

Measuring the legitimacy of energy transition policy in the Netherlands

Kees Vringer
PBL Netherlands Environmental Assessment Agency
Bezuidenhoutseweg 30
2594 AV The Hague
the Netherlands
kees.vringer@pbl.nl

Christine L. Carabain
The Netherlands Institute for Social Research - SCP
Bezuidenhoutseweg 30
2594 AV The Hague
the Netherlands
c.carabain@scp.nl

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Abstract

In line with the Paris Agreement, the Dutch Government aims to achieve a 49 % reduction in CO₂ emissions by 2030. Achieving this goal requires an energy transition. This transition will have a large impact on Dutch society and the business community. It is important that Dutch citizens and companies support and agree on the policies that aim to accelerate and achieve the Dutch energy transition. This paper explores the legitimacy of these policies and how to measure the degree of such legitimacy. Policy legitimacy consists of public support for policy goals (input legitimacy) and support for the specific interventions needed to achieve these goals (output legitimacy). Policy legitimacy is based not only on effectiveness and efficiency, but also on other underlying aspects that are related to good governance.

We conducted a survey among Dutch citizens and company representatives which shows there to be support (input legitimacy) for the Dutch climate policies. In other words, Dutch citizens and companies support their government's pursuit of an energy transition. We also explored two concrete interventions: 1) an 'in-home display', collectively paid for by all energy consumers, and 2) an in-home display that is paid for by the energy companies. Both types of interventions are supported by around 50 % of citizens and companies. Companies and citizens broadly agree with each other, although they are slightly more likely to support the type of intervention with the least negative impact on them. We found strong correlations between eight underlying aspects of legitimacy and the overall

support for the interventions. The eight aspects had differing levels of appreciation, depending on the type of intervention. However, in general, we found fairness to carry more weight than cost-effectiveness. We also found that public support for a particular policy goal would not automatically result in support for the associated intervention. This last finding emphasises the importance of ex-ante testing of specific interventions, to determine the related level of public support, so that policy will be more effective and efficient.

Introduction

To contribute to limiting the effects of global warming as agreed on in Paris (2015), the Dutch Government formulated the firm policy goal of a 49 % reduction in CO₂ emissions by 2030 and 85 % by 2050, compared with 1990 levels (Klimaatberaad 2018). Research by PBL Netherlands Environmental Assessment Agency and the Netherlands Institute for Social Research (SCP) concluded that the energy transition needed to achieve those goals, would have a large impact on Dutch citizens (SCP, 2016). Involvement, acceptance and participation of both citizens and companies are a prerequisite to achieving these policy goals. A large majority of the Dutch population considers sustainability to be important (e.g. MNP, 2007; ESS, 2018). However, this does not mean that people automatically will change their individual behaviour for the purpose of achieving these goals (e.g. Verbeek and Boelhouwer, 2010; MNP, 2007; Vringer et al., 2007; Vringer et al., 2017). In the case that individual behavior does not directly leads to achieving a policy goal, there is legitimation required for policy interventions. However, such support for a particular policy goal not automatically leads to a

general acceptance of the related policy interventions. For example, a large degree of public support for slower global population growth does not automatically imply the same level of support for the implementation of a one-child policy. This, in essence, is true for all types of policies. Differences between the level of support for a policy goal and that for the related intervention were generally found to be larger when any positive effects occur further into the future and/or if they have a less local impact (WRR, 2003). This is true for climate policies. An example would be the location of wind turbines or underground CO₂ storage nearby residential areas. If citizens oppose policy interventions, the efficiency and effectiveness of that policy will decrease.

To make the Dutch energy transition policy more effective and efficient, information is required about its degree of legitimacy. In this paper, we explore, *ex ante*, the legitimacy of public policies aimed to accelerate and achieve the energy transition in the Netherlands. First, we look at the concept of policy legitimacy; then, a first attempt is made to measure the degree of legitimacy of policies addressing the energy transition in the Netherlands. We do this by answering the following questions: 1. Do Dutch citizens and companies support public policies aimed at the energy transition? 2. Are there differences in the level of support by Dutch citizens and companies? 3. Is there a relationship between the support of policy goals and that of their related policy interventions? 4. What underlying aspects of legitimacy are contributing to the support for specific policy interventions?

Policy legitimacy

The literature provides many different definitions of policy legitimacy. In Weber's (1978) view, 'legitimacy is the acceptance of exercised power'. In other words, legitimacy is the general willingness to follow the commands of a ruler or ruling body. In the view of Montenegro de Wit and Iles (2016), legitimacy means that people accept something (e.g. knowledge, social norms, habits or technologies), declare that 'something' as being credible and authoritative, and express that 'something' or apply it in practice.

