

One size fits all? Policy instruments should fit the segments of target groups

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Abstract

In order to meet the Kyoto CO₂ reduction targets, technical innovations in the field of energy-efficiency must be diffused more rapidly and on a larger market scale. Markets develop gradually however, especially if innovations are involved. Diffusion starts with the innovators and early adopters (the early market), followed by the mainstream market (the early and late majority), and ends with the laggards. The actors in these markets differ in their willingness to adopt innovations: the early market actors have a visionary attitude, and the mainstream actors are more pragmatic. In order to choose policy instruments that will most effectively influence these two markets within the target group of housing association, we addressed the following two questions. (1) What are the differences between the early and mainstream markets actors from a behavioural change point of view, and (2) in what way do existing policy instruments differ in influencing the behaviour of these actors? We analysed early market and mainstream decision-making behaviour, and how the active ingredients in policy instruments specifically target the characteristics of the two markets. Mainstream instruments should intervene as early as possible in the decision-making process and emphasise communication about advantages such as comfort and quality in addition to money and energy savings, and present energy

conservation as a solution to an actual problem. Instead of bureaucratic subsidy systems for the mainstream, the motto should be 'cash on the barrelhead'. Early market actors are highly internally motivated, implying that early market interventions have to be challenging and facilitating.

Introduction

To reverse the human causes of global warming, the Dutch government has established CO₂ reduction targets within the framework of the Kyoto Protocol. Furthermore, the Dutch government stimulates reducing energy consumption as a means to reduce CO₂ emissions. The Dutch ministry of Environmental Affairs has especially targeted the users and owners of buildings as being large energy consumers.

To meet the emission limits set for the Built-Up Environment, which amounts to 29 Mton CO₂ for 2010, measures and innovations in the field of energy-efficiency must be implemented on a large scale. In a previous article we concluded that target groups implement energy-efficiency only gradually, and this is especially so if they must adopt innovations. (Egmond et al., 2005) Against this background, the Dutch ministry of Environmental Affairs asked SenterNovem¹ to develop an intervention strategy to change the behaviour of target groups to more quickly support the governmental policy.

Developing a policy that stimulates organisations to change their behaviour depends highly on knowing the ex-

1. SenterNovem is the Dutch Agency of the Ministry of Economic Affairs for Sustainable Development.

plaining factors of their behaviour (determinants) and knowing what methods effectively influence those determinants to stimulate such a change. In an earlier article, we elaborated on this approach as it was applied to the target group *housing associations* (Egmond et al., 2004).

It is generally accepted that diffusion starts with the innovators and early adopters. The early and late majority then follow, and finally the laggards complete the process (Rogers, 1995, 2003). Furthermore, Moore (1999) points out that, although the adoption of innovations starts in the so-called early market, the mainstream market follows only if certain conditions are met. The early and mainstream markets differ in their willingness to accept innovations. While the early market is more strategic and visionary, the mainstream has a much more pragmatic attitude. To effectively influence the decision-making behaviour of these target groups, their differences in accepting new circumstances or adapting their to new situations must be taken into account. In his 'diffusion theory', Rogers denotes this as 'different rates of adoption'.

For reasons of efficiency and level-playing-field policy-makers often choose instruments, which have a so-called generic character – one size fits all. But we think that a more effective strategy would be to choose existing instruments that fit the characteristics of the target group. In a previous study, we focused on the different characteristics of the early and mainstream markets within the sector of housing associations. We showed how to establish the early and mainstream markets and their characteristics (Egmond et al., 2005).

In this article we report on our analysis of this study where we and specifically addressed the following questions. (1) What are the differences between the early and mainstream market from a behavioural change point of view, and (2) in what way do existing policy instruments differ in influencing the behaviour of early market and the mainstream market actors?

