

INFORMING CHOICE LEADING CHANGE



... towards a sustainable future

Improving Sustainability Skills and Knowledge in the Workplace

Final Project Report

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Improving Sustainability Skills and Knowledge in the Workplace

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Executive Summary

In 2007, Sir Terry Leahy set the stage for Tesco to become a leader in creating a low-carbon economy, saying: “*We are going to have to re-think the way we live and work*”.

This SCI research has developed a new way to understand sustainability, one that has the power to inspire a positive and creative vision for the future. It has explored ways that Tesco staff at all levels (from the checkout to senior management) can enhance their knowledge about sustainability and develop skills to take positive action.

The continuing aim of this action research is to embed sustainability in the working culture of Tesco, and to gain insights into how this might be achieved in other organisations. This research started with the recognition that current ‘going-green’ measures are not enough. They slow down environmental damage, but do not provide a positive vision for a change in direction. More scientifically-informed and holistic visions for sustainable communities and organisations are needed, together with the skills to create and realise these visions.

In this nine-month research project, we talked with 105 members of staff in Head Offices and Stores to learn from the success of Tesco, and to explore how staff understand and learn to apply sustainability. A clear commitment to sustainability was found within Tesco, but also a lack of clarity about what constitutes sustainable practice, and Tesco's role in achieving this. Whilst there was clear interest in sustainability, analysis of staff feedback suggested that *implementing* sustainable practices poses challenges in terms of skills and understanding. A pilot learning initiative, informed by a wide range of sources, was developed to address these challenges.

This creative work led to a more accessible way of thinking about sustainability as a positive vision for the future. This became known as the ‘*RoundView: Guidelines for Sustainability*’. The RoundView, piloted in this research, supports leadership and vision on the scale necessary for people and businesses to thrive now and into the future. We developed new visual and hands-on tools to make it easier for anyone to understand and apply these ideas, and to explain them to others.

Fifty two staff members attended three pilot courses delivered between April and June 2009 at Cheetham Hill Eco-Store and both Head Offices. We gathered data from participants and analysed the potential for this new learning initiative to enhance understanding and skills, and to enable positive change towards sustainable practices.

The response from participants was generally very positive. Comments included:

- “*Learnt lots more than I thought. The systems approach was new and helpful and the principles were clearly explained during the courses.*”
- “*I thought I knew how it worked before, but I was wrong.*”
- “*Roll this out across Tesco now!*”
- “*...It has made me think about what Tesco does and how I can start to think / become a potential agent for change.*”
- “*...The whole world needs to make the changes now. I am surprised how much I have changed my work and personal life with the knowledge I have.*”

It is not easy to change people's behaviour. This project added to the body of knowledge about how people can develop and apply sustainability skills and understanding, a question of vital global significance. The next phase will explore how to scale-up the initiative.

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Non-Technical Summary

The Sustainable Consumption Institute (SCI 2009) aims to contribute to a "*revolution in sustainable consumption*". Encouraging, enabling and enhancing sustainable practice within Tesco and other large organisations is clearly supportive of this aim.

Sir Terry Leahy, Tesco's CEO, set the stage for Tesco to be a leader in creating a low-carbon economy, saying in 2007: "We are going to have to re-think the way we live and work".

How can cultural change towards sustainable practices best be encouraged? We need positive and informed visions of sustainable societies, communities and organisations. We need the understandings and skills required to create these visions, and then to realise them. The suggestion is that we cannot rely upon our existing ideas of 'sustainability' – it is not simply a matter of enabling and encouraging people and organisations to put into practice what they already know, but to learn new ways of thinking about the future.

This pilot learning initiative aimed to develop and test a curriculum and learning approach that would build upon existing best practice to develop such skills and understandings. The long-term aim is for sustainability to become embedded in the working culture of Tesco, and to gain insights into how this ambitious aim might be achieved in other organisations.

The objectives of the nine-month project were:

- to identify and develop effective training and communication methods to enable people to understand sustainability issues and take action; and,
- to implement and assess a learning initiative which delivers this in Tesco.

This research offered a unique opportunity: working within Tesco as a 'learning environment', whilst bringing world-renowned expertise to bear on the development of new knowledge.

Figure 1 Envisioning a sustainable future Tesco, Head Office



Data were gathered from a wide range of sources, including focus groups and interviews with 105 members of staff from Head Office and Stores. In addition, 35 members of staff attended the Head Office pilot and 17 attended the Stores pilot. The key findings are summarised below under the work package headings.

Work package 1: Review of current knowledge and practice - ways to embed sustainability in organisational culture

A review of the literature and current practice showed four different approaches to embedding sustainability in large organisations: quality management and measurement; change management; ecological design; and systems & science based frameworks.

Each approach has strengths and weaknesses, and there are many synergies to be gained from seeing how they can best work together. The review of best practice was used to develop a framework for effective learning initiatives to embed sustainability in the culture of an organisation. The characteristics of this 'Four A' framework are:

- **Awareness-raising** - recognising that change will require us to think differently and to take into account systems thinking and ecological science.
- **Appreciative** - starting from the positive aspects of an organisation or situation enables change to build on existing strengths. This enhances motivation for change.
- **Action-led** – encouraging effective change through cycles of learning, applying new ideas in practice, reflection, understanding and further action.
- **Associative** - learning together; creating shared understandings, and developing team work to embed change.

The second part of this work package involved exploring the current sustainability learning within Tesco. This was done through focus groups and interviews with staff in different work functions, at different levels and in several different geographical areas. Data gathering was supplemented through researcher observations and discussions with participants on the pilot learning initiative.

Analysis suggests that Tesco as an organisation values training and staff development. Staff who were involved in the research felt that working in Tesco is a positive experience in which there is room to expand, to put forward ideas for change, and to develop a wide skill set. There is an emphasis on team work and on sharing ideas throughout the organisation. A pragmatic, can-do attitude enables changes to be implemented rapidly.

Our investigation also identified aspects of the learning culture that may present challenges to embedding sustainability in the organisation. Observations indicate that Tesco staff have 'permission to learn' but not necessarily 'permission (or time) to reflect'. This is related to the pressure to move quickly and respond to day-to-day events. This issue was especially striking in Stores, but also seen as significant in Head Office.

This assessment of the sustainability learning supported the likelihood of the 'Four A' framework developed from the review of current practice being of value in enabling long-term change towards sustainability. The summary of the learning culture of Tesco in the research report will provide a valuable resource for other researchers in SCI engaging in further work with Tesco.

Whilst there is clearly commitment to sustainability at the top levels of Tesco, this has not necessarily resulted in clarity across the organisation about what sustainability is, or what Tesco's role within it is. This is indicated in the following interview quote from a member of Head Office staff:

"I think Terry has been excellent at articulating certainty around where we are in the green agenda and certainly there are some great initiatives in terms of carbon reduction and in terms of distribution but I'm less clear myself on that wider definition of sustainability."

This assessment showed that there is awareness amongst Tesco staff of the need to integrate sustainability more deeply into the business, and also a willingness to do so.

Work package 2: Develop, pilot and assess a learning initiative in Tesco

Working closely with the Tesco Liaison team, a learning initiative was developed and piloted with staff from Stores in Manchester and with management at Head Offices in Welwyn Garden City and Cheshunt, UK.

The overall aim of this sustainability learning initiative can be described as: the development of skills and understandings within the organisation, so that it can create an informed, scientifically-based, positive vision of its own sustainable future—and is then able to engage in an ongoing process of design, action and evaluation that will lead to the realisation of this vision.

Figure 2 Learning new skills



This research brought together earlier work, notably from The Natural Step (Robert 2000), PP4SD (Martin 2008), Cradle to Cradle (McDonough and Braungart 2002) and earlier research by the Principal Investigator (Tippett 2005a; Tippett, Handley et al. 2007), together with new thinking emerging from the project itself. A way of thinking about sustainability as a positive vision for the future—grounded in rigorous science and systems thinking—was developed. This became known as the *'RoundView: Guidelines for Sustainability'*, which provided the overall learning content of the pilot.

Figure 3 Hands-on learning tools



These Guidelines provide a positive vision to work towards, and clearly show the problems of our current direction. This enables an engaging and positive exploration of what sustainability means, taking a 'round view' that encompasses a whole system perspective and supports effective decision-making.

An important part of the training was the clear visual presentations of the ideas. These built upon earlier open source graphic tools, created by the Primary Investigator and Buddy Williams (described in Tippett 2005b), and incorporated new ideas emerging from the research. Examples of the graphic learning tools are shown in Figure 4 and Figure 5 below.

Figure 4 RoundView Misguided Lines – If we understand the challenges.....

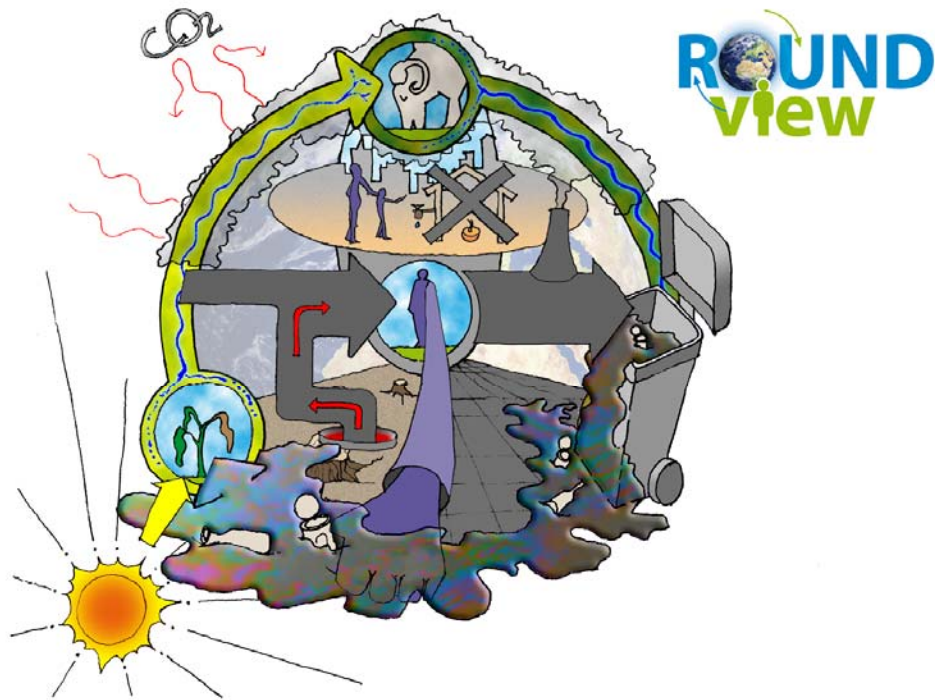
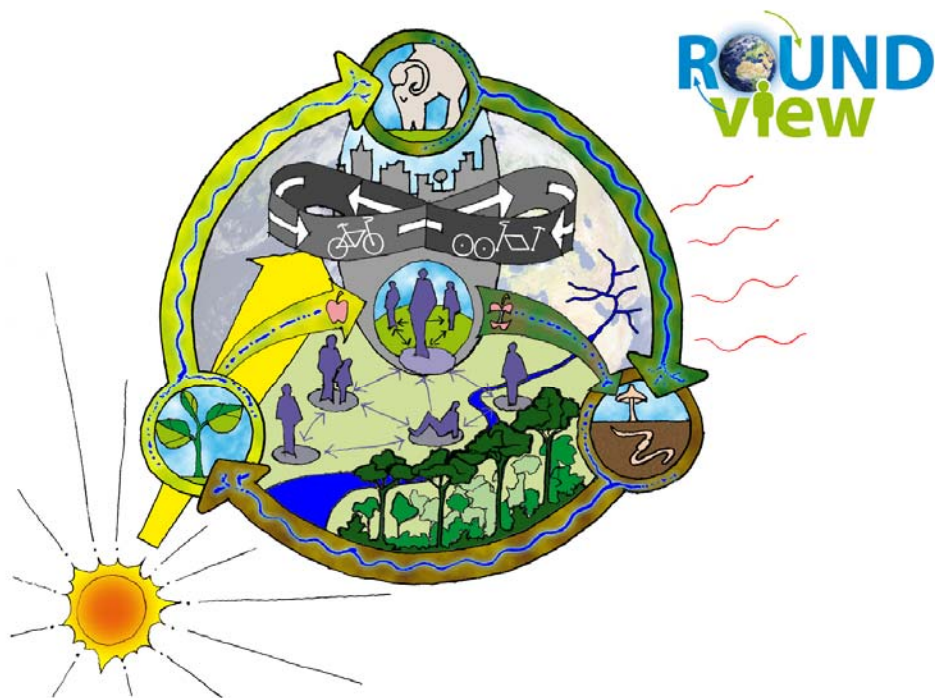


Figure 5 We can start to design the solutions.... RoundView Guidelines for Sustainability



As a framework, the Guidelines offer a shared understanding and vocabulary, which is simple enough to be accessible to all. They inform a shift towards sustainable practices that respect, and go beyond, current ‘eco-friendly’ approaches. The RoundView Guidelines provide a common and practical language, making it easier for people to work together to create and achieve a vision for sustainability. The visual and hands-on tools are designed to make it easier for anyone to explain these ideas and apply them to their own contexts.

Figure 6 Jigsaw puzzle - story of the Earth



Participants from both Stores and Head Office in the pilot were substantially positive about the approach and tools. Comments about the learning tools included:

- *“Different and more engaging.”*
- *“Somehow less corporate and more personal.”*
- *“It was very clear and stays in mind as it was so visual and clearly explained.”*
- *“More interactive and ‘refreshing’.”*

The learning initiative was designed with three criteria in mind:

- it was likely to enable change and learning;
- it could be adapted to different contexts; and
- it was able to be embedded at levels of an organisation.

This last criteria aimed to develop a self-generating dynamic of change, without significant on-going external input.

Extensive data gathering from participant feedback and observation by the researchers took place during the learning initiative. Participants’ comments were very positive, pointing to the value of this new approach to learning about sustainability. There was evidence of improved understanding and skills, and perhaps most important for Tesco, greater enthusiasm for change and actions being taken. The following statements made by course participants illustrate this positive response:

"[The] main change is that it has made me think about what Tesco does and how I can start to think / become a potential agent for change e.g. challenging colleagues to think about how we can influence and drive change (within the limits of our 'gift' to do so)."

"I may also think more creatively, slightly longer term. What I will be looking for next is to be challenged - I want to go into a business plan / presentation / meeting with senior managers and as well as being asked about the cost, resources, supplier/customer impact of my proposal, someone should ask me what the RoundView / community / sustainability impact and thought process is."

"A new business model for Tesco is required, the whole world needs to make the changes now. I am surprised how much I have changed my work and personal life with the knowledge I have."

"I didn't realise how quickly we are destroying the ability to sustain life on our own planet. I didn't expect that I would want to pass on what have learnt so eagerly, and to engage everyone else that I have so far."

Figure 7 Linking new knowledge to organisational culture and existing experience



Comments about the value of the course for staff included:

"The exercises were particularly useful for thinking how it applies to Tesco overall, as a business, although I've found the principles much harder to apply to my specific role. I think the course would benefit from being rolled out at a department level with strong support from functional directors."

"In truth there should not be any limiting factors, if Tesco want to lead the way, they should support it, fund it and roll it out now."

With regard to their overall experience of the course, participants at the Head Office review session made the following statements:

- *“Learnt lots more than I thought. The systems approach was new and helpful and the principles were clearly explained during the courses.”*
- *“I thought I knew how it worked before, but I was wrong.”*

What was striking in the feedback from the participants in Stores was the gain in confidence and enthusiasm for communicating with others about sustainability.

- *“Through influencing other people progress will be made.”*
- *“People might ask me questions about sustaining the environment and recycling and why it’s important. The more I know the more I can try and influence people that don’t want to do it.”*
- *“The more we learn the more it makes me want to influence people around me. It also makes me want to be more sustainable.”*

Stores staff made these comments about how they experienced the pilot learning initiative:

- *“You see the bigger picture... really did help make you think, see what might happen and what we can make happen”*
- *“It’s always in your head now –is this sustainable?”*
- *“Start looking at things differently, well I certainly do.”*
- *“Thinking outside the box.”*
- *“It does open your eyes.”*
- *“RING RING! Wake-up Call!”*

The assessment of this initial pilot suggests that broadly the approach taken was fruitful and effective. There are of course areas for potential improvement. Several suggestions have already been developed, and a thorough re-evaluation of the course components and strategies will form a part of the forthcoming ‘*Scaling up – train the trainer*’, which provides an opportunity to apply the learning from this pilot as well as addressing questions about scaling up and skills development for roll-out of such an initiative.

Work package 3: Develop ways to assess current and long-term changes in sustainability knowledge and skills in a large organisation (Tesco)

It is expected that over the five-year timeline of the Sustainable Consumption Institute, there will be significant changes in the attitudes and skills of Tesco employees towards sustainability. This project developed an initial baseline assessment of a small sample of employees, exploring their current awareness of, and understanding about, sustainability. This included collecting examples and descriptions of good practice, how sustainability thinking is embedded within organisational functions, and the kinds of changes employees might envision in a future sustainability-leading Tesco.

A framework understanding possible measures of success for sustainability learning initiatives was developed, organised by dimensions of learning frequently used in adult learning, namely Knowledge, Understanding, Skills, Awareness, and Behaviour. This framework was used in the assessment of participants' learning from this initiative, and will provide a valuable framework for the future assessment of learning and change more broadly within the organisation.

The illustrative baseline of current understanding and skills amongst Tesco staff covered a sample across functional divisions and levels of the organisation, from the shop floor to senior management. Methods included in-depth interviews and the use of hands-on tools in focus groups to gather data from a wider sample of participants than is typically possible in the given time.

These data, gathered in the early days of the SCI, will provide a useful resource for future assessment of staff understanding and awareness. Further research will use the knowledge gained from the trial of these methods to inform ongoing assessment of learning about sustainability, as well as the development of new skills to embed this in practice in Tesco.

Potential further research could advance a methodology for continued assessment of learning and change in sustainability skills and knowledge across Tesco, during the lifetime of the SCI, and possibly beyond. Such research would provide a valuable contribution to knowledge in terms of assessing changes in sustainability practice in large organisations.

Conclusion

A six-month research project will follow on from this project, entitled '*Scaling up—training the trainers to improve sustainability skills and knowledge in the workplace*'. The key objective is:

- To find effective ways to embed new thinking that maximises people's understanding of sustainability and change in behaviour, through "training the trainers".

This will be achieved through exploring and testing mechanisms for scaling up sustainability learning, that encourage rapid spread throughout a large organisation, whilst maintaining the quality of the knowledge, understanding and skills developed.

The context of the research described in this report lies in exploring strategic learning approaches within an overarching framework of sustainability. It was informed by the assumption that once we understand the nature of the sustainability challenge, we can create positive visions for the future and design ways to move towards these visions. The learning tools were designed to encourage active exploration of sustainability and its application in different contexts. Evidence suggests that these tools and approaches have been broadly successful in achieving these aims within the pilot learning initiative.

This project increased understanding of how to develop new ways of thinking and working, required for the move towards sustainability. It explored how to embed such cultural change in large organisations. It added to knowledge about how to encourage and support changes in sustainability capacity, a question of vital global significance.

In particular, it has developed a new way to understand mental models of sustainability, and the need to go beyond 'slowing the damage' to create positive visions of fully sustainable practices. This potential paradigm shift can help meet Sir Terry Leahy's challenge:

"We are going to have to re-think the way we live and work... The green movement must become a mass movement in green consumption" (Leahy 2007).

Main Report

1 Introduction

Successful corporations have significant potential to contribute to sustainability. New ways of thinking about sustainability are emerging in society as a whole. This research project looked at ways that corporate culture can develop its response to this increasingly pressing issue. Sir Terry Leahy (CEO of Tesco), has stated that Tesco should be a leader in creating a low-carbon economy. He has said:

"[The task is] to take an economy where human comfort, activity and growth are inextricably linked with emitting carbon, and to transform it into one which can only thrive without depending on carbon. This is a monumental challenge. It requires a revolution in technology and a revolution in thinking. We are going to have to re-think the way we live and work... The green movement must become a mass movement in green consumption" (Leahy 2007).

A skilled and knowledgeable workforce is likely to more able to engage creatively with this challenge. Such an approach has a wider business benefit: the extent to which an organisation takes responsibility for environmental and social issues is a factor in motivating people, with subsequent effects on recruitment and staff retention.

This research developed and assessed a learning initiative and tools that have the potential to develop Tesco staff's sustainability skills and knowledge at all levels of the organisation. It was funded by the Sustainable Consumption Institute (SCI) and took place between November 2008 and July 2009. The long-term aim is to embed sustainability in the culture of Tesco, and to gain insights into how to achieve this ambitious aim in other organisations. A pilot was conducted with staff from Stores in North Manchester and with management staff at Head Offices in Welwyn Garden City and Cheshunt, UK. The pilot was delivered by a team from the University of Manchester, supported by colleagues at Tesco. Data were gathered from participants at the three pilots (35 at Head Office and 17 at Stores) and from focus groups and interviews with an additional 105 members of staff.

Concern for ways to embed sustainability into the working practices and culture of large organisations is not new. Since the concept of sustainable development rose to prominence with the publication of the Brundtland Report (World Commission on Environment and Development 1987), various approaches to encouraging behaviour change have been developed in companies, NGOs, governmental organisations and educational institutions. Despite decades of environmental concern, however, the health of global ecosystems is worsening. A recent international assessment of the world's ecosystems painted a bleak picture of decline over the last fifty years (Millennium Ecosystem Assessment 2005).

Increased awareness of a skills gap in the area of sustainability has focused attention on the capacities necessary to implement sustainability thinking (e.g. Office of the Deputy Prime Minister 2004). Recent research has identified a key gap; little attention has been paid to the ways in which people are able to learn these skills and apply them in different contexts (Bailey 2005). Several authors have discussed the difficulties of transferring new skills and ideas about best practice in sustainability from one context to another (e.g. Bulkeley 2006; Owens, Petts et al. 2006). This research project begins to address these gaps.

Research team

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2 Research Methodology

The Sustainable Consumption Institute (SCI) aims to ‘inform choice and lead change’. This nine month project sits under the SCI Theme: **Sustainable Production and Distribution Systems** - technologies, skills and resources. This theme looks “*at how retailers can influence supply chain innovation and good practice in sustainability terms to exert power to induce sustainability from source to product*” (Sustainable Consumption Institute 2009). Staff knowledge, understanding and skills in the area of sustainability play an important role in developing such innovation and good practice.

The objectives of the research were:

- to identify and develop effective training and communication methods to enable people to understand sustainability issues and take action; and
- to implement and assess a learning initiative which delivers this in Tesco.

Research Questions

The core of this project was action research, developing a new learning intervention and tools and piloting them in an organisation. This research offered a unique opportunity, that of working within Tesco as a ‘learning environment’, whilst bringing world-renowned expertise to bear on the development of new knowledge.

The research questions were:

- 1: What are the key approaches to embedding sustainability in large organisations?
- 2: What are the strengths and weaknesses with current approaches?
- 3: What are the characteristics of effective learning initiatives for embedding sustainability in large organisations?
- 4: How can an organisation’s sustainability knowledge, skills and practices, and changes in these over time, be understood and assessed?

Data was gathered from a wide range of sources, including focus groups and interviews with 105 members of staff prior to the learning intervention. Methods for data collection included semi-structured individual interviews, focus groups using a hands-on kit to stimulate group discussions and capture participants’ ideas, participant observation by researchers, and both written and verbal information obtained from participants during the pilot initiative. Thirty-five members of staff attended the two Head Office pilots and seventeen attended the pilot in Stores.

Whilst all of the work packages were interlinked and overlapped in time, with emergent results informing design and analysis throughout, the project can usefully be seen as having seven main phases, shown below under the three work packages:

Work package 1: Review of current knowledge and practice - ways to embed sustainability in organisational culture

- Review current knowledge and practice
- Explore sustainability learning culture in Tesco

Work package 2: Develop, pilot and assess a learning initiative in Tesco

- Assess sustainability knowledge, skills and attitudes (illustrative baseline of sample of staff)
- Develop learning initiative
- Pilot learning initiative
- Assess learning initiative

Work package 3: Develop ways to assess current and long-term changes in sustainability knowledge and skills in a large organisation (Tesco)

- Pilot and test methods of data gathering and ways to assess change in organisational culture

These phases, and the methods of data collection and analysis for each, are discussed in the next sections. Following this summary, Table 3 summarises the overall flow of events and the timeline of the project.

Methodology

2.1.1 Review current knowledge and practice

The Expert Advisory Group played a vital role in assisting the project team in forming the project, in particular in shaping the review of current knowledge and practice. The Expert Advisory Group brought together leaders in action learning, appreciative inquiry, organisational change and sustainability management and training. The members of the group from Professional Practice for Development provided a training model as fuel for discussion. The role of the Advisory Group was both creative and critical, and the interactive nature of the meetings brought an interdisciplinary perspective to life in the project. The disciplines represented ranged from management and business, to environmental science, to education, to journalism, to computer science to fine art. An international perspective was provided, with members of the overall team from South Africa, Chile, the USA, and the UK. The Tesco Liaison team participated in the Expert Advisory Group meetings and interim developmental meetings. They provided valuable insight into the working and learning practices of Tesco, as well as creative insights for development of the learning tools.

There were two full meetings of the Advisory Group, in the project formation phase and in the review session following the pilot. Considerable attention was paid to the design of these interactive meetings, to make the most of the experience in the room and to enable new learning and critical reflection amongst the participants. The initial meeting, in early December 2008, set the foundations for the project, exploring understandings of sustainability, action learning and cultural change. Possible literature to be reviewed was scoped and ideas for the learning intervention were developed. At later stages, members of the group commented through correspondence on the emerging conceptual framework of the project and the development of the learning intervention. The final review session

allowed for critical review of emergent analysis, set the frame for the next phase of the project and provided valuable ideas for further development of the learning intervention.

Literature and case studies in the fields of organisational change, sustainability, learning and corporate sustainability were reviewed. This enabled the development of a new framework for effective learning initiatives for embedding sustainability in organisations. This framework was tested and refined through: developing an exploration of the learning culture in Tesco; developing the pilot; in response to participants' feedback and observation of their experience; and through discussions with the Expert Advisory Group.

2.1.2 Explore sustainability learning culture in Tesco

This phase of the research was developed from analysis of three sets of data collected from staff, namely semi-structured interviews, focus groups and participant observation. Interpretation of this data was cross-checked with Tesco's corporate literature and the Tesco Liaison Team.

In the early stages of the project, a series of semi-structured interviews were conducted with members of Head Office. The interviews lasted for 20 minutes to an hour, and were conducted by Dr. Pete Mann (initial interviews also with Dr. Joanne Tippet). They were recorded and fully transcribed. Interview questions explored current understandings of sustainability, how people in Tesco learned about sustainability, and, in addition, looked at how sustainable behaviour is currently, and could be, promoted in the organisation and the role of strategy and leadership in such promotion. NVivo software (QSR International Pty Ltd. 2008) was used to organise the themes that emerged from the in-depth analysis of this rich source of qualitative data.

Seventeen staff members were interviewed, with a sampling strategy developed in cooperation with the Tesco Liaison team. This sampling focused on: people who could give key insights into learning and processes for embedding change in Tesco, people who could give a broad picture of the contextual conditions and ways of working in the organisation, and people who represented different roles and functions that were seen by the Tesco Liaison team as important for understanding sustainability in the culture.

Interviewees were selected by department and job role, including: personnel, project management, international operations, marketing, finance, merchandising, ex-patriot services, site research and performance and training. There was a range of years of experience amongst those interviewed, between one and a half and twenty-two years. Sampling was random within this purposive selection, but was limited to those who were available for interviews during the study period. This sample enabled analysis that could pick up themes regarding learning and sustainability running across the organisation within the UK. The wide spread of roles and experiences, however, makes it difficult to generalise about specific teams or work areas, which would require a greater focus on each area and larger sub-group samples. Details about the sample of interviewees are provided by role and function in Table 1 below.

Table 1 Head Office Staff - Roles and Functions of Interviewees

Interviewees – Welwyn Garden City Head Office		Work Level
Personnel Mgr- Int'l Resourcing	International Personnel	2
Talent Mgr	Central Personnel	2
Expatriate Services Mgr	International Personnel	3
Capability Manager - Distribution Operations	International Operations Development	3
Commercial Mgr	Tesco Brand Export	
Local Merchandising	Property Services	2
Development Manager (Operations)	Direct Operations Development	1
Business Analyst	Tesco Direct Finance	2
Personnel Mgr- Organisation Design	International Personnel	2
Replenishment Operations Manager	Store Ordering	3
Site Research Analyst	Site Research	2
Head of Training and Performance (UK Operations)	Stores and Distribution Personnel, Support Office	3
Interviewees – Cheshunt Head Office		
Customer Plan Re-Defining Superstores	Dotcom	3
Treasury Accountant	Treasury	3
Senior Marketing Mgr Tesco Brands	Marketing	3
Senior Marketing Mgr- Promotions	Marketing	3
Group Share Scheme Manager	Corporate and Legal Affairs	2

Note the work levels (WL) shown here span the range from WL1 (administrative/analyst roles, which include graduates) to WL2 (managers) to WL3 (senior managers – known as 'Go To' people for their area). The next work levels (not represented on the pilot) are WL4 (Director - leadership team of a function), WL5 (Senior Director - business leader of their country or function) and WL6 (main board including chief executive). Further research will continue to target people across these levels, and following the pilot it is likely we will target higher levels.

A series of focus groups with Head Office and Stores staff provided valuable data for understanding the sustainability learning culture at Tesco and also informed our sampling strategy and pilot design. These are described in more detail below.

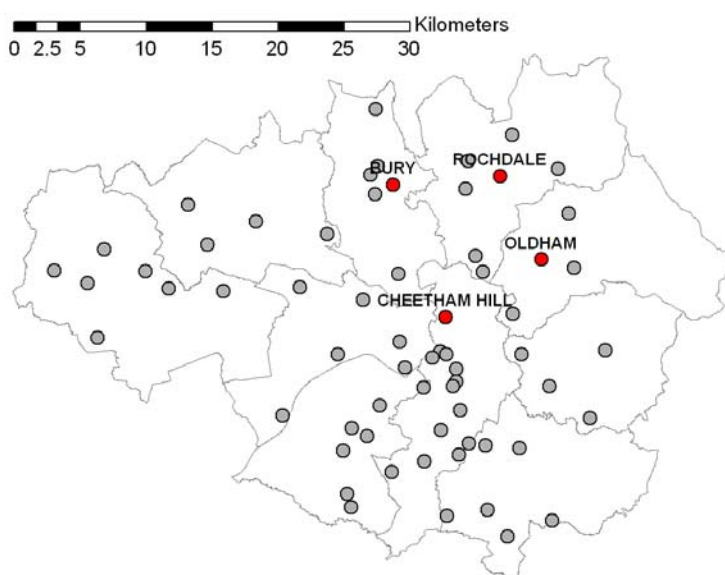
2.1.3 Assess sustainability knowledge, skills and attitudes (illustrative baseline of sample of staff)

This part of the research aimed to explore and characterise current knowledge and skills within Tesco with regard to sustainability. It consisted of focus groups in Stores and Head Office, along with data from the interviews with staff in Head Office (see Table 1 and Table 2 for further information about the roles and levels of the staff involved in the baseline assessment). The learning initiative was designed to encourage sustainability thinking at all levels of the organisation, so it was seen as important to gather data from both Stores staff, working at the operational level, and Head Office staff. The pilot learning initiative also offered a unique opportunity to collect baseline assessment data – both Stores and Head Office sessions included an exercise in which participants identified

keywords that represented how they understand sustainability at the beginning of the session, before training took place.