Crabbé et al. (2006) state that public support is the often-used, popular term for legitimacy. Besides a subjective view of legitimacy, they also discuss more objective elements, such as the legality of a policy goal or the effects of policy interventions related to that goal. The difference between Weber's subjective approach and the more objective approach by Crabbé et al. can be illustrated by going back in history, to Germany's Nazi regime. The Nazi regime could be considered legitimate, because the German population accepted its authority. But if we consider legitimacy to also include the respect of human rights, the Nazi regime could not be considered as legitimate.

Suchman distinguishes three different types of legitimacy: 1) pragmatic legitimacy, based on the self-interest of citizens or certain groups; 2) moral legitimacy, also known as normative legitimacy, which is based on 'doing the right thing'; 3) cognitive legitimacy, which is based on the acceptance or necessity of an intervention. In contrast to the first two types, dialogue (discursive evaluation) plays no role in cognitive legitimacy. These three forms of legitimacy presuppose that activities undertaken by an organisation or society are worthy and appropriate within

a system of social norms, values, beliefs and definitions (Suchman, 1995).

SCP describes the legitimacy of policy as the right to exercise power, including this being recognised by citizens. SCP argues that legitimate policy should first and foremost comply with certain external standards and/or social norms, achieve public objectives, take into account divergent views and interests of groups of citizens, be transparent and efficient and take liability fairly into account. SCP states that legitimacy refers to the experiences of citizens. People must be willing to comply with legislation, being convinced that the policy is in line with their own moral standards and expect that the related interventions are applied lawfully. In this sense, legitimacy of policy is often linked to whether citizens believe that the related interventions will be effective, consider the outcomes and procedures of the policy to be fair and have confidence in the legislators and in those who are implementing the policy – whom they believe to have good intentions and be competent (SCP, 2017).

We conclude that there are several approaches to policy legitimacy. It is also clear that, besides the acceptance of policy and public support, more objective aspects play a role, such as the contribution to the policy goal and fitting within fundamental – moral – human rights. In addition, the literature often distinguishes between two sources of policy legitimacy, i.e. input and output legitimacy, and between two types of logic in policy-making. These are described below.

INPUT LEGITIMACY AND OUTPUT LEGITIMACY

Here, two sources of legitimation can be distinguished; that of the policy goals and that of the interventions to achieve these goals. Various authors, such as Hemerijck and Hazeu (2004), Kruitwagen et al. (2009) and the Netherlands Scientific Council for Government Policy (WRR, 2003), refer to the work by Scharpf (1999) regarding these two sources. Scharpf distinguishes input and output legitimacy of policy. Input legitimacy of policy concerns the policy goals. This relates to whether the goals of, for example, the energy transition are supported by citizens. Policy goals usually result from a political normative process and they are based on shared values and norms (Hemerijck and Hazeu, 2004). However, public support for a policy goal (input legitimacy) does not automatically imply that the related interventions, intended to contribute to achieving that goal, are also supported (output legitimacy) (Scharpf, 1999). Public support for the energy transition, therefore, not automatically implies public support for replacing gas stoves with electric ones. This example illustrates that only input legitimacy is insufficient for achieving policy goals. The Netherlands Scientific Council for Government Policy (2003) puts it more strongly: 'No democracy can rely on only input legitimacy'. Public support for specific policy interventions is also necessary to achieve policy goals in a well-functioning democracy. This concerns the legitimacy of the chosen instrumentation (Kruitwagen et al., 2009; WRR, 2003). A similar distinction is also made by Wüstenhagen et al. (2007). Socio-political acceptance is similar to input legitimacy and concerns the public support and acceptance of a certain policy goal. Output legitimacy is comparable to community acceptance at the level of specific local interventions. The authors add a third form of citizen acceptance, namely that of market acceptance, which is the willingness of citizens to financially invest in order to achieve a particular policy goal.

