BRIEFING DOCUMENT

CLIMATE CHANGE, THE ENERGY TRANSITION AND BEHAVIOURAL CHALLENGES
Why are people finding it so hard to react effectively?

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"***There is a clear message from science: To avoid dangerous interference with the climate system, we need to move away from business as usual***"
IPCC (2014)

"***Unless we take action on climate change, future generations will be roasted, toasted, fried and grilled***"
Christine Lagarde, Head of the IMF (2013)

"***Climate change is a "wicked" problem.***
It is incomplete, contradictory, complex and constantly changing. There is no one point at which one has enough information to make decisions"
George Marshall (2014)

"***You almost couldn't design a problem that is a worse fit with our underlying psychology***"
Anthony Leiserowitz, Director of the Yale Project on Climate Change Communication (2012)

"***If global warming were caused by eating puppies, millions of Americans would be massing in the streets***"
Daniel Gilbert, Professor of Psychology, Harvard University (2014)

We humans are a tricky species. We are not rational - our hearts rule our heads, and emotions trump reason. Mix humans with climate change and you get a perfect storm……

1. PERCEPTION OF RISK

The politics of climate change has to cope with what Anthony Giddens calls *Giddens's Paradox*[1]:
"Since the dangers posed by global warming aren't tangible, immediate or visible in the course of day-to-day life, however awesome they appear, many will sit on their hands and do nothing of a concrete nature about them. Yet waiting until they become visible and acute before being stirred to serious action will, by definition, be too late."
Giddens claims that this paradox affects almost every aspect of current reactions to climate change.
And therein lies the rub. The human mind has evolved to prioritise the present over the future; to worry about the known over the unknown; uncertainty puts us off; we can be unrealistically optimistic; and if something is too hard to take we are quick to slip into denial.
Yet, climate change is elusive and intangible. You can't touch, hear or feel it. It is uncertain and unpredictable, and one large step removed from people's day to day lives. Although some of its effects are playing out right now, it is mostly described as being something that will happen in the future. Its impact will be global and many say disastrous. While most scientists agree that it is caused by human activities, a vocal (but diminishing) minority disagree and other people declare it isn't happening at all - and no-one can predict exactly how it will affect you.

Discounting the Future

Evolutionary theory suggests that selection would have favoured beings that valued immediacy over those who sit it out. Hunter gatherers had to collect resources and reproduce quickly. Those who put off the opportunity to eat, might come back and find their food had been stolen, or they might have been eaten themselves in the meantime. So, people lived in the present.
And the trait continues today. We place greater emphasis on costs or benefits in the near future or from the recent past. We find it hard to give the same attention to events that have yet to take place as we do to those in the present. Thus, a small reward now will normally be taken in preference to a much larger one later on.

Availability and Proximity

The availability concept is a mental shortcut that involves basing judgements on information and examples that immediately spring to mind.
Amos Tversky and Daniel Kahneman[2] coined the term, proposing that people may use an availability heuristic to judge the frequency and probability of events. When asked to decide whether something is likely to happen, and its frequency, we base our judgement on how easy it is to think of relevant examples, or on how readily we can imagine the outcome. Thus, vivid

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[1] Giddens, A. (2009) *The Politics of Climate Change*: Polity Press: p. 2

[2] Tversky, A. & Kahneman, D. (1973) *Availability: A heuristic for judging frequency and probability*: Cognitive Psychology p. 207-232

and readily imagined causes of death, such as street muggings, often receive inflated estimates of probability, and less-vivid causes, like heart disease, receive low estimates, even if they occur with a far greater frequency. Similarly, recent events have a greater impact on our behaviour than earlier ones.

People's thinking can also follow a proximity (or closeness) heuristic, which means they judge probabilities by monitoring the spatial, temporal, or conceptual distance to a target. If a person trips and falls, there's a good chance it was caused by something at his or her feet, so we look out for cracks in the pavement or open potholes. We keep children at a distance from bonfires, fireworks, traffic, cliffs, and the water's edge because proximity to risk sources is held to be dangerous, whereas distance is believed to offer protection and safety.

Uncertainty about the Future

People are generally averse to uncertainty. They are, therefore, reluctant to take action in response to information that smacks of vagueness. Thomas A. Morton et al[3] state that uncertainty about negative futures can allow people to maintain a relatively optimistic stance about current behaviour and may provide a convenient justification for self-interested actions. Uncertainty can threaten our need for predictability and control. People may not want to take the risk that their action, based on how they see the future, could prove to be inadequate, or a mistake, so they decide it's best to wait it out and see what happens.