The focus groups in Stores lasted one hour each. Six were held over two days. They were conducted by two members of the research team, with Rachael Preece from Tesco as an observer. The participants were from four Greater Manchester Stores: Oldham, Rochdale, Bury and Manchester Cheetham Hill. The locations are shown in Figure 8. Stores in Greater Manchester were chosen to enable the Manchester-based research team to conduct the focus groups over two days. The recently-opened Cheetham Hill Eco-store was included in the selection because it is the only store in the area that has an explicit focus on environmental issues. The store, opened in January 2009, is part of Tesco's Eco-store range and features ambitious carbon reduction targets and a range of environmental features. The 2009 Tesco Corporate Social Responsibility review says that the Store has a carbon footprint 70% smaller than an equivalent store built in 2006 (Tesco 2009).

Figure 8 - Map of Greater Manchester Stores, with locations of Focus Groups highlighted



Overall, 66 people were selected for the focus groups in Stores, with a range of experience in Tesco from three months to thirty years. There were six managers and three team leaders. The rest of the respondents were working at customer assistant level, covering a wide range of work areas, from A to W (e.g. Administration, Check outs, Bakery to Tobacco, Wages, Wines and Spirits).

A full, anonymised list of the participants is provided in the Appendices. Most of the people in the Cheetham Hill focus group had only been appointed in the previous two months, and some had been working in Tesco for a longer period and transferred to this store when it opened.

Table 2 Summary of Stores Focus Group Participants

Store	Participants	Range of Experience in Tesco
Oldham	11	1 year to 10.5 years
Rochdale	12	2 years to 30 years
Cheetham Hill	15	1 month to 21 years
Bury	18	3 months to 22 years

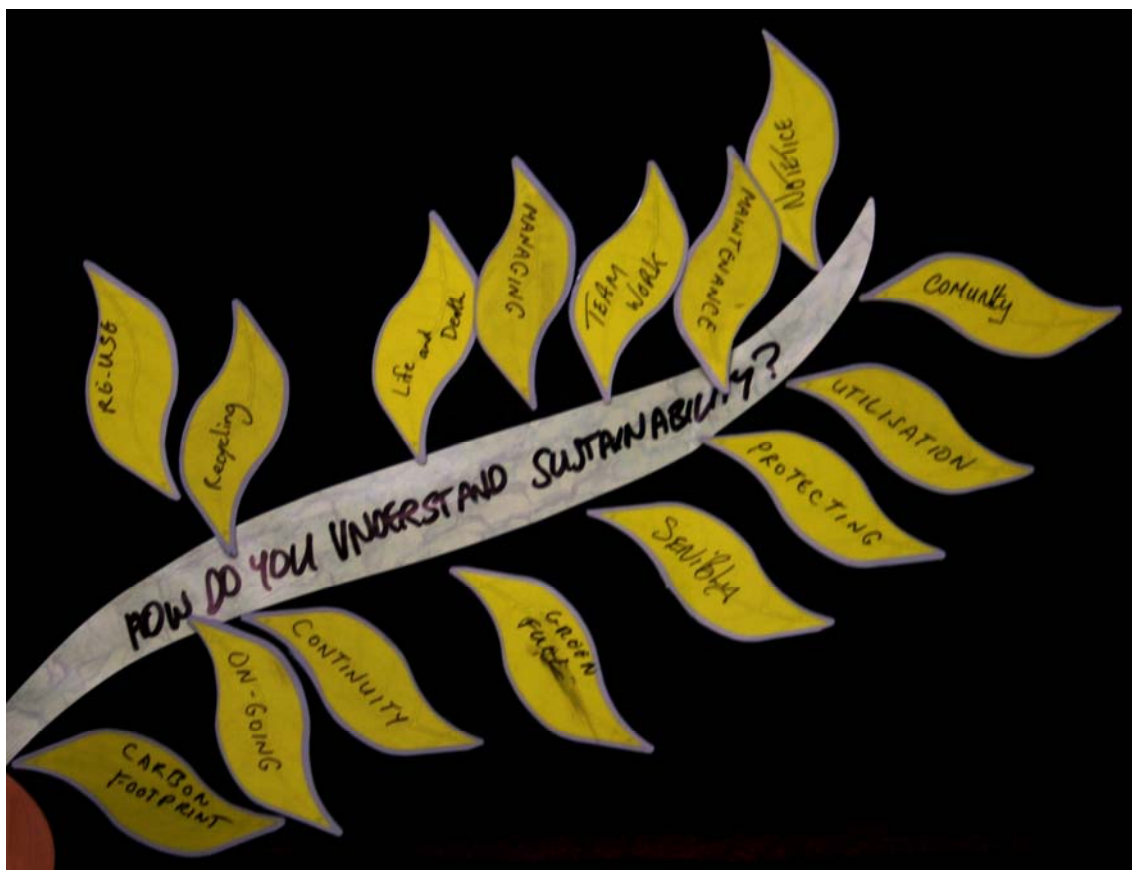
Ketso is a hands-on kit for creative group work (Ketso 2009). It was used to structure the group conversation and to gather data and ideas from relatively large groups in a short time. This kit was also used in the learning initiative to stimulate group discussion. Use of the Ketso kits involves all participants writing their ideas on colour coded 'leaves' and placing them on a shared felt workspace. This allows all participants to give input, and provides a written record of key words and ideas, written in the participants' own words, that is captured for later analysis. The sessions were designed to be interactive, non-threatening and accessible for everyone to provide ideas without having to talk about them and defend them in an uncomfortable and possibly daunting situation. This data gathering was supplemented by observation and note taking by the researchers, to capture the salient points of the discussions emerging from this group work.

Figure 9 Ketso used in Stores sessions to explore participants' understanding of sustainability



The discussions focused on the following questions to explore participants' understanding of sustainability and the learning culture of Tesco: How do you understand sustainability? What does sustainability in Tesco look like? How does Tesco learn new ways of doing things? How do new ways of doing things get put into practice?

Figure 10 The data captured on a Ketso felt for storage and later analysis



The Head Office focus groups allowed twenty staff from different functions in both of the Head Offices (Cheshunt and Welwyn Garden City) to explore ideas together. These were also structured around Ketso discussions, with questions similar to those used in the Stores focus groups. The questions explored: Participants' understandings of sustainability; what works well in sustainability training and learning in Tesco; how new approaches and practices are introduced and embedded in Tesco; and examples of sustainable behaviour and practice in Tesco. Participants were asked to consider what works well in Tesco, the key barriers to embedding sustainability in the organisation and ideas for the future.

The final part of the baseline assessment involved the use of Ketso to establish how the participants on the learning initiative, both in Stores and Head Office, understood sustainability. This exercise was carried out near the beginning of the first session in each of the courses, and then again in the review sessions. This allowed us to capture a 'before and after' snapshot of these participants' perceptions and understanding. The exercise was structured around four questions: How do you understand sustainability? What is Tesco doing well [with regard to sustainability]? What are the key challenges? Why is sustainability important? Time limitations prevented the research team from interviewing a full sample of participants on the pilot learning initiative, as many of the people who were interviewed in the early baseline assessment were unable to attend the learning pilot due to time clashes. This limitation, however, prompted the innovation of gathering the 'before' and 'after' data using the Ketsos as part of the learning initiative, which was both pedagogically useful for the learners, to be able to reflect on what they had learnt, and a useful method for future baseline assessments. Future assessment of learning may wish to make use of this innovation, as it enabled a rapid gathering of data in a resource efficient way.

The data from the Ketsos was typed up into a spreadsheet to allow analysis and exploration of themes. With the data in a spreadsheet it can be sorted by type of idea, which workshop, and also by the importance assigned to the ideas by the participants themselves, using icons to point out their priorities.

Figure 11 Spreadsheet of ideas from focus groups typed up from Ketsos

Workshop Title:			SCI Skills Project 2008	
Group N°	Category on Branch	Leaf Colour	Meaning	Participants' Ideas (written on leaf)
B	How do you understand sustainability?	Yellow	Key words	Society
B	How do you understand sustainability?	Yellow	Key words	Environment
B	How do you understand sustainability?	Yellow	Key words	Cycles
B	How do you understand sustainability?	Yellow	Key words	Re-use
B	How do you understand sustainability?	Yellow	Key words	Re-invent
B	How do you understand sustainability?	Yellow	Key words	Balance
B	How do you understand sustainability?	Yellow	Key words	Holistic view - every impact is considered
B	How do you understand sustainability?	Yellow	Key words	Balance - we don't take too much or put too much back
B	How do you understand sustainability?	Yellow	Key words	All-inclusive

2.1.4 Develop learning initiative

The Expert Advisory Group meetings helped to set the foundations for the research and develop the 'measures of success' for the learning initiative. In the initial meeting, broad concepts of sustainability and possible practices for embedding change to sustainability were reviewed. The group members were able to discuss key priorities and issues in their wide experience of developing action learning, organisational change and sustainability learning initiatives in a wide range of contexts. This workshop set the stage for the early thinking about the learning initiative.

A smaller group met for further meetings at various phases of the project. This smaller group included the three members from Professional Practice for Sustainability and members from the Manchester area (from the SCI, How Creative and Countryside). Further meetings, in February and April 2009, saw this group involved in refining the plans for the learning intervention, following a presentation of initial findings from the baseline analysis. Some members took on observational roles during the first of the Head Office pilot sessions, thereby providing useful insight as the course developed.

The research team started to develop concepts for the learning initiative, building on the ideas from this launch workshop, as well as considerations of the organisational culture emerging from the initial analysis of the Tesco context, the literature review, and the

Principal Investigator's experience in sustainability training. New ideas for simple ways to communicate the concepts of sustainability and the science behind it were explored, building in the Expert Advisory Group's experience (in particular PP4SD and their earlier attempts to simplify the language of The Natural Step). Every element of the learning initiative, from the design of the learning tools, to the design of sessions, to the overall structure of the course, were tested against the framework for effective learning initiatives for sustainability that was developed in the literature review and Expert Advisory Group input.

2.1.5 Pilot learning initiative

The delivery of the learning intervention took place in April and May. The courses were delivered by Joanne Tippet, with assistance from Pete Mann, Graeme Sherriff, Eben le Roux and Fraser How.

In each of the two Head Office courses, there were two three-hour sessions in April and May, followed by a three-hour review session in June. In Stores, the course consisted of five sessions, all of which were one hour in length except for the third, which was extended to an hour and half to enable the core sustainability guidelines to be taught together. This was followed by a one-hour review session in June.

In Head Office, the participants on the learning intervention consisted of two groups, one for the Welwyn Garden City site, with twenty people, and one for the Cheshunt site, with fifteen people. They represented a wide range of business functions and spanned the work levels from administration to senior management. The length of time working at Tesco ranged from four months to twenty-four years, with the majority under eleven years. Two thirds were female. Two of these participants had also been interviewed for the baseline assessment. Table 4 on pg. 81 provides further detail about the participants, anonymised.

The Stores workshops took place at the Cheetham Hill Eco-store, with the group consisting of nine members of staff from this store, four from the Failsworth store and four from the Prestwich store. Eleven of these seventeen were male. The participants represented a range of functions within the organization, including food and non-food, managerial and shop floor, some dealing with customers and some not. Three of the group had attended the focus groups for the baseline assessment. Table 5 on pg. 83 provides details (without names) about the participants and their attendance.

2.1.6 Assess learning initiative

Change is always occurring and by implication, so is learning. Thus, in a study of change, we have to set boundaries on what we will consider evidence of change. Not everything can be 'change' if we want to have anything significant to say. We need to identify the domain in which we will investigate change, in order to allow for a focused enquiry. For this pilot, the domain is work-based knowledge that engages with sustainability. We have also set a boundary in terms of the time in which the change will be investigated. Due to the time limits of the project (nine months in total) this boundary aligns with the timing of the workshops and the final review session, which was held a month after the main learning initiative. The baseline has been constructed based on employees' current knowledge and awareness of sustainability as relevant to their work (established in the first group exercise). We have then outlined what would be considered change in relation to

changes in workplace learning, and carried out follow-up analysis based on the data collected in the learning pilot.

Our interest was not in any change but in what would be considered ‘effective’ change with regards to sustainability. Measures of success were essential for the project. These were used to structure the analysis of data from the participants on the learning initiative. Data used for this assessment was gathered during the pilot (e.g. from activities in which participants presented their understanding of sustainability). Given sample limitations, the results from these measures were not used to generalise regarding the success of the training. Rather, they were used to inform future development of the training and for assessment of learning during these future iterations.

A range of data collection methods were utilised in order to better understand the many different aspects of the course and participants' experience of it. The methods used during the main body of the learning initiative (e.g. not just the review session) are detailed below.

2.1.6.1 Data collection during the intervention

Participant Observation – During the sessions, the research associates took on the role of critical observers. Notes were made about the delivery of the course, including reflections about what might be done differently in future iterations; the reactions of the participants to the material; and questions asked in the sessions. This approach also enabled us to capture data and ideas that emerged in informal discussions with the participants.

Feedback forms – For each of the sessions, in Stores and Head Office, we gave participants feedback sheets and asked them to evaluate and comment on that session. There was one exception in the Stores training, due to the limited time and the need for participants to get back on the store floor. In this instance a quick verbal feedback was elicited and recorded on a flipchart. The feedback sheets enabled us to gather participants' views, anonymously, and understand how they were experiencing the course as it progressed. The forms contained a mixture of open questions and statements to be rated on a Likert scale (such as ‘I have a better understanding of sustainability.’ and ‘I see the relevance of the course to my job.’) and more open questions (e.g. ‘what would you change?’).

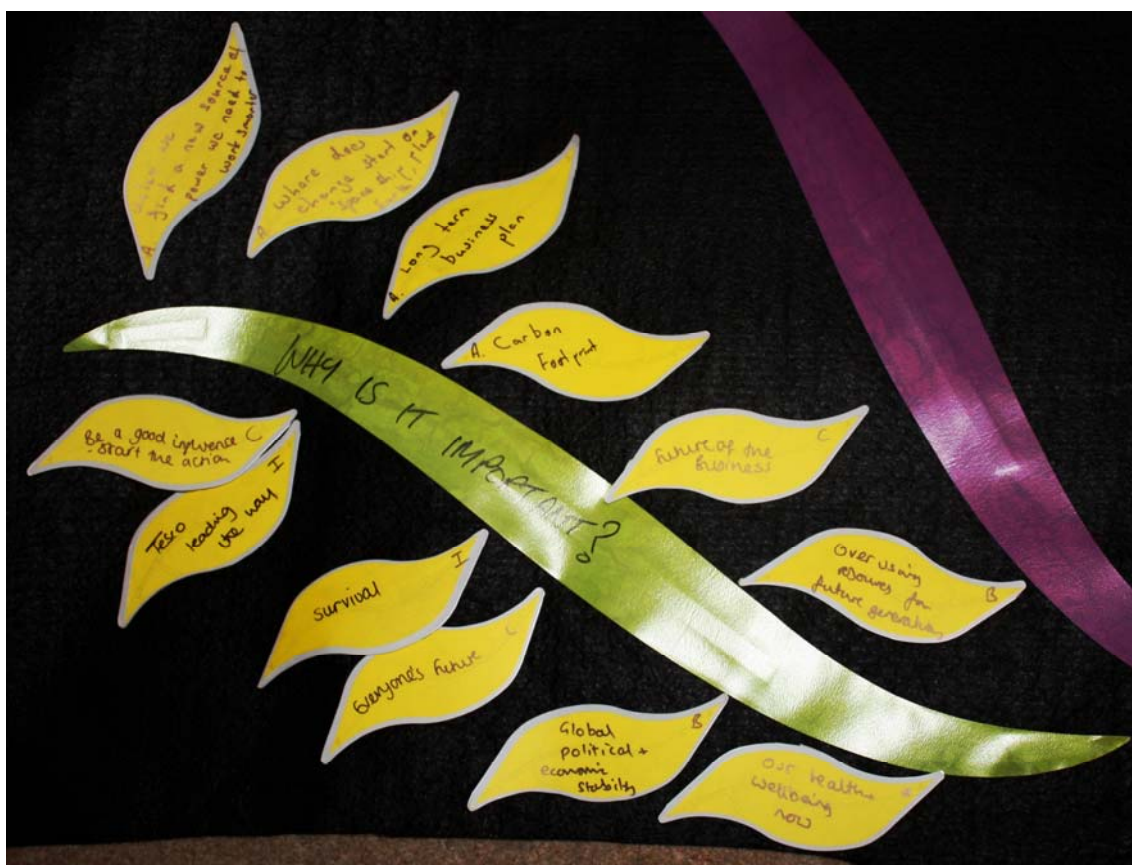
Interactive group work –Ketso is a hands-on kit for group work, this kit was used as part of the learning process in the sessions. This served a dual purpose: aiding facilitation of small group discussions and capturing information from these, which served as data for further analysis. A typical small group discussion would involve writing keywords on Ketso ‘leaves’ and placing them on the felt workspaces around branches, upon which discussion points are written. ‘Leaves’ would be different colours depending on the focus of the question. For example, green would generally represent ‘new ideas’, and brown would represent ‘what works well’. Leaves were clustered on the Ketso felt to indicate related issues. After the sessions, the keywords were entered into spreadsheets by the research team and the felts as a whole were photographed as an additional way to capture the data in relation to each other.

Three types of data were collected on Ketsos: 1) participants' understandings of sustainability and embedding change and 2) examples of successful practice Tesco's stories from both the start of the course (seen as ‘before’ data and useful for the baseline assessment) and in the last session (seen as ‘after’ data and used to assess changes in

understanding), and 3) the ideas that were developed by participants in the envisioning exercises during the course.

Keywords were stored in the spreadsheets so they could be sorted the colour of the leaf (denoting the type of idea) and the branch by which they were placed (the key theme the ideas related to). This enabled ideas to be sorted in several different ways for analysis, for example by theme, by type of idea, or by group. We found from analysis of the early Ketsos that it would have been useful to be able to ascertain which of the keywords were written by any one learner. In the review sessions, we adapted the approach to address this concern by giving each person a letter, which they then wrote in the corner of all of the leaves that they used. We asked participants to write these letters on the feedback forms in the review session. This enabled us to respect the anonymity of the participants, whilst enabling us to trace the learning journey of a particular participant. We could thus interrogate the data in more nuanced ways than if all the data was simply aggregated. The anonymity maintained in this way could be important to encourage participants to give truly critical feedback.

Figure 12 Portion of Ketso showing colours of leaves as codes and letters in corner



Video – All of the Stores sessions were filmed by experienced camera operators. They filmed the sessions as a whole, and were also able to focus in on specific occurrences, such as conversations with individual participants during small group sessions. Whilst it was not always possible to anticipate these moments and therefore capture them all, this videoing enabled us to keep a useful record of the sessions. This data format lends itself to more detailed analysis; e.g. facial expressions, body language, and interactions with the group, which will be useful in developing improvements in the follow-on research project ‘Scaling up’, in which ways to ‘train the trainers’ within Tesco will be explored. It was seen as important to capture this early data to enable us to be reflective about our own

practice, in terms of taking the learning initiative forward beyond this pilot. The Head Office sessions were not filmed, due to the difficulty of transporting the University of Manchester team's cameras and operators to Cheshunt and Welwyn Garden City.

Audio – The Head Office sessions were recorded using a high-quality portable audio recorder. This was useful for capturing the delivery of the learning intervention and discussions during plenary.

Photographic – Each session was documented photographically, and the images were used to both document the course and act as aide memoirs.

2.1.6.2 The Review Sessions

A review session was built into each of the learning initiative schedules, affording an entire session of reflection and evaluation. This amounted to two sessions in Head Office for three hours each and one in Stores for an hour. For these sessions, we used the same range of data collection methods as above and, in addition, we created targeted feedback sheets and group exercise to gather data and help us answer our research questions.

The research team had several meetings to design the instruments for data gathering for the review sessions. The aim was to obtain a range of data, asking questions to approximate changes in knowledge and skills, and identify what was effective on the course for the learners. The forms of data gathering are summarised below. An example of the feedback forms is shown in the Appendices. They are summarised below:

'Headlining' – At the start of the review sessions, in each location, participants were asked to summarise what they had learned during the course on one A4 sheet. This enabled participants to have some reflective time considering what they had learned, without feeling rushed, and before their thinking was influenced by a group discussion. The prompts were: Headline what you have learned, in particular what you already knew; what surprised you; and what has changed, in terms of how you understand sustainability?

'Learning Activities' – Participants were asked to specify three of the elements and activities in the course that they found the most useful, and which three they found the least useful. Space was left on the sheet for further comments and explanation. This sheet was given to the participants after a presentation that reviewed the course with a presentation including images of the course, and that summarised the key elements from each session.

'Learning Approaches' – Participants in Head Office were presented with a list of the learning approaches used in the course and asked to rate these on a Likert scale from 'very unhelpful' to 'very helpful'. Space was left, with the question 'why', to elicit commentary and reflection on the learning approaches. Stores participants were given a shorter version of this list (due to the limited time for the review session, which was one hour only).

'Understandings of Sustainability' – Participants were asked to do a quick exercise, again using the Ketso kits, to write their understanding of sustainability, what they feel Tesco is doing well, key barriers to sustainability in Tesco and why sustainability is important to Tesco. This echoed the exercise at the start of the course, and was used to stimulate discussion amongst the group about what had changed in their learning, as well as to gather data to assess change in understanding.

‘Anything Else?’ – At the very end of the review session, all participants were given a sheet with the prompt ‘Is there anything further that you would like to tell us?’ This was to allow them to give unstructured, unprompted feedback that they had been unable to give elsewhere in the session. Most participants took the opportunity to provide this additional information. There was not the time for this stage in Stores, due to time restrictions. Participants were, however, given an opportunity to fill in a form after the session, with a stamped addressed envelope, if they felt they had something else to say or wished to make an anonymous comment.

A full set of these feedback forms were given to participants who had attended the course but were not able to make the review session. Three participants sent feedback in this way.

‘Self-assessment of changes in skills and knowledge group work’ – In the Head Office sessions, we designed an exercise where we asked participants to locate themselves on a simple matrix: with sustainability skills on the x axis and sustainability knowledge and understanding on the y axis. We asked participants to write their ‘letter’ on two different coloured post-it notes, one colour for ‘before’ the course and one colour for ‘after’, then to place each on the matrix showing where they thought they were and how that position had changed during the course. We encouraged participants to discuss this with each other and locate themselves on the axes in relationship to each other. The data from the discussion was helpful in elucidating participants’ perception of their learning, and was captured by the researchers taking notes at each table.

‘Takeaway task – to undertake an action, discussion’ – We held a brief focus group at each table to discuss the actions taken during the takeaway task, and elicited a discussion about change in behaviour and organisational culture. Further actions to be taken were also discussed. This gave us insight into ways the pilot training could have informed not only ways of understanding sustainability but also actions at work and in personal life.

2.1.6.3 Review of emergent themes and analysis

An Expert Advisory Group meeting was held after the pilot was completed, and following the initial write up of the data. This meeting allowed the group to both critically reflect on the learning initiative, and to explore the methodological and scholarly issues involved in both championing and assessing long-term cultural change programmes for sustainability. This enabled us to review the analysis process and to consider the implications for further research. The Tesco Liaison Team were present, and additional review sessions were held with them following each of the sessions of the learning initiative in Head Office, and with one member following the two sessions in Stores that she attended.

2.1.7 Pilot and test methods of data gathering and ways to assess change in organisational culture

This stage involved reflection on the data gathering and analysis process in the pilot, combined with the knowledge gained of the learning culture of Tesco, in the context of the learning from the literature review, to consider how to better assess baseline sustainability skills, knowledge and practice and changes in a large organisation. The following table gives a brief overview of the flow of the project over nine months.

Table 3 Overall timeline of project

Dates	Activity	Summary
1 st November 2008	Project start	In early meetings, the researchers planned workflow.
21 st November	Inception meeting with Tesco Liaison Team	A meeting with Tesco staff to confirm work plans, discuss the foundations of the project and key issues in the Tesco context.
21 st November and 2 nd December	Interviews with Head Offices Staff	A series of interviews with Head Office staff to explore the learning culture of Tesco, perceptions of sustainability, and good practice in terms of training and embedding change in the organisation.
Nov. – Feb. 2009	Literature Review	Desk based study of literature and current practice.
1 st December 2008	Focus Groups at Head Office	This series of focus groups was part of the baseline assessment, and included discussions about how Head Office understand sustainability and what they know of the work that Tesco is already doing in this field. Attended by the researchers and three members of the Expert Advisory Group.
4 th December 2008	Full Expert Advisory Group Meeting	This meeting aimed to develop the knowledge base and set the foundations for the research project, to explore current best practice, and develop plans for the project and establish shared goals with the research team and Tesco Liaison team.
10 th and 11 th February 2009	Focus groups in Stores	A series of focus groups were conducted with staff from Oldham, Rochdale, Bury and Manchester Cheetham Hill stores. Forming part of the baseline assessment, they involved Ketso group-work including questions on how they understand sustainability, what Tesco does well, what problems and barriers they identify, and what Tesco might do differently.
17 th February 2009	Expert Advisory Group Meeting	The meeting reflected upon progress so far, to set priorities for, and input into, the development of the learning pilot.
3 rd April 2009	Expert Advisory Group Meeting	A draft of the learning initiative and was of approaching the training in both Stores and Head Office was presented by the Principal Investigator and critiqued by the group and Tesco staff.
April 09 - May 09	Pilot Learning Initiative in Stores	Starts 22nd April and continues weekly for 5 weeks in total. (see separate table for the course)
April 09 - May 09	Pilot Learning Initiative in Head Offices	Sessions took place on 23rd and 24th April and 7th and 8th May (see separate table for the course outline)
8 th and 10 th June 2009	Review sessions in Stores and Head Offices	Review sessions took place at Cheetham Hill store and each of the Head Office locations. These sessions elicited participants' reflections on what they had learned from the pilot initiative and ways to improve the training.
2 nd July 2009	Full Expert Advisory Group Review Meeting	In meeting, the advisory group reviewed the learning intervention and critically reviewed the newly developed RoundView framework.
31 st July 2009	Final Project Report	Data gathered and analysed, project report developed incorporating critical review from Expert Advisory Group.

3 Review of current knowledge and practice

There is a growing recognition of the need to develop sustainability thinking in the light of increased turbulence in social and ecological systems. This will require new approaches and considerable capacity building amongst staff at all levels of large organisations (Midgley and Ochoa-Arias 2004). Such a change will require more than just structural changes or new policies—new mindsets, new ways of working and new behaviours will be required for the move towards long-term sustainability (Orr 1994).

Sustainability can be seen as a goal or desired future state, with sustainable development as the journey or way to move towards that goal. Robert (2000, pg. 198) makes the distinction, suggesting that sustainability can be seen as a "*favourable outcome of planning within the system*", whilst sustainable development can be seen as "*the process to reach this outcome*".

The Brundtland Commission's early definition of sustainable development is still prevalent and widely used: "*To meet the needs of the present without compromising the ability of future generations to meet their own needs*" (World Commission on Environment and Development 1987). The concept of sustainable development came into its own as a common political understanding with the publication of this report, which was developed over several decades (Mebratu 1998). The initial impetus for this development was the concern for environmental pollution and the impact on future generations raised by Rachel Carson's (1962) 'Silent Spring'. By the year 2000 there were several hundred definitions of sustainability (Bosshard 2000).

Forum for the Future is a prominent sustainability organisation in the UK. They have provided a useful advancement on the Brundtland definition, highlighting the role of ecosystems. They define sustainable development as "*A dynamic process which enables all people to realise their potential and improve their quality of life in ways which simultaneously protect and enhance the Earth's life support systems*" (Forum for the Future 2002).

There are numerous approaches that seek to help organisations embed sustainability into their decision-making and business processes. These take a wide variety of forms, requiring many different levels of commitment and engagement. They include: information provision and guidance; voluntary accountability and reporting frameworks; regulations; and structured change management. An example of a voluntary initiative is the CERES pledge (CERES 2007), which encourages signatories to observe 10 sustainability oriented principles (by making consistent, measurable progress towards implementing them). Similarly the United Nations Global Compact has ten principles that offer guidance and standards against which companies can measure their performance on both environmental and social issues (United Nations 2009).

Sustainability reporting is implemented in various ways; for instance the Global Reporting Initiative is an international standard used by over 1,500 organisations for corporate reporting on environmental, social and economic performance (Global Reporting Initiative 2007). Triple Bottom Line reporting asks for company reports to include not only financial outcomes, but also environmental and social performance (Elkington 1998). Such reporting

may form part of a broader organisational framework for strategic decision making, making a contribution towards the overall aim of organisations 'getting their houses in order'. Corporations are subject to increasing scrutiny from a multitude of stakeholders, especially in the internet era (Elkington 1998).

Apart from the potential advantage of promoting organisational commitment to sustainability, however, such frameworks provide little practical guidance as to how to implement sustainable development within an organisation. The value of voluntary frameworks depends upon organisations reporting truthfully (Gray and Milne 2002). It is argued that there is a large degree of management control over the process, evidenced in their analysis by a reluctance to address statements by specific stakeholder constituencies and a general absence of stakeholder participation (O'Dwyer and Owen 2005). They argue that there may only be accountability to corporate management, as opposed to other stakeholders. According to Robins (2006), one of the major weaknesses of triple bottom line reporting is its inability to be adopted into a monetary-based economic system. In other words, it is not possible for businesses to 'sum' or measure the society and environmental dimensions of the framework in the same way as they do for profit.

As indicated by De Jongh (2003) and Doppelt (2003), applying sustainability in practice is not easy. Wirttenberg et al (2008, pg. 12-13) provide information from a worldwide sustainability survey of 1,365 managers (AMA 2007), indicating sizable gaps between the perceived importance of sustainability qualities and the degree to which the average responding organisation actually demonstrated these qualities. According to this analysis, even organisations with exemplary practices in one area may act in less sustainable ways in other parts of their organisation. This highlights the significant challenges inherent in implementing sustainable development within organisations. It is argued that what is required is more than just increased recognition of the importance of sustainability; there is a need for a more systemic approach that includes attention to how to change the thought-processes and assumptions that are ingrained within an organisational culture (Doppelt 2003).

As De Jongh (2003, pg. 11) puts it:

"You might comply with environmental regulations; you might do good for some aspect of social welfare; you might have a charity programme; but, unless sustainable development is at the core of your business or programme, you won't effect a real change [toward sustainability]."

Main approaches to embedding sustainability in organisations

This review has suggested four main approaches as a useful way to understand and differentiate between the different ways to embed sustainability in organisations. These approaches are not mutually exclusive; real-world change initiatives may be informed by, and reflective of, several or all of these approaches. Nevertheless, the differing emphases are distinctive enough to serve as a useful organising mechanism. These approaches are: quality management & measurement; change management; ecological design; and systems & science based frameworks. Each of these clearly covers a broad area and many different

possible applications; this review has focused on the subset of each that is found in the sustainability literature.

3.1.1 Quality management & measurement

Quality management systems are in general concerned with continual improvement of products, processes and systems through formalised adoption of measurable objectives and targets. Quality management is characterised by a focus on customer satisfaction and reducing waste, seen as cost reduction (Reed, Lemak et al. 2000). Well known examples of this approach are ISO (www.iso.org) and Total Quality Management (see Deming (1986), a key early thinker), and Six Sigma (Six Sigma 2000-2009). These management approaches can be related to the move towards sustainability both implicitly (through an emphasis on waste-reduction and efficiency, for example), and explicitly, through specifically targeted environmental metrics. The latter approaches are known as Environmental Management Systems (EMS).

