMENTAL POLICIES – RE-HUMANISING DECISION
MAKING. In: Itecons - Instituto de Investigação e Desenvolvimento Tecnológico para
a Construção, Energia, Ambiente e Sustentabilidade (Ed.). 4th Energy for
Sustainability International Conference - Designing a Sustainable Future,.

Handle: <http://hdl.handle.net/1942/29598>

CHALLENGING THE ASSUMPTIONS OF ENVIRONMENTAL POLICIES– RE-HUMANISING DECISION MAKING

Victoria Taranu^{1*} and Griet Verbeeck²

1: Faculty of Architecture and Arts
Hasselt University, Campus Diepenbeek
Agoralaan Gebouw E, B-3590 Diepenbeek, Belgium
victoria.taranu@uhasselt.be
<https://www.uhasselt.be>

2: Faculty of Architecture and Arts
Hasselt University, Campus Diepenbeek
Agoralaan Gebouw E, B-3590 Diepenbeek, Belgium
griet.verbeeck@uhasselt.be
<https://www.uhasselt.be>

Keywords: policy making, energy renovation, nudging, energy efficiency, energy performance certificate, residential sector

Abstract *Mainstream policies regarding energy efficiency are based on the assumptions of traditional economic models of rational choice and ignore findings from behavioural economics such as cognitive limitations, self-control problems and social preferences. On the other hand, behaviourally-informed (BI) policies that take into account these limitations have a reductive perspective focusing exclusively on nudging. Over 196 behavioural insights units and initiatives across the world mostly focus on testing nudges with the use of randomised controlled trials (RCTs). Yet, this approach does not allow to detect the behavioural mechanism responsible for the success or failure of the nudge in order to apply findings to other policy contexts. Besides, RCTs focus exclusively on the choice architecture, ignoring external constraints therefore nudges might fail to address structural barriers, such as lack of access to capital or lack of awareness. The debate is often artificially truncated to nudge (soft paternalism) vs. traditional policies (hard paternalism), arguing that nudges are more cost-effective. We propose a new approach in BI policies, that includes traditional policies such as economic subsidies, information provision and mandates. And in which nudges are not used as alternatives to traditional policies, but rather as a way to boost their effectiveness, given the evidence of the behavioural failures. The evidence-based elaboration of the new version of the Flemish energy performance certificate serves as case study of this new approach in BI policy, in the context of energy efficiency policies, using a range of qualitative and quantitative research methods. A change of paradigm in policy making is needed - findings from behavioural economics should challenge the assumptions, influence the choice between alternative policies, their elaboration and implementation.*

1. INTRODUCTION

In Europe buildings are responsible for 36% of the total CO₂ emissions [1], therefore the renovation of the residential building stock plays an important role in tackling climate change. Traditional policies to encourage energy renovation, such as economic incentives and information provision are elaborated based on neoclassical theory of rational choice that assume that dwellers have the capacity and willingness to maximize the utility [2]. Nevertheless, evidence from the field of behavioural economics shows that people have a bounded rationality (limited knowledge, memory and computation power) [3], are affected by emotions [4] and have limited self-control, the so-called **behavioural failures**. Policies addressing behavioural failures are usually referred as **behaviourally-informed policies (BI policies)**.

BI policies are often interchanged with the concept of nudging. Yet, nudging is only one of the possible applications of behavioural insights to policy making - an explicit testing of a behavioural insight. The definition of nudge gathers *“any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a nudge, the intervention must be cheap and easy to avoid.”* [5]. Nudging regards exclusively non-coercive measures under the philosophy of “libertarian paternalism” [6], while BI policies can include traditional measures such as economic incentives or mandates.

Most BI policies test the efficiency of a certain nudge in a real world context by measuring revealed preferences with the use of randomised controlled trials (RCTs) [7-9]. This approach of evidence-based policies that explicitly applies and tests a behavioural insight to a policy context will be referred to as *‘nudge vs. no nudge’*. This approach was initially popularised by the UK Behavioural Insights Team [7] and has increased exponentially in the last decade [10-13]. This way of testing the efficacy of a nudge can easily be operationalised, and, various frameworks provide guidelines for elaborating such BI policies that will be presented more in detail in section 2. However, this approach has limitations, such as ignoring external constraints and not making use of the full spectrum of policy measures and research methods to test these policies. An alternative framework is proposed in section 3, that aims to go beyond nudging in elaborating BI policies.