The theoretical research consisted of two parts: (1) an analysis of early market and mainstream decision-making behaviour, and (2) an analysis of how the active ingredients in existing policy instruments (Egmond et al., 2004) specifically target the characteristics of the early and mainstream markets. This analysis is partly based on a study by Lulofs and Lettinga (2003) concerning existing mainstream market instruments. We combined their analysis with the results of an analysis of the effects of some actual policy instruments. Then we combine the results of (1) and (2) in an overview of instruments suited for the early market and mainstream market.

Process of change in early market actors and mainstream market actors

THE BEHAVIOURAL MODEL

In order to analyse and model the process of change we present an outline of the change process based on the planning an evaluation model of Green and Kreuter (Green and Kreuter, 1999). We then describe the characteristics of the early and mainstream market actors. The results we combine into an analysis of the change process of the early and

mainstream market actors, so answering the first research question. Change and Decision making processes in organisation are complex processes.

Change processes of individuals are modelled, for example by Green and Kreuter (1999). But change processes of organisations have not been modelled in a way that can be used for developing interventions. Therefore we adapted the planning and evaluation model of Green and Kreuter in order to plan changes in organisations.

Although the Green and Kreuter model was originally designed for planning and evaluation of interventions changing the behaviour of individuals. By making an assumption often used in policy science we adapted the model for the change of behaviour of organisations. This assumption is best explained in three logical steps. First, as described by Silverman, (1970) organisations are by definition sets of individuals with common interests and with supporting coordination mechanisms. Second, a change in the behaviour of an organisation is preceded by a change in attitude of the organisation. Third, the behavioural attitude of an organisation reflects the behavioural attitude of the dominant coalition of individuals within the organisation. This means a coalition of individuals in the organisation that has in respect to certain decisions in the organisation the dominant, the most powerful position. (Cyert and March, 1992). In our further analysis we considered a housing association as one subjective rational actor. (Bressers and Klok, 1988).

Green and Kreuter's model provides a framework to study and to find the behaviour-explaining factors by surveying the target groups. The model is based on the assumption that if we change the organisational and situational determinants of behaviour, we eventually induce behavioural change. It assumes that there are three main clusters of behavioural determinants and empirical study can reveal what the relevant determinants are for a specific behaviour of a specific target group (see Figure 1).

As we saw in a previous study our operationalisation of the Green and Kreuter model gives a partial explanation of total variance. In that study, based on changeable determinants, we could explain 28% of the variance of the energy relevant behaviour of housing associations (Egmond et al., 2004).

The model of Green and Kreuter

In their PRECEDE-PROCEED model Green and Kreuter (1999) describe three general categories of factors (determinants) that affect behaviour and environment and each has a different influence on behaviour.

(1) Predisposing factors: the internal antecedents to behaviour, belonging to the organisation, they predispose the behaviour: awareness and knowledge, social norms, subjective norms, attitude, self-efficacy and intention.

(2) Enabling factors: the external antecedents to behaviour. They are conditions of the environment and facilitate the performance or action of organisations. Enabling factors relate to resources, and new skills. Resources include financial, technical and organisational (judicial) resources, and new knowledge and skills.

(3) Reinforcing factors: those consequences of an action that determine whether the actor receives positive or negative feedback and support afterwards. Reinforcing factors include feedback of peer organisations, advice and feedback

