

Sustainable Innovation Report

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A summary of the discussions and conversations taking place at *Sustainable Innovation*, 18th of July 2002, a one day creative workshop initiative by the Sustainable Marketing Knowledge Network.

Organisers

The Centre for Sustainable Design
Department of Marketing, Strathclyde University

Facilitators

Martin Charter
Ingrid Kajzer

Location

The Centre for Sustainable Design
SIAD-UC, UK

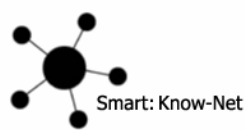
Participants

Liz Barker	Researcher	Creative Zones
Zoe Eaves	Strategic/Design Planner	Virus
Dominic Eggbeer	Product Designer	BCB International
Brian Hunt	Consultant	Sanguma
Preben Kristensen	Head of Department	Danish EPA
Tim Lenaerts	Associate	CES Ltd
Andrew Marsden	Environmental Co-ordinator	Land Rover
Jan Scherer	Analyst	SustainAbility
Fritz Taylor	Product Designer	Nike

How can we move beyond environmental product declarations?

How do organic processes transfer to strategic thinking?

How can we reinforce sustainable brand value?





Dear Participant

Sustainable Innovation was a collective endeavour between Professor Martin Charter at The Centre for Sustainable Design and Ingrid Kajzer from the Marketing Department at Strathclyde University. This one day workshop was an unique event, looking beyond current workshop approaches to sustainability. So far, numerous initiatives have focused on contaminated land, legislation and resource minimisation strategies. *Sustainable Innovation* was one of the first of its kind, focusing on creativity and innovation.

This is a summary of the conversations taking place throughout the day as well as solutions created in the various workshop activities. It reflects the overall learning and the main conclusions reached from the workshop.

The objectives of the day were:

- >> To experience different ways of thinking about sustainability and marketing
- >> To explore sustainability and marketing through novel creative methods and design solutions 'on the spot'
- >> To facilitate co-operation between marketing, design and environmental professionals
- >> To present and explore critical business and research examples of sustainable marketing and design

It is hoped that this document will inspire you as a reader, to view sustainability with enthusiasm and encourage you to recognise the opportunities that are available to us. We would also like to take the opportunity to thank all participants for your vital input in this workshop

Martin Charter & Ingrid Kajzer

>>thoughts on the day

'good practice for mapping system thinking, it would be good to share techniques'

'..what I got out from the last bit was the need to look for systems, we get into issues of partnership, maybe new business models'

'inspiring input from other areas of industry. Encouraged practical ideas that can be employed on both micro (in organisations) and macro level'

Structure of the report

This online report of the *Sustainable Innovation* workshop will provide you with the following:

A brief background to *Sustainable Innovation* and the need for new approaches to sustainability.

Discussions and dialogues arising from the day such as *'inspired by nature'* and *'design on the spot'* as well as the final 'discussion' session.

An overview of the prototype-solutions created by the participants.

In addition, you will find some links and references throughout the report, encouraging you to explore certain areas further.

Finally, facilitators details are given at the end.



New ways of thinking about sustainability

We live in a world where organisations of all kinds have to be more creative in finding new ways of doing business that are compatible with achieving a more sustainable society. We need to look at not only what we are doing but explore ideas and experience images of the future and what could be!

A new trend is emerging, the next evolution of '*sustainable*' is moving beyond eco-friendliness to organic inspiration where our businesses, strategies and products actually live and breathe. A number of forefront organisations are now turning to nature, not to extract but to be inspired and learn from natural design principles. Biomimicry, integrated biological systems and adaptive enterprises are emerging business vocabulary.

This workshop was created to provide space to create images of the future and explore marketing as a '*living process*'. It was intended to invite you to think more deeply about marketing and sustainability by challenging traditional thought and move beyond conventional business practice.

A diverse range of participants were purposely invited as we would argue that generating ideas and achieving a sustainable future is not just a technical matter. It requires co-operation between stakeholders from different knowledge areas.

What if?

What happens if we take an ecological perspective to marketing and innovation?
What are the benefits of cultivating such a growing mindset?



Strategic Overview and Sustainable Marketing

Here participants were introduced to current trends and concepts related to sustainability. This is a short summary of key issues discussed.