2. EXISTING FRAMEWORKS TO ELABORATE BI POLICIES

The growing interest of policy makers towards behavioural sciences has coincided with an operationalisation and testing of behavioural insights with the help of various frameworks addressed to policy makers. Typically they provide a list of possible nudges to be used as guidelines for elaborating BI policies. For example EAST method [14], provides the following guidelines: Make it Easy (defaults, reduce hassle, simplify message), Make it Attractive (attract attention for example with the use of images, rewards and sanctions), Make it Social (use the social norm for encouraging desired action, encourage peer-to-peer collaboration, public pre-commitment) and Make it Timely [14].

Similarly, MINDSPACE gathers the following recommended nudges: Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitments, Ego [13]. Other frameworks such as Learn, Test, Adapt [7] and BASIC [15] detail on the scientific method of conducting RCTs adapted to the audience of policy makers. Advocates of this approach underline cost-effectiveness of nudges compared to traditional policy tools [16], yet it is unclear how nudges can address structural barriers, such as lack of access to capital [17]. Besides, certain policy might be effective on short term, but it might fail to address major problems on the long run. For example, a study regarding smart heating controls concluded that these are more cost effective than wall insulation [8]. Yet, only with curtailment measures, climate goals of energy reduction can never be reached. Long-term policy goals to tackle core issues of energy renovation such as awareness and availability of capital can be achieved only with costly policy measures such as information campaigns, loan schemes and energy labels schemes.

However the dichotomy of nudge vs. traditional policy tools is a false dichotomy, since nudges do not exclude traditional policies but rather can boost their effect, as it will be illustrated in the framework presented in the following section.

3. INTEGRATIVE APPROACH – BEYOND NUDGING

In order to address the limitations of the current BI policy frameworks presented in the previous section, a holistic way of applying behavioural insights to policy making is proposed in

Figure 1. In the same line [18] discusses that “*Behavioural economics can and should now aspire to influence the design of policies aimed at deeper causes of policy problems*” [18] and advocates for an integrative approach for BI policies. Similarly [19] argues that behavioural failures interact with traditional market failures and cannot be addressed in isolation.

The policy context illustrated in the framework is energy renovation, using the new version of the Flemish energy performance certificate (EPC) as the case study for the behaviourally-informed policy. In order to elaborate BI policies, the following steps are necessary, see

Figure 1:

- 1) Firstly, a general policy issue and behavioural change aim is individuated – in this case necessity to increase the energy renovation rates. At this stage the policy issue cannot be substituted with a sub-problem since many other factors would remain neglected. The behavioural reduction in order to operationalise the scientific study is done at a later stage.
- 2) With literature review and focus groups with experts (including behavioural scientists) following aspects of the issue are analysed:
 - External barriers and facilitators – capital availability, salient life events, home tenure, heterogeneity of the building stock.

- Aspects of the choice architecture – bounded rationality, uncertainty of renovation outcomes, awareness, motivation, lack of trusted sources of information.
- 3) Existing and potential policy tools are individuated to address both aspects – external barriers and choice architecture. One policy measure is selected for further investigation, in this case the new version of the Flemish EPC.
- Taking into account all implementation aspects, one unaddressed issue is individuated, in this case the impact of the information framings on comprehension, interpretation of the certificate and on the willingness to renovate.
 - Potential biases and nudges are hypothesised – social comparison, loss aversion, size-effect bias, salience.
 - Comparative analysis of other European EPCs is undertaken in order to individuate a wide array of information framings and potential nudges – the hypotheses to be tested in the subsequent quantitative study.
 - A focus group with local experts in technical and behavioural aspects and a pilot test help to adapt to the local context and narrow down the hypotheses to be tested.
 - Testing and validation of the behavioural mechanism using laboratory experiments with factorial design. Laboratory experiments were chosen over RCTs because the former allow to determine the behavioural mechanism besides determining which EPC version provides better results in achieving the goals of the policy tool. This way findings can be used to other policy contexts within the same cultural context.
 - Application of the findings for modifying the policy tool. The Flemish EPC was rescaled from the initial G to A (700 to 0 kWh/m² per year) to F to A+ (600 to -100 kWh/m² per year).
 - Application of the findings to the general mix of policies by reconsidering the assumptions and taking into account the behavioural aspects of the choice architecture already addressed.