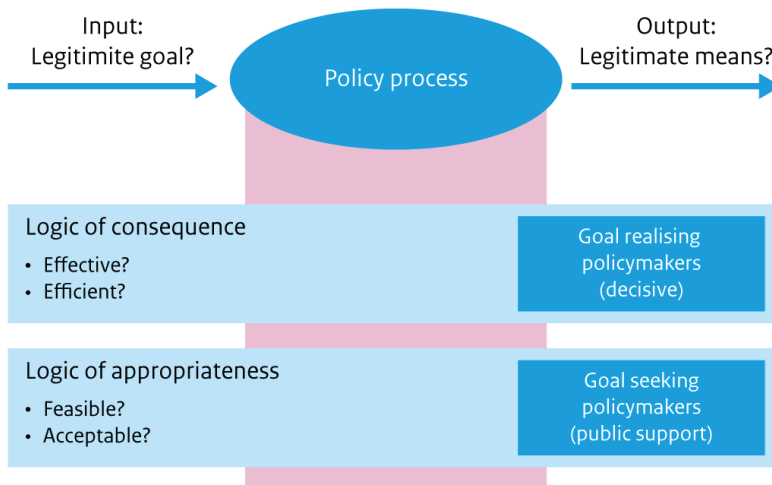


Figure 1. A schematic of the perspectives on the legitimacy of policy.

LOGIC OF POLICY-MAKING

When policymakers formulate a policy, they have to deal not only with questions of efficiency or effectiveness (consequences), but also with whether there will be sufficient public support (appropriateness). March and Olsen (1989) define two types of perspectives according to which policymakers develop policy interventions: the logic of consequence and the logic of appropriateness. They argue that rationality and utility maximisation are the basis of the logic of consequence. Following this logic, effectiveness and efficiency are the most important criteria when developing a policy. The logic of appropriateness is mainly about what is feasible or acceptable in a given situation. According to this logic, acceptance and public support are important criteria. Policymakers who are guided by the logic of appropriateness are goal seeking, while those who are guided by the logic of consequence are more goal realising (Hemerijck and Hazeu, 2004). Crabbé et al. (2006) relate the two types of logic to a classic dilemma of policymakers. Policymakers often have to choose between being decisive or being supported. Decisiveness is closely related to effectiveness and efficiency (the logic of consequence) and being supported is more related to contextual political-social aspects (logic of appropriateness). The description of legitimacy given by SCP (2017) fits into this classification, because it can be read as a combination of 'effective' (citizens think that the policy will be effective) and 'acceptable' (they consider the outcomes and procedures of the policy as justified and have confidence in the policymakers and the enforcing institutes). Figure 1 shows a schematic of a combination of the input-output legitimacy perspective and the types of logic of the policy-making perspective.

Measuring policy legitimacy

As described above, policy legitimacy is not only based on efficiency and effectiveness (logic of consequence) but also contains elements of the logic of appropriateness. A proper ex-ante evaluation of policy legitimacy should include all elements. The literature is ambiguous about which aspects can be attributed to the logic of appropriateness. Various publications link the logic of appropriateness either implicitly or explicitly to the cri-

teria of good governance (Hemerijck and Hazeu, 2004; WRR, 2003; SCP, 2017; Gribnau, 2009). According to Hemerijck and Hazeu (2004) and the Netherlands Scientific Council for Government Policy (WRR, 2003) legitimate policy must comply with political and practical feasibility, social acceptability and be lawful. Gribnau (2009) explicitly links legitimacy with good governance. He argues that the contemporary legitimacy of government action is based not only on the law and principles of law, but also on proper conduct. We chose to measure the legitimacy of policy in terms of good governance criteria (UNESCAP and Crabbé et al., 2006): effective and efficient, following the rule of law, participatory, consensus-oriented, accountable, transparent, responsive, equitable and inclusive.

We developed a questionnaire for citizens and company representatives to measure policy legitimacy. The questionnaire contains questions regarding input legitimacy and output legitimacy and is focused on the Dutch energy transition¹ that aims to achieve a 49 % reduction in CO₂ emissions by 2030. The legitimacy of policy is measured by various indicators. Given the exploratory nature of this study, we chose a set of indicators to measure policy legitimacy. Other studies could make other choices, in this respect.

We used four indicators, related to the good governance criteria, to measure input legitimacy: effectiveness, efficiency, orientation on consensus and accountability. These four indicators can be described as follows:

1. Recognition of the problem. To what extent do citizens and companies recognise the problems to which policies offer a solution. This indicator is related to the good governance criterion of being 'consensus-oriented'. The respondents were asked to what extent they endorse causal relations which form the basis of policy interventions. Respondents were asked: The climate changes as a result of global warming. Sea levels are rising and weather conditions are becoming more extreme. We can reduce these effects by: saving energy, replacing oil, coal and natural gas with sustainable

1. The questionnaire also focused on the transition to a circular economy. Those results are not presented in this paper.