Unrealistic Optimism

As health psychologist Neil Weinstein[4] has shown, unrealistic optimism is a form of defensive response whereby people think that good things are more likely, and bad things less likely, to happen to them than to their peers. When we overestimate our personal immunity from harm, we fail to take sensible preventive steps. We are unrealistically optimistic about things even when the stakes are high.

Weinstein argued that a lack of personal experience with the problem, a belief that it is preventable by individual action, that the problem is infrequent, has not yet appeared and will not appear in the future, all contribute to unrealistic optimism. And he maintains that individuals show selective focus. We ignore our own risk-increasing behaviour, focusing primarily on our risk-reducing conduct. And we're egocentric, and so ignore the risk-reducing activities of others.

Denial

Denial is a defence mechanism used when a person is faced with a fact that is too uncomfortable to accept and so they reject it, insisting that it is not true, despite what may be overwhelming evidence to the contrary. It is an unconscious defence mechanism for coping with the fear, guilt, anxiety, shame, disappointment, and other strong emotions aroused by reality.

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[3] Morton, T.A. et al (2011) The Future That May (or may not) Come: How framing changes responses to uncertainty in climate change communications, Global Environmental Change Volume 21, Issue 1, Pages 103-109

[4] Weinstein, N. (1987), Unrealistic Optimism about Susceptibility to Health Problems: Conclusions from a Community Wide Sample, Journal of Behavioral Medicine Vol 10, p. 481-500

Stanley Cohen[5] talks about three types of denial:

- Literal, factual, blatant denial – the fact or knowledge of the fact is denied
- Interpretative denial – the raw facts are given a different meaning from what seems apparent to others
- Implicatory denial – there is no attempt to deny either the facts or their conventional interpretation. Instead, the psychological, political or moral implications that conventionally follow are denied.

Denial can be individual, personal, psychological and private, or shared, social, collective and organised.
It is not a stable psychological condition. Unless psychotically cut off from reality, no-one is a total denier or non-denier, or either "in denial" or "out of denial" permanently. People give different accounts to themselves and others and elements of partial denial and partial acknowledgement are always present – depending on the circumstances, denial and acceptance can flicker on and off like a light bulb.

Cognitive Dissonance

Stanford psychologist, Leon Festinger[6] developed the theory of cognitive dissonance, which is closely connected to the theory of denial. It describes the tension between what we think and what we do. We humans have an inner drive to hold all our attitudes and beliefs in harmony and to avoid disharmony, or dissonance.
The social psychologist Carol Tavris[7] says that cognitive dissonance occurs whenever a person holds two cognitions - ideas, attitudes, beliefs, or opinions - that are psychologically inconsistent. For instance, you might believe that climate change is a serious problem, and also drive a gas guzzling SUV. To eliminate the dissonance, you may accept information that tells you that global warming isn't real, or you might convince yourself it is better to live for today than worry about tomorrow.
Dissonance theory demonstrates that our behaviour transcends the effects of rewards and punishments and often contradicts them.

Cultural Denial

Stanley Cohen acknowledges that whole societies can slip into collective modes of denial. Without being told what to think, or being punished for knowing the wrong things, societies arrive at unwritten agreements about what can be publicly remembered and acknowledged. This is often reflected in mass media coverage of the issue. An entire language of denial can be constructed in order to avoid thinking about the unthinkable.
Kari Marie Norgaard[8] studied the reaction of people in western Norway to climate change, after the unusually warm autumn and winter of 2000 had brought severe flooding across the region,

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[5] Cohen, S. (2001); *States of Denial – Knowing about Atrocities and Suffering;* Polity, p. 7-9

[6] Leon Festinger; *A Theory of Cognitive Dissonance; Stanford University Press; 1957*

[7] Tavris, C & Aronson, E. (2008); *Mistakes Were Made (but not by me)- why we justify foolish beliefs, bad decisions and hurtful acts* Pinter & Martin p. 13

