



GREEN BUMBLE UNDISCUSSED DISCUSSIONS

ADES

# ***GREEN BUMBLE***

***UNDISCUSSED DISCUSSIONS***

***ANTHOLOGY ON SUSTAINABILITY***



# **GREEN BUMBLE — UNDISCUSSED DISCUSSIONS**

**EDITED BY KARINA VISSONOVA**

**ADES 2021**

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## Green Bumble — Undiscussed Discussions

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## **/bumble/**

- to make or do (something) in a clumsy or unskillful way
- to proceed or act clumsily or ineffectually<sup>1</sup>

# INTRODUCTION

In 1968, the iconic Whole Earth Catalogue<sup>2</sup> was first published in California. It was a massive collection of product reviews, mind-stimulating philosophical reflections and scientific texts, practical advice to commune living and lifestyles that eschewed institutions. The catalogue was issued quarterly for several years after and continues to have an enduring legacy, not just for its form, but the provocations it contained for its time. I have not had the fortune to have this catalogue in my hands, but I have the 2016 MIT published Whole Earth Field Guide,<sup>3</sup> a compendium of selected works from the original catalogue. The catalogue was a product of the American West-Coast counterculture, containing works from progressive thinkers of the time, like Buckminster Fuller and Victor Papanek. What fascinates me in the idea of the catalogue, is the ease of the ad-hoc approach to creating a publication, inspiring me to endeavour to create the Green Bumble anthology. Today, we have rather rigid expectations toward the kinds of content in a publication. It is either popular science or academic works, or it is philosophy, or a practical advice book. What we look for in a book, is the exact sort of stimulation of the mind we seek: we do not allow ourselves to be surprised by a poem in between science texts, or an observation written by an artist, or an opinion piece entertaining an idea.

The motivation behind Green Bumble publication was to create a compilation of written works which discuss under-discussed subjects within the field of knowledge around sustainability. By the example of the idea of the Whole Earth Catalogue, and consequently the Whole Earth Field Guide, Green Bumble is an anthology of works that raise questions about contemporary propositions to how our society might be built.

By popular knowledge, in the late 60's and early 70's in the US, there were questions raised about the growing power of various industries, including the military, giving rise to a peace-promoting culture and arts and crafts revival, both of which produced symbols and objects we all still consider to be iconic.

Propositions today on how our contemporary society should be built are mainly concerned with sustainability - how might we structure the fabric of our society in a way that is in balance with the natural environment and our planet's capacity for resilience? And when I say the fabric of our society, I mean the sheer volumes of industrial systems that pro-

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<sup>1</sup> <https://www.merriam-webster.com/thesaurus/bumble>

<sup>2</sup> S. Brand, ed., The Whole Earth Catalog (San Rafael, CA: Self-published, 1968).

<sup>3</sup> C. Maniaque-Benton & M. Gaglio eds, Whole Earth Field Guide (Boston: The MIT Press, 2016).

duce the material stuff for the modern human. Nowadays, even members of the general public are familiar with the leading narratives of these contemporary propositions: circular economy; decoupling of green economy from the environment; and green consumerism.

The principles of all three propositions contain these two main ideas – production of goods which relieve pressures on the environment while growing our economy, and a preferred consumption of such goods over “pre-sustainability” goods – thus relying on society to make the “right” choice. Together, these principles are expected to result in an accumulation of positive initiatives on industrial and individual levels, eventually leading to more sustainable practices and goods outdating all else. Clearly, there are layers and layers of challenges from economic, technological, societal and simply time perspectives, which explain why global production is still not exclusively circular; why environmental degradation is continuing despite all efforts; and why we still don’t vote with our wallets for greener choices every time.

Green Bumble discusses some of these challenges. The works contained here are collected from four contributors and myself, each very different in language and format suited to the offered information. The publication was partly born out of a production of a podcast series I was asked to create by the Latvian office of the Northern Dimension Partnership on Culture. The title “Green Bumble - undiscussed discussions” was originally intended for the podcast, which never reached an audience, but became the basis of this publication. I produced recordings for two episodes and

two interviews for the podcast. The opinion pieces here titled “Green Design Discussions”, introducing Part One, and “Green Economy or Greener Growth,” introducing Part Two, are created from the two recordings made for each episode. While styling the tone of this publication, I chose to keep the conversational style characteristic to a podcast speech. Thus, you will find a familiar, non-academic language when reading these. The intention with my choice is partly because I wanted to stay true to the origins of these works hence only partly editing the podcast transcripts for a publication format; and partly, because I find the two works in their light approach entertaining and the complex ideas easy to perceive.

Part One of Green Bumble is dedicated to discussing the vehicles for shifting our society to more environmentally-friendly actions. In the opinion piece “Green Design Discussions” I talk about design as one of such vehicles delivering a value of sustainability<sup>4</sup>. While “green design” delivers good or better values, it does not relieve the pressures on the environment. In fact, green design also poses such pressures. Furthermore, the “greening” of products aims to appeal to our materialistic and individualistic values, which are assumed to rule in our society. In an interview that follows, I ask researchers Tom Crompton and Ruth Taylor from the Common Cause Foundation<sup>5</sup>, UK, to give their expert insights into values based on which our society functions. We revisit the emphasis on materialistic values when promoting green designs and question the significance of the role “green consumerism” plays in sustainability efforts. The WWF-UK report by Tom “Weathercocks and Signposts”, originally published in 2008, and re-published here with a permission of the WWF-UK,

makes a critical case for the inadequacy of approaches to motivating environmentally-friendly behaviour change. The report links our understanding of sustainable actions with a presence of intrinsic values in an individual. It centralises the discussion around the ineffectiveness of material-value driven efforts to influence behaviour change towards more sustainable individual actions and practices, and questions the “marketing” language as the style usually adopted for this purpose. Although the report was written in 2008, it is very timely and relevant still today, which is somewhat sad as one would have expected much more progress in our understanding of environmentally-friendly behaviour change. Closing Part One, is an opinion piece “Careful Demand” by Helga Veigl, a futurist and researcher of The Futures Lab<sup>6</sup>. “Careful Demand” is a call for transparency of all product journeys, so we may make fully informed choices when purchasing goods. It suggests an introduction of a policy that obligates all producers to account for the resource and labour exploitation, eventually phasing out all unethical practices we are subjected to today as consumers. While being fully-informed does not necessarily suggest ethical consumption, such a policy would likely have a dual effect: on the one hand companies would be forced to alter their practices to more ethical setups, and consumers would be equally forced to choose more ethical goods due to social pressure to act within the given shared moral foundations.

Part One offers altogether three approaches to shifting our society to more environmentally-friendly actions: one is green design of goods discussed in the first opinion piece; another the emphasis on intrinsic values when moti-

vating our behaviour and choices discussed in the interview and the WWF-UK report; and finally the top-down transparency of all product journeys leading to ethical and environmentally-friendly actions on industry and individual scales, initiative proposed in the Careful Demand opinion piece.

Part Two of the anthology centralises the discussion around circular economy and decoupling the environmental pressures from economic growth. An opinion piece “Green Economy or Greener Growth” starts Part Two with a critical assessment of “green design’s” viability in contributing to the so-called “green growth”. It showcases several positive examples of circular economy principles applied in Northern Europe’s textile and fashion industries. Meanwhile, the opinion piece essentially questions whether making our products and production greener, or adopting circular economy principles, constitutes what we have in mind when we think of “sustainability”. There is yet no evidence of modelling sustainability actions based on greener production of goods being decoupled from environmental pressures<sup>7</sup>. The opinion piece then concludes with a call for an economy of sufficiency, which I believe is yet to be defined and proposed as a working theory. In the interview with Brian Czech, the founder of the Center for the Advancement of Steady State Economy<sup>8</sup>, we follow up on this subject, discussing the challenges of green growth further. Brian introduces the theory of Triangular Economy, which he develops as an ecologist working with economic theories. We discuss that any economic-growth-driven approach to solving environmental crises is a challenge to sustainability efforts, as it implies continuation of resource mining

4 Sustainability as a value is a concept proposed by van de Poel, I. in “Design for Sustainability” Forthcoming in Technology and the Environment, edited by P. Brey, D. M. Kaplan and J. B. Callicott (Cambridge (Ma): MIT Press.

5 <https://valuesandframes.org>

6 <http://futures-lab.com>

7 Parrique T, Barth J, Briens F, C. Kerschner, Kraus-Polk A, Kuokkanen A, Spangenberg J.H., 2019. Decoupling debunked: Evidence and arguments against green growth as a sole strategy for sustainability. European Environmental Bureau

8 <https://steadystate.org>

and prevalence of industrial activities on a scale that is difficult to imagine to be decoupled from environmental pressures. To support the subjects discussed in the interview, Part Two continues with Brian Czech's article "The Triangular Economy: Behind the Circular Flows", where he proposes a different understanding of structuring the economy – based on ecology – and thus the production of material goods for a contemporary human. To complete Part Two with a resolution based thinking, the closing article is a proposal for an international project titled The Global UpCycle Systems, by Prof. Jonathan Trent, a Full-bright Specialist, a former Astrobiologist at NASA, and a Founding Director of UpCycle Systems (UCS). Jonathan is also an advisor for the Institute of Advanced Design Studies, the design school I founded to work with the issues we are discussing here. The UCS concept is a response to the alarming predictions regarding food security, dwindling water supplies, and energy limitations for the growing global population confronting climate change, the devastating spread of toxic pollution, soil degradation and an unprecedented loss of biodiversity. All this forebodes shortages of food, water, and energy for which we are poorly prepared, if at all. I not only bring this project into the Green Bumble anthology as an example of an initiative for decoupling food, water and energy security from environmental pressures, but also for its quality of "thinking futures." For the future of our society, we need to re-imagine our "material wellbeing"<sup>9</sup>. Does our wellbeing require a steady supply of goods for our entertainment? Is the measurement of wellbeing based on the quality and volumes of goods possessed by an individual, of a community or a nation? Jonathan's project focuses on

building "eco-systems" of food, water, and energy technologies to help secure these supply chains and meet these needs despite the environmental challenges we are walking into.

The mainstream portrayal of sustainability does not sufficiently cover all the challenges. The gaps might be bigger and deserving more attention than presented by the streamlined narratives. When designing for sustainability, we associate the challenges with the need to improve sustainability parameters of new goods. What is poorly understood and significantly under-discussed are the very foundations of our society – the "material wellbeing". The present publication is perhaps just the beginning to developing such discussions further, but for now, we have to leave those questions for another publication. The key to enjoying this read is to accept that we may not know everything, but in our care for the planet and humanity we keep looking for solutions in discussions about subjects less discussed.

*The publisher of the Green Bumble anthology is Institute of Advanced Design Studies, nonprofit school of design for sustainability. In the closing of the anthology I include an interview video transcript for the UNESCO Futures Literacy High Level Summit, recorded in December, 2020, where I talk about how education can help to raise the bar in debating the paths for a more sustainable future.*

*Karina Vissonova, Ph.D.  
Founder of the Institute of Advanced Design Studies*

<sup>9</sup> Material Wellbeing is a theoretical concept in the field of philosophy of design, being developed by K. Vissonova and it refers to an entanglement of the future of design, environmental sustainability and human wellbeing.

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This publication would not have been possible without its lead contributors:

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Helga Veigl from The Futures Lab, Inc, USA, for the contribution "Careful Demand" written for the Green Bumble publication. (Readers, you saw it here first!)

Brian Czech from the Centre of the Advancement of Steady State Economy, USA, for the interview as well as the great conversations leading up to the interview, and for contributing the article "The Triangle Economy: Behind the Circular Flows".

Jonathan Trent from the UpCycle Systems, USA, for contributing your UCS concept for food, water and energy security as a "technical piece" of this publication.

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My contributing editor, Julia Perczel, whom I entrusted with improving my writing as well as my thinking when endeavouring with this publication.

The guy who offered to do all the interview transcripts for the Green Bumble and who provoked with his questions my public-shy personality to speak extensively in the UNESCO interview recording – Zsombor Gál!

The cover, the graphic art and the composition of the Green Bumble anthology are all ideas of Walter Werner – he never ceases to surprise me!

My final thanks and gratitude is dedicated to Dace Resele from the Northern Dimension Partnership on Culture, Latvia. At the turn of the 2019, Dace and I found ourselves in Helsinki passionately discussing the gaps in theories and practices within the mainstream sustainability initiatives. Without an aim to criticise, we were comparing notes and blanks, so to say, on this subject. It was then the idea of communicating publicly about the challenges in mainstream sustainability came about. I much hope I have succeeded in at least jump-starting these undiscussed discussions. Dace, thanks for all the exchanges and for supporting the endeavours of the Green Bumble!

## PART ONE

# GREEN DESIGN DISCUSSIONS

by Karina Vissonova, 2021

This opinion piece is based on a transcript of "Green Bumble — Undiscussed Discussions" podcast, episode I. Correct citation: Vissonova, Karina "Green Design Discussions" in Green Bumble – undiscussed discussions, ed. K. Vissonova. Institute of Advanced Design Studies non-profit, 2021.

Can we accept being imperfect but nevertheless be brave enough to make the enormous effort to change our way of life for a more sustainable course? Coming from Northern Europe and living there nearly half of my life, I think I am entitled to say that it is what the Northern countries can take the credit for. We may have a few mishaps, as we all do, but we are not giving up the hope that one day humanity will no longer live with its useless stuff – the waste, the pollution, and the wasted resources, including ourselves – mankind.

Today, we witness the scale of changes in our society and the way we do things motivated by the very idea of sustainability. We are so far beyond the stage of making merely few products that are in a better relation to the environment. We are beyond a few acts of corporate social responsibility, ironing out creases in corporate value chains. What we are witnessing in the Northern countries and in Europe overall, is a shift of a paradigm that is reshaping entire industries.

These modifications across entire industries were not caused by any specific technological innovations, which is the usual cause nowadays behind a rupture in industries.

The significance of the subject matter is that these modifications were triggered by a change of values.

How so, you ask? Think of the motivation behind beginning to avoid plastic bags for separating and carrying our groceries. It could have hardly been the aesthetics of

bags, i.e. we no longer liked the look and feel of them and hence preferred not to use them. Just as unlikely motivation would be the high cost of bags, since in most countries these were free to select as many as one liked. Most probably, our motivation was caused by an increasing exposure of plastic pollution in our oceans and beaches, the images of which were pasted across social media – typically symbolised by a floating plastic bag.

Our society shares some values we all accept and generally agree upon as a norm. In this instance the norm is that our oceans, air and basically all that is "nature" should be unpolluted and unburdened from objects such as the plastic bag. We agree on the shared value, regardless of a reasoning why this should be so: to preserve nature and access to its resources for future generations, or for the sake of preserving the planet for all the life and beauty it hosts, irrespective of practical uses of its resources.<sup>1</sup> Thus, the plastic bag is no longer an object tolerated by our society, because this object has come to conflict with the value which we collectively wish to uphold, and which we ascribe to the preservation of our planet – "sustainability".

Sustainability is a shared value same as wellbeing, freedom and safety<sup>2</sup>. We collectively strive for upholding these values through social structures, policies, economic systems, we even defend these values with violence. In societies which share Western values, wellbeing, freedom and safety could be said to be foundational values. It is my opinion that we are exerting

<sup>1</sup> Vissonova, K., "Effects of design and sustainable design of technical artefacts", in *Advancements in Philosophy of Design*, ed. P. E. Vermaas and S. Vial. (Design Research Foundations, Springer. <https://www.springer.com/us/book/9783319733012>. 2018, The Netherlands).

<sup>2</sup> van de Poel, I. in "Design for Sustainability" Forthcoming in *Technology and the Environment*, edited by P. Brey, D. M. Kaplan and J. B. Callicott. Cambridge (Ma): MIT Press.

enormous efforts to make sustainability one of our foundational values.

Sustainability is a value which we obtain by finding a balance between industrial activities and the natural environment. Typically we look at it this way: production of goods, their transportation and use should not breach the limits of our planet's ability to regenerate itself and to support life. If we place too much pressure on our environment with, for instance, pollution of air and water, depletion of soil, resources and biodiversity, the natural environment loses its inherent resilience against such pressures and begins to regress irreversibly. Such a regression is clearly not desirable, as it does not only stand against our moral framework, i.e. the value of sustainability, but it directly affects the future of our wellbeing<sup>3</sup>.

The idea of sustainability entails several interpretations of how our contemporary society should be built so to provide conditions for our wellbeing and for the wellbeing of our planet<sup>4</sup>. Designing products which can help us to uphold the value of sustainability is one of such generally accepted interpretations. Hence, our endeavours in designing for sustainability are growing and the results are ubiquitous across industries and practices. Just as we designed cars to include features such as seatbelts and airbags for safety (a shared value because we generally want to prevent people from getting hurt), we now design electricity powered cars for sustainability (a shared value as we want to preserve our natural environment).

What we believe we are doing, is delivering the value of sustainability by making our designs more "green", as we say in our everyday language. We exchanged heavy

oil and gas fuelled product designs with sun and wind powered ones. We are slowly but surely introducing bioplastics (i.e. plant based materials) to replace the use of oil-derived plastics. We have introduced systems for recycling and up-cycling objects and materials. We now build our objects for disassembly so we can access all the bits and bobs that have gone into the object and reuse these again and again in new products. What we seem to be working towards with all these greening efforts, is to make the production of goods more efficient in relieving the pressures on the environment.

In general, we are accustomed to think that "green design" does not cause any environmental pressures – as it is made to relieve such pressures. This, however, is a regretful misconception. Design for sustainability indeed makes a measurable difference for the renewability of resources, reduction or even elimination of waste, reduction of raw material use and of energy consumption, thus relieving a calculated and particular environmental pressure. However, within our current system of production of goods, we can only address some of these pressures. Which often means that in a larger picture of actions done in the name of sustainability, we have some issues resolved while some issues created, left to be resolved by future technologies. For instance, in order to sustain a stable climate we must reduce carbon emissions. So we have designed windmills and battery powered cars, both of which generate wastes we currently still cannot fully process nor eliminate. In which case, we relieve the environmental pressure caused by the emissions, while placing a pressure on our environment elsewhere, caused by the wastes of these goods and their production. Most of the

"green designs" have such trade-offs one way or another<sup>5</sup>.

How do we deal with this dichotomy of green design? It is my observation that we are step-by-step adjusting our level of tolerance towards goods and the negative impacts they more often than not bring along. We introduce more stringent requirements towards technologies: energy rating on home appliances, insulation rating for our homes, recycle-ability of goods, and so on. The demand for recycling solar cell panels, for example, came under European legislation in 2012<sup>6</sup>, that is some 130 years after the first photovoltaic cell was produced, and almost 40 years since the first solar powered residence<sup>7</sup>. What appeared as a norm a decade ago, may very well be perceived intolerable in today's society, like the infamous plastic bag.

Our wellbeing is mono-cultivated by a model of production and consumption of goods that has likely run its course. Production of goods on an industrial scale requires heavy resource extraction, processing, transportation, manufacturing, assembly, more processing and more transportation – all of which needs energy and creates emissions and pollution. Even if it can be calculated as less and different from those caused by their pre-sustainability counterparts. Nevertheless, the push for a production of more, new green designs appealing to our materialistic values, still determines the methodology for building a sustainability-value-driven society. Contrary to the "green design" narrative that rules the methodology, the un-

derlying motivation prevailing in contemporary society is hardly a wish for more and more products which do not conflict with the environmental preservation efforts. The continuing presence of acts of consumption does not prove that society demands products, nor does it determine the kind of wellbeing we desire. The presence of acts of consumption is a heritage of industrial revolution and the socio-economic model that followed. It has locked us into its circles which, granted, spiraled us out of global poverty and into a sea of goods.

If once it made perfect sense that a secure flow and access to material goods constitutes wellbeing, then now whilst drowning in disposable cups and forks, trinkets manufactured for marketing traps, piles and strings of polyester shirts, sweatpants, stockings, and what else, – wellbeing constitutes something other than an endless flow of goods. I think that we look up to design to deliver the value of sustainability along with wellbeing and not one antagonising the other. This may very well mean that we all might be better off with less – less products, less production, less consumption. But then again – which products should we have less of, and who might have the authority to decide on such measures?

The value of sustainability has kindled the most significant turn in the path of modern society since the industrial revolution. Not merely because we became aware in the last decades that our survival practically depends on how we treat our planet, at what speed we extract its resources and degrade its inherent resilience. We did not come together and collectively quantified

<sup>3</sup> For a more detailed discussion on the subject see my review of the field of knowledge in sustainability in Vissonova, K., "Effects of design and sustainable design of technical artefacts", in *Advancements in Philosophy of Design*, ed. P. E. Vermaas and S. Vial. (Design Research Foundations, Springer. <https://www.springer.com/us/book/9783319733012>. 2018, The Netherlands).

<sup>4</sup> *ibid.*

<sup>5</sup> Vissonova, K., "Effects of design and sustainable design of technical artefacts", in *Advancements in Philosophy of Design*, ed. P. E. Vermaas and S. Vial. (Design Research Foundations, Springer. <https://www.springer.com/us/book/9783319733012>. 2018, The Netherlands).

<sup>6</sup> <http://www.solarwaste.eu/pv-waste-legislation>

<sup>7</sup> <https://solarpowernerd.com/when-solar-panel-was-invented>



the benefits of sustainability and thus decided that it is time to introduce individual initiatives such as eco-tourism, community living, not buying new stuff, zero-waste lifestyles and so on. These initiatives reflect the fact that our society is not exclusively driven by material values benefiting merely individuals, but by shared values benefiting us collectively – without compromising the natural environment.

I believe, sustainability, understood as a shared value, helps us to look for ways of building the future of our society, beyond seeing “green design” as the sole solution. For us to make a difference, we must, and more importantly, we now do place our shared values above our, frankly, rather spent idea of a human as an individual endowed with a power to consume.

## **INTERVIEW ON VALUES**

with Tom Crompton and Ruth Taylor,  
Common Cause Foundation

**by Karina Vissonova**

Transcript by Zsombor Gál, 2020

**Karina:** Hi Tom and Ruth, thanks for joining me to discuss the undiscussed on the green bumble podcast. Tell us little about your foundation?

**Ruth:** So Common Cause Foundation works with lots of different organisations. We work with charities, government departments, with arts and cultural organisations. We work with them to think about their role in rebalancing values across society. So, normally they are in public-facing kinds of positions. They work with the public and engage them in a range of different issues or activities. So we work with them to think about, how can they go about championing and strengthening what we call intrinsic values.

**Karina:** You said intrinsic values, could you perhaps spell that out, please?

**Ruth:** Yeah, so intrinsic values are also sometimes called compassionate values and they are a particular set of values that refer to a kind of external motivations. So... more internal motivations. So they are things like honesty, things like your love for your family and friends, protecting the environment, things that we would call kind of compassionate.

**Karina:** That actually brings me to ask you, what would you find are the shared values in our modern society? What would you say are the most desired values held by many? Ruth if you would like to continue responding to that?

**Ruth:** Yes. Well there is lots of different research that has been conducted on the values that people hold in a way that this affects their behaviours, their attitudes. Although, we might sort of initially think that people in society generally hold what we would call extrinsic values to be the most important. So, things like social power or wealth. Actually, the research suggests that the

vast majority of people, so around 74% of people in the UK, for example, actually hold intrinsic values to be more important.

And this research has been able to, you know, control for self-reporting bias. To understand the values that really do motivate people, and they place the most importance on. What we've found is that, it doesn't matter if you're male or female, if you're older or younger, if you're liberal or conservative, or if you're from a wealthier or poorer area, you are more likely to place importance on those intrinsic values.

**Karina:** Very interesting. Do you think sustainability is one of such values, in your professional opinion?

**Ruth:** So, we don't tend to use the term sustainability, but there is definitely within the kind of values map that we work from. There are values around protecting the environment for example, that would definitely fall under that kind of intrinsic values umbrella. And, yes like there is definitely evidence that suggests that if you hold a value in the intrinsic category, you're more likely to hold another one, so... If you place a lot of importance on your friends and family for example, that might see over to you placing more importance on protecting the environment.

**Karina:** Right.

I actually find that our world is visibly changing. I find that more people are voicing their need to live in a more coherent society, a kind of society, which cares for the environment. And which also prioritises over the need for new product designs, for example. What are your thoughts on this observation? Maybe Tom could chip in on this!

**Tom:** Sure, yes. So, the observation, is, you feel, that public concern for sustainability is strengthening?

**Karina:** I find that so, yes. And I also find that we are looking to be part of a more coherently formed society, which also would result in caring for the environment. And we prioritise this over for example looking for the newest product, or newest gadget. So there is that change from personal, materialistic value – or personal, materialistic gain – towards more, perhaps shared values like I said a coherent society. So, that's my observation in the past years. What would you say about that?

**Tom:** Yeah, sure. So, we have a lot of data on people's values in the here and now, in fact using the particular model of values that we have just described. We have data on people's values across, I think nearly 90 countries internationally. We don't have very much data on how people's values are changing over time: what social scientists would refer to as "longitudinal data".

We have some longitudinal data in the EU for example, and some studies in the US. I don't think that enables us to say by any means that overall, the importance an average person places on intrinsic values is strengthening.

I would say though that a great number of influences that we encounter in the wider social surround – through the media for example, through advertising, through mainstream political debate, serve to engage, and over a course of time likely strengthen, norms around extrinsic values. If you think for a moment of the prevalence of financial reporting in mainstream media or the volume of commercial advertising that we encounter, much of which is seeking to remind us of the importance of looking good,

or of the possibility of being esteemed by our friends and family for the things that we possess. These are more likely to exercise and strengthen extrinsic values.

So, Though whilst I don't think we have the data to enable us to comment authoritatively on whether or not as a society, we are moving towards a strengthening of the importance that we place on intrinsic values. I do think we can quite clearly see that there are a very wide range of wider social influences which are likely to maintain and reinforce the importance we place on extrinsic values. And that's probably why the disparity – that Ruth just described – emerged. In other words it's probably an important reason for our underestimating the importance of the typical fellow citizen places on intrinsic values. Because when we formulate our perception of what matters to others, to people we don't know, that's likely to be coloured importantly by what we see of other people for example in mainstream media, or what we deduce of other people's values from a mainstream political debate.

**Karina:** Thanks Tom! Ruth, would you like to add anything to Tom's observation?

**Ruth:** I mean I definitely agree, I think there are a lot of organisations that are attempting to ensure that the public as a whole can live authentically towards their intrinsic values as well as, you know, pressure that they face to place importance on extrinsic values in the advertising that we receive throughout a given day. In the Common Cause we want to see that shift, we want to see people able to live pulling on lots of different values, including those intrinsic or compassionate ones. Because research shows the benefits of doing that.

But, I wouldn't say that only intrinsic values should be what people are able to access. We think that, to live as a well-rounded human in

the world, you do need to be able to pull on the whole range, and sometimes extrinsic values are important, and we need to be able to place importance on those. What we are after is a balance.

**Karina:** That of course makes perfect sense. Thank you.

Then, I would come to perhaps the last question in our discussion today. I find there is an emerging debate in research communities, that for obtaining the value of sustainability on a long-term and a larger societal scale, we must not focus our efforts on designing our products greener, but rather to reduce the volumes and kinds of products, hence (also reducing) their manufacturing, transport, resource extraction. To some level, that secures well-being, rather than wealth, to a maximum amount of people.

This clearly is imposing shared values in a society, which we have believed for a long-time – and I've also learned from you today – is individualistic, and would rather keep to more selfish (or extrinsic) values. What are your thoughts on this? Would we as a society do better if prioritised shared values, particularly in terms of sustainability? Maybe Tom could start, and Ruth could continue!

**Tom:** So, I think you put your finger on a very important question here whether an appeal to green consumerism is an adequate or proportionate response to the profound environmental challenges that we confront at the moment. And I think that taking a value perspective helps to shed light on that question. So, whilst we can certainly see that, for example, our overall carbon footprint might reduce if we were to buy products which were more energy efficient and which are often sold in a way that appeals to the social status that we might acquire by owning that product. I'm

thinking for example perhaps of a luxury electric car.

I think the values conveyed in the course of marketing and using that product may actually stand in psychological opposition to a deepening of social and environmental concern, and the social psychology seems to be clear on that.

So in other words, it's perfectly possible that you could market an otherwise very "green" product, in a way that strengthened values which are going to undermine wider social or environmental concern. And what I think that invites, is a reflection not just on the immediate material impact of the production and the use of the product, but also asking what are the values conveyed in the course of marketing and using of this product or service. Are these values which are going to be aligned with the deepening and broadening of social and environmental concern?

So, I don't think, from a values perspective, a green-consumerism approach is likely to get us far enough!

**Karina:** Very clear answer, I agree with you entirely. Ruth, would you like to continue, or do you perhaps have a different opinion? Thank you.

**Ruth:** Yeah, definitely I think the research is really clear on that so far. Quite often we find that organisations – NGOs working on environmental issues or on social issues – are activating particular values because they're wanting to get an immediate result. So, for example as Tom was saying, an environmental NGO could try to engage somebody's specific extrinsic values. So lots of NGOs might run a kind of lottery, for example, where you could buy a ticket to potentially win lots of money, but there is a kind of underlying belief that you're fur-

thering an environmental cause, but that does engage in extrinsic value.

And I think we're really keen on working with those type of organisations, to say. But you also need to think about the long-term effect, and if we are all stimulating extrinsic values all the time, then, what the research suggests is that the intrinsic values – their exact opposite – are weakened.

So in the long-term, we can actually find that we're doing real damage to the causes we are ultimately wanting to work towards, and the issues we are wanting to solve. And fundamentally, we know from research that when somebody places more importance on compassionate values, they are more likely to have a high level of concern for social and environmental issues. This is obviously fantastic. But they are also more likely to report that they feel closer to their communities, that their wellbeing is higher, and importantly that they are engaging in civil participations, so they are more likely to be volunteering and more likely to be voting.

