

MARCH 2014

INFLUENCING BEHAVIOUR

BEHAVIOUR ANALYSIS FRAMEWORK FOR
THE DEVELOPMENT OF MORE EFFECTIVE
ENVIRONMENTAL POLICY

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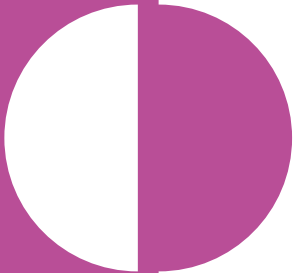
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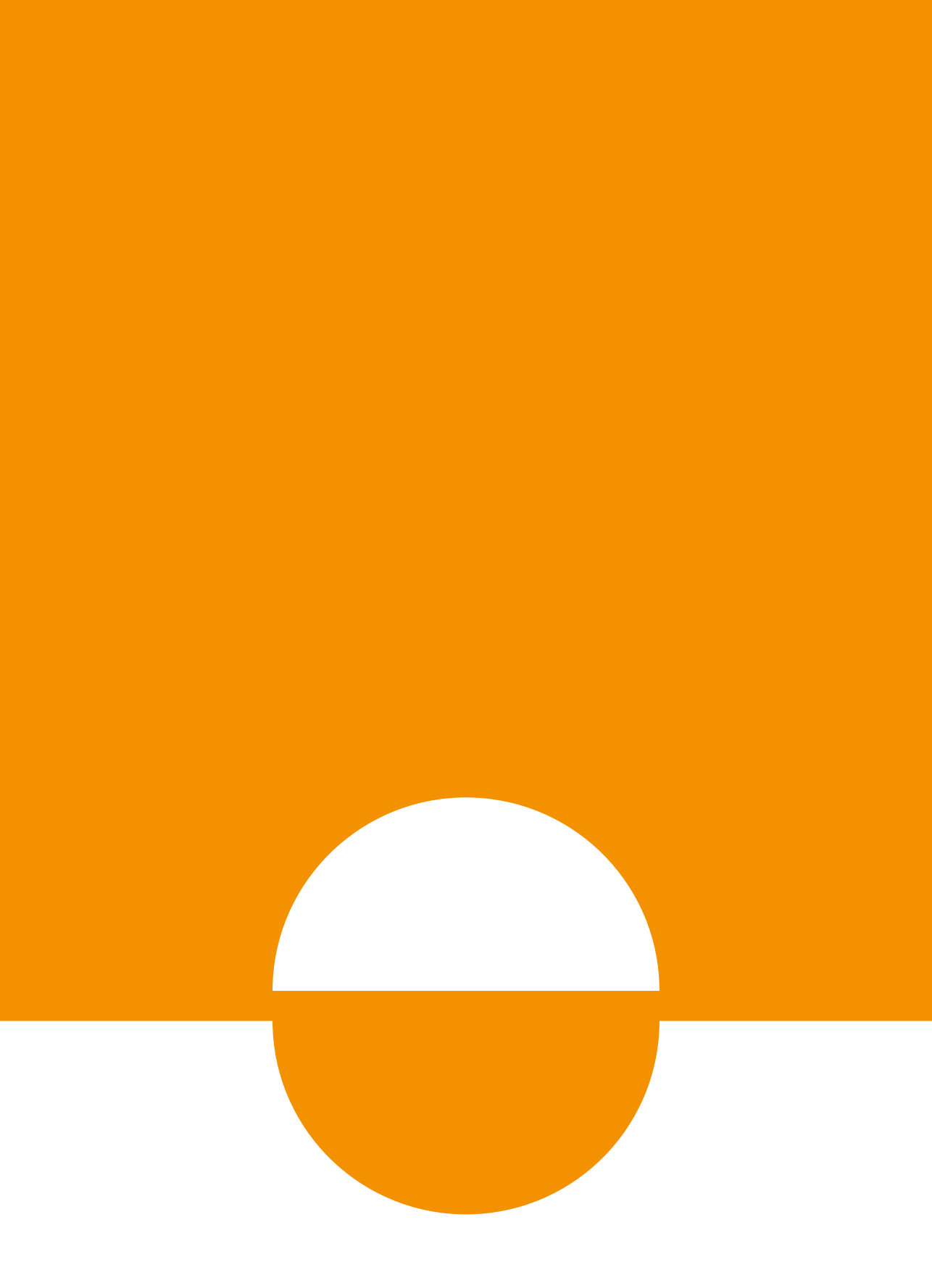
BEHAVIOUR ANALYSIS FRAMEWORK FOR
THE DEVELOPMENT OF MORE EFFECTIVE
ENVIRONMENTAL POLICY

**This Behaviour Analysis Framework accompanies the advisory report
'Influencing Behaviour: more effective environmental policy through
insights into human behaviour'.**

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THE BEHAVIOUR ANALYSIS FRAMEWORK IN BRIEF

1

This document presents a Behaviour Analysis Framework developed by the Council for the Environment and Infrastructure (Rli). The Framework establishes direct links between insights drawn from behavioural science and policy instruments which are likely to be effective in promoting sustainable behaviour. It comprises a set of structured questions, the outline of which is given in this chapter. Chapter 2 describes the Framework in detail. By working through the model, the policy-maker will be presented more questions and concrete ideas for policy and policy instruments.

The (societal) problem

1. What is the environmental or societal problem in the current situation?
 - Why is it a problem (what is the evidence base)?
 - What causes and effects can be identified?

Behaviour

2. What (type of) behaviour is relevant to the problem?
 - To what degree does observable human behaviour contribute to the problem? What is that behaviour?
 - Is it possible to identify groups of people who display similar (undesirable) behaviour that contributes to the problem?

Policy objective

3. What is the policy objective, i.e. the desired situation?
 - What (desired) behaviour could help to attain the policy objective?
 - Which groups or individuals are already showing this behaviour?
 - Are there any ongoing civil initiatives which address the undesired or desired behaviour? Can any lessons be drawn from them to support government policy?
 - Is there any existing policy which encourages or discourages a certain (type of) behaviour?