[8] Norgaard, K. M. (2011); *Living in Denial-Climate Change, Emotions and Everyday Life, MIT Press*

and seriously affected snowfall. This had dramatic effects on everyday recreation activities, such as skiing, skating, ice fishing, and on the local economy.
At the time in Norway, there was widespread public support for the environmental movement, as well as public awareness and belief in the phenomenon of climate change. Yet Norgaard was struck by how no social action was taken by the people to cut back on their greenhouse emissions. They were clearly aware of the problem, and they were directly experiencing its impacts, yet they carried on about their business as if it didn't exist.
Norgaard attributes this lack of response to the phenomenon of socially organised denial, by which information about climate science is known in the abstract but disconnected from political, social and private life, and she sees this as emblematic of how citizens of industrialised countries are also responding. She further concludes that, for Norwegians, thinking about climate change is difficult because it raises troubling feelings that go against a series of cultural norms. Their willingness to contribute to reductions in greenhouse gas emissions is inversely related to both their nation's own emissions and national wealth. Rather than the public failing to act because of a lack of information, they are actively resisting on a collective level to respond to the available information, and to integrate the knowledge into everyday life or to transform it into social action. This is cognitive dissonance in action – being a good person in this part of Norway means contributing to society, holding a strong belief in equality and humanitarianism, and not being wasteful and ostentatious. But they are a rich country, making much of their wealth from oil, an industry responsible for creating greenhouse emissions.

Denial of Risk

The European nation threatened most by sea-level rise, the Netherlands, ranked at the very bottom of the level of concern regarding climate change in ACNielson's 2007 global study of nations. Sammy Zahran et al (2006) [9] found that, in the US, respondents living within a mile of the nearest coastline at negative relative elevation to the coast are less, not more, likely to support government led climate initiatives.
Lorraine Whitmarsh (2007)[10] discovered that, in the south of England, flood victims differed very little from other study participants in their understanding of, and responses to, climate change, but that the experience of air pollution does significantly affect perceptions of, and behavioural responses to, climate change.

[9] Cited in Norgaard, K. M. (2011); *Living in Denial-Climate Change, Emotions and Everyday Life, MIT Press,* p. 76/77

[10] Whitmarsh L. (2007) *Are Flood Victims More Concerned About Climate Change Than Other People? The role of direct experience in risk perception and behavioural response;* Tyndall Centre for Climate Change Research, Cardiff University

2. BEHAVIOURAL BIASES

Loss Aversion
Most of us dislike sacrifice and we hate losses. Roughly speaking, losing something makes us twice as unhappy as gaining the same thing makes us happy. So, telling people to cut back or to cut it out may not work!
Kahneman & Tversky's Prospect Theory[11] demonstrates that loss aversion can lead to risk aversion. And they have shown that people behave in different ways depending on whether the risk is presented in terms of losses or gains.

Endowment Effect
The Endowment Effect is a term coined by US behavioral economist Richard Thaler[12] (1980) to describe the hypothesis that people value something more, once their property right to it has been established. So we place a higher value on objects we own relative to objects belonging to someone else.
It's mine - like the toddler hanging on to his toy.

Status Quo Bias
The Status Quo Bias assumes that the loss of what we already have looms larger than the gain of an alternative option. As a general rule, people are conservative because they do not want to lose the gains they have already made and they may view attempts to change as potentially risky. So getting rid of the oil guzzling heating system may be a challenge!

"Yeah Whatever" Heuristic
The "Yeah Whatever" heuristic means we continue what we're doing because of lethargy or lack of attention and so don't bother to make the required change. *Sure, aren't we grand the way we are?*
People often find it hard to switch energy suppliers and we succumb to automatic renewal of magazine subscriptions. One way to overcome this is to design an option as the 'default', and to 'nudge'[13] people into action.

Sunk Costs
We are influenced by sunk costs **-** the more we invest, financially, emotionally, or socially in something, the less likely we are to give it up. People have a psychological need to persist and achieve, despite what may seem like overwhelming odds. And the more time, effort and resources invested in the venture, the harder it is to relinquish, even if it becomes clear that the prognosis is not looking good.

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[11] Kahneman, D. & Tversky, A. (1979) *Prospect Theory: An Analysis of Decision under Risk:* Econometrica, 47(2), p. 263-291

[12] Thaler, R. (1980) *Toward a Positive Theory of Consumer Choice*: Journal of Economic Behavior & Organization **1** (1): 39–60

[13] Thaler, R & Sunstein, C (2008) *Nudge – Improving decisions about health, wealth and happiness* Yale University Press

The more we have invested, the more we want results... regardless.
So we may have bought a gas guzzling SUV, and then everyone is talking about energy efficient cars. To prove that we have not made a mistake in our choice of vehicle, we will justify why we have it – it's safer, there's plenty of space for luggage and the kids, it's great in bad weather, so smooth to drive and of course, I need to pull a trailer – and we may even drive it more, just to show how essential it is....