ISO 14001 specifies such an environmental management system, one that helps organisations minimise their negative impact on the environment, and comply with applicable laws and regulations. The idea behind this standard is to systematically reduce environmental impacts that are within an organisation's sphere of control. The theory is that: 1) pollution represents resource waste; 2) rather than exclusively relying on governmental regulations to mitigate pollution, firms can self regulate; 3) if appropriate management systems are put in place, desired outcomes such as improved environmental performance will follow; and 4) auditing by external accredited auditors will create incentives for firms to adhere to programme obligations (Prakash and Potoski 2006, pg. 351).

These approaches tend to be "top-down". They require significant top-level management support, as they bring about a significant workload on staff members due to the extent of operational analysis and management (e.g. document control) that is required.

One of the positive contributions of the quality management approaches are the formality, legitimacy and accountability that they bring. They also provide recognition for those that perform well by their standards. There is typically increased awareness and participation - organisations benefit from better communication about environmental issues inside and outside the organisation (SQA 2009). Quality management frameworks also provide an avenue to raise environmental issues and advocate environmental performance as an important part of corporate culture.

Some critics argue that because the standards measure environmental performance relatively rather than absolutely, they are inadequate instruments for improving environmental sustainability overall (Krut and Gleckman 1998). Others are sceptical of voluntary regulations, arguing that they 'green wash' firms' poor environmental performance (Steinzor 1998).

There is evidence to suggest that a weakness of quality management approaches is that they ignore cultural aspects of change towards sustainability (Wilkinson and Dale 1999; Doppelt 2003). These concerns are addressed in the second major approach, that of change management.

3.1.2 Change management

The literature from the change management approach typically provides feedback from case studies on the realities that face organisations, and then provides a recipe for change towards a more sustainable organisation.

For example, Doppelt (2003, pg. 89) proposes a system of change that he calls the 'wheel of change towards sustainability'. This provides different solutions that could contribute to change. He argues that for sustainability to be embedded, the 'governance system' of an organisation needs to be altered (which involves changing the flow of resources and information, as well as decision-making). Wirtenberg et al (2007) provide a model which highlights seven core qualities associated with successfully implementing sustainability strategies and achieving triple bottom line results.

Typically, this approach includes ideas concerning the role and qualities of leadership (Knowles, Twomey et al. 2008) and mental models for supporting a transition to sustainability. Adams (2008) writes about mental models and their implications for teaching sustainability concepts – see also Wirtenberg et al (2008, pg. 65). Related fields include the environmental psychology literature on habits (Hobson 2003) and employee engagement (Fairfield, Knowles et al. 2008).

In addition, action learning approaches enable change in organisational settings. Action learning implies doing useful things in difficult or challenging circumstances and learning from the process; with this reflective learning guiding future actions (Pedler 1997). Studies show the effectiveness of action-led learning in embedding culture-change within corporations (Marquardt 1999). Revans pointed out that the scientific cycle of hypothesis/test/measure/observe is similar to the human learning cycle, e.g. idea/action/experience and reflection (Revans 1983). Both are important; the problems come when scientists and managers don't take responsibility for action, and deliberately avoid learning and questioning about their activities, especially important when decisions have profound environmental and social implications.

While change management approaches provide significant information and resources to change agents (whether these be external or internal to the organisation)—equipping them with useful sets of tools—it is argued that these approaches can only be effective so far as the context allows these change agents sufficient leverage to *apply* them (e.g. Ballard 2005).

Some of the literature, in particular in the field of Appreciative Inquiry, discusses the possibility that change management approaches can reinforce or introduce negative perceptions through emphasis on the need for change and the problems with the current system. This perception is argued to be a potential hindrance to positive change within an organisation. Instead, this literature asserts the value of exploring the strengths of the existing situation and encouraging positive dialogue about future possibilities (Cooperrider and Whitney 1999).

A focus on the positive aspects of a system to be managed is an important, but often overlooked, factor in community development, where building upon existing skills, interests and capacities in an area is an important part of developing social capital in the change towards sustainability (Kretzmann and McKnight 1993; Tippet, Handley et al. 2007). This focus on the positive has been seen to play a role in team development, as it can be more empowering to focus on strengths as a starting point for change (Bushe and

Coetzer 1995). Experiences in planning for sustainability further support this notion. For example, the value of asking participants to start with what is valued and important in an area, as the basis for developing a plan, has been recognised in several projects aiming to implement sustainability in community development (International Institute for Sustainable Development 2000).

3.1.3 Ecological design

Many of the environmental improvements in business in the early nineties were based on the premise of increased efficiency in resource use and safer practices. These improvements could be typified as ‘end-of-pipe’ solutions, often involving better storage of hazardous materials and better filters to prevent discharges of pollution into the environment (Tippett, Handley et al. 2007). They have resulted in significantly reduced pollution, especially from point sources. Several commentators on the process of ‘greening industry’ have suggested, however, that many of these improvements did not involve a change of direction. They did not treat the cause of the problems, but instead dealt with the symptoms. The same basic design of the system would continue to cause environmental pollution and damage, it would just do it more slowly (e.g. Orr 1994; Hawken 1998; McDonough and Braungart 2002).

This critique of ‘end-of-pipe’ solutions prepared the way for proposals to re-engineer ‘upstream’ to eliminate problems. The concept of Industrial Ecology promoted improved process design, and the application of eco-cycle principles to energy provision and manufacturing (e.g. Tibbs 1993; Lovins and Lovins 2001). This work has been developed into the concept of Natural Capitalism, which has looked at redesigning the nature of commerce to create wealth without depleting natural resources, often involving new business models that encourage the complete reuse of materials and rethinking the economic logic from providing products to providing services (Hawken, Lovins et al. 1999).

Cradle to Cradle takes an explicitly design oriented approach to sustainability that builds upon Industrial Ecology. Two basic types of material flows are identified—biological and technical—together with the understanding that we need to design all of our systems and industries to respect and work with these in a way that is compatible with natural ecosystems (McDonough 1998). The founders of this approach, McDonough and Braungart state that (2002, pg. 93):

"If humans are truly going to prosper, we will have to learn to imitate nature's highly effective cradle-to-cradle system of nutrient flow and metabolism, in which the very concept of waste does not exist."

Design is a process of arranging and connecting resources together in a particular way in order to achieve a purpose, in a given context. Ecological design seeks to integrate societal forms of production, housing, infrastructure and technology into the landscape in an environmentally harmonious way (e.g. Van der Ryn and Cowan 1995). Design can be seen as a hinge between the future, present and past; between goals, vision and context (Tippett, Handley et al. 2007). It involves "*conceiving and shaping complex systems*" (Lyle 1994, pg. ix), and is an active process of engaging with the environment and others to achieve desired outcomes.

Criticisms of the concept of ecologically informed design fall into two categories, the practical and the theoretical. On the practical level, ecological design is seen as difficult to implement, requiring different skills and competencies than those for common practices. It is often unclear how an ecological design approach can fit in with existing policy and procedures. There can be high up front costs from the time spent in design—this is the case especially in strategic and large-scale plans, and where there is a high degree of stakeholder involvement. These costs may be mitigated by efficiency gains through streamlining of later projects (e.g. Bass and Herson 2000; Brooke 2000; Verheem 2000).

On a more fundamental level lies the question, ‘Do we really know that an ecologically informed design is actually more sustainable than another alternative?’ Several researchers caution about the difficulty of ‘measuring’ or assessing relative ecological sustainability of options, emphasising uncertainty in any scientific endeavour to understand ecosystems (e.g. Carpenter 1995; George 1999).

In addition, ecological design does not *necessarily* involve a participatory process of involving different stakeholders. Indeed, Fletcher and Goggin (2001) contend, “*the success of a range of approaches to ecodesign is at least partly contingent on people and this largely has been overlooked to date*”. There are, however, several examples of ecological design paying close attention to social processes. Permaculture is a form of ecological design that initially started in eco-agricultural and agro-forestry, but has since been developed into a system for ecological design that can be applied to different types of system at multiple scales (Mollison 1990; Holmgren 2003). Accredited design courses include sessions on local economic development and community building (e.g. Statham 2000), and there is a strong emphasis in the teachings on the interrelationships between human and natural systems (e.g. Bradshaw 2000).

3.1.4 Systems & science based frameworks

This fourth type of approach is based in science, with a focus on non-negotiable physical and ecological realities. Based on scientific laws and understandings, these approaches provide ways of understanding sustainability, as well as guidelines for decision making and planning. Well-known examples of such frameworks include ecological footprinting (Wackernagel and Rees 1996), The Natural Step (Robèrt 1991) and Professional Practice for Sustainable Development (PP4SD) (Hall and Martin 2002; Martin, Brannigan et al. 2005; Martin 2008).

The Law of Sustainable Development, a report produced by the European Commission, explores the ‘*legal theory of sustainable development*’ and states: “*today, no serious study and application of the principles of sustainable development is possible without the help of systems science*” (Decleris 2000, pg. 8). A system is “*an integrated whole whose essential properties arise from the relationships between its parts*” (Capra 1996, pg. 27). A conceptualisation of the whole planet Earth as such a system, combined with a rigorous and scientifically grounded understanding of the effects that the actions of human societies are having on that system, characterises the approaches discussed here.

Whilst the goal of sustainable development is widely accepted, an understanding of sustainability in practice is not as easy to come by (Tippett 2005b). The concept is sometimes seen as ambiguous and even meaningless. For example, in a paper about the

future of the planning system and its ability to deliver sustainable development, Rydin (2003, pg. 2) says:

"Policy makers and politicians have found it easier and politically more prudent to rely on the inherent ambiguities of the concept rather than risk finding themselves tied to a clear and precise definition."

Forman (1998) suggests that while sustainable development may be more of a process than an end point—and indeed that it may be impossible to achieve—it is possible to define a desired trajectory. In order to operationalise the concept, it is important to more clearly define what we are trying to achieve. Solutions developed within a framework of clear sustainability principles are less likely to have counter-productive effects in the long run (Holmberg and Robèrt 2000). Clear principles can assist in moving beyond ‘solutions’ that only deal with symptoms, towards changing the processes and actions that cause problems in the first place. This implies a need to change the way we make decisions, such that options are tested against the question: *‘Is this likely to be sustainable in the long run?’*

Ecological footprinting aims to provide a common metric for measuring ecological impacts in different contexts (Global Footprint Network 2003-2009). It has been used to compare these impacts for countries, increasing understanding of the relative levels of damage that they inflict upon the Earth’s ecosystems (Wackernagel and Rees 1996). Ecological footprinting shows the total amount of ecological space required to fulfil all of the needs of the entity under discussion, including the space required to absorb the waste products produced. It provides a powerful and easy-to-grasp way to understand sustainability.

Ecological footprint modelling is not regarded by all as a sufficiently comprehensive and transparent planning tool (e.g. Grazi, Van den Bergh et al. 2007). Van den Bergh and Verbruggen (1999) critique this model, referring to the implicit weighting of indicators, as well as the absence of other important issues such as the role of international trade.

The Natural Step focuses attention on, and clarifies, the types of societal activities that cannot be sustained in the long term (Holmberg 1998). The framework is built upon clear scientific principles, which have been agreed as both valid and useful in extensive rounds of dialogue amongst leading scientists and practitioners in Sweden, the USA and the UK (Wingspread 1997). The framework is applicable in different contexts and at different levels of scale, and can be used to develop a shared mental model, facilitating dialogue through building on common understandings. There are numerous examples of the framework being used as a pedagogic and strategic planning tool in companies such as Tarmac, Wessex Water, Electrolux and Ikea (Natrass and Altomare 1999).

The Natural Step is particularly acknowledged for its ability to facilitate understanding and awareness of strategic sustainability issues. It provides a clear conception of un-sustainability, a scientifically rigorous definition of sustainability, and a “compass” that helps organisations move in that direction (Burns 1999). The Natural Step makes use of a ‘backcasting’ method for planning, which entails working backwards from a future vision of sustainability, and using the science-based principles as a compass for getting there. It helps people to understand and focus upon the root causes of un-sustainability as opposed to attending only to the symptoms (Robèrt 2002).

The PP4SD approach has been influenced by The Natural Step, and other frameworks (such as the Rio Declaration, World Business Council on Sustainable Development, Forum for the Future and Natural Capitalism). It has been developed with inputs from professional

institutions, and is aimed at promoting sustainable practice among professionals – specifically to help professionals gain competence and confidence to integrate sustainable development principles into their everyday professional practice. In this endeavour, it makes use of an explicitly appreciative, cross-disciplinary methodology that combines systemic knowledge and decision-making frameworks for sustainable development with opportunities for reflective dialogue about the application of sustainability ideas. This approach has been successfully used with diverse sectors such as banking, textiles and construction and environmental management, and integrated into graduate and professional training programmes (Martin, Brannigan et al. 2005; PP4SD 2008).

There is an implicit emphasis in The Natural Step framework on the precautionary principle, which is considered by some practitioners to be too conservative. The strategy of promoting principles that have a broad base of consensus, and deliberately refraining from making judgements about damage thresholds or critical concentrations (which are open to interpretation, hard to predict, and likely to be contentious), is sometimes viewed as a limitation rather than a strength of the approach (Upham 2000).

A further critique of The Natural Step is that due to its privileging of a physics-based model of the Earth system, and the centrality it gives to rates of ecosystem processes (specifically discrepancies between natural and anthropocentric material flows), it does not sufficiently engage participants in terms of culture, aesthetics, emotions or experience— aspects that are considered by some to be key to encouraging change (Adam, (1998), as quoted in Meynell (2003, pg. 10)).

An early critique was that it provides little guidance on implementation (Nattrass and Altomare 1999). One of the reasons for this is that this approach regards its clients as the experts of their own contexts. It therefore follows a 'dialogic' approach with clients. More recently the tool of backcasting, which is used to develop a vision of the future to work towards, and then works out how to get there within the organisational context, has been more clearly codified. This is known as the ABCD framework, which stands for: Awareness and Visioning, Baseline Mapping, Creative Solutions and Decide on Priorities (The Natural Step 2009). A dialogic approach is still followed. The Natural Step framework for decision making has proven to be popular with many businesses (Meynell 2003, pg. 30). Upham, (1999) has critiqued the fact that there is no given expectation over the time period in which to make improvements, or over the scope of the improvements. The Natural Step is not, however, designed to be an all encompassing change process; it is a learning framework. It is generally seen as important to include other appropriate environmental management systems within an organisational setting, in order to provide timelines and progress assessment (e.g. Burns 1999).

Characteristics of effective sustainability learning initiatives

Much literature about sustainability highlights the importance of effective learning approaches. This is reinforced by recognition of the limitations of seeing sustainability as a technical problem with easy-to-identify solutions. Discussing the need to overcome narrow approaches to problem solving, Meppem and Gill (1998) argue for a transdisciplinary approach and suggest: "*The sustainable development agenda should be more geared towards learning processes than projected future outcomes*".

Brockbank and McGill (1998, pg. 43) argue that effective learning needs to promote taking action, and to take cognitive and emotional dimensions into account. They stress the need for an holistic approach towards learning – not only focusing on the knowledge to be learned, but also recognising the socio-political context within which learners are placed. These contexts have a very real influence on people’s learning, and an effective learning intervention needs to take into account the broader contexts in which it is taking place.

Ballard (2005) draws on the literature and action research into a change initiative for sustainability in a large corporation to develop and test a three-fold model for effective change processes for sustainability. This combines ‘awareness’, raising the awareness of the urgency and structure of the problem, ‘agency’, enabling meaningful responses to make changes, and ‘association’, recognising that change will require interaction amongst groups of people and cannot be achieved in isolation. He identifies the process of ‘action and reflection’ as essential to integrate these three conditions. The review of the literature summarised above bears out this analysis, with the four broad approaches to embedding sustainability in organisations showing the need for increased understanding of the nature of the problem, as explored in the systems & science based approaches, and a need for people to work and learn together, as discussed in the change management approaches.

There is a clear indication from the literature review of the need to take a whole-system approach to sustainability. Drawing from the review and the development of concepts in the expert advisory workshops, we have identified four main characteristics of effective initiatives for embedding such systems-based sustainability learning in large organisations. These characteristics can be summarised as:

- **Awareness-raising**
- **Appreciative**
- **Action-led**
- **Associative**

This framework extends Ballard’s (2005) three-fold framework, adding the concept of focusing on the positive (Appreciative), and folding together his thinking on agency, action and reflection into the one characteristic - Action-led. Association remains a component of this new framework. This new framework is explored in more depth below.

3.1.5 Awareness-raising

In the change management literature, a sense of ‘urgency’ is considered an important pre-requisite for change (Senge 1993; Kotter 1996; Doppelt 2003). According to Ballard (2005), different types of awareness are important for effective sustainability learning, awareness of: the agenda; the scale, urgency and relevance of the problems; the structure of the issues; and the limits of our ability to effect intended changes in the environment, such as through technological approaches to solving climate change.

The systems & science based approaches discussed above can be seen as ways to expand people’s awareness; of the impacts of their actions, of the scale of the problem, and of the links between the local and the global (e.g. Robert 2000). Integrated planning can be enhanced by a focus on ‘high priority goals’ that cross boundaries and sectors. These can be developed from an understanding of a ‘big picture view’ of what sustainability could look like as a goal or destination. Such a focus helps to avoid sub-optimal solutions and ‘*counterproductive measures*’ such as developing a solution to one environmental

problem in a way that causes degradation of a different aspect of the environment (e.g. White 2000). Such integrated planning is enabled by an awareness of how a particular project, organisation, locale etc. affects, and is affected by, the global environment.

Learning theories suggest that there needs to be an element of perturbation or discomfort to jog people out of their established thought patterns (Rose 2001). Knowledge of the facts alone is seldom enough to encourage people to make change (Adams, Kelley et al. 2008). There is a danger, in addition, that raising awareness about the scale of the problem could create pessimism about the possibility of sufficient change, and this could inhibit action. For instance, research by Kollmuss and Agyeman (2002) suggests that fear about environmental futures can inhibit pro-environmental behaviours. A further characteristic to enable change within large organisations is discussed in the change management literature, namely that of taking an appreciative, positive approach to the organisation. We see this as an important complement to awareness raising, namely developing an appreciative view of the positive aspects of the system to be changed.

3.1.6 Appreciative

Appreciative inquiry has been described as "*the art and practice of asking questions that strengthen a system's capacity to apprehend, anticipate, and heighten positive potential*" (Cooperrider and Whitney 1999, pg.

5). Practitioner experience in appreciative inquiry suggests that it is important to explore and reinforce the positive aspects of an organisation in order to develop an understanding of its strengths. This helps create greater energy and enthusiasm for change, which builds on these strengths (Amodeo, Cox et al. 2008). Such a focus on the positive is also emphasised in asset based development, an approach to community planning. In asset based development, it is seen that starting with the positive aspects of a community enables people to build confidence and commitment to future change (Kretzmann and McKnight 1993). An appreciative approach implies that the skills, knowledge and possible contributions of all people in an organisation have a potential role to play and should be valued (Bushe and Coetzer 1995).

In the framework developed here, where the aim is to move towards creative solutions for the future, the need to focus on the positive is strengthened by de Bono's insight that creativity can be inhibited by overly critical, negative thinking. This tends to limit people from seeing possibilities outside of the existing situation (De Bono 1990).

Embedding sustainability in an organisation implies changes in knowledge and skills. A new way of thinking is required, but change requires not only a shift in how we think about our relationship to the environment but also in how this can be enacted in day to day practice. Purposeful action is an important catalyst for learning. There is a cyclical relationship between learning and action, and awareness of the need to link action and learning is a key characteristic of effective change.

3.1.7 Action-led

Moving towards more sustainable practices implies moving towards the unknown. Holling (1978; 1986) developed the concept of adaptive management in the field of environmental management, recognising that it is inherently impossible to predict the outcomes of any change in a complex system; surprises and unexpected outcomes emerge from the

interactions of parts at multiple scales. This complexity thus requires a constant process of learning in any attempt to 'manage' such systems.

Mann (1999) questions whether new knowledge on its own is sufficient to encourage change without new skills and an action orientation. In the action learning dictum, '*there is no learning without action and no sober and deliberate action without learning*' (paraphrased from Revans 1983). Action-led learning, as in this context, is often work-based. It starts with practical action that encourages members of an organisation to learn from each other, and invites them to become more reflective, and thus more aware of the intentions and consequences of their day-to-day practice (Mann 1999). Revans (1983) developed a Learning Equation ($L = P + Q$), where P, or programmed knowledge – is necessary, but insufficient. We clearly need and want to use what we know and what others know. But we need the addition of Q – questioning insight / asking fresh questions of each other out of genuine ignorance / creating space for conjecture and insightful flashes. So L, or Learning, requires a combination of what is already known plus our own capacity and willingness to probe into the uncertainty of the future.

The roots of an action-led approach are reinforced in Kolb's popular '*cycle of learning from experience*'. This cycle starts with experience, followed by reflection, then new ideas are assimilated into theory (one's own implicit and others' explicit), which is further tested in experience (Osland, Kolb et al. 1971; Kolb 1984). Argyris and Schon (1978) developed the concept of '*double loop learning*', which refers to the capacity to continuously discover and correct deep lying errors, thus enabling an organisation to adapt to changing circumstances. The term 'double' refers to the ability to take advantage of lessons learned from implementation of new ideas and processes to ultimately change the underlying norms and processes that underpin the organisation's thinking.

By actively engaging people to think about the future of their organisation, it is possible to develop a '*learning organisation*' (e.g. Senge, Kleiner et al. 1994). Such enquiry into the future builds skills in all participants, thus broadening the possibilities for creative solutions and supporting the practice of ongoing adaptive management in the move towards those solutions.

3.1.8 Associative

Learning does not only happen at the individual level. Concepts and ideas are shaped by interaction and through cultural norms and language. People learn in social groups, thus whilst "*our experience of knowing is individual, knowledge is not*" (Wenger, McDermott et al. 2002, pg. 10). Ballard (2005) cautions against encouraging individuals to change things without providing the necessary support mechanisms for meaningful action (e.g. resources, legitimacy or social support). In considering the composition of learning sets, the founder of action learning Revans (1983) suggests it is important to consider "*who knows, who cares and who can*", and to include people from each of these groups. Such consideration of people with different agencies creates a conducive environment for learning by enhancing the likelihood of action.

Attention to social learning can be seen as an essential component of effective change towards sustainability (e.g. Mostert, Pahl-Wostl et al. 2007). One implication of a joint meaning-making process is that participants need to learn to be at ease with reflecting on ideas and practices in public, and amongst colleagues. The potential discomfort in such circumstances is seen as worthwhile, because challenge and support from colleagues can

spur learning and action in productive ways. A social learning approach can have the added benefit of increasing awareness of urgency, seen as essential to instigate change, by encouraging participants to challenge and support each other in their processes of enquiry into their own practices.

The potential for learning emerges in dialogue - from joint sharing of ideas and reflection on current practices. It is evident from this review of sustainability and learning literature that making associations and connecting knowledge and practices together is at the heart of sustainable development. It is through processes of association and public reflection that mental models can be engaged with, and assumptions and habits can be challenged (Ballard 2005, pg. 144). An action learning dictum gives the image that it is not a question of the blind leading the blind, but that the blindfolded shall help the blindfolded to strip away the veils and bandages of custom and practice (Revans 1983; Pedler 1997, pg. 259).

An associative approach enables people to work together and support each other in implementing action. In order to embed sustainability in an organisation, it is important to develop both horizontal and vertical networks, so that people can learn from others in their team, others in similar roles outside of their usual networks, and from people at different levels in the organisation (Tippett, Rees et al. 2005). Such vertical and horizontal links have several important outcomes. They enable ideas to more effectively be shared and novel ideas to emerge. Different perspectives can be developed, encouraging the spread of innovation. People are enabled to access the resources needed for effective implementation. Informal links between people can be seen as 'shadow networks', which enable new forms of organisation and ways of working to be developed and tried before becoming institutionalised in formal structures (van der Brugge and van Raa 2009).

One potential benefit of a coherent effort of members of a social learning network to improve sustainability performance in their context is the formation of communities of practice. Emerging organically rather than by design, such communities could be harnessed (and supported) in an effort to embed sustainability in an organisational context. The communities of practice literature stresses the role of social networks (where individuals make meaning and learn together) as dynamic and useful spaces for the stewardship of knowledge and practices (Wenger, McDermott et al. 2002; Ballard 2005; Keen, Brown et al. 2005). Communities of practice could therefore offer a support mechanism for the stewardship of knowledge generated through the interaction between participants and a sustainability learning initiative.

Summary

The framework developed above, identifying key characteristics of effective learning initiatives that encourage change towards sustainability as: Awareness-raising, Appreciative, Action-led and Associative, represents a theoretical development emerging from the literature review and the expert advisory group workshops. In Work Package 2, a learning initiative was piloted that was informed by and combined these four characteristics. This framework of 'Four As' could easily be applied to any large-scale change and learning initiative. Further research could explore its uses and implications in other contexts of change and learning, e.g. health programmes, flood risk management, or large organisations undergoing change. This project piloted a learning initiative in Tesco Stores and Head Office. The following section explores the context in which this took place: the current learning culture of Tesco.

4 Sustainability and learning culture in Tesco

In order to effectively influence the values and practices of an organisation, it helps to understand its learning culture, e.g. the accepted norms and practices of how ideas are transmitted, and the practices which are considered by the organisation to be effective and appropriate. When seeking to influence values and practices through training, it is also important to have an understanding of the organisation's general approach and attitude towards staff learning and development.

We have explored the learning culture of Tesco, especially with regard to sustainability, through focus groups and interviews with 105 staff in different work functions, at different levels and in several different geographical areas, and through discussions with the pilot's 52 course participants,. This process offered an opportunity to learn from good practice in delivering learning and change in a successful organisation. It enabled us to develop the pilot learning initiative in a way that was more likely to be successful in the Tesco context. The following analysis draws out ways in which Tesco's learning culture is perceived by a sample of its staff (in the UK). The quotes are taken from a series of interviews with Head Office staff conducted by the project team in late 2008. This analysis was reviewed by the Tesco Theme Liaison team, a helpful further check of the interpretation of the data.

Key themes

In the following discussion of findings, the first section looks at sources of learning, (e.g. through training, learning amongst staff and learning from customers). This is followed by a discussion of how Tesco endeavours to embed change in its culture, then the way that rewards are used to structure activities and influence learning in Tesco is considered. Sustainability as a learning and change concern is then situated within the culture of Tesco, and finally specific tensions and challenges for learning initiatives that aim to embed cultural change towards sustainability are discussed.

4.1.1 Approaches to Training and Information Provision

Tesco has an extensive training programme for staff at all levels. There is support and encouragement for staff who would like to improve their skills. The approach includes courses, self-study and on-the-job learning, and aims to keep expertise in-house. This helps build capacity in the organisation to learn, rather than relying on external consultants to deliver training. Training is divided into leadership skills, general skills and operating skills, with the latter pertaining to the job of the individual. There is also an emphasis on personal development plans for staff, which are reviewed regularly.

Attention is paid to making sure that all staff receive the basic training that they require. It is expected that staff will have gone through an induction in the first twelve weeks, and will have carried out a part of their basic training within six months. There is further core training that happens throughout a person's career. Performance reviews are held for managers on an annual basis at regular times. There is a strong culture promoting

discussion of progress and opportunities for new learning. Workshops are offered in areas such as leadership and behaviours, allowing people to develop generic management skills as well as more job-specific competencies.

Various training programmes are on offer, depending on the starting point of the staff member. For instance, there is a graduate programme aimed at people coming from outside the business, seen by the Head of Training and Performance (UK Operations) as a '*fast track management programme*'. The apprenticeship programme is aimed at existing staff who have left school with few or no qualifications. It is offered to people of all ages and represents a formal opportunity for staff to develop their skills and qualifications. Feedback from this programme is positive, with staff saying "*they have the confidence to believe that they were capable and [that] it changes their life*".

Training for Stores staff is divided into Bronze, Silver and Gold levels. The following information on these levels of training is from exchanges with the Training and Performance team. Within Head Office a few departments have chosen to use these distinctions for training, but they are not formally recognised or widely used.

Bronze level training is aimed at departmental Customer Assistants and Team Leaders, and describes training on all the basic, simple procedures that someone would need to know to work on a certain department. An example of 'Bronze for Checkout' training could be 'Signing On and Off a Checkout'. This training is described as the basic building blocks to be able to work in a certain area, and it is expected to take around 12 weeks to complete.

Silver level offers more detailed training on more advanced procedures for Customer Assistants and Team Leaders in a certain department - trainees would need to have mastered the basics of Bronze before being trained at this level. Examples of 'Silver for Checkout' training could be 'Tesco Personal Finance', 'Problem Solving', 'Understanding a Till Receipt'. The Tesco Steering Wheel, which structures the key performance indicators of the organisation, is introduced as a tutor-led Silver module. It would be expected to take 26 weeks to complete Silver training for a department.

Gold level training is at expert level only, and is completed by Team Leaders and any Training Sponsors for a specific department. This level of training provides the advanced knowledge that only specific members of staff need to know. An example of 'Gold for Checkout' training could be 'Completing Refunds', 'Managing the Change Run', 'Opening and Closing Procedures'. There is currently no time limit prescribed for Gold training.

Leadership training is delivered by the Tesco Academy, which exists to '*spot, develop and move Tesco leaders*' (Tesco 2009). This is being developed into an international network of training providers, with the group centre in Hertfordshire. Hubs are planned for other locations around the world.

Tesco has a pragmatic attitude to training, and values simple communication that has a clear connection with specific jobs. This reflects the 'can do' culture of the organisation. This ability to communicate ideas in a simple form has benefits in getting complex information across to a wide range of staff in a high pressure environment. It enables staff to act quickly on the information: for example, changes in health and safety regulations or licensing laws. This simplicity of communication is referred to as 'effective influencing', as one staff member explained:

... as simple as possible, and everything is so it's accessible to everyone else. Jargon is effectively banned so that [there is] effective influencing.

This relates to the importance of the customer in the organisational psychology:

One of the reasons that Tesco does things in a simple way is that it is relentlessly customer focused. You need to make things simple to translate them to get people through the doors each week.

The concept of ‘jargon busting’ was seen as important at a customer assistant level, where there is a high turn over of staff. As one interviewee commented:

[At that level you have] constantly got people coming into the business and if everybody starts to talk in their jargon then how on earth would that person feel about integrating into that team?

It was seen as important that all new ideas are couched and explained in relationship to the Tesco experience and established concepts. It is important to recognise that some of these terms could be seen as ‘jargon’ to an outsider, the key here is to make an attempt to understand the language an organisation uses to make sense of its operations and practices. Only what is not familiar—and seen as someone else's language—becomes jargon. An example was given:

So when we talk about stock loss in our stores you will quite often see posters put up, there was a big design saying last week with the amount of stock that we lost, that arrived in the building, didn't go through the tills, that cost us 5,000 pounds. 5,000 pounds could have bought us 2 computers for the store or it could have bought a new car for someone. When you put it in those terms the staff start to think.

Whilst training is seen as important, work activities tend to come first. Any training needs to be flexible enough to fit in around, and adapt to, work priorities. In one of the Stores sessions during the pilot, for example, a significant portion of the group was absent due to a staff meeting that had been called suddenly. Clearly, a business needs to attend to operations but this represents a challenge in delivering a course, such as this pilot, which was designed to build up knowledge over a series of sessions.