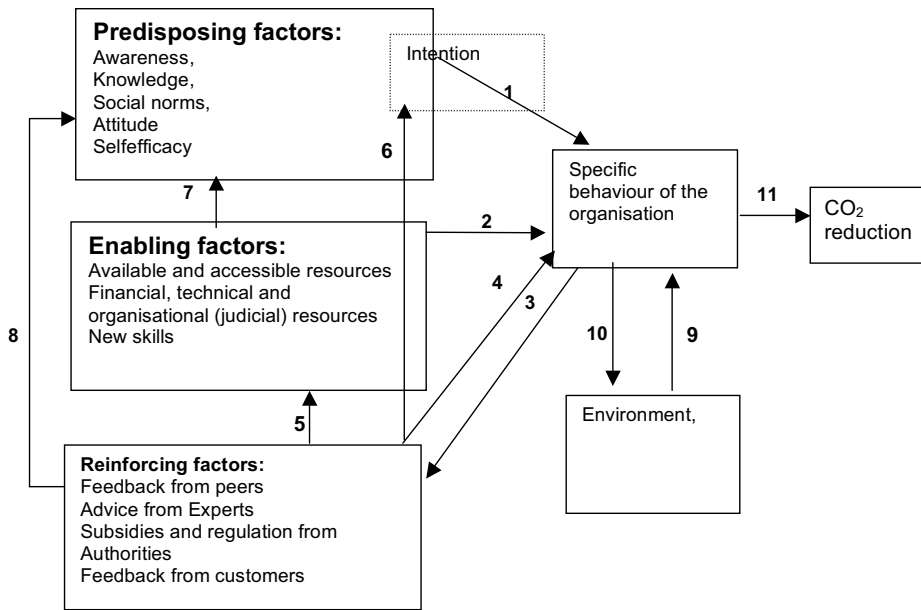


Figure 1. Determinants and behaviour. This figure was adapted from Green and Kreuter, (1999), page 155.

by experts and feedback by powerful and significant organisations (e.g. authorities offering subsidies with a stimulating purpose and enforcing obligations), and feedback of customers. In Figure 1 ‘Determinants and behaviour’ we sketch the relationships between the various factors. Figure 1 only shows the determinant behaviour part of the Green and Kreuter model.

Normally we would expect the sequence of actions within an organisation to be as follows. Firstly, the organisation becomes aware of a problem or need, and the organisation gets so an initial reason, or motivation to pursue a given course of action. The organisation becomes aware of this problem or need by information from the organisation or analyses by experts. Sometimes experiences of peers make the organisation aware of a problem, and sometimes the authorities cause a problem with new legislation. A need or a problem is a state of dissatisfaction or frustration that occurs when an organisation’s desires outweigh the organisations’ actualities. Most of these problems or needs are routine: so most problems are solved in a routine way following standard protocols. This is what we call habitual behaviour.

In the search for solutions knowledge of alternatives is gathered and evaluated. The organisation makes decisions based on the information about the behavioural alternatives and the advantages and disadvantages of the behavioural alternatives. Here, the organisation weighs these advantages and disadvantages. Organisations see advantages and disadvantages (costs and benefits) in terms of the self-interest of the organisation. They are not only concerned with money, but also with other costs and benefits such as comfort, quality, image and perceived uncertainty. Also social norms or the regulations of the authorities influence their assessments of advantages and disadvantages. If an organisation perceives its own capacity for successfully organising and implementing the behaviour, as positive (self-efficacy) than the organisation will more easily perform the behaviour.

With the decision to implement the solution the intention to implement takes root. The first arrow (intention) may suffice to start the behaviour, but it will not complete unless the organisation has the resources and skills to carry out the behaviour. If a problem is new or does not regularly occur, than a specific search for solutions start.

Secondly, after the intention to implement is made (1), and if no barriers occur, the organisation deploys organisational resources (2) to enable the action.

And thirdly, all of this results in the deployment of the behaviour (3) followed by an emotional, physical or social reaction to the behaviour (4) (reinforcing factor). This reinforcing directly strengthens the behaviour, strengthens (5) the search for mobilisation of future resources, and strengthens (6) the intention. The availability of resources heightens the awareness and other factors predisposing the behaviour (7). Similarly, rewards and feedback from behaviour make that behaviour more attractive on the next occasion: today’s reinforcing factor becomes tomorrows predisposing factor (8). The behaviour has effect on the environment (10): many investments in energy conservation measures can lead to price-reduction of energy.

The environment, i.e. by lower temperature has effect on the need for heating and influences the behaviour (9).

After implementation, the actor actively seeks for confirmation of his or her decision by feedback from peers or experts (arrows 3 and 4). The change in behaviour will have effect on the CO₂ reduction (11) through investments in insulation of walls and the forthcoming actual insulated walls.