Optimism Bias
We can be optimistic when it suits us - we often believe that we are less likely to experience a negative outcome compared to others.
Cold winter? Nah, that's not likely, anyway it won't affect me; An energy price hike? Won't happen, and if it does, sure I'll be fine...

Confirmation Bias
We have a tendency to screen what is seen and heard in a biased way that ensures our beliefs are 'proven' correct. We accept 'facts' that support our view while rejecting or ignoring information that conflicts with it. Seeking to confirm our beliefs comes naturally while it feels strange and counterintuitive to look for evidence that contradicts them.

Naïve Realism
Naïve realism is a term coined by Lee Ross and Andrew Ward[14] to explain the inescapable conviction we have that we perceive objects and events clearly "as they really are". We assume that other reasonable people see things just as we do. If they disagree with us, they are obviously not seeing clearly. Ross characterized naïve realism as a dangerous but unavoidable conviction about perception and reality. The danger is that while humans can recognise that other people and their opinions have been shaped and influenced by their life experiences and particular dogmas, we are far less adept at recognizing the influence our own experiences and beliefs have on ourselves and our opinions. We fail to recognize the bias in ourselves that we are so good in picking out in others.

Group Polarisation
When people who share the same beliefs get together in groups, they become more radical in their views and more convinced that they are right. Research has proven that groups usually come to conclusions that are more extreme than the average view of the individuals who make up the group. In part, this foible stems from our tendency to judge ourselves by comparison with others. Inevitably, most people in the group will discover that they do not hold the most extreme opinion, which suggests they are less correct, less virtuous, than others and so they become more zealous. Group polarisation can also occur purely through the force of numbers. Cass Sunstein[15] says that group polarisation is the typical pattern with deliberating groups. It is not limited to particular periods, nations or cultures.

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[14] Cited in http://thesituationist.wordpress.com/2008/04/14/lee-ross-on-naive-realism-and-conflict-resolution/

[15] Sunstein, C. (2009) *Going to Extremes- how like minds unite and divide*; Oxford University Press: p. 3-4

3. BEHAVIOURAL PATTERNS

Addictions
We can be influenced by addictions which give us short term pleasure and make us crave for more. Some of us are addicted to shopping, to gathering stuff, or travelling long distances to climb high mountains. George Bush reckoned we're addicted to oil.
Addictions are hard to break.

Habits
Much of our day to day life is controlled by habits – these are routine behaviours carried out almost unconsciously on a regular basis - like driving the car, leaving the lights on, or the tap running while washing our teeth.
Habits are hard to break.

Habituation
We can become habituated to a way of being - we get used to it, take it for granted and then find it hard to give up – and we continue to expect it to be like this, regardless. In the past, room temperatures were cold, we were fine huddling around the one open fire, with, if we were lucky a storage heater in the hall – now we want to wear our T-shirts in every room.
The comedian Des Bishop asks how did you know you were going out with an Irish girl in the 1980s? - because she would wake up in the middle of the night screaming *Oh, my God, I left the immersion on!*
Now we have hot water all the time.
And we're so used to having electricity at the flick of a switch we couldn't imagine how it would be without it. Maybe we need a few grid crashes to show us what a precious resource it is.

Adaptation
Most of us are good adapters, although it can take a while for some – we are able to adjust to new information and experiences. We adopt new behaviours that allow us to cope with change. This is a good trait to have when facing future climate related difficulties or crises.
However, it is not such a good attribute when it comes to cutting back on energy use. Just as addicts adapt to their drug, when we adapt to pleasurable experiences or things, we often want more.
For instance, we adapted to having a TV box in our living rooms, now we want massive 65inch flat screen TVs in the living room with smaller versions in each bedroom.
Anyone who has teenagers will know that it is not cool to wear coats, despite the weather, which means that as soon as they hop into the car - on goes the heater. And in summer, when the car warms up, many of us reach for the air-conditioning button rather than stopping the car, taking off our seat belt, and removing a jacket or jumper – or opening the car window if travelling slowly.

4. SOCIAL AND CULTURAL CONFORMITY

How we respond to issues can be heavily influenced by our need to conform both socially and culturally.

Social and Cultural Norms
A society is able to function partly because of social and cultural norms. Even though the rules aren't written down we know how we should act – we don't walk around naked or pick our noses in public - and if we break the rules we feel embarrassed, ashamed or guilty. It's a problem if those norms aren't climate or energy friendly, but a plus if they are.