- Uncertainty:** There is an uncertainty over operationalisation of business sustainability
- Outsourcing:** There are considerable shifts of outsourcing manufacturing to south and south-east Asia
- PR:** 'Producer responsibility' laws are extending companies traditional responsibilities
- Eco-efficiency:** There is an increasing recognition of the need for resource and energy efficiency.
- Human rights:** Human rights and environmental non-governmental organisations are gaining more influence
- Soft:** Social performance is a difficult area to measure – especially in relation to products
- Fishbowl:** There is a growing scrutiny of companies social and environmental performance accelerated by internet
- Japan:** Environmental laws are being used to strengthen Japan's long term competitiveness
- Value:** There is an emerging understanding of the need to determine sustainability impacts throughout the value chain

Short thought provoking exercises were carried out with participants, which illustrated

- >> how deeply rooted our existing thought patterns are
- >> how we tend to think and approach problems in a similar way
- >> how the current business approach to sustainability is not sufficient
- >> how we need to move away from bureaucracy and complex jargon
- >> how we need to look beyond financial justification
- >> how we need to stop wasting and using unnecessary packaging
- >> how we need to be proactive and stop putting our '*head in the sand*'
- >> how we need a clear financial and business case





Landfills around the world are swollen full of dishwashers, televisions.. computers..bicycles etc. Each of which having spent a year or so conscience time in the garage as a stopover. Many of these products still function perfectly and most definitely haven't been consumed or 'used up' at all. So what have these apparently indispensable life-changing products ceased to do in order to be granted a 4000-year death sentence of painfully slow bio-degradation?....



...however, until products (what we do) embody a transient flexibility to shift and adapt in sync with us we will always be adding to an immense landfill of transferred matter whose only crime was a failure to adapt and grow

Jonathan Chapman, 2002

Rethinking Products

It is clear that we have to rethink the way we look at products and how we market them. Following the evolving trend to use nature's design principles participants were asked:

What is a product in nature?

What happens if products are living?

Looking at products from this perspective may introduce us to ideas on how to improve the durability and increase the meaningfulness of products. The following extract is a summary of what participants collectively generated throughout the day.

'A living product has a soul and will die if not maintained. It is breathing, having a heartbeat, a pulse. It is non-static, more organic, changing, adapting and reacting (reactive) to its environment. It is a product concept where cues are taken from the natural world. It is something that becomes personalised and has personalities. It is reacting and enjoying, it is interacting' It may reproduce and take over in hundreds, caused by a throw-away society and mass consumption".

>> Questions

- 1 Do you think products today are 'living'?
- 2 Is this idea of 'Living Product' different or similar to the way you look at sustainable products today?
- 3 Is it of any use or relevance?

>> Explore further

- >> Biomimicry - inspired by nature
- >> Integrated Biological Systems
- >> Industrial Ecology
- >> The Living Product*





A more 'organic' approach was welcomed by participants as a new and different approach to thinking and questioning sustainability. **'Are sustainable businesses sustainable today?'** Are we using the right measurements? It was perceived as an opportunity to change company thinking and explore different ways of doing.

>> Explore further

- >> Living Organisations
- >> Living Strategies
- >> Biological Business
- >> Industrial Ecology

Rethinking Organisations

Rethinking products also require us to re-examine the nature of organisations. One group of participants came up with the following:

It is an organisation that operates like an eco-system. It is adaptive and built around knowledge sharing and has strong links to the community. Introducing sensitivity and response where products and organisations live in equilibrium with the environment. The organisation, sensing, brings balance in the community, where we would have an involvement in the organisation, and would have a part in its success. We would have:

'..organisations that can feel their surrounding environment and can produce functions that are in equilibrium with the environment'

It renews itself, in response to threats and opportunities in the environment. This is an organic model in the sense that the organisation's response can be tested and modified if necessary. This kind of organic organisation would have to be built around a clear shared set of sustainable values and visions.

Key words: knowledge sharing, strong links to the community, renew itself, easily modified

>> Your Questions

How can products respond to changing environments?'

'How can organisations sense these changes?'

'How can a company's energy to change be channelled?'

>> Your interpretation of Co-evolution:

'dynamic, partnership, inclusive, progress, sharing, mutual, balance, knowledge sharing, team work, mutual respect, open and honest, responsive and reactive'





Adapting a more organic approach to innovation and marketing is not an easy task. Despite commercial opportunities such as potential eco-efficiency improvements and design of products that can adapt to different markets, participants recognised a number of potential barriers. See discussion below.