CHARACTERISTICS OF THE EARLY MARKET AND MAINSTREAM MARKET ACTORS

Actors differ in their speed of accepting innovations and differ in adapting their behaviour to new situation. Rogers, in his diffusion theory, call this the ‘adoption speed’. The adoption of new behaviour within target groups often devel-

ops in the following way. A group of ‘innovators and early adopters’ (Rogers, 1995, 2003) or the ‘early market’ (Moore, 1999) change their behaviour. After this group, the rest follow gradually step by step: Rogers calls this group the “early majority, the late majority and the laggards” and Moore calls them the ‘mainstream market’. Rogers emphasises that these adopter categories are ideal types and not simply an average of all observations about an adopter category.

Because policy of the government wishes the mainstream of housing associations to adopt more innovative technology, we stick to the Moore two segment classification: the ‘early market’ and the ‘mainstream market’. For housing associations, we found that 22.9% belonged to the early market and 77.1% to the mainstream market (Egmond et al., 2005).

According to Moore, the early market can be characterised as vision driven, and makes decisions on strategic considerations. In contrast, the mainstream market is basically motivated by a pragmatic attitude. Moore argues that a ‘chasm’ in attitude between the early market and the mainstream market causes a clear difference in the willingness of the two groups to adopt innovations. We confirmed this in our earlier analysis, where we found that sometimes innovations do not reach the mainstream because these innovation are not yet ready for the mainstream—they are still too unreliable, and too expensive (Egmond et al., 2005). This phenomenon is not the result of bad technology or bad products, but rather the result of *incomplete* products. (Wieffels, 2002)

The early market actors, being the first to implement a change in their sector, expect to get a jump on the competition, whether from lower product cost faster time to the market, more complete customer service, or some other comparable business advantage. They expect a radical discontinuity between the old ways and the new, and they are prepared to champion this against resistance. Being first, they are also prepared to bear with the inevitable bugs and setbacks that accompany any innovation just coming to the market. The mainstream actors, on the other hand, want to buy a productivity improvement for existing operations. They are looking to minimise the discontinuity with the old ways. In Table 1 we present Moore’s comparison of the early

market and the mainstream market’s orientation toward change.

The mainstream actors are not really interested in innovative technology as such because they want applications to solve problems. If, however, the innovative technology solves a problem, they will buy and use the innovative product but as part of a problem-solving application. The example below illustrates this mechanism:

At first the market introduction of the heat pump as an innovative product in sustainable energy, was hardly successful. Thereafter R& R systems developed a floor system to reduce the ammonia and manure problems in poultry farms. A simple system of tubes in the floor resulted in a constant temperature in the stable by withdrawing heat from the manure and storing this heat with a heat pump. This energy floor was better for the well being of the chickens, which resulted in more meat and less mortality. But also the emission of ammonia was reduced by 50%. A pay back period of 4 to 6 years was acceptable for the farmers. In this way about 1 000 stables are equipped with a heat pump under the trademark of the green stable (Agriholland, 2001).

CHANGE PROCESSES FOR EARLY MARKET ACTORS AND MAINSTREAM MARKET ACTORS

We combined the characteristics of the early market and mainstream market (Table 1) with the elements of the behavioural model described above in the section “Characteristics of the early market and mainstream market actors”. We did this by carefully weighing the items from Table 1 with the elements of the model. A number of experts in the field of behavioural change and policy instruments also judged this weighing, and delivered input into analysis. The results of the combination appear in Table 2.