Norms of Fairness
Fairness is important to us and we judge it in a relative way, usually in comparison with peers or social equals. We don't want to do more than others. And we are even less likely to act if we believe that people are free-riding and benefitting from doing nothing. This can arise when collective outcomes hinge on decisions taken by individuals.
W*hat difference can I make*? *Why should I take the hit if my neighbours are doing nothing? And anyway, what are America and China doing?*

Peer Pressure and Group Conformity
We are social beings and have a deep need to belong and to be part of the group, so peer pressure is important to us. The psychologist Judith Rich Harris[16] upset the child development world when, in the late 1990s, she stated that, apart from passing on their genes, parents have little influence over their children, except to choose their child's peer group. And she went on to advise that the only way of rescuing a kid who is heading for trouble is to get him out of the neighbourhood and away from his delinquent peers!
Groups use peer pressure to encourage conformity. We don't want to be marked out as different and risk social ridicule, so keeping up with the Jones is important and if the Jones aren't doing anything about their energy use, why would we?

Identity and Values
Our identity is made up of characteristics that define us, who we think we are, and how we like to be seen by others. And we usually hold values that fit in with that identity – essentially a personal moral code of what is right and wrong. So if my identity is green, then I am more likely to watch my energy use; if I see myself as a humanitarian, I will be focusing on how best to help people, and may have no time left over to worry about energy efficiency.
Don't presume that one leads to the other.

[16] Rich Harris, J. (1999) *The Nurture Assumption –Why children turn out the way they do*: Bloomsbury

Social Status

Our social status is important to most of us, even though we might not like to admit it. It's an evolutionary trait which refers to the prestige attached to one's position in society, or to a rank held within a certain group.

The contemporary philosopher, Alain de Botton[17], describes status as "*a worry, so pernicious as to be capable of ruining extended stretches of our lives*"

A high position on the social ladder corresponds to improved access to financial, physical, sexual, social and informational resources, which in turn will help protect long-term interests. We don't want to end up at the bottom of the ladder.

Status is often displayed by what people do or what they own.

That's why many of us want to be seen driving a fancy sports car, or, at least a car that the cool people drive. Interestingly, Tesla and Toyota have marketed their electric and hybrid cars with this in mind. Tesla designs slick sporty electric cars, and charges accordingly. Toyota launched its Prius by lending a number of vehicles to A-list celebrities, and then encouraging them to drive, and to be seen driving, around LA - quite a few Priuses were driven to that year's Oscars.

5. DIFFUSION OF RESPONSIBILITY

We like to think that people will leap into action when the chips are down. But we're not so good at responding if no one else does.

Bystander Effect

When people are in a group, responsibility for acting is diffused - if no-one else is doing anything, we convince ourselves that the apparent problem isn't actually a problem.

The bystander effect was recognised in the 1960s in the US after a woman, Kitty Genovese, was brutally murdered, yet none of the onlookers did anything. In order to demonstrate why people do nothing in cases like this, researchers[18] staged emergencies of one kind or another in different situations, and then watched what happened. In one, they had a student alone in a room stage an epileptic fit. When there was just one person next door, listening, that person rushed to the student's aid 85% of the time. But when subjects thought that there were four others also overhearing the seizure, they came to the student's aid only 31 % of the time. If the subject was in a room with other people who did nothing they were even less likely to respond.

Lack of Leadership

So if there's a lack of leadership and it seems like government ministers are doing nothing about climate change or the energy transition, if we don't hear about it in the media, down in the local pub, or the shops, how can it be such a threat?

W*hy should we bother doing anything*? *Why should we jump first?*

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[17] De Botton, A. (2004) *Status Anxiety:* Penguin Books p.3

[18] Darley, J. M. & Latané, B. (1968). "Bystander Intervention in Emergencies: Diffusion of responsibility": *Journal of Personality and Social Psychology*: p. 377–383.

6. SOCIETAL/STRUCTURAL INFLUENCES

We have to be very careful not to focus solely on individual behaviour change. How we behave is also determined by other factors outside of our control. It's important that individuals are not set up to fail and then blamed for it.