So there are a whole vast of benefits from trying to engage people on those intrinsic

values, and I think it is really encouraging that actually lots of people do place more importance on those. Just maybe they're not being given as much opportunity to sort of work that "intrinsic value muscle" as they do on the extrinsic ones.

**Karina:** I see. What you have described is a sort of a portrait of our current society. This society we have built around ourselves, and the society we have created narratives about, right?

Thank you, Tom and Ruth, a very insightful discussion. I think we all ought to pay more attention to what values we, like you said, do "pull on" when, we are talking within our communities, with our friends, with our families... And perhaps emphasise these values also within our language, within our everyday language, within our everyday narratives, rather than, only when we are asked "What do you actually think?"

So, I'll say thank you very much for joining me and good luck with your projects. Great to have been acquainted with your foundation and the great work you are doing, thank you!

**Ruth:** Thank you. Thank you for having us!

**Tom:** Thank you!

# WEATHERCOCKS & SIGNPOSTS

## The environment movement at a crossroads

The report "Weathercocks and Signposts" by Tom Crompton was originally published by WWF-UK in 2008 and is re-published here with a full permission of WWF-UK. All rights reserved by WWF-UK. The report can be downloaded in a complete and original version from the [WWF-UK](#) and the [Common Cause Foundation](#) websites.

### Foreword by David Norman WWF-UK

Switching from incandescent to energy-efficient light bulbs has become emblematic of the small steps people can take to help tackle environmental challenges. The columnist and musician Alex James wrote of his New Year's resolutions for 2008: "I'm going to concentrate on climate change because that's the one area where everyone can make a difference... that's the one thing we can all start tackling. Everyone can go out and buy some of those crap light bulbs and get busy."

With the passing of every month, climatologists come to a deeper understanding of positive-feedback mechanisms that suggest change to our climate could be more rapid and more pronounced than we had previously thought. And while climate change may have eclipsed other environmental problems in the public consciousness – the collapse of fish stocks, deforestation and over-abstraction and pollution of watercourses – these, too, continue to intensify.

A marketing approach to behavioural change, which this report begins by characterising, insists that we should ask people to take simple and painless steps. But the widening gulf between the cumulative impact of these behavioural changes and the scale of the challenges we confront is openly acknowledged.

Typical of this consensus is an admission by the British government's Department for Environment, Food and Rural Affairs (Defra). In its recent document A Framework for Pro-environmental Behaviours, the Department writes that "most of our consumer research points to the need for pro-environmental behaviours to fit within

people's current lifestyle, even if one might aim for more fundamental shifts over the longer term".

Unfortunately, it is now beyond serious dispute that a proportional response to climate change will entail fundamental shifts in both policy and lifestyles in the very short term.

This report raises questions about the trust that is placed in the 'small steps' strategy, and the assumption – frequently left tacit – that by encouraging people to take small and painless steps, they will be ushered onto a 'virtuous escalator' to ever more significant behavioural change. Indeed, the report questions the very basis of marketing strategies for behavioural change – typified by appeals to an individual's self-interest and the social status that might be derived from the purchase of the latest energy-efficient gizmo.

This analysis challenges the environmental movement to reflect carefully on how to stay relevant in a period of rapid change. As business itself seeks to show leadership on environmental issues and embraces the commercial opportunities of 'green consumption', the role of environmental organisations could become ever more peripheral to the debate.

But if marketing approaches to creating behavioural change are simply not up to generating the systemic changes that are required, then we must develop a new approach. And it will fall heavily to the environment movement to help in its midwifery.

The environment movement stands at a crossroads. We can carry on trying to help achieve what is possible, taking current

political and public inertia as largely immovable features of the context in which we operate. Or we can begin to inject new urgency into the environmental debate – urgency that will necessarily demand that we move far further than the ‘business case for sustainable development’ will take us; recognising that environmental challenges will not be met while maintaining a narrow focus on the happy coincidence of economic self-interest and environmental prudence.

In navigating its way through this discussion, WWF-UK does not purport to have

the answers. Nevertheless, this report is in places polemical – as a provocation for further discussion, rather than a claim that the analysis is necessarily faultless.

The questions that this report raises have already led to vociferous debate within WWF-UK; and this document cannot be taken to reflect a seamless consensus in our own thinking. But we decided not to keep this debate internal until such time as we had ‘answers’ that we were willing to defend in public. This discussion is too important to be managed in this way, and this report aims to help open it out to all who may be able to take it further.

*David Norman,  
Director of Campaigns, WWF-UK*

*“It is no use saying, ‘We are doing our best’. You have got to succeed in doing what is necessary.” — Winston Churchill*

This report was written by Tom Crompton, Change Strategist, as part of WWF-UK’s Strategies for Change Project.

## **I. Introduction**

### **I.1 Post-environmentalism**

The environment movement in the UK has come a long way in recent years. Gone are the days when our focus lay on imparting information about environmental problems, in the forlorn hope that this alone would prompt mass pro-environmental behavioural change.

There is renewed awareness of the importance of the values that underpin our behavioural changes, and a willingness to frame exhortations for behavioural change in terms of these values. This has sometimes been a hesitant process, because of an understanding that changing attitudes and changing behaviour are very different processes – the so-called ‘attitude-behaviour’ gap. But renewed awareness of the importance of values has been encouraged by a debate in the US, catalysed by a paper written by Michael Shellenberger and Ted Nordhaus, *The Death of Environmentalism*, which stresses the imperative to appeal to the vision and values of ordinary people.

This new discourse discourages reliance upon environmental motivations – better, it is argued, to frame solutions in terms of more prevalent demands such that, rather than environmentalists, it is “developers, unions, doctors, and relief organizations [that] take the lead in demanding investments in things like stronger levees as well as clean energy.”<sup>1</sup>

Campaigners in the environment movement are becoming increasingly cautious about insisting that people adopt behavioural changes ‘for the right reasons’ – something that is coming to be seen as an indulgence of old-school moralisers. Accordingly, these campaigners are increasingly opportunistic in tailoring their messages to resonate with the dominant values of the groups that they are targeting.

Targeted individuals are seen as ‘consumers’, whose primary interests are to acquire products and services that will confer social status (or perhaps save them money). The challenge facing the environment movement is increasingly seen as that of selling the ‘right’ goods and services. This has even led to urges to ‘commoditise’ behavioural change – to find a product or service that embodies this behavioural change, and to market this as a proxy for the change itself (for example, to launch marketing campaigns for Wattsons – attractively designed wireless electricity-meters – as an alternative to campaigns directly aimed at achieving reduced domestic electricity use).

That this approach is anathema to so many in the environment movement is simply grist to the mill. A recent review of Shellenberger and Nordhaus’s work in the magazine *Wired* is clear:

“What Nordhaus and Shellenberger advocate is what might be called post-environmentalism, an ambitious new philosophy that isn’t afraid to put people ahead of nature and to dream big about

<sup>1</sup> Shellenberger and Nordhaus (2005)

creating economic growth – neither of which environmentalists have been very good at. Their vision cuts across traditional political divides: It's pro-growth, pro-technology, and pro-environment."<sup>2</sup>

This 'have your cake and eat it' environmentalism grafts the techniques of the marketing industry on to a renewed emphasis on underlying values. But these values – of self-interest, and social status conferred through material possessions – are seen, to all intents and purposes, as being inescapably dominant. To engage these values themselves – to attempt to make more salient those that are held tacitly, or to try to legitimise values which are suppressed – is often dismissed as a quixotic exercise.

As might be expected, the emergence of post-environmentalism raises serious questions about the continued relevance of environmental organisations. In emphasising the importance of engaging Prospectors (a large segment of the population, grouped in terms of their values, who particularly seek to define themselves and their relationships through the things that they consume), the leading UK campaign strategist, Chris Rose, asks:

"So who's getting it right? By a process of natural evolution as more and more companies engage with climate related products and services, the commercial sector is likely to give Prospectors what they want... An unanticipated consequence for NGOs could be that they find themselves sidelined as actors in the public 'debate' about responses to climate change."<sup>3</sup>

This report takes a fundamentally different perspective. The marketing approach to promulgating behavioural change, characterised in this report, is doubtless effective at generating piecemeal change where this is at its most painless – particularly where such change is embodied in the purchase of a new product. But in the course of embracing the more systemic and structural changes that are needed they may be at best a distraction, and at worst a procrastination.

This report argues that the environment movement has never had a more important role to play in promoting the values that will come to underpin systemic pro-environmental behavioural change of the type that is urgently needed. Any adequate response to these challenges will require a re-examination of the relationship between people, and between people and the natural environment. The sooner we embark on this re-examination, the quicker we can move to institute the fundamental changes that today's environmental crisis demands.

## **1.2 Situating this report in the debate about behavioural change**

It is widely recognised that adequate responses to today's environmental challenges will only emerge through concerted change among government, business and citizens (in the case of the latter, as members of their communities, as voters, and as consumers). It is easily seen that the response of government is constrained by both the appetites and demands of voters and the business lobby; the business response is constrained by both consumer choice and the regulatory framework; and the action of citizens is constrained by

both the purchasing options that are open to them and the regulatory framework within which they live. Simultaneously, of course, none of these actors need acquiesce passively to the constraints imposed on them – all also bear a leadership responsibility. As the UK Sustainable Consumption Roundtable noted:

"People, business and government each occupy a corner in a triangle of change. No one, or even two groups, can lead on sustainable consumption alone. Different corners lead at different times by doing what they can do best. Until now this has often been accidental. The change might be profound if it were coordinated."<sup>4</sup>

This report is not primarily concerned with how such coordination might be accomplished. However, in reviewing existing strategies for change, it is important to recognise that these are largely fractured according to their focus on one or other of these three groups. The following subsections of this report outline an anatomy of current change strategies, grouped according to their target audiences.

### **1.2.1 Government policy**

Many change strategies focus on attempts to change government policy; indeed, this is where much of WWF's own effort is focused. Engaging with policy-makers is clearly an efficient approach to creating some change. Recommendations may focus on 'choice-editing' (change the legislation such that consumers are no longer offered the choice of less-efficient white goods, for example), or increased taxation on environmentally damaging practices (increase the vehicle excise duty on less-efficient cars, for example).

Often, such change tends to be small and incremental; policy-makers generally have relatively little latitude for manoeuvre – ultimately they are constrained by the demands and appetites (real or imagined) of the electorate.

NGOs that choose to focus their activities on lobbying for policy change, frustrated at the slow pace of such change, may demand greater and more 'commensurate' policy intervention. But such demands carry a risk. If these organisations demand interventions that appear politically unfeasible in the short term, those who call for them may be portrayed as naïve or unhelpfully radical, and find their access to the policy-making process compromised. Striking the balance between making demands on government for more radical change, and being seen to be out-of-touch with the realpolitik is a delicate process, and different NGOs achieve this in different ways – depending on how close to the heart of the policy-making process they wish to locate themselves. Navigating this balance is a frequent source of friction, both within and between environmental organisations.

### **1.2.2 Business opportunity**

Another set of change strategies focuses on helping business create and exploit new consumer demand for ethically and environmentally benign products. The change strategies adopted by some NGOs play a role in helping to create this demand – for example, through exposés of the unscrupulous practices of laggards, or heaping accolades on the leaders within a particular sector.

Reliance on the 'business case for sustainable development' is an effective technique where what have been called 'beautiful coin-

<sup>2</sup> Horowitz (2007)

<sup>3</sup> Rose et al (2007)

<sup>4</sup> Sustainable Consumption Roundtable (2006)

cidences' emerge. These are "marketing and innovation examples where what is right for the environment is also good for a business"<sup>5</sup>. Clearly, what is 'good for a business' changes with consumer demand, and the scope to exploit this happy coincidence of the pursuit of profit with environmental benefit seems set to continue to expand. Ultimately, though, the success of this strategy relies on ongoing stimulation of high levels of consumption, coupled with its continuous 'dematerialisation'<sup>6</sup>. Given the huge growth of middle-class demand for goods and services worldwide, this 'dematerialisation' must proceed rapidly. Although it is often portrayed as the only viable approach, the issue of whether it is ultimately sensible to pin our hopes on the possibility of reconciling consumerism with sustainable natural resource use is considered further in Section 2.4. If it is not, we had better begin to develop an alternative approach immediately, because it would take time to unroll the radical change agenda implied by an acceptance that consumerism and sustainability are ultimately inimical.

### 1.2.3 Individual behaviour

Finally, there is a class of strategy that focuses on changing the appetites and demands of individuals. One outline of environmentally significant individual behaviour identifies the following types of engagement:

**Activism:** active involvement in organisations and political movements.

**Non-activist support of public policies:** voter choice or financial contributions to organisations with a lobbying role.

**Influence as employees and members of organisations:** individuals may influence the business model of their employer, or their company's environmental performance.

**Personal, private-sphere behaviour:** the choice of goods, services and lifestyle.<sup>7</sup>

Although debate on individual behaviour has tended to focus on the last of these categories, many large environmental NGOs have tended to remain ambivalent about the scope for engaging personal, private-sphere behaviour. This ambivalence is understandable: attempts to engage behaviour at this level risk dissipating limited campaign resources in communications that become submerged in the noise of mainstream commercial marketing. Recently, however, new possibilities opened up by internet-based social networking techniques have encouraged more organisations to dip a toe into the water of mass behavioural change.

### 1.2.4 Who this report is written for

The anatomy of change strategies outlined above is a simplification, and some of the most sophisticated approaches to creating change lie in the areas of confluence between these strategies. For example, there are initiatives to encourage business to lobby government proactively for a tightening of the regulatory environment in which they operate; or there are initia-

tives to recruit large numbers of active online campaigners to support demands for legislative change. But it is important to locate this report, and the recommendations that it makes, in this landscape. Although it is critically important to engage with individual behaviour, this need not necessarily imply a focus on personal, private-sphere behaviour. In campaigning to change personal, private-sphere behaviour, environmental organisations are also simultaneously communicating with, among others, voters, entrepreneurs, sales-people, policy-makers, teachers, and journalists.

In addition to those engaged in campaigns to motivate changes in private-sphere behaviour, the questions raised in this report will be of relevance to: Leaders and public opinion formers (for example, in government, business, the faiths, and the entertainment industry) who are concerned to use their influence to help tackle environmental challenges.

Those seeking to influence how public resources are used to effect behavioural change – for example, engaging government organisations charged with motivating behaviour change.

The marketing industry (in particular, those within the marketing industry who are making important contributions to raising awareness of environmental problems, but see their role as being limited to the promotion of 'green consumption').

### Non-governmental organisations.

Some of these groups are considered further:

**Political and business leaders:** There is a clear need for new leadership from our political and business leaders.<sup>8</sup> But will this leadership focus exclusively on the economic dividends that may accrue from a serious response to the environmental challenges that we face, or will it find room to reflect a broader set of values? In taking risks to use their influence to shift public debate, forward-thinking leaders will need to be supported in envisioning the future – most obviously by a broad constituency of public figures and commentators. This report is intended to stimulate debate about the values that might come to underpin this envisioning process.

**Government departments specifically charged with motivating behaviour change:** Government is investing public money in communication on environmental issues, with a view to changing public behaviour. These interventions are based on a growing body of research on approaches to motivating pro-environmental behaviour. This report offers a critical reflection on some of that literature.

**Progressive business:** WWF is increasingly working with forward-thinking business-people who recognise the inherent difficulties of pursuing ever greater consumption within natural constraints that are themselves becoming ever more apparent. Many are recognising that an alternative to the 'consumerism narrative'

<sup>5</sup> Grant (2007:2)

<sup>6</sup> Dematerialisation' is used here to mean a shift away from the consumption of goods and services that have a high ecological footprint.

<sup>7</sup> Stern (2005)

<sup>8</sup> In the UK at least, there has been a recent erosion of belief in the role of leadership. But this must be rebuilt. As Drew Westen writes of the American situation: "On the one hand, in a representative democracy or a republic such as our own, representatives are supposed to represent their constituents – and hence to attend their opinions. On the other hand, leaders have access to information not available to the average citizen and expertise that comes from governing. Thus, they are supposed to lead – including staying one step ahead of, and helping to shape, public opinion." (Westen, 2007: 27). He draws on evidence suggesting that "public opinion follows the lead of party leaders and pundits, with partisans turning to their own leaders for cues on what to think and feel about the central questions of the day where there is no obvious consensus. When 'opinion makers' on their side of the aisle are silent, when only a handful of them are breaking with the current consensus, or when they speak with multiple, inconsistent voices, most people stick with the consensus view." (Westen, 2007: 22). This issue of leadership is the subject of a forthcoming WWF report, but is not discussed further here.

is not just needed, but must inevitably emerge in the near future. This report aims to embolden these people to contribute to the debate about the shape that this alternative will take.

**Non-governmental organisations:** NGOs face a crisis of identity in a context where concern about environmental issues – at least climate change – is moving centre-stage, but where many of the solutions are coming from the private sector – particularly enterprises that are fleet-of-foot and not unduly risk-averse. It seems clear that NGOs (both environmental and developmental) have a crucial role to play in responding to the challenges we face, and should continue to deploy a range of strategies. One such strategy must surely include challenging other stakeholders to reflect on the values-base from which they approach the environmental crisis. This report is intended to contribute to this debate among NGOs.

For so long as NGOs are content to frame their interventions in terms of the societal values that predominate in public discourse today, they will be of questionable relevance. Rather, this report builds a case that the environment movement should bring an additional a set of values to the debate: values that may not currently predominate in public discourse, but upon which any proportionate future response to the environmental crisis will need to build.

### 1.3. The environmental challenges we face

This report argues that new ways must be found to pursue the changes that are needed if we are to respond proportionately to the environmental challenges we face. It argues that convenient 'lifestyle' changes are unlikely to lead us to the systemic changes in behaviour that are needed, and

that 'green consumerism' is ultimately inadequate as a response.

This is a bold assertion. Given the difficulty of motivating individuals to make even small changes to how they live – often changes that entail minimum inconvenience, or which may actually be in their financial interest – should strategies aimed at pursuing more fundamental change really be contemplated?

It is precisely because the challenge is so great, and the time for action so short, that more systemic solutions are needed. We cannot afford to expend time and resources in the pursuit of marginal changes, unless we have a justifiable conviction that such approaches really do offer the most effective way to create the more fundamental changes that are needed. There is an urgent need for debate about whether we need to replace current strategies, and whether they have a role to play in the short term – during a period of transition to more systemic approaches.

More than this, it seems inevitable that the environmental challenges we confront will soon force substantial changes upon us. It is important that we foresee and rehearse the debates that these changes will open up.

In examining current behavioural change strategies – and building a case for considering alternative strategies – this report focuses largely on climate change. This is the focus currently taken by most recent discussion on strategies for creating pro-environmental behavioural change.

The case for the need to review these strategies rests in important part on the severity of the challenge posed by climate change. But, crucially, it also arises from

an understanding of the compound nature of a set of environmental challenges that demand a systemic response. The interconnected nature of the challenges we face further militates against the success of piecemeal strategies focused on specific pieces of behavioural change, or the purchase of particular 'green products'. For this reason, in addition to highlighting the climate change problem, this section also draws attention to some of the other environmental challenges we face; no less pressing for having been recently eclipsed by concern about climate.

#### 1.3.1. Climate change

Such is the pace of the development of climate science that the Intergovernmental Panel on Climate Change (IPCC) Assessment reports – which are produced as the result of exhaustive and time-consuming review of the scientific data – tend to be out of date by the time they are published. There is growing evidence that we have already passed the recommended stabilisation level of CO<sub>2</sub> and CO<sub>2</sub> equivalents and some tipping points. In particular, positive feedback mechanisms are taking hold far earlier than expected. Arctic sea ice could be lost within five years<sup>9</sup>, and there is a fear that the tipping point for the Greenland ice-sheet may have passed.<sup>10</sup> The IPCC's latest projection for sea-level rise this century is up to 59 centimetres. But, according to NASA climatologist James Hansen, this estimate is based on an incomplete understanding of the dynamics of ice-melt. He suggests that sea-level rises of up to five metres are not unlikely this century. Such sea-level rises would have catastroph-

ic consequences for many of the world's most densely populated areas. It seems that we may already be in the early stages of a runaway greenhouse effect.<sup>11</sup>

At first glance, the UK response to the challenge of reducing greenhouse gas emissions is impressive, but the current method of accounting for greenhouse gas emissions hugely underestimates the UK's contribution to worldwide emissions. In particular, it does not account for:

- consumption on non-UK territory (business trips and foreign holidays);
- consumption between countries (for example, from aviation and shipping);
- greenhouse gases emitted in the manufacture of goods overseas, imported for UK consumption;
- the additional impact of aviation emissions, compared with equivalent emissions made at ground level.<sup>12</sup>

When estimates for the impacts of these factors are considered, one study conducted by an Oxford economist and member of the UK government's Advisory Panel on Energy and Climate Security found that, while using current accounting methodology UK greenhouse gas emissions have fallen by 15% since 1990, on a consumption basis, a rise of 19% is found over the same period.<sup>13</sup> There is widespread agreement that we need reductions of at least 80% of UK emissions, based on 1990 levels, by 2050. Some scientists suggest that even this will be woefully inadequate. The scale of this challenge is difficult to overstate.

And yet, this same study suggests that the emissions reductions attributable to

<sup>9</sup> Maslowski et al (2007). Understanding Recent Variability in the Arctic Sea Ice Thickness and Volume - Synthesis of Model, Presented to the American Geophysical Union Fall, 2007 Conference.

<sup>10</sup> Spratt, D, 2007: The Big Melt, Lessons from the Arctic Summer of 2007. [carbonequity.info/PDFs/arctic.pdf](http://carbonequity.info/PDFs/arctic.pdf)

<sup>11</sup> Cox et al (2007). Feedback Dynamics and the Acceleration of Climate Change. Proceedings of a briefing in the House of Commons to the All Party Parliamentary Climate Change Group.

<sup>12</sup> Helm et al (2007)

<sup>13</sup> Helm et al (2007)



de-industrialisation may be bottoming out, and that there may be countervailing trends arising from the growth of the service sector – notably air-conditioning and transport. The UK cannot rely on historical sources of emissions reductions as it looks to securing far larger reductions in future. We will need far more aggressive approaches to reducing greenhouse gas emissions than are currently being contemplated.

### 1.3.2. Water

In the coming years, economic growth and increased purchasing power, a growing shift toward urbanization, increased population and the unknown effects of climate change are expected to place acute strains on global water resources. This increase in global freshwater demand will manifest itself on a number of levels. At a social level, the already insufficient allocation and availability of clean water will continue to hamper development progress. At an ecosystem level, significant problems of over-abstraction and pollution, including many of the world's most important river basins, will increase.<sup>14</sup>

Some 1.1 billion people lack access to water, and 2.6 billion lack adequate sanitation services; most of these billions are in the poorest countries. More than half of the world's wetlands have been lost in the last century alone. Most of the world's largest rivers are losing their connection to the sea. Only a third of the world's 177 large rivers (1,000km and longer) remain free-flowing, unimpeded by dams or other barriers. Species loss in freshwater ecosystems is faster than any other biome – a decline of more than 50% in freshwater species populations over 30 years.

### 1.3.3. Forests

Since the early 1950s, an estimated 50% of the world's forest cover has been cleared by humankind. Each year, 13 million hectares of forests are lost – or 36 football fields per minute. Deforestation also contributes massively to climate change; it is the source of 15-20% of global carbon emissions. The IPCC estimates that at least one-third of the world's remaining forests may be adversely affected by changing climate that results in forest fragmentation and changes in forest productivity due to changes in temperature and precipitation.

### 1.3.4. Oceans

The world's oceans are now in a state of global crisis caused by overfishing. More and more people are competing for fewer and fewer fish. As a result, more than 70% of the world's commercial marine fish stocks are either fully exploited, overfished, or recovering from overfishing. Scientists have recently discovered that 90% of the big predatory fish – species such as bluefin tuna, swordfish and sharks – are lost. Unless the current situation improves, stocks of all species currently fished for food are predicted to collapse by 2048.

The impacts of declining fish catches are being felt by many coastal fishing communities around the world. Newfoundland in Canada provides a sobering example of what happens to communities when fish populations are fished to commercial extinction. For centuries the cod stocks of the Grand Banks seemed inexhaustible. In the early 1990s the cod fishery was finally deemed to have collapsed – and some 40,000 people lost their jobs overnight. More than 10 years later, the cod have still not recovered, and the latest science indicates that the ecosystem has now

substantially changed, suggesting that the cod may never make a comeback.

### 1.4 The failure of government, and the compounding effects of 'small steps' campaigns

Governments are guilty of a capitulation of their leadership responsibility in responding to the environmental challenges that we confront. Yet environmental groups risk deflecting pressure for such leadership by urging their supporters to share showers, take the stairs rather than the lift, or buy the latest designer washing line.

As our awareness of the global scale of environmental problems grows, the sense of agency that individuals have to meaningfully address these problems is further eroded.

The question examined here is not whether, cumulatively, marginal changes in an individual household's energy use can contribute to addressing the problem of climate change – in purely numerical terms, they clearly can. But there is a more pressing question about how irresistible public demand for radical regulatory change will emerge, and whether the current emphasis on encouraging marginal individual behavioural changes will facilitate the development of this. Is a focus on marginal private-sphere behavioural change really the best way of deploying these meagre campaign resources?

All too often, the starting point in government responses to the need for regulatory change is to minimise the ambition and im-

pact of a particular policy intervention, and to emphasise the role of private-sphere behavioural change and consumer choice.

Focusing on private-sphere behavioural change may serve as a dangerous distraction from the serious business of getting in place policy frameworks that are sufficiently ambitious to address these environmental challenges systemically.

On the one hand, if the belief that we ought to be able to address problems such as climate change – without this entailing fundamental life-style changes – actually sticks, this may serve to build resistance to the far-reaching government interventions that are actually needed. On the other hand, where this story is recognised as being hopelessly optimistic, it may also be seen as dishonest. And this dishonesty risks fuelling public cynicism, and inaction.

Unfortunately, the UK government seems resigned to focusing on marginal behavioural changes, while simultaneously accepting these as inadequate. In its recent document *A Framework for Pro-environmental Behaviours*, the UK government's Department for Environment, Food and Rural Affairs (Defra) writes that "most of our consumer research points to the need for pro-environmental behaviours to fit within people's current lifestyle, even if one might aim for more fundamental shifts over the longer term". And yet, simultaneously, the ministry recognises that: "[w]e need to demonstrate urgency and magnitude, responding to expectations of commensurate action by government and business."<sup>15</sup>

To re-emphasise: this report does not argue that private-sphere behavioural change is futile. Cumulatively it is important: but only if the danger of it leading to complacency can be avoided, and only in conjunction with ambitious government interventions.

<sup>14</sup> Orr (2008)

<sup>15</sup> Defra (2008: 22)

For this reason, environmental organisations may do well to reflect carefully on the continued investment of scarce resources in attempting to motivate individuals to make marginal behavioural changes to their lifestyles.

## 2. The marketing approach to pro-environmental behavioural change strategies

This section documents an emerging consensus on pro-environmental change strategies, which is referred to henceforth as the 'marketing approach'. It draws on a number of recent reports published by UK-based think-tanks, communication consultancies, and Defra.

In particular, this approach is characterised in the following ways:

- Reliance is placed on 'small steps', often in the expectation that these will lead individuals to engage in more significant behavioural changes.
- Particular emphasis is placed on marketing green products or services ('green consumption').
- Reliance is placed on the 'commodification' of behaviours that are not otherwise directly associated with a particular product – such that a good or service becomes a proxy for the desired behavioural change.<sup>16</sup>
- Reliance is placed on audience segmentation; either by socio-economic criteria, or according to the motivations underly-

ing willingness to engage in behavioural change.

- Of these motivations, particular emphasis is placed on the role of self-interest as a motivation for behavioural change.
- As a corollary to market segmentation, the emerging consensus must necessarily insist on the irrelevance of the reason that an individual adopts a piece of behavioural change – the emphasis is on using what appeals to a particular audience segment – irrespective of whether or not attention is drawn to the environmental imperatives for behavioural change.

The approach outlined above shares many characteristics with social marketing approaches to motivating behavioural change. However, the delineation between 'social marketing' and 'commercial marketing' is not always clear – particularly in the light of recent suggestions that behavioural changes should be 'commoditised' (see Section 2.8). There is also a debate about the role of market segmentation in social marketing strategies (see Section 2.6). These strategies sometimes rely on market segmentation according to socio-economic grouping. However, it has been suggested that the segmentation approaches of commercial marketing agencies (which tend to focus on underlying psychological motivations) may provide a more effective approach.<sup>17</sup>

For these reasons, the emerging consensus outlined above is referred to, throughout this report, as the 'marketing approach' to motivating pro-environmental behavioural change.

## 2.1 Compact fluorescent light bulbs today, marching on Parliament tomorrow

A key element in the marketing approach is that steps should be simple and painless. In part, proponents of this approach point to the cumulative benefits of large numbers of people engaging in small changes. The additive importance of widespread adoption of marginal changes cannot be casually dismissed. But ultimately, it must be demonstrated that such changes will promote (rather than inhibit) the adoption of the more fundamental behavioural changes and government interventions that are needed.

There is an assumption that, by encouraging individuals to make small steps to reduce their carbon footprint, they will subsequently become motivated to embark on larger steps; that their initial commitment to undertake small lifestyle changes will 'spill over' into other more significant changes. So, for example, Defra recommend that "[w]e need to promote a range of behaviours as entry points in helping different groups to make their lifestyles more sustainable – including catalytic (or 'wedge') behaviours if identified through research"<sup>18</sup>. Another report recommends that environmental organisations "introduce 'green starter kit' advice by starting people off with easy actions with obvious paybacks or

pleasant effects that fit into existing routines, before building up to the more difficult ones"<sup>19</sup>

The idea that small behavioural changes will lead to larger ones builds on research conducted on the 'foot-in-the-door' strategy, which has been investigated mainly through experiments based on door-step requests. Researchers have found that by asking experimental subjects to comply with a small initial request, they are then more likely to consent to a larger subsequent (and usually related) request. The application of the results of foot-in-the-door research to strategies for creating pro-environmental behavioural change is a highly contested issue.