>>Change criteria mentioned

- >> Role of marketing/consultants and designers
- >> Flatter organisational structures
- >> Equal power sharing
- >> Education and training
- >> Job security

Critical Discussion

A number of challenges towards implementing and selling the rationale of biomimicry and an organic approach were brought up. For example cultural issues, existing business visions, mission statements and financial structures in place. A strong product focus was identified as a constraint and it emerged that the ability to be adaptive was dependent on the type of product. With the example of the car, which is a complex product and associated with long product life cycles, and time to market, change and adaptability are difficult to achieve.

Having adequate resources to implement this kind of innovation was considered key. One participant questioned: *'How many companies have the resources to actually evolve themselves into this type of innovation, more chaotic approaches? I agree it is interesting static and organic, but that is also too one edge to the other, and perhaps only Philips and Coca Cola will have the resources to do something like that'.*

A more organic approach to sustainability would require a change of thought, a 'blank sheet' and a number of structural changes.

'Organisations would have to transform whilst encouraging adaptability through communication. e.g. creating consumer involvement'.

>> Quote

'We require a blank sheet, and throw away mindsets that will restrict innovation.'



Mobility Solutions

'Travelling on the M25 between 7am and 9am is like the biggest car park in the south-east. We started looking at what the problem was and what some of the possible solutions would be.'

Mobility as a 'biological system'

Participants working on creating sustainable mobility solutions developed an organic model where the dependency between various mobility solutions and systems was the primary focus. The final solution consisted of a holistic and integrated national transportation system. On a national level the user would travel from rail station to station where various types of vehicles would be available. After collecting a self-drive vehicle from a depot e.g. a car or a moped the regional journey would continue from one depot to another. When reaching the local destination the user would leave the car at the local depot where it would be recharged and serviced. It would be maintained and ready to use for the next person. Here the user would have the option to pick up a bicycle to reach their final destination. On a final micro level the user would leave the bicycle and walk. The 'driver' would pay by use and car ownership would be reduced dramatically. Transportation providers would collaborate with the agricultural sector using bio-fuels e.g. shifting from petroleum towards natural based fuels.

Sustainable innovation urges us to start recognising the interdependencies, and different possible connections that we can make. This prototype mobility solution connecting to agriculture is an example thereof. It is clear that opportunities will not always be related to the business you are in. Thus, to realise this 'organic' model *'we would need to have more integrated thinking, collaboration between business, government and other stakeholders, system level innovation.'*

'It shows I suppose how we are going to need to think out of the box not only in terms of conventional business models, but also potentially cross-sectorally.'

>> Solutions towards sustainable mobility

- >> Massive public transportation programmes
- >> One lane for motorcycles only
- >> Inner bicycle lane
- >> More people working from home
- >> Getting lorries off the road
- >> Which would lead to less wear on the road and less road works causing congestions
- >> Differential tax on the size of vehicles
- >> Promoting alternative ways of spending your time

>> Challenges

- >> Managing too many vested interests
- >> To think even more out of the box
- >> Re-think the car as a status symbol
- >> Government not positioned to work like this
- >> Co-ordinated transportation policy
- >> Encouraging local working and sourcing
- >> Overcoming lower status perception of e.g. using public transport





Food Solutions

Another group was working on sustainable food solutions and by starting to look at interdependencies a chain of events were initially mapped out:

Nature > Farmer > Retailer (Tesco, Sainsbury) > Consumer > End of life >

In order to create a sustainable solution, focus was directed towards social issues such as nutrition; a balanced and proper diet. It was argued that this is the responsibility of all food producers. Some of the key issues (possible sources of unsustainability) and associated practical solutions identified at various levels are illustrated below.

	<u>Key Issues</u>	<u>Solutions</u>
Farmer:	Production Process Scale Farming	Fair Trade Farmers Market
Food Retail	Packaging Suppliers Inappropriate selling	Explicit labelling 'Pick your own food' Cultural feasts: bringing communities together Promoting local needs and community kitchen
Consumer	Bad nutrition Seeking Entertainment	Customised meal offers Promoting shared meals and family as unit Indoor gardens; micro composting

'Need to find full life-cycle which may then help you identify links to other communities and industries to find solutions to issues'



Furniture Solutions

'Why do people change their furniture? Furniture gets old; wear and tear, emergence of new trends and fashion, change in family life and finally change in financial circumstances. This sustainable furniture solution is focused on decreasing the 'wear and tear'..

