

Policy design: who, what, how

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Introduction

Design 'activist' Emily Pilloton (2009) makes a plea for design thinking and design education because of their potential to empower people and to inspire sustainable and humanitarian action. Since three years, I teach master students design in the realms of policy. My experiences certainly reflect Pilloton's enthusiasm, but there is also discomfort. Most of my students, sooner or later, are haunted by some very basic questions: How to design? What is a good design? Who are policy designers?

Students can roam about in policy design literature for days without finding the beginning of an answer to these questions. The scientific field is not easily accessible for newcomers. Its literature is generally more conceptual than practical and also highly diverse. Multiple scholars from multiple disciplines over multiple decades write about policy design with a multiplicity of outlooks on it. And almost all of these scholars persist to write *about* policy design and hardly demonstrate *how to do it*. Initiating students in policy design literature does not straightforwardly empower them but draws them into confusion and struggle.

State-of-the-art policy making practice does not always set the best example either. Take for example the liberalization of public services that, in the Netherlands at least, profoundly illustrates the messy practice of policy design (WRR 2012). Fifteen years ago, introducing market mechanisms became a major paradigm for many policy designers to improve public services. Since then, Dutch politicians and policy makers started liberalizing health care, supply of energy, public transport and postal services, among many other formerly public tasks. But what set out as ambitious and promising amalgams of market and policy design, more often than not turned out recipes for fiasco. The policy designers in-action quite radically overestimated the applicability of economic principles and underestimated the complexity of what they were doing (Dicke *et al.* 2011).

In the health care sector, for example, the initial idea was to let health insurance companies compete for the insured. Policy designers were surprised to see how major mergers between insurance companies annulled their initial market design. The market eliminated itself. Another design idea was to make hospitals compete for health insurance companies. In practice, insurance companies did not dare to exclude hospitals, since that could scare away their clientele, the insured. A similar pattern is found in liberalizing and privatizing public transport. Time and again, rules and regulations had to be adapted, withdrawn and re-written in just a matter of years. The initial policy was to let transport companies innovate. The responsibility to tender trams and busses, however, incited local transport authorities to over-specify what there was to protect in the public interest. This forced transport companies to compete for exactly the same detailed specifications, so without much room to innovate. The market became a cost cutting contest (Dicke *et al.* 2011). The recurring experience with liberalizing public services is that of unintended consequences, dashed expectations, major adjustments and muddling through.

Policy design, perhaps alarmingly, has not (yet) developed into an advanced profession like, for example, medicine, architecture or civil engineering. This is remarkable, considering that the

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amount of jobs in which people professionally (co-)design policies easily outnumbers the civil engineers, the architects and probably also the doctors. What is more, bad policy design harms societies no less than collapsing bridges or medical failure. In fact, poorly designed policies may just as well cause bridges to collapse and medical treatment to fail on a large scale. A major feature of an advanced profession is to have a professional society. Where are the widely acknowledged societies articulating codes of conduct and best practices for policy design students? Plenty research institutes, societies (e.g. OECD) and programs (e.g. Hoogerwerf 1985) systematically evaluate the effects of policy instruments. But with regard to the 'how to' of policy design, best practices are rare.

At my Faculty, master students learn to design in multi-actor and socio-technical contexts. The master program results in an engineering degree and specifically focuses on the management and governance of infrastructures and infrastructure-based services. Design challenges are, for example, stimulating a local transition towards more electric cars, improving green landscapes in metropolitan areas or composing a new set of flood protection measures in harmony with the river area and all its stakeholders. After analysing present conditions, thrashing out the problem and dilemmas, students are asked to devise a way forward from three angles: (i) changing the institutional landscape, (ii) designing the physical-technical systems and (iii) organizing the decision-making process that is required (Bots 2007). Students typically perform an actor analysis, an institutional analysis and a functional analysis as input for their integrated advises. These integrated advises typically include rules that structure the decision-making process, system specifications to aim for and the contours of a contract agreement to specify roles and settle gains and losses.