Analysis of policy instruments

We have seen from the model of Green and Kreuter (1999) that today’s reinforcing factor becomes tomorrow’s predisposing factor: compare (8) in Figure 1 and the added explanation. Within the domain of the model, governmental policy may cause a problem for the organisation by new law

Table 1. Comparison early market actors and mainstream market actors.

characteristics	
early market actors: visionaries	mainstream actors: pragmatists
seek revolutionary advances: innovation, creation	seek evolutionary advances, maintenance, problem solving
motivated by future opportunities	motivated by current problems
self-referencing	reference others perceived as similar
avoid the herd	Stay with the herd
risk-taking	risk-averse
intuitive	analytic
contraire	conformist
seek what is possible	pursue what is probable
will seek best technology: and innovative products	will seek best solution or functionality to buy, they focus on leader of the market
momentary, local and specific	continuously, everywhere and everybody
not better, but different	more of the same
often curative	preventive
fast	slow

Table 2. Change process for early market and mainstream actors.

	Early market actors	Mainstream market actors
Awareness	Active information seeker Looking for future chances Finds the reason himself	Reacting to current problems, caused by internal or by external sources as laws and permits
Knowledge	About innovative and revolutionary products About strategic projects	About experiences of peers About standard products and solutions for standard problems - Market leader proposals
Social norm	Sensitive for corporate social responsibility	Comply to what the government wants experiences of others Branche standards are important
Subjective norm	Self referencing Watching carefully other early adopters	Influenced by experiences of peers
Attitude	Risks are not so important Visionary and strategy minded Find imago important Long term oriented Entrepreneur National or global oriented	Risks avoiding Are pragmatic Weighing pros and cons Short term oriented Administrator Local orientation
Self-efficacy	- Trust often with own expertise Staff is capable to solve own problems	Rely more on external experts
Intention	- Work with policy plans with strategic notions - With specific goals and planning	- Have simple implementation plans and standard protocols.
Enabling factors resources	External resources are not really needed, they have own financial resources	Financial resources play a major role Expert advice is often needed
Reinforcing factors	They like rewarding gestures.	Are sensitive for feedback of peers Feedback of experts is often needed, Like advises of the branche-organisation
Behaviour Characteristics.	Work on their own Decide and implement fast They like projects Taking risks;	Stay with the herd, Seek for intersectoral cooperation with peers with solutions have peers implemented Choose for the best solution sold by a market leader what is in the market available Take time - More reactive;
Environmental Characteristics	Meet often institutional barriers	- Follow institutional path's.

and legislation, thereby changing a reinforcing and /or enabling factor. So policy instruments don't work at a one - dimensional way. Therefore a more detailed analysis of policy instruments in respect to the described characteristics of the early and mainstream market seems appropriate.

Our second question addresses the active ingredients of policy instruments. In the decision making process of organisations regarding the perception of advantages and disadvantages of alternatives plays a major role. Governmental policy prioritises some of these alternatives. Therefore policy instruments can influence this process in several ways. Firstly by increasing the information within the organisation about alternatives and the involved momentary and future costs and benefits of those alternatives. Secondly by changing the costs and benefits of them and thirdly by influencing the appreciation of involved costs and benefits.

We elaborate the second question by linking the assessment of policy instruments to the change model of Green and Kreuter. We describe the four main types of instruments and their effect on the early market and mainstream market.

Judicial, economic and communicative instruments and structural provisions are the four main types of policy instruments. They have different effects on the early market and mainstream market. In a previous article we already discussed the four types and their effects on behavioural determinants (Egmond et al., 2004), and analysed the active ingredients of policy instruments.

Based on a review of literature in the field of policy instruments and interventions: Bartolomew et al., 2001; Bruijn et al., 2002; Bressers and Klok., 1988; Doelen, 1989; Ligteringen, 1999; Lulofs and Lettinga., 2003; Schuddeboom, 1994; Vermeulen, 1992; WRR,1992, we analysed the various instruments in terms of their influence on the factors of the model that make up the determinants of behaviour. In this way we determined the "active ingredients" of the instruments. A number of experts in the field of behavioural change and policy instruments also judged the active ingredients, and delivered input into analysis.

JUDICIAL INSTRUMENTS

Judicial instruments prescribe behaviour and set norms. Not complying with the norms causes a problem. Therefore legislation creates an *external* motivation. It expresses public values or social interests that do not always coincide with the organisation's values. Therefore it imposes itself on the organisation as a problem to solve.