4. CONCLUSIONS

Mainstream policies for the uptake of EE measures still assume a rational consumer in setting up information campaigns, incentive schemes and information disclosure schemes [2], thus ignoring the findings of behavioural economics [2]. On the other hand BI policies, that take into account behavioural failures have a reductive perspective focusing exclusively on nudging. If nudges are explicit applications of behavioural insights, tested usually with RCTs [5], other implicit applications are also possible [10, 12].

To avoid falling in the trap of comparing nudges to other policies with regard to cost-effectiveness, underlined by some promoters of libertarian paternalism [16], an integrative approach of applying behavioural insights to both soft and hard paternalistic measures is proposed. Certain nudge interventions can be more cost-effective but can still fail to address structural barriers, such as lack of access to capital [17]. Besides, certain policy might be effective on short term, but it might fail to address major problems on the long

run. Long-term policy goals to tackle core issues of energy renovation such as awareness and availability of capital can be achieved only with costly policy measures such as information campaigns, loan schemes and energy labels schemes. Yet, in order to reach their full potential, these have to be elaborated and implemented by taking into account findings from behavioural sciences. The proposed methodology of elaborating BI policies includes the full spectrum of policies, from soft to hard paternalism, addressing both external constraints and behavioural failures. A change of paradigm in policy making is needed – findings from behavioural sciences should challenge the assumptions, influence the choice between alternative policies, their elaboration and implementation.