What triggered me to write this paper, is the discomfort and disorientation my students experience when applying the nuts and bolts of policy design literature to real-world design cases. Students repeatedly try to convince us as teachers that they are lost without a step-by-step method or a one-on-one example how to design. A first line of defence for teachers, then, is to say that policy design is essentially an unexplainable art, but that is a bit of a bromide. The same is to say it 'may include an irreducible element of irrational creativity' (Alexander 1982). Though true, the remark is not particularly helpful for students. A second well-worn excuse is to say their discomfort and disorientation serve a didactic purpose, because real-world policy design *is* messy. Our master program, indeed, *deliberately* drives students into design challenges without a recipe for success, because we deeply believe design practice is not recipe-based. Cross (2006), in his study on a common cross-disciplinary design practice, also suggests that a systematic process may not even help student designers to learn how to design. Learning design is a quandary, and risks to be unproductive.

This paper sketches a way out of this didactic dilemma. What can help students designing? What brings them beyond merely experiencing complexity and building up frustration tolerance? How to pave the road for policy design without dodging its inalienable messy practice? I address these questions by summarizing policy design literature and synthesizing its main ideas. First I describe common ground in this broad literature, to see the forest through the trees. Second I point at differences and controversies in the same literature. These debates urge designers to take a position. In conclusion, I show how these two cross-sections of the literature help students to see who policy designers are, what makes 'good' policy design and how to organize the design process.

Cross-section 1: common ground for policy design

In academic literature, policy design appears a rather coherent and stable concept through the years (Simon 1981, Dryzek 1983, Schön and Rein 1994, Parsons 1995, Ingram and Schneider 1997, Voß *et*

al. 2009, Howlett 2009). A list of nine commonalities across the literature are immediately apparent. All definitions of policy design generally start with a desire, or at least an intention, typically embodied in a problem situation and a problem owner. A second commonality is that the aim of policy design is change, a new order of things. A third constant is that this change occurs in a complex world full of uncertainties and is, therefore, bound to be messy and diffuse, with many unintended consequences. A fourth essentiality of policy design, as an activity, is being nested in a social process, or a so-called multi-actor system. Fifth element is that policy design always requires substantial knowledge on past, present and future situations. Thus, policy design is to realize an intended change in a social world helped by some knowledge but also facing a great deal of uncertainty.

There is one element, central to all design professions, conspicuously implicit in the description so far. That is the artefact being designed. Architects design houses. Civil engineers draw concrete constructions. Is 'policy' the artefact of policy designers? The term policy is quite confusing in itself (Parsons 1995). It can refer to either an intention, a given situation or a realized change, as well as everything in between. Compared to bridges and houses, policy is by nature more elusive and less tangible. The glamorous, cathartic 'tada' moment of an architect or car designer pointing at a new scale-model, has no equal among policy designers. Policy designs are therefore associated with wordy, formal texts specifying measures directed towards certain public values. Ingram and Schneider (1997) provide a list of text-based designed artefacts as in legislations, guidelines, pronouncements, court rulings, programs and constitutions. These are all policy designs, but quite a limited selection. Given the five elements above, a great many types of artefacts may cause intentional change besides texts. Technologies, markets or informal institutions for example. Virtually anything can be utilized as a tool for policy. A physical network of charging stations for electric vehicles can be the artefact of policy design to stimulate more sustainable mobility. In turn, a market for sustainable mobility can be an instrument, a so-called killer app, for the policy to realize smart grids. Even xenophobic propaganda can be considered an artefact to realize a policy of deterring immigration. Bottom line, there is a sixth element commonly implied in policy design literature. Policy designers produce artefacts that intervene in a real-world problem situation to bring about change. These interventions can in principle originate in any type of action or instrument.