It seems clear that the foot-in-the-door strategy can work under some circumstances, but results are highly inconsistent, and the effect may be small, undetectable, or even operate in the reverse direction.<sup>20</sup> This reverse effect is called 'negative spill over'. It may arise, for example, if individuals tend to 'rest on their laurels' – or actively seek to undertake simple and painless pro-environmental behaviour in order to ease their conscience in avoiding more costly or difficult behaviours.<sup>21</sup>

One panel study, conducted in Denmark over a two-year period, examined whether consumers who engaged in pro-environmental behaviour in one category of behaviour (for example, recycling) are more likely to engage in another area (for example cycling to work) at a later point in time. The results were ambiguous, leading the authors of the study to conclude:

<sup>16</sup> For example, see the discussion on the Wattson electricity meter (Section 1.1 above and considered in more detail in Section 2.8).

<sup>17</sup> Social marketing approaches "seek to change consumer behaviour without understanding motivation. The work of the UK Energy Savings Trust and much of the 'sustainable development' community – government and NGO efforts – makes this mistake. Social policy theory and social-economic segmentation tells you little or nothing of any use about why people do or don't behave in particular ways... The government would do well to consider the lessons of what works in campaign design and in commerce (where psychological rather than economic analysis rules in sales and marketing), and combine that with what social marketing has to offer" (Rose, 2006)

<sup>18</sup> Defra (2008: 22)

<sup>19</sup> Hounsham (2006:143). The assumption that small initial behavioural changes will 'spill-over' into more significant ones is frequently left implicit, perhaps because of an uncertainty about the empirical basis for this. Another example is from Do The Green Thing, an internet-based site that encourages subscribers to take small steps such as using the stairs rather than the lift. "Green Thing's basic principle is to tempt people to do one delightful thing a month and so build up a programme of green behaviour one easy step at a time." ([www.dothegreenthing.com/faq](http://www.dothegreenthing.com/faq)). It is unfair to single out these instances, however. WWF itself has relied tacitly upon the effectiveness of a 'spill-over' effect in some of its own campaigning.

<sup>20</sup> Berger (1999), Thøgersen (1999)

<sup>21</sup> Thøgersen and Ölander (2003)

"[T]he panel analysis did find signs of transfer of environmentally-friendly conduct between behavioural categories, but only in a few of the possible instances and, as expected, only transfers of modest size. The panel analysis also identified a few negative cross-lagged effects [negative spill over]... Such effects may indicate that the performance of an environmental-friendly behaviour reduces the propensity to behave environmentally friendly in other areas."<sup>22</sup>

Of particular controversy is whether or not foot-in-the-door can work for larger environmental behaviour changes. There is a lack of empirical evidence here, leading Paul Stern, Director of the US National Academy of Sciences' Committee on the Human Dimensions of Global Change, to comment: "foot-in-the-door has no track record of inducing major environmentally significant behaviour... [published studies] provide evidence that these theories work in some situations, but I don't believe they provide evidence that they work for the big environmental behaviours".<sup>23</sup> Whether this lack of evidence reflects the absence of an effect for big environmental behaviours, or the difficulty of detecting this, is not clear. It is possible that this lack of empirical evidence arises in part from the difficulty of studying difficult or expensive behavioural changes – by their nature, they are infrequent.<sup>24</sup>

Against this background, it seems ill-advised to draw any firm conclusions about

the significance of 'foot-in-the-door' strategies for large pro-environmental behavioural changes. Certainly, given that the 'foot-in-the-door' effect seems to form the central plank of many change strategies that rely on encouraging individuals to make small steps, in the expectation that these will lead to the adoption of more significant behaviour change, we should be clear that there is little supporting evidence for the efficacy of this approach.

But even if campaigners are to persist in relying on the 'foot-in-the-door' strategy to encourage larger pro-environmental behavioural changes, this requires that they actually make requests for more significant behavioural changes of this kind. Exclusive reliance on small steps is not the full foot-in-the-door strategy. As one researcher puts it: "[I]f people are never asked to do the progressively larger behaviour changes, they may not do them, regardless of whether they have been asked to do smaller behaviours."<sup>25</sup>

## 2.2 Green consumption and appeals to materialism

Many pro-environmental behaviour-change strategies point to the social status derived from ownership of particular products. Solitaire Townsend, the founder of FUTER-RA, a communications consultancy which

advises the UK government on its Climate Communications Strategy, is quoted as saying: "You can't stop people wanting status symbols, but you can make them aspire to different ones."<sup>26</sup>

It is clear that social status conferred on particular products is an important motivator for many of our choices as consumers.<sup>27</sup> But it is far from clear that, exploited as a source of motivation for pro-environmental behavioural change, this will contribute to reducing (as opposed to exacerbating) the environmental problems associated with consumerism. Townsend herself neatly illustrates the problem in an anecdote that she relays in a BBC Radio interview. It's worth quoting in full:

"If I change my light bulbs and put cavity wall insulation on my home and turn all my lights off when I go to bed and half fill my kettle, it's not something that's going to give me any social status, it's not something which my neighbours can see; whereas if I put a wind turbine on my house or a solar panel on my house or park a Toyota Prius outside my front door, it's a social proof action. Now that doesn't necessarily mean that you did it for climate change. One of my friends has got a solar panel on the north-facing roof of her house. When I pointed out to her that's not necessarily the best place in the UK in order to be generating energy, she pointed out to me that I wasn't understanding why she'd done it. The north facing part of her

house is the part that faces the street."<sup>28</sup>

There are two points that should be drawn from Townsend's anecdote, which are of more general significance. The first point is that the attractiveness of being seen to have a solar panel on one's roof, or a hybrid car parked in the drive, need not have anything directly to do with a desire to reduce one's carbon footprint. This is important, because while advertising campaigns linking celebrities to hybrid cars may be good ways to increase the social status associated with these vehicles (and therefore drive up sales of that model) they may not motivate the owners of such cars to want to address their carbon footprint in a more systemic way. This is a fundamental problem with many marketing approaches to creating pro-environmental behavioural change, and it is discussed further in Section 2.9. The second point is that in this instance, the net result of the pursuit of social status was to compromise the reduction in carbon footprint achieved by the individual who installs the solar panels on her roof (assuming these are less efficient on a north-facing roof).

There will be instances under which social stigma associated with particular products or behaviours drive a reduction in consumption. But these reductions in consumption will tend to arise from product substitution, rather than outright rejection. If it becomes socially unacceptable to drive an SUV, people may replace these with a hybrid, and their annual fuel consumption seems likely to fall. But they are still buying a car – and possibly still buying a new car every year

<sup>22</sup> Thøgersen and Ölander (2003)

<sup>23</sup> Paul Stern, post on 'Conservation Psychology' list-serve, 13 November 2007

<sup>24</sup> In responding to this critique of foot-in-the-door (FITD), and conceding that there is an absence of research relating to large pro-environmental behaviours, one researcher, who is more up-beat about the potential value of the strategy, points to other examples of FITD phenomena resulting in very costly behaviours: "For example, cult leaders like Jim Jones nearly always suck people in with small requests that progressively escalate, eventually resulting in major lifestyle changes and even horrific events like mass suicides" (Amara Brook, post on 'Conservation Psychology' list-serve, 7 November, 2007).

<sup>25</sup> Amara Brook, post on 'Conservation Psychology' list-serve, 7 November, 2007

<sup>26</sup> Rogers (2007)

<sup>27</sup> Belk (1988)

<sup>28</sup> BBC (2007)

or two, as newer (perhaps more efficient, but certainly well-marketed) models become available.

It is far more difficult to foresee that social status will provide the basis to persuade these consumers to part with their cars, take the bus to work, and join car clubs for those few occasions when they cannot use public transport. Indeed, some authors, in reviewing change strategies recognise this: “[t]he car is less about transport and more about a sense of freedom, convenience and personal identity. It is... a status symbol, a means of social bonding (particularly for men), a cocoon, a lover, a best friend and a refuge... [C]ar clubs might never become truly mainstream because a borrowed car cannot fulfil many of these personal identity requirements.”<sup>29</sup>

This section has criticised appeals to social status, derived from material acquisitions, as a source of motivation for driving pro-environmental behavioural change. This should not be taken as a failure to recognise the crucial importance of social context in the dissemination and reinforcement of such behaviours. Irrespective of the motivations to which appeal is made in the course of driving pro-environmental behavioural change, it is clear that social context will play a critically important role. Even among ‘deep ecologists’, for example,

social context is of critical importance in validating and maintaining their chosen lifestyles.<sup>30</sup>

## 2.3 Green consumption and consumerism

As might be anticipated, there is considerable business enthusiasm for the commercial opportunities that ‘green marketing’ might offer<sup>31</sup>: Terry Leahy, the CEO of Tesco, one of the world’s largest retailers, recently urged that:

“In the early part of this century we must now achieve a new revolution in green consumption. The barriers are familiar. People talk about green choices, but for millions of people a lack of information and affordability limit this choice. We will not tackle the challenge of climate change by enlisting only the few... The green movement must become a mass movement in green consumption.”<sup>32</sup>

Similarly, Sue Welland, Founder and Creative director of The Carbon Neutral Company writes that “[o]ne of the most powerful levers we have to address climate change is the power of consumer choice...”.<sup>33</sup>

There is an important distinction to be drawn between consump-

tion and consumerism. Clearly, those living in a future society which is effectively minimising its ecological footprint will continue to consume. But there is a powerful argument that, within such a society, we will have to find ways to tackle the problems of consumerism – the drive to consume ever more goods and services; a need that may emanate from basic human propensities, but which is exploited and exacerbated by highly refined influencing techniques developed by the marketing industry.

The growth of consumerism has been possible because material goods contribute importantly to the construction of our self-identities, and they do so in ways that must extend beyond their mere practical utility. So, for example, a car has significance that extends beyond its value as an object that enables one to get from A to B quickly, and relatively comfortably. Rather, as described in the last section, the cars we drive have addition ‘symbolic’ meaning: they represent some part of who we consider ourselves to be. As Tim Jackson puts it, in a modern Western society, “the symbolic project of the self is mainly pursued through the consumption of material goods imbued with symbolic meaning”<sup>34</sup>

“No purely functional account of material consumption is going to be able to deliver a robust model for influencing consumption patterns or changing consumer behaviour: because functionality is not the point (or at least not exclusively the point). We consume not just to nourish ourselves or protect ourselves from the elements or maintain a living. We

consume in order to identify ourselves with a social group, to position ourselves within that group, to distinguish ourselves with respect to other social groups, to communicate allegiance to certain ideals. To differentiate ourselves from certain other ideals. We consume in order to communicate. Through consumption we communicate not only with each other but with our past, with our ideals, with our fears and with our aspirations. We consume in pursuit of meaning.”<sup>35</sup>

In itself, this does not necessarily pull the rug from beneath ‘green consumption’ as a means of addressing the environmental crisis. But there is a critical question, relating to the role of consumerism in driving green consumption, and the risk that this will continue to lead to ever more consumption.

Those who pin their hopes on the efficacy of green consumption must hope that consuming “to communicate allegiance to certain ideals” can actually entail us consuming less, or making do with what we have. Perhaps those ideals can amount to something like ‘less is more’. Is such a hope justified?

Unfortunately, it may be that our preoccupation with material objects as mechanisms for us to establish meaning necessarily entails that we will continually consume more stuff, for so long as we find meaning in this way. In *The Loss of Happiness in Market Democracies*, Robert Lane writes: “...advertising must use dissatisfaction to achieve its purpose”, and he shows that this aspect of consumer culture dates back to Edward Bernays in the 1930s. Bernays “understood that **the appetite of our**

29 Hounsham (2006: 135)

30 Zavestoski (2003)

31 For example, TGI (Target Group Index), “a global network of single-source market research surveys providing invaluable, comparable consumer insights for over 50 countries across 6 continents” conducted a recent study of green marketing opportunities. It found that “there is a great opportunity for marketing green products to the masses, and numerous examples of products that have moved into the mainstream due to their practical consumer benefits as well as their ‘green-ness.’” (TGI, 2007: 20). The report suggests that “[a]s consumer interest in the sustainability of our planet continues to gain momentum, green marketing presents sizeable opportunities for industry.” (p.31). The study identified a group of consumers that it calls ‘Eco-Adopters’. “These are consumers who demonstrate not just an environmentally-conscientious mindset, but also the willingness to put these beliefs into action... In each of the US, Britain and France, we selected behaviours that allowed us to focus very specifically on the most environmentally conscientious consumers. The behaviours included: Membership of an environmental organisation, Donations to wildlife charities, Purchase of Green Products, Interest in ‘green’ articles in the press...” (p.11). But on more significant indicators of pro-environmental behaviour, a different picture emerged. The survey found that “Eco-Adopters in Britain and the US are as likely as the average person to own a car, and to spend up to eight hours travelling in it every week.” They are also far more enthusiastic flyers than the national average. “[O]ver half of Eco-Adopters in Britain flew in the past year... and 14%... have taken a domestic flight in the past year.” (p.16)

32 Terry Leahy at a joint Forum for the Future and Tesco event in central London, 18 January 2007: see [www.tesco.com/climatechange/speech.asp](http://www.tesco.com/climatechange/speech.asp)

33 TGI (2007: Foreword)

34 Jackson (2004b)

35 Jackson (2002)

**present materialism depends upon stirring up our wants – but not satisfying them.**<sup>36</sup>

Many perspectives support the viewpoint that there is something inherent about the urge to consume that leads us to want to consume ever more. For example, Grant McCracken argues that consumer goods serve as bridges to our hopes and ideals. He suggests that, both as communities and as individuals, we must develop strategies to cope with the discrepancy between how we find society in reality, and our hope that an alternative society is possible<sup>37</sup>.

One such strategy, he argues, is the displacement of these ideals – allowing us to sustain hope that we might at some point, achieve the ideal social life we seek. Hence, we may remove these ideals “from daily life and transport them to another cultural universe, there to be kept within reach but out of danger” – somewhere that they cannot be contradicted and that they avoid the undue scrutiny that could declare them ultimately unattainable. Examples of places to which ideals can be moved in this way include an historical ‘golden age’ in which life is imagined to conform to our ideals, or a utopian future. Alternatively, this displacement may occur spatially – by reference to a distant country (whose inhabitants live an idyllic pastoral existence, perhaps), or to the lives of others (celebrities, for example).

It is essential, however, that we – both collectively and individually – have access to these displaced meanings; they are, after all, what give us hope. But this access must be achieved without risking undue scrutiny: it was to remove them from such scrutiny that these meanings were displaced in the first place. How is this delicate process negotiated? What bridges can we find to our

displaced meanings that simultaneously provide us with this access, while safeguarding them against undue scrutiny?

The prospect of ownership of particular goods offers such a bridge. In prospect, a convertible sports car, for example, offers the anticipation not just of the car itself, but an entire idealised way of life – freedom, sexual attractiveness, the adulation of others. Certainly, marketing strategies encourage the perception that the car stands for such an ideal. The apparent possibility that the car can confer this way of life offers substance to this ideal, making it seem more plausible, and more easily within grasp. The ideal of this lifestyle, however, is not tested – unless, of course, the car is eventually bought. Then, the ideal becomes vulnerable to contradiction (what happens if life isn’t found to be as anticipated?). Here, the individual “simply discredits the object obtained as a bridge to displaced meaning and transfers this role to an object not yet in his or her possession”. This is easily achieved: “for most consumers there is always another, higher level of consumption to which they might aspire... [serving] as a guarantee of safe refuge for displaced meaning.”

“When goods serve as bridges to displaced meaning they help perpetually to enlarge the individual’s tastes and preferences and prevent the attainment of a ‘sufficiency’ of goods. They are, to this extent, an essential part of the Western consumer system and the reluctance of this system ever to allow that ‘enough is enough.’”<sup>38</sup>

Consumerism, it seems, may involve a “high turnover of goods, not merely a high level

of their acquisition”<sup>39</sup> McCracken argues that there is an intimate connection between consumer goods and hope. “The things we want must always be just beyond us, always just out of reach. For goods to serve the cause of hope, they must be in inexhaustible supply. We must always have new goods to make our bridges if hope is to spring eternal.”<sup>40</sup>

If it is true that there is something about the process of acquiring the goods that perpetuates consumption, this seems to suggest that the problems of consumerism will only be properly addressed by re-assessing the contribution that consumer goods make to our quality of life. This argument is examined further in Section 3.4.

## **2.4 Decoupling growth and environmental impact**

The dominant view among governments is that sustainable consumption must be pursued through the increased consumption of more sustainable products, thus preserving the legitimacy of government pursuit of economic growth, while seeking to reduce the environmental impact of this. For example, the UK government’s approach to sustainable consumption and production is aimed at “[b]reaking the link between economic growth and environmental pollution”<sup>41</sup> and “achieving economic growth whilst respecting environmental limits”<sup>42</sup>.

But as Tim Jackson points out, “it would be entirely possible, under this framing of the problem, to have a growing number of ethical and green consumers buying more and more ‘sustainable’ products produced by increasingly efficient production processes, and yet for the absolute scale of resource consumption – and the associated environmental impacts – to continue to grow... Simplistic appeals to reduce material consumption while maintaining economic growth risk charges of naivety or even disingenuousness.”<sup>43</sup> Indeed, this perspective is supported by studies on the energy-intensity of economic growth. For example, the Royal Commission on Environmental Pollution writes:

“There will continue to be very large gains in energy efficiency and resource efficiency but on current trends we find no reason to believe that these improvements can counteract the tendency for energy consumption to grow.”<sup>44</sup>

If, as some theories of consumerism contend, the psychological basis for our urge to consume is inseparable from an urge to continually increase our levels of material consumption, then strategies that attempt to encourage us to simply change the types of things that we consume may fall far short of creating the changes needed. This problem wouldn’t arise if the consumption demands of a growing global population could be met equitably and sustainably through the provision of ever more,

36 Lane (2001), cited in: Shah (2005)

37 McCracken (2006)

38 McCracken (2006)

39 Campbell (2006: 284), emphasis in original.

40 McCracken (2006: 274). McCracken (1988) also develops another theory as to why our demand for consumer goods may be insatiable, which he calls the ‘Diderot effect’. The French philosopher Denis Diderot was given a new dressing gown. The replacement of his old dressing gown with a new one leaves him dissatisfied with his other possessions, such that he gradually replaces each of them in order to try to maintain a “consistency in his complement” of consumer goods; his desk looks tatty alongside his new dressing gown, and he replaces it. Then he replaces his wall-hanging, which now seems threadbare, and so on. McCracken suggests that we ensure each of these purchases meets a slightly higher standard than the previous one, “drawing the complements ever higher”, and ensuring that we continue to consume.

41 DTI (2007)

42 Defra (2007)

43 Jackson (2006: 5)

44 Royal Commission on Environmental Pollution (2000), cited in: Herring and Roy (2007)

more sustainable, goods and services. If, in perpetuity, the reduction in our ecological footprint (attributable to the provision of more sustainable goods and services) more than compensated for the increase in ecological footprint (attributable to both an increasing number of consumers, and the increasing per capita demand for goods and services) then we could perhaps afford to be complacent about the problem of consumerism.

Any behavioural change strategy that is premised on providing incentives for the consumption of more (albeit more sustainable) goods and services, must grapple with these issues.

The de-industrialisation of developed economies, and a shift to a services-based economy are often cited as mechanisms by which these changes can be effected. A shift to a more services-orientated economy will reduce the greenhouse gas intensity per unit GDP, but it is far from clear that this will lead to a reduction in greenhouse gas emissions in absolute terms. For example, in recent decades the share of manufactured goods as a component in US GDP has been exceeded by the share of service-orientated industries. In absolute terms, however, the production of manufactured goods has continued to increase.<sup>45</sup>

In the UK, CO2 emissions fell in the 1970s and 1980s, partly as a result of a contraction of manufacturing output. But the economy continued to grow, and with it, the import of manufactured goods from elsewhere. The production of these goods, for

consumption in the UK, entails production of CO2 in their country of manufacture. A study led by the economist Dieter Helm, a member of the UK government's Advisory Panel on Energy and Climate Security, finds that UK "de-industrialisation may not have delivered a real saving at the global level, instead displacing those emissions abroad". Indeed, the study finds that "[b]y 2006, the trade deficit in greenhouse gases was... around 50% of domestic UK greenhouse gas emissions", and that the UK has "an increasing propensity to import from more greenhouse gas-intensive economies... The overall position is that the greenhouse gas trade deficit has increased six-fold [between 1990 and 2006]."<sup>46</sup>

This report does not examine these issues further, other than to note the huge dimensions of the task in hand if we are to reduce natural resource use, on the scale and in the time-frame that is needed, under the imposed constraint of continued economic growth. That the 'decoupling' argument is so deeply embedded in establishment responses to the environmental crisis makes it difficult to critically assess. Yet the credibility of this response to the environmental challenges we face demands closer scrutiny.

## 2.5 Marketing less: sharing and treasuring

All too often, contributions by marketing experts to the sustainable consumption debate stop short of grappling with the problems of motivating reduced consumption (as opposed simply to the consumption of more 'green' goods). One recent and more thoughtful contribution to this debate is John Grant's *The Green Marketing Manifesto*. Grant is unequivocal about the scale of

the challenge we face: he writes that "our lifestyles need to change beyond recognition".<sup>47</sup> Because he is clear about the scale of the changes that are needed, he foresees radical changes to our consumption patterns – including the need to consume less. Challenging consumption, he suggests, can be approached in two ways: through sharing, and through treasuring.

Sharing offers an alternative to ownership. For example, Grant recognises that selling more hybrid cars is not enough. Rather, he suggests, we need to move to a situation where we rent, lend, share or co-own our car with others.

Treasuring offers another route to challenging consumption. For example, Grant suggests that we should learn to treasure – and upgrade – our existing computers rather than regularly replacing them, treasure a personalised mobile phone rather than giving it up for a newer model, or invest in a pair of expensive and personalised trainers that are made to last, and which we will want to keep for a long time.

Unfortunately, without systemic engagement with the motivations that underlie these behaviours, both these strategies are likely to fall far short of what is needed. Although Grant doesn't make this distinction, his proposals are of two types: one strategy is premised on soaking up as much of a person's wealth as possible by encouraging them to spend it on as little stuff as possible; the other is on the direct environmental benefits of consuming less.

## 2.5.1 Strategies for buying less

### 2.5.1.1 Spending more

One approach that Grant outlines is to encourage a consumer to spend more – either on higher priced alternatives to things they already consume, or as a result of acquiring new appetites for environmentally benign goods and services.

"If our money was tied up in a few big budget items, we would buy classics that don't go out of style, we would treasure them and take great care of them and we would derive status from their ownership."<sup>48</sup>

For example, Grant highlights Nike iD trainers which the consumer designs from a palette of soles. Alternatively, individuals could be encouraged to spend money on things with minimal environmental impact (Grant gives the example of the collector of broken laser-pointers, which would otherwise end up in landfill!). Either approach leaves the consumer with less money to spend on other goods and services, and may therefore lead to a reduction in ecological footprint.

One problem with this approach is that consumers will be reluctant to pay a premium for a good in direct proportion to an increase in its life-expectancy. For example, few consumers would pay twice as much for a pair of running shoes built to last twice as long. Having bought the more durable shoes they may either: (i) use them until they wear out, reducing their overall consumption of running shoes, but leaving them with more money to spend on other things that they couldn't

45 Suh (2004)

46 Helm (2007)

47 Grant (2007); emphasis in original

48 Grant (2007: 262-263)

otherwise have bought, or, (ii) bore of them as quickly as they would a cheaper pair, and buy a new pair anyway.

The second of these possibilities will require them to spend more, overall, on running shoes. This may mean that they spend less on other goods (with good or bad environmental impact, depending upon where these savings are made). Or it may drive them to work harder, or borrow more, to finance the increased costs of their more expensive consumption patterns – with negative personal, social and environmental consequences (see Section 3.4 for discussion about the problems of materialism, and the inherent link between materialism and resistance to pro-environmental behavioural change).

Either way, the problem with this approach is that it needn't necessarily do anything to encourage people to embrace less materialistic sources of meaning. Until the problem of over-consumption is addressed at this more fundamental psychological level, the approaches that Grant suggests will be akin to squeezing a balloon; reducing consumption in one area, whilst it burgeons elsewhere.

### 2.5.1.2 Spending less

Other approaches to promoting sustainable consumption through sharing and treasuring lead a consumer to spend less. This might be by selling one's car and joining a car share scheme, or by borrowing power-tools from a tool library (rather than acquiring them oneself). Such approaches are often promoted on the grounds that they help an individual save money.

However, if this is in turn to lead an individual to consume less overall, account must be taken of the rebound effect (see Section 2.9.1). If I save money by joining a car share, or upgrading rather than replacing my computer, it is important that I don't simply spend this on some other environmentally damaging good or service.

The inherent difficulty of addressing the environmental problems arising from private car use, without first confronting the underlying psychological needs that drive our appetite for consumption, is perfectly illustrated by the problems arising from 'fractional living'. Fractional living works because it presents a highly efficient mechanism to pursue these psychological needs. Unfortunately, the environmental impacts may be negative.

Proponents of 'fractional living' urge consumers to transcend an insistence that they own the goods they use. Rather, they highlight the attractiveness of rental or co-ownership. But this is not about frugality. In the words of one prominent advocate of fractional living, it's a "more efficient means of ownership that allows you to get more of the things you really want"<sup>49</sup>. The Fractional Life website, for example, highlights the possibilities:

"Using Fractional Life, you can decide, for instance, to cost-effectively own a quarter share in an exotic holiday home abroad, have access to your favourite yacht eight weeks a year, spend a selection of days behind the wheel of some of the most desirable cars in the world, have the latest handbag on your shoulder and even own a part-share in a nightclub!"<sup>50</sup>

Unless these individuals sell their vehicles because they are motivated to reduce their material consumption, it seems unlikely that this will lead to an overall reduction in environmental impact.

### 2.5.2 The need for a new myth

The ideas that Grant outlines in his book are important; they go far beyond an orthodox 'green marketing' approach. Moreover, 'sharing' and 'treasuring' will surely be things that people will naturally come to do far more of in a future, more sustainable, economy. But it seems clear that approaches to addressing the problems of consumption must first engage the underlying motives that drive consumerism.

Indeed, Grant recognises that "[w]e need quite powerful counter-myths to help sharing schemes to become normal and intuitive."<sup>51</sup> Much the same will be true of attempts to encourage the consumption of "a few good things" rather than a "superfluity of crap commodities"<sup>52</sup>. If such counter-myths are to be promulgated, the motivations to which marketers appeal will be critically important.

As will be discussed elsewhere (see Section 2.9), there is evidence that the reasons people adopt more sustainable consumption patterns (or adopt pro-environmental behavioural changes generally) are important. It seems that these reasons have a bearing on the extent to which more sustainable behaviours spill over into other lifestyle choices, and they are likely to influence the energy and persistence with which these changes are adopted.

It is at this level – in terms of the values that motivate our behavioural choices –

that work on sustainable consumption must come to focus. What is not yet clear, however, is whether there is any role that marketing can usefully play in the emergence of these counter-myths. WWF-UK is currently hosting a series of forums, drawing together marketers and psychologists, to ask what these counter-myths might look like, and whether, in the course of their promulgation, there is any role for the sophisticated influencing techniques that marketers use.

## 2.6 Market segmentation

The use of marketing techniques to create pro-environmental behavioural change extends far beyond marketing green goods and services. Even where no goods or services are involved, behavioural change is seen as something that must be 'sold' to the target audience: "[W]e have to approach positive climate behaviours in the same way as marketeers approach acts of buying and consuming... It amounts to treating climate-friendly everyday activity as a brand that can be sold. This is not necessarily a familiar or comfortable proposition for those engaged in campaigning or public sector work, but it is, we believe, the route to mass behaviour change."<sup>53</sup>

In line with commercial marketing techniques, the 'marketing approach' outlined at the start of Section 2 therefore pursues behavioural change through a process of targeting specific audience segments. For example, in advising the UK government on ways in which climate change mitigation might be linked to 'a positive desire', the communications consultancy FUTERRA writes: "Traditional marketing theory emphasises the need to make the product

<sup>49</sup> Dan Nissanoff, the author of FutureShop, in an interview on the BBC Radio 4 programme You and Yours, broadcast on 24.12.07

<sup>50</sup> www.fractionallife.com

<sup>51</sup> Grant (2007: 247)

<sup>52</sup> Grant (2007: 262)

<sup>53</sup> Eraut and Segnit (2006); emphasis in original

or service one is trying to 'sell' relevant to the target audience, and capable of meeting a very specific need.<sup>54</sup> Similarly, a joint publication by Demos and Green Alliance makes this point, suggesting that one of the steps that should be followed in any public influencing campaign is to start with a specific demographic: "Commercial marketing campaigns always start out with a very specific demographic in mind. They understand that different sorts of people will respond to different messages, and target their campaigns accordingly."<sup>55</sup>

Audience segmentation is increasingly being based on a set of psychological rather than socio-economic criteria (although some agencies – and the UK government itself – are proving slow to catch up with this trend).<sup>56</sup> Thus researchers from IPPR write: "The history of commercial marketing points to another important pre-condition [for effective behavioural change] – the imperative to know and segment one's audience, not only along socio-economic lines, but also by psychological motivations."<sup>57</sup> Finally, a review of change strategies suggests: "Campaigns to encourage and persuade the public to adopt green behaviours must be framed in terms that make sense to them, according to their own values and motivations."<sup>58</sup>

One such approach to mapping the values that underlie behaviour is known as 'values-modes analysis' and has been referred to as a 'focus group of the entire country'.<sup>59</sup> This is a sophisticated technique for audience segmentation, that has been developed particularly for use in an environmental context, and that has undoubted value in generating specific behavioural changes. In essence, the approach defines three main segments of the public, corresponding to three values-modes. These three modes – each of which is further subdivided – are defined as: Settlers (predominantly security driven), Prospectors (outer-directed or esteem-driven individuals) and Pioneers (who are inner directed).<sup>60</sup>

Proponents of values-modes analysis advocate an appeal to the specific psychological needs of the target audience: "[T]he task is not, as is often assumed, to 'make people care about climate change' but to provide them with actions which mitigate climate change by meeting their psychological needs – in the Prospectors' case, the need to acquire and display symbols of success."<sup>61</sup> These psychological needs vary between groups, such that different groups "may elect to do the same thing but for very different 'reasons' because they are meeting different needs."<sup>62</sup> Consequently:

"An appeal for living to stay within global limits for instance, has natural resonance with pioneers but is an invitation to 'think globally' and is thus an anathema to settlers. Prospectors may dismiss this as 'do gooding': an invitation to lose time which is in pursuit of success, by wasting it on benefiting others. Unless there's something significant in it for them, they're probably not going to join a campaign or act."<sup>63</sup>

This approach may work well in a piecemeal fashion. Where Prospectors are motivated by conspicuous consumption, it may help to sell more solar panels or hybrid cars. But it seems less clear that this approach will engender public appetite for radical changes in how we live – and a commensurate popular acceptance of, or demand for, far-reaching policy change.