Determinants of behaviour

4. What approaches can be applied with a view to changing behaviour?
(The following questions can be examined in greater depth by applying the full Behaviour Analysis Framework. A 'one size fits all' approach is unlikely to be effective. Each group demands a targeted approach. Thorough and differentiated consideration of all questions will help to identify and define any policy's target groups.)
 - 4.1 *Abilities*: Do the people whose behaviour contributes to the problem have the knowledge and skills they need to change that behaviour?
In other words:
 - Are people aware of the undesirable and the desired behaviour?
 - Do people know what they can do in order to change their behaviour?
 - Are people able to discontinue their undesirable behaviour and/or to adopt the desired behaviour?
 - 4.2 *Motives*: Are people sufficiently motivated to change their behaviour?
 - Is the undesirable behaviour based on personal feelings (such as contentment, opposition, pride, guilt?)
 - What advantages and disadvantages do people expect from the desired behaviour?
 - Do people believe that the undesirable or desired behaviour is generally accepted in their social setting?
 - Do others in the social setting already display the desired behaviour?
 - Are people aware that they can contribute towards the attainment of the policy objective, and how they can do so?
 - 4.3 *Circumstances*: What are the circumstances which determine the undesirable or desired behaviour?
 - Are there any physical, economic, socio-cultural or institutional obstacles to the desired behaviour? Or are there circumstances which reinforce the undesirable behaviour?
 - Are there adequate opportunities to change behaviour?
 - 4.4 *Choice processes*: To what extent is the desired or undesirable behaviour determined by habit or intuitive choices?
 - Does the undesirable behaviour involve actions which are routine and frequent? (If so, habitual behaviour is probably involved)
 - Are people consciously aware of their undesirable behaviour? (If not, intuitive behaviour is probably involved)

Policy strategies

5. What policy strategies are in keeping with the factors identified by Question 4 to change behaviour? (The Behaviour Analysis Framework can be used to identify practical strategies to address each of the various factors, with appropriate policy instruments.)
 - For which group(s) of people is a policy strategy likely to be effective? What opportunities for pilot projects are there?
 - How long is to be allowed for the policy to show effects?
 - How will its success be determined? (i.e. what change of behaviour is to be achieved?)
 - Via which factors identified does the policy attempt to change behaviour?
 - How can the (intended) effects of the policy be evaluated?
 - Do the expected positive effects of the policy strategy (or a combination of strategies) justify the costs of implementation?
 - Who can help to ensure the success of the policy?

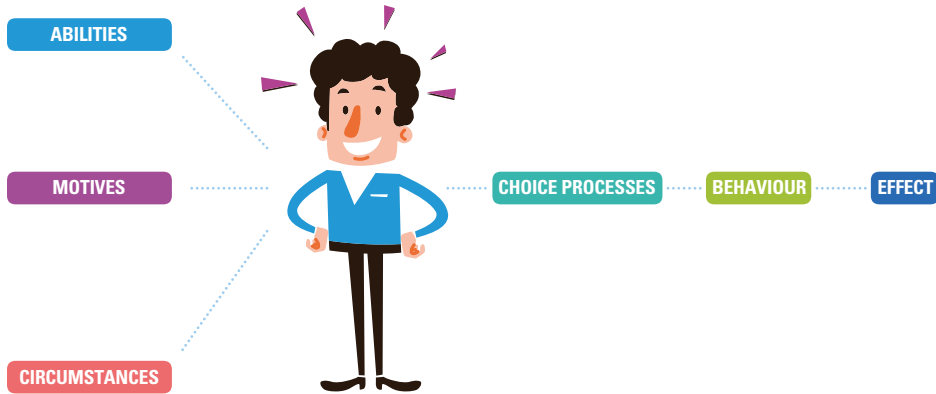
1.1 Objective: using behavioural knowledge to support policy

Understanding the mechanisms of human behaviour creates opportunities to increase the effectiveness of policy intended to encourage sustainable behaviour. However, those mechanisms are so complex that behavioural knowledge alone will not be enough. It is also necessary to know how the knowledge can be translated into effective policy instruments. The Behaviour Analysis Framework developed by the Council for the Environment and Infrastructure (Rli) establishes direct links between current behavioural knowledge, the rational process by which government policy is designed, and the instruments available to government (at all levels). A thorough assessment of (proposed) policy using the Framework will reveal the behavioural determinants which can and should be addressed, and will thus help to identify measures which can be used in pursuit of the policy objectives. The Council does not propose the Framework as a substitute for the policy-maker's own creative thought processes, but as a means of making an important knowledge domain accessible and practicable for policy purposes.

1.2 Determinants of behaviour

The Behaviour Analysis Framework is concerned exclusively with behaviour at the individual level. There are four general factors which, in combination, determine behaviour: abilities, motives, circumstances, and choice processes. In order to display a certain behaviour or to change behaviour, people need certain *abilities*: specific knowledge and skills. Furthermore, people have certain *motives* (e.g. values, emotions, and beliefs) which will influence or determine their behaviour. Their *circumstances* are also relevant in that circumstances determine the availability and attractiveness of behaviour options. The way in which people make decisions relies on various conscious and unconscious *choice processes*. The four factors show high interdependency. For example, circumstances determine the attractiveness of certain behaviour options, which in turn influence the motives to actually use those options. The (almost boundless) interactions are not shown in the diagram below.

The mechanism of human behaviour:



1.3 The Behaviour Analysis Framework in practice

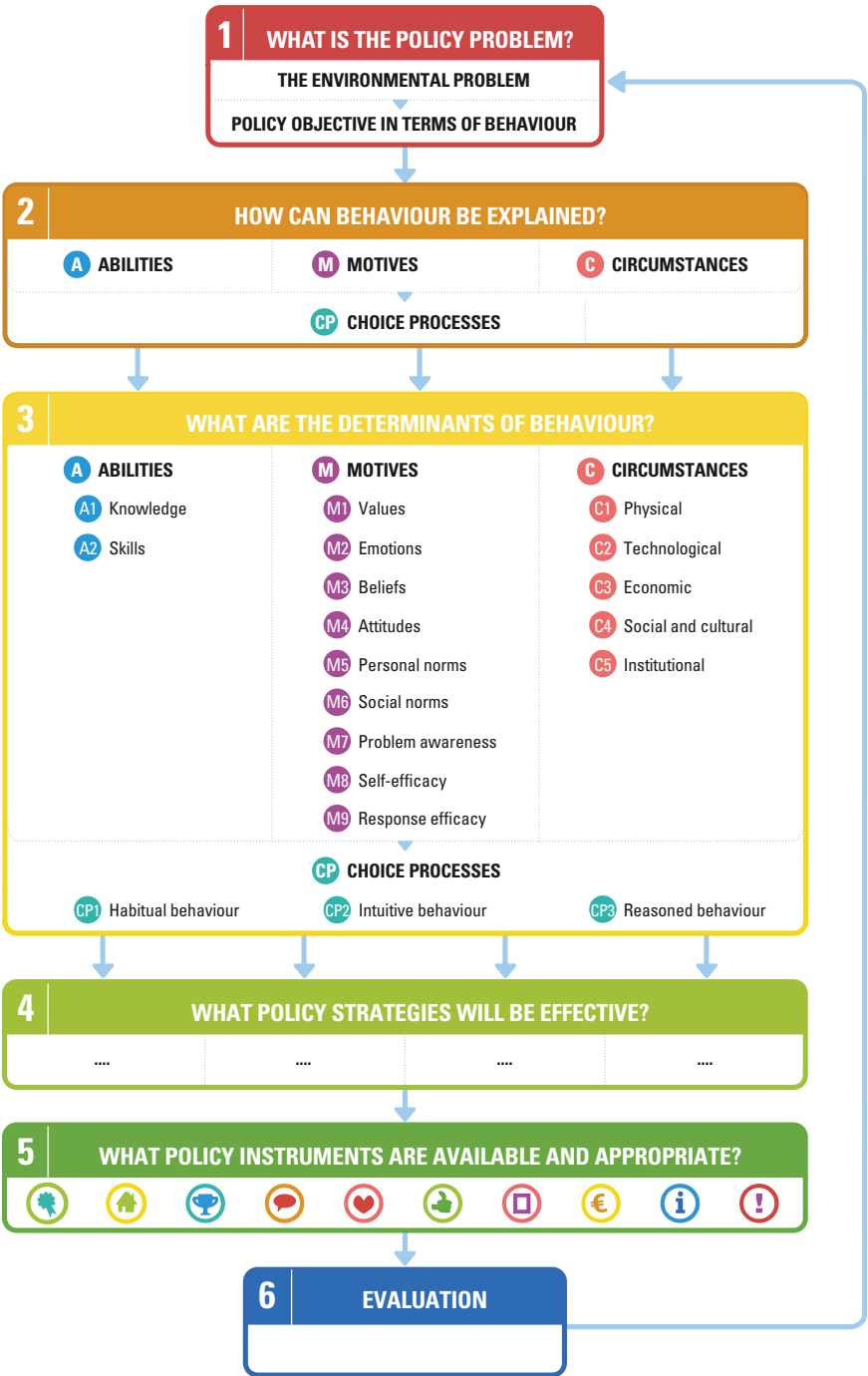
The Behaviour Analysis Framework examines behavioural determinants in the context of a specific policy problem, which therefore forms its starting point. The behavioural knowledge it reveals supports the choice of policy strategies, which can then be refined to arrive at effective policy instruments. The Framework is intended to help in the analysis of policy problems, behaviour, and policy instruments. It helps to identify the main determinants of unsustainable and sustainable behaviour. It also offers useful insights into how policy can be adapted to target specific groups, and helps to identify strategies with the greatest potential for success. Methodical application of the Framework will help reveal which (groups of) people need to be addressed, and how they can be approached most effectively. These target groups will not be those of the standard socio-demographic segmentation models, but groups which show common behaviours and behavioural determinants. The Behaviour Analysis Framework is not a deterministic model which provides ready-made solutions. Rather, it is a resource which supports the structured analysis of a problem and the relevant behavioural factors. In many cases however, it will remain necessary to draw upon additional expertise in various social science disciplines.

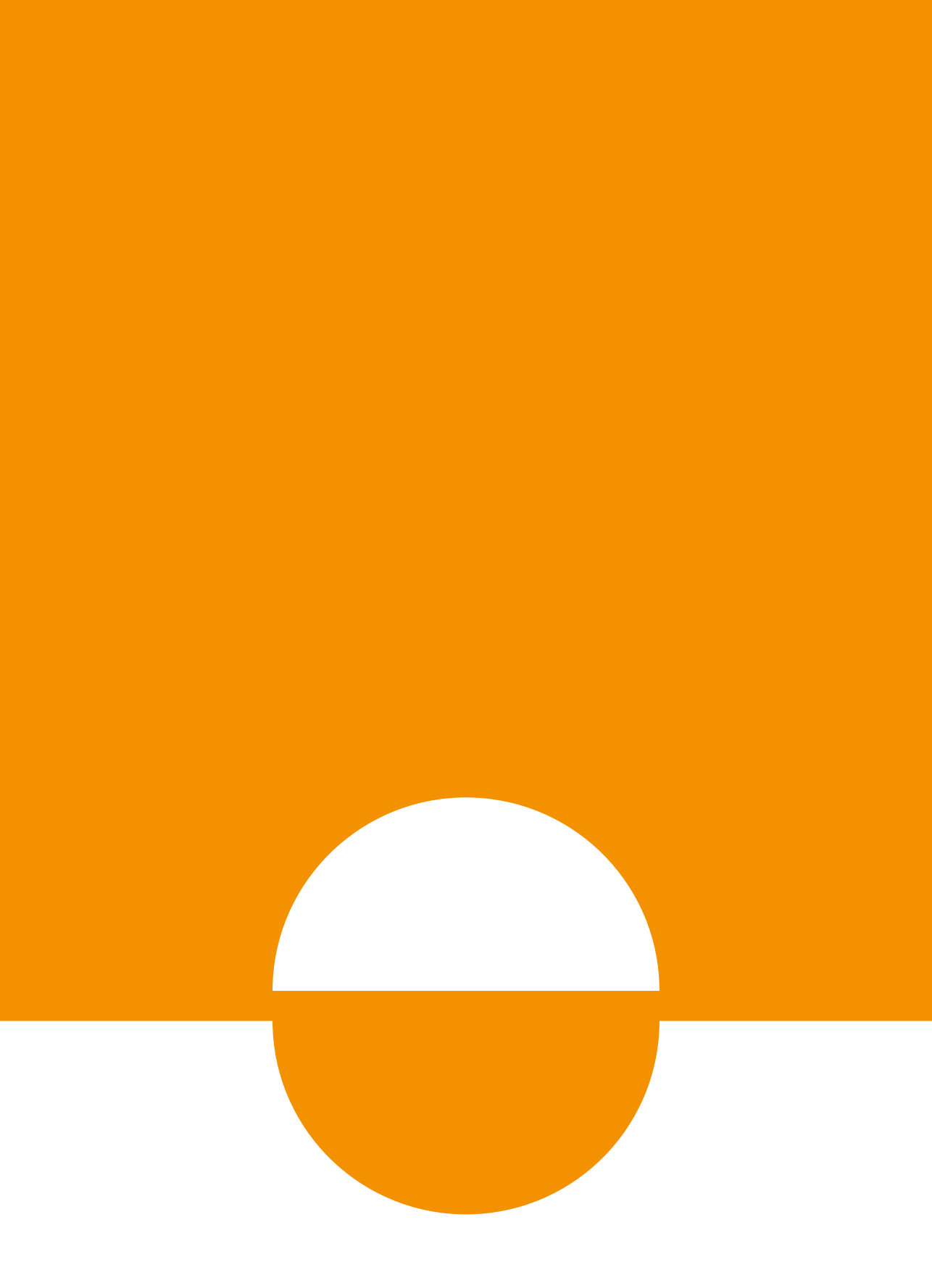
Application of the Behaviour Analysis Framework involves the following steps:

1. Definition of the policy problem based on a set of introductory questions which identify the part played by human behaviour in the environmental problem, and hence the policy objective in terms of behaviour change.
2. Identification of the relevant behavioural determinants and the principles which will underpin policy strategies, based on general questions.
3. Detailed examination of the various behavioural determinants based on specific questions about the behaviour concerned ('zooming in').
4. Identification of useful policy strategies based on the abilities, motives, circumstances and choice processes that are relevant to the policy problem and the associated behaviour.
5. Selection of policy instruments which, based on the results of Steps 3 and 4, are likely to prove effective in bringing about behaviour change in order to achieve environmental objectives.
6. Evaluation of the policy (instruments), partly with a view to expanding current behavioural knowledge and embedding its use in policy development processes.

The complete Behaviour Analysis Framework, which accompanies the advisory report 'Influencing Behaviour', has been condensed to form the 'Behaviour Quick Scan', a tool which enables policy-makers to conduct a less formal analysis 'on the fly'. The Quick Scan supports the creative process of designing environmental policy.

The structure of the Behaviour Analysis Framework:





THE BEHAVIOUR ANALYSIS FRAMEWORK

2

2.1 What is the policy problem?

The following questions help to define the policy problem and to determine the role of human behaviour.

1

WHAT IS THE POLICY PROBLEM?

The environmental problem

1. What is the problem? Why is it a problem? (Establish the facts)
2. What is causing the problem? What causes and effects can be identified?

Behaviour

3. To what degree is observable human behaviour contributing to the problem? What form of unsustainable behaviour is (partly) responsible for the problem, and what sustainable behaviour will help to resolve it?
4. Which (groups of) people are displaying the unsustainable behaviour?
5. Are any existing policy measures in force to discourage unsustainable behaviour? Are there any which exacerbate such behaviour?

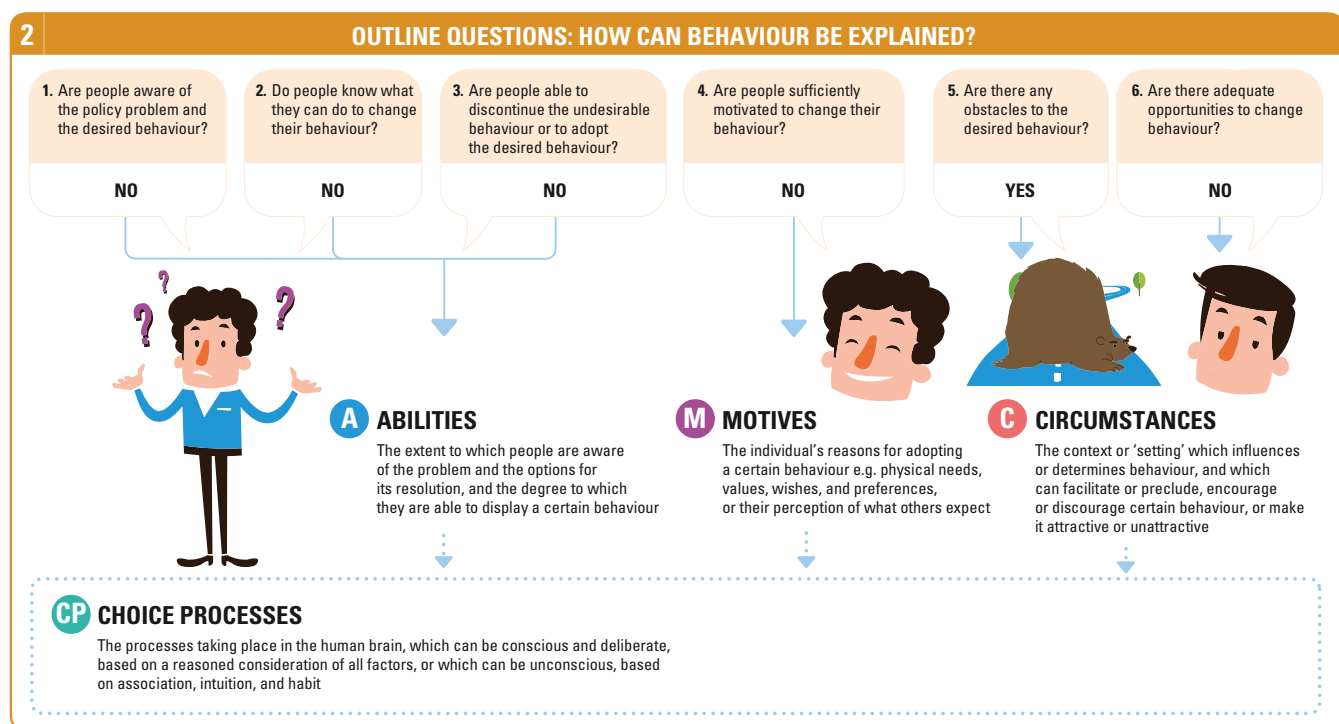
Policy objective

The following questions can be useful in translating the problem definition into a firm policy objective for behaviour change:

6. What behaviour should the policy establish? What behaviour will help to attain the policy objective?
7. Which (groups of) people are already displaying the desired, sustainable behaviour?
8. How long is to be allowed for the policy to show effects?
9. What criteria will be applied to determine whether the objective has been achieved? (The process of policy evaluation begins here, as does that of identifying opportunities for policy experiments)

2.2 How can behaviour be explained?

The following questions identify the main behavioural determinants which are relevant to the policy problem. There is no fixed sequence in which these questions must be answered. Identifying the determinants is the first step in the development of effective environmental policy in which individual behaviour plays a part. In most cases, the answer will be more than a simple 'Yes' or 'No'. The Behaviour Analysis Framework does not attempt to generate absolute yes/no answers, but to prompt further examination of the underlying behaviour. The prime consideration is therefore the reasons for the yes/no response.





2.3 Behavioural determinants, policy strategies, and policy instruments

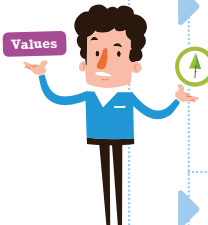

Further analysis of the behavioural determinants of the dimensions mentioned above will aid the development of targeted policy strategies to promote sustainable behaviour. The following questions serve to identify the specific abilities, motives, circumstances and choice processes which underlie the behaviour to be changed. These factors jointly determine which policy strategies are likely to prove effective. The Framework identifies promising strategies to influence behaviour. Where more than one strategy is available, effectiveness may be enhanced by applying a 'smart' combination. Examples of the available policy instruments for each strategy are also given. This list is not exhaustive: the possibilities are restricted only by the policy-maker's creativity.













Again, the answer will be more than a simple 'Yes' or 'No' in most cases. The Behaviour Analysis Framework does not attempt to generate absolute yes/no answers, but to prompt further examination of the underlying behaviour. The prime consideration is therefore the reasons for the yes/no response.






The use of the Behaviour Analysis Framework is the first step in identifying the determinants of behaviour and the relevant policy strategies. Reality is far more complex, meaning further and deeper analysis will be necessary. Answering these detailed questions is itself a complex undertaking which calls for evidence-based knowledge of the mechanisms of human behaviour. There are various ways in which this knowledge can be developed for use by policy-makers (each of which has certain advantages and disadvantages), including:















- Research with a view to describing and conceptualising the problem
- Evaluation of previous policy (including that in other domains)
- Consultation with experts
- Desk research: reading the current literature
- Policy experiments
- The use of focus groups

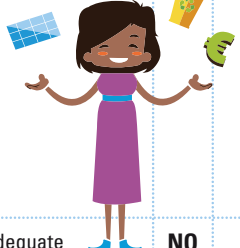

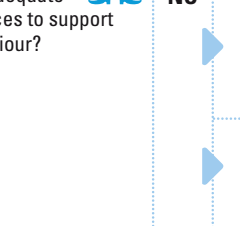













3 WHICH BEHAVIOURAL DETERMINANTS ARE RELEVANT?	4 WHICH POLICY STRATEGIES WILL BE EFFECTIVE?	5 WHAT POLICY INSTRUMENTS ARE AVAILABLE AND APPROPRIATE?
A ABILITIES		
A1 Knowledge The extent to which people have and understand objective information about environmental problems, risks and solutions	<p>1. Are people aware of the environmental problem and the role of behaviour in it?</p> <p>NO</p> <p>Enhance knowledge about the environmental problem through communication explaining the causes and effects, and the role of behaviour</p> <p>2. Are people aware of the contribution they can make in resolving the environmental problem?</p> <p>NO</p> <p>Improve information about the environmental aspects of products and services</p> <p>Allow people to experience the effects of behaviour</p> <p>Provide information about the effects of behaviour change</p> 	<p>Providing accessible and credible information about the facts of the problem (e.g. the film 'An Inconvenient Truth')</p> <p>Providing information which compares and ranks sustainable and less sustainable products or services, e.g. labels and comparison websites</p> <p>Providing free samples of products and services; gaming simulations</p> <p>Communication of the positive experiences of people who have already adopted the desired behaviour, by providing feedback about the effects of sustainable behaviour (such as separating waste at source) or by showing a 'role model video' in which the desired behaviour is highlighted and rewarded</p>
A2 Skills The degree to which people are able to adopt the desired behaviour	<p>3. Do people know how to show the desired behaviour?</p> <p>NO</p> <p>Provide targeted information about the options</p> <p>4. Are people actually able to show the desired behaviour?</p> <p>NO</p> <p>Allow people to experience the behaviour options and improve their skills by means of training and practice</p> 	<p>Offering instructions and prompts at the times and locations that the desired behaviour can take place, and at which the target group is able to make a positive contribution</p> <p>Virtual reality, e.g. driving style instruction in a simulator, or a gaming situation which confronts players with their intuitive assumptions about household energy consumption</p> <p>The engagement of experts or trainers; hands-on instruction videos</p>