Literature on 'institutional design' emphasizes a seventh feature of policy design. Design is always to *re*-design, as Latour (2011) phrases this feature of design in general. Weiner (1995) defines the artefact of institutional design as 'a persistent and anticipated set of rules and incentives that affect the behaviour of individuals'. Institutional design generally needs to change (social) institutions that are already there. Offe (1996) uses the term 'institutional gardening' to describe that new institutions always get shape in the midst of old institutions, and never from scratch. The designed rules and incentives essentially do not realize its intended change directly, but they need to catch on via the indirect route of (de-)institutionalization beyond the direct sphere of influence of designers. Element seven is an intermediate phase, often referred to as implementation phase, in which the designed artefact effectuates and reality responds in the intended way or not. A philosophical implication of this feature is that design 'may be less originary than it looks' (Weick 2004, p. 74) as it is less hubristic and more humble than actual creation (Latour 2011).

An eighth common element of policy design is that its process, from intention to change, can be designed itself (Koppenjan and Groenewegen 2005). One way to organize policy design is as a strictly delineated problem-solving approach with distinct phases, hard deadlines and clear objectives. This approach generally includes a fixed sequence of sub activities that starts with defining design goals, design space and design options and results in selecting, prototyping, testing

and refining a best design (Dym and Little 2004, Herder and Stikkelman 2004). But policy design can also be seen as ‘a drama enacted in an arena’ (Schön and Rein 1994). This arena is essentially open to opportunistic and antagonistic behaviour of the actors involved and not predetermined by a fixed problem-solving approach. If design coalitions² are not stable, simple, consistent and predictable, and lack consensus and decisiveness, conditions are unfavourable for a fixed problem-solving approach to organize policy design (De Bruijn *et al.* 2010). Various procedural design principles have been suggested to cope with these unfavourable conditions (Howlett 2009). Ingram and Schneider (1997) argue that democracy should be embedded more in policy design processes. In order to do so, the authors suggest to cut through traditional social and economic groups and mix up multiple disciplines. Forester (2009) advises to distinguish between dialogue, debate and negotiation and to pay attention to inclusiveness, mutual gains, stability and being technically well-informed. De Bruijn *et al.* (2010) sketch a process approach based on agreed-on rules while paying special attention to openness, protection of core values, progress and substance.

These eight common elements are a first cross-section of the policy design literature. Figure 1 structures them in a provisional system model. As input at the left, the model starts with an ‘intention’ (element 1). As output at the right, it aims for ‘change’ (element 2). ‘Complexity and uncertainty’ (element 3) is pictured as a ubiquitous condition overshadowing every other element. The system itself is the ‘social design process’ (element 4) in which all kinds of dialogue, negotiation, decisions and non-decisions constitute the design process. Next, this social design process has the possibility of being structured by a ‘meta-design’ (element 8). The social design process can either resemble a fixed problem-solving or a more open process approach. In both cases, ‘knowledge’ (element 5) has a central role in the design process that eventually leads to an ‘intervention’ (element 6) that ‘effectuates’ during an ‘implementation’ phase (element 7) with or without surprises. This description outlines policy design, as an activity, in a way that finds broad support in the literature.