- energy sources (such as solar and wind energy). Do you think that: a. The climate is changing? b. Climate change is being caused by humans?
- Judging the importance of solving the problem. The relative importance of solving a certain problem addressed by a policy is related to the 'consensus-oriented' criterion of good governance. Is there general consensus about the policy goal being good for long-term sustainable development? To get an idea of this consensus, we measured the relative importance of nine societal issues, including those directly related to the energy transition. These issues were selected from a list of 64. We selected the nine issues that Dutch citizens prioritised, ranked from highly important to be solved to less important (Visser et al., 2007). We asked respondents to pick three issues that should receive more attention.
 - Judgement of the extent to which the solutions elevated to policy objectives contribute to solving the problems. This indicator is related to the 'effective' and 'efficient' good governance criteria. Respondents were asked to what extent they recognise the agent-target relationships that precede the interventions. They were asked whether or not they consider energy saving and the transition to sustainable energy to be important in limiting climate change.
 - Who should be responsible for solving the problem, according to the citizens and company representatives? This indicator is related to the good governance criterion of 'accountability'. An organisation is accountable to the person who is affected by its decisions. Respondents were asked which institutes / groups, including the government, should do more or less on energy saving and the transition to sustainable energy. If respondents would point to the government as being responsible, or if the institutes would not solve the problem by themselves, intervention by government would be considered legitimate.

Output legitimacy relates to specific policy interventions. Therefore, to measure output legitimacy, we presented respondents with specific interventions. Subsequently, we asked them the following questions:

- Overall support for the intervention: 'Do you think that this intervention should be introduced in this way?' Answer categories: Yes, definitely; Yes, maybe; Neutral; No, maybe not; Definitely not and I don't know.
- Judgement on several underlying aspects concerning the public support of the intervention to get more grip on the overall level of support. In this case, we used the good governance criteria and additional conditions for legitimacy as mentioned by SCP (2017). We asked respondents: To what extent do you agree or disagree with the following statements concerning the intervention?
 - This intervention **helps** to decrease climate change and pollution (effective)
 - The **costs are limited** (efficient)
 - The **implementation** of this intervention is in **good hands** (consensus-oriented, responsive)

- The **set-up** of the intervention is in **good hands** (consensus-oriented, responsive)
- This intervention is **feasible** (effective)
- This intervention is **straightforward** (transparent)
- This intervention is **fair** (equitable and inclusive, following the rule of law)
- This intervention **takes** the situation of **everybody into account** (participatory)

FIELD WORK

We tested the questionnaire to check the questions for bias and being understandable for the respondents as intended. Eight respondents were professionally interviewed. The researchers observed the interviews from an adjacent room. Based on these test interviews, we made adjustments to the questionnaire. In January 2018, an invitation to participate in this study was sent by e-mail to a sample of 1,700 citizens aged 18 and over, proportionally stratified according to gender, age, education level, household size and region. In addition, an invitation was sent to another 3,200 company representatives (one per company) and we exclusively invited company owners, CEOs, financial directors, financial managers and general managers. The selected representatives were proportionately stratified according to economic sector and disproportionately stratified according to company size, to enable sufficient numbers of observations for larger companies. The questionnaire was completed by 1,278 (75 %) citizens and 833 (26 %) company representatives. The average completion time was 9.3 minutes². Responses were weighted in order to achieve nationally representative samples. For a more detailed description and the full questionnaire, see Verhue and Mager (2018 (in Dutch)).

Results

To answer the question 'Do citizens and companies support public policy in order to support the energy transition?', this section discusses the input and output legitimacy for the energy transition. Results are presented for both to enable comparison between citizens and companies. To show the extent to which support for a policy goal also means support for the related interventions, we show the relationship between input and output legitimacy on an individual level. In order to determine which aspects contribute to the overall support for an intervention, we explored the relationship between the support for interventions and the underlying aspects of this support, for two specific interventions.

INPUT LEGITIMACY OF THE ENERGY TRANSITION

We use four indicators to explore the support for climate change policy goals (input legitimacy) The first indicator of input legitimacy concerns the extent to which citizens and companies recognise the problems to which policy must offer a solution. About 90 % of citizens and companies were found to believe that the climate is definitely or maybe changing, and about 85 %

² Including the questions focused on the circular economy, which were similar to those about the energy transition.