In terms of fitting in with the retail schedule, the best days for training are Tuesday, Wednesday and Thursday. It is seen as important to avoid busy times of the year for non-essential work, such as in the time leading up to Christmas and Easter. The Summer holiday period is also one in which staffing arrangements are more stretched and are not seen as ideal for extra training.

Whilst in the Head Offices training is often delivered in meeting rooms, and can involve cross-functional teams, training in Stores tends to be fitted in and around work patterns on the shop floor, requiring short sessions for any training. Learning opportunities are flexible and can take the form of computer-based training on the shop floor, or a manager going through specific training using a work book, for example. Training does not tend to be in a classroom space, and would rarely bring together people cross functions, apart from the manager or team leader who was delivering the training and the trainees. Training materials currently in use tend to be quite linear and finely focused, appropriate for learning very specific areas of knowledge.

Guidance is given to all Tesco trainers, who are often line managers who are also delivering training, as opposed to specialist trainers. Training is often delivered within specific teams or functions. This guidance covers issues such as: ensuring that attention is

paid to making sure people have understood the training, clearly communicating the aims of the session and checking against specified learning objectives.

4.1.2 Learning Amongst Staff at Different Levels

Our analysis of the baseline interviews and focus group data suggests a general perception amongst staff that there is 'headroom' to develop and to learn in Tesco, with different styles of training for Stores and Head Office staff. The combined support and encouragement for Stores staff to develop their skills and knowledge is notable. Institutional support for developing skills and knowledge in sustainability is further indicated by the success with which volunteers were obtained for this research pilot. The pilot at the Stores level drew in part from staff on what is called 'Options' Development programme. This meant that they had identified an interest in developing their skills and advancing their roles, and were encouraged to attend this pilot as part of that development. One in thirty Tesco staff in the UK are on this programme, "*learning the skills they need to apply for a job at the next work level*" (Tesco 2009, pg. 41).

There is evidence of people taking projects in addition to their main job role and working together to meet shared goals. The interviews suggest that this is not only allowed, but encouraged and facilitated:

I think Tesco is really good at providing opportunities to learn and develop, and I think it's up to us to drive it.

They also make it easy for you to build up your own network and take on extra responsibility. There is headroom to expand your role and what [you] do.

For several of the staff interviewed, Tesco is experienced as a dynamic organisation in which there is room to grow:

There is professional opportunity to get on, and not everyone wants to take it... there is emphasis to move around.

From the interviews, Tesco comes across as an environment in which team work is valued:

The general work ethic is that people work hard and there's an emphasis on working together. If you are an independent worker it would be a culture shock coming to Tesco... There is emphasis on people being flexible and projects in the day job and a lot of consulting that goes on, which is a Tesco way of doing things.

One example of a commitment to learning from staff comes from the 'Viewpoint' questionnaire, an annual, independent survey which is filled in by all Tesco staff, both in the UK and internationally. This is used to gather staff views on a range of issues. The survey concerns interest in, and fulfilment from, work at Tesco; an employee's sense of being valued, listened to and respected; whether or not conditions at work are improving; sense of team spirit; and the extent to which the Tesco Values are practised in their team. The questionnaire contains closed questions, to be analysed quantitatively, and does not include open-response items in which employees might elaborate on issues. Results are broken down into a four-point 'traffic light' scale from issues requiring immediate action to achievements that should be recognised as a success. Whilst confined to a clearly defined set of closed questions, Viewpoint enables teams and Stores to take a snapshot of their working practices, and therefore provides a forum for joint learning and organisational development.

Although Tesco aims for staff to be able to input their ideas for how things can be done differently, the comments from Stores staff suggest that this is not fully understood nor taken advantage of. Staff commented that *'[we] don't always feel we're listened to'*, that their *'opinion is not heard'*, and that Tesco *'should listen to staff when they have suggestions'*. Whilst there is a mechanism through which staff ideas can be shared with managers, called 'Ideas Capture', none of the participants in the pilot carried out in Stores were able to explain how this worked. Several of the participants in focus groups in Head Office had not heard of this system, or said that they had not heard of it for some time. This would suggest that perhaps this process is not working as effectively as intended, particularly in Stores, but further investigation would be needed to ascertain how widespread this phenomenon is.

In some cases, interviewees had taken on particular sustainability-related initiatives of their own. One member of Head Office staff had been working with suppliers to encourage them to transport goods more efficiently. Several staff commented during the focus groups and the pilot that they had not realised how much was going on, and that one of the things they had benefited from was learning more about the initiatives that were already being taken in Tesco.

Whilst there is clearly room for experimentation and initiative-taking, staff also recognise that the more formally recognised 'bottom line' aspects will be prioritised:

From my experience of Tesco, everybody is so busy that unless something is really important, i.e. it comes down from above and is part of your objectives, it won't get done.

They also recognise that any large-scale changes will still need to come from the top-level:

...everything comes from the top, so if we decide that we are not going to give carrier bags away, that would come from management.

Within this model, individuals are still able to have some say over their own objectives:

Obviously it comes down from the top what your team's objectives are for the year, but you are involved in setting your own objectives... so part of it you can achieve and some things are unachievable.

This implies that there is scope for ideas to come from the grassroots, to be considered and formalised by management, and then be implemented across the organisation. Whilst creativity is encouraged, however, it is considered important that ideas and innovations are justified against more formalised goals.

A notable innovation that was discussed in the interviews is the expectation that all Head Office staff will spend some time in Stores, through a scheme called 'TWIST' (Tesco Week in Store Together). This aims to foster learning from the Stores staff and to enable all managers to have a better understanding of the core operations of the business. Directors and managers from offices and depots are expected to spend at least week in a Store each year. Graduates are required to spend a period of time in Stores as part of their training scheme, often two to eight weeks, and other Head Office staff are given the opportunity to experience working in a Store. At peak shopping times, like Easter and Christmas, Head Office staff offer additional help in Stores, a programme known as 'Helping Hands'. This scheme provides opportunity for learning and sharing of ideas, in particular for management to learn from people working at the functional levels of the

organisation. This represents a commitment to encouraging an internal bottom-up flow of learning.

4.1.3 The Importance of Learning from Customers

These baseline interviews with staff suggest that learning from customers is greatly valued by Tesco. The culture is one of placing huge emphasis on the customer, enshrined in the core purpose "*to create value for customers to earn their lifetime loyalty*" (Tesco 2009). A clear intention to put customers' views at the centre of decision-making and learning as a culture emerged from the analysis of data from Tesco staff, perhaps not surprising for a large retail organisation. Interviewees noted the tendency for Tesco to wait for customers to take the lead:

In our relationship with the customer we position ourselves as being reactive to what the customer wants.

This creates a tension between ambitiously tackling environmental goals and pleasing, and not losing the interest of, the customer base. One member of staff felt that Tesco puts too much emphasis on waiting for signals from the customers, and felt that in some cases the organisation should just 'get on with it'.

It's about moving to win-win and using the tremendous machinery that we have in place to do that investigation and almost not wait to be asked, which is what it feels like we do sometimes.

There are, however, instances where Tesco has taken the lead without customers having indicated the direction, as our interviewees pointed out. Influencing customers to reduce the use of carrier bags is one example that was mentioned, as was the use of timber frame in the Cheetham Hill Eco-Store.

Moreover, it is recognised by some staff that customers will expect supermarkets to become more responsible in terms of sustainability:

...there is no reason for them [customers] to go to other shops, we want to make things as straightforward as we can. If we don't make our stores as sustainable and environmentally friendly as we possibly can, there is a danger that [we] will make life less easy for the customer and in that case a lot of people will shop less [at Tesco].

It was seen by some of the interviewees that customer perception of the supermarket will become increasingly important with regards to moves towards sustainability:

We are not perceived by customers or staff as being that green a company.

...I guess customers today expect big corporations to be sustainable and to be responsible, to acknowledge their impact on the environment and to acknowledge their impact on the community. They can create jobs that impact their living environment.

This staff member observed that, in Head Office, the sustainability of business practices does not link directly to the customer, implying that some initiatives, such as work place travel plans and waste reduction, can be more easily implemented for staff than for customers.

Notwithstanding these examples, it is clear that the ability to retain and grow the customer base will continue to be a key factor in Tesco's ability to act on sustainability issues.

4.1.4 Approaches to Embedding Cultural Change

A key concept for Tesco staff that emerged in discussions about embedding cultural change within Tesco was the idea of ‘landing projects’. This idea refers to a successful spread and take-up of new ideas. Embedded in this concept was a recognition that projects may ‘land’ within many different contexts and levels, and the need for ideas to be taken up and used in new contexts. A ‘quick win’ is seen as a project that is ‘landed’ within six to twelve months, whereas anything that takes longer to be spread throughout the organisation is seen as a longer term cultural change initiative. An example of this was the Living Service programme, which looked at a large-scale process for changing staffs’ attitudes towards customers. It aimed to change the culture of the Tesco Stores to one that is widely perceived as being friendly and helpful.

A good deal of attention is paid to how to get new projects to ‘land’. Ideas are piloted and tested, then trialled in a wider set of contexts to see if there need to be changes to the approach. Once the training or project has been trialled and adapted, there tends to be a process of standardisation and codification, often into training materials and processes. Once a project is thus formalised, there tends to be a rather standard approach to spreading it through the organisation, as shown in the following quote:

There is a routine with training... the way that we encourage the behaviours is that if we are using consistent training in every store for every member of staff, then people are role modelling against others in the store, then everybody is doing the same process and routine. So that just becomes a way of life.

It was seen that the regularity of staff training and reviews is helpful in embedding cultural change within the organisation. For instance, there is six monthly refresher training required for all staff. This looks at issues such as legal requirements in retail around age limits and selling of alcohol. This is seen as important in setting standards for how operations are carried out.

Cultural change in such a large organisation can be slow. One of the interviewees indicated that part of the reason for this is the size of the company, the need to influence the right people, and the need to demonstrate the relative benefits of a new culture. Another reason that was provided for explaining the slow culture change was the relatively long length of time that some staff members are employed, which inevitably ‘engrains’ certain customs and work practices. Whilst there is clearly some enthusiasm and commitment to sustainability in parts of Tesco, this interviewee implied that a stronger organisation-wide sense of urgency is missing:

...[people] need leadership, whether that is from government or from somewhere, that actually inspires people to change their behaviour. I don't see it at Tesco at the moment.

The role of people in encouraging change was emphasised by many of the interviewees. These could be people who were given specific roles to encourage change, such as Energy Champions. Energy Champions have the role of encouraging behaviour change in their Stores and divisions, encouraging simple steps like turning off the lights and also raising awareness about the impacts of these changed behaviours. The key to success in this area was seen as having people with enthusiasm and energy for change. Energy Champions can come from all levels of the organisation and may well not have managerial roles; they become Champions because they are keen and committed to the idea.

The importance of having people who are willing to champion and spearhead change was emphasised. Tesco was seen as a culture that is quite open to change, but that requires a real sense of leadership to encourage that change. This interplay was evidenced in the following quote from someone working in the Dot.Com side of the business:

Essentially it's having the right sponsorship. Anything is possible with the right sponsorship. It's not so much the leadership, or going to the leadership with ideas, but you need the leadership so to get something through fairly quickly. You would need the leadership support to deliver that.

There was some emphasis on the need for campaigning to enable change – and the need to get a clear and regular message, couched in the language of Tesco and Tesco experiences, to encourage change.

4.1.5 The Importance of Rewards in Learning and Change

Tesco has a rewards-based working culture, which hinges on a set of annually-reviewed Key Performance Indicators (KPIs). This is underpinned by the Tesco Steering Wheel and Tesco Values. In creating the Tesco Steering Wheel, Sir Terry Leahy has been influenced by Robert Kaplan's 'Balanced Scorecard' approach, which is designed to be an 'antidote' to a culture in which the emphasis is solely on '*selling more and spending less*' (Blakely 2004). The aim is to ensure that operations are in line with strategic direction, not only focused on short term objectives.

The Tesco Values and Steering Wheel are commonly used and referenced in conversation in Tesco. In Stores, there is a slot in the induction training dedicated to covering the Tesco Values. The training room at the new Cheetham Hill Store has the Tesco Values as part of the decoration of the walls. In Head Office, there is no formal induction to the Tesco Values and Steering Wheel, but information on both is well publicised and easily accessible on the intranet, 'The Hub'.

The Steering Wheel consists of five segments, which represent the priorities for the business: Customer, Community, Operations, People and Finance. In the centre of the Steering Wheel are the headline Tesco Values: '*No-one Tries Harder for Customers*' and '*Treat People how we Like to be Treated*' (Tesco 2009). These approaches are combined with a four-point traffic light system (BRAG - Blue Red Amber Green) in which red highlights significant problem areas, amber stands for areas to improve, and green indicates successes. Blue indicates areas of exceptionally good performance.

Figure 13 Tesco Steering Wheel



The Community segment of the Steering Wheel is where sustainability is commonly understood to sit, as highlighted in this quote from the Corporate Responsibility Report of 2009:

"Three years ago we showed our determination that a strong community and environmental performance should be at the heart of any modern, successful business, by making Community and Environment the fifth segment of our 'Steering Wheel'... Two years ago we put the community at the heart of what we do by making it the fifth part of our long-term strategy (Tesco 2009, pg. 2).

The Community segment was added relatively recently to the Steering Wheel, in March 2008, and there was considerable discussion amongst participants on the Head Office pilots as to whether this was seen as an element which has been thoroughly integrated into all aspects of business operations. There was some discussion about the effect of having a dedicated team committed to developing the Community segment of the Steering Wheel. Whilst every segment of the Steering Wheel has an 'owner', for the most part there is a particular person from the relevant area of the business who is responsible for that

segment, e.g. there is a Commercial Finance Director, a Retail Operations Finance Director, a Dotcom Finance Director etc. and they are all responsible for the Finance Segment of the Steering Wheel. Having a separate team, however, makes the Community segment distinct from the other segments of the wheel. There was discussion as to whether this has increased the potential for people to see this aspect as 'someone else's responsibility'.

Although sustainability is not mentioned explicitly in the Community segment, some of the 'sub-principles' can be seen to be expressions of it, such as: actively supporting local communities; buying and selling our products responsibly; caring for the environment; giving customers healthy choices; creating good jobs and careers.

Several KPIs focus on the environment, examples from 2008 include: *"trial the use of carbon labels on 100 products in-store and develop customer literacy around product carbon footprints; and reduce the amount of packaging used by 25% by 2010, against a 2006 baseline"* (Tesco 2008). In 2009, a KPI was: *"reduce CO2 emissions from existing stores and distribution centres by at least 50% by 2020 against a baseline of 2006"* (Tesco 2009).

There is not, however, a KPI that relates to sustainability overall. This was a concern raised in several of the focus groups and discussions during the learning initiative. In addition, there was a sense amongst many Head Office staff that their KPIs did not adequately reflect sustainability. There was a sense that this made it hard to prioritise activities that promoted sustainability. In several of the pilot sessions there were discussions about the need to expand the concept of sustainability in the Steering Wheel and to firmly embed sustainability KPIs into all areas of the business.

In addition, a parallel concept of rewarding customer behaviour emerged. An example of this was seen to be the green club card, where customers gain extra points, which can be redeemed in exchange for goods or discounts, for demonstrating particular actions considered as 'green'. Such actions include bringing their own bags, or returning recycling to the automated recycling bins. Rewarding 'green' customer behaviour was seen as an important parallel to the more campaigning type of activities, including advertising green ideas and products and providing information about green issues, such as on the trolley handles and shelves.

4.1.6 Sustainability Positioned Within the Learning Culture

In the focus groups in Stores before the delivery of the pilot learning initiative, staff displayed recognition of the importance of learning about sustainability: *'if you don't understand it, you don't know how to deal with it.'* They also saw the sharing of ideas as key to increasing understanding: *'share knowledge, with other stores', 'educate public/staff in the new systems.'*

There was an awareness of more need to critically reflect on what sustainability means for the organisation, as evidenced in the following quotes:

I think we should have debates internally around what [it is] we are trying to do... some encouragement in terms of debates whether that's in terms of function or cross functioning so we spark off each other.

And for me to be acting differently and behaving differently; it's that reinforcement that it's not just here today gone tomorrow, that we are serious about this.

As noted, there is a clear emphasis on regular reviews and performance development within Tesco being part of a sustainability initiative. Several staff members commented that sustainability had yet to be integrated fully into this approach; sustainability was seen by some as something you ‘*talked about over lunch*’. Changing staff behaviour to more sustainable practices was not seen as an area that was specially looked for, or discussed, in performance development reviews. In fact, some staff expressed pleasure at being able to come to the pilot and develop their personal concerns and interests in the environment within a work context.

As discussed previously, whilst there is some scope for innovation from all levels of the organisation to influence change in Tesco, any suggestions need to be clearly related to the Tesco Values and the Steering Wheel. This reinforces the importance of cementing sustainability firmly in the Steering Wheel, Tesco Values and KPIs. This was recognised in the interviews:

If you put sustainability on the Steering Wheel then everybody in every function has to do something for that segment of the Steering Wheel.

From my experience Tesco learns and develops in finance by making quite clear objectives... If you include sustainability as part of somebody's objectives it will be achieved because, if not, performance is [affected]... If your performance is related to some objectives and to get Green you have to produce the catalogue that sustains or you have to save x amount of paper then individuals will do it. (N.B. In this quotation, ‘green’ refers to Tesco’s green ‘traffic light’, not to sustainability.)

A range of projects are implemented to support the objectives of the Community segment of the Steering Wheel. In the UK in 2008, for example, Tesco announced six projects: tackling climate change; waste recycling and packaging; carrier bag use; Community Champions; making our Community Plan live in stores; and trading fairly. Each plan is sponsored by the relevant board or senior director. In the case of the climate change programme this is Sir Terry Leahy, the Chief Executive (Tesco PLC 2008).

The link between the Community segment of the Steering Wheel and influencing wider behavioural change was emphasised in the following quote:

So we can educate in terms of helping people to do their job but we can also educate people in terms of being a good citizen. Some of that comes from the behavioural training we do anyway around customer service and ‘treat people like you would like to be treated’ ... Also I guess we can instil new facts with them. Things about life and community, that they might not have known before.

Many participants on the pilot felt that simple positive messages about sustainability were likely to be more successful than trying to get across complex issues or using negative messages to shock. The quantity of messages was also an issue. A degree of negative reaction to the reminders to become more sustainable was evident amongst some staff members in the following quote from an interviewee:

It's just a bit relentless sometimes. Every time you turn the telly on it's green shows or publicity and then you come to work and again it's green shows - and it's - I am doing what I can, I don't need to be told about it again and again. But that is from my own personal point of view.

The relationship between such awareness raising and the way that Tesco is perceived by the public is seen as a key driver for change:

There is a piece of work happening in our corporate affairs function around the community, and how we do more work within the community, so that Tesco is perceived as a good partner for citizens.

These quotes point to the links between learning at staff level and within the wider public. Many of the staff we interviewed and worked with on this project were very aware of the large impact that Tesco could have in terms of changing awareness and behaviour not only amongst their large work force (internationally, in the region of 500,000 people) but also in the huge number of people these staff come into contact with in their work, through the customers and the supply chain.

The staff we talked to find working in the organisation a positive experience on the whole. Tesco is seen by these staff as an organisation in which there is room to expand, to put forward ideas for change, and to develop a wide skill set. There is an emphasis on team work and on sharing ideas throughout the organisation. A sense of shared values and goals was evident. Staff members are consulted frequently about their experiences in the organisation and are rewarded for good work that resonates with the Tesco Values (Headlined as “No-one tries harder for customers” and “Treat people as we like to be treated” Tesco 2009). Our investigation has, however, also identified some aspects of the learning culture that may present challenges to those working to embed sustainability in the organisation.

Tensions and Difficulties in the Learning Culture

It is clear from this analysis that there is a strong emphasis on learning within the Tesco culture, and considerable resources are devoted to staff development. Many of the strengths of the Tesco learning culture, however, have some possible related weaknesses in terms of embedding deep cultural change towards a new model of sustainability; the complete '*re-think of the way we do business*' that Sir Terry Leahy has called for. These potential weaknesses can be conceptualised as 'tensions', and are discussed below in terms of the '4A' framework for characterising effective learning initiatives for change developed previously: Awareness-raising, Appreciative, Action-led and Associative.

Our observations indicate that Tesco staff have 'permission to learn' but not necessarily 'permission (or time) to reflect'. There appears to be an emphasis on updating the knowledge and skills of staff, but to a lesser extent on allowing staff to re-evaluate what that they have learnt and creatively apply it in their own contexts. This is partly related to the pressure to move quickly and respond to day-to-day events. The pragmatic, can-do attitude very much in evidence amongst staff enables changes to be rapidly implemented. An *Action-led* approach to learning is thus clearly appropriate in this culture. The key is to ensure that the reflective part of an action-led approach is given due concern and that time is created within the initiative itself for reflection. This is likely to be a particular challenge in the Stores training context, where time away from the day-to-day concerns of the shop floor is limited, and the more standardised nature of the training may limit people's ability to develop novel strands of discussion in response to reflective dialogue within the training process.

A key strength of the learning culture of Tesco is its ability to communicate concepts clearly and simply. Any sustainability learning initiative with an *Awareness-raising* focus faces the challenge of using simple and clear language and learning tools for conveying sustainability concepts and the science behind them. There is a potential tension between an emphasis on the value of simple communication being conflated with a desire for 'easy' messages, and a related reluctance to avoid exploring the complexity of sustainability issues. There is a distinction between simple communication and easy messages. *Awareness-raising* needs to be combined with an *Action-led* approach to encourage learners to *use* the new awareness to explore the complexities of issues. This enables deeper learning about the issues. Within the Tesco learning culture there is also scope for implementing simple, creative measures that raise awareness in a positive way. One example cited was having a wind turbine on-site and providing information about it.

A related aspect of the Tesco learning culture is the emphasis on putting all ideas into the Tesco context and demonstrating them with examples relevant to Tesco employees. This can be encouraged in a learning initiative by taking an *Appreciative* approach, asking questions about what is working well in the culture. The tension here is between the strength of learning from culturally-relevant examples and the need to see beyond the conceptual confines of existing practice and knowledge. An *Action-led* approach can encourage active learning in which the learners themselves discuss and provide the examples, thus developing skill in applying the learning to their own context, as opposed to being spoon-fed examples which could reinforce existing mental models. At the same time, employees would draw upon current practices as a starting point for reflection and action.

Tesco has a very positive learning culture, and several of the interviewees stressed the need to go beyond 'finger wagging' to embrace a positive message about the environment that can facilitate change. In a culture such as this, which relies heavily on rewarding behaviour to enable change, an *Appreciative* approach, which recognises what is going well and celebrates achievement as a trigger for future learning, is likely to be more effective in encouraging long term change.

Whilst there are many attempts to encourage staff to learn from each other within the learning culture of Tesco, it was recognised that there were many gaps in people's ability to effectively learn from people in different functions and levels. An integrated approach to sustainability will require people from all levels of the organisation and across different functions to learn from each other and develop new ways of learning and communicating. Developing such an *Associative* approach to learning may be difficult in a culture that prizes speedy delivery of training and messages, but the potential value of this rests in the possibilities it offers in terms of embedding change and developing communities of practice that are committed to sustainability. As a learning culture, Tesco has considered ways to successfully 'land projects', and their approach to encouraging champions and testing communication with different groups of people shows a strong *Associative* element.

Our investigation suggests that Tesco has a positive approach to training, organisational learning and staff development. Furthermore, there are ways in which the Tesco Values, KPI and the Steering Wheel already reflect some aspects of sustainability, with a concomitant awareness of the concept amongst many of the staff. The challenge is to find ways in which training can facilitate deeper understanding of this concept, and to allow staff time not only to reflect upon its pertinence to their role, but space to discuss how organisation as a whole can meet the challenge of sustainability.

Illustrative baseline assessment - sustainability knowledge and understanding in Tesco

This project undertook an illustrative baseline assessment of a sample of Tesco staff's understandings of sustainability. This helped us to better design the learning intervention to meet the needs of the organisation. By gathering this data and developing the methodology to capture this information, we were able to inform the process of assessing both short and long term changes in sustainability understanding, knowledge and skills within the organisation. This will be important and useful over the time frame of the Sustainable Consumption Institute and for research into how future learning initiatives may be rolled-out. These issues are to be investigated further in a subsequent research project.

In the range of interviews and focus groups that were carried out before the commencement of the learning intervention (see Sections 2.1.2 and 2.1.3), members of Tesco staff were asked how they understood sustainability; what this term meant to them; and what was seen as important about the concept. Interviewees were also asked to relate this to Tesco in terms of why it is pertinent to the organisation and to share examples of good practice in terms of both sustainability learning and embedding cultural change in Tesco. These discussions enabled us to better understand and characterise the ways in which Tesco staff understood sustainability. Data gathering included seventeen semi-structured interviews that were supplemented by information from eighty-eight other participants in research focus groups that took place over a total of three days with Stores and Head Office staff. These made use of the Ketso kit to stimulate discussion and capture data written by the participants on 'leaves', which were later transcribed and analysed.

The data that informs this analysis is drawn both from the interviews and focus groups that were conducted before the start of the learning intervention, and from the initial Ketso exercises that took place at the start of the learning intervention.

4.1.7 A range of conceptualisations of sustainability

The investigation revealed that there was a wide range of conceptualisations of sustainability amongst Tesco staff. Whilst the majority quickly connected the term with environmental issues, such as climate change, energy and waste, others' understanding was more about the literal or general meaning of sustainability—an ability to sustain something, or 'keep going'. A small number of staff appeared to have very little understanding of the concept, whilst others suggested connections mainly with financial or business sustainability.

Most of the staff spoken to made a connection between sustainability and the various environmental issues they were aware of. Some gave fairly general responses such as '*help the environment*'. There was a general conception of the need to not run out of resources. Along these lines, focus group participants suggested some measures that to them represented sustainable actions, such as '*energy efficiency*', '*eco-stores*', '*eco friendly*', '*turn off computers*'. Climate change and 'carbon' were concepts that came up often; this is perhaps unsurprising when it is considered that this was one of the key foci of Tesco's sustainability drive, and of much media attention in general at the time this project was taking place. Broadly speaking, ideas discussed related to individual actions that seek to reduce, and slow down the rate of, the damage to the environment.

Some people recognised the limitations of these actions and pointed to a need for more fundamental change:

I would say in lots of areas - retailing and buying and marketing - it hasn't really made a difference at all. If you [use] recycled paper leaflets rather than non-recycled paper leaflets, nothing fundamentally different comes from that.

Not all positioned the concept within the environmental sphere:

When you say sustainability I don't interpret it necessarily in a green context. So sustainability to me just means an ability to maintain an activity.

A minority of staff did not appear to connect the concept of sustainability with ecological or social issues – their keywords suggested conceptualisations that were limited to the more general concepts of ‘sustaining’, ‘maintaining’ and ‘sticking with something’, to provide a few examples.

Some staff did not have an immediate conception of sustainability. At the first of the focus groups in Head Offices, in December 2008, one of the observers from the Expert Advisory Group noted: ‘The first group took some time to get going because they needed to have some understanding of what sustainable development and sustainability were all about.’ It appeared that sustainability was not a concept that all participants were used to thinking about or articulating. One striking example from a focus group with Stores was an answer to the question ‘how do you understand sustainability?’ that consisted only of question marks, shown below.

Figure 14 Stores participants’ keywords on understandings of sustainability – question marks



A general ‘resources’ conceptualisation of sustainability was the one most commonly articulated by the interviewees. This was also a common theme amongst focus group participants, as illustrated in the following quotes and a snap shot of a Ketso from a Stores focus group:

It is about keeping something going - about resources and not using more resources than you need to. Not draining all the fuel out of the tank and remembering to put fuel back in.

I think it relates to the environment and having a world that is sustainable in terms of [whether] we won't have used all the fossil fuel or the food etc.

Figure 15 Keywords about sustainability from Stores focus group



Some linked this concept directly to the organisational context, highlighting the relationship between Tesco's operations and environmental resources:

I guess it means growth or continuing to grow without [a] drain on environmental resources, so sustaining growth without a huge knock on impact in terms of cost and on the environment around us.

Long term thinking was another common theme. Examples of keywords that reflect this theme are: 'long term thinking', 'never ending', 'forever', and 'long-time'. Related to long term thinking is the need for forward planning and consideration, 'planning for the future'. This was reflected by keywords such as 'replace at a similar rate to consumption', 'replenish and maintain', 'things to last, not run out'.

It should be noted that the concept of long term is relative, and that several interviewees' views of long term might not be the same as of a wider conception of long term typical in the sustainability literature, which tries to look decades and even in cases centuries ahead:

... because we are a very fast paced organisation we are not looking [at] yesterday, we are all thinking forward. What works well in that situation and what will work again and then using that for the future. Retail is a twenty-four hour business so you can't just think about tomorrow, you have to think two years ahead.

Whilst the majority of interviewees and focus group attendees related sustainability to the physical environment, and resource consumption in particular, a few provided a wider social perspective about the impact of Tesco's operations, as in the following quotes:

For me it should be almost the values of our business in terms of ethics in our dealings with suppliers and how we behave in the wider market place, how we are perceived as an organisation by our customers and suppliers. It shouldn't just be about a green agenda.

I think we have our own moral and commercial responsibility to make sure that these practices are adapted in any new territory where we go.

Some of the keywords from the focus groups suggested understandings of sustainability pertaining to organisational effectiveness, related to the capacity of an organisation to sustain itself. Some keywords, for example, highlighted 'meeting targets throughout our Store' and 'more team work'. Another suggested that it was the staffing capacity of the organisation that was being sustained: 'avoid brain drain from organisation'. In the first session of the learning intervention in Stores, asking about how staff understood sustainability, participants mentioned 'sticking with something', 'maintaining things' and 'team work'.

Sustainability was also seen to be a financial issue:

Cost sustainability. So for example when you build a store do you build it to reduce costs now, as apposed to investing slightly more expensive fixtures and fittings now, and in the terms of cost sustainability five years down the line we might have to spend less.

Some linked the financial conceptualisation of sustainability to business growth, with their comments suggesting that it is growth that see being sustained. 'Leaves' from the focus groups in Head Office such as 'keeping up growth', 'maintaining profits and sales' and 'growth position in market' illustrate this perspective. These suggest that 'sustainability' is already in the Tesco vocabulary in the context of finance and operations. This was substantiated in an interview:

We use the word for example in some of the work I do, we will have a sustainability plan for the project. So a project comes to an end and we can ensure that the work goes on beyond that.

Observations suggested that, whilst there was clearly some commitment within Tesco to issues relating to sustainability, this had not necessarily resulted in clarity or agreement throughout the organisation about what was meant by the term, or indeed what Tesco's role in relation to it was. This was illustrated in the following quote from a member of Head Office staff:

I think Terry has been excellent at articulating certainty around where we are in the green agenda and certainly there are some great initiatives in terms of carbon reduction and in terms of distribution but I'm less clear myself on that wider definition of sustainability.

4.1.8 Reflections

This overview has indicated that the majority of staff that we spoke with related sustainability to environmental issues, and to resource consumption in particular. This

understanding of sustainability was in many cases linked to symptomatic environmental issues, and to recycling. Three Expert Advisory Group members from PP4SD, who observed the series of focus groups in Head Office, noted that there was a lack of direct reference to the following aspects of sustainability in the sub-groups that they observed:

- Thinking of the global picture in a systemic or holistic way.
- Costing the environment for the services it provides;
- Equity, environmental or ecological justice;
- Fair Trade products stocked by Tesco;
- Local sourcing of food and relations with suppliers.