An interactive furniture experience

What about a furniture solution that is adaptable so it can suit changing environments? The idea is based around changeable components. Key design drivers were:

- **How to bring down the cost of the system?**
- **How to bring down the number of components?**

From this came the idea of designing furniture using the same type of material which would make them easy to take a part and easy to put together. This would have clear benefits for recycling materials, easier to identify and separate. The product would also consist of a number of building blocks, which could be interchanged to suit the environment e.g. a chair could become a bedside table. This would allow the product a life extension, as it is able to adapt to changing needs.

To supplement the physical design of the product itself, a number of service solutions were created. Owning furniture would be more like owning a car where you at the end of the year would be able to 'upgrade' it. Other ideas were trading schemes in local communities. Here owners could swap and share furniture. It can all be described as an interactive furniture experience.

It should be noted that these group activities around mobility, food and furniture solutions were intended as introductions for participants to think in a systemic way and therefore the proto-type examples are first attempts, and that should be kept in mind when reading.



>> Nike Shoes

What does this furniture solution have to do with Nike shoes?

Well, at Nike you can to some degree customise your shoe, making it your own. As part of this you may in the future have the opportunity to change parts of the shoe when it wears and tears. This increases the durability of the shoe – and we have a more sustainable product solution. It does not only extend the lifetime of the shoe, but the exchangeable parts could be designed to go back to recycling. It becomes important to customise in such a way that it does enhance customer value but does not damage the end of life value.

>> Related words

design for service
design for assembly
multifunctional furniture





Discussion I

The *Sustainable Innovation* workshop ended with a dialogue session where emerging issues from the day were discussed. Some of the themes touched upon were:

The need for cultural and structural changes

We must rethink organisations and increase the power to respond to changes, giving people the incentive to make change happen. *'How do we integrate this change on a continuous level?'* How do you encourage change in your people, in your products, in your relationship with your customers? People get quite excited talking about change, but when it comes down to it, it is all about structure, time and budgets which are very short term driven. Motivating people is key in order to overcome attitudes such as *'this is not my responsibility, that is someone else's responsibility, that goes on the see pile'*. A lot of people may really want to make radical innovations, but

'there are internal barriers about putting their head on the line and attaching yourself to innovation if it goes wrong...'

Some of the areas of change required are:

- >> Break organisational barriers
- >> Integration between supplier and customer
- >> Better communication
- >> More training and education
- >> Empowerment
- >> Focus on younger minds (universities)
- >> Real strategic commitment

'Sustainability equals change which equals innovation, and it is about doing things differently' but *'how much space do people in organisations have to change?'*

The need for change models

Change was mentioned a number of times throughout the day but as one participant explained: *'It is really strange because in sustainability change management is something that never gets mentioned. Change models are never used'*

'We always talk about change, in new business models, new corporate values, but the only way you are going to do this is by changing your company. If you are not using change management models, then it is very difficult to do.'



Discussion II

Consumer power

'Companies are very consumer driven. If they can see a market that consumers will care about, they will change tomorrow. I think that this is lacking at the moment, just this kind of understanding'.

To change a company is difficult, *'a tough internal battle if you will'*. It was suggested that the easiest and most powerful way for a company to react to something is if the consumers care. Organisations can innovate solutions, but unless there is a drive from the market place, things will improve slowly. The idea of a more dynamic consumer model, designed as an educative process where consumers are working for the manufacturer, was brought forward. The benefits of a closer collaboration is that you as a user are able to put greater meaning into a product or service. Because you as a consumer are part of creating something you may build a durable relationship with the organisation and the product. There is a certain element of satisfaction in the act of creating, a personal commitment.

'Treat the product as an experience, an experiment, tear down the boundaries what is inside and outside the organisation'

Marketing Professionals

Marketing professionals seem to be missing out on opportunities in relation to sustainability. One of the reasons for this is that they do not get appropriate information from market research. Not only do they not ask questions about sustainability but also maybe we are not asking the right questions in the first place? How does sustainability translate into marketing opportunities? How do we get sustainability in front of marketing people? It was suggested that a design of interactive learning tools would be useful. It would have to be something taking a multifunctional approach, that can be used early on, explaining why sustainability is important. It was recognised it could not take too much time and should be easy and simple to use.

Beyond the product

The discussion moved beyond the physical product on a number of occasions. To really change a company it was suggested you have to introduce a shock. If you produce a product less inferior, slightly more expensive, people will stop buying that product. It is not a sudden shock to the system and will not change much if you introduce a slightly greener product. It was proposed that greater change has to do with intangible issues such as reputation and image, the whole globalisation movement, Corporate Social Responsibility. No longer is only about the product.