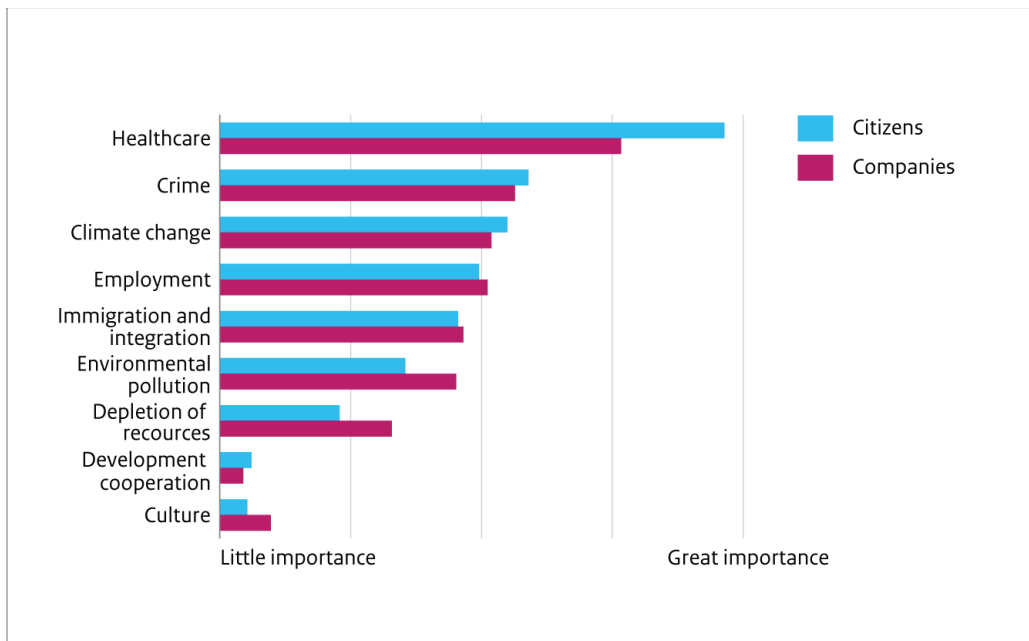


Figure 2. Relative importance of nine societal issues, according to citizens and companies.

think that human activities are definitely or perhaps the cause of this change. On the basis of these results, we conclude that a large majority of citizens and companies consider climate change and the related human involvement a problem.

The second indicator is people's judgment of the importance of solving problems related to climate change. We established the relative importance of nine societal issues, including climate change. Both groups, companies and citizens, consider health care the most important social issue and culture and development cooperation the least important (see Figure 2). Of the nine issues, climate change is mentioned by slightly less than half of the respondents as one of the three most important problems. Thus, we conclude that climate change, which is directly linked to the energy transition, may not be considered to be the most important issue, but it is regarded as quite important.

The third indicator concerns the extent to which solutions (elevated to policy objectives) are believed to contribute to solving problems related to climate change. Respondents were asked to what extent they recognised the agent-target relationship. Their responses indicated that they considered energy saving and the transition to sustainable energy to combat climate change to be important (average score of 8 on a scale from 1 (absolutely unimportant) to 10 (very important)). We did find, however, that citizens valued the transition to sustainable energy a little more than they did energy saving. Nevertheless we can conclude that a large majority of citizens and companies endorse energy saving and the use of sustainable energy sources as solutions to combating climate change.

The fourth indicator concerns the parties citizens and companies believe to be responsible for working on solutions to the problem. Figure 3 shows that both citizens and companies believed that all mentioned parties should do more towards the energy transition. Citizens, more often than companies, thought they should do more themselves. We therefore conclude that both citizens and companies believe that all relevant

parties, including the government, should increase their current efforts towards solving the problem of climate change.

OUTPUT LEGITIMACY OF SOME POLICY INTERVENTIONS

To obtain more insight into the extent to which citizens and companies found specific policy interventions to be justified, we presented them with two consecutive interventions. The two interventions differed mainly in where they would act on the production-consumption chain. In other words, they differed in which parties would have to address the problem. The first intervention: All households and companies would receive an in-home display (IHD), for which they would have to pay collectively (IHD-1). The second intervention differs from the first in that the energy suppliers would pay for the IHD (IHD-2). Respondents were asked whether the interventions should be executed as presented, thus measuring the overall support for the intervention (output legitimacy). They were also asked to score the eight underlying aspects concerning their support for the intervention, see the section 'Measuring policy legitimacy'.

Table 1 shows that citizens and companies both prefer the option where energy companies pay the costs of the in-home display (69 %/56 % support) over that in which the costs are collectively paid by all energy users (46 %/47 % support).