It emerged in the discussion that the ‘can-do’ philosophy sometimes worked against taking a systemic approach. It was observed that when questioned, the staff in the focus groups were not aware of the Ethical Trading Initiative (which works for a fair deal for Third world suppliers), despite the fact that Tesco was a founding member of this initiative (Tesco 2009, pg. 29).

It would be inaccurate, however, to imply that these were silos, or distinct camps of thought, amongst Tesco staff; or that these different understandings of sustainability were mutually exclusive. Interviewees gave examples that showed understanding of the links between cost and sustainability, for instance:

...then there is environmental sustainability which is [the environmental effect of] what we do and how we do things. I think one has the effect on the other because I think environmental sustainability is affected by cost.

...you are a company that persuades people to buy stuff and more of our growth is coming from people consuming things they don't really need. It's how to do that in a sustainable way.

A key challenge that was raised in one of the Head Office pilot sessions was: *How do we continue to grow and be sustainable?*

Overall, there seemed to be a sense amongst its staff that Tesco was taking a responsible attitude towards sustainability issues. Many, although not all, of the interviewees were able to give examples of what Tesco is doing in terms of sustainability, for example reducing the number of carrier bags given out, building eco-stores, and encouraging recycling. There was surprise expressed in several of the focus groups about what is already being undertaken, showing a lack of awareness of existing initiatives in some parts of the organisation.

The prominence of community and environment in the Tesco Wheel since 2008 (detailed in Section 4.1.5 on pg. 51), indicated a degree of high-level support for sustainability. Most of the interviewees saw this level of support to be vital in enabling change in Tesco. This quote is illustrative:

From my experience of Tesco everybody is so busy that unless something is really important i.e. it comes down from above and is part of your objectives, it won't get done.

There was evidence that some staff were taking the initiative and working within their teams to reduce the environmental impact of theirs and related activities:

... we are seeing the new ships come in this year actually. I think there are six ships coming into two companies that we use. I think the carbon emissions are only forty percent compared to what they were. Actually they are far more lean in terms of oil and overall costs, so it should bring our costs down.

Another had had experience of influencing supply chain companies:

I was talking to our procurement team and asked what I should be looking at. They said we are very much carbon driven on the green agenda. When I went out to the shipping companies I made that part of the tender process and actually I learned a lot and they did as well... so they actually went out and are in the process of having their carbon footprint calculated.

There was evidence that some staff wanted to see more fundamental change and a stronger commitment to sustainability:

And for me to be acting differently and behaving differently, it's that reinforcement that it's not just here today gone tomorrow, but that we are serious about this and that the other pressing priorities that we've got, not just we, but the global economy, have got to sit alongside the sustainability agenda, because that is the other challenge for us.

Staff were aware that Tesco's reputation in terms of environmental issues and sustainability was creating challenges for the organisation:

It's no secret it's this big supermarket juggernaut and the small do feel threatened. ...[sustainability could be] how we manage to keep growing as a business but also be seen as a force for good.

I think we have to be seen to be more environmental, because I think we have to move with the times and we have to be a market leader, especially considering our consumption of energy and steel in the UK.

Other supermarkets, some felt, were doing more to promote their environmental initiatives and to inspire change in others, for instance:

When I think about Marks and Spencer and their Plan A... [they] have been providing some thought leadership in the area versus the Tesco message which has always failed, which is following the needs of our customers... People are fundamentally lazy and will take the path of least resistance. They need leadership, whether that is from government or from somewhere that actually inspires people to change their behaviour. I don't see it at Tesco at the moment.

An issue that emerged frequently in the discussions was perceived tension between a desire to do something about sustainability and the goals and requirements of the Tesco business. In the Head Office focus groups, an observer from the Expert Advisory Group noted a difference between those who said any sustainable actions must be justified on a business basis, and those who said that they need not contribute to profits.

This tension notwithstanding, there were many positive aspects to Tesco's culture and understanding around sustainability, as this assessment has explored. Generally speaking, staff seemed to have an awareness of sustainability and the sort of initiatives that could help to achieve it, and were positive about the need to integrate sustainability into operations. There was no evidence that staff were resisting such moves. Part of the reasoning behind such a positive attitude was the perception that sustainability could be a

business opportunity for Tesco, and indeed was an essential component of future business. In other words, there was a view that sustainability is not an add-on, but something that staff and customers will increasingly expect of Tesco and business in general.

This snapshot has clearly shown that there is awareness amongst Tesco staff of the need to integrate sustainability more deeply into the business, and also a willingness to do so. It is impossible to say from such a small sample how widely these views are held within the organisation, though as noted, among the research respondents there was no evidence of any conflict over the need for a move towards sustainability. On this basis, along with comments about a lack of understanding of sustainability, a learning initiative that seeks to enable and stimulate reflective sustainable practice within Tesco seems timely, welcome and valuable.

5 Developing a learning initiative for sustainability

The development of this learning initiative incorporated lessons from best practice from a wide-ranging literature review; discussions with an Expert Advisory Group that included experts in active learning, organisational change and sustainability thinking; the experience and work of the Principal Investigator and research team; and from the empirical study of learning and embedding change in Tesco, a large successful corporation (and partner in the research project).

Aims & scope

The SCI aims to contribute towards a "revolution in sustainable consumption" (Sustainable Consumption Institute 2009). Encouraging, enabling and enhancing sustainable practice within Tesco, and other large organisations, is clearly supportive of this aim. How did the learning initiative relate to this wider context? The following quote from the Director General of the SCI, and joint recipient of the 2007 Nobel Peace Prize, as Vice Chair, UN Intergovernmental Panel on Climate Change (IPCC), sets the scene:

"Since the precise definition of sustainable development remains an elusive goal, a less ambitious strategy might offer greater promise. Thus, the step-by-step approach of 'making development more sustainable' (MDMS) becomes the prime objective, while sustainable development is defined as a process rather than an end point. Such an incremental (or gradient-based) method is more practical and permits us to address urgent priorities without delay, while avoiding lengthy philosophical debates about the precise definition of sustainable development. However, this approach does not eliminate the need to have a practical metric to measure progress towards sustainable development" (Munasinghe 2007, pg. 32).

The strategy being proposed in this research responds to the observed difficulty of precisely defining sustainable development. Sustainable development is the process of moving towards sustainability. It inherently implies choices in terms of trade-offs between social, environmental and economic priorities. This raises a question: If we cannot define sustainable development, how do we know if the efforts we are making to become more sustainable are heading in the right direction?

The systems and science based frameworks discussed in the review of current knowledge and practice, in particular The Natural Step, provide a general and informed definition of sustainability, as a goal or desired outcome in the future. Sustainability can be understood from looking at the Earth as a whole system, and understanding the processes that enable life, and hence human communities, to continue to survive.

From this perspective - whilst sustainable development can perhaps only be defined in a particular context, and needs to be seen as an adaptive process due to the complex nature

of the systems involved - sustainability *can* be defined in terms of visions for the future. In support of this, it may be argued that there is a fundamental philosophical problem with any precise definition of sustainable development – future states of complex systems are inherently unknowable; their interactions and emergent properties are irreducibly uncertain (e.g. Funtowicz and Ravetz 1994; Carpenter 1995; O'Riordan 1998).

Based on this, an assumption made in the development of this learning initiative is that it is *possible* to construct a framework for understanding sustainability that is good enough, clear enough, and based on sufficiently rigorous science and understanding of the overall dynamics of the Earth's systems, to be used a guide for decision-making and development. This would enable progress towards urgent priorities, whilst both minimising the need for long and protracted debate about definitions, and of the likelihood of suboptimal 'solutions' being adopted that appear to be movements towards sustainability, but that in fact are not. It would seem that such a guide would be critical in the context of strategic decision-making where large investments of time, energy and money are being made in sustainable development.

The strategy of '*making development more sustainable*' suggests further questions: What are the skills and understandings required within an organisation to enable it to make its practices 'more sustainable'? How can these skills and understandings be best learned and embedded within an organisation?

The following analysis of a major multi-disciplinary envisioning effort for a sustainable USA in 2100 argues the need for a shared vision of sustainability as a pre-requisite for effective co-ordinated effort towards it:

"What is lacking is a clear unified vision of what sustainable development entails. In short, without a coherent, relatively detailed, shared vision of what a sustainable society would look like, economists (and other policy-oriented scientists) lack the clearly defined ends required to guide their efforts. Too often under these circumstances, economists fall back on the inherently unsustainable default vision of ever more rapid increases in material consumption, bringing to mind another Yogi Berra quote: 'We may be lost, but we're making great time.' Democratic articulation of sustainable and desirable ends requires a shared vision detailing what we as a society want to sustain and incorporating the central shared values that express our hopes for the future. This vision must incorporate a diversity of perspectives and be based on principles of fairness and respect, recognizing the necessity of a shared, desirable end as the starting point of policy making and social science analysis" (Farley and Costanza 2002).

This analysis suggests the vision would need to be a positive rather than negative conception of a sustainable society. The same logic applies to an organisation – a value-led and shared idea of what the sustainable organisation might look like can guide plans and actions seeking to achieve it. Such focus on the positive echoes the appreciative approach identified as a characteristic of effective change initiatives in the literature review. Having such a shared and positive vision was seen as essential for the success of the twenty-five year long partnership between government, industry, NGOs and communities, the Mersey Basin Campaign (Tippett and Handley 2005).

Informed by this insight, the overall aim of a sustainability learning initiative may be viewed as: the development of skills and understandings within an organisation, such that the organisation is able to create for itself an informed, scientifically-based, positive vision of its own sustainable future – and is then able to engage in an ongoing process of design, action and evaluation that will lead to the realisation of this vision.

This pilot aimed to develop and test a curriculum and learning approach that would develop these skills and understandings. This was designed to integrate content and process in a way that would support and inform the design of a further initiative (the upcoming ‘Scaling-up’ project). This further initiative will develop and test a self-sustaining process that supports the ongoing development of these skills and understandings within Tesco.

Fully sustainable practices and systems

Instinctively, we understand the word 'sustainability' to mean something that can be sustained, or we might say 'continued'. We could say that a community is sustainable if its people can survive now and into the future. Examples of communities are the staff of a Tesco store, the people in a local area, a country, or the six billion people that make up the diverse global community.

But no community only wants to 'survive' - this is hardly an ambitious goal. In this pilot, sustainability was defined as 'people thriving now and into the future'.

The change in understanding that will support change towards sustainability has been described by Sir Terry Leahy as a "*revolution in thinking*" (Leahy 2007). What kind of understanding of sustainability does this represent? What kind of understanding of sustainability is needed for this 'revolution' to take place?

In seeking to answer this question for the purposes of this pilot, we developed a simple model that maps the trajectory of the ways individuals and organisations may shift their mental models of sustainability. This simple model captures some of the complexity entailed by the science discussed above. It helps to frame and communicate the vital difference between the necessary and important, but insufficient, 'green' actions that are the subject of such widespread attention, and the deeper shifts in the way that we live that are required to create a truly sustainable society. This is a simple '3 stage' model:

- Stage 1:** Business as usual (unsustainable practices)
- Stage 2:** Going-green/eco-friendly (e.g. "reduce, re-use, re-cycle")
- Stage 3:** Creating sustainable practices and systems (informed by science-based principles)

The suggestion is that we cannot rely upon our existing cultural conceptions of 'sustainability' – it is not simply a matter of enabling and encouraging people and organisations to put into practice what they already know. This can be seen as the equivalent of programmed knowledge (P) in Revans' (1983) Learning Equation, historical knowledge insufficient for present-day problems. This new model, informed by the 'systems & science based frameworks' discussed in the literature review, asserts that much of what is currently understood as 'green' or 'eco-friendly' practice is valuable, and helpful, but still not fully in alignment with truly sustainable practice.

This realisation that such change is helpful, but not enough to move towards fully sustainable practices, is similar to the action learning insight that programmed learning (e.g. teaching of known ideas) in the absence of questioning insight is, yes, 'necessary, but insufficient'. The questioning process and willingness to explore the unknown is key to enabling learning and change (Revans 1983).

A key implication of this '3 stage' model is that there is an essential distinction between 'going-green' and fully sustainable practices. This assumption was built into the learning content of the pilot.

5.1.1 Origins and influences

In the initial design of this initiative, the intention was to use a well established, 'systems & science based framework' for understanding sustainability, called The Natural Step (Robert 2000), incorporating insights from Professional Practice for Sustainable Development (www.pp4sd.org.uk), an organisation which has further developed The Natural Step for working with practitioners (Martin, Knabel et al. 1999; Martin, Brannigan et al. 2005; Martin 2008). As the pilot developed, the framework used for introducing sustainability principles was adapted. A new understanding of how to characterise sustainability emerged.

The Natural Step clearly and accurately describes a scientific consensus about those actions of society which are *not* sustainable. Principles for sustainability are couched in the negative; for example: *"To become a sustainable society we must eliminate our contribution to the progressive build-up of substances extracted from the Earth's crust (for example, heavy metals and fossil fuels)"* (The Natural Step 2009). In devising a curriculum for the communication about sustainability, it was felt that a positive description, even vision, of those actions in society that *are* sustainable would be highly complementary to this valuable work, and potentially very useful both educationally and practically. This was influenced by the understanding of the importance of taking an appreciative approach.

Incorporating further insights from 'Cradle to Cradle' thinking (McDonough and Braungart 2002), such a set of ideas was developed, and forms part of the 'RoundView: Guidelines for Sustainability'. These framed the overall learning content for this initiative.

5.1.2 Relationship to major approaches identified in the literature review

This pilot learning initiative was situated in the major approach identified in the literature review of 'systems & science based frameworks', realising the importance of combining a clear understanding of sustainability and systemic decision-making. It was influenced by, and incorporated aspects of, the 'change management' and 'ecological design' approaches.

A focus on learning is essential for integrating these approaches. The value of a learning focus was emphasised by the outcomes from a large-scale, multi-disciplinary exploration of how to integrate sustainability into spatial planning in the Netherlands:

"This approach eliminates hierarchies between design, science and deliberation; however, it introduces a new hierarchy, which considers common learning as superior to disciplinary rigour" (Muller, Tjallingii et al. 2005, pg. 193).

Work in multi-methodological research supports the combination of similar approaches (Mingers and Brocklesby 1997), as long as due consideration is given to the theoretical underpinnings of the approaches. In order to combine different approaches effectively, it is important to choose approaches and ideas with mutually compatible underlying assumptions. In other words, combining approaches should not be seen as a simple mix and match, but rather requires careful design and awareness of the underlying assumptions inherent in the approaches being combined.

The three major approaches incorporated in this learning initiative, 'change management', 'systems & science based frameworks' and 'ecological design', share a similar epistemological underpinning, that of constructivist meaning making and the need to take a whole systems view.

Approaches with different epistemological basis were not included in this model. For example, whilst 'quality management systems' indicate a viable approach to embedding sustainability in organisations (e.g. including sustainability in Key Performance Indicators for Tesco), this approach is seen as having a different epistemological basis, that of a top-down, more linear and measurement-orientated approach. The importance of such measurement systems is not under-estimated in the design of this learning initiative, rather it is recognised that they have a different value, and need to be treated differently than the other three approaches. Given the learning initiative's aim of enabling shifts in mental models of sustainability and our overall sustainability framework, we favoured more bottom-up approaches to shared knowledge-construction.

Discussing sustainability assessment, Bosshard (2000, pg. 30) stresses the need to develop an iterative approach between '*guiding mental models*' appropriate to the organisation and a more general and systematic framework for developing criteria for assessment, with iterations between the two worked out with a multitude of stakeholders. This enables the development of an "*individual assessment system adapted to the natural, cultural, political and economic basic conditions of a given project*".

The pilot was designed such that the ideas and strategies to emerge from the learning initiative could (and in most cases, should) be incorporated into management and measurement systems appropriate to the organisation. In addition, the learning process includes links to the measurement systems and management processes in use by the organisation itself. For instance, in this learning initiative the Tesco Steering Wheel, which is used to organise and coordinate the KPIs for the company, was used to structure group exercises around understanding sustainability and envisioning a sustainable future. This enables learning by allowing the shifting of mental models of sustainability to draw upon, and to take hold within, the fabric of the organisation.

The RoundView: Guidelines for Sustainability

A way of understanding and presenting the concepts developed from existing approaches and previous research was required during the learning initiative: how were the concepts and models of sustainability to be taught? This was explored and answered in relation to existing learning tools (open source graphics and hands-on training materials) that the Principal Investigator and Buddy Williams had developed for sustainability training and work between 1997 and 1999 (described in Tippet 2005b). In preparation for the pilot learning initiative, these learning tools were refined and enhanced to incorporate the emerging new ideas from the research project. The researchers tested and developed the learning tools in an iterative process, in an attempt to develop much simpler and clearer communication (see Figure 25 and Figure 26). This included several workshops with members of the Expert Advisory Group¹ and the Tesco Liaison Team prior to piloting the learning initiative. As the ideas coalesced into a coherent whole, the need to refer to them as such emerged. The '*RoundView: Guidelines for Sustainability*' was the name given to this approach.

The RoundView Guidelines provide a way of understanding and explaining sustainability, at a systems level, so that the root causes of the problems can be understood, rather than the symptoms. Too often sustainability issues are tackled at a symptom level, and measures end up at best slowing down the rate of damage of the ecosystems upon which we depend, and at worse, end up solving a problem in one area but creating another one somewhere (or some when) else (e.g. shifting the problem rather than solving it). This could be seen as 'stage 2' problem solving in the mental model for understanding sustainability change, which was developed in Section 5.

The RoundView builds on the work of the Natural Step, which has engaged scientists and decision-makers in dialogue to develop consensus (Wingspread 1997) around a robust, science based understanding of the causes of un-sustainability, which can then be used to guide future decision making (Robert 1997). The RoundView has worked to simplify the language and make it more readily accessible, without losing the integrity of the thinking behind the model. In the language of the RoundView, un-sustainability is can be described thus: In an unsustainable community, organisation or society: needs are met in ways that mean 'stuff' **overwhelms** and **poisons** the eco-cycle and people; we **destroy and degrade** the ecosystems we depend on; and there are still **many people unable to meet their needs**—while the capacity of other people in the global community to meet their needs, both now and into the future, is diminished.

By developing a deep, yet simple, understanding of the root causes of un-sustainability it becomes possible to understand the requirements for a positive set of guidelines to work towards for sustainability. The RoundView Guidelines enable us to explore what sustainability means, taking a 'round view', that is based on the understandings articulated by the 'science & systems based frameworks' elucidated in the literature review. The Guidelines help us to understand how we think about what we do and what direction we need to go in, in order to make communities and organisations more sustainable.

¹ These workshops allowed the refinement of terms adopted by PP4SD for referring to the System Conditions of the Natural Step, namely Overwhelm – for System Condition One, and Poison – for System Condition Two.

Figure 16 RoundView Misguided Lines – If we understand the challenges.....

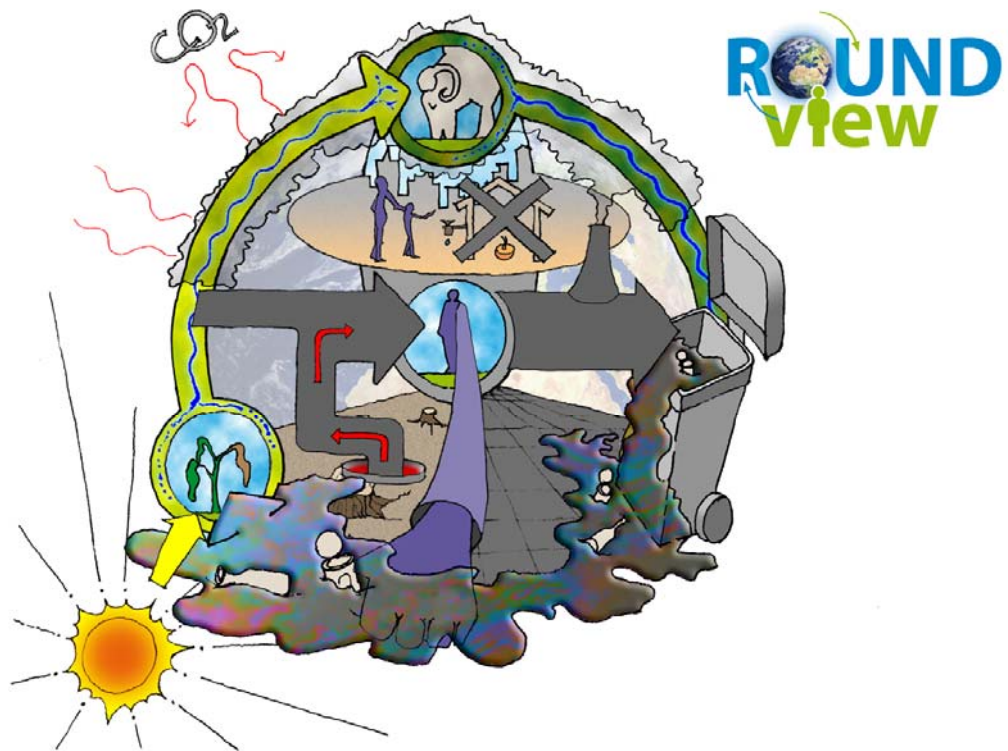
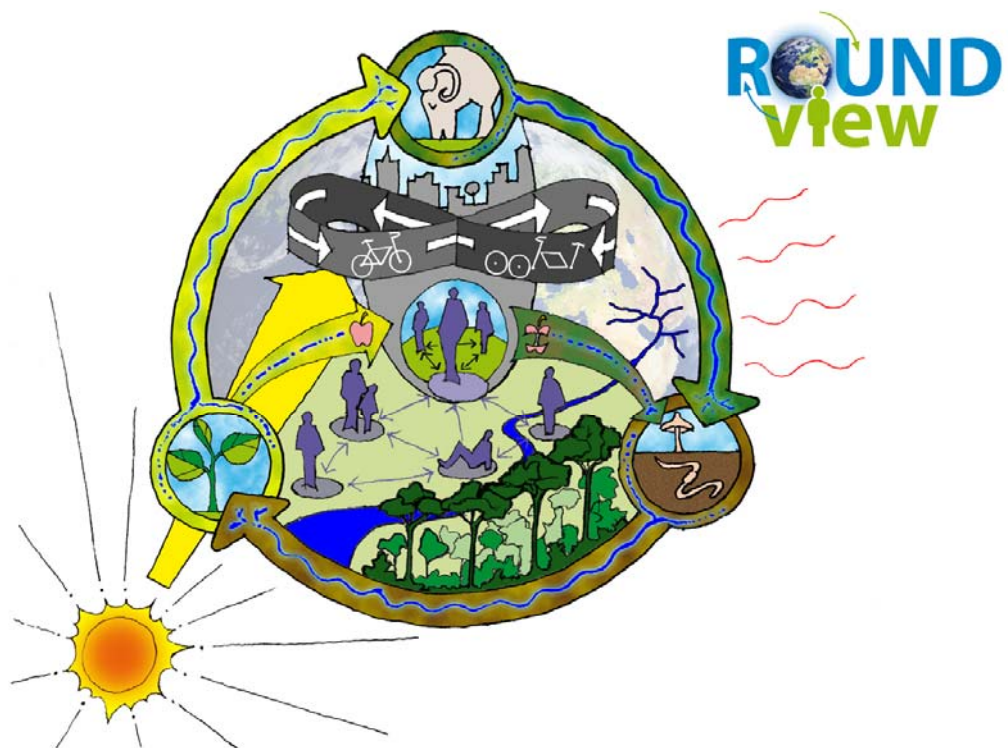


Figure 17 We can start to design the solutions.... RoundView Guidelines for Sustainability



The distinctive contribution that the RoundView has made is in reframing a systems-based understanding of sustainability as a set of positive Guidelines to work towards, whilst retaining the simplicity and systemic level of analysis of earlier models of sustainability, which are framed as follows in the negative in the Natural Step model:

“To become a sustainable society we must...

1. eliminate our contribution to the progressive build-up of substances extracted from the Earth's crust (for example, heavy metals and fossil fuels)
2. eliminate our contribution to the progressive build up of chemicals and compounds produced by society (for example, dioxins, PCBs, and DDT)
3. eliminate our contribution to the progressive physical degradation and destruction of nature and natural processes (for example, over harvesting forests and paving over critical wildlife habitat); and
4. eliminate our contribution to conditions that undermine people's capacity to meet their basic human needs (for example, unsafe working conditions and not enough pay to live on)” (The Natural Step 2009).

The RoundView Guidelines for Sustainability are outlined below. The RoundView Guidelines complement the simple ‘3 stage’ model for learning to think and act sustainability presented above, by providing clear information about *what* fully sustainable practices would entail.

In a sustainable community: all the members of that community are able to meet their needs, in a way that maintains the ecosystems and resources upon which we depend, and that supports such sustainability in the global community now and in the future.

The RoundView Guidelines point to this goal of a sustainable community. They offer questions that can guide decision making and planning for the future. The RoundView Guidelines for Sustainability are currently²:

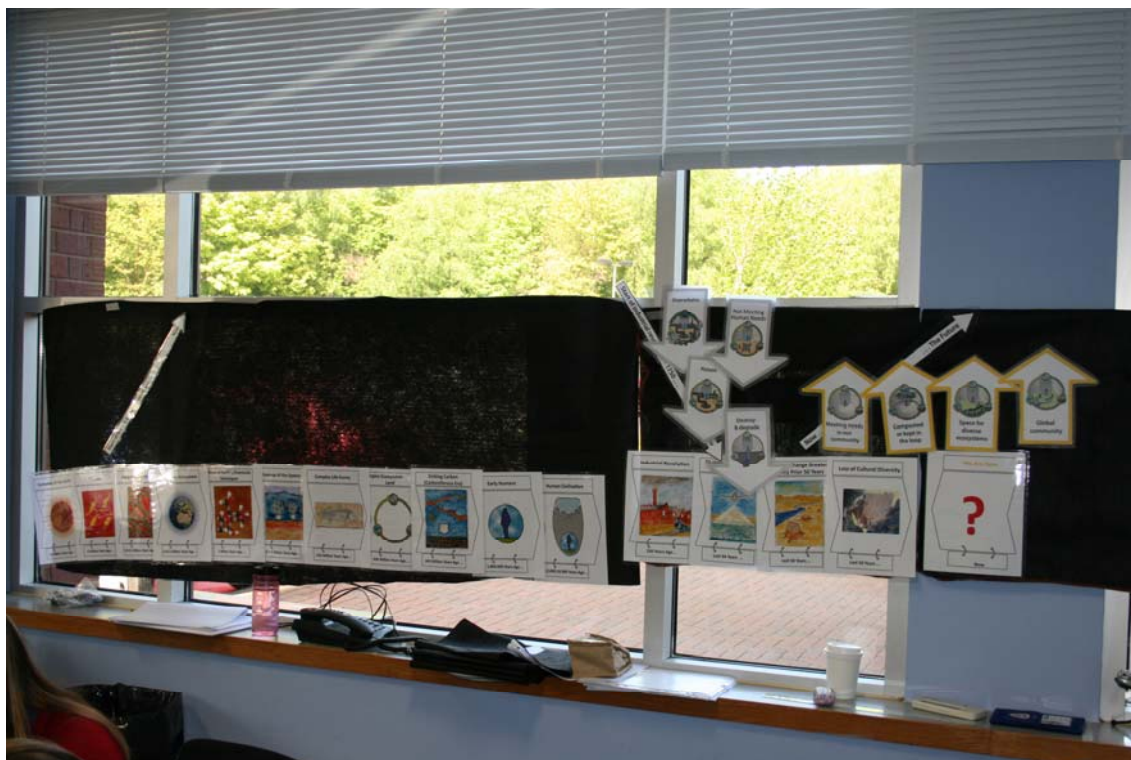
- **Composted or kept in the loop** – Is everything that we use *either* ‘composted’ or kept ‘in the loop’? ‘Composting’ means materials that can be ‘eaten by ecosystems’ are returned safely to the eco-cycle. Keeping it ‘in the loop’ means that all other materials are kept in a continuous cycle to be used again and again.
- **Living within our means** – Are our systems powered by resources that can be replenished (e.g. solar energy). Are we living off interest, not capital?
- **Space for ecosystems** – Are we leaving space for diverse ecosystems to thrive?
- **Meeting human needs** – Are we moving towards all of the members of our community meeting more of their needs, whilst supporting such sustainability in other communities, so that people in the global community can meet their needs now and into the future?

As a framework, the RoundView Guidelines offer a shared understanding and vocabulary, one that is simple enough to be accessible to all, and informs the shift towards sustainable practices that respect, and go beyond, current ‘eco-friendly’ approaches. The RoundView

² The language is soon to be opened to a Delphi process of dialogue to go through a further round of clarification, simplification and refinement. See www.roundview.org for updates.

Guidelines provide a common and practical language, making it easier for people to work together to achieve a vision for sustainability.

Figure 18 Imagery used in course to show change of direction from unsustainable to fully sustainable practices



The Guidelines are designed to be scaleable, applicable, for instance, to communities, organisations, societies or even to the global community as a whole. RoundView materials are to be made available in an ‘open source’ manner³—the intention being to engage a wider community in the process of stewarding and evolving these resources for the use of anyone interested in educating, training, understanding or practicing sustainable development. This community is invited to share the ambitious task of developing a framework for both understanding, and improving the measurement of, sustainability, that is *“as simple as possible, but no simpler”* (Albert Einstein).

Design requirements for the initiative

It was assumed that the learning initiative needed to be designed such that it was: likely to enable change and learning; able to be adapted to different contexts; and able to be embedded in all levels of an organisation—developing a self-generating dynamic of change without significant on-going external input. These three requirements are developed in more detail below.

³ The RoundView is being stewarded by ThinkingWare, a Community Interest Company spin-off from research by the Principal Investigator at the University of Manchester. Copyright of the RoundView name and logo have been donated by Matthew Tippet and Countryside to ThinkingWare for the good of the community, in memory of Sheila Tippet. www.roundview.org

5.1.3 Enabling change and learning

The founder of the multiple intelligence theory suggests that thinking about ‘mind changing’ as a sudden epiphany is overly simplistic (Gardner 2004). In general, Gardner suggests that a fundamental shift in thinking is likely to coalesce when we employ what he describes as seven levers of mind-change: he argues it is when reason (often buttressed by research) is reinforced through multiple forms of representation, real world events, resonance and resources all push in one direction, while resistances are identified and successfully countered. Gardner argues that mind changing is unlikely to occur – or to be consolidated – when resistances are strong and most of the other points of leverage are not in place.

Gardner’s (2000, 2003) theory of multiple intelligences, which implies a range of ways people access learning initiative, informed the decision to employ multiple representations of the ideas, in the form of graphics and hands-on tools. His insights into the levers for mind-change influenced the inclusion of examples that illustrate reason and solid scientific information. The particular examples chosen, ways of representing those examples and the activities used in the learning initiative were designed with the aim of enhancing resonance between scientific processes and participants’ existing ideas, understandings and experiences. In addition, participants themselves were asked to identify barriers to change and to develop solutions to overcome these barriers.

Each aspect of the ‘Four A’ theoretical framework for effective change initiatives, which was identified and discussed in the literature review, was used consciously in the design of the learning initiative. This ‘Four A’ framework was considered for each session, as well as the overall design of the initiative. The research team felt that each session needed to incorporate elements of each of the four characteristics to be maximally effective.