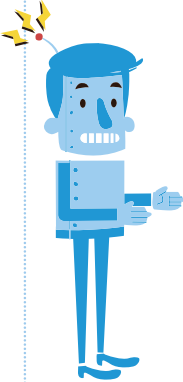
3 WHICH BEHAVIOURAL DETERMINANTS ARE RELEVANT?	4 WHICH POLICY STRATEGIES WILL BE EFFECTIVE?	5 WHAT POLICY INSTRUMENTS ARE AVAILABLE AND APPROPRIATE?
M MOTIVES		
M1 Values General goals and objectives which act as guiding principles in a person's life	<p>1. Do people attach importance to (various) biospheric values (such as not causing pollution, not harming others in pursuit of personal gain, respect for nature, etc.)?</p> <p>YES</p> <p>Build upon general biospheric values by reminding people of their earlier sustainable behaviour</p> <p>2. Do people have values which stand in the way of more sustainable behaviour?</p> <p>NO</p> <p>Link sustainable behaviour to other values of individuals or target groups (altruistic, egoistic, hedonic) or to other motives</p> <p>Reinforce biospheric values</p> 	<p>Information and education campaigns targeting those who have made sustainable choices in the past</p> <p>Appealing to the values of those in the target groups identified; for example: present electric cars as a 'must-have gadget'; address the problem of fine particulate pollution by drawing attention to the hazards for children; promote energy-efficiency measures on the basis of increased comfort and reduced costs</p> <p>Education, as in the 'Smaaklessen' (Taste Lessons) programme and general environmental awareness education</p>
M2 Emotions The positive or negative feelings that people attach to the things they observe or experience	<p>3. Does a personal feeling (such as contentment or dissent) play a part in the undesirable behaviour?</p> <p>YES</p> <p>Emphasise the aspects of sustainable behaviour which evoke positive emotions in promoting environmental choices; design the intervention to include the 'feel good factor'</p> <p>Let people experience the positive emotions evoked by sustainable choices</p>	<p>Campaigns to associate the sustainable choices with positive emotions: solar panels reduce household energy bills (and are good for the environment at the same time); an economical car can be just as fashionable as a shiny gas-guzzler; clothing can be both environmentally responsible and trendy</p> <p>Providing positive feedback about sustainable choices; allowing opportunities to 'try out' sustainable behaviour before making a firm commitment</p>
M3 Beliefs Preconceptions formed as the result of a conscious or unconscious evaluation of situations, problems, and behaviours	<p>4. Do people expect the desired behaviour to result in either a gain (advantages) or a loss (disadvantages)?</p> <p>YES</p> <p>If there are gains which are in keeping with important values, provide information about the benefits in a way that reflects those values, and allow people to experience these</p> <p>If there are losses which detract from important values, attempt to influence the costs-benefits ratio and provide relevant information</p> <p>NO</p> <p>If there are no gains which are relevant to people's important values, prescribe or proscribe certain behaviour options and clearly explain the reasons for doing so</p> 	<p>Providing comparative information linked to people's values: environmental performance indicators, price information, and the effects on others</p> <p>Influencing the time and trouble required to adopt a certain type of behaviour by altering its availability or accessibility, e.g. by improving public transport services or by creating Park + Ride facilities outside the urban centres</p> <p>Financial measures such as deposits on recyclable containers, road pricing, subsidies, taxes or levies on unsustainable behaviour, and rewards for sustainable behaviour</p> <p>Proscriptive and prescriptive measures, such as closing city centres to all traffic, or requiring all drainage systems to have separated flows, with communication explaining the reasons</p>

3	WHICH BEHAVIOURAL DETERMINANTS ARE RELEVANT?	4	WHICH POLICY STRATEGIES WILL BE EFFECTIVE?	5	WHAT POLICY INSTRUMENTS ARE AVAILABLE AND APPROPRIATE?
M MOTIVES					
M4 Attitudes A person's opinion of what constitutes positive or negative behaviour, based in part on beliefs and influenced by the importance attached to aspect(s) being considered (interactions, experiences, observations and information are integrated to form an overall 'attitude')	5. Does the individual or group have a positive attitude towards unsustainable behaviour (or a negative attitude towards the desired sustainable behaviour)?	NO	Alter or dispel the underlying beliefs, or introduce people to the desired behaviour		A campaign highlighting the (existing) benefits of the desired behaviour; temporary measures to allow people to experience alternatives to unsustainable behaviour, e.g. closing the city centre to cars and using the freed-up space to create outdoor cafes
					
M5 Personal norms A perceived moral obligation to behave in a certain way	6. Would people feel guilty if they failed to adopt the desired behaviour? Would they gain a sense of pride from doing so?	YES	Reinforce the personal norms by raising problem awareness, enhancing response efficacy, and increasing commitment		Targeted campaigns which appeal directly to people's personal norms; providing information about the environmental problems which are caused by (their) unsustainable behaviour
					Having people show their commitment by signing 'declarations of intent' in which personal norms are translated into actual behaviour, as in the peak-hour avoidance pilot project
					Providing information about how individual behaviour contributes towards solving the problem, e.g. by providing feedback or by highlighting how effective other people's behaviour has already been ('role models')
M6 Social norms The individual's perception of what other people expect of him/her, or what those other people do themselves	7. Do others in the (direct) social setting display the desired behaviour?	NO	Reinforce the social norms whereby they may be internalised to become personal norms (the social norm must apply to a group with which the individual feels some commonality)		Showing that (relevant) others are already demonstrating the desired behaviour, e.g. clearly recognisable separated waste containers or the use of 'street ambassadors' who have already implemented energy-efficiency measures in their own homes and are willing to explain the benefits to their neighbours
	8. Do people believe that the desired behaviour is general practice in their (immediate) setting?	NO	Provide targeted information which draws attention to the desired behaviour being displayed by others		Having the public sector set an example by acting as 'launching customer' for electric vehicles or implementing circular purchasing management contracts; communicating what (respected) individuals, such as 'street ambassadors', are already doing
	9. Are people displaying behaviour which is average within their setting, or does their behaviour deviate from the average (desired) behaviour?	YES	Provide information about other people's behaviour		Having street ambassadors inform their neighbours about (more) sustainable options
	10. Is there a high degree of social cohesion within the target group or within its members' networks?	YES	Appeal to the values of the target group, emphasising the effect if the entire group were to adopt sustainable behaviour (which would then become the group norm)		Providing comparative feedback or information about the social norm (provided it is indeed pro-environment) or explaining what norms the government applies (injunctive norms)
					Providing feedback about other people's (better) behaviour, e.g. average energy consumption in the neighbourhood or among comparable households; improving monitoring of behaviour
					Rewarding the group as a whole for their good behaviour, e.g. with collective discounts or investments in the neighbourhood (subject to a minimum number of participants)

