

SCOTTISH SUSTAINABLE CONSTRUCTION FORUM MEETING

Held on

FRIDAY 8 SEPTEMBER 2006

in

COMMITTEE ROOM 1, 14 CITY SQUARE, DUNDEE

Present

As per attached List

Apologies

As per attached List

<u>ITEM</u>	<u>MINUTE</u>	<u>ACTION</u>
1.0	INTRODUCTION Lord Provost John Letford welcomed the members of the Forum to the meeting. He intimated that Dundee City continues to forge ahead towards a Sustainable community, ever recognising the increasing environmental demands and rising energy costs that continue to beset us. This last year has seen the Council also embark on a pilot project of Solar Heating within some of its Council housing stock and such has been the success of this project it has allowed future phases to come into view. The Housing department are also keen to trial further sustainable options such as Combined Heat & Power (CHP) on some of Dundee's Care Homes. The St John High School refurbishment has successfully attracted an Energy Savings Trust grant for a Solar Water Heating installation that will allow the School to benefit from increased revenue savings and, indeed, in the PPP scheme ahead Sustainability remains high on the Agenda. There is also the Demonstration House which is currently on site. This project has attracted so much interest from contractors, suppliers and energy providers that the actual capital required to realise such a large project has been minimised through the kindness and generosity of involvement sponsorship. Rob Pedersen thanked the Lord Provost for his welcome and extended a warm welcome to all new and existing members of the Group and was encouraged by the turnout.	
2.0	PRESENTATIONS 2.1 <u>Garry Bell/Ian Harrison - Brand and Rae</u> <u>Presentation - Concrete Blocks and Recycling</u> <u>- Some Practical Considerations for Production and Use</u> Gary is the Co-Owner and the Managing Director of Brand & Rae. He is a Graduate Mining Engineer with some 26 years of experience within the mining and quarrying sectors. He has held various positions within British Coal in North East England and the Midlands from 1980-1989. Gary is a member of both the Institute of Mining and Metalurgy and The Institute of Quarrying, Devon and Cornwall.	

Ian Harrison is Co-owner and Director of Brand and Rae. He is a chartered surveyor and has been specialising predominantly in mineral estate management for some 23 years. He is a very ardent advocate for all matters "green". He is a trustee of the Devon Wildlife Trust and is a member of the Board of the Devon Environmental Business Initiative - an organisation to promote good environmental practice to businesses in Devon.

Brand and Rae are a privately owned concrete block manufacturer who employ 26 staff. They currently manufacture 9½ million concrete blocks per annum from 3 sites. They supply block throughout Scotland and the North of England.

Gary stated that concrete blocks do not require a lot of energy to produce. The finished concrete blocks have to be transported, usually by road, to the end user, usually located in a built up area. As a result of the distances involved, the product is a high transport user resulting in a sensitivity in prices with distance.

Recycled materials used include:-

- Furnace Ash
- Incinerator Ash
- Crushed waste concrete blocks
- Crushed Recycled Glass
- Powdered Glass

Most of the waste material produced is used again. All of their own 'waste concrete blocks' produced throughout the year are crushed and screened once a year to form a 14mm to dust material and re-used in the production of standard dense blocks. Demolition waste can only be used if carefully segregated and brick waste is kept separate from the clean concrete. This material must also be free from contaminants such as wood and plastic.

Other possible recyclates include Plastics, Rubber and any other filler type materials.

They are involved with WRAP, which is a 'not for profit company', created in 2000 as part of the Government's waste strategies across the United Kingdom. Brand and Rae won a tender to investigate the use of recycled glass in the manufacture of concrete blocks. This programme was funded by WRAP and the full report is available on the WRAP website. Recycled glass does offer an environmental friendly block and a suitable alternative to traditional natural aggregates. It also gives greater strength and better performance in adverse weather conditions than conventional products.

The optimum glass percentage was shown to be 30%. Reducing the use of natural aggregates and cement offers numerous environmental benefits, including lower fuel emission, because of the reduced distances over which these materials usually need to be transported.

Gary stated we require to look at better ways of recycling this resource i.e., a more locally based method of dealing with locally produced waste.

When buildings reach the end of their life the blocks can be recycled.