5.1.4 Able to be adapted to context

We specifically worked to develop this pilot to fit in the Tesco context. This was done in a way that considered how to adapt the core principles and ideas to other contexts. This was helped by the fact that even within the pilot, we were working in two contexts, that of Stores and Head Office. This allowed us to consider both pedagogic adaptations of the core principles to suit different learning requirements, but also practical considerations. We needed to consider how to adapt the basic course to fit to very different time patterns (due to the nature of the shift work in Stores, it was easier for Stores staff to attend short workshops than a half-day workshop, which was a suitable format for Head Offices). In addition, most Stores do not have access to data projectors, so the learning tools needed to be designed so as not to rely on the use of electronic data projection. The fact that the learning can be delivered without the use of a data projector means that it could easily be adapted to teaching in areas without electricity – helpful if these ideas are to spread in the Global South.

The aim was to create a way to communicate new thinking about sustainability and its scientific underpinnings, which was sufficiently clear and accessible that the ideas could be learned by individuals with a wide range of background knowledge and expertise. The stages of the learning process were designed to elicit participants’ own understandings and experience and to use these ideas to illuminate the new concepts being taught. Such an approach is thus inherently adaptable to different starting points for the participants. The learning tools can be used to develop a basic level of awareness of sustainability issues, or

to facilitate an in-depth discussion about the future strategic direction of a large organisation or geographical area.

The graphics and hands-on learning tools were designed to convey deep metaphors that could resonate across boundaries, as they build on elements that we all share as humans living on the Earth. This builds on the work of Lakoff and Johnson (1980; 1999), who have elucidated the metaphorical nature of cognition, and the effect metaphor has on how we shape our understandings.

Very early iterations of these ideas and graphic communication were used in workshops with illiterate participants in rural development work by the Principal Investigator in Southern Africa in 1994 - 1996 (described in Tippet 2005a).

Figure 19 Early use of related graphics in Southern Africa



Their simplicity, however, in no way hinders their use and applicability in discussions about extremely complex and intellectually challenging topics, such as the second law of thermodynamics, exergy and the nature of dynamic systems. These concepts underpin the Natural Step (Eriksson and Robert 1991), and whilst not essential for understanding, they are useful for developing discussions with those who are more scientifically orientated. Further research could explore more deeply the ability of the graphics and hands-on tools for conveying systems metaphors and concepts to people with very different levels of literacy, knowledge and experience of learning styles.

5.1.5 Able to be embedded

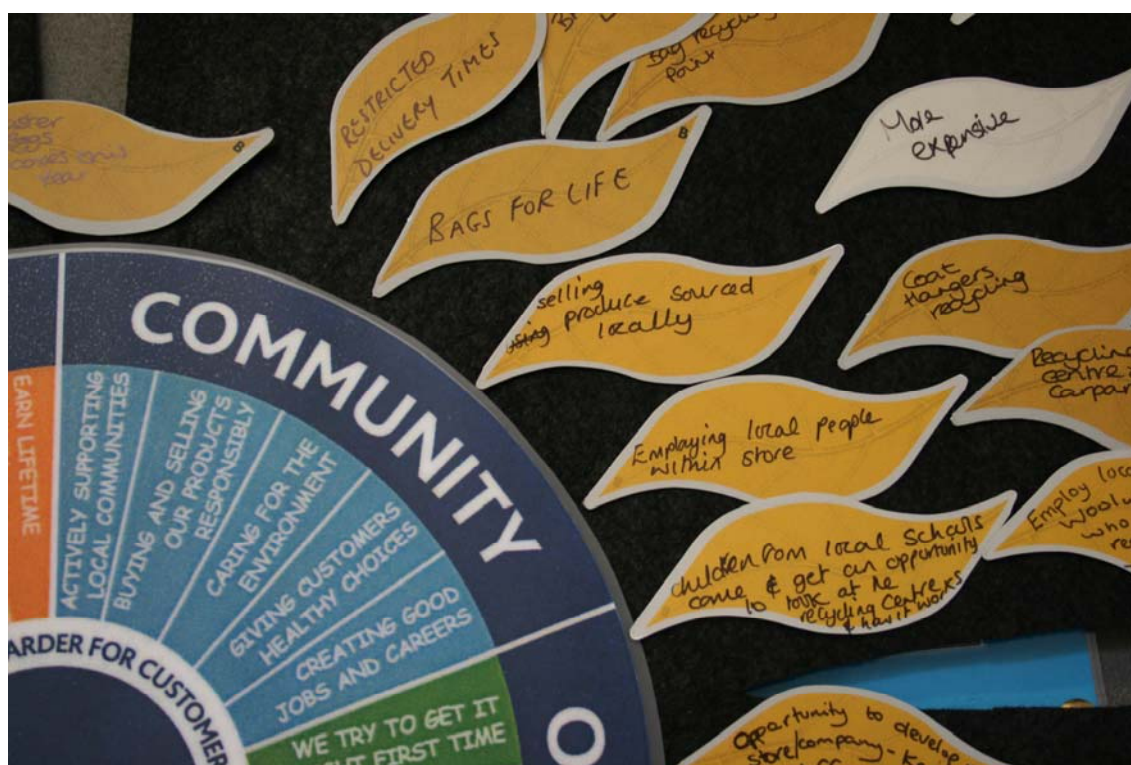
It was seen as important that the knowledge and skills developed in the initiative were perceived to be relevant and applicable to participants' lives and work. If these new mental models are to be truly embedded and embraced by an organisational culture, then they will need to be created and developed socially, and shared at all levels of the organisation. A long term goal is that the initiative could spur the formation of (ground-up) communities of

practice, which once established would embed sustainable practices in the organisation. This would require the development of sufficient skills within participants to be able to engage in meaningful action and communication about new sustainability thinking.

This would be greatly aided by a shared language and capacity for ongoing *informed* conversation, by ensuring that the learning processes are accessible to all levels of the organisation, and that the initiative can be implemented within the learning culture of the organisation.

For example, in this pilot, the Tesco Steering Wheel was used as the central organising frame for two key exercises: brainstorming about existing understandings of sustainability and what is going well in Tesco, and envisioning a future sustainable Tesco. This approach built upon the need for an initiative to be able to be adapted to context. By connecting learning about sustainability with a framework that was widely understood and used within the culture—and therefore already ‘embedded’—new learning was explicitly linked to both existing understandings and to the organisational learning culture.

Figure 20 Tesco Steering Wheel used in exercises



This design requirement, an ability to be embedded, prompted a particular focus on the question: how much can the approach be built into, and conveyed by, learning tools that support and enable efficient and effective propagation within an organisation? The idea is to embody the key messages and approaches within the learning tools, such as in the tools used in the learning initiative to convey the basic ideas behind the science of the eco-cycle.

We aimed to create learning tools that will make it *easier* for many people to train others and convey their new knowledge within their teams. These tools (visuals, felts, jigsaws) are intended to embody as much of the learning content and approach as possible; because tools are much easier to replicate than fully experienced trainers.

Figure 21 Hands-on tools for teaching sustainability guidelines



This emphasis in no way denigrates the value of, and need for, skilled and experienced trainers, it just recognises that there is not enough of this precious resource available to rapidly scale up a learning initiative within most organisations. Hence, the design requirement to make the learning more easy to embed within the existing organisation is key if we are to see a rapid and wide-scale spread of the new ideas. Part of the follow-on research project will involve looking at how to make the best use of skilled trainers and facilitators in such a scale-up, and what levels of support will be needed for people who do not have much experience of running interactive sessions such as these, in order to effectively spread these new ways of thinking in an organisation.

Design of measures of success for assessment

At its core, this is action research using a pilot learning initiative as the vehicle to explore the nature of sustainability knowledge and skills and mechanisms for effective change towards sustainability. As research, there is a clear need to assess the pilot and to learn about how to improve it for future rolling out; as a learning initiative, it is important to build some form of assessment into the process itself. It is important to have a clear idea of what it is that the learning initiative aims to achieve, and for learners and facilitators of learning to be able to assess whether some level of success has been achieved. Thus,

assessment was a fundamental part of design, a necessary component integral to participants' learning as well as our own learning.

There was a good deal of iterative development of the measures of success for the learning initiative throughout the research, reflecting the challenge of measuring complex interacting variables. An initial set of measures of success was developed as broad criteria to both provide guidance for the learning initiative design and to establish criteria for evaluation. These were further developed at an Expert Advisory Group meeting, incorporating insights from the focus groups and interviews and input from the Tesco Liaison team. A long list of criteria was developed, which was subsequently streamlined and tested against the framework of effective change interventions developed from the literature review: Awareness-raising, Appreciative, Action-led and Associative. They were further refined with consideration of the course content and process, and development of the methods that could be used to gather data about learning and change.

In learning theory, the need to consider knowledge, skills *and* attitudes is well-known, and explored in depth in the literature about learning objectives (Rogers 2004, pg. 85). Lewin (1935), for example, suggested that learning changes occur in skills, in cognitive patterns (knowledge and understanding), in motivation and interest, and in ideology (fundamental beliefs). Rogers (2004, pg. 87) proposes a number of spheres where learning takes place (summarised with the mnemonic 'KUSAB'):

- We learn new information that is largely memorised and converted into usable *Knowledge* ('I know');
- *Understanding* – organising and reorganising knowledge to create new patterns of relationships ('I see');
- Learning new skills or develop existing *Skills* further – e.g. physical skills, ability to do certain things, skills of thinking and learning, skills of coping and solving problems ('I can');
- The changing of *Attitudes* (including beliefs and values) is a distinct sphere of learning ('I feel/believe');
- Learning to apply newly-learned material to what we do and how we live, change ways of *Behaving* ('I do').

These five spheres of learning relate to each other in complex ways. For example, changes in attitude rely to a large extent on changes in knowledge and understanding, and behavioural changes can hardly take place without accompanying changes in other areas (Rogers 2004). Action learning places value all five of the domains of learning suggested in the KUSAB model (McGill and Brockbank 2004, pg. 43).

To move towards sustainability it is important to develop skills and understandings that enable sustainable practice. As there are many hindrances to sustainable practice, be it corporate or other factors, it is important that these skills and understandings include ways to recognise and overcome those blocks. This implies adaptive, double loop learning (Argyris and Schon 1978; Holling 1978). Such double loop learning requires examination of attitudes and underlying beliefs that underlie (or loop back) to actual practices and shared understandings. Attitudes represent the inner dimension of the learning process, which in turn are affected by the members of a group when they challenge each others' basic assumptions.

A distinction can be drawn between three different scales of learning: individual, group (or team), and organisational. This understanding of different scales of learning (and the

dynamic interplay between them) has been helpful in formulating the measures of success methods for the assessment of change in this pilot.

Given the dynamic interplay between the three scales, we needed to frame our measures of success not only in relation to individuals but also to the activities and outcomes of the group and the organisation. Given that this was a pilot project, however, an evaluation of learning on all three scales was neither feasible nor appropriate. The following framework therefore shows the full range of measures of success for a large-scale learning initiative. A sub-set of measures that could be assessed within the time frame of the pilot and from gathering data from individual participants, was used to assess this pilot learning initiative. The process of coding data was helpful in determining what types of data could be found to show evidence of achieving these measures of success.

Several of these measures could be seen as skills specific to the learning context, sustainability, whilst others are 'generic skills' that are important for realising sustainability, but would also be helpful and important in many other large-scale change or learning initiatives. The need to develop generic skills, such as cross-disciplinary working, was emphasised in the Sir John Egan Review of Skills. Discussing what will be needed to allow us to move to sustainable communities, the report says:

"We need people with the ability to think and work outside their traditional compartments, who can bring together disparate organisations and interests to help deliver the common goal. This will require new skills and new ways of thinking and acting from all those involved in delivery"
(Office of the Deputy Prime Minister 2004, pg. 29).

It goes on to recommend that employers in all sectors involved in sustainable communities (a list of over one hundred professions) *"adopt pro-active approaches to on the job learning including: comprehensive and continual on the job training, opportunities to develop competencies in generic skills for sustainable communities"* (ibid, g. 70).

In designing the pilot we established the need for an organisation to be able to create a positive vision for itself, within a clear understanding of a sustainable future, and then to develop the knowledge, understanding, skills, attitudes and behaviours to achieve that vision. The measures of success for the initiative are shown below, organised under the KUSAB framework, to ensure that a full range of learning dimensions are considered.

5.1.6 Knowledge

Participants are aware:

- of examples of current sustainability practice in Tesco and what is going well
- of the relevance of sustainability to Tesco
- of the relevance of Tesco to sustainability
- that current 'going-green' activities are not enough to achieve sustainability
- that the RoundView Guidelines provide a positive vision for sustainability
- the RoundView Guidelines are based on scientific understanding

5.1.7 Understanding

Participants demonstrate an understanding of:

- the four Misguided lines and four Guidelines of the RoundView
- the implications for sustainability of key choices they make every day, and are able to tell the difference between more and less sustainable choices in the context of the workplace
- ways in which the RoundView Guidelines can be applied to making change in their own organisational / work context
- the potential to transfer sustainability knowledge between different contexts e.g. work and home (seeing applicability of knowledge)
- the scientific underpinnings of the RoundView Guidelines
- connections between different domains of knowledge (such as common knowledge and RoundView knowledge)
- the implications of the RoundView Guidelines for future strategic direction of an organisation
- the applicability of the RoundView Guidelines at multiple scales – from the organisation to the global context

5.1.8 Skills

Participants are better able to:

- use the RoundView Guidelines to assess current practice / future options for sustainability impacts
- carry out an analysis of flow for a particular system (e.g. a house, store, part of the supply chain)
- assess these analyses of flows in terms of the RoundView Guidelines
- communicate and explain decisions using RoundView Guidelines as criteria
- discuss sustainability with colleagues, customers and other stakeholders (e.g. suppliers)
- apply new ideas about sustainability to a work context
- apply creative thinking to the development of new ideas for sustainable planning
- identify barriers to sustainable practice and design ways to overcome them
- create an action plan and develop the steps to move towards a desired future (backcasting)
- make strategic decisions about sustainability and prioritise actions that can be taken to improve sustainability performance of Tesco

5.1.9 Attitudes

Participants:

- gain interest in sustainability and motivation to change
- have an enhanced awareness of their own potential to make a meaningful contribution to sustainability

- gain an appreciation of why it is important to think and act in a way that contributes toward sustainability in professional and personal lives
- develop a sense of shared and personal responsibility to moving in a sustainable direction
- learn to look for what is going well as the basis for future improvements
- appreciate the knowledge and skills of others, including lay people's knowledge, and their importance in moving to a sustainable future
- are disposed towards coordinated action towards sustainability
- are disposed towards critical questioning of their work practices and the wider organisational environment

5.1.10 Behaviours

Participants:

- apply Guidelines of the RoundView to decisions in their work and life (making changes, doing things differently)
- reflect on their own role in developing a sustainable future
- seek opportunities to enhance sustainability in Tesco, and take action on them
- include others in actions towards sustainability
- communicate about concepts of RoundView with colleagues
- communicate about concepts of RoundView with supply chain and / or customers as appropriate
- act as ongoing agents of change in the organisation after training

This full list of measures of success was shortened and developed into the objectives for the course, and communicated to participants in the following way in the course hand out:

Participants are aware of, understand and apply the RoundView Guidelines in the context of the operations of Tesco. This helps make progress towards:

- gaining an understanding of why it is important to think and act in a way that contributes toward sustainability in our professional and personal lives;
- recognising key choices we make every day, and being able to tell the difference between more and less sustainable activities, services and products in the context of the workplace;
- communicating our understanding of sustainability to others, including colleagues, suppliers and customers of Tesco, and feeling confident in doing so;
- supporting and challenging thinking and doing about sustainability with colleagues;
- seeking opportunities to enhance sustainability in Tesco;
- making strategic decisions about sustainability and prioritising actions that can be taken to improve sustainability performance of Tesco.

6 The Pilot Learning Initiative

Implementation

The training was delivered by Dr. Joanne Tippet and Fraser How, with facilitation and assistance from Eben Le Roux, Dr. Pete Mann, and Dr. Graeme Sherriff.

Participants on the learning initiative were partly self-selecting, in that some of the participants volunteered to come on the course. When we asked at the start of the course about people's motivation for attending, however, we found that some had been told by their managers to attend, implying that not all had volunteered to come due to prior interest in the issue.

It is common for training in Head Office to be delivered within teams. In contrast, the groups for this pilot contained people from a range of functions. Participants commented that it was useful to be able to share ideas and to find out what people in other work areas were doing.

Among the Head Office, attendance in the two workshop sessions was high, although only approximately half of the groups came to the review sessions. Most gave apologies and cited work pressures. In some cases participants went to a different group for one of the sessions, for availability reasons. The location of session has been adjusted depending on where they attended most of their sessions and is indicated in Table 4.

Table 4 Participants on Head Office Pilots

Job Title	Department	Work Level	Time at Tesco	Gender	Primary Location
Technical Manager	Clothing	2	3 years 3 months	F	NTH
Direct Ordering Mgr	Commercial	2	2 years 8 months	M	NTH
Community Project Manager	Community Plan	3	7 years 7 months	F	NTH
Climate Change Manager	Corporate Affairs	2	3 years	F	NTH
Buying Manager- Engineering	Corporate Purchasing	2	2 years 8 months	M	WGC
Ops Manager- print service	Corporate Purchasing	2	11 years 1 months	M	NTH
Assistant Buyer	Corporate Purchasing	1	1 year 7 months	F	WGC
Buying Mgr- IT Softlines	Corporate Purchasing	2	4 years 2 months	F	WGC
	Design Mgr, Hardliners				NTH
Business Analyst- Int'l Finance	Finance	2	2 years	M	NTH
Finance Manager	Finance	3	5 years 8 months	F	NTH
Commercial Manager	Green & Environment	2	1 years 3 months	F	NTH

Job Title	Department	Work Level	Time at Tesco	Gender	Primary Location
	Commercial Mgr				
Technical Manager	Hardlines	2	2 years 8 months	F	WGC
Commercial Manager-Capability	Hardlines	3	11 years 7 months	F	WGC
Trainee Assistant Buyer	Hardlines	1	3 years 8 months	F	WGC
Employee Relations Manager	International Personnel	2	6 months	F	WGC
Reward Analyst	International Personnel	1	6 months	F	NTH
Training Manager	International Personnel	2	3 years 7 months	F	WGC
Administrator	International Personnel	1	1 year 5 months	F	WGC
ER Mgr/ Safe Hands WL4	International Personnel	4	23 years	M	WGC
Reward Manager	International Personnel	2	1 year 2 months	M	NTH
Europe Resourcing Manager	International Personnel	2	4 years 10 months	F	WGC
Capability Manager-Group	IOD	2	19 years 10 months	M	WGC
Capability Manager-Distribution	IOD	3	8 years 3 months	M	WGC
Project Mgr- Cross Functional Design	IOD	2	5 years 6 months	F	WGC
Team leader IT services	IT	2	2 years 20 months	M	WGC
IT analyst Business Systems	IT	2	6 years 7 months	M	WGC
	IT Finance				NTH
	Marketing			M	TBC
Trainee- sensory	Trading Law & Technical	1	1 year 3 months	F	NTH
Nutrition Manager	Trading Law & Technical	2	4 months	F	NTH
T,L&T Manager	Trading Law & Technical	3	10 years 10 months	M	WGC
Support Office Graduate	UK Support Office	1	7 months	M	NTH
Administrator	UK Support Office	1	2 years	F	WGC

Attendance in the Stores was less consistent than in Head Office. The number of people attending the five workshop sessions and the review were 13, 11, 7, 10, 8 and 5. The third session, which was extended to an hour and a half, was poorly attended because a management meeting had been called suddenly and this clashed with the session. As this had been introduced to participants as the key session for the course, the fact that a number of people were not able to attend may account for the lower attendance in the remaining sessions.

Table 5 Participants on Stores Pilot

Store / Job Title	Gender	Sessions					
		April 22nd	April 29th	May 6th	May 13th	May 20th	June 10th
Cheetham Hill Store							
Clothing	F	Y	Y	Y	Y		
Fresh Produce Dairy Manager	M	Y					
Community Champion	M	Y	Y		Y	Y	Y
Wages and Shrink (Energy Champion)	M	Y	Y	Y	Y		Y
Warehouse	M	Y	Y	Y	Y	Y	Y
Non-Food	M	Y					
Checkouts	F	Y	Y	Y	Y	Y	Y
Services Manager	F	Y					
Manager Fresh Produce	M		Y				
Failsworth							
Team leader Counters (on Options)	M	Y		Y	Y	Y	Y
Produce Manager (Energy Champion)	M		Y		Y	Y	
	F						
	M		Y	Y	Y	Y	
Prestwich							
Tesco Direct Desk	F	Y	Y				
Security	M	Y					
Grocery team leader (Options)	F	Y	Y	Y	Y	Y	
Non-food (Options)	F	Y	Y		Y	Y	
Total Attendance for session		13	11	7	10	8	5

The learning initiative was unique for training in the Stores context, in providing sessions that were not only interactive sessions, but also away from the shop floor. Training people from more than one Store at the same time was also unusual. The challenge for future iterations of the course will be to retain the appreciative, interactive elements of the course, and allowing time for reflection and creative thinking outside of the standardised knowledge transfer which is more typical of training in Stores.

Learning Initiative Course Schedules

Table 6 Head Office Course Schedule - Session One

RoundView Pilot '09	Tesco Head Office - Session 1
Activity	Key Points
Introductions	Research project and the course, Participants and facilitators, Tesco context
How do you understand sustainability?	Ketso group exercise—Key words of sustainability.
Plenary feedback.	Why is sustainability important to Tesco? What are the key challenges we face? Defining sustainability as “People thriving now and into the future”.
A Story of the Earth Part 1 basic science & eco-cycle	Linking questions—What do we know about the Earth—about how this system works? 'Know your stuff' When thinking of a tin of peas, how does this learning help us understand why there is 'no such thing as a free lunch'?
What are we doing wrong?	Linking questions—What would be the advantages if we had a handful of guidelines that told us how to be sustainable? What are we doing to damage this system (the eco-cycle)?
<i>Break</i>	
RoundView Misguided Lines & Guidelines Overwhelm, Poison; Compost or Keep in the Loop, Live Within Our Means	Using the felt animations, going through the first two Misguided lines and the first two positive Guidelines.
Analysis of Flow of a House	Plenary brainstorming - asking ideas from the group as to what comes into and goes out of a house, and how these relate to these Guidelines.
RoundView Misguided Lines & Guidelines Destroy & Degrade and Leave Space for Ecosystems	The third way we can be ecologically unsustainable and the sustainable alternative.
Analysis of Flow of a House	Revisit the Analysis of Flow, how does looking at where things come from and where they go help us to understand the ways in which they are being unsustainable? General discussion, leading to a question about biofuels, and how an understanding of these Guidelines could have helped us to avoid a costly diversion into thinking that biofuels were the sustainable answer.
RoundView Guidelines - People Unable to Meet their Needs; Supporting the Global Community	The social aspects to sustainability—people thriving now and into the future, globally.
Tin of Peas & the RoundView Guidelines	Think of a tin of peas, use these Guidelines to consider something by that you didn't know before. (Note this was added for Welwyn Garden City, following feedback in Cheshunt.)
<i>Takeaway Task Session 1 - Conduct an 'Analysis of Flow' for a system within Tesco</i>	<i>Focus attention on what comes in to, and out of, this system, as a first step in understanding the sustainability issues raised by these flows of resources – providing information for the redesign towards a more sustainable system. Become more aware of the ways in which our decisions affect flows of resources through any particular system.</i>

Table 7 Head Office Course Schedule - Session Two

RoundView Pilot '09	Tesco Head Office - Session 2
Introduction	Re-introduce all the people, aims of the day, any questions from last week.
Jigsaw Puzzle Review	Competition review: Put together the jigsaw from "A Story of the Earth" from last week. Group feedback - what is important about the relationship between the pieces?
A Story of the Earth Part 2 - the Timeline of the Earth	Line up in sequence of key events over the 4.5 billion year history of the Earth. See the build-up of complexity and value over vast timescales and the dramatic loss of this since the Industrial Revolution. Learn from the research & development of life for lessons for the future
The Funnel and Backcasting	Relating the timeline to the Guidelines through the concept of the funnel of diminishing resources. Introducing the idea of using the Guidelines in decision making and planning for the future by back-casting from the desired future to the present.
Analysis of Flow review of Takeaway Task (in small groups or pairs)	Compare the Analysis of Flows from each other's takeaway tasks, working together to trace the inputs and outputs further. Analyse these against the RoundView Guidelines & Misguided lines. Plenary session - what are the key issues that came out of this work?
<i>Break</i>	
Visualising a Sustainable Tesco	In small groups, working with a Ketso, with the main themes being the spokes of the Tesco Steering Wheel. <i>First task</i> - green leaves - brainstorm any ideas that could contribute to a sustainable world. <i>Second task</i> - locate these against the segments of the Steering Wheel, see if the segments suggests more ideas <i>Third task</i> - yellow leaves - brainstorm the conditions that Tesco would operating under in a sustainable world, i.e. what might have changed in the wider world if we were in a sustainable future. <i>Fourth task</i> - Brainstorm more new ideas - how <i>could</i> Tesco be sustainable in this world, future orientated oriented that maybe even seem crazy at the moment.
Committing to an Action	Identify ideas that can be carried out now and individuals to put their name against one that they can carry out (brainstorm more ideas if necessary so that each person has committed to an action).
<i>Takeaway Task – Envisioning a Sustainable Tesco</i>	<i>Chose an action to take between the second workshop and the review. Form an action group and contact each other at least once to challenge and support yourselves in this action. Imagine it is over a year since you participated in this pilot, and Tesco is now following the Guidelines closely, and making great strides as an exemplar in sustainable consumption. Describe how your department / division / job function might be different?</i>

Table 8 Stores Course Schedule

RoundView Pilot 2009 – STORES Summary Schedule					
	Week 1	Week 2	Week 3	Week 4	Week 5
Session content:	<p>Introduction – course and Tesco context</p> <p>Ketso (felt and leaves)</p> <p>How do you understand sustainability?</p> <p>What is Tesco doing well in terms of sustainability?</p> <p>A Tin of Peas – what does this make you think of in terms of sustainability?</p> <p>Discussion - Why is sustainability important?</p>	<p>Review takeaway task - What is Tesco doing well and what are the key challenges?</p> <p>Jigsaw puzzle – Introduction to Story of the Earth</p> <p>Felt animation - Story of the Earth</p> <p>Tin of Peas – what does this story tell us about how the peas may mess up the Earth?</p>	<p>Feedback from takeaway - how can a tin of peas mess up this system?</p> <p>Discussion - Advantages of a handful of guidelines</p> <p>Felt animation - The RoundView Guidelines</p> <p>Analysis of Flow for a house</p> <p>Comparative peas – which peas are more sustainable?</p>	<p>Jigsaw puzzle</p> <p>Review RoundView Guidelines</p> <p>Timeline of Earth's Development</p> <p>Review of takeaway task - Analysis of flows</p> <p>Creative thinking – develop new ideas for being more sustainable</p>	<p>Group discussion - share experiences of the takeaway tasks</p> <p>Applying the RoundView Guidelines to eco logos</p> <p>Action planning - Spheres of control, influence and interest</p> <p>Being an ambassador for sustainability</p>
Takeaway task:	<p><i>Using the Tesco Steering Wheel as a starting point, look around your store or department and identify examples of sustainability.</i></p>	<p><i>'How can a humble tin of peas mess up the 'sustainable' Eco-cycle? Discuss this question with a colleague.</i></p>	<p><i>Do an 'Analysis of Flow' for your Tesco Store, or your Division within the Store. Discuss with a colleague.</i></p>	<p><i>Pick an idea for making your work area more sustainable, think about how it could be implemented.</i></p>	<p><i>Imagine Tesco is now sustainable and the BBC is coming to make a programme about it. Prepare some snapshots from this programme to indicate the way in which you do your job will have changed.</i></p>

Assessing the pilot learning initiative

Using the range of data gathering methods developed during the research pilot, and described in the methodology in Section 2.1.3, it has been possible to assess and ascertain change along the learning dimensions, Knowledge, Understanding, Skills, Attitudes and Behaviour (KUSAB) for the participants on this pilot learning initiative. In assessing these domains of learning, it has to be remembered that it is not realistic for all individuals attending a pilot to achieve all of the measures of success to a high degree. The level achieved will depend on complex interactions between the learners' levels of awareness and starting point, the context of their experience whilst undergoing the training, and interactions between the scales of learning identified earlier, e.g. the way the learning is reinforced and influenced by their interactions with their team, the organisation and the wider social networks of which they are a part.

For the review sessions, each participant was given a letter as an identifier, which they wrote on everything that they contributed during the session (individual feedback and evaluation sheets and also any Ketso 'leaves' used during group exercises). This provided protection of the anonymity of the participants (helpful in creating the conditions for participants to feel they could give genuinely critical feedback). It also made it possible to both correlate the various data for a given participant, and to ensure that analysis did not rely overly on the comments generated during group exercises of only one or two individuals.

The following analysis is structured around the KUSAB framework. It starts with a review of the experience in Head Offices, followed by Stores.

6.1.1 Head Office - Participants' learning and experience

6.1.1.1 Knowledge

At the start of the learning initiative, Head Office staff had come up with a set of keywords that described sustainability. These focussed fairly consistently on a resource-based understanding, and the aspects of sustainability that affect the physical environment and made limited reference to social aspects. This baseline data is discussed in Section 4, on pg. 57.

At the start of the review session at the end of the initiative, participants were asked to repeat the same Ketso exercise that they were given at the start of the course. The questions around which the discussions were structured were: 'How do you understand sustainability?'; 'Why is it important?'; 'What are the challenges?'; and 'What is Tesco doing well?'.

It is noticeable that when this exercise was repeated after the learning initiative, a significant portion of the keywords closely reflected the RoundView Guidelines, and showed a more in-depth *knowledge* of the issues. Examples of this included '*don't poison*', '*compostable*', '*closed system – only sun input*', '*eco-friendly/green*', '*keep it in the cycle*', '*cycle*', from the Cheshunt group, and '*not destroying habitat*', '*ensuring that we can cater for all and still continue to be sustainable*', '*clogging the system*' and '*we need to maintain a balance*' in Welwyn Garden City. The participants' letter identifiers indicated that it was

not only one person supplying these keywords that draw directly on the language of the RoundView Guidelines, but approximately two thirds of each of the groups. This suggests a shift towards describing sustainability using the language and conceptual framework of the RoundView that they learned during the initiative.

6.1.1.2 Understanding

Several of the ‘leaves’ from this exercise were indicative of a more holistic, systems-based *understanding* of sustainability in comparison with the start of the course. Examples of this were: ‘*long term strategic thinking*’; ‘*holistic view – every impact is considered*’; ‘*balance – we don’t take too much or put too much back*’ and ‘*we need to maintain a balance*’. One person wrote ‘*It’s not just about recycling*’, suggesting a realisation that the situation, and potential solutions, was more complex than they had previously thought.

Taken together, these keywords would imply a move towards a ‘stage 3’ understanding of sustainability – beyond ‘eco-friendly’ approaches towards considering the need for entirely new practices cognisant of the whole system. In Cheshunt, a discussion at one of the tables was observed following the facilitator’s question to the group – ‘What is different about this exercise from when you started?’. One group commented that the ideas following the review session seemed much clearer and more focused, and another participant said that in the early session they would not have had so many ideas – they would not have needed to keep asking for more leaves to write their thoughts down.

When considering the feedback written by participants during the review sessions, there is clear evidence of a significant shift in understanding:

“Before this pilot, I thought that being “green” was a good thing, but didn’t really understand how my current lifestyle was negatively impacting the environment.”

“Now know more about the ways we break/stop sustainability which helps to understand what we need to do to improve sustainability.”

“I particularly liked the more general approach, rather than getting involved in detailed discussions about CO2 level or % reduction in emissions etc. I’m thinking differently about landfill and recycling in particular.”