'A mistake that a lot of companies make is that they think that by having a few green products they will increase their market capitalisation. This is just a cheap way of trying to get coverage. You have to make these initiatives a part of your core business. Sustainability is part of normal management, not a single activity'.





Key Learning points

The key learning points from the day are illustrated by short summaries or quotes from participants

The need to think even more out of the box

'We have a lot of things that we have been working with on sustainability. Things we can do in the manufacturing process, how to build and how we sell products. We are kind of wondering what our next steps are. I did get this sense that we got to think even more out of the box than we are currently doing, in terms of what our products could be, completely innovate a different kind of product. I put down something 'that feels alive'. Just thinking about it that way'.

Sustainable problem solving

Posing the right questions to ask was recognised as being just as hard as finding the right solutions. It is difficult to tackle everything at once and realising one aspect or point of entry will immediately impact on a number of factors. *'Defining the problem needing the solution is difficult. Some solution possibilities connect to so many system elements that it is difficult to know where to start'.* Thinking in system ways is hard so the workshop activities aiming at physically mapping and experiencing sustainability were welcomed. The discussion throughout the day also showed that sustainability does not have to be something difficult to incorporate.

Nature as a source of inspiration

Using nature as a source of inspiration was seen as useful as

'These things are so much further outside the box that they might add new dimensions, introduce new industries that you never thought you might, someone made the connection between food and automotive sector'.

It was suggested that *'we may not have made that connection that easily when brainstorming about mobility, but by using these (natural system principles) you get new ideas that are less traditional'.*

Managing change

'I think I will take away less on the product side, but more on the sort of managing change, sustainability and change processes. For example motivating people in the company in different ways that we have not thought of before'.

Cross-functional thinking

It is very difficult to *'get out of the box'* and the need to think beyond organisational boundaries was seen as a learning experience.

>>

Searching for interdependencies?
>> see next page



>> Searching for interdependencies

Let us look at the challenge of designing a more sustainable transportation system

1 In order to create better sustainable transportation solutions we must start with the basic needs '*mobility*' and '*movement*'. This is essential in order to capture the basic barriers to change, but also allows us to generate original solutions and find opportunities where we least expect it. Only then can you start defining the problems.



2 Now you begin looking at the bigger picture. Start with thinking about how people move around.

Start putting together a mind-map, writing down what comes to your mind when asking questions like...

3 What type of movements do we make?
What journeys do we make during a normal day and weekends?
What are our mobility requirements?
What is it that you are moving/transporting e.g. material, information or social transaction?



4 You should now start seeing a 'real' picture and you will begin to see the problem in a context.

What are we reliable on?
What are the convenience requirements?
Where are all the potential unsustainable activities taking place?
What are the difficulties we are facing?

>> Your ideas

Begin with an audit to establish current status in your company.

Seek innovative uses of materials and processes >> Give products an afterlife

Focus your marketing activities beyond the product towards core business activities and reputation



Future Agendas

In the light of the positive response from *Sustainable Innovation* other workshops are planned for 2003. In October 2003, The Centre for Sustainable Design will be organising a high level conference *Sustainable Innovation 03* in Sweden, <http://www.cfsd.org.uk/events/tspd8>

>> What's next?

Throughout 2003, The Centre for Sustainable Design, as part of the Sustainable Marketing Knowledge Network, will organise a series of workshops in association with University of Strathclyde and other partners aimed at stimulating sustainable innovation and 'out of the box' thinking among marketing and sustainability professionals. Smart: Know – Net will extend this by producing a toolbox and additional training resources designed to focus on the real issues being faced by marketing and communication managers.

Throughout 2003, Ingrid Kajzer will also be finalising her doctoral research project focusing on sustainable marketing and innovation. A summary will be available with conclusions and recommendations based on company case studies, the Sustainable Innovation workshops and a Sustainable Design project with the Product Design Department at Glasgow School of Art.