The judgement on the underlying aspects concerning the general support for the two interventions is presented in Figure 4. The intervention variant in which the IHDs are paid for by the energy companies (IHD-2) received slightly more support from citizens than from companies³. For the option in which energy users collectively pay for the IHDs (IHD-1), we could only determine a difference in support on the aspects of 'helps', 'costs' and 'take everybody into account'⁴.

3. $p < 0.01$ for all aspects, except for 'feasible' $p = 0.01$ and costs $p = 0.27$.

4. p is respectively 0.01, < 0.01 and 0.04.

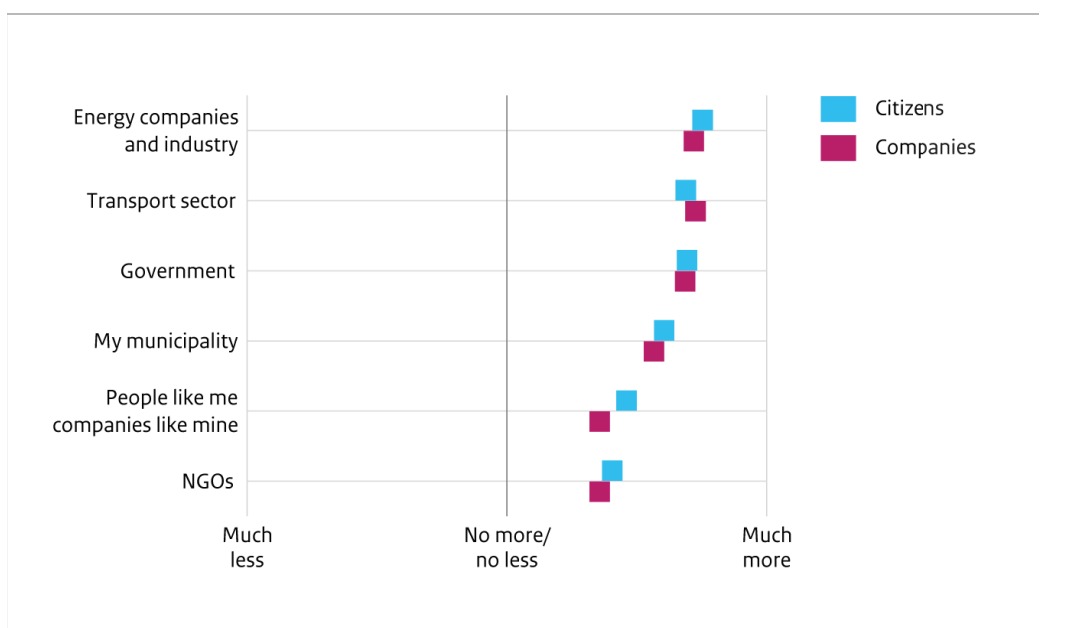


Figure 3. Average answers by citizens and companies to the question: 'Who should do less/more to save energy and to achieve the transition to sustainable energy sources such as sun and wind?'

Table 1. Citizen and company support (in %) for the two interventions, based on their answers to the question: 'Do you think that this intervention should be introduced in this way?'

	IHD-1* citizens/ companies	IHD-2** citizens/ companies
Yes, definitely	15/16	32/21
Maybe Yes	31/31	37/35
Neutral	19/22	14/22
Maybe not	9/7	5/7
Definitely not	24/23	11/14
I do not know	1/0	1/1

* IHD-1: Nationwide provision of in-home displays, all households and companies have to pay collectively.

** IHD-2: Same as IHD-1, but costs are paid by the energy companies.

RELATIONSHIP BETWEEN THE SUPPORT FOR POLICY GOALS AND FOR INTERVENTIONS

To answer the question about the extent to which people would support a policy intervention if they would also support the related policy goal, we examined the correlations between the support for both IHD interventions (output legitimacy) and the indicators for the policy goal support (input legitimacy). We found some correlation between support for the interventions and the four indicators of the legitimacy of the related regulation. However, the explained variance is only small. The r according to Spearman ranges between -0.18 and 0.16, largely with a $p < 0.01$ and one single not significant. Then, the r^2 is maximally about 0.03, which can be interpreted as an explained variance of about 3%. The low correlations are easy to explain. Earlier research (Mastop et al., 2014) showed that, if people support a goal this not auto-

matically means that they also support the related interventions towards achieving that goal.

WHICH ASPECTS DETERMINE THE SUPPORT OF AN INTERVENTION?