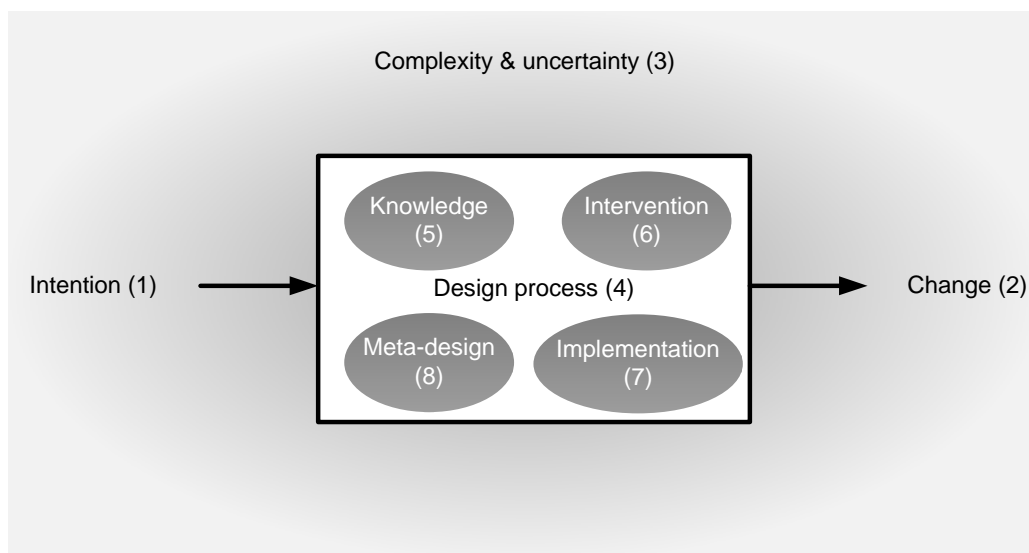


Figure 1: Structuring policy design in eight common elements

² The term design coalition refers to a group of actors participating in a collective process aimed at change. Actors within these design coalition often have different interests and do not necessarily have common beliefs, in contrast with the advocacy coalition concept (Sabatier).

This representation of policy design in eight elements is provisional, open for discussion and not yet defined in detail. Policy designers can use Figure 1 as coordinates in the literature or as general talking points to oversee their own design process. So it works in two ways. On one hand the figure presents an overview where and how the many theoretical notions may fit in. On the other hand may designers be helped to fully comprehend their design challenge. Designing is about asking yourself questions as a designer (Schön 1985). Policy designers are suggested to ask themselves questions for all the linked-up elements in the framework to gain a comprehensive understanding of the design challenge at hand. What change is intended? What are possible interventions? What kind of implementation phase to anticipate? What knowledge is available about past and present contexts? What remains uncertain? What social dynamics can be expected within the design process? Is there a need and a possibility to (meta-)design this design process?

Cross-section 2: controversies on policy design

The previous cross-section only emphasized the common ground in policy design literature. But there are also interesting divergences of views within this academic literature. In a second cross-section, I discuss four major controversies. All four roughly highlight one main dichotomy: can policy design be structured by means of a fixed problem-solving approach, or not? The controversies repeatedly show the two sides to this question.

Controversy 1: Is policy design possible?

An interminable list of scholars has firmly defended the relevance of design thinking in policy making (Simon 1981, Bobrow and Dryzek 1987, Weiner 1995, Polski and Ostrom 1999, May 1991, Goodin 1996, Carlsson 2004, Klijn and Koppenjan 2006, Howlett 2009, Koppenjan 2012). Schön and Rein (1994) and Ingram and Schneider (1997) have also produced influential theories on policy design.

Yet, the topic has also been contested for almost as long as it is subject to scientific study. Whether policy design is a useful concept, is openly doubted. Scholars even criticize the concept for being naïve and empirically invalid (Wildavsky 1979, March and Olson 1989, Pierson 2000, Goodin 1996, Offe 1996). Policy design is said to be a myth, a hyper-rational ideal, a hindsight rationalization and a social construct. 'There is no design or designer', Goodin (1996, p. 28) firmly writes.

Schön and Rein (1994) retort the critique. They recognize that policy development has its politics and its garbage-can quality, but, from an empirical perspective, they also find that design coalitions solve seemingly intractable issues intentionally and intelligently. Scholars in the field of institutional design, by contrast, are more inclined to agree with the critique and, accordingly, emphasize the limitations of design thinking (Klijn and Koppenjan 2006, Pierson 2000, Goodin 1996).