Social Practice

Social practice is what people do to pursue a goal within certain settings. It is often determined by social norms or status – and can be seen as an outside force which determines what we do. As Elizabeth Shove (2012)[19] puts it, if there is to be any substantial and effective reduction in greenhouse emissions, '*new forms of living, working and playing will have to take hold*'.
For instance, kids need to be in clean clothes so on with the washing machine. Even if we live nearby, we drive them to school because of the heavy school books in the overweight school bags, and the unsafe roads - we don't want to be seen as 'bad' parents.
Despite the current emphasis on energy conservation and energy efficiency, the standard uniform for professional people across the world is the 'business suit'. Conferences and meetings to do with energy and climate change are full of delegates in such impractical attire. In thinking about how to cut back on space heating in the winter and cooling in the summer, we would do well to include what people feel they can wear in the mix.
In 2005, the Japanese government launched an initiative called Cool Biz, designed to ensure that government buildings could cut back on air conditioning in the summer and on heating in the winter (Warm Biz). They set out to change what is understood to be normal office wear. This involved the then Prime Minister and members of the Cabinet being seen to wear loose fitting and short-sleeved clothes in formal settings. Businesses and the clothing industry also got involved in promoting specially designed clothing under the Cool Biz brand name.
Since then, an annual Cool Biz fashion show kick-starts the summer season.

Social and Cultural Developments

Social and cultural developments can influence how much energy we use, and where we use it. For instance:
The emancipation of women has led to more marriage separations, so two houses instead of one and more energy use
The importance of personal hygiene means more bathrooms, power showers, washing machines and more energy use

Institutional Barriers

Institutional barriers can play their part in stymying change – such as fragmented policy at local and national levels; organisational opposition; system lock-in; political inertia; lack of leadership, joined up thinking and funding

[19] Shove, E. (2012), *Putting Practice Into Policy: Reconfiguring questions of consumption and climate change:* Contemporary Social Science: Journal of the Academy of Social Sciences: P. 415

Influence of New Technologies

Our behaviour around energy is also influenced by new technologies, and the trends that go with them – everyone now has to have their own mobile phones, each one being charged off the grid. We are tempted by large energy guzzling flat screen TVs.

Planned obsolescence is a problem in that products, despite being energy efficient, are designed not to last, so energy is wasted in manufacture. There is also a danger that when people replace the appliance, they upgrade to a bigger version.

Feature creep refers to the ongoing expansion or addition of new features in a product. To keep up with the changes, we feel we need to have the latest laptop, tablet or whatever, even though our existing one is still working, and again more energy is lost in manufacture.

Consumerism and Fashion

In November 2001, after the bombing of the Twin Towers, a special Concorde flight brought celebrities, like Sting, to New York. Mayor Giuliani greeted them at Kennedy Airport, saying that '*the bonds which have always bound together London and New York have been cemented even more following the disastrous events of September*. As they left the plane, he invited them to "*spend, spend, spend"*.....[20]

We live in a consumer culture, and continuing economic growth seems to require that we shop till we drop. If we waver, relentless advertising and rapidly changing fashion trends will bring us back on track. Within this context, asking people to consume less is a tall order.

Apparently, when Franklin D. Roosevelt was asked what book he could give the Soviets to teach them about the advantages of American society, he pointed to the Sears catalogue.

7. BEWARE OF…

The Rebound Effect

The Rebound Effect was first identified by the British economist, William Jevons in 1865. He noticed that efficiency gains actually increase rather than stem the use of energy.

The saved energy is used somewhere else, or the money saved is spent on other energy inefficient products or activities. For instance, I might save money on my efficient heating system, but it's no good if I then use the savings to buy a long haul flight to somewhere exotic.

The Diderot Effect

The Diderot Effect shows how buying one thing can spawn a series of purchases. It's named after the 18th century French philosopher Denis Diderot who wrote about receiving a new dressing gown as a gift from a friend and how it compelled him to redecorate his entire study. The new dressing gown made everything in the room look old and shabby by comparison and item by item everything was replaced to match his dressing gown. He regretted the gift.

The Diderot Effect is not good for energy efficiency or conservation.

For instance, we might decide to build a sun room, and we open the doors and step onto a muddy mess, so build a patio - and then we sit out on the patio and look at the state of the

[20] Downloaded at http://www.concordesst.com/returntoflight/relaunch.html

garden and so we bring in a landscaper – before we know it we have bought a ride-on mower, a patio heater, a gas fired Bar-B-Q and we've got the electrician to install more outside lights.

Technophobia
Many people, especially women, are nervous of new technologies, and unwilling to adopt them, even if they know they will improve their quality of life, save money, or save the planet. People's reactions may be more emotional and attitudinal than rational.
In the early days of computers, computer phobia was defined as involving a resistance to talking about, or even thinking about computers, as having a fear or anxiety of them, and hostile or aggressive thoughts about them[21] (hands up out there).
So we can't presume that people will be interested, engaged or active monitors of smart meters – the screen alone may put them off.