The values-modes approach places particular emphasis on engaging Prospectors (outer-directed or esteem-driven individuals). This group is resistant to the traditional exhortations for behavioural change based upon environmental concern and moral imperative – approaches that may work better for Pioneers. Moreover, it is this group that includes some of the most voracious consumers; these are people who "often love shopping – not just to get things but the whole process of being there and being seen to shop"<sup>64</sup>. This group is further segmented. For example, among the Prospectors, the 'Now People' "need instant choices, and bounded uncomplicated offers which bring immediate rewards of recognition that reflect their own straightforward and success oriented world view. They seek the esteem of others and are systematic about it."<sup>65</sup>

But don't expect the Now People to consume less: They "are a significant part of the motor of our economy... This does not mean they are 'anti-environmental' but they are most definitely anti-abstinence, anti-giving stuff up"<sup>66</sup>. Prospectors often come to adopt the behaviour of Pioneers, if this becomes fashionable (this effect helped to boost sales of the Prius, for example). But if they are "to make that jump, the behaviour often needs to be commodified" (see Section 2.8 below).

Some of the implications, and probable limitations, of this approach to motivating pro-environmental behavioural change are discussed in the next three sections.

## 2.7 Self-interest

One theme to emerge from a consideration of the values that underlie pro-environmental behavioural choices is the importance of self-interest. Thus, it is asserted that the most effective approaches to generating pro-environmental behavioural change will be based on appeals to self-interest. For example, one set of principles for environmental organisations suggests that:

"An accurate basic assumption might be that most people are essentially selfish, which is a natural human reaction and indeed a natural evolutionary process for any animal. Quality of life for oneself and one's dependants is always a key driving force for anyone. Any benefits from environmental behaviour, and there should be benefits from every environmental behaviour, must be tangible, immediate and specific to the person carrying out the behaviour. Benefits at the society level are unlikely to be

54 FUTERRA (2005: 26)

55 Collins et al (2003: 47)

56 See also the introductory paragraphs in Section 2.

57 Retallack et al (2007: 15)

58 Hounsham (2006: 136)

59 Rose and Dade (2007). Rose (2004) writes of values-mode mapping: "As this system segments people according not to their lifestyle or shopping behaviour, class or wealth, but by psychological needs, it is directly relevant to campaigns, which stand or fall on motivation... [I]t can be used at any level from the individual, to the entire population, and is in effect a regularly updated focus group of the entire country."

60 Values-modes mapping segments in a way that is broadly consistent with Maslow's 'hierarchy of needs'. In line with this, Rose and Dade (2007) write that "Settlers are: socially conservative, concerned with the local, known, identity, belonging, and prefer trusted channels and known behaviours. They are wary of change and espouse discipline, are acquiescent, keeping to the rules and wanting a lead from authority. Prospectors want to acquire and display the symbols of success in everything they do. They want to make their lives better and be seen to succeed. They are a higher energy more fun seeking group. They are early adopters but not innovators, which involves social risk that they avoid. Pioneers are society's scouts, testing and innovating, and always questioning. They are attracted not so much to signs of success but what is 'interesting' including 'issues'. Some of them are strongly ethical believing that to make the world a better place they must be better people. Others are more relaxed and holistic and some are into 'doing their own thing'. They are most at ease with change and most global in outlook of all the groups."

61 Cultural Dynamics Strategy and Marketing Ltd and Campaign Strategy Ltd (2005)

62 Rose et al (2005)

63 Rose et al (2005)

64 Rose et al (2007). Elsewhere, Rose writes: "Because they are politically, commercially and socially important, and because they are rarely engaged by either public sector communications efforts or NGO campaigns, there is wide interest in communicating with 'Prospectors', the esteem-driven slice of the population (40% in the UK, more in the USA)." (Rose, 2007)

65 Rose et al (2007)

66 Rose et al (2007); emphasis added



a significant driver of change; benefits should be as localised as possible.<sup>67</sup>

This theme – of immediate personal self-interest – pervades many current pro-environment behaviour change strategies, but there is a systemic problem with this approach. An individual's contribution to exacerbating the environmental challenges that we face may have no discernible impact on the scale of that problem. The more globalised the problems we face, the more this is true.<sup>68</sup>

In addressing localised environmental problems, the self-interest to which a campaigner might appeal could be the quality of an individual's immediate environment. The motivation for behavioural change (the aesthetic appeal of a local area) then coincides with the call to action (for example, 'Don't drop litter!'). But in the case of a disparate challenge like climate change, the quality of an individual's own environment is not perceptibly improved as a result of action they may take to reduce greenhouse gas emissions arising from their own activities. (I may be acutely concerned about the impact of climate change on my local environment, but I also know that even radical changes in my own lifestyle will have no discernible affect in ameliorating these impacts.) In relying on self-interest as a motivation for personal action to help tackle a problem such as climate change, this self-interest must therefore be seen to arise from some other 'spin-off' benefit arising from the

different behaviour. (For example, this might be financial savings as a result of reduced energy consumption, or the social status that accrues from driving a hybrid car).

The problem is that, as will be discussed in Section 2.9.2, such 'spin-off' benefits may not help to consolidate an individual's self-concept as being 'someone who tries to reduce my environmental impact'. Indeed, it may reinforce self-concepts that are inimical to environmental action in other ways (e.g. 'I like to save money where I can' may be environmentally beneficial in terms of domestic energy use, but could work in the opposite direction when it comes to paying more to travel by train than by aircraft).

## 2.8 Commodifying behaviour changes

As mentioned in Section 2.6, approaches to motivating pro-environmental behavioural change that are based on green consumption are sometimes extended beyond the marketing of particular products and services, to seek the 'commodification' of a particular behavioural change. For example:

"Pioneers may have thought about climate change and decided to take their own action on it for example by going around the house turning appliances off standby, reducing flying or switching to green electricity, or joining (quite likely starting) a campaign. The Wattson [an attractively designed electricity meter that shows current energy usage and an annu-

alised cost] takes that behaviour and turns it into a product."<sup>69</sup>

Pioneers may buy Wattsons because they are motivated to reduce their energy use, and believe that this would be a useful tool to help them achieve this. Prospectors, on the other hand, buy a Wattson because it has become a desirable product, and they want to be seen with one in the hallway. Will Prospectors, in buying a Wattson because they want to be seen to have one, rather than because they want to reduce their power use, become motivated to switch off more appliances? (Certainly, while the device itself might be something that they would like their house-guests to see, it is difficult to envision this desire alone leading to reduced energy use.)

But even if these individuals were led to reduce their energy consumption, there is a more fundamental problem here, relating to the issue of why they are motivated to do so. The marketing approach to behavioural change is built around appeals to the values that the target audience currently expresses, as revealed by market research. Proponents of this approach must therefore remain indifferent about the reasons that lead individuals to change behaviour.

## 2.9 Do the reasons for behaviour change matter?

Advocates of the marketing approach argue that undue emphasis is placed on getting people to change their behaviour for the 'right' reasons. Better that we get on with exploiting whatever motivations that we find actually work to generate behaviour change. The proponents of this approach assert that "People don't actually have to

do the right thing for the right reasons"<sup>70</sup>, or suggest that appeals for behaviour change should "use non-environmental motivations"<sup>71</sup>. Similarly, advocates of the values-modes approach highlight the dangers of some Prospectors being put off an action because it is advocated by 'Concerned Ethicals', a subset of Pioneers. "This is a particular risk," they write, "because Concerned Ethicals espouse the idea that to make the world a better place, one needs to become a better person. Consequently it seems important to them that 'people do this for the right reason', a recipe for interrogating others about their motives."<sup>72</sup>

In practice, the motives that lead individuals to change their behaviour are important. As soon as it is conceded that the reasons matter, the strength of the marketing approach as a mechanism for helping to create systemic change begins to unravel. The best way of persuading an outer-directed person to buy a clothes line may be to highlight the social status that a new Brabantia model will confer. But this is unlikely to lead this individual to choose to spend money on socially inconspicuous measures like loft insulation. Where 'beautiful coincidences' between (for example) social status and environmental benefit emerge, the marketing approach may work, in piecemeal fashion – but in many cases social status (or another motivation) and environmental benefit will diverge.

There are several reasons why the motivations for behavioural change are crucially important. Three are considered here:

- The rebound effect
- The foot-in-the-door procedure (revisited)
- Self-determination theory

67 Hounsham (2006: 139)

68 This set of beliefs has been called 'global helplessness beliefs'. Pelletier et al (1999) "propose that individuals have global helplessness beliefs when they are daunted by the enormity and the severity of the environmental situation... People who are in this state are unable to see how their contribution could bring about favourable outcomes on a large scale, and they eschew involvement in environmentally conscious actions."

69 Rose et al (2007)

70 Hounsham (2006)

71 Defra (2008: 23)

72 Rose and Dade (2007)

## 2.9.1 The rebound effect

It has been accepted in this report that the 'marketing approach' to behavioural change may well provide a highly effective way of encouraging individuals to adopt a specific behaviour, particularly where this entails minimal inconvenience. But it is not good enough that people should change their incandescent light bulbs for energy-efficient alternatives if they put the money that they save on their electricity bill towards buying more electrical appliances (so-called 'direct rebound'), or, for that matter, towards a weekend flight to Madrid (so-called 'in-direct rebound'). Calculating the scale of direct and indirect rebound is both critically important and notoriously difficult.

The literature on the rebound effect and its potential scale is not reviewed here – other than to note in passing that it presents an important challenge for the politically expedient emphasis on 'decoupling' economic growth from environment impacts, as a strategy for meeting the sustainability challenges we face. As one recent study has noted:

"Rebound effects tend to be almost universally ignored in official analyses of the potential energy savings from energy efficiency improvements... For example, the Stern Review of the economics of climate change overlooks rebound effects altogether..., while the Fourth Assessment Report from the Intergovernmental Panel on Climate Change simply notes that the literature is divided on the magnitude of this effect."<sup>73</sup>

The critical question in the current context is whether the motivations of an individual to adopt efficiency measures have an impact on the size of the rebound effect.

Returning to the example of compact fluorescent light bulbs, the direct rebound effect has been put in these terms:

"For instance when we replace a 75W incandescent bulb with an 18W compact fluorescent bulb... we would expect over time a 75% energy saving. However, this seldom happens. Many consumers, realising that the light now costs less to run, are less concerned about switching it off, indeed they may leave it on all night, for example for increased safety or security."<sup>74</sup>

If an individual is encouraged to switch to compact fluorescent bulbs in pursuit of environmental responsibility (rather than cost savings, for example), will this have an effect on their motivation to ensure that they do not, through other behavioural choices, erode the environmental dividend that they have achieved?

## 2.9.2 Foot-in-the-door

The basis for assuming that, by encouraging individuals to make small changes to the way they live, this is likely to lead to the adoption of more radical changes was examined in Section 2.1 above. Here, it was argued that there is little empirical evidence to justify premising strategies for generating big behavioural changes on this assumption.

This section turns to ask whether, to the extent that the 'foot-in-the-door' strategy

may work, particularly for small behavioural changes, the motivations for behavioural change are important.

In the foot-in-the-door literature, which does not focus on pro-environmental behaviour, there is some evidence that the motivations to which campaigners appeal in the course of the first 'request' may have some bearing on the likelihood of a 'spill-over effect' being achieved. Extending this result to an environmental case, the reasons why, for example, someone buys organic food may have important implications for whether or not this will subsequently increase their motivation to recycle.

If, for example, this first request is premised upon the financial savings that might be made, or the social status associated with the acquisition of a 'fashionable' product, then this may reduce the probability of compliance with a subsequent request, now made on more explicit environmental grounds.

That this may be the case has been explained in terms of 'self-perception theory'. Accordingly, it is suggested that the subjects of foot-in-the-door experiments infer their attitudes from their behaviours. Thus observing that they engage in one set of behaviour (the initial, smaller request), they are more likely to infer that they are positively predisposed to a set of attitudes that leave them more likely to engage in the larger and subsequent request. As a result of complying with the initial request, when

confronted with the second request "[p]articipants say to themselves something like, 'I believe I am the kind of person who supports these kinds of causes, because I did so the other day.'<sup>75</sup> It is not clear how specific, or general, this change in attitude might be, but the foot-in-the-door effect has been found to be stronger when the initial and subsequent requests are of a similar nature.<sup>76</sup>

In applying this theory to pro-environmental behavioural change, it can be speculated that if the initial request (e.g. to install energy-efficient light-bulbs) is framed in a way that does not draw attention to its environmental benefit, then this will do little to contribute to an individual's sense that they are 'the type of person who cares for the environment'. They may therefore be less likely to respond positively to a subsequent request to adopt another pro-environmental behaviour for environmental reasons.

Finally, one study has examined whether there is a correlation between the general values or ethical norms that an individual possesses and the likelihood that 'spill-over' between pro-environmental behaviours will take place. Such a correlation was indeed found, with higher incidences of 'spill-over' of pro-environmental behaviours amongst those individuals who record higher levels of self-transcendence, or who hold strong personal norms about environment-friendly behaviour.<sup>77</sup> This study suggests that, to the extent that the 'spill-over' effect is of any significance, the values that motivate individuals to engage in pro-environmental behavioural change are of importance.

<sup>73</sup> Sorrell (2007)

<sup>74</sup> Herring and Roy (2007)

<sup>75</sup> There is debate about the importance of the self-perception theory explanation for foot-in-the-door effects.

For discussion, see Berger (1999), Cialdini and Goldstein (2004), and Guadagno et al (2001)

<sup>76</sup> Note, though, that there is evidence some individuals tend to exhibit a lower than normal 'preference for consistency'. It has been shown that a shift in self-image among such individuals, resulting from compliance with the initial request, actually lowered the likelihood of their compliance with the subsequent request. In one study, a third of participants exhibited low levels of 'preference for consistency', leading to this reversal of the foot-in-the-door effect (see Guadagno et al, 2001)

<sup>77</sup> Thøgersen and Ölander (2003)

### 2.9.3 The type of goals that motivate us

There is evidence from research in self-determination theory that when an activity is pursued to uphold a set of 'intrinsic' values (for example, personal growth, emotional intimacy, or community involvement), this leads to more energetic and persistent engagement than when the activity is pursued to uphold a set of 'extrinsic' values (for example, acquisition of material goods, financial success, physical attractiveness, image and social recognition). This may be an important result for pro-environmental behavioural change strategies – possibly pointing to the importance of the values underlying a behavioural change in determining how energetic and persistent an individual is in engaging in this new behaviour. This research, which draws on self-determination theory, is explored further in Section 3.5 below.

### 2.10 Lessons from marketing approaches

Notwithstanding the foregoing critique of pro-environmental behavioural change strategies based on marketing techniques, these approaches do convey some crucial lessons. Four are discussed here: the recognition of the importance of values in driving behavioural change, the need to tailor messages to particular audiences, the importance of social context, and the importance of making change easy wherever possible.

Work on values-modes reminds us that values drive behaviour, which drives opinion. "Behaviour is generally a strong determinant of opinion... This is why one cannot

drive behaviour with information based on opinion", and "...[W]e adopt 'views' which explain or are consonant with our behaviours, even if the topic appears to be one of 'simple fact'. The reasons we do this... all boil down to being driven by values."<sup>78</sup> This leads to the recognition that "we need to start with people, and the motivations that drive behaviours"<sup>79</sup>. We should not start with "the issues knowledge which may have informed our need to reach these people – an error which dogs much 'behavioural change' work".<sup>80</sup>

This is a crucial point – not just because of the insistence that we should not expect information campaigns to drive behavioural change, but also because there is a perception that the attitude-behaviour gap renders consideration of the values underlying behavioural choices unimportant. The problem of the attitude-behaviour gap is returned to below (see Section 3.2).

### 2.10.2 Tailoring messages to specific audiences

Second, work on marketing approaches to motivating pro-environmental behavioural change highlights the need to communicate with different people in different ways. "Many campaigns fail because they present a proposition in terms that 'work' for one part of the population but not others."<sup>81</sup> We should recognise the "futility of treating 'the public' as a group or thinking that any one tactic applies to 'people'".<sup>82</sup>

This is important, but it says nothing about the effects that a communicator may be seeking to achieve with such communication. It need not imply that communications should be constrained to work with indi-

viduals' motivations as revealed by market research – it may be necessary to work to bring other, latent, motivations to the fore, while working to do so by communicating with different people in different ways.

### 2.10.3 The importance of social context

The foregoing critique of marketing approaches to creating pro-environmental behavioural change is not intended to deflect attention from the importance of social context in adopting and persevering with different behaviours. Whether motivating people to buy a smart electricity meter, or to join a local carbon rationing action group (CRAG) social norms and status will be critically important. But clearly, this need say nothing about the values upon which those norms are based.

### 2.10.4 The importance of making it easy: Contextual factors

It is also crucially important to make pro-environmental behaviour as easy as possible – to improve the opportunity and remove the barriers to behavioural change. Clearly, the development of an efficient and affordable rail service will have far greater impact in encouraging travel by rail than any marketing exercise – irrespective of the incentives upon which this might focus.

"...far from being able to exercise free choice about what to consume and what not to consume, people often find themselves 'locked in' to consumption patterns that are unsustainable... 'Lock in' occurs in part through perverse incentive structures

– economic constraints, institutional barriers, or inequalities in access that actively encourage unsustainable behaviours."<sup>83</sup>

Situational constraints and contextual factors are of critical significance in driving pro-environmental behavioural change. Nevertheless, personal motivations are important. First, when contextual factors are weak, motivational factors are likely to be the strongest influence on behaviour.<sup>84</sup> But more importantly, government incentives or legislation to drive such change are made more likely by public acceptance of, or even demand for, these measures. Focus on 'simple steps' does not seem likely to lead to the more systemic shift in public acceptance, and indeed activism, that will be needed to create the irresistible demand and political space for radical regulatory change.

## 3. Towards an alternative approach

### 3.1 From marketing strategies to political strategies, and from weathercocks to signposts

The promotion of political programmes offers an alternative set of analogies for the environmental movement, which point in a very different direction to that taken by marketing approaches to creating behavioural change. Most important, they depart from the perspective that strategists must reframe their messages to fit with the values frameworks of the individuals with whom they are communicating.

78 Rose and Dade (2007)

79 Rose et al (2007)

80 Rose and Dade (2007)

81 Rose et al (2005)

82 Rose et al (2005)

83 SDC (2006: 6)

84 Stern (2005)

Successful political movements recognise the dangers of tailoring political messages to appeal to the values of specific audiences. They recognise this because they are not simply concerned to 'sell a product'; they are concerned to establish and foster loyalty to a political programme. This section focuses on the recent work of two American academics who have built powerful cases for political parties to build their campaigns on an unequivocal statement of underlying values.

Here is what George Lakoff, a cognitive scientist, has to say about the Democrats' short-sighted reliance on the 'marketing metaphor' in the context of their political campaigning in the run-up to the 2004 US Presidential election:

"There is a metaphor that political campaigns are marketing campaigns where the candidate is the product and the candidate's positions on issues are the features and qualities of the product. This leads to the conclusion that polling should determine which issues a candidate should run on... You make a list of the top issues, and those are the issues you run on. You also do market segmentation... It does not work. Sometimes it can be useful, and in fact, the Republicans use it in addition to their real practice. But their real practice is this: they say what they idealistically believe."<sup>85</sup>

Lakoff and others are unequivocal on this: "... the real reason for their [Republican] success, is this: they say what they ide-

alistically believe. They say it; they talk to their base using the frames of their base."<sup>86</sup> Thus, a successful movement must "have a clearly articulated moral vision, with values rather than mere interests determining its political direction."<sup>87</sup> The psychologist and political advisor, Drew Westen, writes: "[A]s soon as voters perceive you as turning to opinion polls instead of your internal polls – your emotions, and particularly your moral emotions – they will see you as weak, waffling, pandering, and unprincipled. And they will be right."<sup>88</sup>

There is more that recent political science can teach the environmental movement. Whereas 'post-environmentalists' are increasingly appealing to self-interest as the value most likely to motivate pro-environmental behavioural choice, political scientists recognise the limitations of this. Lakoff reflects on the failure of repeated and – in his view – misguided Democrat attempts to appeal to voters' self-interest in the run-up to the 2004 US Presidential election:

"People do not necessarily vote in their self-interest. They vote their identity. They vote their values. They vote for who they identify with... It is important to understand this point. It is a serious mistake to assume that people are simply always voting in their self-interest."<sup>89</sup>

Again, this is a perspective echoed by Drew Westen:

"[P]eople's material self-interests often show surprisingly little con-

nection to their voting patterns. When people's material interests do affect their attitudes towards specific policies, it is usually when their interests coincide with their broader values or social attitudes."<sup>90</sup>

Westen argues that "the first question a candidate should ask on any issue should always be, 'In light of my values and the best available evidence, what do I believe is right?'"<sup>91</sup> The monopoly that the US political right currently enjoys on issues of value, he suggests, must be challenged. Indeed, he highlights polling evidence that if, during the 2004 Presidential election, "the Democrats had made poverty a moral issue, they might well have gained considerable ground with the American public. It wouldn't be difficult to preach a message about poverty to Americans, including those who tilt rightward..."<sup>92</sup>

Perhaps, in considering the problem of 'lack of agency' arising in the case of campaigns to encourage personal action on global environmental problems such as climate change, the analogy with voting behaviour may be more appropriate than the analogy with consumer choice. Certainly, of the 126 million people who went to the trouble of voting in the 2004 US Presidential election (64% of those eligible)<sup>93</sup>, few could have done so expecting that their vote would be critical in shaping an electoral outcome.

It is ironic that while many environmentalists are jumping on the 'marketing bandwagon', many brand managers in the private sector are jumping off – because they, like successful politicians, recognise that the reasons con-

sumers buy a particular brand are very important if they are to build lasting loyalty to their products. As one branding expert writes: "The humanity has been driven out of most branding programmes, replaced by an ever-growing list of clever-sounding jargon and 'tools' designed to manipulate rather than engage with consumers. It seems to me that the cleverer these tools seem to be, the more trust is compromised and real human value destroyed... Without authentic communication among the human beings inside and around brands, little of worth can be achieved. With authenticity, the unique creative abilities of human beings can be released to create real value."<sup>94</sup> Of course, this raises a potential paradox with which some thinkers within the marketing industry are beginning to wrestle: If advertising is increasingly used to attempt to persuade consumers that a certain product will help them discover the true, authentic person that they really are, then isn't this tantamount to a perversion of the trust that brand managers are seeking?

The remainder of this report focuses on the imperative for environmental organisations to be unequivocal in articulating the values that underpin their work. It also points to a large body of empirical evidence that underscores the importance of engaging at the level of values and self-identity in the course of motivating pro-environmental behavioural change. This evidence is drawn from a number of investigative

85 Lakoff (2004: 20) emphasis added. More recently still, Drew Westen has made a similar point in examining the reasons for the success of the Reagan campaigns in 1980 and 1984. "... people were drawn to Reagan because they identified with him, liked his emphasis on values over policy, trusted him, and found him authentic in his beliefs. It didn't matter that they disagreed with most of his policy positions." (Westen, 2007: 13)

86 Lakoff (2004)

87 Lakoff (2004: 74)

88 Westen (2008: 15)

89 Lakoff (2004: 19)

90 Westen (2007: 120)

91 Westen (2007: 420)

92 Westen (2007: 409)

93 [www.census.gov/Press-Release/www/releases/archives/voting/004986.html](http://www.census.gov/Press-Release/www/releases/archives/voting/004986.html)

94 Moore (2003)

programmes, across both psychology and sociology. Much of this research is recent, and although consistent in pointing to the importance of values and self-identity in motivating pro-environmental behavioural change, there is no unified account of the mechanisms underlying such change. Nor is such an account likely to emerge in the near future; as Tim Jackson writes in reviewing the evidence on behaviour change:

“Human motivations are so multifaceted that about the only thing one can say with absolute certainty is that it is virtually impossible to derive universal causal models with which to construct behaviour change policies in different domains... In this context, a coherent and widely supported conceptual insight can provide as much value as a very limited piece of empirical work involving quantitative evidence of topical behaviours.”<sup>95</sup>

### 3.2 The attitude-behaviour gap

There is an important objection to attempts to motivate pro-environmental behavioural change by engaging individuals at the level of their values. Repeatedly, research has shown that there is no necessary correlation between individuals holding a particular attitude towards a piece of behaviour, and actually engaging in that behaviour. This has been referred to as the ‘attitude-behaviour gap’.

Intuitively, one would expect concern for environmental problems to be a strong

predictor of pro-environmental behaviour. That is, one would expect people who are concerned about environmental problems, or who have a positive attitude toward the natural environment, to be more likely to engage in pro-environmental behaviour. However, the findings from a large body of research have not revealed a straightforward effect. While studies have shown that environmental attitudes tend to be positively correlated with a range of specific behaviours, the relationships are often weak.<sup>96</sup>

The attitude-behaviour gap is frequently deployed as an argument against a focus upon values in the course of motivating behavioural change. But the perspective that the attitude-behaviour gap undermines the case for engaging values in this way may arise from confusion between ‘values’ and ‘attitudes’. Values have been defined as “transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity”<sup>97</sup>. By comparison with attitudes, “values are seen as more central to the self, transcend objects and situations, and determine attitudes and behaviour”<sup>98</sup>.

There is a great deal of experimental evidence that pro-environmental behaviour is related to certain values.<sup>99</sup> There is also evidence that this relationship arises predominantly from values influencing behaviour (rather than vice-versa). But this is not to say that behaviour is easily changed by engaging values, or that past behaviour isn’t of critical importance in determining future behaviour; there is a great deal of ‘behavioural inertia’ created by forces that are independent of (or at least not related in a simple way to) values.<sup>100</sup> The difficulty

of breaking bad habits has received a great deal of attention in this regard, for example.

## 3.3 Self-identity

### 3.3.1 Attitudes, values and identity

Section 3.2 highlighted the attitude-behaviour gap: the weak relationship between pro-environmental attitudes and pro-environmental behaviour. Clearly, human behaviour cannot be understood by examining attitudes alone. Section 3.2 also introduced the idea of values, as distinct from attitudes, and highlighted evidence that these may be important determinants of pro-environmental behaviour.

There is another, related, factor that must be considered in examining the motivations for pro-environmental behaviour: identity. Identity has been defined as “a set of meanings attached to the self that serves as a standard or reference that guides behaviour”<sup>101</sup>. Identity serves as an important motivator for behaviour, because “people act in ways to verify their identity meanings”<sup>102</sup>.

Our values and our sense of identity are related. As one social psychologist writes: “While it may be values that provide standards or goals that serve to guide action, it is the self-concept that contains the values used to compare the desirability of outcomes of our possible courses of action.”<sup>103</sup> This has led to the examination of the extent to which our sense of self incorporates the natural environment.

### 3.3.2 Environmental identity

There is a growing body of evidence that our identities are not formed exclusively through social interaction, but are also shaped by our relationship with the natural world. Thus, “[m]erely by existing as an important symbolic, physical, and political reference point that is encountered in books, stories, public debates, and experiences, the natural environment serves to inform people about who they are.”<sup>104</sup> Environmental identity has been assessed ‘explicitly’ by asking respondents to think about how they view themselves in relationship to the environment – the extent to which an individual includes nature within their concept of who they are. They might be asked, for example, to identify where they would place themselves on a spectrum between seeing themselves as ‘in competition with’ and ‘in cooperation with’ the natural environment.<sup>105</sup> Environmental identity has also been assessed ‘implicitly’ by using reaction times to assess the non-conscious association between self and nature.<sup>106</sup>

The development of aspects of our identity arising from the relationship we have with the natural world is of course bound up in a social context. Thus, “[e]nvironmental identities inevitably contain a social component because they depend on, and ultimately contribute to, social meaning. How we understand ourselves in nature is infused with shared, culturally influenced understandings of what nature is – what is to be revered, reviled, or utilized... In sum, one’s social orientation

<sup>95</sup> Jackson (2004b: 4)

<sup>96</sup> Fransson & Garling (1999); Bamberg (2003); Bamberg & Moser (2007); Oskamp & Schultz (2005); Stets and Biga (2003)

<sup>97</sup> Schwartz (1994)

<sup>98</sup> Stets and Biga (2003)

<sup>99</sup> For example, see Schultz and Zelezny (1999) and Schultz and Zelezny (2003)

<sup>100</sup> Thøgersen et al (2002)

<sup>101</sup> Stets and Biga (2003)

<sup>102</sup> Stets and Biga (2003)

<sup>103</sup> Zavestoski (2001)

<sup>104</sup> Clayton and Opatow (2003: 9)

<sup>105</sup> Stets and Biga (2003)

<sup>106</sup> These approaches to assessing environmental identity are discussed in full in a forthcoming WWF-UK report.

leads to ways to position oneself environmentally, while one's environmental orientation leads to ways to position oneself socially.<sup>107</sup> This is an important understanding for behavioural change strategies because "[i]n trying to understand people's reactions to environmental issues, we need to understand that positions are taken and behaviours engaged in, not just because of an assessment of costs and benefits, but partly because of the associations between these positions and behaviours and group affiliations."<sup>108</sup>

### 3.3.3 Altruism, self-transcendence, and pro-environmental behaviour

As discussed in Sections 3.2 and 3.3.1, there is evidence that values and identity are important in determining behaviour. Research has found that some individuals have a more 'inclusive' sense of self-identity – one that may include closer identity with other people, or with other people and nature. These individuals thus tend to value others more in their behavioural choices; they have a higher level of 'self-transcendence'. Research has repeatedly found that individuals who show higher levels of self-transcendence also tend to care more about environmental problems, favour environmental protection over economic growth, and engage in more pro-environmental behaviour.<sup>109</sup> Although it is difficult to change behaviour once it has become habitual, it has also been found that, in the face of such 'behavioural inertia', a

more 'inclusive' set of value priorities are more strongly associated with increases in pro-environmental behaviour.<sup>110</sup>

The role of environmental identity in pro-environmental behavioural change is the subject of a forthcoming WWF report, as part of WWF-UK's Change Strategies Project. This report will also further explore the relationship between values and identity.