Policy designers are urged to take a position in this controversy. A happy medium is to say that deliberate change is neither easy nor hopeless. But then what? The difficulty of bringing about deliberate change will be different in each design challenge. This means *analysis* is essential. What makes deliberate change difficult *in a specific design challenge*? To what extent? Which part of the problem situation is particularly hard to influence? Which part of it can easily be influenced? How, when, where and by whom? Answering these questions also serves two practical purposes. First, it generates design options. Second, it indicates the desirability of meta-design. If a certain design coalition can hardly realize any change, this is problematic for the design process, but can be anticipated. The meta-design may aim for an evolutionary design process. If change cannot be brought about, the designers might anticipate and manipulate the changes that naturally occur, such

as waiting for a crisis or some other event to happen and then respond. An alternative way of dealing with too few design options is to invite powerful and creative actors to the design coalition. The opposite situation, a design coalition with many options to realize change, is not necessarily a more favourable point of departure. A plenitude of possibilities might complicate, politicize and destabilize the design process, calling for a meta-design with totally different qualities.

Controversy 2: Is policy design the opposite of muddling through?

As referred to before, Dicke *et al.* (2011) show that many policy designs for liberalizing public services have proven inadequate and had to be adjusted time and again. The processes of trial-and-error, repairing and refining that followed, can be seen as design failure, but also as muddling through. A one-off, smooth and successful implementation of a design is the opposite of muddling through. Studies on institutional design call up the this dichotomy. Goodin (1996) sharply distinguishes between designed change, serendipity and evolution. Klijn and Koppenjan (2006) similarly contrast designed but indirect change with non-deliberate but direct change as a result of institutionalization. This line of reasoning decouples two processes, namely designing the intervention on one hand and the implementation phase on the other hand, a common distinction among policy analysis scholars (Walker *et al.* 2001).

Other scholars, however, do not strictly separate the design of an intervention from its implementation process, on the contrary. Linder and Peters (1987) explicitly reject a sharp contrast between policy design and the incremental, messy nature of policy development, since that would imply 'a too restrictive view of design'. May (2003) emphasizes that 'distortions can be anticipated and addressed as part of the design of a given policy'. Schön and Rein (1994) make a similar point saying that designers act as professionals 'in the situation'. In their metaphorical wording, designers are immersed in a 'dialogue' with unintended consequences and emergent developments. In this view, devising an intervention is not the conclusion but the very heart of the design process. It continues afterwards. So, policy design is not the creation of an intervention but a process of intervening, and constituted by the same reality that it tries to change.

Policy designers are again urged to take a position in this controversy. It is fair to expect all interventions require some refining during the implementation phase, but some need it more radical and structural than others. This calls again for *analysis*. What need for refining is to be expected for a particular design challenge? What kind of interventions allow for a muddling through scenario? How can a meta-design based on the process approach facilitate a need for learning and fine-tuning?

Controversy 3: Is policy design guided by goals?

The previous controversy relates to an even more fundamental controversy on the origin and function of goals in policy design. Are the goals – values, ends, objectives, criteria, requirements, intentions – defined upfront or can they change during the design process? Is uncertainty on goals always hindering the design process or can it also be a stimulating factor?

In the first view of the previous controversy, the artefacts of policy design are considered exclusively created and its intended effects completely deliberate. The intervention is supposed to be clean as a needle. Selecting the best option to intervene, in this view, must be based on predefined goals. To do otherwise would be irrational. How else could designers identify the best intervention then with explicit selection criteria? The ubiquitous complexity and uncertainty surrounding the design process, in this view, are obstacles for designers to *realize* their goals.

In the second view, by contrast, the effectuating artefacts of policy design evolve in a process of refining and muddling through (Schön and Rein 1994). In this view, design goals are not fixed but fluid, as designers constantly reflect on their goals in response to the changing problem situation. This view is empirically supported by Cross (2006) who observes a structural absence of clear design goals across design disciplines, and instead a 'co-evolution of problem and solution' as a way to cope with that absence. So, designers do not only need to unpack the complexity of a design process for instrumental reasons, but also to *discover* their goals and to update them along the way. The need to reconsider goals is particularly evident when trade-offs are required between goals. Before realizing actual change, decision-makers tend to remain ignorant up to a very fundamental level about how their goals conflict and what trade-offs they prefer (Steenhuisen 2009).