'If the Price is Right'
Most people believe that when the price is right people will respond – and to some extent this is true. But this may not be the whole story.
I was talking to a retired school headmaster recently and asked him what he thought would encourage people to retro-insulate their homes – he said the cost, of course – then we got onto the topic of open fires versus wood burning stoves. He said he wanted to buy a stove but his wife wouldn't give up her open fire as she loved it so much – she couldn't bear the thought of not seeing the flames. So could she be swayed by the potential fuel savings, I asked? – not a hope, says he.
One of the most common barriers to attic insulation is the dread of having to sort through the boxes of family memorabilia and the kids' old toys, in order to clear space for the work to happen. Some insulation companies offer an attic clearing service, but some people feel they have to do it themselves.

8. THE MESSAGE

Don't underestimate the importance of communication - *what* people hear about the issue, *how* they hear about it and *from whom* is crucially important.

WHAT DOESN'T WORK
There are a number of messages that don't work.

Information on its own
We campaigners used to think that you just had to give people the facts and then of course, they would respond. If they don't react the first time, then just shout louder.
But information about climate change and its potential impacts, how to cut emissions, how to conserve energy and how to be more energy efficient has been available now for years, yet we are still struggling to respond effectively.

[21] Cited in Gilbert, D. et al (2003), *Technophobia, Gender Influences and Consumer Decision-making for Technology-Related Products*, European Journal of Innovation Management Vol 6: P. 254

Many studies[22] now show that the simple "information in, action out" approach on its own does not work. Fostering awareness of a problem, the threat it represents, its causes and what can be done about it will not necessarily lead to the desired response.
There is evidence[23] which suggests that attitudes and behaviour can change without any assimilation of new knowledge or persuasive messages, and that learning and behaviour can occur without any change in attitudes at all. In some cases, a change in behaviour precedes and is responsible for the attitude change.

Negative Messages
We also need to be wary of negative messaging. Environmental campaigners have been very good at letting people know how bad things will get if we don't act now – *the apocalypse is nigh, the impacts will be catastrophic,* and even - *millions will die* - but it is now clear that negative messages don't work– they too can be counter-productive.
Threat information causes constructive responses and persistent attitude change only when people feel personally vulnerable to the risk, when they know what to do about it, when the cost is acceptable and they feel that their response will be effective in solving the problem.
If a person's reaction only aims to control the fear or pain without reducing the danger, such a response is deemed maladaptive. According to Moser and Dilling (2007), avoidant behaviours include denial of the existence of the threat or that it will have any impact, blaming others, rationalising that silver-bullet solutions will be found, or refusing to do anything different and succumbing to apathy.
In 2006, the UK Institute for Public Policy Research (IPPR)[24], coined the term climate porn to describe the alarmist language widely used to discuss climate change, which, they say offers a terrifying, and perhaps secretly thrilling, spectacle, but ultimately makes the issue appear unreal and distances the public from the problem.
We should remember that Martin Luther King didn't stir people into action by proclaiming "I have a Nightmare"

'The Ten Things You Can Do' approach
The ten things you can do approach can also be problematic, as it comes up against the problem of scale - If the threat seems too big and too global, then people feel disempowered – *how will changing my light bulbs help*?

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[22] Retallack, S. et al (2007) *Positive Energy - Harnessing people power to prevent climate change*: Institute for Public Policy Research, p. 84-5
McKenzie-Mohr, D. & Smith, W. (1999) *Fostering Sustainable Behaviour- An introduction to community-based social marketing*; New Society Publishers, p.8-11
Moser, S. & Dilling, L. (Eds.) (2007) *Creating a Climate for Change - Communicating climate change and facilitating social change*: Cambridge University Press

[23] Greenwald (1969); Petty and Cacioppo (1981), quoted in Retallack, S. et al (2007)

[24] Downloaded at http://www.ippr.org.uk/pressreleases/?id=2240
See also http://www.guardian.co.uk/commentisfree/2006/aug/03/theproblemwithclimateporn

WHO ARE WE TARGETING?

We also need to be mindful of who we are talking to.

Mindsets, Worldviews and Political Ideologies

We often tend to treat people as a homogeneous group who will hear and respond to messages in the same way. But reality is very different. People have different mindsets, and they hold diverse ideological and world views. Issues are not seen only on their merits, but rather get filtered through each person's belief system.