### 3.3.4 Identity and consumerism

The idea that as consumers we come to identify ourselves in important part through the products we buy was introduced in Section 2.3, and is developed further here.

As discussed above, our sense of identity reflects the way we differentiate ourselves from what we are not, in part as a result of a social process: "we form a sense of ourselves based on the information we receive about ourselves from others"<sup>111</sup>. Far from being stable, identity is contingent upon social context, and changes over time.

Our sense of identity has long been manipulated as a mechanism to promote particular behavioural choices. The marketing industry has long recognised the possibilities of exploiting our tendencies to shape our self-identities through what we consume, in order to sell us particular products.<sup>112</sup>

It has been argued that the objects which we love are connected to the self both by

helping to express the self (that is, enabling a person to make their preferences and impulses visible to others), and also by changing the self into a new and more desired form.<sup>113</sup> This has led one researcher to write: "...consumers want to create a unified, coherent... identity but face difficulties owing to their mobility, abundance of lifestyle options, and exposure to a variety of sub-cultures, each with competing norms and symbolic systems."<sup>114</sup>

Thus, "[o]ur fragile sense of self needs support, and this we get by having and possessing things because, to a large degree, we are what we have and possess"<sup>115</sup>. The marketing industry recognises that, by buying things, we can give meaning to our lives, and wrest some sense of identity from this increasingly chaotic social context.

We can morph and adapt this constantly evolving narrative about who we are, precisely because it is composed so importantly of the things we buy and can throw away or replace: "Aggregate identities, loosely arranged of the purchasable, not-too-lasting, easily detachable and utterly replaceable tokens currently available in the shops seem to be exactly what one needs to meet the challenges of contemporary living."<sup>116</sup>

If we accept that no adequate response to the environmental challenges we face can fail to engage current patterns of consumption, then we must consider how best to respond to the control that marketers exert over the significance that we attach to these symbolic resources – the things that we buy. Three possibilities present themselves:

- Play marketers at their own game – using symbolic meanings to encourage us to buy products with lower environmental impact.
- Restrict the freedom that marketers currently enjoy in shaping the symbolic significance that we attach to material possessions.
- Strengthen alternative narratives that are used to develop a sense of identity.

Each possibility is now considered further.

#### 3.3.4.1 Playing marketers at their own game

This response is employed by 'green marketing' strategies. Previous sections of this report have built an argument that, while this approach may work for painless and piecemeal behavioural change, it is unlikely to present an adequate response to the challenges we confront.

#### 3.3.4.2 Restricting the freedom of marketers

Proponents of this response campaign for greater constraints to be imposed on the marketing industry. For example, it has been argued that "[a]symmetries of power and resources in the relationship between advertisers and their target audiences suggest the need for much stronger public control of commercial media."<sup>117</sup> This view has led, for example, to calls for 'health' warnings on advertisements for cars, analogous to those found on advertisements for cigarettes,<sup>118</sup> or restrictions on advertising that targets children.

<sup>107</sup> Clayton and Opatow (2003: 10)

<sup>108</sup> Clayton (2003: 59)

<sup>109</sup> Schultz and Zelezny (1999), Schultz and Zelezny (2003), Schultz et al (2004)

<sup>110</sup> Thøgersen and Ölander (2002)

<sup>111</sup> Clayton and Opatow (2003: 5)

<sup>112</sup> Belk (1988)

<sup>113</sup> Ahuvia (2005: 180)

<sup>114</sup> Ahuvia (2005: 182)

<sup>115</sup> Tuan (1980)

<sup>116</sup> Baumann (1998), cited in: Jackson (2004: 12)

<sup>117</sup> Jackson (2004a)

<sup>118</sup> "SUVs are as dangerous to health as tobacco and should be made to carry similar warnings" (Simms, 2004)

### 3.3.4.3 Strengthening alternative narratives about who we are

The third option stems from the conviction, articulated by Tim Jackson, that “the transition to a sustainable society cannot hope to proceed without the emergence or re-emergence of some kinds of meaning structures that lie outside the consumer realm: ‘communities of meaning’ that can support the kind of essential social, psychological and spiritual functioning that has been handed over almost entirely in modern society to the symbolic role of consumer goods.”<sup>119</sup> Or, as another researcher puts it:

“If much of our behaviour aims at preserving our self-conceptions (such as consuming greater amounts of more and more expensive material goods) and this tends to result in environmentally-detrimental outcomes, then exploring instances in which the self-concept is preserved through alternatives to environmentally detrimental forms of consumption is essential.”<sup>120</sup>

What might these alternative meaning structures be? What is the role of environmental organisations in helping to develop them? These questions are addressed in the sections below.

## 3.4 Beyond materialism

Elsewhere, this report has highlighted the inherent contradictions in attempting to market less consumptive lifestyles using techniques developed for selling products and services. This is not to suggest that less consumptive lifestyles cannot have

mass appeal; simply that this appeal is unlikely to arise from dependence on a set of materialistic values.

Studies have shown that individuals reporting higher subjective well-being (sometimes referred to as ‘happiness’) also exhibit more pro-environmental behaviour, and that this compatibility of subjective well-being and pro-environmental behaviour is mediated by ‘intrinsic’ values (which are oriented towards personal growth, relationships, and community involvement).<sup>121</sup>

Clearly, an understanding that pro-environmental behaviour and well-being may be complementary will not arise from a perspective that promotes the pursuit of happiness through the acquisition of material objects. Simultaneously, however, it is also unlikely to emerge from a perspective that persists in equating pro-environmental behaviour with self-sacrifice.

Pro-environmental behavioural choices are frequently equated with self-sacrifice, construed as forgoing material goods. This has led marketing approaches to motivating pro-environmental change to emphasise the importance of disavowing this link; insisting that environmental care need not imply consuming less, but merely differently. But this approach does nothing to begin to dismantle the more systemic problems arising from the misplaced perception that happiness is best pursued through the acquisition of material objects.

The insight offered by research into materialism is that the internalisation of intrinsic values contributes to greater well-being, while simultaneously reducing

our material consumption. Hence, resistance to extrinsic values (that is, values aligned with acquisition of material goods, financial success, physical attractiveness, image, or social recognition) **need not imply self-sacrifice**.

This further underscores the importance of considering the values underlying a behavioural change. As was discussed in the context of ‘fractional living’, whether or not selling one’s car and joining a car-club leads to environmental benefits will depend on whether there are indirect rebound effects; whether this is done with a view to acquiring new fractional shares in holiday villas or yachts, or whether it is done in an attempt to simplify one’s life.

There is a great deal of evidence that an intrinsic value orientation leads to higher levels of well-being, and that such orientations also lead to greater engagement with pro-environmental behaviour. Some studies have also shown that such a value orientation predicts better ecological stewardship in resource dilemma tasks.<sup>122</sup> In explaining the relationship between intrinsic values and lower ecological footprint, two researchers write:

“Intrinsic values are, by their very nature, not dependent on material goods for their fulfilment; thus, energy invested in intrinsic pursuits may mean less energy devoted to some of the consumption-based activities reflected in the ecological footprint analysis...”

For example, people holding more intrinsic values are unlikely to be very interested in large ‘trophy’ homes or gas-guzzling vehicles that often reflect ostentatious displays of wealth of image enhancement. Further, the focus on community that is a component of an intrinsic value orientation might lead individuals to try to decrease the ecological impacts of their behaviour so as to benefit future human generations as well as other species.<sup>123</sup>

Conversely, more materialistic individuals exhibit lower subjective well-being, are more likely to exhibit a range of psychological ills including depression and narcissism, have higher rates of drug and alcohol abuse, and report more headaches.<sup>124</sup> They care less for other people and are less empathetic and more manipulative, less cooperative and more competitive. It is hardly surprising, therefore, that they also tend to care less about protecting the environment, having a world of beauty, or connecting with nature. They show a lower level of biophilia (love for living things) and have a higher ecological footprint.<sup>125</sup>

One strategy for dealing with the environmental implications of materialism is therefore to work to increase the likelihood of individuals prioritising intrinsic values. Clearly, the marketing industry, which currently often advertises products as proxies for material values, has a critical role to play here (see Section 4.6 below).

<sup>119</sup> Jackson (2004a)

<sup>120</sup> Zavestoski (2001)

<sup>121</sup> Brown and Kasser (2005)

<sup>122</sup> Sheldon and McGregor (2000)

<sup>123</sup> Brown and Kasser (2005)

<sup>124</sup> Kasser and Ryan (1993); Richins and Dawson (1992); Brown and Kasser (2005); Kasser (2006). There is at least one problem with this critique of materialism as a response to high ecological footprint. Research has shown that the pursuit of life-experiences tends to leave people happier than the pursuit of material possessions. It has been suggested that this is because experiences are more open to positive reinterpretation; experiences are less prone to disadvantageous comparisons; and experiences are more likely to foster successful relationships. This leads to the possibility that increasing experiential consumption increases happiness, whereas pursuing materialistic goals does not (Van Boven, 2005). The problem is, of course, that many experiences are associated with a high ecological footprint (a flight to Thailand, for example)

<sup>125</sup> Kasser (2006: 203)

### 3.5 Self-determination theory and pro-environmental behavioural change

Self-determination theory distinguishes between the motives for engaging in a particular behaviour, and the types of goals that an individual pursues through this behaviour.

#### 3.5.1 Motives – the ‘why’ of behaviour

An individual might be motivated to engage in a certain behaviour because they want to – that is, as a result of choice. Alternatively, they may feel that they have to engage in this behaviour, because of some pressure (whether exerted internally or externally – perhaps legal coercion, or guilt, for example). This has been referred to as the ‘why’ of behaviour.

To take the example of educational achievement, researchers have found – as might be expected – that the perceived usefulness of a particular exercise to a student is an important source of academic motivation.<sup>126</sup>

#### 3.5.2 Types of goals – the ‘what’ of behaviour

In addition to the ‘why’ of behaviour, discussed above, self-determination theory also examines the types of goals people pursue through their behaviour. An individual will be more motivated to engage in a learning exercise if he or she believes that this is useful to them. But the type of goal for which the individual believes that it will be useful is also important – for example,

studies show that an individual will engage more persistently in a learning activity if this is believed to lead to an improvement in the world, as opposed to personal financial success.

Self-determination theory distinguishes two types of goal: ‘intrinsic’ and ‘extrinsic’ goals. As discussed in Section 3.4, intrinsic goals include personal growth, emotional intimacy or community involvement – they are goals that are inherently rewarding to pursue. Extrinsic goals include acquisition of material goods, financial success, physical attractiveness, image and social recognition. Unlike the intrinsic goals, their pursuit does not lead directly to the satisfaction of innate psychological needs (such as belonging) – rather, the satisfaction they confer is contingent upon the responses of others.

#### 3.5.3 The effects of promoting some types of goal

Recently, this work has been extended to look at the effects of intrinsic versus extrinsic goal promotion. That is, to examine the effect of the way in which a particular goal is framed socially. So, for example, framing a set of exercise activities in terms of an intrinsic goal (such as focusing on the health benefits) resulted in more persistent engagement in these activities over the long term, as compared to when these activities were framed in terms of an extrinsic goal (for example, drawing attention to the benefits for physical attractiveness).<sup>127</sup> Telling participants in a study that an exercise will help in the pursuit of an extrinsic value is found to undermine their ongoing voluntary persistence at the activity, as compared with when participants are told that the activity serves an intrinsic value:

“[I]ntrinsic goal framing (relative to extrinsic goal framing and no-goal framing) produces deeper engagement in learning activities, better conceptual learning, and higher persistence at learning activities.”<sup>128</sup>

Clearly, if these results are found to hold for engagement with pro-environmental behaviour, they may have profound implications for the way in which environmental campaigns are framed – and would seem to point to the disadvantages of framing such campaigns in terms of extrinsic values such as social status or financial benefit. Better, perhaps, to frame campaigns in terms of intrinsic values – a sense of connectedness with the natural world, or empathy for people in a drought-stricken country or for future generations.

#### 3.5.4 Pro-environmental behaviour and the ‘why’ and ‘what’ of behaviour

Some studies suggest that the ‘why’ of behaviour and the ‘what’ of behaviour are related. Accordingly, motivations for pro-environmental behaviour are viewed as lying on a continuum of ‘self-determination’. Thus intrinsic motivation represents the height of self-determination; followed

by various classes of extrinsic behaviour; followed by amotivation<sup>129</sup>, representing the lowest level of self-determination because it implies the loss of personal control.<sup>130</sup> Studies have shown that the higher the level of self-determination associated with a particular motivation, the more likely it is to be associated with pro-environmental behaviour. Moreover, as the pro-environmental behaviour becomes more difficult, this relationship becomes stronger.<sup>131</sup> In other words, motivations that are intrinsic or which arise from an individual’s sense of self are more likely to lead to pro-environmental behaviour, and this effect is found to be particularly strong for more difficult environmental behaviours. Conversely, motivations that stem from external constraints (e.g. rewards for behaviour) or internalised forms of external constraints (e.g. feelings related to self-esteem) are less likely to lead to pro-environmental behaviour. As one set of authors write:

“Difficult environmental behaviours are less likely to be performed than easy behaviours, regardless of self-determination levels. However, when self-determination is high, the decrease in behaviour occurrence is likely to be of lesser magnitude than when self-determination is low.”<sup>132</sup>

<sup>126</sup> Vansteenkiste et al (2004)

<sup>127</sup> Vansteenkiste et al (2007a)

<sup>128</sup> Vansteenkiste et al (2006). Note, however, that while this was true for ‘conceptual or deep-level’ learning, in the case of rote learning (where participants were only required to superficially process the learning material) the negative impact of extrinsic versus intrinsic goal framing was not observed. This leads these researchers to suggest that, when individuals adopt an extrinsic, as opposed to intrinsic goal, “the activity would be approached in a rather superficial, rigid and narrowly focused way, because doing well on the activity would only be seen as a route to the attainment of intrinsic goals.”(Vansteenkiste et al, 2007a)

<sup>129</sup> Amotivation occurs when individuals are unable to perceive the motives underlying their actions; they may carry out an activity, but their involvement is mechanical.

<sup>130</sup> Green-Demers et al. (1997) categorised four types of extrinsic motives. In order of increasing self-determination, these are: external regulation, introjected regulation, identified regulation and integrated regulation. They write: “External regulation refers to behaviours that are entirely controlled by external constraints, such as rewards or punishments. It represents the lowest level of self-determination amongst extrinsic behaviours... A behaviour motivated by introjected regulation is prompted by internalised forms of external constraints, such as feelings of guilt and anxiety, or feelings related to self-esteem... regulation of behaviour is said to be identified when the behaviour is freely undertaken because its outcomes are congruent with one’s goals and values... Identified regulation occurs when the behaviour is valued to such an extent that it becomes a part of a person’s self-concept. Integration is the highest possible level of self-determination because the congruency between behaviour and the person’s self-concept maximises the perception of free-choice.”

<sup>131</sup> In this study, ‘difficulty’ refers to “the amount of effort required to perform the behaviour. That is, the extent to which one will accept to invest time, energy, and similar personal resources to successfully carry out the desired action.” (Green-Demers et al, 1997: 159)

<sup>132</sup> Green-Demers et al (1997)



Clearly, this is of importance for the motivations that are employed to encourage pro-environmental behaviour. For easy behavioural choices, appeals based upon motivations that have a low-level of self-determination (for example, based on financial incentive, guilt or appeals to self-esteem) may be sufficient. But as the choices become more difficult, reliance must increasingly be placed on appeals to motivations with a higher level of self-determination. Thus, the inadequacy of financial incentive, guilt or self-esteem as sources of motivation only become fully apparent as the behavioural choice becomes more difficult.

### 3.5.5 'Lock-in': Might an appeal to extrinsic values reinforce a focus on small steps?

It is interesting to reflect on the marketing approach to motivating pro-environmental behavioural change in this light. As noted above (Section 2), the marketing approach emphasises both the need to focus on self-interest (a set of predominantly extrinsic goals), and the need to focus on simple and painless steps. Now it can be seen that these two elements are perhaps mutually reinforcing – leading to campaign focus becoming 'locked-in' on small behavioural changes.

While campaigns remain focused on appeals to extrinsic goals, it will be correspondingly more difficult to motivate individuals to adopt significant behavioural changes; such behavioural change will be seen as 'out-of-reach', and emphasis will remain on simple and painless steps. Thus, any insistence that campaign focus should be maintained on simple and easy behavioural changes may in part stem from the added difficulty of motivating more fundamen-

tal behavioural changes without invoking higher levels of self-determination.

The practical consequences of this might be that for an easy behavioural change (like changing light bulbs), the motivations that are used are not all that important (at least from the perspective of achieving compliance with that particular demand). Individuals can be encouraged to change their light bulbs through appeals to financial savings, invocations of guilt, or even the self-esteem invoked through celebrity endorsement.

However, such appeals to extrinsic goals will be less effective when it comes to motivating someone to choose to fly less. For a more difficult behavioural change like this, appeal must be made to more intrinsic motivations or a person's self identity; for example, external regulations (which might include emerging social expectations about conscientious and agreeable behaviour) must be integrated into a person's sense of self, typically in the form of important personal values. Thus, a person may come to feel that "taking care of the environment is an integral part of my life".

### 3.5.6 Introjection and guilt

The last section highlighted the importance of the integration of 'external regulations' into a person's sense of self. Where this internalisation process is incomplete, a value or regulatory process might be partially assimilated, but not accepted as one's own. This has been termed 'introjection', and is characterised by attempts to avoid guilt or anxiety, and to maintain self-esteem.<sup>133</sup> Studies have demonstrated that attitudes and behaviours are more fragile when based on values that are merely introjected, rather than integrated. **They lead to a feeling that one ought to do something,**

**rather than that one wants to do something.**

Research has also focused on the ways in which a self-determined orientation towards pro-environmental behaviour develops. It has been found to be promoted by the interests and engagement of both parents and peers, and to be correlated with a more general tendency to pursue intrinsic goals – such as self-development and community involvement. It is negatively correlated with extrinsic aspirations (financial success, social recognition and attractiveness), and it has been found to be significantly related to the stability of positive environmental attitudes over time.<sup>134</sup>

This perspective seems to be corroborated by the testimonies given on a website by individuals who have pledged to stop flying.<sup>135</sup> Testimonies overwhelmingly refer to motivations that have a higher level of self-determination (for example, the connection that those taking the pledge feel with nature, concern about future generations). They do not significantly feature reasons like avoiding airport queues.

### 3.5.7 Could a focus on 'things you can do' be misplaced?

There is a widespread assumption within environment organisations that any communication which highlights the impacts of environmental degradation should simultaneously serve to highlight some things that an individual can do to mitigate this degradation. Previous sections of this report have drawn attention to some of the problems inherent to the 'simple things you can do' approach to motivating pro-environmental behavioural change.

But the results of studies in self-determination theory suggest that it may be better to avoid focus on 'things you can do' at all (whether these are small or large). Better, perhaps, to urge the audience for a particular communication to begin to think for themselves about what they can do. Prompting such reflection may facilitate the integration of these external regulations into a person's sense of self. Individuals may then be more motivated in the behaviour choices they make, and engage in these changes more persistently. WWF is working with psychologists and communication experts to explore ways in which this might be approached.

## 3.6 Values and the future of environmental NGOs

Rachel Carson's publication of *Silent Spring* in 1962 is often taken to mark the birth of the modern environment movement. At the time, her critique led US President John F Kennedy that he ordered his Science Advisory Committee to examine the subject of pesticide misuse.

What made *Silent Spring* so influential? It makes little mention of economic imperatives. Indeed, the book that was so instrumental in galvanising public opinion against the effects of pesticides on wildlife – which has been feted as a catalyst for the modern environmental movement – stresses our visceral connection with nature, and deplores "the cultural tendency to see the nature world [sic] as little more than an aggregate of impersonal commodities"<sup>136</sup>. Carson ponders the cost-benefit analysis of the use of pesticides to protect against insect damage to crops in anything but economic terms:

<sup>133</sup> Koestner et al (2001)

<sup>134</sup> Villacorta et al (2003)

<sup>135</sup> See [www.lowflyzone.org](http://www.lowflyzone.org)

<sup>136</sup> Linda Lear in: Carson (1962 [1999]: Afterword)

"Who has placed in one pan of the scales the leaves [of agricultural crops] that might have been eaten by the beetles and in the other the pitiful heaps of many-hued feathers, the lifeless remains of the birds that fell before the unselective bludgeon of insecticidal poisons? Who has decided – who has the right to decide – for the countless legions of people who were not consulted that the supreme value is a world without insects, even though it be a sterile world ungraced by the curving wing of a bird in flight? The decision is that of an authoritarian temporarily entrusted with power; he has made it during a moment of inattention by millions to whom beauty and the ordered world of nature still have a meaning that is deep and imperative."<sup>137</sup>

Section I.I of this report drew attention to arguments, made by advocates of 'post-environmentalism', that environmental organisations are increasingly irrelevant to the environmental debate, and even that this irrelevance may be positive. For example: "That the environmental community has chosen to sit on the sidelines is probably a good thing."<sup>138</sup>

In the same spirit, proponents of marketing approaches to creating pro-environmental behavioural change look to the power of the profit motive, raising questions about the continued relevance of NGOs: "So who's getting it right? By a process of natural evolution as more and more companies engage with climate related products and services, the commercial sector is likely to give Prospectors what they want... An unanticipated consequence for NGOs could

be that they find themselves sidelined as actors in the public 'debate' about responses to climate change."<sup>139</sup>

So long as the price paid for mainstreaming environmental concern into public policy debate is to reframe the environmental debate in terms of the values that currently predominate within this debate, it seems likely that the relevance of environmental NGOs will indeed wane.

This report has made the case that this approach does not offer the scope that is needed to address the challenges we face. Rather, there is an urgent need to introduce a broader set of values into public policy debate. Those environmental organisations that respond to this challenge might simultaneously establish fresh relevance in public debate on the environment, in addition to increasing the ultimate effectiveness of their campaigning.

### **3.7 Do we have time to engage at the level of values?**

This report invites one riposte above all others: that in view of the urgent need to build public and political support for fundamental changes in the way we live, to engage the values-base underpinning such a response is a bridge too far. Engaging such values requires time, and time is one thing that we do not have. There are several responses to this.

#### **3.7.1 Public debate on values is set to intensify**

Growing public awareness of the impacts of environmental problems is already prompt-

ing reflection on the values that underpin unsustainable exploitation of the environment. It seems certain that as the impacts of climate change become ever more dramatically apparent, fundamental questions will be increasingly asked about the values that underpin our economic trajectories. The environment movement may play a critical role in precipitating and shaping this debate, when it comes to the fore. The sooner these debates are rehearsed, the more easily they will be channelled in positive directions, as public concern about these issues intensifies.

#### **3.7.2 There is already appetite for this debate in public life**

It is WWF's experience that many public figures are privately voicing concerns that the 'business case for sustainable development' and 'decoupling of economic growth from environmental degradation' will not offer sufficiently far-reaching responses to the challenges we face. Often, these voices are submerged by dominant establishment discourse. If this situation is to change – if these individuals are to be emboldened to help open up public debate on these issues – then mainstream environmental organisations can play a critical supporting role. WWF is working with the RSA (Royal Society for the encouragement of Arts, Manufactures & Commerce) in the UK to examine some of the barriers to the emergence of more open public debate on these issues – and to examine the possible role of civil society in helping to circumvent these.

#### **3.7.3 We must do what is necessary**

This report opened with a quote from Winston Churchill: "It is no use saying, 'We are doing our best'. You have got to succeed in doing what is necessary." Churchillian rhetoric is often invoked in the fight against

climate change, and the urge to shift our response on to a 'war footing'. The special challenge that climate change presents is that it may proceed through a series of positive feedback mechanisms that rule out the possibility of responding through incremental steps over a long period of time. So we had better be sure that any strategies we deploy to tackle this problem measure up to the challenge of effecting the systemic changes that are needed. This report has attempted to build the case that the dominant marketing approach currently adopted falls far short of what is necessary.

## **4. Eight practical steps**

Drawing on the discussion above, this section makes some suggestions for practical steps that environmental organisations might take in the course of engaging the values that underpin current responses to the environmental crisis (whether these are the responses of the public, government or business). These suggestions are offered as a starting point for further debate.

### **4.1 Achieve greater clarity on the values that motivate the environment movement**

There is often little consistency in the values that the environment movement reflects: frequently, different values-bases are deployed in engaging with different audiences. In conducting a dialogue with supporters, emphasis is often placed on the aesthetic value of the natural world, or the moral imperative to safeguard this for future generations. But in lobbying politicians and business leaders, recourse is frequently made to the economic case for sustainable natural resource use. The

<sup>137</sup> Carson, (1962 [1999]: 121); emphasis in original

<sup>138</sup> Shellenberger and Nordhaus (2005)

<sup>139</sup> Rose et al (2007)

environment movement should strive for greater clarity and consistency on the values that it brings to the public discourse. In the words of George Lakoff: "Know your values, and frame the debate."<sup>140</sup> (See Section 3.1)

#### **4.2 Emphasise intrinsic goals in environmental communications**

There are instances where a convergence between self-interest and environmental interest allows the imperative for pro-environmental behavioural change to be framed in terms of the former. This may be an effective mechanism for motivating specific pieces of behavioural change on a piecemeal basis, and where this convergence of environmental interest and economic interest arises. But, as this report has shown, it is unlikely to support the emergence of systemic pro-environmental behavioural changes. Better to frame these communications in terms of a set of intrinsic goals. To do so will simultaneously serve to increase the legitimacy of public debate framed in terms of such goals, and may well lead to more energetic and persistent audience engagement with environmental issues (see Section 3.5).

#### **4.3 Begin to deploy a broader vocabulary of values in policy debates**

Advertising agencies fully understand the power of encouraging people to identify with the goods that they are trying to sell, and frequently speak of an 'irrational' love for an object which drives consumers to spend disproportionate amounts of money, going far beyond what might otherwise be

spent on the basis of an objective assessment of a product's characteristics.

The environment movement, however, tends to retreat from working with emotional attachment to the environment – particularly in policy discourse (where arguments are frequently based exclusively on economic calculus or enlightened business interest, even if they are tacitly underpinned by a set of more qualitative political considerations). Policy debates should not be decided on the basis of economic calculus alone, and the environment movement can help to infuse such debates with a broader set of values.

#### **4.4 Find common ground with development agencies on these values**

The mainstream environment movement is often accused – sometimes justifiably – of insensitivity to the needs of the poor, especially the poor in developing countries. Perhaps in part because of this criticism, mainstream environment organisations have largely accepted the primacy of economic indicators for human development. Many such organisations – WWF included – have then sought to highlight the concern that economic development will be frustrated unless environmental constraints are recognised and accommodated in economic development programmes. This is important work, but there is no consensus on the 'right' development pathways. Debate about such pathways is highly contested – particularly in developing countries – and these disputes are exacerbated further by a growing understanding of the possible impacts of climate change.

There is another approach that mainstream environmental organ-

isations engaged in development work should explore. This relates to a broader understanding of human needs, or 'varieties of unfreedom', seen not just in economic terms.<sup>141</sup> It offers the possibility of beginning to draw together the debate about subjective well-being (or happiness) in the north, and criteria for development in the south. It is a process which, because of its political sensitivity, environment organisations based in the north may not seek to lead; but they should nonetheless actively support its emergence.

#### **4.5 Help responsible businesses think beyond 'the business case for sustainable development'**

Increasing numbers of senior business people are recognising the limitations of green consumption as a response to the environmental crisis, and the ultimate imperative for society to consume less rather than differently.

This recognition opens them to a new set of challenges; and in grappling with these they seek conceptual or practical support. There is a role here for environmental organisations to work through these challenges with those business people who genuinely grasp the imperative to move beyond the 'green growth' model.

As this report outlines, recourse to consuming greener products, buying fewer

and more expensive products, or sharing products, will not be sufficient. Moving beyond these models will require the creative engagement of people in business, NGOs, and marketing agencies.

#### **4.6 Highlight the way in which the marketing industry works to manipulate our motivations**

If we are to be motivated to consume less, as opposed to simply consuming differently, this will require engagement with the psychological motivations that drive consumerism, and the processes by which we come to identify ourselves.

Much might be achieved simply by highlighting the strategies deployed by the marketing industry to promote the sale of particular goods or services as proxies for intrinsic values, when the inherent characteristics of these goods actually bear no relationship to these values (a convertible car, for example, does not confer freedom). Environment organisations could work to uncover the subtleties of such marketing strategies, in the course of their manipulating our aspirations.