For policy designers, specifying goals at the start of a design process is as rational as reckless. How to focus policy design on an intended change without thwarting the possibility to learn about preferences in-the-situation? How to balance prudence with clarity on goals? Questions tougher to answer in theory than to cope with in the implicit design practice.

Controversy 4: Is policy design exceptionally complex?

Policy design is often considered a special kind of design with exceptional complexity (Simon 1981, Parsons 1995). Scholars in this field tend to focus on social complexity and are less specific on technical complexity. Bobrow and Dryzek (1987) even say that policy designers are in that sense different from engineers and architects who are said to 'pursue [relatively] simple uncontroversial goals in an unchanging environment through manipulation of highly controllable factors' (p. 19). Indeed, policy designers typically work closest to the political arena where any goal may rise in priority or become controversial at any given moment. This constant possibility of changing goals and priorities makes optimization virtually impossible. The implication for policy design could be that the analogy with a fixed problem-solving approach goes wrong. But the comparison of different design disciplines can also be approached from a different angle.

Is the complexity policy designers face really that unique? Schön and Rein (1994) would probably say no, as they generously compare policy design in many ways to other design disciplines. These authors would certainly reject the assumption that engineers and architects have uncontroversial goals in an unchanging environment. Architects and engineers may also discover their goals and priorities in-the-situation. Oosterling (2009) also argues that all designing is relational, and thus socially complex. Similarly, Latour (2011) explains that architects and engineers have no way to escape dilemmas and contradicting stakeholders in their design practice. In his previous work, Latour (1987) also famously demonstrated how scientists design their research and technologies within a complex social context. In this view, policy design is not fundamentally more complex than other design disciplines.

So, scholars disagree about how to describe the complexity of policy design, but a constant assumption in this controversy is that more (social) complexity is more demanding for designers. 'The more intricately the artefact is linked with social processes, the more difficult it is to design', as summarized by Bots (2007). To what extent a different, more 'relational' design approach depends on the complexity at hand. Again, designers are urged to think through the implications of this controversy by *analysing* their specific design challenge. Designing is much about analysing. In line with the previous three controversies, a fourth dichotomy could be formulated. Social complexity can either be low or high.

Table 1: Structuring policy design in four controversies

Design challenge type 1	Design challenge type 2
Deliberate change easy	Deliberate change difficult
Intervention is first designed and then implemented	Intervention evolves in a process of intervening and re-designing
Goals guide the design process	Goals change during the process
Social complexity low	Social complexity high

The controversies in policy design literature, as summarized in four dichotomies in Table 1, together describe two ideal types. I do not interpret these dichotomies as a fundamental disagreement among scholars, but as a consequence of the extremely diverse design challenges that may arise in policy design practice. In between these two ideal types lies a wide spectrum of possible design challenges.

Policy designers could use this spectrum of possibilities to locate their design challenge in order to find out what type of design approach is most appropriate. For example, designers may analyse that they dispose of plenty opportunity to effectuate change, to mastermind an intervention, guided by clear goals and hardly bothered by social complexity. In that case, a structured problem-solving approach seems suitable. But if these conditions favourable for a fixed problem-solving are not met, designers may conclude that they need an alternative process approach to structure their design process.