Theoretically, the judgement by citizens or companies about the eight underlying aspects, as described earlier in this section, contributes to their overall support for an intervention. We examined the extent of the relationship for both interventions and found consistency between the overall support and the underlying aspects. The r^2 according to Spearman (explained variance) varies between 0.2 and 0.4 ($p < 0.01$), see Figure 5. For both interventions, the 'fair' aspect is related most strongly to the overall support (average $r^2 = 0.39$). The average relationship between the overall support and the 'implementation' aspect was the weakest ($r^2 = 0.22$). The aspects 'helps' (0.27), 'feasible' (0.31), 'straightforward' (0.27) and 'take everyone into account'

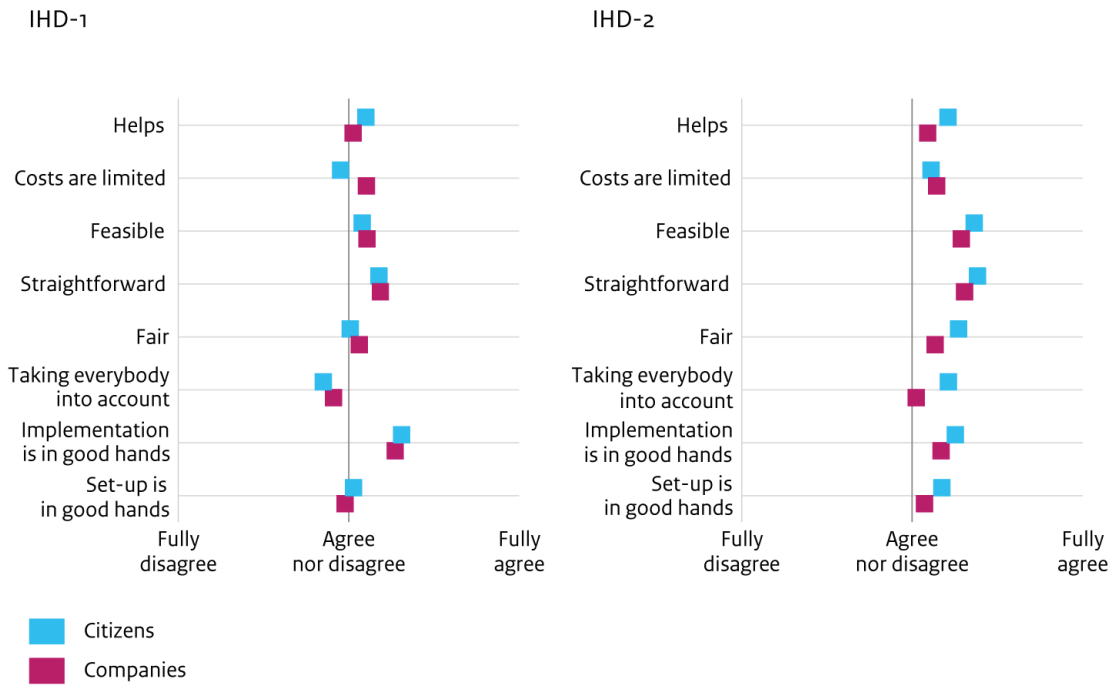


Figure 4. The judgement about the underlying aspects of the general support for the two interventions to promote the energy transition. IHD-1: The IHDs are collectively paid for. IHD-2: The IHDs are paid for by the energy companies.