There is a corollary to this. If the environmental movement is to be serious about engaging the root causes of consumption, then it cannot endorse the use of techniques of motivational manipulation when it comes to promoting 'green' goods and services. These, too, must be marketed honestly.

<sup>140</sup> Lakoff (2004)

<sup>141</sup> See for example, Max-Neef (1992) or Sen (1999). Sen writes: "An adequate conception of development must go much beyond the accumulation of wealth and the growth of gross national product and other income-related variables. Without ignoring the importance of economic growth, we must look well beyond it... [I]t is simply not adequate to take as our basic objective just the maximisation of income or wealth... Development has to be more concerned with enhancing the lives we lead and the freedoms we enjoy." (Sen, 1999: 14).

#### **4.7 Work to support and embolden public figures in the course of articulating intrinsic values in public discourse**

Many public figures express private frustration at the difficulty of creating space for public debate about the full range of human values that they feel should be brought to bear in addressing the environmental crisis. They find such debate forestalled by narrow preoccupation with economic performance, or media cynicism.

Environmental organisations should work to find ways to embolden and support those public figures that attempt to open up such debate. This could be through the provision of politically 'safe' platforms upon which such figures can begin to reflect more openly on the need for a broader set of values, or by offering clear public support when individuals with leadership responsibilities make such utterances.

#### **4.8 Identify and promote mechanisms to make public affinity for nature more salient**

The public has a huge appetite for contact with nature – from potted plants in offices, to lunch-time strolls in our municipal parks, to holidays in rural and coastal areas. The UK has some of the world's most frequented National Parks. Seldom, though, are visitors to our municipal parks, national parks, nature reserves, or zoos, prompted to reflect on the psychological need that this contact with nature helps to address. By drawing attention to this need – for example, by highlighting evidence that time spent in natural surroundings is important for psychological well-being, or prompting people to reflect on why they like to spend time outdoors – pro-environmental values might be made more salient.

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# CAREFUL DEMAND

by Helga Veigl

for Green Bumble February, 2021

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There are very few products we can purchase today with an absolutely clear conscience, if we were to make sure that our choice is not contributing to any unethical businesses. When we purchase, we purchase a lifestyle, we purchase a support of a community, country, industry, craftsmanship. When we purchase a product, however, there is a chance that we support industries, where operations involve an exploitation of humans and nature, and we are likely unaware of it. If we would be aware of entire product journeys, we might rethink our decisions. There should be a line for unethical behaviour below which a product should not be available; should be prohibited and eradicated, without question.

While there are plenty of unethical products on the market, we, consumers, are blamed for being unethical. We are all silent contributors to exploitation. If we could see the overall network effect of a simple action of buying an average product, we would realise that producers bear a developed "code of silence", while consumers rationalise their consumer-decisions. Rationalisation defends us from feeling guilty, it helps to maintain self-respect, and protects us from criticism. It is interesting how individuals developed different defense mechanisms when it comes to consumerism and information.

We have built this society and it has many issues. However, there is no reason for procrastination in facing the problems and digging out all the little dirty details we are perhaps purposely overlooking. We are maintaining a system, where its every element is connected to something we would not want to happen to us. If the system would be transparent, we would most likely refuse it altogether. There are too

many global problems festering, for us to wait for the hardworking, independent organisations, working against the current to elevate the morals of countries, raising awareness and funds with the help of celebrities to reach their goals. It is a dark world – maybe we do not feel it personally, but others, who contributed to the production of something we have purchased, do feel it, do live that darkness.

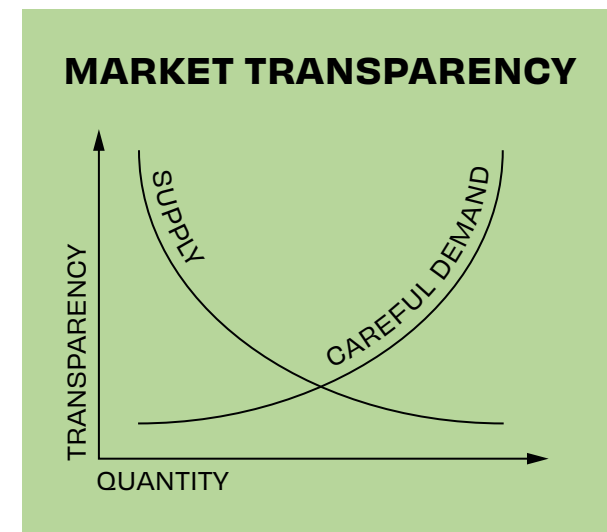
How can products of exploitation be ubiquitous, yet consumers are asked to be ethical and moral? If we play by these rules, it is indispensable that consumers have more comprehensive knowledge, so they can actually decide whether to be ethical or not.

Consumers today are making decisions based on many things and perspectives, among which sustainability and ethics are underrepresented. Information about a product's journey is not available for consumers. If it is, consumers can obtain only a very limited, and on many occasions, even twisted information. There is a need for ethical, fair and sustainable consumption. However, there are no real foundations for such a mode of consumption, with the limited information on products. To fill this gap, some companies are providing services that allow producers to share data about their products, which is a great initiative. This direction is called radical transparency. In order to avoid a scattered (and eventually comfortable for providers) market of products, certified by different radical transparency services, there is an urgent need to call for a global policy that obligates all suppliers to share data about their product journeys. Data gathering should not be an obstacle, as supply chains are advanced, digitised and robotised. The only obstacle is the rights of producers, and the issues they would face by sharing sensitive information about their production and services.

Introducing a global system that requires transparency would not per se require to cut back on exploitations. It would ask producers to be transparent about it towards their potential consumers. This would supplant the solution where we trust companies to do the screening of their raw materials and pledge their products accordingly. Radical transparency would bring the decision directly to consumers and give them an opportunity to behave responsibly. We, consumers, have never given this responsibility away, but it was never granted. Aware of

could achieve a change that was hitherto unattainable.

What would happen, if all product journeys would be transparent? Would most consumers consider that information and choose with more care? Would consumers' overall worldview be affected? Would the exploited consumers care for exploitation of others and reflect with their consumer choices? Would consumers pick a preferred issue and focus on one aspect of transparency, rather than the overall picture? Would exploiters punish the exploited



Images 1 and 2: Careful Demand

the invalidity of our consumer responsibility, we yet maintain this dark system.

By claiming the responsibility for consumers, we have the chance to build a humane world that has more democracy than ever. Whenever we spend any money, we make a statement, a "vote with our feet", referring to the heavy footprints our decisions leave behind. When we vote for a product, we vote for everything it constitutes. If we were to know everything we deserve to know, we

more, as exploitation is not overlooked anymore, but a must-confess? Would it take away the jobs of the exploited? Would new grey and black markets appear where transparency is not required? Would the world become divided into pro and contra transparency entities?

By answering these questions, we can prepare a system and smooth the transition from our world of helpless, careless con-

sumers towards one ruled by a demand for care.

We call this economic phenomenon "Careful Demand".

Careful Demand is a here proposed framework where consumers are fully aware of the product journey, and they have to take the onus of being careful towards other people and nature while purchasing a product. Despite CSR (Corporate Social Responsibility) efforts and policies by many

transparency of products. We propose the Careful Demand framework as an intergovernmental, global top-down set of policies which obligate all companies to share data about the product journey with consumers. It is a neutral system that gives consumers a choice agency. While considerable research has been undertaken over the past decade in respect of the various forms of ongoing ethical consumption challenges, behaviour and processes, it has primarily been related to ethical consumers only. The proposed framework is unique, and it gives

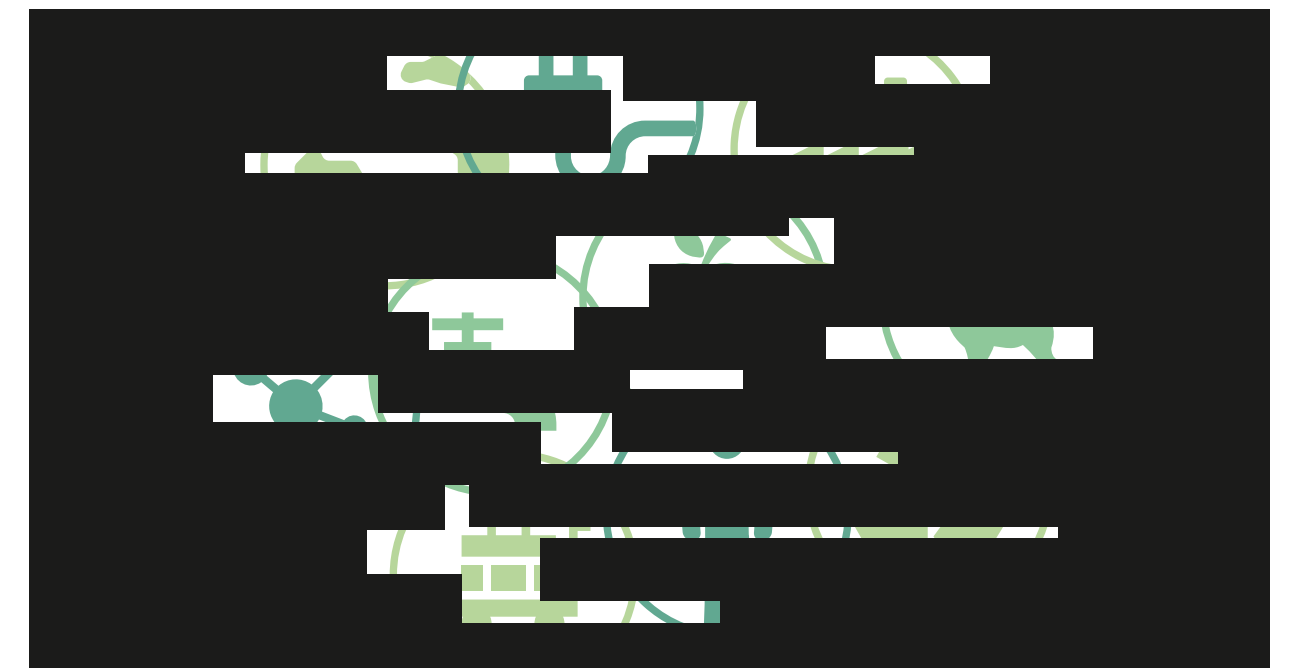


Image 3: Without Labels

suppliers, frequently aimed at increasing brand desirability, as well as the recent influx of CSR monitoring mechanisms, policy makers and producers have not been successful in reacting to ecological and humanitarian challenges. Careful Demand (based on radical transparency) may very well induce a global disruption and bring us closer to a more humane and sustainable world.

To expand ethical consumption to mass markets, suppliers need to provide radical

a strong starting point for government initiatives.

Careful Demand is designed to resolve the attitude-behaviour gap. It is a proposal for an intergovernmental, global top-down set of policies that obligate all companies to share data about the product journey with consumers. Its main goal is to improve consumer awareness and affect consumer behaviour from a neutral perspective, by providing standardised, comprehensive, reliable and accessible information. "Careful"



refers to an ethical, fair, sustainable way of consuming, with regards to employees, the environment, stakeholders: anyone and anything that is affected by the supply chain. Consumer goods are defined by supply (suppliers) and demand (consumers). If demand is more careful, suppliers are also constrained to think more carefully about

the supply side, the change would occur by consequent reactions on the side of consumers.

Every product is a story that conveys multiple perspectives of a complex narrative with potential winners and losers on each side, depending on one's frame of refer-

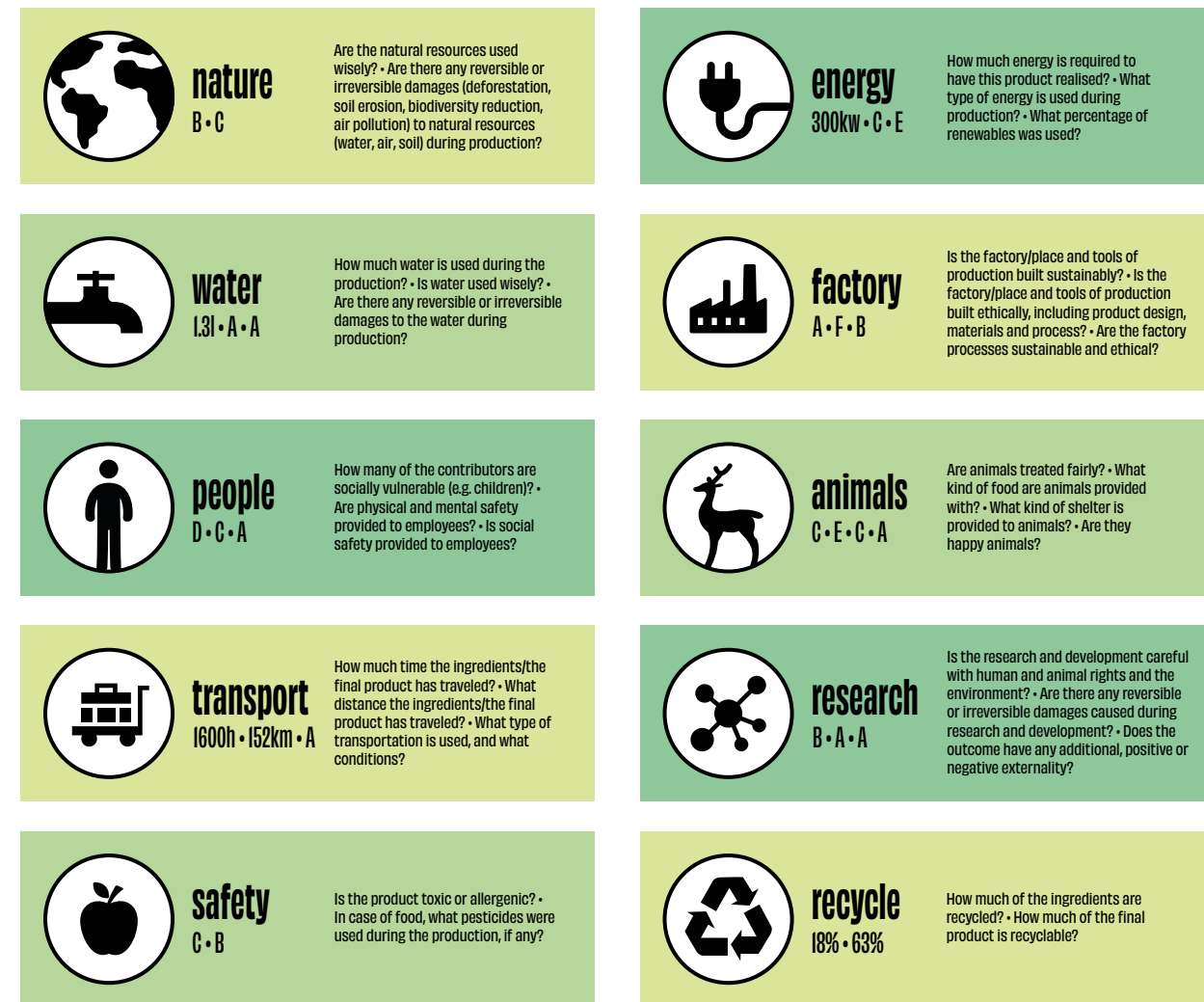


Image 4: Careful-Demand Labels

their processes. Policy makers should recognise that this burden is less important than the gain we could achieve, namely, moderating or even ending exploitation of humans and nature. An obligatory radical transparency would not necessarily nor immediately lead to market changes on

ence. Ethical consumption is theoretically constructed to minimize the number and extent of loss. Radical transparency is a powerful tool that tracks every substantial impact and consequence from a product design to its disposal and then summarises those impacts for consumers through

consumer-friendly interfaces at the point of purchase decision. It provides the consumer with comprehensive information about every aspect of every product to better enable them to make a balanced personal moral and ethical purchase choice, based upon a new consideration set. Radical transparency uncovers otherwise hidden dimensions of a product's journey, biological and health risks, ecological harm or worker exploitation. Today we have the technology and coverage that we did not have 10 years ago: everyone has a mobile phone, even many of the exploited, and tracking, surveilling and analysing and anonymising data is easy.

Radical transparency is the essence of Careful Demand and its goal is to alleviate the attitude-behaviour gap, as well to replace fragmented ethical realities and scepticism, with new levels of traceability and new anchors of trust. As consumers turn more and more to evidence-based decision-making, they are searching beyond peer-to-peer recommendations, word-of-mouth, personalized reviews, influencers, and other forms of digital or in-store recommendations. Consumers aim to discover product truths, both positive and negative, that free them from peer pressure and brand allegiance and enable extended agency, responsibility, and self-respect. The proposed Careful Demand framework has a direct contribution to the notion of the Positive Economy, one that encompasses any private and professional economic activity that improves our common wellbeing and helps allay the sizeable societal challenges ahead.

Careful Demand is not designed to address the issue of overconsumption, it only aims to make transparent the presence of externalities. We are far beyond the ideas of economic rationality and the neoclassical homo economicus. But are we ready for Careful Demand? Does it reflect our soci-

ety's desire and collective ethos, or would this be a hyperrational foundation? Since there is no way to hold consumers accountable for their decisions, Careful Demand is aiming to affect the moral foundations and give them the agency to make more conscious decisions.

Consumers hold a significant potential for sparking a change, since they are generating at least half of a country's GDP (over 70% in the USA). Whatever consumers buy, it is a vote for a production and method of delivery, they transfer financial support and appreciation to every participant of the product's supply chain. They have an immense, indispensable power in their hands. Shifting their decisions could make heavy changes in the global economy. Social media greatly enlarges many environmental and social concerns, but that is not systematic, nor brings steady results. This postnormal chaos and struggle that consumers face with every decision should be supported with an institutional approach. Maybe just raising this issue it would create a chain reaction where employee consciousness and prosocial attitude overwrites corporate loyalty and alignment with its interests.

When we consider Careful Demand as a newly emerging institution, we have to understand its foundations and reasons for stability. The proposal of Careful Demand ideally would become a white paper and a hot topic for governments. The identification and standardisation of the several criteria for a fully working system would take great efforts, political battles (internally within governments and interested parties acting upon it, and internationally within countries and/or regions), persistence/perseverance when it comes to potential partners whose interests are majorly violated by Careful Demand. It also should be avoided that Careful Demand takes away decisions from consumers with

overregulation. If Careful Demand would not only offer transparency but would offer judgements as well paternalism, then it would take away from consumers the possibility of making decisions.

Careful Demand is a non-violent, active step forward with a focus on all humanity, present and future, our holistic community, our risk community, for which we are all responsible. Careful Demand has to ensure that it does not aggravate existing societal and political issues. It is also crucial, because matters which derive from hostility towards a certain group of people could spread under Careful Demand. Early entrants into this framework have a lot to gain. Securing the path gives the opportunity to stay ahead and set the rules. Involvement of all stakeholders into the process is essential.

AI and data analytics could play a major role in the Careful Demand smart logistics process. They will be central to product design, factory selection, material selection, smart manufacturing process, distribution, supply chain and even at retail. Predictive analytics will be applied where appropriate such as with selected factory status, material performance, consumer demand, identifying travel disruptions and route management. AI will collect and analyse data in real-time, notify about any data

faults and problems during the product journey and recommend actions; or if self-directed AI is involved it will resolve the problem autonomously. It will indicate any inefficiencies, breaking of ethical consumption regulations, and hazards or security problems.

Ultimately, refusing globalisation itself and turning towards only local markets is not a viable solution. Therefore, to introduce a robust Careful Demand framework, we need to pose a number of essential questions:

- Who should start and be part of any discussion about product journeys?
- Who should demand Careful Demand: should it be a bottom-up request or a top-down initiation?
- Who should be involved in creating Careful Demand?
- Can we avoid a top-down approach which creates an authoritarian nightmare?
- How far do we have to extend surveillance and control in order to guarantee fairness in all levels of the production?
- Would we search for retribution?
- Would we be able to live with items we had purchased before, and which we are now aware were produced by methods we find unacceptable?

## PART TWO

# GREEN ECONOMY OR GREENER GROWTH

by Karina Vissonova, 2021

This opinion piece is based on a transcript of "Green Bumble — Undiscussed Discussions" podcast, episode 2. Correct citation: Vissonova, Karina "Green Economy or Greener Growth" in Green Bumble - undiscussed discussions, ed. K. Vissonova. Institute of Advanced Design Studies non-profit, 2021.

In the production of the Green Bumble, I was searching for inspiring examples of environmentally-friendly design initiatives, concentrating on the Northern European countries as they are known for their advancements in sustainability efforts. Caring deeply for the life and beauty of our planet, and having the design researcher hat on, I tend to follow the mainstream sustainability narratives and to try and fit in goods we colloquially call "green design" into these narratives. I don't always succeed. In fact, it is like putting together a



Image of a classical coffee maker.  
Photo by Ronan Furuta on Unsplash

puzzle to form some intended image. But there is always a piece or two, which when placed in its seemingly right position distorts the entire picture. This is because the very idea of sustainability demands us to adopt a far more rapid pace of change, beyond greening the design and production of goods. Relying on market-based solutions as we have done thus far, may have served us to the extent of awakening initiatives such as circular economy. However, the kind of transformation of economy

proposed by circularity principles may just be one bridge linking us with a sustainable future.

The transformation we are looking for may be in redefining our wellbeing. We have not only maintained a morale that material values of a contemporary human constitute a steady supply of goods and services, but also that our freedom constitutes a right to create and trade goods.



Image of an alternative coffee maker.  
Photo by Karl Fredrickson on Unsplash

I am not proposing that creativity and trade are somehow to be faulted, but for example, do 20 or 30 different designs of coffeemakers represent freedom and expression of human creativity, or perhaps just how lucrative the coffeemaker industry is?

Let us imagine that all coffeemakers, as many there may be, were designed sustainably. Keep in mind that a regular coffeemaker is made of a combination of

metals, some coating, plastic and glass, depending on the type of the machine, all of which require heavy duty mining, processing, manufacturing and which leaves rather a lot of waste at the end of its life. A sustainably designed coffee-machine's body – the structure of the product – would be made of entirely renewable, upcycle-able or biodegradable materials from ethical sources (let us imagine recycled metal, wood and bioplastic for instance, so essentially leaving behind no waste). Then the energy, water and other sources during the production would be highly efficient and from renewable sources; there would be no byproducts such as leaking chemicals and escaping emissions; as well as there would be high energy and water efficiency in the use phase. So, as far as the product such as a sustainably designed coffeemaker goes, it would pose no environmental pressures.

Such a fantastic coffeemaker, as we just imagined, would be a product which would fully contribute to what we call "green growth" – an added value to the economy driven by production and consumption cycles without posing pressures to the environment. The idea of green growth stipulates that we may keep having any number of coffeemaker designs, and we may update our individual machines to new ones as frequently as we wish, while the market of these contributes to green growth.

Yet, it is increasingly obvious that such a coffeemaker industry is only viable in theory: an industrially manufactured coffee machine will have significantly and inevitably more environmental impacts than for example a wooden spoon. It is within the product's design. In fact, I would argue that if there were a range of fully sustainably designed coffeemakers, the industry of coffee machines would be devastated or perhaps even collapse. For its entire setup of manufacturing and material sourcing is built in such a way that its very existence

depends on the industry AS IT IS, and not if very much fewer, more durable machines were produced, made of fewer and more sustainable materials.

When it comes to designing a new product, a designer has two choices. The first, is to design the product so it can be produced in existing industrial manufacturing setups. Typically the existing setups have inherent multiple environmentally-unfriendly practices, for instance water pollution, toxic chemicals, unsustainable materials, multiple production and assembly locations requiring transport and so on – like the ones for coffeemakers. The second choice is to design the product to avoid all these environmentally-unfriendly practices, but then the designer has to look for alternative manufacturing setups. If there are any for realising that particular product, that is.

Consequently, a picture presents itself where a particular way a product is designed, can either contribute to sustainability of an economy through its existing industrial setup, but be unsustainable for the environment, or the product by its design may contribute to relieving environmental pressures, yet it inevitably leads to transforming the industry. Looking deeper into the subject, from an environmental preservation perspective, we would likely find that we all would be best off without the entire coffeemaker industry.

I imagine you are now thinking of at least one person, if this person is not yourself, who would voice the concern that economic growth is everything to do with "sustainability", as without it, first industries and then our way of life may very well collapse. We are so very accustomed to the idea that the only way we can solve the environmental



Image of Ioncell and Aalto team designed and produced gala dress made of Finnish birch and worn by Mrs. Haukio. Credit Eeva Suorlahti / Aalto-yliopisto

crises is with market based solutions. However, with an acquired deep understanding of sustainability, one arrives at the primary challenge we are facing – there is a conflict between the way we run our industries; design our products, technologies and our built environments; and the environmental conservation which we collectively desire. We could say that sustainability is an act of reconciling our economic and industrial activities with the environment!. The concept, we the people of Northern countries and Europe are likely all familiar with, is that the above mentioned green growth is

the way of reconciling this conflict. To give an example, we would prioritise purchasing electric cars, as this contributes to green growth, fewer emissions and helps to curb climate change. (Northern people are also known for prioritising public transport and cycling, I should mention, which does not contribute to green growth as much, as it leads to less emissions and curbing climate change.)

Then what about the Circular Economy, which we associate with green growth? Can we achieve on a sufficient scale a

production of goods based on renewable energy, cycled materials, eliminating waste and pollution, such as suggested by the circular economy principles? We have some very interesting movements in the textile and fashion industry of the Nordic region, where design to some small, nevertheless significant extent has transformed the industry in the Nordic countries.

Stockholm Environment Institute is mapping the current textile practices and waste flows in the Baltic States, which are Estonia, Lithuania and my own country Latvia<sup>2</sup>. The aim is to generate knowledge so circular economy principles can be set up in the region's textile industry: this would mean to increase the collection, reuse and recycling of textiles. Furthermore, a project born in Finland Telaketju 2 is working on innovative circular economy business models for the textile industry<sup>3</sup>. The participants in this project, according to their website, are 5 companies and a public research project carried out by VTT Technical Centre of Finland, Turku and Lahti Universities of Applied Sciences, and funded by Business Finland, as well as some 20 organisations.

Besides the much needed research and initiatives on a policy level in the Nordic region, the world of Nordic design is contributing greatly to the clothing industry moving towards more sustainable practices. The design-driven fibre innovation at the university of Aalto is working on several projects, one of them is Ioncell<sup>4</sup>. The Ioncell is basically a non-toxic textile processing technology. The process uses a solvent ionic liquid to make high quality fibres from textile waste. Because the process is simplified and non-toxic, and it works with waste materials, the Ioncell may truly revolutionise the textile industry.

A company named Infinited Fiber has a method of "rebirthing" materials from multiple waste streams into new cotton-like fibres, that can be made into textiles entirely bypassing use of virgin materials, such as cotton<sup>5</sup>.

### **Infinited Fiber Company**

*"Infinited Fiber Company technology's primary focus is on regenerating or rebirthing textile waste as new premium-quality textile fibers (fiber-to-fiber regeneration) through responsible chemistry. To simplify: we take in cellulose-rich waste, clean it of its history (and non-cellulosic materials like polyester or elastane), and give it a new life as a unique, premium textile fiber that has the natural soft look and feel of cotton. The fiber (Infinna™ - or scientifically cellulose carbamate fiber) is biodegradable, doesn't contain any microplastics, and clothing made with it can be recycled together with other textile waste again in the same process. Our technology is rather robust, and in addition to textile waste, we can also use other cellulose-rich waste streams as raw material (cardboard, paper, even rice or wheat straw). Circularity is at the heart of our business – the idea that nothing new needs to be grown & then cut down to feed our technology as there is so much already in circulation that's ending up in landfills and incinerators. Our fiber is also diverse and enables the creation of a whole range of truly circular fabrics (from single jersey to French terry to denim...) out of 100% regenerated post-consumer textile waste.*

*Rather than merely reusing waste paper, cardboard and textiles, our technology offers a way for multiple waste streams to*

1 Vissonova, K., "Effects of design and sustainable design of technical artefacts", in *Advancements in Philosophy of Design*, ed. P.E. Vermaas and S. Vial. (Design Research Foundations, Springer. <https://www.springer.com/us/book/9783319733012>. 2018, The Netherlands).

2 <https://www.sei.org/projects-and-tools/projects/towards-a-nordic-baltic-circular-textile-system>

3 <https://telaketju.turkuamk.fi>

4 <https://ioncell.fi>

5 <https://circulareconomy.europa.eu/platform/en/good-practices/infinited-fiber-turns-cotton-rich-textile-waste-new-fibers-infinitely>



Images of various clothes made with 50-100% Infinna™, created out of 100% post-consumer textile waste, illustrating the range of what can be (and has already been) created with Infinna™.

be “regenerated” or “rebirthed” as premium textile fibers that look and feel soft and natural and offer a true alternative to the conventional, less sustainable virgin materials that dominate the textile industry. (From correspondence with Laura Vinha, PR & Communication Manager Infinited Fiber Company)<sup>6</sup>

Another Finish company, Spinnova, uses a toxic chemical-free mechanical process to spin fibres from wood pulp through small nozzles to create textile filaments<sup>8</sup>. The by-product of this process is water, which is reused within a closed-loop system in the different processes.

Then we have sustainable fashion brands like Tauko, also from Finland<sup>7</sup>. Tauko has several textile lines from which they make very attractive clothing for women. One is recycled polyester made from old plastic

bottles and plastic waste collected from the sea. The wasted objects are crushed mechanically into small pieces, made into fibres, which are spun into yarns and knitted or woven to fabrics. Tauko also has a project of recycling local rental textiles from hotel, hospitality and healthcare industries.

And so not only do the Nordic countries have some great internationally acclaimed and much loved fashion brands, but also a great deal of awareness towards the environmental pressures caused by the traditional clothing industry. All of these excellent initiatives, at least to me, show that if we want to keep the clothing industry alive, we must be ready for the transformations it requires. And as these initiatives from the Nordic countries show, circular economy is indeed the change we need.