The meta-design are also has many ways to combine a structured problem-solving approach and a more open process approach. One way is to blend them. Moderation is key in this. Neither under-specifying nor over-specifying goals. Strictly managing the design process but without neglecting its social complexity. Implementing a hierarchical intervention but not without considering a muddling through scenario as possible aftermath. A second way to combine a problem-solving approach with a process approach, is to separate them in two phases. In phase one, a group of actors may initiate an open process for a certain problem, in which the group is completely open to learning new things, new goals and new priorities. This process may lead to agreed-on design goals clear enough to start phase two, in which a design coalition follows a more structured problem logic on the basis of detailed assumptions about the problem situation and the intended change-solving approach. A third way to combine them is to have two rounds that may take place in parallel. There are many other options and many case specific factors relevant to take into account when devising a meta-design, such as the amount of uncertainty, the stability of a design coalition, the possibilities for actors within the coalition to act strategically, the type of intervention, the revisability of its effects and endless other factors. Key is, again, to analyse this.

Policy design: who, what, how

Obliquely, I have come to answer three basic questions about policy design after two cross-sections of academic literature on the topic. This eclectic detour was to cast out some life lines from the ivory tower down to the surrounding real-world design practice. So far, two schemes came out. Scheme one (Figure 1) outlined eight elements for policy designers to explore their design challenges and

structure their design thinking. Scheme two (Table 1) holds four dichotomies and allow policy designers to locate their design challenge on this spectrum in order to argue for a specific meta-design. In this concluding section, I summarize the acquired insights by answering three basic questions on policy design: Who are policy designers? What makes 'good' policy design? How to organize the design process?

Who are policy designers?

Policy design literature does not sharply delineate who are policy designers. If policy designers, for example, are those who deliberately aim for change (Klijn and Koppenjan 2006), they include virtually everyone. When design becomes as universal as *Dasein* (Oosterling 2009), the concept explored in this paper loses most of its particular meaning.

The literature cross-sections in this paper give cause to further define policy designers by means of two distinguishing features. First, implied by Figure 1, policy designers should be able to oversee and deal with all eight elements of policy design simultaneously. This comprehensiveness is the first distinguishing feature. So, policy design is more than specifying a tax measure or drawing up a consistent legal text. It is also about how to negotiate these instruments in a social design process and about anticipating the implementation phase of these interventions. Second, implied by Table 1, policy designers should be able to adapt their design approach to the social-complexity of the real-world design challenge at hand.

In sum, policy designers are those who have an understanding for this comprehensiveness and this adaptability. These two features specify a type of (policy) designer that is perhaps empirically thin on the ground, no less reason to aim for their existence.

What makes good policy design?

It follows from the discussion so far that good policy design is comprehensive but also a quandary. Table 1 pinpoints the quandary of good policy design, in particular one dichotomy that says goals can both be seen as a *sine qua non* to select the most effective intervention (Dym and Little 2004) and as essentially variable in design practice (Schön and Rein 1994, Cross 2006). The quandary of good policy design is that new goals and priorities may emerge anytime during the social design process. Policy designers should be aware of this constant source of uncertainty.

A most straightforward way to assess good policy design is to compare intended change with realized changed. Did liberalization, indeed, reduce the bus tariffs? Did a physical network of charging stations for electric vehicles, indeed, induce more sustainable mobility? I see two major limitations of this evaluative inquiry. First, as said, it does not account for the legitimate possibility that unintended change can actually prove desirable and the intended change, when realized, can actually prove undesirable with hindsight. If it is reasonable to assume goals as given, there is a second limitation of these evaluative questions. They can only be answered *ex post*.

Designers essentially want to assess their interventions *ex ante*. They often do so on the basis of past performance in other cases. As said, plenty research programs and societies evaluate and publish the effects of policies. There are countless theories, templates and best practices to be used for devising consistent laws, efficient contracts, effective tax measures and flexible agreements. The inevitable risk of this 'evidence based' approach, however, could not have been more clearly illustrated by the way widely accepted economic principles, in the Netherlands at least, were applied to a variety of public services (Dicke *et al.* 2011, WRR 2012). Despite the inspirational success of

liberalizing the formerly public telecommunication sector, policy designers should have known that what works in one setting, does not automatically work in another.