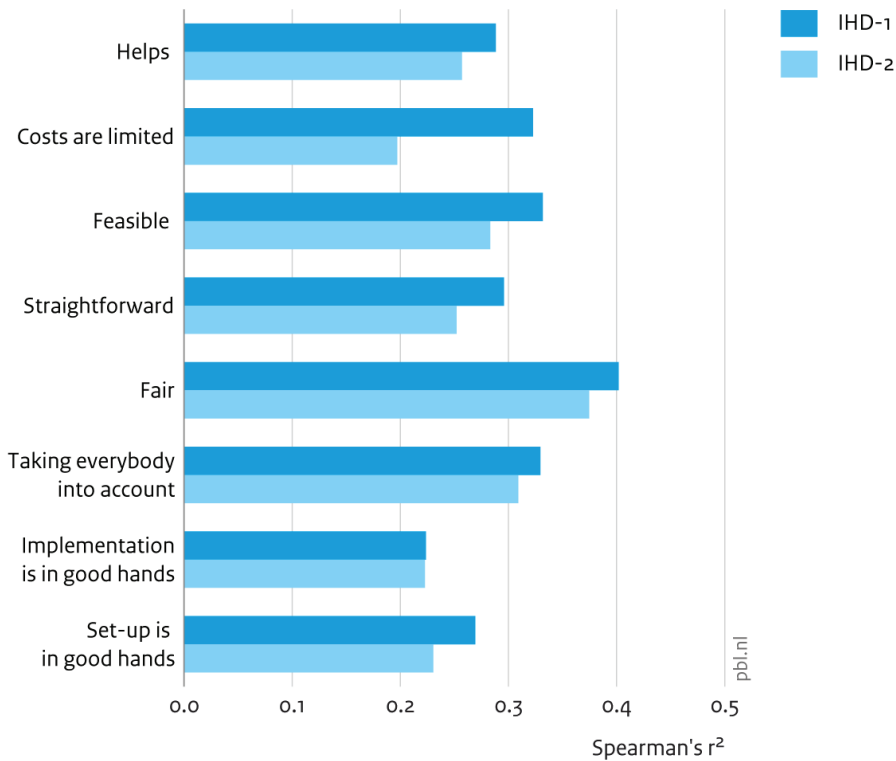


Figure 5. Spearman's r^2 between the overall support of two interventions and the eight underlying aspects.

(0.32), on average, explain the variance in the overall support to a larger extent than the ‘costs are limited’ aspects (0.26).

Discussion

In this study, we made a first attempt to measure the degree of legitimacy of policies addressing the energy transition in the Netherlands. Therefore, this study must be considered exploratory. This has its effects on our results and conclusions:

- We used two policy interventions to test the output legitimacy questions. These policy interventions had some limitations. Both policies were universal (i.e., all households and companies are involved so there are no distributional issues) and not directly linked to sustainable energy or energy saving, and the cost issues for both are similar, as either households and companies bear the costs collectively (IHD-1) or the energy companies bear the costs (IHD-2) – although, in this case, households and companies would still be paying, indirectly, for the in-home displays, as energy companies are expected to simply pass on these types of costs. Result can be expected to be different, if we were to present interventions that were more demanding on either citizens or companies with more direct effects on energy saving and/or with higher costs.
- We cannot make general statements about the importance of the explored aspects of legitimacy, due to the small number of policy interventions examined. However, the results show that the level of appreciation of the aspects differs per intervention and depends on the type of intervention.

Conclusions

The Dutch government aims to achieve a large reduction in CO₂ emissions by 2030. The required Dutch energy transition will have major consequences for Dutch citizens and companies. Therefore, it is necessary that the required policies are supported by both these groups in Dutch society. In this study, we made a first attempt to measure the degree of legitimacy of policies addressing the energy transition in the Netherlands. We distinguish two sources of legitimacy; 1. Input legitimacy (support for policy goals) and 2. Output legitimacy (support for the required interventions). In addition, we take into account two perspectives regarding policy design; the logic of consequence (effectiveness and efficiency) and the logic of appropriateness (what is feasible and/or appropriate).

We found that there appears to be input legitimacy for Dutch climate policy. Dutch citizens and companies support the Dutch government in its pursuit of an energy transition. Climate change is recognised as a relatively important societal issue. Citizens and companies see the energy transition as a solution to those problems, to which intermediary solutions contribute, such as energy saving and the transition to sustainable energy. Finally, both citizens and companies believe that all relevant parties, including the Dutch government, have to increase their efforts to solve the problems.

About half of the citizens and businesses support the two examined interventions to stimulate the energy transition (1. In-home displays (IHDs) that are collectively paid for by all

energy consumers, and 2. IHDs that are paid for by the energy companies). Companies and citizens are more positive about the interventions that affect them the least. They prefer the option whereby the energy companies pay the bill. Citizens and businesses broadly agree with each other.

Their overall support for the examined interventions is most related to their judgement about the fairness of the intervention and least related to whether the implementation of the intervention is in good hands. It is remarkable that the cost aspect is less important than five of the eight examined aspects of support (i.e. helps, costs are limited, implementation in good hands, set-up in good hands, feasible, straightforward, fair, and takes into account the situation of everyone). We found that all these aspects are related to the overall support for the examined interventions. The level of appreciation of the aspects differs per intervention.

We found a weak correlation between the overall support for the examined interventions (output legitimacy) and the support for the goals (input legitimacy). We have to conclude that support for the policy goals not automatically leads to support for the related interventions. This result shows the importance of ex-ante evaluation of specific interventions to check public support for specific policy interventions, in order for policies to be more effective and efficient.

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