Law and legislation create a norm for the desired behaviour of the whole target group and consolidate the intended policy effect. This policy instrument influences behaviour of the mainstream and early markets. An example is the Energy Performance Standard (EPS)² that was implemented in 1995 and sharpened from 1.4 in 1995 to 1.2 in 1998 and to 1.0 in 2000. The EPS targets the early decision making process: at the start, at the application of a building permit (Essers et al., 2001), and is therefore suited to get the mainstream on the move. In the Built Environment we see for new buildings that the conditions for the regulatory process are met, but for existing buildings we see that the instruments may not so effective, because of the complexity of the situation in the field of the existing building.

According policy analysis we assume the active ingredients of regulation are assumed to be at the first place the normative aspect of setting the agenda for society which might influence individual weights attached to alternatives and the costs and benefits. And secondly the monitoring and enforcement activities that actual change the costs and benefits of compliance and non-compliance. Success factors are of course strict monitoring and enforcement and severe penalties. Hindering factors are little political support, especially on the local level, little bureaucratic capacity and regulatory capture (Lulofs, 2001).

Voluntary agreements are a mild form of judicial instruments. *Covenants* are an example of voluntary agreements. This instrument works well if a clear result-oriented obligation is made and not just an effort-oriented obligation. This instrument meets the specific characteristics of the mainstream: staying with the herd and using others as reference. Furthermore, the implementation of a covenant takes time – only after and a lot of discussion. A covenant has often a long-term validity so fewer risks are involved, and the policy is stable for a long time.

Authorities are aware of the necessity of an output oriented approach and enter in covenants while at the same time issuing a continuous regulatory threat: they state that if obligations are not met regulation will follow. Agreements motivate also because of group pressure. This group pressure might be more effective under a regulatory threat.

The target group itself joins voluntarily in a covenant and avoids legislation by doing so. In stimulating covenants the government often does not only impose a regulatory threat but also offer flanking subsidies. These subsidies of course change the costs and benefits of the alternative of joining the setting of the covenant. Success factors of covenants are a bold approach of authorities during negotiations, a credible regulatory threat, a mechanism to punish free riders, a rather

homogeneous target group, and careful process management to built and foster a climate of trust and co-operation (Bressers et al., 2004).

Judicial instruments are appropriate for the mainstream market: they cause problems and they approach the target group as a herd. Especially covenants are good mainstream instrument. It takes time and consideration and the long-term of validity risks are of no importance.

ECONOMIC INSTRUMENTS

An economic instrument usually aims to influence financial considerations in such a way that an organisation will behave in an environmentally favourable way. It provides *advantages*: and *disadvantages*. Advantages take the form of subsidies. An example is the Energy Premium Regulation (EPR)³, (Jeeninga et al., 2002). The effect of the premium regulation on the mainstream effect is not optimal because of the big distance in time between paying the bill for the appliance at the cash register and receiving of the premium, often several months later. The perceived complexity and red tape of many subsidy procedures is not appealing for the mainstream. Therefore the free-rider effect for subsidies is relatively high, estimated to be 60%. The early market actors are responsible for this effect, they choose for the subsidised appliances anyway, so a subsidy is just a reward afterwards for the early market. *Disadvantages* take the form of levies.

Economic instrument makes environmental issues part of the economic traffic by giving them an economic value. Examples are *emission trade* and *tax differentiation*. And, by making environmental issues part of the economic traffic, these instruments are especially appropriate for the mainstream because, before making choices, the mainstream usually analyses costs benefits.

It is clear that the active ingredient of economic instruments is the manner in which the costs and benefits of alternatives are changed. By issuing incentives governments also communicate which of the alternatives is prioritised from a societal perspective. And therefore in our opinion economic instruments also influence the process of weighing the alternatives and their costs and benefits.