>>Further information and knowledge needs put forward by participants:

- >> What other companies are doing
- >> Green Trends Analysis
- >> Template for success
- >> Exploring possibilities for cross/inter sector partnerships
- >> Current recycling processes (collecting and re-processing)
- >> Research specific areas such as usage of recycled material; giving products a second life
- >> Creation of new markets
- >> Enhanced knowledge of packaging
- >> Credible communication
- >> Strategies to make sustainability a core activity

begin the journey



Further reading and exploration

Here are some selected books and websites. For more sources of inspiration have a look at the Smart: Know-Net resource list at <http://www.cfsd.org.uk/smart-know-net/index.htm>

>> Books/Articles

Charter, M & Tischner, U., 2001. **Sustainable Solutions**, Greenleaf Publishing

Clippinger, J., 1999. **The Biology of Business**. Jossey-Bass Publisher.

De Geus, A., 1999. **The Living Company**. Nicholas Brealey Publishing Ltd.

Hawken P. 1993. **The Ecology of Commerce: a declaration of sustainability**. HarperBusiness: New York.

Natrass, B. & M. Altmore, 1999. **The Natural Step for business: wealth, ecology and the evolutionary corporation**. New Society Publishers.

Senge P, Carstedt G. 2001. **Innovating our way to the next industrial revolution**. MIT Sloan Management Review, Winter: p. 24- 37.

Walker S. 1998. **Experiments in sustainable product design**. The Journal of Sustainable Product Design October: p. 41-50.

>> Websites

Biomimicry 'Inspired by Nature'

Rohner Textil

Interface Inc.

Alliance for Global Sustainability

World Business Council for Sustainable Development

McCann Erickson's 'Global Citizen Campaign'

Project Sigma

McDonough Braungart Design Chemistry

The Complexity and Management Centre

Zero Emissions Research Initiatives

<http://www.biomimicry.org/>

<http://www.rohnertextil.com>

<http://www.interfacesustainability.com>

<http://globalsustainability.org/>

<http://www.wbcsd.ch/linkages/un.htm>

<http://www.mccann.com/campaigns/gc1.html>

<http://www.projectsigma.com>

<http://www.mbdc.com>

<http://www.herts.ac.uk/business/centres/cmc.html>

<http://www.zeri.org>

>> Journals and magazines

The Journal of Sustainable Product Design

Tomorrow Magazine

Greenleaf Publishing

<http://www.cfsd.org.uk/journal/index.html>

<http://www.tomorrow-web.com/>

<http://www.greenleaf-publishing.com/>

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>> Participants thoughts

'Marketing should not be solely focused on the sustainability of products, but geared towards the organisation, reputation, core business and not a simple product.'

'How can I make a difference?'

'Marketing is increasing consumption, and should instead focus on increasing enjoyment, awareness and knowledge'

"We are getting into the mindset of businesses; the difficulties to change and be outside the box. We are all supposed to be agents of change, it is very clichéd...product life cycle and the time to market is a big limiting factor and that is why it is a slow process.....because no one is prepared to be radical"

'One of the things we would have to do is to get rid of the car as a status symbol. At the moment SMART cars pay the same road tax as bigger cars. People like big cars. It is going to take very brave politicians to change this'

'Sustainability is like a snowball effect, its got to be something that keeps it going'

begin the journey



Martin Charter

Martin Charter is the Director and Visiting Professor of Sustainable Product Design at The Centre for Sustainable Design at the Surrey Institute of Art & Design, University College. Since 1988, he has worked at director level in 'business and environment' issues in consultancy, leisure, publishing, training, events and research.

Prior to this he held a range of management positions in strategy, research and marketing, in business and consultancy. Martin is presently editor of the Journal of Sustainable Product Design and was the launch Director of Greenleaf Publishing and Marketing and Communications Director at the Earth Centre. He is a member of numerous advisory boards and judging panels. He is the author, editor and joint editor of various books and publications including Greener Marketing (1992 and 1999), The Green Management Gurus [e-book] (1996), Managing Eco-design (1997), Sustainable Solutions (2001) and Sustainable Value (2003).

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Ingrid Kajzer

Ingrid Kajzer is a Doctoral Researcher in the Marketing Department at University of Strathclyde in Glasgow. She has been researching on sustainable marketing issues for 3 years and it is partly on this work that this workshop is built upon. She is experienced in using various techniques such as mind mapping, scenarios as creative tools for envisioning, imagining and finally developing and implementing ideas. Her work has involved writing numerous articles and presenting at international conferences.

Previous research projects include an analysis of how three multinational companies (Volvo Cars, Electrolux and Novartis) integrate the environment into their marketing. She has also been involved in organising and facilitating group based teaching and discussions within the Department for 2 years. As a native Swede she has worked and travelled extensively abroad.

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