Three more angles on good policy design can be derived from the multi-faceted nature of policy design, as summarized in Figure 1. First, designers may be able to increase their knowledge on the effects of an intervention by testing it in a serious gaming environment or in a pilot project before intervening in full scale. Second, designers could also accept a certain level of uncertainty and anticipate a learning curve to tune and refine their intervention as long as it takes to be satisfied with the change. This indirect approach to good policy design, common in institutional design, draws the attention of policy designers to the implementation phase. Read Goodin (1996) for several design principles in this realm, like goodness of fit, revisability, variability and robustness. A third angle on good policy design is meta-design. One may assume that a good meta-design, when it suits the social complexity of a particular design process, results in an effective intervention. Literature provides a large variety of design principles for good process design (Ingram and Schneider 1997, Howlett 2009, Forester 2009, De Bruijn *et al.* 2010).

In sum, this paper learns that policy designers should suspect their pursuit of good policy design to be both comprehensive, requiring many different angles, and a quandary, as problems and solutions often co-evolve.

How to organize for policy design?

The broad literature on policy design literature is rarely instructive on *how* to design. Instead, time and again, scholars emphasize the unstructured, garbage can nature of policy design. This is intriguing but not instructive. Start garbage canning! Let problems and solutions co-evolve! Students of policy design need more structure than that, but perhaps there is not much more to say about designing, because it is a tacit skill (Cross 2006). What is, then, helpful for students of policy design, is to be aware of this. Stop looking for instruction leaflets.

Assuming that policy design is comparable to other design disciplines, there might be more to learn about how to design from literature that focuses on designing in general. Studies of designing across design disciplines, indeed, offer plenty insights in how a design process works (e.g. Schön 1985, Lawson 2004, Cross 2006). Lawson (2004) concludes that designing is as complex as playing with a chessboard that has no division into cells. Schön and Rein (1994) describe designing as a dialogue with reality. Start playing chess without a board! Start dialoguing with reality! These studies, though advanced in understanding what designing is, are neither very instructive about how to do it.

In literature on specific design disciplines, other than policy design, more practical approaches are found. For example, Osterwalder and Pigneur (2009), on making business models, describe six design techniques: customer insights, ideation, visual thinking, prototyping, storytelling and scenarios. Van Dooren (2012), who studies teaching architects how to design, models the design process in five parts: (i) a core process of exploring and deciding, (ii) a guiding theme for the designed artefact, (iii) a taxonomy of artefact related domains that in the case of architecture includes composition, material, function and social context among others, (iv) frames of reference like examples or theories, and (v) sketching and modelling the final design. This model in five parts is not a recipe either but it is instructive for designers to oversee what they are doing and to notice when they are missing an important aspect. Figure 1 in this paper provides policy designers with a similar template to oversee their design process, as this model in five parts does for architects.

The second cross-section of policy design literature, summarized in Table 1, specifically concerns the issue of how to organize for policy design. Two main options are to either organize for a

goal driven, integral problem-solving approach or an evolutionary, piecemeal process oriented approach. Elaborate discussions of this dichotomy, including guidelines and strategies to balance both sides, can be found elsewhere (De Bruijn and Ten Heuvelhof 2008, De Bruijn *et al.* 2010).

The main insight in this paper is that conditions unsuitable for fixed problem-solving should not deter designers. It may generate discomfort and struggle, but it does not disable policy design. It is an almost ineradicable mistake, among students as well as practicing policy designers, to avoid this discomfort and struggle in the way they organize for policy design. Almost everybody has a natural propensity for enforcing straightforward problem-solving to a reality that too often appears socially and technically too complex. The trick is to balance fixed problem-solving with an open process orientation, as it suits a specific design challenge.

Table 2: Do's and don'ts for how to organize policy design.

Don'ts	Do's
Don't mastermind designs	Analyse social complexity
Don't copy design principles	Test applicability of design principles
Don't take the artefact as endpoint	Anticipate re-design when implementing
Don't over-structure the design process	Remain agile during the design process

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