COMMUNICATIVE INSTRUMENTS

Communicative instruments transfer knowledge for the purpose of persuasion, convincing or tempting. These instruments can also be used in combination with and to support other types of instruments. Creating social support and realising disclosure are then the targets. Examples are *information and promotion material*, *labels* and *benchmarks*. Two forms of communicative instruments are (1) written information and (2) personal communication.

A successful example of written communication is the A-label (Belastingdienst, 2002). Since the introduction of the A-label, the proportion of A-Label appliances in sales increased by 70% – A-label appliances are in the mainstream. Another example is the European Union's: Energy Performance Directive (EPD) for buildings (2002/91/EG). This di-

2. The EPS is a figure with no dimension, which indicates the energy use per year of the building. An EPS of 1.4 indicate a gas use of 1 200 m³ per year, an EPS of 1.0 indicates a gas use of 1 000 m³ per year.

3. The Energy Premium Regulation is a buying subsidy for energy efficient appliances and technology. If one bought a the energy efficient article after several months premium was granted.

rective requires an energy certificate label at relevant transaction moments – building, sales and rent – containing recommendation for improvement of the Energy performance.

To convince mainstream actors *demonstration projects* are of significance. The early market actors often take an active part in demonstrations. The mainstream actors, especially the early market, like to visit demonstration projects.

Personal communication also plays a major role in starting and continuing processes of changes in organisations. Examples are coaching, guidance and training. Especially mainstream actors like training and being informed by peers. *Personal advice* seems more effective than promotion, especially in supporting implementation processes.

The Netherlands has its Energy Performance Advice⁴ (EPA) (Jeeninga et al., 2001). Its advice, however, comes too late to be effective. Because energy conservation is often one of the last points to decide during a project's design. Often no budget is left when the results of EPA come into the picture. Therefore, this advice instrument is too late for the mainstream, even though the arguments for energy conservation – quality and comfort – are suited for the mainstream. If the advice (EPA) could be available earlier in the investment process, it will more effectively influence the mainstream.

Policy analysis assumes that the active ingredients of communicative instruments go far beyond just processing information on alternatives and their costs and benefits. Often implement-oriented programs use change-agents to influence and convince organisations that change is necessary. If in fact practical help is offered the costs and benefits of implementing the required behaviour are changed, including a reduction of uncertainty. Furthermore it is clear that any regulation or incentives will also be accompanied by communication. There are examples of longitudinal research that proof that the effect of communicative instruments accompanying levies are very influential (Bressers and Lulofs, 2004).

PHYSICAL PROVISIONS

Some physical provisions, such as infra-structural provisions in the field of spatial planning, clearly influence behaviour. Also at an individual level *technical steering* is influencing behaviour. Structural provisions can have a compulsory character, for example, a residential area with sun-oriented houses and an energy-efficient infrastructure. Energy Performance of a Location⁵(EPL) books results: the calculated annual reduction on CO₂ realised in new locations was 0.17 Mton (Kool and Egmond, 2004). This type of intervention influences especially the mainstream because, for a given location, an energy-efficient infrastructure, such as combined generation of heat and electricity for a building area, leads to cooperation of all of the individual actors – by cooperating they spread the risks.

Early market and mainstream market instruments

In Table 3 (see overleaf) we have combined the results of the behavioural analysis of the early and mainstream market and with the active ingredients of existing instruments. The Table summarises the effects of specific early market and mainstream instruments.

Early market instruments:

The early market is best influenced through knowledge transfer about innovative technology and products, and stimulating communication. Demonstrations challenge these actors to play the role of demonstrator.

Mainstream instruments:

Instruments that best influence the mainstream market include: specific permits – they cause a problem that the target group has to solve; covenants have a deliberate character and orient the actors toward the group; subsidies can influence the cost-benefit reasoning of the mainstream, and here the most effective form is cash-on-the-barrelhead.