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M MOTIVES		
M7 Problem awareness The degree to which people (believe that they) appreciate and understand environmental issues and risks, to which they attach due importance	11. Do people know that the desired behaviour will help to resolve the environmental problem? NO Increase problem awareness through communication about the causes and effects of the problem, as well as the part played by an individual's behaviour	 Providing feedback about the environmental effects of behaviour; providing information about the degree to which behaviour contributes to environmental problems
M8 Self-efficacy An individual's confidence that he or she is able to display a certain (type of) behaviour or to change current behaviour	12. Do people expect to be able to adopt sustainable behaviour? NO Increase self-efficacy by providing targeted information about the behaviour options Increase self-efficacy by showing the behaviour options and allowing people to experience them at first hand	 Offering tips at the times and locations that the desired behaviour can take place, e.g. a 'smart' thermostat; providing personalised information about what the individual can do and how  Virtual reality, such as a simulation game which confronts people with their intuitive assumptions about energy consumption
M9 Response efficacy The degree to which people believe that their choices will actually make some contribution towards solving a specific environmental problem	13. Do people appreciate how useful their contribution will be in solving the environmental problem? NO Increase response efficacy by allowing people to experience the consequences of their behaviour, or by communicating the effects of behaviour change	 Providing feedback about the effects of behaviour changes in a community (town, neighbourhood, street)  Framing the message in positive, attractive terms

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C CIRCUMSTANCES					
C1 Physical The design, quality and 'look & feel' of the human environment 	1. Does the spatial structure or design of the area or the infrastructure pose any obstacles to sustainable behaviour?	YES	Redesign the physical context so that barriers to the desired behaviour are removed and sustainable behaviour is encouraged	 Spatial planning measures, as in siting urban expansion areas close to multimodal transport hubs (or vice versa)	
			Redesign the physical context in a way which inhibits behaviour with negative environmental impact, whereupon that behaviour will no longer be the 'default'	 Increasing the availability of sustainable alternatives for behaviour, for example by providing facilities such as charging stations for electric cars, separated waste collection points, more greenery to encourage walking, and dedicated cycle paths, or by providing triggers, prompts or warnings which encourage or discourage certain types of behaviour	
				 Matching the width of a road to its speed limit; closing city centres or residential districts to traffic	
	2. Does the general appearance of the setting (design, greenery, general cleanliness) encourage sustainable behaviour?	NO	Redesign the elements which determine the character and appearance of the area	 Devoting attention to the design of public areas, adding or removing certain cues; an untidy, run-down area will encourage associative behaviour such as littering or fly-tipping, whereas an orderly, clean area encourages respect and sustainable behaviour	
				 Improving the quality of the area ('clean, green, and safe') to encourage residents to become directly involved in maintenance or further improvements	
	3. Are there adequate opportunities to display (more) sustainable behaviour?	NO	Increase the number of sustainable options available	 Creating positive 'defaults' within the spatial structure and design, e.g. a contiguous network of dedicated cycle paths which are separated from, and unimpeded by, the roads used by motorised traffic	
				 Making sustainable products and services more readily available, e.g. Park + Ride facilities at stations with good connecting bus services	
C2 Technological The ways in which available technologies can support or restrict choice 	4. Does the available technology have any negative environmental effects?	YES	Use only the most environmentally responsible technologies available	 Legislation, such as the statutory requirement for all cars to be fitted with a catalytic converter	
			Clearly communicate the environmental effects of the technology in question	 Providing comparative information about the environmental impact of technology, e.g. the CO ₂ calculator	
		5. Does the technology currently available encourage behaviour which has adverse environmental effects?	YES	Encourage change on the market supply side	 Using subsidies or taxes (levies, duties) to make the more sustainable alternative more attractive; examples include the subsidy on double glazing and the higher rate of purchase tax or import duty payable on high-emission vehicles
		6. Does the available technology support and encourage sustainable behaviour?	NO	Introduce new technologies which will influence sustainable behaviour in a positive way, and promote them	 Making new technology available, such as speech software which audibly instructs the user to put the computer into hibernation mode
				 Promoting the adoption of energy-efficient appliances and other 'green' technology', as in the subsidies on solar panels	

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C CIRCUMSTANCES					
C3 Economic The financial and material circumstances at the social and individual level, which influence the ability and willingness of people to adopt (more) sustainable behaviour, including the costs and benefits of sustainable behaviour	7. Does the financial and economic situation (in terms of employment security, inflation, price indices, etc.) encourage behaviour likely to contribute to environmental objectives?	NO 	Reduce the financial risks and lower the financial threshold of sustainable behaviour		Providing guaranteed payback periods and/or feed-in prices for solar panels; offering low-interest loans or attractive savings arrangements for sustainable investments; providing subsidies for sustainable investments
	8. Do people have adequate (financial) resources to support the desired behaviour?	NO 	Encourage the desired behaviour by making it more affordable (through subsidies, low-interest loans, tax-deductible savings, joint purchasing schemes, etc.) Provide support so that the desired behaviour becomes the most convenient option	 	Taxes and levies on unsustainable practices Investment subsidies, such as those on solar panels Introducing measures such as waste containers with separated compartments for organic waste, bicycle sharing schemes, and the provision of free draught excluders
C4 Social and cultural The degree to which people are actively involved in their (local) community, as well as the influence of cultural background	9. Does the (sub)culture to which people belong form an obstacle to sustainable behaviour?	YES 	Align environmental policy and the accompanying instruments with the preferences within certain (sub)cultures		Seeking solutions which are acceptable to the members of the (sub)culture concerned, e.g. by means of a community-based approach
	10. Do social and cultural trends affect the likelihood of people adopting (more) sustainable behaviour?	YES 	Align communication with general trends as well as the social and emotional values represented by the desired behaviour		Developing sustainable products which are appropriate to a particular culture, such as ecological halal food or a personal 'smartphone buddy' app (virtual agent) to encourage children to become more sustainable
C5 Institutional The manner in which society is organised: (consistency of) legislation, structure of government and governance, and the behaviour of public sector organisations	11. Does current legislation permit or encourage behaviour which is undesirable from the perspective of environmental objectives?	YES 	Amend legislation accordingly		Prohibiting unsustainable behaviour; amending or suspending legislation which impedes sustainable (civil) initiatives
	12. Is environmental legislation consistent with that in other policy domains?	NO 	Work towards achieving predictability and consistency in all legislation		Taking environmental interests into account when devising or amending legislation in other policy domains; for example, it may be appropriate to relax food safety regulations to reduce wastage
			Amend existing legislation as necessary		Assessing consistency of policy and legislation to preclude institutional barriers
	13. Does the (role-model) behaviour of public sector departments discourage sustainable behaviour?	YES 	Set a good example, striving for predictability and consistency		Providing information about how public sector organisations are pursuing sustainability, e.g. through sustainable procurement systems or the introduction of low-emission vehicles