“I was taken with the idea that environmental sustainability and advancement in social/economic equality go hand in hand.”

...and of increased awareness of what Tesco was doing with regard to sustainability:

“Exploring ways in which Tesco is already using sustainable tools / methods: learnt new things about the company I didn’t know it did - need to advertise this more to employees?”

“Learnt from others in the group about what we currently do that is sustainable and created many ideas of what else we can do.”

Feedback suggests that one aspect of the training could have been made given more prominence, that of the grounding of the sustainability guidelines in rigorous science: *“the scientific consensus was not emphasised enough”*. This aspect of the course had been a topic of considerable discussion in the design of the learning initiative, and this comment points to the need to have a range of approaches with regards to dealing with the scientific

grounding and content, that can be adapted to a suitable level depending on the starting point and levels of understanding of the learners.

There were a few examples of participants not having fully made the distinctions contained within the curriculum, for example “*not taking resources out of the cycle (i.e. poison)*” which seems to be conflating the RoundView Guideline ‘keep it in the loop’ and the Misguided line ‘poison’. Although generally the data gave a strong impression that there was a significant shift in understanding, some suggestions that elements of the learning content could be presented more clearly. In particular this could be helped in the future by the addition of clear handouts early in the course, which were not available this time due to the emergent nature of the pilot. Slight differences in understanding can also point to a difference in how easy it is for some people to shift their perspective compared with others.

6.1.1.3 Skills

One of the tasks in the second of the Head Office sessions had been to develop ideas for a fully sustainable Tesco, in terms of policies, principles and practices. There were a significant number of ideas to emerge in this discussion that approach sustainability from a holistic systems perspective, which gives evidence of the development of new skills in applying sustainability thinking to the work context. Examples of such ideas were:

Going beyond recycling towards more ‘closed loop’ practices:

- *closed loop Tesco*
- *take back every product we sell (non-food) - no 'new' products may be cheaper*
- *rent non-food products. provide installation service*
- *rent electrical equipment (TVs) remanufacture old stock*
- *creating own energy from wind turbines*
- *all packaging is biodegradable or recyclable*

Making space for ecosystems:

- *Tesco creates its own ecosystems (i.e. ‘make space for diverse ecosystems’)*
 - *capture rainwater drive through turbines and use in toilets*
- *turn car parks of Tesco to allotments*

Embedding sustainability in the operations:

- *sustainability criteria for all suppliers*
- *KPIs for suppliers to hit sustainability targets in production*
- *sustainability as one of the values*

Encouraging customers towards sustainability:

- *Clubcard points on all locally sourced food*
- *help customers be more green i.e., use club card points to install solar panels*

Figure 22 Envisioning a sustainable future Tesco, Head Office



A good proportion of the ideas generated reflected ‘stage 2’ understandings of sustainability, being the type of actions that seek to decrease the level of un-sustainability rather than work positively towards a change in direction to fully sustainable systems. Particular examples were: *‘canteen facilities: encourage use of less toxic takeaways’*, *‘fewer poisonous chemicals in products’* and *‘use sustainable materials (less poison) for cages, pallets, other equipment’*. Most of these ideas are ‘necessary’, in that they help slow down environmental damage, by making things less toxic or poisonous. The Guidelines for sustainability taught during the course show, however, that they are not ‘sufficient’. For instance, to be aligned with a fully sustainable future, products should be designed so as not to use eco-toxic materials at all. The RoundView guidelines suggest that it is the fact that we are ‘poisoning’ ourselves and ecosystems at all that is unsustainable, not the extent to which we are doing it. It should be noted, however, that the exercise included stages of brainstorming steps that can be taken today to move Tesco towards sustainability, so such ideas would be expected to be generated.

Further examples of ideas generated for action are the types of activities that would need to take place within a sustainable system but that do not in themselves address fundamental un-sustainability. Examples of these ideas included: *‘Head Office charity bins for books / clothes’*, *‘recycles all its own waste’*, *‘charge for plastic bags’*, *‘more plastic recycling facilities’*, and *‘staff encourage use of sustainable transport’*. How to position these kinds of ideas in terms of assessing understanding is not easy to judge, since the level of understanding may be evident in details that are not evident from the keywords alone.

From observations of the discussions surrounding the exercises, it was clear that some groups were deeply engaged with creative thinking and exploring the very different assumptions that would frame a fully sustainable future society, whilst some of the groups were struggling to move beyond the confines of the types of measures that are commonly understood as ‘going-green’.

In the discussion following this exercise of ‘Visualising a Future Sustainable Tesco’, a participant reported that they *“could not believe how many creative ideas came out from our group in such a short space of time”*, suggesting an increase in, or at least an increased appreciation of, the creativity and capacity of the group.

It was challenging to carry out a meaningful assessment of the development of *skills* over the time period of the pilot initiative, apart from as they were observed during the sessions themselves, or were reported in discussions about the take-away tasks, such as the ‘Analysis of Flow’, which asked participants to take a new skill learned in the session, and to apply it to a different system in Tesco (e.g. their own division, the transport policy, part of the supply chain, a Store). The aim was to focus attention on what comes in to, and out of, this system, as a first step in understanding the sustainability issues raised by these flows of resources, asking questions like: Where does this come from? Who is involved in the production? Can it be disassembled? Who uses the components again? We asked participants to analyse these flows against the RoundView Guidelines, working with colleagues to do so (and thus explaining the Guidelines to people outside of the initiative).

Figure 23 Participants in Head Office discussing Analysis of Flow Takeaway task



Observation of the discussions around this takeaway task in the second session suggested that several of the participants had learned to apply their new knowledge and understandings to their particular contexts. Some participants found it challenging to see how the exercise could be used in their work practice, whilst others discussed the value of looking at their own context from a different perspective. Such discussions showed both an evidence of different levels of skills development amongst participants, and the value of the Associative approach in encouraging participants to learn from each other in this challenging task. According to feedback, this exercise resulted in an “*increased ability to assess the sustainability of a given situation from a more systemic perspective*”.

A further comment on a feedback sheet suggests an increase in a participant's ability to apply the learning from the initiative to their work:

"I feel I already had a good grasp of sustainability but I have learnt a more holistic view which I can begin to apply to strategic decision making. I don't think it will alter 'what' I do at Tesco but it may improve 'how' I do it."

6.1.1.4 Attitudes

Attitudes definitely shifted for many participants on the pilot, as evident in some of the quotes from the feedback sheets that asked 'What has changed for you?':

"Greater understanding and motivation"

"Main change is that it has made me think about what Tesco does and how I can start to think / become a potential agent for change e.g. challenging colleagues to think about how we can influence to drive change (within the limits of our 'gift' to do so)."

"I may also think more creatively, slightly longer term. What I will be looking for next is to be challenged - I want to go into a business plan / presentation / meeting with senior managers and as well as being asked about the cost, resources, supplier/customer impact of my proposal, someone should ask me what the RoundView / community / sustainability impact and thought process is."

Indeed, one participant noted on the first review sheet:

"A new business model for Tesco is required, the whole world needs to make the changes now. I am surprised how much I have changed my work and personal life with the knowledge I have."

A link between attitudes and potential behaviour change was indicted in this quote from a review sheet:

"I didn't realise how quickly we are destroying the ability to sustain life on our own planet. I didn't expect that I would want to pass on what have learnt so eagerly and to engage everyone else that I have so far."

This quote shows some evidence that participants can indeed act as agents for change, given greater knowledge and some tools for spreading new ideas, which was a hoped-for outcome from the learning initiative.

6.1.1.5 Behaviour

Some participants reported changes in *behaviour* at work, for example:

"I can now think more/am more conscious about the ways of working in my team and how we are and aren't sustainable. Now we are 'RAG'ing ourselves as part of our steering wheel to make sure we are actively trying to improve."

"Thinking more strategically, more long term"

Changes that participants had made were discussed in small group work in the review sessions. Examples ranged from personal behaviour, such as a participant who had started

bringing a packed lunch to work instead of buying pre-packed sandwiches, to changes in business practice. An example of a change in business practice that emerged from the initiative was one participant who instigated a change in the printing for her department to double-sided as a default (and wondered why, if it was so easy to do, it hadn't been done before; she was going to work on spreading this practice into other departments). The discussions around the packed lunch showed a greater embedding of new thinking that simply making one change, the participant said she was re-using the foil and thinking of all of the packaging, had brought her own cup for tea and had been talking to her colleagues about how much money she had been saving, in an attempt to spread the practice.

An example of behaviour change becoming embedded in the work practices of two participants came from a small group from Tesco Direct (the online store). They said they had noticed since doing the course that there was no information on the electronics goods section about the relative energy use of different products. In the time between the second session and the review session, they reported having added some information on energy efficiency to the web site. In the small group they discussed further improvements they wanted to make. For instance, they wanted to add a sort list for products rated by environmental performance – to echo the current capability to sort by price. They discussed how to move towards making this the most prominent list for sorting.

6.1.1.6 Overall experience and future training

With regard to their overall experience of the course, participants at the Head Office review session made the following statements, either noted first-hand by researchers or written on feedback forms:

“People’s views have come together. More in-depth knowledge, more unified.”

“It was very clear and stays in mind as it was so visual and clearly explained.”

“I thought this was going to be dry and academic, but it was better than I thought, more engaging.”

“Learnt lots more than I thought. The systems approach was new and helpful and the principles were clearly explained during the courses.”

Considering the potential rollout of the initiative through Tesco, there were some concerns:

“This course has worked well with volunteers and those who are already keen - would it work as well with more cynicism and conflict from a more neutral / negative audience?”

“Leaders of the course need to be very well trained on the scheme etc. to deliver a compelling message.”

...and also some very positive and enthusiastic opinions:

“Roll this out across Tesco now!”

“The exercises were particularly useful for thinking how it applies to Tesco overall, as a business, although I've found the principles much harder to apply to my specific role. I think the course would benefit from being rolled out at a department level with strong support from functional directors.”

“In truth there should not be any limiting factors, if Tesco want to lead the way, they should support it, fund it and roll it out now.”

6.1.2 Stores - Participants' learning and experience

The analysis of Head Office sessions was necessarily more in-depth than that of the Stores sessions. In Head Office, there were many more participants, there were two different streams of the pilot, and we were afforded a full three hours for the review itself. In Stores, the review session was an hour (limited due to work schedules). Analysis was made more difficult by the low attendance at the review session (five out of a possible seventeen). There was, however, useful feedback from the feedback sheets from earlier sessions, giving a wider range of perspectives, and from the researcher notes during sessions.

6.1.2.1 Knowledge

Some of the keywords written on the Ketso 'leaves' describing participants' general knowledge of sustainability, including: *'stop damaging the planet'*, *'protecting our future'*, *'keep mother nature going on as long as possible'*, are very general and elude classification as to shifts in understanding of sustainability. *'Achieving a common goal'* starts to suggest a sense of global thinking and a shift to seeing sustainability as an integrating factor for behaviour. Answers to the question 'what is Tesco doing well?' included: *'recycling'*, *'building environmentally friendly stores'* *'making the community aware of environmental issues'*, and *'condensing deliveries'*. They generally showed a reasonable knowledge of practices in Tesco at the Stores level.

6.1.2.2 Understanding

As the final takeaway tasks in Stores, participants were asked to imagine that their department had become sustainable and that the BBC were visiting to make a short film about it. Presented with a blank 'story board' they were asked to indicate which scenes of their operations they would include in the documentary to show examples of sustainable practice. One member of staff at managerial level gave examples that showed a good understanding of sustainability, as informed by the RoundView guidelines. His story-board scenes included: having packaging made from non-plastic, natural materials; all waste being recycled on site; records being retained electronically (no paper); staff with handheld computers running on rechargeable batteries; products being locally produced; and shopping bags being recycled on site using a compactor.

One of the research observers in the review session noted a conversation with this same participant:

I wanted to know, having not been in the course, if sustainability had a particular meaning [in the discussion I had been having with him] – what makes these buildings and clothes sustainable? He immediately replied that it was about the material being natural, able to go back into the ecosystem, not being man made, like the difference between organic cotton and polyester. I asked if this was something he had come to understand from the course or he knew it before. He said he knew it before ...[but] that it probably was a new thing for him to link this up - he may not have known the links before himself. ...

The researcher continued, suggesting that it was this bringing together of information in a common framework that was what the learning invention had achieved: *‘this seemed an important point – that we are tapping into things people already know, but don’t think about it in a systemic way and develop the relationships between these facts and ways to be more sustainable.’*

Another participant, working at shop floor level, portrayed in his story board an image of tidy aisles, saying the store was more sustainable than before because it was *‘tidy, neat and clean’*. Only two people brought their work to the review session from this last task (at least one other said she had done it but forgot the sheets) but, in effect, they represent two extremes of the levels of understanding. The former had clearly benefited greatly from the learning intervention, both in terms of motivation and overall understanding. The latter’s ideas about the meaning of sustainability did not appear to have developed much from his earlier comments around being tidy. This individual was, however, very enthusiastic and positive about communicating the importance of sustainability, and about the training. He seemed to have developed in confidence during the course.

This same participant commented that *“staff need to follow this; in the team, rules can change”* demonstrating an awareness of the need for a co-ordinated, team based approach to sustainable practice. This outlook was reflected in the wider discussion in the review session, when participants discussed the need for all Tesco staff to understand these ideas. These participants were generally enthusiastic about the idea of this training being part of the induction for all staff.

Several participants reported during the course of the pilot that they had had *“good discussions”* with colleagues and family about the issues and that they had been able to relate the issues to their work.

In the third session, the discussion around an exercise asking participants to explore their learning about the RoundView Guidelines gave further evidence of enhanced *understanding*. This exercise was known as ‘comparative peas’ and engendered some useful dialogue that demonstrated a finer awareness of distinctions between the products than shown in the earlier discussions about a tin of peas. Participants demonstrated their understanding of the need to ask more questions than simply if a material was recycled or not. The discussions ranged from questions about how far the peas had had to travel, to who was involved in production, to what chemicals were used not just in production but also in the manufacture. There was also a lively debate about the relationship between the Tesco Value of keeping prices down for the customer, and the relative costs of the healthier and possibly more sustainable options. (An improvement was suggested for the exercise in the future was to make sure the prices were on the props used.)

Figure 24 Comparative peas exercise in Stores to review the Guidelines



Participants on the pilot in Stores demonstrated a wide range of differing levels of understanding and confidence throughout. Despite low attendance at the review, there are examples from researcher observations and evaluation throughout the course to inform this analysis. For example, one of the participants, who worked in the clothing section, initially had difficulty understanding sustainability and had marked this on her evaluation form for the first session. She had found, however, the initial exercise with the tin of peas to be very interesting and it seemed to highlight the issues for her. When we returned to the idea of peas with the ‘comparative peas’ exercise later in the course, after we had detailed the RoundView Guidelines with the group, she was able to confidently compare different types of peas using the Guidelines. Researcher observations of another group doing the same exercise described ‘*not much evidence that they were thinking in terms of the RV principles*’ and that this group was focussed on the nutritional information. Clearly participants were learning at different speeds and in different ways.

The evaluation sheets from the sessions during the course provided information on participants’ perceptions of their own learning and also evidence about how they were absorbing the ideas presented to them during the learning intervention. Some quotes illustrative of the learning experiences of participants follow:

In response to the question ‘which part of the session most captured my attention or made me most curious’:

- *Regardless of possibility to implement - think of ways we could be more sustainable. Very thought provoking.*
- *What we can do to keep things in the loop.*
- *The way we poison/destroy our planet, and the ways we can help to fix it.*
- *What can we do to stop the poison from getting worse?*
- *Issues affecting [eco-]cycle and potential areas to improve.*

Comments reflecting moments of insight:

- *The [Analysis of flow for the] House: what we are bringing in and what's going out!*
- *The tin of peas, didn't think about where they were from before. And thinking about the recycling of this product*
- *Tin of peas – made in Italy, made me think. (comment from week 1)*

Indications of recognition of the scale of the problem:

- *The problems with sustainability are a lot worse than I first thought.*
- *Getting my head around the magnitude of the task to turn current situation around.*
- *If we don't do anything the earth is not going to be here.*

6.1.2.3 Skills

Several comments from participants show some development of *skills*, in particular in the area of communicating ideas, which was a key measure of success for the course:

- *Through influencing other people progress will be made.*
- *People might ask me questions about sustaining the environment and recycling and why it's important. The more I know the more I can try and influence people that don't want to do it.*
- *So I can pass the information on to others.*

At each session participants were asked to rate how confident they were feeling about talking to colleagues or customers about making 'a more sustainable choice'. The number of participants was too low and varied from week to week to enable any quantitative analysis, but it is indicative to note that those who responded "a little confident" were the majority early in the course and the minority towards the end. This would suggest that participants became more confident about understanding sustainability as the course progressed.

As in the Head Office sessions, observations of the group exercises provided an opportunity to observe increased skill. As the course progressed participants were observed to become more confident in group interactions and using the hands-on learning tools.

6.1.2.4 Attitudes

Attendees at the review session were asked for general comments on how they had experienced the course. The following statements, noted by a researcher, reflect changes in *attitude* of the participants that attended the review session:

- *The more we learn the more it makes me want to influence people around me. It also makes me want to be more sustainable.*
- *You see the bigger picture... really did help make you think, see what might happen and what we can make happen.*
- *It's always in your head now –is this sustainable?*
- *Start looking at things differently, well I certainly do.*
- *Thinking outside the box.*
- *It does open your eyes.*
- *RING RING! Wake-up Call!*

6.1.2.5 Behaviour

Activities that were committed to in the takeaway tasks included: explaining sustainability to school groups on tours of the store; paying more attention to closing fridge doors reducing energy usage in day-to-day work; and walking to work every day for a week (which was somewhat thwarted by continuous rain).

One participant wished to persuade customers to reduce their use of carrier bags, but found this difficult to implement in practice, as she was discouraged by her manager, who was concerned about alienating customers.

Several of the participants were enthusiastic about communicating the ideas to their colleagues and their family, and came back with anecdotes about how this had gone in the time between the sessions, showing that they had in fact engaged in such communication activities.

Comments on the feedback forms throughout the course indicated various intentions to act in the future:

- *I will be looking where the clothes come from and the shoes.*
- *I will take this back to my team and possibly do a short introduction for them.*
- *Because working on the checkouts I am in direct contact with customers and can talk to them and explain how things can change.*
- *Everyone has their part to play.*

Analysis of initiative against the '4 A' framework

A range of learning approaches were used in this initiative, aiming to appeal to participants with a wide range of learning styles and abilities and to enhance the likelihood of long-term learning and change. The learning initiative was consciously designed with the '4A' framework in mind, so that each session and the overall initiative included Awareness-raising, Appreciative, Action-led and Associative learning elements.

In the review sessions, participants were asked to rate these learning elements as to how useful they were for their learning experience. The table below shows a summary of how useful the learners found these different learning elements. In this table the elements are grouped according to the '4A' framework, and the data is sorted by the number of people who found this element the 'most useful'. In the feedback sessions the elements were presented as a simple list to reduce the possible influence of this framework on people's responses. The notation n/a stands for not asked in Stores, where a shorter review session constrained the number of questions that could be asked.

Table 9 Summary of feedback on learning elements

	Stores Cheetham Hill					Head Office Cheshunt					Head Office Welwyn				
	unhelpful		helpful			unhelpful		helpful			unhelpful		helpful		
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Awareness-raising															
Using a lot of graphics and visual imagery	n/a								1	8				1	9
The felt 'animation' for teaching the guidelines					3	1			3	5			1	2	7
Using the Ketso felts for group work				2	2				3	6			2	4	4
Hands on exercises				1	3				7	2			2	4	4
Allowing plenty of time for questions	n/a							4	4	1			3	4	3
Appreciative															
Including examples from, and opportunities to connect learning to, the Tesco context	n/a								3	6				5	5
Identifying what is going well being looking at the problems	n/a							3	4	2			3	4	3
Connecting new ideas to what you already know e.g. integrating your comments and ideas in the training	n/a							1	6	2			1	5	3
Action-led															
Having cycles of reflection, learning new ideas, and action	n/a							2	4	3			2	6	1
Having takeaway tasks				2	2		1	3	4	1	1	3	5	1	
Having more than one session, and time between sessions	n/a							1	6	1	1	3	1	3	1
Associative															
Having a mixture of small group work, individual work and plenary discussion	n/a								4	5			1	8	1
Asking you to communicate with colleagues outside the course between sessions			1	1	2		1	1	5	2			6	3	1
Action group between session (meeting with colleagues from the course)	n/a						1	5	3		2		5	2	

The way the '4 A' framework was applied to the initiative is discussed below.

6.1.3 Awareness-raising

Doppelt (2003) argues that providing employees and stakeholders with credible information helps overcome resistance to change and unleash the potential of people to work toward sustainability. In turn, this expands their understanding and better equips them to resolve problems. The learning initiative was designed to provide participants with enabling information and the ability to rise to sustainability related challenges.

As can be seen from the table above, most of the learning approaches seen as helpful or very helpful for the participants, had a particular emphasis on multiple intelligences – the hands on tools, the graphic imagery, and the felt animations. These were specially designed to embody the Awareness-raising characteristic, aiming to convey profound concepts about sustainability in an accessible and engaging fashion. An example of how the graphics were developed in this project from the original learning tools from the early '90s is shown below. There has been a careful attention to metaphors in the development of these tools. The hands-on exercises and the use of visual imagery were clearly perceived as useful for people's learning in the assessment of this pilot. Future research will explore the ways these metaphors and tools enhance learning and help participants develop new concepts.

Figure 25 Early graphic to represent 'Overwhelm'

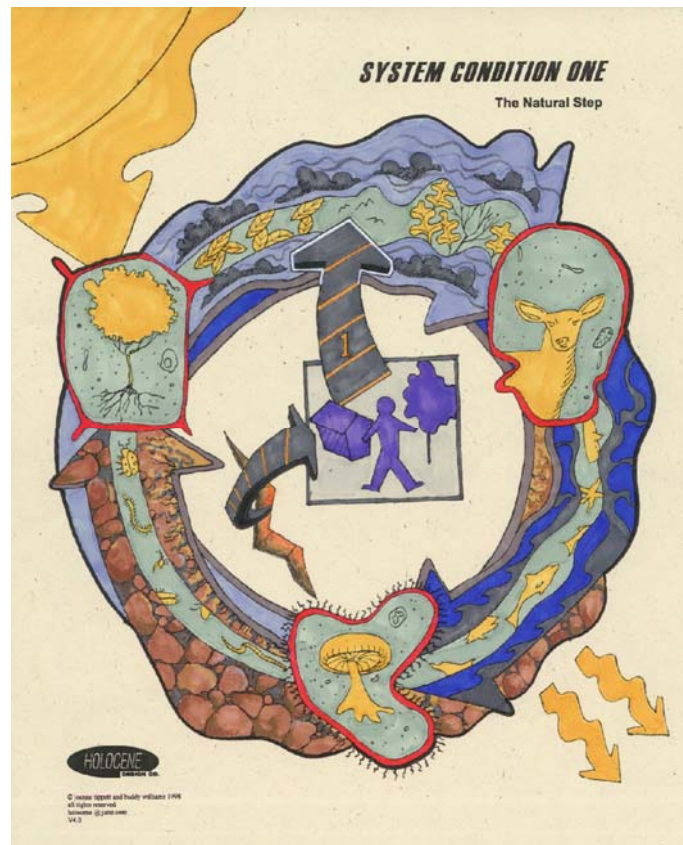
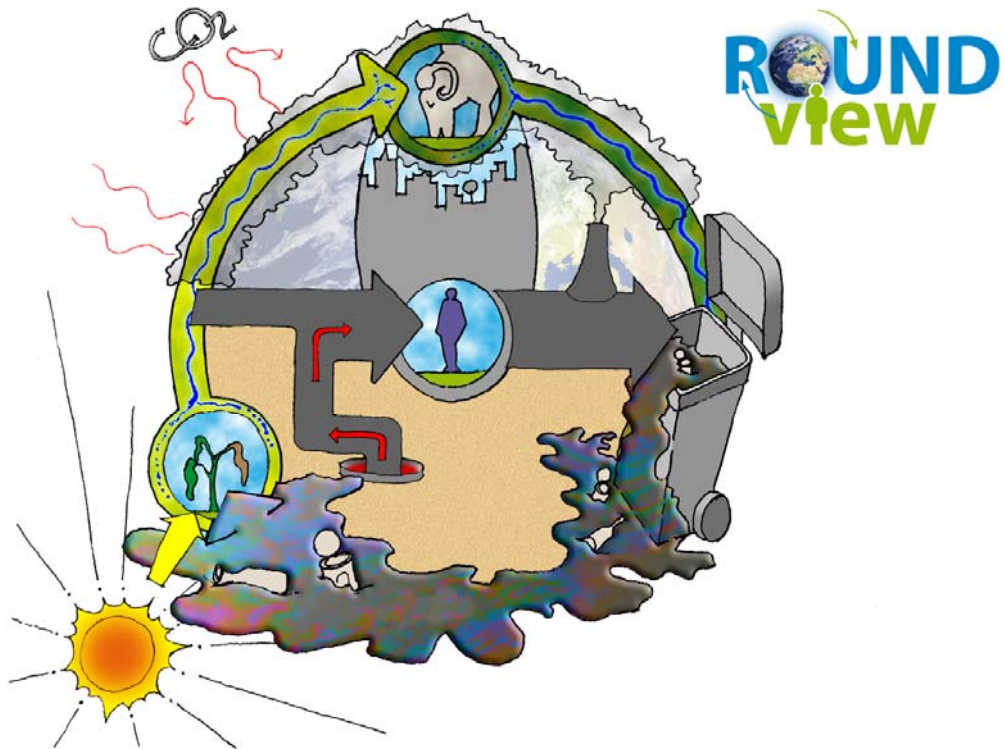


Figure 26 New graphic with refinements from research project



An assumption built into this initiative is that the individual is nested within contexts expanding out the global level, and it is important to link across these levels of scale. This is encouraged in the stages of the process: asking people to consider their own understandings of sustainability, to think of what comes into and out of a home (bringing the understanding to a practical, real level that everyone can relate to); thinking of their roles and possibilities for changing things within their work context and local community; through to consideration of how to support sustainability in the global community. This reflected a conscious design choice, to raise people's awareness of the systems of which they are part, and on which they have an impact. At the same time, the initiative encourages thought about the self, and one's own understandings, actions and roles.

Changes in understanding requires exploration of one's own views and mental models. The self is the nexus for action. Senge (1993) argues that development of a personal vision is essential for individuals to be able to identify with, and actively pursue, an organisational vision. At the same time, pursuit of sustainability requires awareness building about the impacts of personal action on the global scale, and a greater sense of connectedness.

Linking the personal to the global was encouraged through the questioning and gradually leading from the personal to wider systems, through the graphics, which show these linkages clearly, and through the way the group discussions and exercises were framed. An example of this was for participants to look at a tin of peas after having learned the Guidelines, and to see if using this knowledge they could notice or think of something that was not obvious to them before. This engendered not only deep questions about the inter-relations of the RoundView Guidelines and their subtleties, but also some creative ideas, such as suggesting that the water in the tinned peas could be used for cooking them.

Figure 27 Participants discussing a tin of peas and what this tells us about sustainability



Overall, feedback on the presentation of the RoundView Guidelines, which acted as the main mechanism for raising awareness, was positive. In the 'Top and Bottom Three components for learning' feedback forms, participants commented on the value of having

the Guidelines as a focus for the course. This was felt to be useful in identifying the challenges and developing ways to work towards a solution. The Guidelines were seen as:

- *Very clear, tells you what's wrong and sets strategy to tackle [the issues].*

Several participants reported to have understood the sustainability material well, and some welcomed it as a refresher course:

- *Filled in the gaps in my knowledge.*
- *I thought I knew how it worked before, but I was wrong.*
- *I remember learning this at school but not using it as a grown up at work or at home.*

Other comments pertained to the ways in which the Guidelines were communicated. The groups generally displayed enthusiasm for the approach that combined visuals with interaction. Overall, the groups expressed positive reactions to the felt-based visual representations of the RoundView Guidelines and, when asked directly in the feedback form to compare the felts with PowerPoint, came out generally in favour of the use of the 'felt animation'. Comments about the use of the felts included:

- *Different and more engaging.*
- *Somehow less corporate and more personal.*
- *More interactive and 'refreshing'.*

In particular, it was commented that it was good to be able to add and remove parts, and to use this as a way to 'drive points home'. It was also seen as 'easier to visualise the issues' and understand 'how it all relates to each other, e.g. cycles animation' and to 'see it build up over time'. Additionally, it was noted from a practical point of view, Stores are unlikely to have computers and projectors and this approach may therefore be more practical for training in Stores.

Some participants commented in discussion that it was 'a bit too primary school' and could be 'clearer and cleaner'. A few participants felt that the way the information was presented was a bit too simple and patronising for their level of understanding. Further discussion, however, led to a proposal that if the initial presentation made it clear that this could be helpful for people who already have a good understanding of sustainability to explain the concepts to others, then this issue would be much less significant.

The use of visuals was strongly supported. In the feedback forms for Stores sessions 3 and 4, participants were specifically asked to rate the statement 'The visuals helped me to follow the session', to which all ticked either 'agree' or 'agree strongly'. In Head Office 'Using a lot of graphics and visual imagery' was scored 'very helpful' by all but one, who scored it 'helpful'.

6.1.4 Appreciative

Discussions during the initiative itself revealed the importance of this Appreciative characteristic, with many participants commenting that they did not realise how much Tesco was already doing towards sustainability. This reflected the value of asking - What is going well in the organisation as a basis for learning and impetus for change?

The learning initiative allows for personally meaningful forms of awareness, in that it situates new ideas in staff members' own contexts and involves the application of the

knowledge to work situations. Questions are asked to enable participants to make their own connections between areas of knowledge and the new ideas being developed. For instance, after going through the basic science of the Earth's systems, and before introducing the Guidelines, participants are asked to consider 'What would be the advantages of having a handful of clear guidelines that told us what sustainability really is?'. The answers are used to introduce the Guidelines, and are revisited at the end of the session to see if these new Guidelines really do offer some of the advantages that participants thought of earlier.

Such exercises show a link between an Appreciative and Awareness-raising approaches, the aim is to work from and value participants' own knowledge and understandings, but also to help them see new concepts and a wider picture than they had before, and to make connections between these. Such making of connections both amongst what participants already knew and between their existing knowledge and the wider awareness encouraged by the learning content was comment on as important outcome of the course.

There is also a dynamic tension between an Appreciative and Awareness-raising approach— despite the value of looking at what is working well, we still need to understand that our current direction is deeply problematic. This tension is heightened by the realisation of the '3 stage' model of shifting mental models of sustainability; people need to get beyond the boundaries of their experience and what they already know, to think of wider systems and longer-term impacts. There is a danger that an approach that mainly focuses on what people know and the positive aspects of a situation may not sufficiently perturb them to think differently. This is why both characteristics, Awareness-raising and Appreciative, are necessary. They are linked in the learning initiative through the questions that are asked and the way the group exercises are developed. The aim in the next phase of research is to codify these into key questions to be asked at key stages in the process.

The Appreciative characteristic in this learning initiative has several dimensions. It encourages facilitators to be open to the creativity of participants, respecting their wisdom and the possibility for creative solutions to be developed by people working at all levels in an organisation. Looking for and enhancing the positive, as a basis for change was linked with developing a positive vision of the future to work towards as a motivation for change.