Discussion and conclusion

Big differences between the characteristics of the early market and the mainstream market determine their actors' motivations for behavioural change. With their vision and enthusiasm for technology, the actors of the early market are internally motivated. They actively seek information, take risks and often have enough financial resources. Furthermore, they are interested in innovative technologies and products, and they are self-referencing rather than one-of-the-herd. The mainstream market actors, on the other hand, are more pragmatic and have a problem-solving attitude – innovations should solve problems. These actors are careful decision-makers, and use lots of routines and habits. They avoid risk and stay with the herd. They seek functionality and buy the best solution, whenever possible, from a market leader.

From the review of the instruments and the analysis of the different position of the mainstream and early market in the behavioural process we conclude that to influence the mainstream we have to keep the following in mind:

Follow the adage: cash on the barrelhead. Financial stimuli work for mainstream actors, the best by direct and visible settlement at the cash register.

- Create a broader supply of standard efficiency-improving and sustainable alternatives. Have an overview of alternatives to make choosing easy.
- Make rules more ambitious, but do not upset the positions of competing organisations within the market.
- Reduce the uncertainty about future higher levels of ambition in national policy and reduce of the uncertainty about trends in energy prices.

4. The Energy Performance Advice is a subsidised voluntary advice, what people can ask to be performed by certified advisors.

5. The Energy Performance of a Location is a energy performance index of a complete location: it ranges from 1-10, whereas 10 is a very energy efficient location and 0 is very energy inefficient.

Table 3. Early market and mainstream market instruments.

Instrument	Early market	Mainstream market
1.1 General Laws and Rules	Not special: they obey	Not special: they obey
1.2 Specific permits	Not special: they obey	Causes a problem and activates The mainstream obeys and solves the problem.
1.3 Enforcement	Necessary	necessary
1.4 Covenants and agreements	Only agreements with the individual actor	Good because the deliberate character, group action, relation with government
2.1 Subsidy	Only as reward, NB the free rider effect, Specific investments subsidies	Can have effect if not too much red-tape, in the form of a rebate: cash on the nail.
2.2 Levy	Not appropriate	has effect if actors are informed
2.3 Tax differentiation	Not special: they obey	Often too complicated , and too postponed
2.4 Financial constructions	Not appropriate	Helpfully, i.e. lease constructions, energy services
2.5 Emission trading		Emission reduction has become economic function, with a mainstream solution trading.
3.1 Knowledge transfer	Innovative technology innovative products and strategic advantage	Target group magazines: About products and market leaders
3.2 Modelling	Not appropriate	They learn from peers
3.3 Stimulating communication	appropriate	Especially: advantages as: comfort, quality reliability, let market-leader be the sender.
3.4 Training	Not appropriate	With peers and from peers
3.6 Personal advice	Not appropriate	Has effect if on time in decision process, is often too late
3.7 Labels	Not appropriate	very well: if good communicated
3.8 Demonstration	As demonstrator, and in the form of contests.	As visitor
3.9 Benchmarks	Appropriate: they watch their competitors	If specific enough: They like to compare with peers
4.1 Infra-structural provision	Not appropriate	Stimulates co-operation they like it actively
4.2 Technical behavioural steering	Not appropriate	They buy if it make things easier

- Enforce law and specific rules.
- Create new habits, or influence the set of existing habits by new regulation.
- Label energy-efficient buildings.
- Stimulate energy-systems for several buildings simultaneously—a location oriented approach.

And finally, one size does not fit all! Despite the efforts of the government and the deployment of its many policy instruments, mainstream actors often do not adopt innovative products because the policies do not fit them. Mainstream interventions should act early in the change process, be less complex and offer more standard options. Subsidies, tax reductions and other financial stimuli must pay off more quickly. We also conclude that there are few instruments that fit the early market actors. They are highly internally motivated, implying that early market interventions have to be challenging and facilitating. And because the early market is active and dynamic, it often encounters institutional barriers. In this case, often the best intervention is to remove the institutional barriers.

The chasm between the early market and the mainstream market is wide. At this moment the crossing of the chasm is

being elaborated, results will be reported in due course at the conference.

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