3	WHICH BEHAVIOURAL DETERMINANTS ARE RELEVANT?	4	5	WHAT POLICY INSTRUMENTS ARE AVAILABLE AND APPROPRIATE?
CP CHOICE PROCESSES				
CP1 Habitual behaviour A stable pattern of behaviour which people need in order to do things without having to expend excess energy 	1. Is the behaviour to be changed (for environmental purposes) repetitive and automatic in nature?	YES	Break ingrained habits by encouraging a reasoned reconsideration of the options, and by altering the conditions which apply to certain choices (e.g. the costs-benefits ratio, the situation, gains and losses) Change the setting in order to remove the basis for the habitual behaviour Break old habits and instil new, sustainable habits by timing interventions to coincide with important life events (moving house, marriage, birth of a child)	Offering a (small) temporary reward, e.g. the opportunity to win a prize when purchasing a sustainable product or a temporary discount on that product, in conjunction with appropriate communication Adapting the design and structure of the public domain, e.g. by installing containers for separated waste or by narrowing streets to reduce traffic speed Providing sustainable options or (temporary) rewards for sustainable behaviour to allow people to experience the benefits for themselves, e.g. one month's free use of public transport for those moving into the area (provided that public transport is indeed an attractive alternative; if not, this could be counterproductive)
	2. Are people fully attentive when displaying their unsustainable behaviour? 3. Do people feel engaged with the desired behaviour or the policy problem?	NO	Take advantage of the various intuitive choice processes by making use of heuristics Take advantage of the various intuitive choice processes by making use of heuristics	Promoting the attractiveness of interest-free loans to encourage sustainable investments; the investment amount remains the same, but the 'pain' is less if it can be paid in smaller instalments Taking advantage of the short-term focus by means of pre-financing arrangements, e.g. allow households to pay for home insulation by reducing their monthly energy bill instalments immediately Changing the 'default', e.g. by offering biological food products as the standard option, with regular, non-biological alternatives 'only on request'
	4. Is the desired behaviour easy to understand?	NO	Interrupt the intuitive choice processes by drawing attention to how they work and the fact that they do not always lead to the best possible outcome	Providing direct feedback about choices and behaviour; for example: in-car computers link driving style to less tangible benefits such as fuel consumption, journey time, and price; symbols on appliances (e.g. coloured indicator lights or 'smileys') provide simple information without demanding too much conscious thought or attention Using virtual reality and gaming simulations to make people rethink their intuitive assumptions about aspects such as household energy consumption

3	WHICH BEHAVIOURAL DETERMINANTS ARE RELEVANT?	4	WHICH POLICY STRATEGIES WILL BE EFFECTIVE?	5	WHAT POLICY INSTRUMENTS ARE AVAILABLE AND APPROPRIATE?
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CP CHOICE PROCESSES

CP3

Reasoned behaviour

Behaviour that takes place further to conscious and deliberate consideration, in which a series of decision-making steps is undertaken in pursuit of a predetermined objective, and in which all advantages and disadvantages are carefully weighed against each other

5. Is the current unsustainable behaviour the result of reasoned and deliberate decision-making processes such as a consideration of the advantages and disadvantages (financial or otherwise)?



YES

Bring the ranges of sustainable options into line with what people find attractive; match the sustainable options to their purchasing criteria



Framing the communication message in such a way as to appeal to people's key values, e.g. "Whether you drive in your electric car or prefer to cycle, sustainable mobility is fashionable and fun"

Dispel any misconceptions about the (quality of) sustainable choices



Providing (comparative) information covering a wide range of product characteristics

Improve information provision about the sustainable characteristics of products and services, emphasising their other advantages as well



Interpersonal communication, e.g. by advisors who will visit the consumer at home



Providing comparative information, as in the Energy Label for household appliances

2.4 Evaluation

The Behaviour Analysis Framework presented in the foregoing section establishes direct links between the factors which influence or determine behaviour and the policy instruments which can be applied to bring about behaviour change. It reveals a broad range of policy options without attempting to establish any order of priority. The Framework will support the policy-maker as he or she considers which interventions are likely to prove effective. When determining the priorities and making the final selection of instruments, a number of further criteria must be applied. They include:

- *The feasibility of behaviour change via the intended behavioural determinant(s)*
The more positive incentive measures will have little or no effect until those factors which stand in the way of sustainable behaviour have been removed. For example, it will be virtually impossible to persuade consumers to buy (more) sustainable food products by means of information campaigns and discounts while the entire distribution and regulation system still encourages the purchase of unsustainable food products.
- *The expected outcome of the instrument – i.e. its environmental effect – in combination with the successful removal of obstacles*
Because expectations with regard to behaviour (and indeed in policy itself) are rarely 'hard', the use of small-scale experiments is recommended.
- *The costs of the change process*
Is it an efficient solution, the costs of which are proportionate to the gains to be made? Not only the financial costs must be taken into consideration: will failure erode confidence in elected officials? Will it be necessary to reverse policy at a later date: the dreaded 'U-turn'. Or is it possible that the policy never actually comes to fruition, as in the ill-fated road-pricing plans?
- *The engagement of other stakeholders in the change process*
Who can help to ensure the success of the policy? Success depends in part on the arena in which the policy is devised and implemented, and the actors who operate within that arena. It is therefore important to identify the stakeholders who are able to provide support, and at what stage of the overall process they should be invited to do so. It is also important to identify and analyse any counterforces at work, doing so at the earliest possible opportunity.

6

EVALUATION

Prior to selecting any policy strategy and the accompanying instrument(s), the following questions can be asked to ensure a thorough policy evaluation:

- How can the effect of the policy – its outcomes – be quantified and measured?
- What is the expected effect of individual measures, or a combination of measures, in terms of behaviour and the attainment of environmental objectives? How far from the planned course should a policy experiment or pilot project be permitted to deviate?
- In the case of policy experiments: how is the control group to be recruited and monitored? (Other questions of methodology must also be addressed)
- Through which behavioural determinants do policy-makers intend to bring about behaviour change? How can these determinants be isolated, quantified, and measured?
- To what degree are the various instruments in the 'package' mutually reinforcing? Could they undermine each other?

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