For instance, US Democrats are far more likely to believe in climate change than their Republican counterparts.

Simon Retallack and colleagues[25] refer to a well-established segmentation model, which identifies three broad motivational groups covering the general population. Each group has its own emotional needs and very different attitudes towards risk.

Pioneers - the pioneers of change who are strongly motivated by ethical concerns and stimulated by new ideas and ways of doing things. They like change, discovery and the unknown, and are not worried about status.

Prospectors - the status seekers who place a high value on success and wealth. They scale things up, become managers and follow fashion. They like earning and spending money and see the world as a big opportunity. Prospectors tend to be ambitious - position and power are important to them.

Settlers - the security and sustenance driven people, who are more concerned with their home-base, tradition and belonging. They tend to look backwards, to yesteryear (which was better) and dislike change, as this threatens their sense of belonging, security and safety. Financial security is of high importance, and money is spent cautiously.

WHO IS DOING THE TALKING?

As Cass Sunstein, former advisor to Barack Obama, and proponent of the nudge theory says, the message may also be seen in a different way because the *messenger* is perceived to have certain beliefs or world views. And we may attach all kinds of assumptions to what they say based on our impression of them.

Image

For instance, the messenger may have an identity or image that is not to everyone's liking – so if a keen long-haired environmentalist says something about climate change, a West Cork farmer will be less likely to take it seriously than if it came from another farmer.

Trust

We're more likely to be persuaded to act in new ways if the message comes from a trusted source. In general, personally familiar sources are more trusted, and we believe that those

[25] Retallack, S. et al (2007) *Positive Energy - Harnessing people power to prevent climate change*: Institute for Public Policy Research: p. 142

coming from similar circumstances will understand our situation better than those from very different backgrounds[26].
So pick any spokesperson with care.

HOW ARE WE SAYING IT?

Tone
Tone is very important – does the message come across as judgmental, or preachy? People are supersensitive to being blamed, they hate being judged and are likely to backlash against whoever they think is doing the judging.
According to the American Psychological Association[27], attempts to shame individuals into adopting pro-environmental behaviours can be ineffective, as they often lead to rationalizations of behaviour.

Framing
And finally, we have to be careful how we frame the message and the words we use.
George Lakoff[28] makes the point by saying - DON'T THINK OF AN ELEPHANT!
And what do we think of but .....an elephant.
So telling people *don't do this, don't do that* may have the opposite effect!

9. WE NEED:

To be Part of a Bigger Plan
Many say that messages directed at individuals in isolation have little effect. We need to know that we are part of a bigger plan, and not acting on our own.
So, external support is important from peer groups, social norms and institutions, and enabling infrastructure. The most effective strategies are those that engage people in groups.

A Positive, Hopeful Vision of the Future
"*I have a dream*"
We need a vision that isn't hopelessly unobtainable, and which doesn't necessarily require grinding sacrifice. As Nordhaus & Shellenberger[29] put it, this vision requires a new mood appropriate for the world we hope to create. It should be a mood of gratitude, joy and pride, not one of sadness, fear and regret.

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[26] Moser, S. & Dilling, L. (Eds.) (2007) *Creating a Climate for Change - Communicating climate change and facilitating social change*: Cambridge University Press: p.13

[27] *Psychology and Global Climate Change: addressing a Multi-Faceted Phenomenon and Set of Challenges*
Report of the American Psychological Association Task Force on the Interface Between Psychology and Global Climate Change, 2011
Downloaded at http://www.apa.org/science/about/publications/climate-change.aspx

[28] Lakoff, G. (2004) *Don't Think of an Elephant-Know your values and frame the debate*: Chelsea Green

[29] Nordhaus, T. & Schellenberger, M. (2004) *The Death of Environmentalism*. Downloaded at http://www.thebreakthrough.org/images/Death_of_Environmentalism.pdf
Also, Nordhaus, T. & Schellenberger, M. (2007) *Break Through – From the Death of Environmentalism to the Politics of Possibility*: Houghton Mifflin

But, we also need to be wary of 'brightsiding' and avoiding reality and the challenges we face. As author Barbara Ehrenreich[30] points out '*Realism – to the point of defensive pessimism – is a prerequisite not only for human survival but for all animal species.'*

It's a fine balance.

[30] Ehrenreich, B. (2009) *Smile or Die – How positive thinking fooled America and the world*: Granta Books: p.200