Image of the process in glass jars (when using textile waste as the raw material). From left to right: shredded textile waste (someone’s old jeans); the remaining cellulose after non-cellulosic materials like polyester, dyes and textile finishing chemicals have been removed; cellulose carbamate powder (the result of the magical bit of the process, carbamation, where the cellulose reacts with urea); dissolved carbamate powder which is wet-spun to create the product in the final jar; cellulose carbamate fiber, known as Infinna™, which has the natural, soft look and feel of cotton and unique characteristics, including superior dye uptake and naturally occurring antimicrobial properties.

But, is that enough? Aren’t we facing the same predicament as with the imagined “greened” coffee-makers – if we just clean up the production, we may keep making, using, reusing, up and down-using the fashion products. We can live in what is called a “social cornucopia” – where the wellbeing is met by goods just as long as their production is green.

Is that the world we want to live in? Is that our future vision of ourselves? What then does our wellbeing represent to us? The think-tank Demos Helsinki suggests that according to several surveys, people in Europe do not necessarily associate their wellbeing with material wealth, and hence

the think-tank proposes an economic system based on wellbeing of the people<sup>8</sup>. Their report emphasises that immaterial values must be included in our measuring of wellbeing. Consequently they suggest for our EU leadership to step away from GDP as the measure of a healthy economy and to focus on a healthy society. “The point made in this publication is not that material welfare does not matter: it matters a great deal. Instead, the point made here is that the material element is only one part of wellbeing. Economic policy that only considers material welfare misses important opportunities to improve the wellbeing of people. While there is still poverty and homelessness in Europe, to understand everything that matters to people requires understanding that they also value imma-

<sup>6</sup> <https://materialdistrict.com/article/wood-based-textile-fibre>

<sup>7</sup> <https://taukodesign.com>

<sup>8</sup> <https://demoshelsinki.fi>



Image of black single jersey fabric made with 100% Infinna™, created out of 100% post-consumer textile waste.

material aspects of life, such as a sense of inclusion, meaning and recognition.<sup>9</sup>

By having a circular economy in place across our industries, and the GDP no longer being our monitor of wellbeing, we would likely be giving "green economy" a chance. Perhaps these two initiatives would even relieve significantly the environmental pressures.

Yet, there are obvious issues which are not sufficiently considered in the majority of the sustainability efforts – industrial activities cause Technological Interventions<sup>10</sup> in terms of heavy duty mining of resources, which have significant side effects, emissions, pollutants and

other wastes. Granted, the Circular Economy may address some of these. Nonetheless, to me it seems that in order for us to reconcile our industrial activities with the environment, the most realistic way forward is to curb the activities themselves and to create an economy measured by a form of "sufficiency" of our "material wellbeing".

Recently I was introduced by a colleague to a report by the European Environmental Bureau, where I found some insightful answers to what I can only refer to as my growing scepticism. The report is of an investigation into empirical evidence of decoupling green growth from environmental

pressures. In essence, the report communicates the following: "The conclusion is both overwhelmingly clear and sobering: not only is there no empirical evidence supporting the existence of a decoupling of economic growth from environmental pressures on anywhere near the scale needed to deal with environmental breakdown, but also, and perhaps more importantly, such decoupling appears unlikely to happen in the future."<sup>11</sup>

Furthermore, "The validity of the green growth discourse relies on the assumption of an absolute, permanent, global, large and fast enough decoupling of economic growth from all critical environmental pressures. The literature reviewed clearly shows that there is no empirical evidence for such a decoupling currently happening. This is the case for materials, energy, water, greenhouse gases, land, water pollutants, and biodiversity loss for which decoupling is either only relative, and/or observed only temporarily, and/or only locally." And moreover "... the hypothesis that decoupling will allow economic growth to continue without a rise in environmental pressures appears highly compromised, if not clearly unrealistic."<sup>12</sup>

It is nice to imagine a future where all things that we might desire are produced with no emis-

sions, pollution, underpaid labour, and that our waters and soil are healthy, our forests full of wildlife and the villages, towns and cities full of healthy, happy people. But, as increasing evidence shows, green growth and the circulation of resources works well mostly in theory, but may not help in our efforts to reconcile our industrial activities with the environment. Resolving environmental, climate and socio-economic crises will demand a transformation of the economy – and that requires a new narrative, one we do not yet have.

It does not mean that the efforts we are making are wasted, as without these efforts our situation would be far more dire. The changing of the textile and fashion industry in the Nordic countries will have a great effect in relieving the environmental pressures, which we may measure already in this generation or at least the generation of our children. Nevertheless, if we are to see a change for a more sustainable world, it is time we faced the challenges and that a new course is needed, replacing the aims for higher efficiency with a "sufficiency" – and redefining what our wellbeing and freedom amounts to.

<sup>9</sup> Demos Helsinki, "A Transition to Just and Green Societies in the EU Requires Fixing the Economic Policy: A Suggestion for Implementing Economy of Wellbeing", 2020. <https://demoshelsinki.fi/julkaisut/economy-of-wellbeing>

<sup>10</sup> Technological Intervention is a concept I developed for explaining sustainability in design, see in Vissonova, K., "Effects of design and sustainable design of technical artefacts", in *Advancements in Philosophy of Design*, ed. P. E. Vermaas and S. Vial. (Design Research Foundations, Springer. <https://www.springer.com/us/book/9783319733012>. 2018, The Netherlands).

<sup>11</sup> Parrique T, Barth J, Briens F, C. Kerschner, Kraus-Polk A, Kuokkanen A, Spangenberg J.H., 2019. Decoupling debunked: Evidence and arguments against green growth as a sole strategy for sustainability. European Environmental Bureau

<sup>12</sup> Ibid.

# INTERVIEW ON GREEN GROWTH

with Brian Czech, Center for the  
Advancement of Steady State Economy

by Karina Vissonova

Transcript by Zsombor Gál, 2020

**Karina:** To dwell deeper on the questions of how the economy and its growth may help or hinder obtaining the value of sustainability, I have invited for an interview a very interesting guest. He has managed conservation biology, wildlife, and fishery conservation programs for the US government; worked together with the Apache Tribes. He is also the founder and executive director of the Center for the Advancement of the Steady State Economy or CASSE, an organisation which has produced a solid body of research in alternatives to an economic system based on growth, and which I have been following and learning from for several years now. Let me extend my warmest welcome to Brian Czech.

Hi Brian. Thank you for joining me on this podcast episode 'Green Economy or Greener Growth'. Would you begin by introducing yourself?

**Brian:** As you mentioned, I am the executive director of the Center for the Advancement of the Steady State Economy. It is a long name, and our acronym is "CASSE". You can learn more about us on our website <https://steadystate.org/>. I have been working full-time for CASSE since November 2017, which is when I quit the US government. After about 18 years in the headquarters of the US Fish and Wildlife Service, I was tired of being prohibited from speaking clearly about the conflict between economic growth and environmental protection. This is the primary concern that motivated my establishing CASSE to begin with.

**Karina:** You mentioned earlier that you also worked with the Apache tribes for their wildlife conservation program?

**Brian:** Yeah, that was a long time ago, but before I ever got into ecological economics and big-picture, long-term sustainability, I was a wildlife ecologist, wildlife scientist, and a wildlife manager. I was hired to develop a program, a wildlife management program for the San Carlos Apache Tribe in

Arizona. And it was after five years with the San Carlos Apache Tribe that I decided to go back to school and get into a PhD program. I did a policy analysis of the Endangered Species Act for my PhD dissertation. That is what led me into this issue of limits to growth and the conflict between economic growth and environmental protection because I was looking at the causes of species endangerment in the United States that was part of the policy analysis module I was using.

I had a database of all the federally listed threatened and endangered species and then I had eighteen categories of causes for their demise. And those causes – causes of endangerment – it just struck me one day that this was the "Who's Who" of the American economy. And from then on, I got very deeply into the research and investigation of conventional economic growth theory as well as ecological macroeconomics. And political economy! And even the history of thought pertaining to economic growth.

**Karina:** Well, I think we are very lucky to have someone with such a background – coming from environmental conservation and biology – to feed into the economic discipline in such a rich way. Thanks for that! I wanted to ask you about your triangle economy model. I find your proposition very interesting. I was wondering if you could explain what this model is about and what its main principles are.

**Brian:** Well, let me provide just a little bit of background there.

I tend to view ecologists as sort of like the original economists. You might say that the ecologist understands the economy of nature. The production, consumption, allocation, distribution and competition for goods and services in resources, in nature. There are a lot of principles of ecology

that apply very directly to the human economy. They tend to be overlooked in conventional economics.

When I became familiar with ecological economics, coming to the discipline directly from ecology, I started to notice bits and pieces of ecology that seemed to be missing from ecological economics that were very relevant. I felt the most relevant of all is the concept of trophic levels.

Trophic levels are simply categories of production and consumption in nature. You can view it most simply as there being three basic trophic levels. And here's where the triangle comes in: First trophic level, the foundation, is the plants. Those are the producers in the economy of nature. They produce their own food via the process of photosynthesis. The second level consists of primary consumers. They eat the plants. And of course, you cannot have as much of primary consumers as you can of plants, because you have to have surplus plant production to support the population of primary consumers. So now you have this triangle starting to take the shape of a big, broad base of plants, then you have primary consumers like rabbits and deer, for example. And then, you have as a third basic trophic level, secondary consumers. These are various types of predators – typically omnivores – and they eat the primary consumers directly. So, eagles and wolves and sharks, these are secondary consumers. And you can have as much in terms of biomass of the secondary consumers as you can of primary consumers. You now see a fully shaped triangle. From the base, the producers, to the top, of secondary consumers.

Well, the human economy has to follow the same basic rules as the economy of nature. In the human economy, you have at the base the agricultural and extractive sectors as well as the energy ex-

traction sector. It takes a lot of surplus among those agricultural and extractive sectors to free the hands for the division of labour, to support this enormous quantity of manufacturing, that we have manufacture and services. So, you have the manufacturing sector from the heaviest to the lightest seated upon this broad trophic base of agricultural and extractive activity.

It really helps to understand that this notion of dematerializing GDP growth from environmental impact is nonsense because, if you're going to have GDP growth, you have to have a growing agro-extractive base. So, you can free more hands for the division of labour into the other sectors – the manufacturing and service sectors – where value is added and GDP is contributed to.

**Karina:** Allow me to turn to my second question which I would like to discuss with you and hear your thoughts. I will read a quote from the European Environmental Bureau Report which I shared with you earlier. So, the beginning of the quote is: "Existing policy strategies aiming to increase sufficiency have to be complemented by the pursuit of sufficiency, that is the direct downscaling of economic production in many sectors and parallel reduction of consumption that together will enable the good life within the planet's ecological limits." End of quote. I would very much like to hear your thoughts on the idea proposed here of sufficiency in the economy.

**Brian:** Well, we absolutely agree with that. Frankly, that's our central message at CASSE.

The pursuit of growth is unsustainable, and instead, we need to realise limits to growth and recognise that they exist and plan for them. And that means basi-

cally accepting sufficiency. When the economy is of sufficient size, that means things like...well, you don't have starving people, you don't have rampant disease, you don't have struggle among nations for resources. A sufficient economy keeps the wellbeing of people at a decent level. It is the competition for resources to go far above sufficiency that leads to unsustainable outcomes. And this translates in economy policy terms as increasing per capita consumption. It is not sustainable to have perpetually growing consumption per person. And so, political leadership that encourages consumer confidence, and buying more things, and bigger and more expensive things – that's anachronistic in the 21st century. It was leading us astray already in the last few decades of the 20th century and it is way out of place now.

**Karina:** I very much agree with you and also, to increase economic growth, not only are we putting pressure to consume on an individual in the existing markets but also trying to acquire new markets. So, placing emphasis on economic growth by increasing the population that has the capability of consuming.

**Brian:** Yeah, I'm glad you have mentioned that because, a lot of times in these types of discussions we really have to remind readers and audiences exactly what the phrase economic growth means. It is simply increasing production and consumption of goods and services in the aggregate. That means a growing human population times consumption per person (or "per capita per consumption"). And the measure of that is GDP.

The notion that "well, we can have some types of products growing

and others declining" – that's not economic growth! That's a sector area or readjustment.

Economic growth means a growth of that whole trophic structure – that triangular economy – with the agricultural extractive base, and the manufacturing and service sectors resting upon that foundation. If you want that economy growing, that whole triangle has to grow. Starting at the base, there has to be more agricultural and extractive surplus, to free more hands for the division into more labourers, and as you pointed out, more types of labours even.

**Karina:** Also, you've just made me think of the presumed role of service design in this context: that service design in some way ought to relieve the environmental pressures because there would be less products and more services. I would say this is absurd. Because you still need the material product. The service is not virtual – if you like. Or even virtual service needs a material product – of a computer, servers, and internet or what have you. So, even if we replace one type of product with another type of product – one type of technology with another type of technology, it is still taking the resources away from the base of the triangle.

**Brian:** Well, that is right and in addition, you also have to think that, well, the service sectors, what are they serving? Because invariably, if they are contributing to GDP growth, they are serving other material sectors. Or, if they can be serving other service sectors as well, then those service sectors are ultimately serving other sectors of the economy that are very materially based. Satellite imagery, for example. The provision of satellite imagery, that is deemed to be a service but on the other hand, as you've pointed out, that takes heavy duty capital to get that service provided. So, yeah, it is sort of both sides of the coin. You might say production and consumption are served by the service sectors.



**Karina:** Yes, indeed. Brian, perhaps our last question: I find that there are two conceptions of looking at economy and sustainability. And one conception is that to decouple economic growth from the environment, or more precisely, the pressures we put on the environment. And the other conception, that we need to reconcile our economy and our industrial activities with the natural environment. I know you've written some thoughts on this. Would you perhaps elaborate on this reconciliation idea?

**Brian:** People get it about the basic conflict between economic growth and biodiversity conservation but they think that through technological progress we can somehow decouple the physical effects of economic production from GDP growth. And that is basically synonymous with saying that there is a prospect for reconciling the conflict between economic growth and biodiversity conservation through technological progress. My writing is all about debunking both of them. There is no decoupling, there is no prospect for reconciling GDP growth with biodiversity conservation through technological progress. Let me attempt to explain why.

Frankly, it is not super simple, but I think I can put it in simple enough terms by saying that technological progress is not like manna from heaven. It costs tremendous amounts of investment at this point in history. I think in the US there are three hundred billion dollars invested in research and development every year. And so, it is a substantial acquirement in terms of that agricultural and extractive surplus at the base of the economy that frees the hands, or the division of labour – even into research and development! That's where the money for the R&D ultimately has to come from. So, you are never escaping that pressure at the trophic base of that triangular economy, as we call it.

There has to be more and more agricultural and extractive activity, for all of the rest of the activities to grow, including the R&D that is supposed to give you the technological progress to supposedly decouple throughput from GDP. It is like a negative sum gain and as you push for GDP push, with or without technological progress, you will have reduced biodiversity, and you will liquidate more stocks of natural capital, you will have more pollution, and if you push very hard for growth, you are going to be using all sorts of energy sources that you can, in order to produce more, produce and consume more. You don't evade or escape the greenhouse gas emissions either. Well, economists used to say that there is no such thing as a "free lunch". And that is kind of what it boils down to in this case. You cannot have your cake and eat it too. You cannot have the environmental cake and eat it too for the sake of GDP growth.

**Karina:** That is well said. Thank you, Brian. I think that is a very clear picture of our current perception of green growth, and if we think that we are making our economy green, perhaps we are just trying to green it.

**Brian:** Yeah, I think you are right. I think it is becoming more and more of just a rhetorical, political ploy than reality.

**Karina:** Thank you Brian, for this very insightful session and for your deep answers. Thank you so much for this!

**Brian:** Thank you Karina, and I wish you all the best. Let's talk again somewhere down the road.

# THE TRIANGULAR ECONOMY: BEHIND THE CIRCULAR FLOWS

by Brian Czech, 2020

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The "circular economy" is a response to the environmental problems and resource shortages that arise as the human economy expands. The focus of the circular economy literature is on efficiency which, in terms of economic production, means more output per unit of input. All else equal, increasing efficiency means higher profits, too. That's real motivation for the corporation.

Efficiency connects to the human propensity to innovate, too. From childhood on, humans enjoy tinkering and improving processes in order to get "more with less." Plenty of pride is taken in jobs efficiently done.

As the latest model to highlight efficiency, the circular economy is sanctioned by dozens of influential entities ranging from Coca-Cola to the United Nations Environment Programme, all of whom collaborate on the Platform for Accelerating the Circular Economy (PACE). The principals involved in PACE see the circular economy as capable of "decoupling" materials (and even energy in some cases) from the process of economic growth, and thereby keeping the environment intact while growing GDP.

### A Primer on Economic Growth

The meaning of economic growth is often taken for granted, leading to misunderstandings about its relationship to the environment and sustainability. Therefore, a brief revisiting of the concept is in order.

Economic growth is simply an increase in the production and consumption of goods and services in the aggregate. It entails an increasing population and/or consumption per person. Economic growth is measured with GDP, or Gross Domestic Product. GDP is the amount of money spent on (and conversely, income gained from) the final goods and services produced annually within the

boundaries of a nation (or some other polity such as a state or province).

By definition, then, economic growth is a macroeconomic process. It is not equivalent to the growth of a business, a bank account, or an industry. Nor is it, for example, the appearance of solar panels here and the disappearance of coal-fired plants there. Such trends are sectoral adjustments, which may or may not be concurrent with economic growth.

While we eagerly conceive of certain businesses and sectors approaching a circular model of production—with very little waste and ultra-high efficiency—circularity is not an option for the economy at large. We can view the circular sectors as eddies or whirlpools in the Big River of GDP, a linear river drawing from the "headwaters" of energy and materials and depositing products (and pollutants) in the delta of the marketplace. That's basic physics and the examples are everywhere. There's no unburning of fuels, no recycling of rubber particles left on the roadways, and no way to perform any work whatsoever without the flow of energy.

So, in addition to the linear river and the circular eddies, a sufficient vision for sustainability requires us to consider one more geometric shape: the triangle.

### The Triangular Economy

In the economy of nature, with its non-human species, nothing makes a living without the "producers" at the base. These producers are the plants; they literally produce their own food (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>—the basic sugar molecule) in the process of photosynthesis. When producers are sufficiently developed and widespread, a collection of "consumer" species may also be supported.

The "primary consumers" consume plants directly. When primary consumers are like-

wise sufficiently developed, "secondary consumers" may also evolve. They eat the primary consumers. A simple example of this fundamental food chain in the economy of nature is grass → rabbits → foxes (Figure 1).

Of course, it's not as if we can support one fox with merely one rabbit. Nor can we support one rabbit with one blade of grass. Rather, a great deal of grass is required to produce a large number of rabbits, which in

better or worse, though, humans never really escaped nature. As classic omnivores (somewhat similar to bears) they occupy primary and secondary consumer levels, consuming a great variety of plants and animals.

Meanwhile in the human economy proper, some aspects of nature are built in as surely as gravity. One such aspect is the trophic structure comprising producers and consumers. The base of producers centers

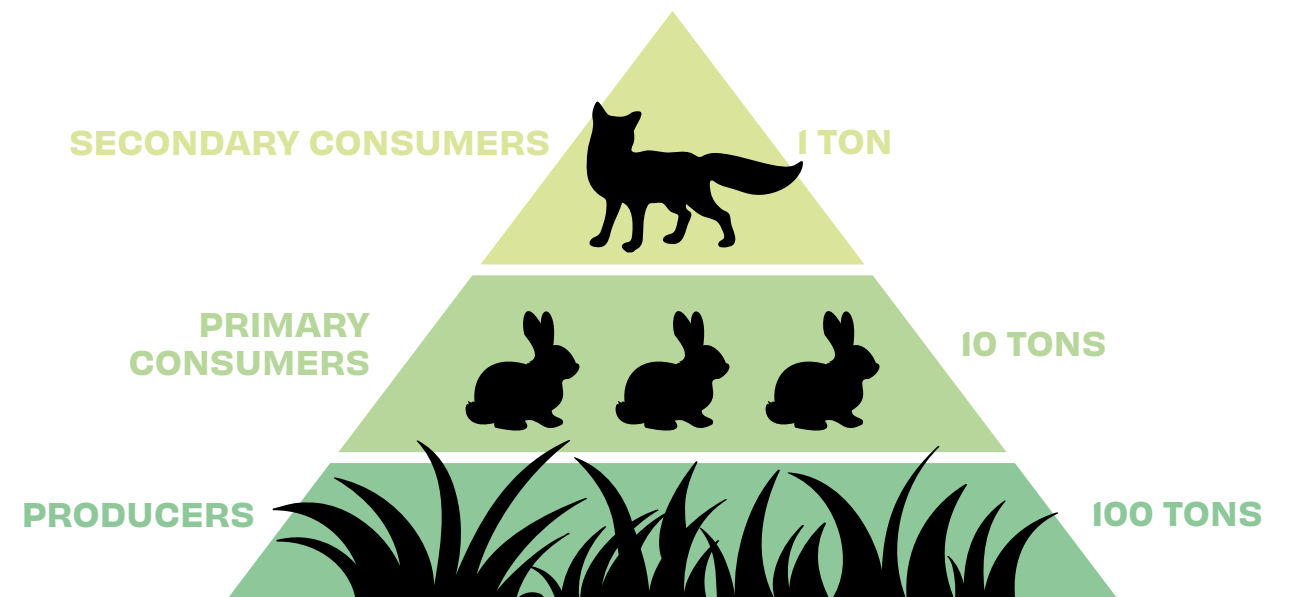


Figure 1. Producers, primary consumers, and secondary consumers comprise "trophic levels" in the economy of nature. (In ecology, "trophic" refers to flows of energy, nutrition, and body mass.)

turn is needed to support a viable population of foxes. These proportions are what give our triangle its shape, with its broad base of producers.

It's hard to beat billions of years of evolution for developing efficient practices and eliminating wasteful activities. Therefore, circular economy entrepreneurs look to nature for examples of highly efficient processes. In fact, "biomimicry" is a buzzword among the circular economy crowd. For

around agriculture and other food-producing activities such as commercial fishing and livestock production. Only when the producers supply sufficient food can there be any division of labor; otherwise everyone is busy growing or gathering their own food!

The extractive sectors such as logging, mining, and energy extraction fill out the producer base of the economy. Each of these sectors takes the rawest materials

from nature, which may then “feed” the heavy manufacturing sectors such as lumber milling, steel smelting, etc. Moving up the trophic structure ultimately allows for the lightest manufacturing of cans, cameras, and computer chips.

What is the significance of this triangular structure? It provides crucial context for sustainability thinking. Imagine the manufacturing of aluminum cans becoming so efficient that each can is recycled.

production at the trophic base of the economy.

### The Trophic Theory of Money: Simpler Than it Sounds

The triangle is the sturdiest shape in architecture and a veritable workhorse in geometry. From the ancient pyramids to the Pythagorean theorem, triangles have

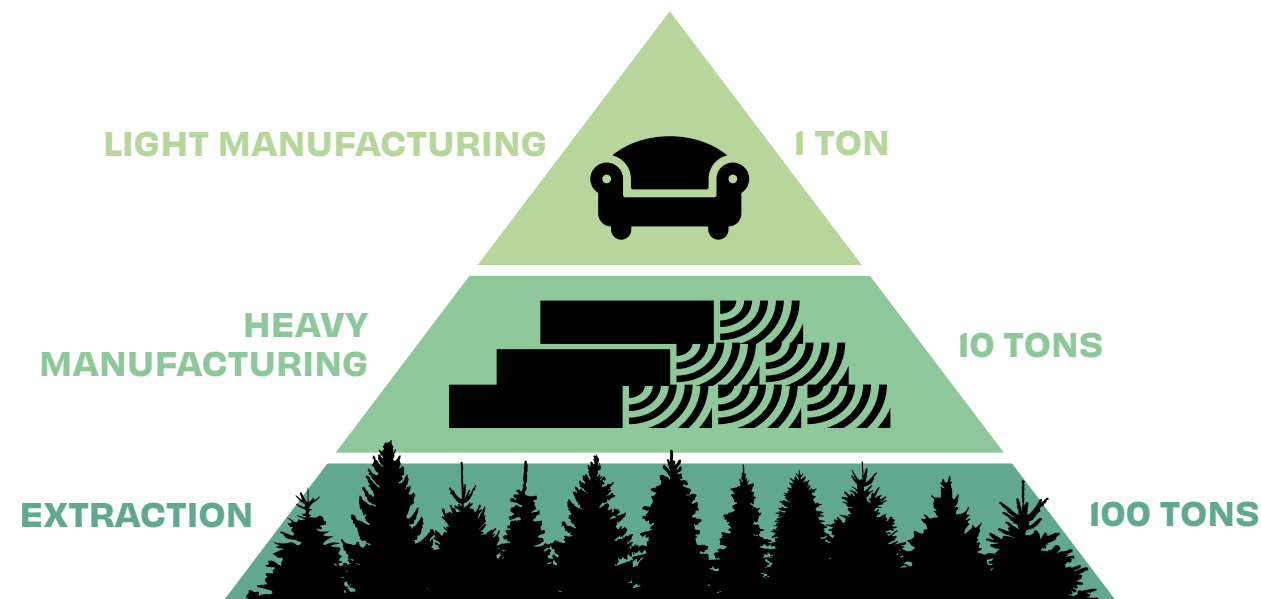


Figure 2. Trophic levels in the human economy consist of agricultural/extractive sectors (producers), heavy manufacturing (primary consumers), and light manufacturing (secondary consumers).

That certainly makes the can manufacturing sector more sustainable, vis-à-vis aluminum, but each act of recycling takes energy, and each can must be filled with something. The can, the energy to produce or recycle it, and the foods to fill it (and the fuels to ship it to market) all come ultimately from the producers at the base of the economy. So, here we have a circular flow of aluminum—an eddy in the Big River of GDP—helping to alleviate aluminum shortages while still requiring surplus

powerful properties. Perhaps it shouldn't be so surprising, then, that the triangular economy comes complete with...a theory of money!

The “trophic theory of money” is that money originates via the agricultural and extractive surplus that frees the hands for the division of labor into manufacturing and service sectors. Prior to agricultural surplus there was no money; indeed money would have been a meaningless concept.

This seems like a no-brainer, yet it deserves close attention because it means that the money supply (a stock) and GDP (a flow) are invariably indicators of environmental impact.

Circular eddies in the manufacturing sectors may help prevent, for example, litter from aluminum cans. We can't discount, however, the indelible holes and “forever” pollutants left by the original aluminum mining. Meanwhile the ongoing agriculture to fill the cans and energy extraction to recycle the cans has direct and inevitable impacts on the landscapes and ecosystems of the planet.

This is not to pick on the aluminum industry. Every manufacturing sector—and every service sector—exists only as part of the broader trophic structure; i.e., “the economy” at large. The structure cannot grow without more surplus coming from the producer base, which is essentially nature or the environment. This helps to explain why many scientific organizations have described a “fundamental conflict” between economic growth and environmental protection.

### Great Expectations Meet the Maximum Power Principle

The ideal of circularity in the production process is a bit like the ideal of civility in electoral politics. It is commendable, everybody wants it, and many profess to pursue it. Yet harsh realities systematically diminish the odds of achieving the ideal.

All else equal, efficiency is more profitable, so it would seem that all businesses in all sectors would do their best to maximize it. The key phrase, though, is “all else equal” (the notorious *ceteris paribus* in economic jargon). One of the unequal variables, when we compare economic processes, is the speed of production.

The most rigorous approach to considering all these variables is the “maximum power principle” described by the great systems ecologist H.T. Odum (1924–2002). Odum was a master of physics and used the Atwood machine to demonstrate the principles. Fortunately, most of the formulae aren't relevant or required for the current purposes, so I'm going to channel Odum's principle and Atwood's machine with a simpler device known to nearly all; namely, the teeter-totter (aka “seesaw”).

Imagine a tin can on the teeter seat, which sits on the ground. Your job is to lift the can to a head-high shelf. If you can manage to place a one-ton rock on the totter seat, and let it drop, the can will shoot up to shelf level in an instant! The job was performed, but nearly a ton's worth of kinetic energy was wasted as the rock smashed—totter seat and all—to the ground.

Now imagine an identical set-up but, instead of using a one-ton rock, you place an identical tin can—plus a pebble—onto the totter seat. Assuming it's a well-greased teeter-totter (and given a little boost of start-up energy) you'll get the job done, but progress will be agonizingly slow. In purely physical terms, you were far more efficient, but you were hardly competitive in the market.

To maximize profits, you'd use a weight that moves the can quickly, but without wanton waste of energy or the likelihood of a disastrous wreck! In other words, you'd strive to perform the job with an intermediate level of efficiency, in order to get it done in a timely fashion for success in the can market. The tension between maximizing production (at market speed) and maximizing efficiency is another overlooked reality, even in those sectors where we hope for circular flows.

## The Sustainable Solution

"The ultimate solution is truth." Was it Plato, Copernicus, or Abraham Lincoln who spoke thus? Evidently none of them, if Google be our guide, yet doesn't it sound like each? Perhaps they didn't utter the words because the logic seemed too obvious. After all, if a proposed solution isn't based on the truth, the whole truth, and nothing but the truth, is it ultimately a "solution" at all?

Similarly, a big-picture solution cannot be arrived at without considering the entire picture. The entirety of the picture amounts to the wholeness of the truth. Wholeness, in the case of big-picture sustainability, is a triangular economy.

We should encourage as much circularity as can truly be achieved, especially in the

manufacturing sectors where circular eddies can most readily form in the river of GDP. In all sectors, too, we should strive for as much efficiency as comports with a relatively free market (as opposed to dictatorial planning). Without a doubt, circular economies and efficiency in general will buy us some time for avoiding supply shocks and environmental calamities.