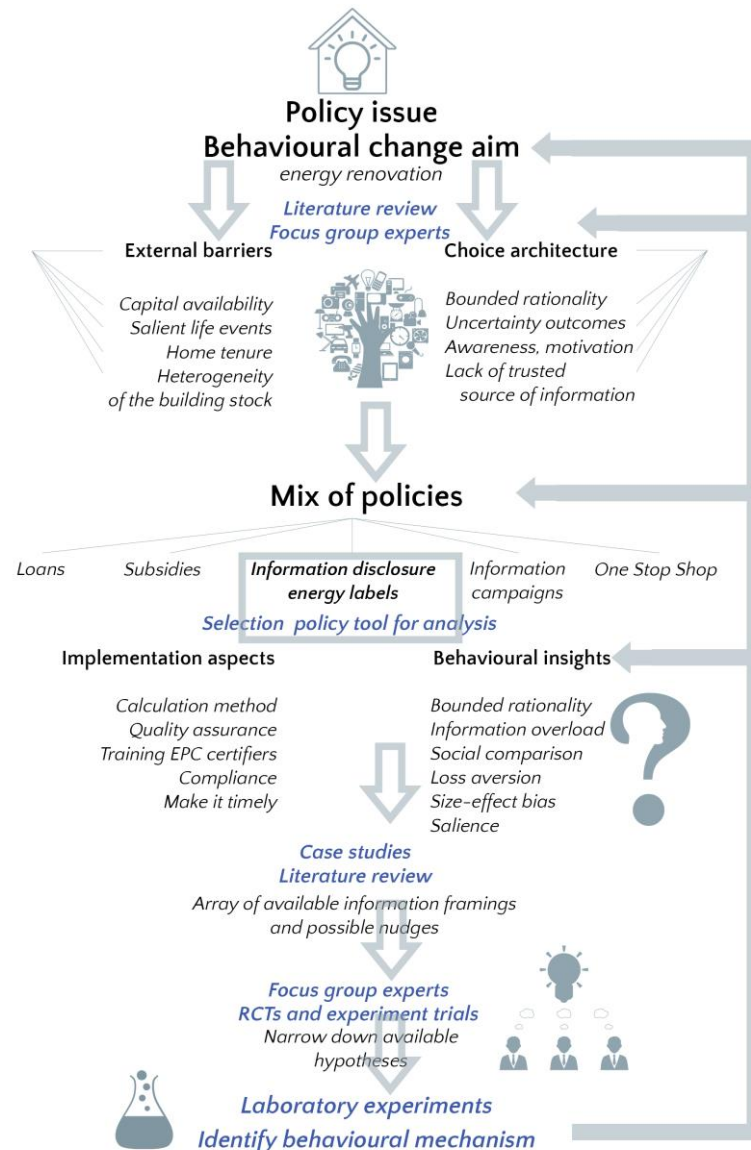


Figure 1 Framework Integrative method of elaborating BI policies. Based on energy renovation and the Flemish EPC case study.

REFERENCES

1. EC, *Directive (EU) 2018/844 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency*, The European Parliament and the Council of the European Union, Editor. 2018: Official Journal of the European Union.
2. Allcott, H. and S. Mullainathan, *Behavior and Energy Policy*. Science, 2010. **327**(5970): p. 1204-1205.
3. Simon, H.A., *Bounded rationality in social science: Today and tomorrow*. Mind & Society, 2000. **1**(1): p. 25-39.
4. Finucane, M.L., et al., *The affect heuristic in judgments of risks and benefits*. Journal of Behavioral Decision Making, 2000. **13**(1): p. 1-17.
5. Thaler, R. and C.R. Sunstein, *Nudge : improving decisions about health, wealth, and happiness*. 2008: Yale University Press.
6. Sunstein, C.R., *Nudges VS Shoves. Five reasons for choice-preserving approaches*. Harvard Law Review Forum, 2014: p. 210-217.
7. Haynes, L., et al., *Test, Learn, Adapt: Developing Public Policy with Randomised Controlled Trials*. 2012, Cabinet Office Behavioural Insights Team.
8. BIT, *Update Report 2016-17*. 2017, The Behavioural Insights Team. p. 52.
9. Alain Samson (Ed.), *The Behavioral Economics Guide. With an introduction by Cass Sunstein*. 2017. p. 161.
10. Lunn, P., *Behavioural Economics and Regulatory Policy*. 2013, Public Governance and Territorial Development Directorate.
11. Alain Samson (Ed.), *The Behavioral Economics Guide. With an introduction by Robert Cialdini*. 2018. p. 227.
12. Lourenço, J.S., et al., *Behavioural Insights Applied to Policy. European Report 2016*. 2016, European Commission. Joint Research Centre JRC. p. 54.
13. Dolan, P., et al., *MINDSPACE Influencing behaviour through public policy*. 2010, Institute for Government. p. 96.
14. Hallsworth, M., et al., *EAST Four simple ways to apply behavioural insights*. 2014.
15. Hansen, P. and K. Schmidt, *BASIC: En diagnostisk tilgang til udviklingen af adfærdsbaseret offentlig politik*. Oekonomi og Politik, 2017. **90**(4): p. 40-53.
16. Benartzi, S., et al., *Should Governments Invest More in Nudging?* Psychological Science, 2017. **28**(8): p. 1041-1055.
17. Jones, R., J. Pykett, and M. Whitehead, *The Geographies of Soft Paternalism in the UK: The Rise of the Avuncular State and Changing Behaviour after Neoliberalism: Geographies of soft paternalism in the UK*. Geography Compass, 2011. **5**(1): p. 50-62.
18. Bhargava, S. and G. Loewenstein, *Behavioral Economics and Public Policy 102: Beyond Nudging?*. American Economic Review: Papers & Proceedings, 2015. **105**(5): p. 396–401.
19. Bubb, R. and R.H. Pildes, *How behavioural economics trims its sails and why*. Harvard Law Review, 2014. **127**(1593): p. 1594-1678.