In the development of their thinking about ecological design, McDonough and Braungart (2002) discuss the idea that 'being less bad is not enough', and instead assert we need to redesign our entire system of production and consumption. Discussion around the nature of creating a positive vision for the future in the Head Office sessions elicited a high level of enthusiasm for the idea of seeing sustainability in positive terms – several participants commented that they hadn't realised what potential there was and how many business opportunities there could be in moving towards sustainability. Several commented that it was refreshing to be able to think of sustainability in positive terms, as an opportunity, not just as deprivation or a punishment.

A key challenge, and possible contribution of this learning initiative lies in finding ways to 'break the news' to people that '2nd stage' action (e.g. reducing the harm of current practices) is not sufficient, whilst appreciatively building upon these efforts, and fostering a constructive and positive climate for change. At one point in the Cheshunt Head Office second session, the discussion centred on whether there was hope for the future if China and India were going to follow the path of development of the West. A lively discussion ensued about Tesco's possible leadership role in demonstrating a viable, positive alternative future. This discussion was facilitated by the vision of a positive future and an understanding of fully sustainable practices of the RoundView Guidelines.

In the programmatic design (e.g. who is involved in the learning initiative, how it fits in with organisational processes, and how it develops over time), it is important to work with people who are willing and keen to change. The action-learning literature stresses the importance of working with the 'willing' in order to have a better chance of change (exemplified in Revans' understanding of the importance of including people 'who care' in any intervention 1983). The experience of applying the science-based awareness framework, The Natural Step, within communities and organisations led the founder, Robèrt (1991) to the conclusion that it was important to work with people who are willing:

"I don't believe that the solutions in society will come from the left or the right or the north or the south. They will come from islands within those organizations; islands of people with integrity who want to do something... This is what a network should do. Identify the people who would like to do something good. And they are everywhere. This is how the change will appear, you won't notice the difference. It won't be anyone winning over anyone. It will just spread."

Such 'work with the willing' is likely to form an essential component of the next project, 'Scaling up'. It is envisioned that several of the participants on the early pilot will take part in the next stages of scaling-up, and there has already been interest in such involvement expressed by participants from both Stores and Head Office.

6.1.5 Action-led

There was a strong emphasis on action in the initiative. This included planning actions, committing to taking actions, and discussing the experience and outcomes of these actions.

Figure 28 Participants developing an action plan in Head Office



An action-led approach values participants' own ability to solve problems and think for themselves. One participant commented to a researcher: *"What my colleagues said they particularly enjoyed about this approach was that it was not telling them what to do, it was teaching them how to think for themselves"*. The comment demonstrates positive synergies between Action-led and Associative characteristics.

An important part of the design of the learning initiative was the 'takeaway tasks' that participants were asked to do between sessions—intended to enable and encourage participants to move through complete cycles of action learning through the timescale of the initiative. Several participants found it difficult, however, to fit in the 'takeaway tasks' into their busy work schedules. This was related partly to the pressures of time, but also to the difficulty of actually taking action. This is not surprising, as it is one of the more challenging aspects of any learning initiative. Table 9 on pg. 99 reflects the divided opinion among participants over the takeaway tasks.

On the feedback forms asking about the 'Top and Bottom 3' elements of the initiative, two participants reported a positive experience related to the takeaway tasks and in discussion several stated that this aspect of the initiative helped them to learn the most. One, from Head Office, had been able to use the takeaway task as a way to engage their team and to make what they had learnt in the course *'applicable'*. They indicated that actions had developed from these discussions. Another from Stores, felt that the takeaway task *'made me continue to think of my role'*.

Others however, reported difficulties with the takeaway tasks, especially in the Head Office setting. Five of these participants reported that they had not had time to do the takeaway task, and a few suggested that this would make it difficult to include in future iterations of the course. For example, *'[I] barely had time to attend 3 sessions and had no time for takeaway tasks'*. Overall these comments suggest that takeaway tasks were seen as a good idea but were difficult to implement; for example, *'I did not get to complete many of these, not through choice'*.

One person explicitly stated that takeaway tasks were not necessary, and suggested that a less formalised request to 'spread the word' would have been more effective. In a similar vein another felt that the most helpful aspect of the takeaway task was the fact that it asked her to talk to her colleagues. This suggests and supports the importance of an Associative approach. Whilst such association and communication is identified as an important component of change, there is also need for action beyond communication. This was, and remains, a significant challenge.

Of the feedback received, that from Stores was generally more positive about the takeaway tasks than from Head Office. The tasks, they reported, helped them to communicate what they had learnt to colleagues *'in a fun and interesting way'*, made them think about what they do outside of work, focussed their interest, helped them to apply what they had learnt in the store environment and *'added another dimension to the "theoretical" issues discussed in classes'*.

Some participant comments reflect the view that a change in priorities and learning culture would facilitate better integration of the course and takeaway tasks within working life:

'only helpful if able to have time to engage others and it is put on priority agenda'

'I think this will improve when the workshops mature and the people in the business share in common understanding'.

Resolving this tension may require ongoing attention to the Appreciative characteristic of effective initiatives. Perhaps there is a need to ensure there are ‘small wins’ through action, and to celebrate these as part of the ongoing learning programme, in order to build interest, enthusiasm and commitment to more actions leading to longer-term change.

An innovation that was tested in both Stores and Head Office was a competitive review – assembling a jigsaw puzzle of the story of the Earth to review the key science behind the Guidelines in the session following their introduction, as a competition between tables. This proved popular and engaging. The hands-on and active nature of this exercise suggests that one way to help participants to move through full learning cycle, given the difficulties identified with taking action, might be to build in more such action based exercises into the programme. This exercise also provides an illustration of the need to consider and adapt to context—the Tesco culture is widely perceived as competitive and designing part of the training to reflect this competitive edge appeared to be effective.

Figure 29 The jigsaw review competition



The Action-led orientation of the learning process itself, with hands-on exercises and ways to link new knowledge to existing priorities through the group exercise received consistently favourable feedback from participants.

6.1.6 Associative

The Associative aspect of the courses, which encouraged and enabled people to learn from each other, was commented on favourably in plenary feedback sessions and on the written feedback sheets. The use of small group work and dialogue as a learning process in the sessions was seen as particularly helpful. Several participants commented on how useful it was to discuss ideas with people from different divisions and geographical locations (this was echoed in Stores and Head Office).

The encouragement to communicate with colleagues outside of the sessions was often seen as challenging, but in many cases, rewarding. Several participants in both Stores and in Head Office commented on how helpful they found it to talk about the ideas to their colleagues.

As part of the takeaway task from the second session in Head Office, participants were asked to talk to their colleagues about the course. One person commented in the reviews feedback that they did not want to appear to be '*preaching*', whilst another, in contrast, was enthusiastic:

I want to present the whole course to my colleagues and friends to get the message across.

The nature of the material to be communicated was seen as important in this task. The material was seen as:

- *Easy to remember, able to pass onto colleagues.*

Other participants raised practical issues. Several participants had found it difficult to find the time to carry out this element of the takeaway tasks. One felt that it was a good idea but hard to do without materials. During the pilot the graphics were so new that we had not yet been able to give participants hand outs or hands-on learning tools, such as the jigsaw puzzle, to use in explaining the information to their colleagues. This aspect needs to be further tested when these tools are available.

Figure 30 Learning new skills



From those who attended the Stores review session, more positive comments were received about this aspect of the pilot. Whilst it must be borne in mind that this group is relatively self-selecting (by coming to the review session these people were displaying

more enthusiasm than those who did not), these comments from the feedback sheets suggest a positive reaction to being asked to communicate about what they had learned to colleagues:

[It was very helpful because it made] people aware of what is happening and trying to get them to change certain attitudes or behaviours.

Most people have some insight into the issues discussed in class, [and this is] helping bring new ideas to the next class.

One person added that, although they felt that the people they spoke with understood the aims and basic concepts, they '*felt that without backup / further guidance the impact was slightly lost*' indicating again that participants might have been more comfortable talking to colleagues if armed with some supporting information or tools. Whilst a small sample, these positive comments may indicate that the culture in Stores is more conducive to 'chatting' about the issues outside of the structured learning environment.

Some participants from Head Office found the request to attend an 'action group meeting' amongst a small group of course attendees between the sessions as part of the second takeaway task (to undertake an action in their work) challenging. Again, encouraging Associative learning is seen as important in embedding change in an organisation, but it is not easy. Several of the participants commented that this would be made easier once more people understood the language and the concepts of sustainability guidelines, such as they had learned on this pilot.

Ideas for improvement

The research employed a plethora of data gathering methods, partly in order to test these methods for effectiveness in gathering data for assessing sustainability knowledge and skills and change over time, and partly to ensure that there is ample information available for the next phase of this project, 'Scaling up', which follows on directly from this learning pilot. The in-depth data on each aspect of the course will provide an invaluable resource for improving and enhancing the learning initiative in the next phase.

In the spirit of a pilot into learning, several suggestions for improvement arose during the pilot and from the participants, and were incorporated in subsequent sessions. Several areas for improvement for future iterations have already been suggested by the analysis, for example:

There was some discussion about the perception that some of the training element could appear be a bit basic, or patronising, if the participant was already well informed about sustainability issues. In discussion, it emerged that the need for further communication of these ideas to colleagues could provide a useful antidote to this impression. The idea was developed to invite participants to consider the ideas and learning tools in terms of using them to communicate about sustainability to other people, in addition to using the time to take stock and to think through the meaning of these basic concepts in their particular situations. Indeed, one participant, who was clearly very knowledgeable about sustainability (as evidenced by the detailed questions he was asking during the training, such as about fine distinctions between PVC and other types of plastics for essential packaging) commented after the first session in Head Offices, that this had been very

valuable for him to re-consider what was important in his work, and to remind himself of why he did this work in the first place.

We felt from analysis that more could be done on working with the participants to clarify their job roles in group work and to discuss what moves they could make towards sustainability in the context of their job roles. This could be better anchored in the group work in the sessions, and attention needed to be paid to these issues in the group discussions from the takeaway tasks. There was some work on this in the initiative, in particular through looking at ‘spheres of control, influence and interest’ and in the action planning sessions, but this could be given more prominence, introduced earlier and developed as a consistent strand throughout the course.

Figure 31 Introducing Spheres of Control, Influence and Interest in Stores



Several of the participants who found the task of communicating with colleagues outside of the course environment difficult said they would have found it easier with some of the learning tools and some more information to do so, and these are planned additions for future iterations.

It was felt that the material could be delivered in fewer sessions in the Stores context, and that the last exercise (on action planning) carried out in the Head Office context in the review sessions would be better fitted into the second session for Head Office, keeping that to two sessions overall. Suggestions were made for streamlining certain elements, such as the timeline of the Earth.

7 Future Research

This research has prompted considerations such as: how can we understand organisational attitudes and skills with respect to sustainability as distinct from those of its members? How is the sustainable practice of an organisation limited or supported by the skills and understandings of individuals within it? How does the attitude of a team impact the behaviour of an individual within their sphere of influence? These questions will inform further proposed research into assessing long-term change towards sustainability understanding, skills and practices in an organisation. This following section explores insights from this research project that can be used in developing a bid for further research.

Assessing changes in sustainability knowledge and skills

In the early phases of the project, extensive data was collected from Stores and Head Office staff in the form of interview and focus groups. This was to deliver part of Work Package 1, to develop an understanding of the sustainability learning culture of Tesco and to learn from good practice within Tesco.

Methods included in-depth interviews and the use of hands-on tools (such as Ketso) in focus groups to gather data from a wider sample of participants than is typically possible in such focus groups in a given time. At the same time, this enabled baseline data on staff's perceptions of sustainability to be gathered. This illustrative baseline covered a sample across functional divisions and levels of the organisation, from the shop floor to senior management. Brief analysis of this data was used to test and inform development of a methodology for understanding and assessing change in sustainability knowledge and skills (Work Package 3). The data gathered will provide a valuable resource for assessing changes in attitude towards sustainability and associated ways of working, and will provide a reference point gathered in the early days of the SCI.

A mixed-methodology for assessing *changes* in learning and skills was also piloted, building upon this baseline assessment. Methods for assessing change included carefully designed group exercises to stimulate group discussion, feedback forms to elicit information about both participants' understanding and feedback on how various aspects of the pilot impacted upon participants' learning.

Useful follow-up research would include interviews with a sample of the people who did not attend the whole of the course, and this is likely to be attempted as part of the next project. This would be a useful addition to any methodology to assess a learning initiative.

In addition, it was felt that the research would be strengthened by a sample of 'before' and 'after' interviews with learners. It would be useful to develop a methodology that combined a broad survey with in-depth longitudinal analysis of a few learners' trajectory. It would be helpful to identify some people to follow in depth through several years of learning – from before any involvement through to how learning has been embedded in their organisational context (and the barriers experienced). It may be helpful to follow both self-identified 'enthusiasts' and 'sceptics' to explore the differences in how they experience the learning process. A train-the-trainers approach may also wish to follow

some of the trainers through their training journey, to enable the gathering of data and insight from their experiences to inform further iterations of the project.

It seems important to construct a research methodology to explore new approaches to embedding sustainability in an organisation consistent with their epistemological underpinnings, as was the case in this project. There is a potential that such an attempt could be open to an accusation of circular logic. For example, by attempting to assess the process using criteria intrinsic to the process, the project is bound to reach certain conclusions, due to the way the questions are asked. This dilemma is discussed in Bushe and Coetzer's (1995) research into Appreciative Inquiry as a team-building tool, in which they used objectivist research methods to investigate a participatory tool that has a constructivist epistemology.

An assessment of change over time will need to include an element of quantitative analysis as well as qualitative, from a wider sample of staff, to triangulate perceptions and test for anomalies. It would be helpful to identify several measures outside of people's attitudes and understandings that could be measured to supplement this data. In a context of sustainability, such measures could include measures such as the amount of materials wasted in operations from before and after a learning initiative, and/or comparing across several units with the organisations which had and had not experienced the intervention.

A difficulty observed in this analysis was gaining a sense of people's level of different skills from interviews and focus groups. It was possible to gain a sense of changes in skills by building discussion about these skills centred on actual exercises in the learning pilot, but more direct measures of participants' abilities and skills may need to be devised as a supplement.

A key idea that has been developed through this pilot is that of using the processes of the learning initiative itself to gather data. For instance, the Ketso exercises used for group work as part of the learning were also used as data gathering tools for assessing knowledge and understanding. In addition to providing a written record of participants' ideas, the Ketso kits were seen as a valuable tool in enabling participants with less confidence in their ideas to provide input (as may be the case with some of the Stores staff when asked to talk to people from the University about a research project, for example). This could be rolled out as a data gathering tool embedded within a wider-scale learning initiative. This will be explored further in the follow-on project, 'Scaling up'.

A web-based front end to learning tools that guided people through the learning materials could help automate the gathering of some data. This is an idea explored by Hockey, Spaul, et al (2008). It would be useful to see if planned further research has shown the usefulness of this approach. They developed the idea in response to the low return rate of an electronic survey into skills amongst regeneration practitioners. It was hoped that linking the questions being asked to useful resources for the target audience might encourage a fuller response.

Such use of digital data gathering would, however, mean that people without access to the internet would be missed. In a Tesco context, this is significant, as people who work in Stores would be overlooked (there does not tend to be internet access in Stores, and it would not be reasonable to expect people to access on-line learning resources outside of work). If developed in a manner sensitive to its limitations, however, electronic data gathering integrated with learning materials of this nature could provide a useful additional data-gathering method.

The methodological innovation of asking participants to write a letter on both feedback forms and the ‘leaves’ of the Ketso that emerged in the design of the review sessions was seen as particularly helpful in tracing particular learners’ paths and thoughts, whilst enabling anonymity to be kept. In retrospect, it would have been helpful to have assigned learners a letter from the beginning of the course, and to have asked participants to use the same letter on their feedback sheets and ‘leaves’ throughout. It was noted by a participant that we should avoid letters like I, H, U, N, M and W, as these could be ambiguous upside down on the ‘leaves’ of the Ketso. This innovation will be further trialled in future research.

In addition, there were several comments made on the review sheets that we would have liked to follow up in more detail with questions. In the future, it would be good to consider a way to ask people to use the letters, whilst keeping a separate record of contact details, inaccessible to the researchers, so that if for instance, the researchers wished to contact person Y to ask if they could be interviewed, that person could be contacted without having their identity revealed. They would be asked if they would consent to being interviewed, on the understanding that they could refuse and thus maintain their anonymity.

In addition to the practical developments on this research project, we have developed a robust conceptual framework for a wider assessment of sustainability knowledge, skills and behaviour in a large organisation. The measures of success developed under the KUSAB (Knowledge, Understanding, Skills, Attitudes, Behaviours) framework will form a useful resource for further development and research. The ‘Four A’ (Awareness-raising, Appreciative, Action-led and Associative) framework used to characterise and assess the learning initiative itself also shows promise for the considered design and refinement of future research into changes in sustainability capacity. The ‘3 stage’ model for characterising changes in mental models from business as usual to fully sustainable practices will be further explored as a way to position originations and changes in their sustainability understanding and performance over time.

Next steps

A further, six-month research project between the University of Manchester team and Tesco, also funded by the Sustainable Consumption Institute, will follow on from this project, entitled ‘Scaling up—training the trainers to improve sustainability skills and knowledge in the workplace’. This follow-on was justified by the enthusiastic response of many of the participants on the learning pilot, as well as the potential difficulties for the roll out of the pilot that were discussed in the review sessions. The key objective of project is:

- To find effective ways to embed new thinking that maximises people’s understanding of sustainability and changes in behaviour, in the context of “training the trainers”.

This will be achieved through exploring and testing mechanisms for rapidly scaling up sustainability learning, which encourage wide scale spread throughout a large organisation, whilst maintaining quality of the learning, understanding and skills developed.

As this new approach is rolled out, further research can explore questions such as:

- What are the differences between using a clear framework, or guidelines, for sustainability, in training, versus using a looser definition of sustainability?
- What characteristics of this new learning initiative distinguish it from previous approaches and what difference does this make?
- What facets/elements of the learning initiative helped shift mindset / enabled action / build confidence to ask questions.?
- How can this process be adapted to different contexts?

Some of these questions will be explored in a related research project funded by the SCI, which will run concurrently with the ‘Scaling up’ research. This is titled ‘Open source to promote international knowledge exchange from research into sustainable development and consumption’. The key objective of project is:

- To create a framework for knowledge exchange that harnesses the power of open source to promote international knowledge exchange from research into sustainable development and consumption

8 Conclusion

The first stage of this research was to explore current understandings and practice in embedding sustainability in organisations, in order to inform the development of the pilot learning initiative to be tested in the action research phase. The research questions are re-iterated below, with a brief summary of the answers and reflections that have emerged in this research project.

- **Research Question 1: What are the key approaches to embedding sustainability in large organisations?**

The review of the literature and current practice has shown that embedding sustainability in large organisations can be understood broadly as four different approaches: quality management and measurement; change management; ecological design; and systems and science based frameworks. Each has strengths and weaknesses. Each has lessons that are valuable for any attempt to implement change towards sustainability.

- **Research Question 2: What are the strengths and weaknesses with current approaches?**

The **quality management and measurement** approaches are useful for developing systems for improvement and can enhance accountability towards a wider ethical agenda, raising considerations that go beyond profit and compliance with regulations. They link environmental performance with good management, understanding that possibilities for environmental and social improvement can enhance the general management capability of an organisation. A further strength of these approaches is that they provide administrative clarity around processes.

Without a framework for understanding the overall goal and direction of sustainability, however, it would be possible to have processes that are well managed and improving continuously, which did not actually support a move towards long-term sustainability. Critiques in the literature indicate that weaknesses of these approaches are often at the level of vision; they do not necessarily provide an overall sense of direction. The ability of the systems and science based frameworks to facilitate a clear understanding and awareness of the strategic sustainability issues has potential to reinforce and provide direction for a quality management approach.

The change management literature suggests that motivating people to change requires a cultural shift, and this may not be well recognised in managerial quality management and measurement systems. In the quality management approach, implementation often relies on top-down incentives and peer pressure, which may be relatively ineffective without attention to underlying mental models and cultural norms (e.g. Wallace-Jones 1998).

Change management approaches, on the other hand, tend to be well developed in the area of cultural processes, looking at ways to harness these for effective change. For example, Doppelt (2003) and Wirtenberg et al (2008) discuss change management models that point to the importance of vision, deeply embedded values and stakeholder engagement. Change management approaches suffer a potential problem in terms of a lack of understanding of the fundamental changes required by a move towards long-term sustainability. Without ways to raise the awareness about the broader environmental picture, change management could fall into a similar trap as quality management and measurement systems; that of managing change without a clear sense of direction, or in a

direction that represents a suboptimal sustainability solution from a more systemic and science based perspective.

Ecological design approaches provide mental models for a positive vision of the future, in which we can learn from natural ecosystems as models for re-designing human systems, together with tools and practical approaches for realising this objective (Lyle 1994). There is a potential weakness that ecological design approaches can lack awareness of the need to engage people in designing future visions, with their focus on the solutions and learning from natural systems. The change management approaches attend directly to this issue, suggesting potential for useful synergies between the two. Furthermore, whilst ecological design approaches clearly point to the need to re-design human systems to better align with natural systems, they could be strengthened by the awareness-raising capacity of the systems and science based frameworks, that are capable of linking local actions to a global understanding of the systems we rely on for our continued existence (Tippett, Handley et al. 2007).

Systems and science based frameworks complement and provide direction to the first three approaches summarised above. For example, Holmberg and Robèrt (2000) argue that The Natural Step can be useful in guiding the application of specific tools for sustainability (e.g. ISO 14001). This is because The Natural Step Framework is based on a description of conditions for sustainability in the whole ecosphere, and thus other management approaches can fit within, and be guided by, it. This idea is also reiterated by Burns (1999), who argues that because The Natural Step is not a prescriptive process, a company can gain considerable benefit from integrating it into a formal management system, such as an environmental management system. Combining systems and science based frameworks with quality management systems can provide both a clear vision of where the business is headed and a practical methodology for getting to the desired goals.

By conceiving of a picture of sustainability as a goal in the future, Robert (1997, pg. 4) suggests that it is possible to overcome many of the limitations of other models of sustainability, which start with today's conditions and circumstances. These disadvantages include the possibility of investing in "*sub-optimised measures, or blind alleys that do not lead to the significant environmental improvements possible by taking into account a larger picture of what a sustainable society could look like*".

- **Research Question 3: What are the characteristics of effective learning initiatives for embedding sustainability in large organisations?**

The 'bigger picture' perspective of the systems and science based frameworks provide a justification for why it is helpful to combine strengths from the different approaches. For example, the systems and science based frameworks help create a sense of urgency and need for a new vision, which is argued to be a key factor in the change management literature (Senge 1993; Kotter 1996). At the same time, enhancing science-based awareness is not necessarily sufficient to encourage and embed change, and there is much to add to this approach in terms of designing effective change management. A guiding framework for an effective initiative was developed from the review of literature and through testing the concepts with the Expert Advisory Group. This suggests that effective learning initiatives to embed sustainability in the culture of an organisation would have the following characteristics:

- **Awareness-raising** (recognising that change will require a broader and more scientifically informed perspective than is often seen in decision making);

- **Appreciative** (recognising that starting from an appreciation of the positive aspects of an organisation enables change to build on strengths, protect the aspects that *are* working well, and enhance motivation for further change);
- **Action-led** (influenced by theories of learning that emphasise the value of action, practical engagement, reflection on action, and repeated cycles of learning); and
- **Associative** (recognising that learning is social and that effective change will require learning in social settings and the creation of shared understandings and meanings in groups).

An empirical investigation of the sustainability learning culture of Tesco supported the likelihood of this framework enabling long-term change towards sustainability in this context. This initial investigation led to the development of the learning initiative to be piloted in the Tesco context.

As developed earlier, the overall aim of a sustainability learning initiative may be viewed as: the development of skills and understandings within an organisation, such that the organisation is able to create for itself an informed, scientifically-based, positive vision of its own sustainable future—and is then able to engage in an ongoing process of design, action and evaluation that will lead to the realisation of this vision.

To achieve this aim, an innovative approach combining reflective, action-led learning and an existing sustainability framework was purposefully expanded and piloted within the project. This took place with a group of seventeen Tesco staff from three Stores in North Manchester (from customer assistant to team manager level) and two groups, of fifteen and twenty respectively, from Head Offices in Cheshunt and Welwyn Garden City (from administrative to senior management level). Changes in participants' sustainability understanding and skills attributable to the pilot were assessed.

Extensive participant feedback and comments from participant and tutor observation (by the researchers) took place during the learning initiative and pointed to the value of this new approach to learning about sustainability.

This research project built on successful applications of action-led learning to deal with complex problems, positioning organisations to adapt better in turbulent times by embedding attitudinal and behavioural change within their workforces (Dilworth 1998). It explored training and resources that help staff members integrate their learning into their working practices. It drew on Lave and Wenger's (1991) definition of learning, considering learning in terms of an individual's changing patterns of participation in social practices, which may include their ways of making sense of sustainability, as well as participating in new ways of doing one's work.

A distinctive contribution of this research lies in exploring strategic learning approaches within an overarching framework of sustainability. This research has developed learning tools informed by the thinking that once we understand the nature of the sustainability challenge, we are better able to create positive visions for the future and design ways to move towards them. The learning tools were designed to encourage active exploration and understanding of sustainability and the issues surrounding its application in different contexts.

The learning initiative provides a case study of sustainability in the workplace, which can be applied beyond Tesco, thus contributing to further research on understanding the skills and learning challenges of sustainability. Further research will explore ways that training

and staff development processes might embed sustainability thinking and behaviour, and how such a learning initiative can be scaled up in an organisation in a way that builds upon and enhances the capacity within the organisation.

- **Research Question 4: How can an organisation's sustainability knowledge, skills and practices, and changes in these over time, be understood and assessed?**

It is expected that over the five-year timeline of the Sustainable Consumption Institute, there will be significant changes in the attitudes and skills of Tesco employees towards sustainability. This project developed an initial baseline assessment of a small sample of employees, exploring their current awareness of, and understanding about, sustainability. This included collecting examples and descriptions of good practice, how sustainability practice is embedded within organisational functions, and the kinds of changes employees might envision in a future sustainability-leading Tesco.

This series of interviews, focus groups and participant observation informed the baseline assessment, specifying and characterising employee awareness and understanding as of early 2009. The baseline data will provide a useful reference point for assessing changes in Tesco over the coming years.

A framework for understanding possible measures of success for sustainability learning initiatives was developed, organised under a framework of the dimensions of learning used in adult learning, namely Knowledge, Understanding, Skills, Awareness, and Behaviour (KUSAB). This has been used in the assessment of participants' learning from this initiative, and will provide a valuable framework for the future assessment of learning and change both for future participants on training and more broadly within an organisation.

Potential further research could advance a methodology for continued assessment of learning and change in sustainability skills and knowledge within Tesco, during the lifetime of the SCI and possibly beyond. This would develop a robust sampling strategy for both an expanded baseline and continuing assessment of staff skills and capacity. It could further develop innovative ways to share information built into the learning tools, which would act as a valuable source of data about changes in understanding. In these tools, the data gathering would be an integral component of the learning initiatives.

This project increased our understanding of how to develop new mindsets and ways of working, required for the move towards sustainability. It explored how to embed such cultural change in large organisations. It added to knowledge about how to encourage and enable changes in sustainability capacity; an area with vital global implications. In particular, it has developed a new way to understand mental models of sustainability, and the need to go beyond 'slowing the damage' to create positive new visions of fully sustainable practices. This potential paradigm shift can help meet Sir Terry Leahy's challenge:

"We are going to have to re-think the way we live and work...
The green movement must become a mass movement in green
consumption" (*Leahy 2007*).

Appendix A – Example Feedback Sheet (Head Office)

For the different aspects of the approach described in the presentation, please indicate how helpful you found each for your learning, and comment why.

	very un- helpful	un- helpful	neutral	helpful	very helpful	Why?
Hands on exercises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Using the Ketso felts for group work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Using a lot of graphics and visual imagery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The felt 'animation' for teaching the guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Identifying what is going well being looking at the problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connecting new ideas to what you already know e.g. integrating your comments and ideas in the training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Including examples from, and opportunities to connect learning to, the Tesco context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Having cycles of reflection, learning new ideas, and action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Having a mixture of small group work, individual work and plenary discussion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Allowing plenty of time for questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Having takeaway tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Asking you to communicate with colleagues <i>outside</i> the course between sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Action group between session (meeting with colleagues <i>from</i> the course)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix B – Details of Focus Group Participants for Stores

Focus Groups. Oldham. Tuesday 10th February. 9:30am.		
Area	Length of Service (yrs)	Level
Bakery	10.5 yrs	
Deli Counter	2 yrs	
Price Integrity	3.5 yrs	
Merchandising	7 yrs	Team Leader
Stock Control	7 yrs	
Wages	1 yrs	
Checkouts	10.5 yrs	
Checkouts	10 yrs	
Bakery	4 yrs	
Non-Food	4 yrs	
Provisions/Dairy		
Focus Groups. Oldham. Tuesday 10th February. 11:30am.		
Area	Length of Service (yrs)	Level
Non-Food	16 yrs	
Non-Food	6 yrs	
Dotcom	4 yrs	
Dotcom	8 yrs	
File Maintenance	10 yrs	
Produce		
Customer Services	6.5 yrs	
Tobacco	9 yrs	
Admin	1 week	
Checkouts	7 yrs	
Fresh-Food	5 yrs	
Deli Counters	7 months	

Focus Groups. Rochdale. Tuesday 10th February. 1:30pm.		
Area	Length of Service (yrs)	Level
Stock Control	30 yrs	
Checkouts	10 yrs	
Price Integrity	9 yrs	
Checkouts	4 yrs	Team Leader
Dairy	5 yrs	
Customer Services	2 yrs	
Grocery	7.5 yrs	
Focus Groups. Rochdale. Tuesday 10th February. 2:30pm.		
Area	Length of Service (yrs)	Level
Health & Beauty	13 yrs	
Wines & Spirits	2 yrs	
Price Integrity	21 yrs	
Checkouts	21 yrs	
Checkouts	23 yrs	Manager
Focus Groups. Cheetham Hill. Wednesday 11th February. 9:30am.		
Area	Length of Service (yrs)	Level
Community Champion	2 months	
Personnel Manager	7 yrs	Manager
Wages	3 months	
Security Manager	21 yrs	Manager
Customer Services	2 months	
Bakery	6 weeks	
Focus Groups. Cheetham Hill. Wednesday 11th February. 11:00am.		
Area	Length of Service (yrs)	Level
Checkouts	1 month	
Grocery	10 yrs	
Clothing	2 months	

Clothing	1 month	
Non-Food	1 month	
Wages/Stock Control	5 yrs	
Fresh Food/Stock Control	1 month	
Customer Service	1 month	
Produce	7 yrs	Manager
Focus Groups. Bury. Contact: Wednesday 11th February. 1:30pm.		
Area	Length of Service (yrs)	Level
Checkouts	4 yrs	
Service Manager	10 yrs	Manager
Produce	3 yrs	
Checkouts	8 yrs	Team Leader
Stock Control	2 yrs	
Compliance	22 yrs	
Deli Counters	12 yrs	
Grocery/Checkouts	3 months	
Checkouts	10 yrs	Manager
Fish Monger	6 yrs	
Focus Groups. Bury. Contact: Wednesday 11th February. 2:30pm.		
Area	Length of Service (yrs)	Level
Checkouts	19 yrs	
Wages	11 yrs	
Customer Services	10 yrs	
Grocery	2 yrs	
Provisions	3.5 yrs	
Checkouts	6 yrs	
Checkouts	5 yrs	
Freezers	11 yrs	

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