Yet if we are truly concerned with sustainability – natural resource conservation, maintenance of biodiversity, and a stable climate for starters – we must confront the truth that perpetual growth is impossible, much less reconcilable with environmental protection. Real sustainability boils down to a steady state economy with a stabilized population and per capita consumption. That's the big-picture solution.

We live, after all, in a triangular economy.

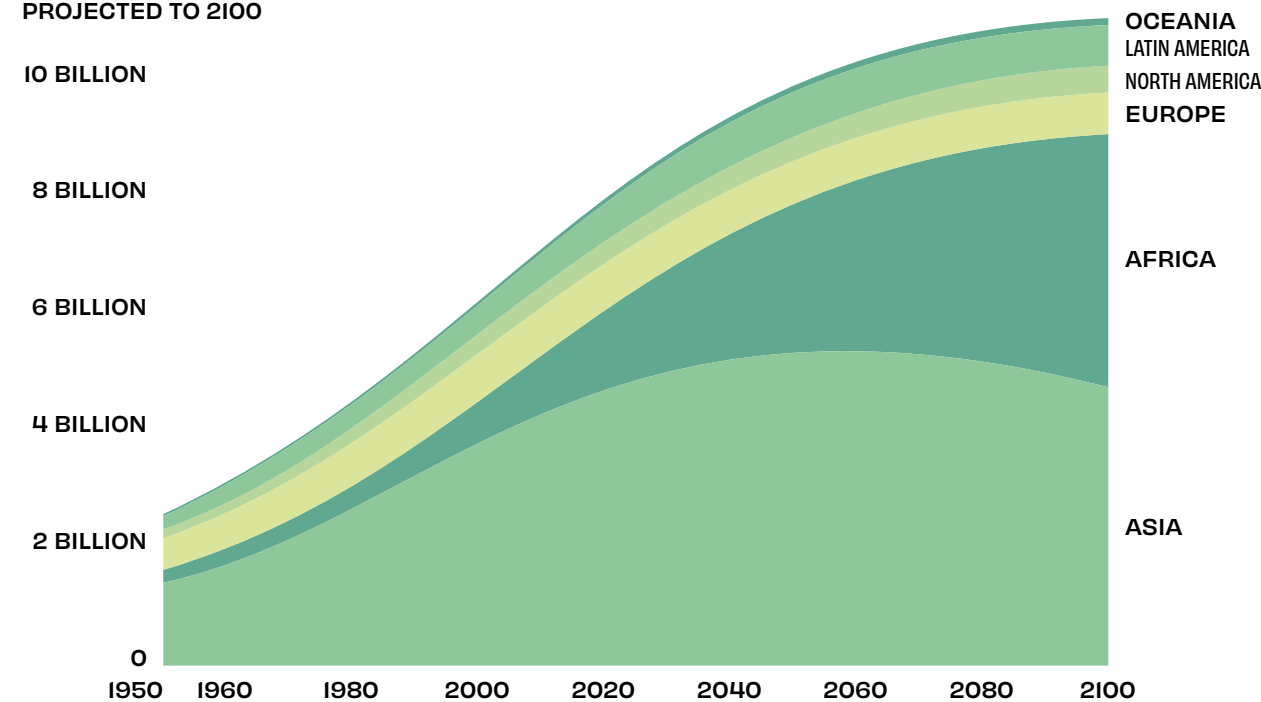
*Brian Czech is the Executive Director of the Center for the Advancement of the Steady State Economy.*

# WHAT SHOULD WE BE DOING TODAY TO BE PREPARED FOR TOMORROW?

**by Jonathan Trent**  
for Green Bumble March, 2021

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**WORLD POPULATION BY REGION  
PROJECTED TO 2100**



World population by region projected to 2100 (based on the UN's medium population scenario). Source: Hyde & UN, WPP

**This is a story about how one species changed a planet...**

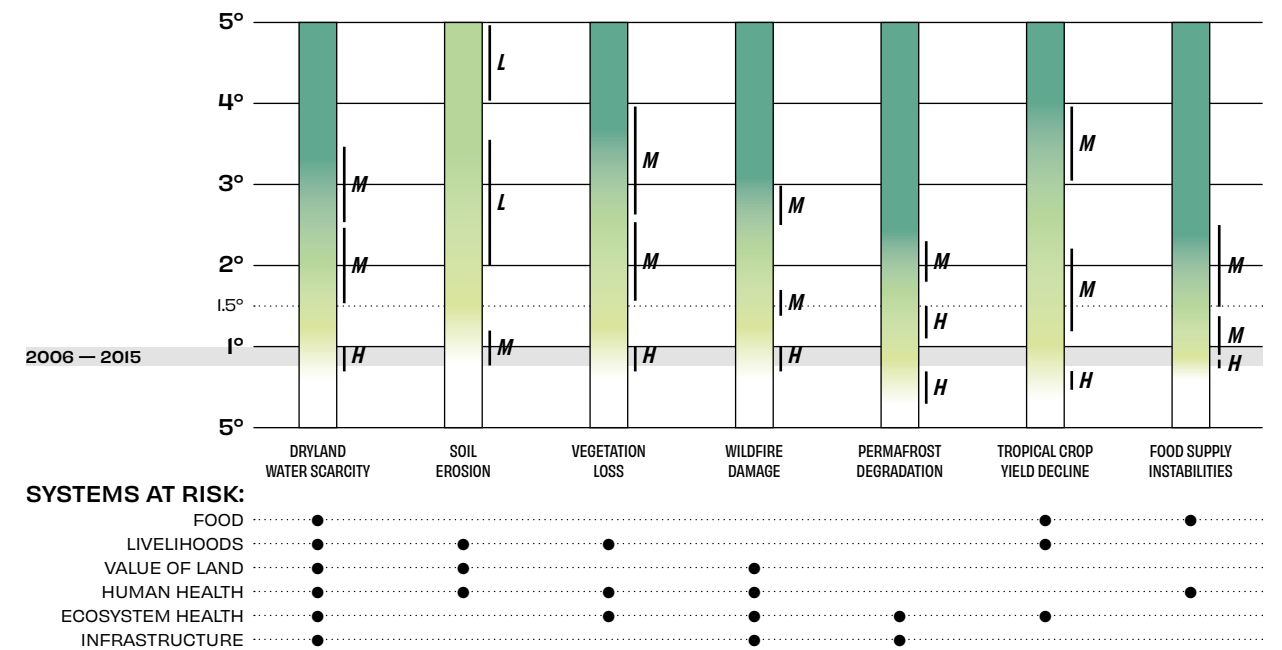
We are living in the Anthropocene and the fact that you are reading this means there is a high probability that your lifestyle is contributing to the environmental changes that are reaching global proportions with some pretty dire consequences. The climate is changing, weather events are becoming more extreme, toxic pollution is degrading our air, water, and soil, sea level is rising, and experts are making alarming predictions about food security, dwindling drinking water supplies, and energy limitations for a global population that may reach 10 billion by 2050.

While the number of people with all their environmentally taxing needs increases, the number and diversity of wild animals decreases in what is described as the "sixth major extinction." All these changes that impact what is called "Ecosystem Services" does not bode well for the future of civilization as we know it.

While we are regularly reminded of these threats to our survival in our daily newsfeed, most of us ignore these disturbing revelations and so we must, in order to be able to productively get on with our day-to-day lives. Besides, there's seemingly nothing we can individually do about these huge problems. As long as we have food on the table, clean water on tap, and energy to meet our needs, we take one day at a time. This

**RISKS TO HUMANS AND ECOSYSTEMS**

INCREASES IN GLOBAL MEAN SURFACE TEMPERATURE, RELATIVE TO PRE-INDUSTRIAL LEVELS (C°)



Risks to humans and ecosystems from changes in land-based processes as a result of climate change. Increases in global mean surface temperature (GMST), relative to pre-industrial levels, affect processes involved in desertification (water scarcity), land degradation (soil erosion, vegetation loss, wildfire, permafrost thaw) and food security (crop yield and food supply instabilities). Changes in these processes drive risks to food systems, livelihoods, infrastructure, the value of land, and human and ecosystem health. Changes in one process (e.g. wildfire or water scarcity) may result in compound risks. Risks are location-specific and differ by region.

Source: IPCC (Intergovernmental panel on climate change) "Climate Change and Land", August 2019

raises the question however, just how good and sustainable are our food, water, and energy supply chains?

Indeed, it does not take much imagination to realize that our essential food, water, and energy supply chains are threatened by population growth, urbanization, affluence, climate change, and environmental degradation. Something must be done to secure these supply chains and avert what will be an unprecedented humanitarian disaster if and when they fail.

Food production already utilizes 50% of the "habitable" land on Earth, accounts for 92% of our freshwater footprint, and de-

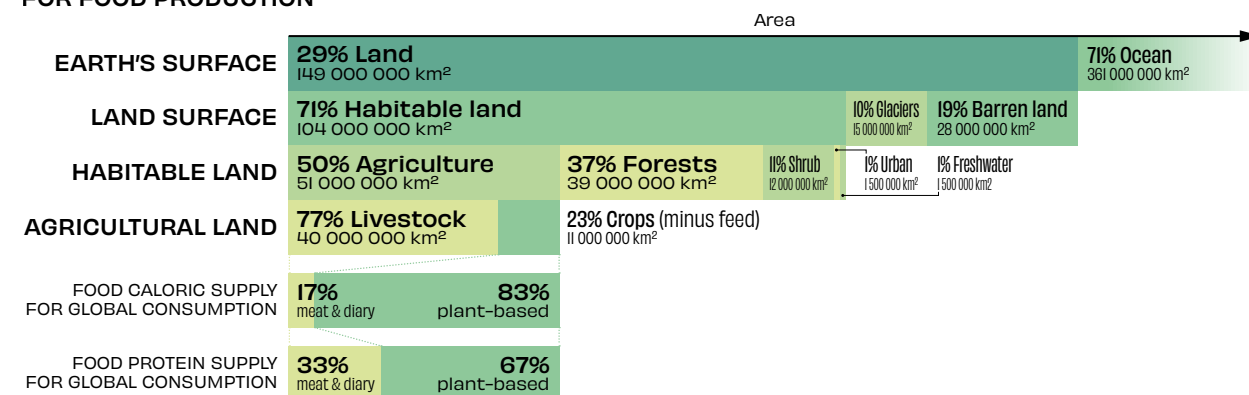
pends heavily on fossil fuels both directly for farming machinery (diesel, natural gas, and electricity) and indirectly for fertilizer and pesticides.

With increasing prosperity, farming has increasingly focused on producing livestock for meat, milk, and eggs with more than 1.3 billion people employed by the associated industries.

It is estimated that livestock accounts for about 40% of global agricultural gross domestic product or about \$1.2 trillion (US-dollars) in 2016.

Currently, over 3/4 of agricultural land is dedicated to animal grazing or animal feed

## GLOBAL SURFACE AREA ALLOCATION FOR FOOD PRODUCTION



Global surface area allocation for food production

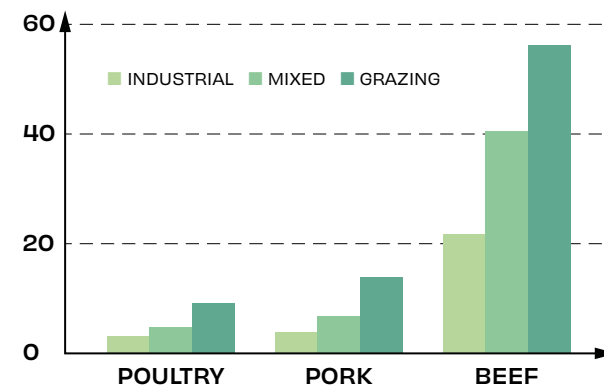
Source: Based on UN Food and Agricultural Organization (FAO) Statistics.

Feed conversion efficiencies for poultry, pork and beef averaged for China, Brazil, the Netherlands and the US. DM/4dry mass

Source: Mekonnen, M.M.; Hoekstra, A.Y. The Green, The water footprint of poultry, pork and beef: A comparative study in different countries and production systems.

## FEED CONVERSION EFFICIENCY

KG FEED DM / KG MEAT



production, supporting an estimated 24 billion cows, chickens, pigs, sheep, goats, and turkeys. The impact on water is enormous. It takes 15,415 liters of water to make one kilogram of beef, 10,412 liters/kg of mutton, 5,988 liters/kg of pork, and 4,325 liters/kg of chicken.

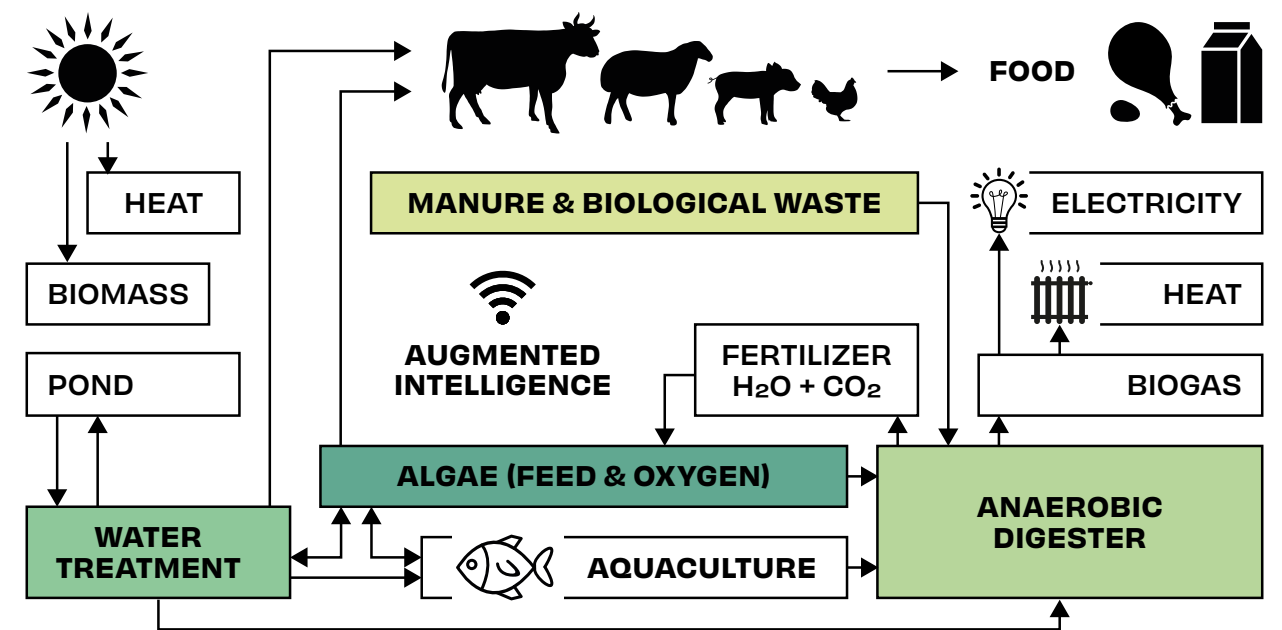
Although there is a large commitment to livestock farming, these animals currently provide only about 33% of our protein. Other animal protein sources come from fish, which contribute another 20%.

The world's Fisheries and Aquaculture Industries employ more than 57 million people, with the number of people hunting for fish declining, and those working in

aquaculture continuing to increase (FAO 2016). The economic value of the aquaculture industry is expected to reach \$242 billion by 2022 and to provide well over 50% of the fish we will eat. In addition to concerns about livestock and aquaculture to meet the needs of the growing population there are also concerns about the environmental impact of current land-use practices, the stability of supply chains, and the consequences of resource limitations.

## The UpCycle Systems (UCS)

UCS was founded to increase the efficiency of food production, conserve water through storage, treatment and reuse; and



How do we realize the UCS aspirations for food, water, and energy security? The UpCycle System (UCS) integrates food, water, and energy. It combines livestock and aquaculture farming (food) using algae as a feed supplement for animals (omega-3) and as both feed and oxygen for aquaculture. Water from a pond is treated for animals, aquaculture, and algae use and reuse. The animal/fish/algae wastes with other organic wastes are processed by anaerobic digestion to produce biogas for electricity and heat as well as fertilizer and carbon dioxide (CO2) for algae growth. The whole system is monitored and controlled with Augmented Intelligence.

Diagram (UCS by J. Trent)

to localize and distribute energy using solar, biomass, waste to energy technologies, and storage systems.

What's really needed for sustainability is integration rather than innovation...

The good news is that UCS does not depend on major breakthroughs. It uses only well established technologies, but improves their efficiencies by bringing them together in what we call the "UCS Symbiosis." What this means is that we assemble local experts in each of the relevant food, water, and energy technologies and challenge them to work together by integrating their activities for mutual benefits.

For example, a UCS Symbiosis can combine livestock farming producing food

with algae cultivation that provide feed supplements for the livestock. The organic wastes from the livestock are used in anaerobic digesters to make fertilizer and concentrated CO2 for the algae, as well as producing methane, which can be converted into useful energy. Among other uses the energy is used for water treatment. Treated water allows the farm to include aquaculture to contribute to food production. The aquaculture wastewater supports the algae cultivation and the algae are also a feed supplement for the aquaculture. There are many pathways to useful fertilizers from the livestock, algae, aquaculture wastes that help to drive the system itself or become useful byproducts.

This is just one example. Other possible UCS symbioses could incorporate solar

## GLOBAL TEMPERATURE



The new NASA global data set combines historical measurements with data from climate simulations using the best available computer models to provide forecasts of how global temperature (shown here) and precipitation might change up to 2100 under different greenhouse gas emissions scenarios. Credits: NASA

panels into farming contexts, expanding on what has been done for years as "Agri-voltaics" to incorporate algae, aquaculture, livestock, digesters, water storage, and so on. And these systems need not be limited to land.

### From OMEGA to UpCycle Systems

OMEGA, an acronym for "Offshore Membrane Enclosures for Growing Algae," was a NASA research project (2010-2013) generously funded by NASA and the California Energy Commission with \$10.8 million US dollars.

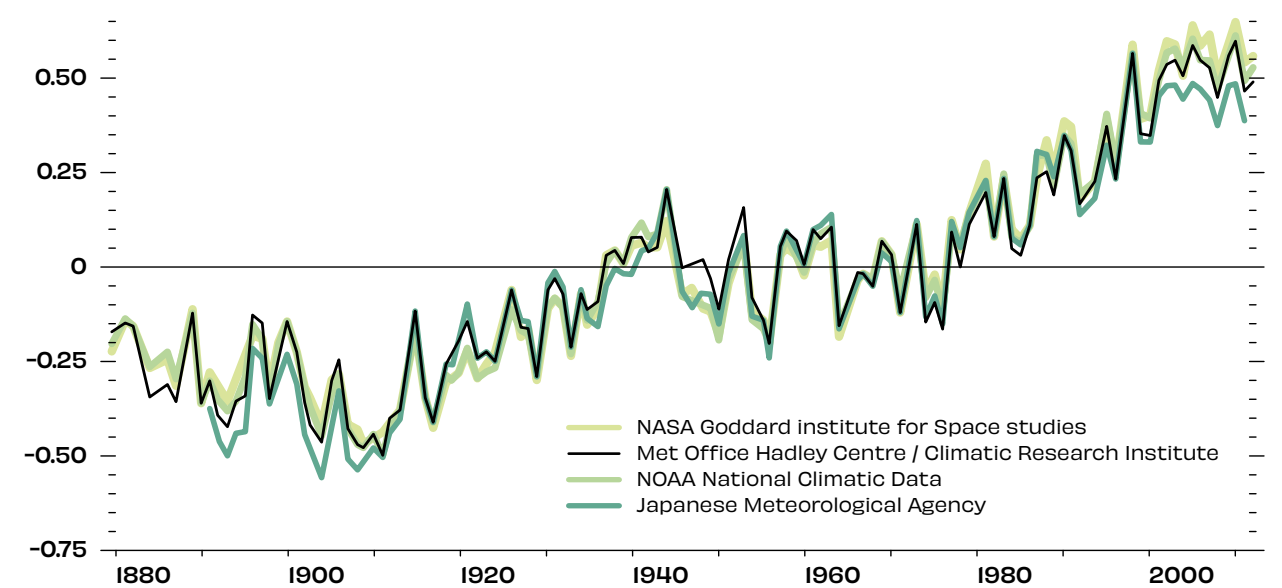
The project was based on the presumption that: If fast-growing, oil-producing micro-algae could be grown on a large scale in offshore enclosures floating in protected bays using the wastewater from cities for the water and nutrients needed for their growth, then microalgae made into biofuels could replace a significant

amount of fossil fuels without impacting agriculture.

The offshore OMEGA installations would provide a scalable source of biofuels and address the criticism that biofuels inevitably compete with agriculture for water, fertilizer, and land, which OMEGA does not do because it would use wastewater and isn't land-based; it's offshore in calm bays. Many cities are situated near calm bays and with the rising sea level due to climate change there will be increasing coastal flooding that can be managed to increase the number of appropriate sites for OMEGA systems. I described the OMEGA project in a TED Global talk.

After four years of research, the OMEGA team concluded that OMEGA biofuels could not compete with fossil fuels either energetically or economically, unless algae biofuel production was integrated into a system that included other forms of energy and other economic returns. For other energy sources compatible with OMEGA,

## TEMPERATURE ANOMALY (C°)



Earth's temperature record. Credits: NASA

we considered floating water-cooled solar panels, wind turbines, and wave power systems.

For other economic returns that could use the OMEGA infrastructure, we considered aquaculture and wastewater treatment for reuse. Thus the OMEGA project began as an alternative energy project and developed into an integrated food, water, and energy system.

It was the requirement that environmentally degrading energy technology can only be replaced by alternative technologies that are economically viable that led to the development of UpCycle Systems.

### UpCycling for Food, Water, and Energy Security

UpCycle Systems (UCS) is a variation on OMEGA that is onshore, and does not focus on producing biofuels for energy, but rather is based on the integration of existing

food, water, and energy technologies into a sustainable system. Perhaps the most important feature of UCS is that it does not depend on breakthroughs in technology. It uses well-established technologies, but improves their productivity and profitability by integrating them into what we call the "UCS Symbiosis."

For a long time, we have known that integrating well-established technologies into a circular "symbiotic" system can significantly improve their productivity and profitability, if the wastes from one technology can be used as resources for another technology. The difficulties in engineering such an "ecology of technology" are 1) managing the complexity, which can easily get out of hand, when even only a couple of technologies, having more than a few interactions, must be kept in balance; and 2) making the system economically profitable.

If we've known how to make such integrated systems for a long time, why haven't UCS symbioses already been done?

## The KISS of Death

While the KISS Principle (Keep It Simple Stupid) originated in engineering in the 1960s, it has spread to many areas of human endeavor and it's arguably the mindset that scares people away from complex integrated systems. It's true that complexity adds risks and risks increase the probability of failure, and for many things it makes sense to "keep it simple." For all the reasons mentioned above however, it not only makes sense for us to move on from this "stupid" principle when it comes to food, water, and energy security; it may be the kiss of death if we don't.

Which brings us to the main reason the time has come to launch the UCS symbiosis; we now have the critical tools we need to tame much of the confounding complexity that has prevented us from taking this risk in the past. We refer to these tools collectively as: «augmented intelligence» (Aug-I).

Aug-I combines artificial intelligence, decision intelligence, business intelligence, and environmental intelligence derived from sensors, networks, expert-experiences, models, simulations, and archives of useful data. With Aug-I we can collect, process, archive, and share information for estab-

lishing and disseminating best practices for a given location.

Arguably, the success of our species has depended on our intelligence and our ability to store and share information. The UCS goals to increase the productivity and profitability of food, water, and energy businesses, while decreasing their environmental impact and creating sustainable circular economies are all dependent on augmented intelligence.

That's what is different now and the key to the success of UCS. With the advances in sensors and information management and "big-data" processing the time has come to realize the benefits of such integrated complex systems to help secure food, water, and energy locally and globally.

### A note for future readers

You see that in general we have a plan that will help to distribute and optimize food, water, and energy production in ways that will increase sustainability. If you are reading this years or decades from when it was published, you'll know if we were successful.

# FUTURE WORTH DREAMING

Interview with Karina Vissonova, Institute of Advanced Design Studies for UNESCO High-Level Futures Literacy Summit Overcoming 'poverty of the imagination'

by Zsombor Gál, 2020  
Transcript

Correct citation: Vissonova, Karina "Future Worth Dreaming". (Transcript of an interview recording for UNESCO High-Level Futures Literacy Summit Overcoming 'poverty of the imagination', virtual event December 2020) in Green Bumble - undiscussed discussions, ed. K. Vissonova. Institute of Advanced Design Studies non-profit, 2021.



**Zsombor:** What was the motivation behind founding the ADES institute?

**Karina:** I asked myself, what is the role of education?

I was working as a product developer and innovation strategist in a progressive manufacturing company, where I took upon myself the role of applying sustainability in all the new product concepts we were developing. And by sustainability, I mean the understanding that it is not enough to apply sustainable design methods to a physical product, and not even enough to make its production and supply chains sustainable – if the existence of the product itself can be questioned – do we necessarily need that product, irrespective of its sustainability parameters?

I think many recognise that we produce for the sake of producing, because that is how our socio-economic system is set up, although many also still believe that we produce for the sake of consuming. But I think those ranks of believers are decreasing by the day.

So, coming back to the role of education – it appears increasingly steadily to be a ticket office for labour markets – markets which distribute skills in our production-consumption driven society – and higher ranking is the education the better seat you buy in a market. Well then, if sustainability is not rating highly as a seat in these markets, it also will not be integrated deeply into our education system.

So how can we change this now clearly unhealthy cyclical predicament? – by changing, or rather renewing the role of education. ADES is a new experimental school, but it also is a school that is based on the best practices that guided us out of crises before. History shows that at the

time when problems grow in their scale and complexity, such as the current climate and environmental crises we are in the middle of, working across disciplines, fields of science and practices offers a better chance of solving these problems.

ADES trains students to address the sustainability challenge not as a designer, or an architect, or engineer individually, but to co-generate knowledge as a collaborative team, which can face the levels of multilayered complexity of these problems.

**Zsombor:** How does the work of ADES institute correspond to the latest in sustainable design?

**Karina:** In principle, when we refer to sustainable design, we pretty much always refer to practical improvements of products, their production, their material sourcing and their afterlife, if you will. These are iterative processes, – improvement upon improvement upon improvement – all of which must fit into the production-consumption paradigm. This paradigm, we are told, exists because we are a consumer society – i.e. we love to buy and possess things. Regardless, whether this is true or not, this view proposes the idea that if we adjust all of our production to green methods, source our resources sustainably and so on and on, we can improve and maintain the production-consumption model indefinitely.

This is an anthropocentric view, which promotes material abundance if the production systems are submitted to intelligent solutions, but which certainly does not necessarily represent the leading perception held by the global society.

There is also a view that to preserve the environment, along with all it has to provide – like its beauty, and the resources we require, we must replace the production-consumption society model and find a new way of re-conceptualising our materi-

al wellbeing which we could call sufficient, rather than abundant – as proposed by the anthropocentrists.

What I am saying here is that a large portion of the society does not want to buy and possess things at the cost of the environment, and not as many nor the types of products as we have available. This leads to a gray area yet unresolved – what is the future model of society, is there a need and an option of replacing the production-consumption-driven one, and how can we design for it? Here is the challenge – on the global scale necessary, we do not know what this model might be which accommodates human nature and the environment on a more equal terms.

But what we do know is that if we focus on transdisciplinary education where students and experts co-generate knowledge across scientific fields and sectors, we are more likely to come with new thought methods, which will guide our actions in designing for this shift in paradigm.

**Zsombor:** How does ADES institute deliver its mission?

**Karina:** You know, when you watch an inspirational talk by some iconic personality, like a TED talk for instance, the speaker more often than not has had multiple careers in multiple disciplines, or quite possibly a career in an entirely different discipline than offered by her/ his education.

My favourite example of an iconic personality is Michael Faraday, who lived at the turn of the 19th century. Faraday was working as a bookbinder and later in a laboratory in London, trained on the job, without any formal education, being from a poor family. However, he is referred to as one of the greatest visionary physicists. Reading Newton's theory of gravity, Faraday intuitively experiments and imagines what we now know as the electromagnetic field that binds all matter. Numerous technologies

our society relies on today are founded on Faraday's discoveries.

To discover and to imagine something new, one builds on knowledge indeed, but also one crosses boundaries of training. This is what we are working to achieve with the ADES study programme. We introduce our students of various backgrounds to different knowledge fields, sciences and perspectives under a leading theme which we find to be relevant in addressing contemporary problems. So our students do not learn subjects, but draw inspiration from the different fields – this way, instead, learning how to apply themselves in making our world more sustainable.

**Zsombor:** What does sustainability face in today's world?

**Karina:** I suppose sometimes big questions require big answers. I am not sure of the bigness of my answer, but I think today still, after a good pile of decades, sustainability represents an intent – intent to sustain clean drinking water, to sustain forests which absorb carbon dioxide and homes many species, to sustain the stocks of fish in the sea, and the biodiversity – the immune system that supports our existence. But being painfully aware of the devastation of the Amazonian forests, the impossibly slow adaptation to carbon neutral actions across industries and regions, the prevalence of the massive scale of the highly polluting and resource-hungry livestock industry, the ongoing boom of a construction sector, as if our housing and public building stock were insufficient, – well, the intent thus far just seems to have maintained us wrapped in a blanket of false security – if we recycle, skip the christmas shopping spree and buy organic from the local farm, well then – we are slowly but surely shaping our green future.

Don't get me wrong, I am not saying that nothing is good enough of what is achieved – there are admirable radical projects and actions taking place around the world, and a change to such a large extent as the change for a sustainable society does not happen overnight. But the leaders of these most radical projects have taken action knowing that more drastic measures are required if we are to have a future worth dreaming.

We need to stop communicating that little steps like recycling and not shopping for Christmas or choosing organic are bringing us the change – we need to communicate, shout from rooftops as you like – that to withstand the current global crises, to be a resilient society – what we do today, and what we have done yesterday is not enough – tomorrow we must wake up ready to make the future we all find worth dreaming.