Local Authorities are beginning to specify a minimum of between 10% and 20% of recycled material being used in construction.

The Scottish Executive expect that in the autumn of 2006 Governmental bodies will begin to require recycled materials to be used in construction projects.

More glass needs to be made available for this type of use. Brand & Rae alone could use as much as 65,000 tonnes per annum. At present they use 17,000 tonnes per annum. This is all they can acquire. Production of the glass block, using 30% glass, has commenced at Bonnyrigg.

RP thanked Gary and Ian for their presentation and asked for any questions.

Question

Do you get a lot of interest because the blocks are recycled ?

Answer

Yes - we are beginning to receive a lot more enquiries for the glass blocks. There are a growing number of enquiries from customers requesting the percentage of recycled materials used in the blocks.

Question

Do you acquire glass from Local Authorities ?

Answer

Macglass supplies the glass. A good proportion of glass does come from Local Authorities. More and more Authorities are now providing recycling boxes to homes in their locality and this should increase the glass available. 40-50% of glass is recycled at present but this could be higher as a lot of glass is not being harvested at the moment. Glass which comes to Edinburgh comes from all over Scotland. This involves a lot of road miles. One benefit is that a number of smaller operators who recycle televisions etc., have contacted Brand & Rae asking if the glass from these appliances would be suitable for use in their blocks. Brand & Rae have been able to put a number of these separate companies in contact with one another.

Question

Do you not see manufacturers themselves capturing use of the glass ?

Answer

If the glass can be used in the recycling of other materials we are quite happy with this. Mixed glass causes many problems in the end use, whether it be in glass manufacture or decorative aggregate. It is not an issue in the production of concrete blocks. Currently coloured glass is being exported from the UK. If we could access this type of glass from the smaller companies who collect same this would alleviate the necessity of having to ship coloured glass abroad.

Question

Do you propose partnering with Local Authorities to commence a recycling operation ?

Answer

If we could be guaranteed 30,000-40,000 tonnes of glass per year, yes we would.

**2.2 Craig White - White Design Associates Ltd
Presentation - Towards a Sustainable Future**

Craig is Co-director of White Design Associates Ltd. The practice develops market-leading expertise in the design of low energy, environmentally friendly buildings.

Craig has extensive experience of practice both in the UK and overseas, having worked with a number of architectural practices on a wide range of project types and sizes.

Craig is a graduate of the Welsh School of Architecture, Cardiff and the Architectural Association, London. His approach to design is innovative and grounded in a

thorough understanding of practical delivery.

He is a Carbon Trust Design Advice consultant, advising on energy and environmental issues in construction.

Craig is a member of Building Services Research and Information Association's (BSRIA) expert panel on the Impact of Climate Change on the Construction Industry; and Consultant to the Steel Construction Institute on low energy, naturally ventilated steel construction. He is also a grant assessor for the DTI's renewable energy programme.

Craig intimated that his practice is currently involved in a small project in Edinburgh and are trying to achieve the use of 10% minimum of recycled materials.

They are an Architectural Practice which looks at sustainability in production and are carrying out quite a substantial amount of work in Education.

Craig stated that we require to look at our lifestyle on a global scale e.g., looking at reducing greenhouse gases i.e., CO², Methane and nitrous oxide.

Energy buildings and the environment - what is the link ? Lighting uses the most amount of energy in the world. The light bulb is the biggest single use of energy in the world in any industrial installation.

Air conditioning is also on the increase but we do not require this. We need to look at our design of the building e.g., look at natural building physics to construct buildings.

Craig stated we have exhausted billions of years of solar energy. He feels that bolting a windmill on top of a building is not the way to deal with the situation. Renewable energy has to be built in not bolted on.

Drivers for change are :- Global Warming, Cost Savings, Sick Building Syndrome, Legislation e.g., EPBD - Part L and Market uncertainty.

We are wasting 62% of all the primary energy costs put in. Sick buildings can cause bad health.

In 2004 we were self sufficient in Gas from the North sea but by 2016 we will be importing approximately 80% of our gas needs. There is a strategic risk if we continue to build buildings as we do today. We require to design buildings in regards to where the sun rises and sets.

Energy varies due to building design, systems design and performance and occupant behaviour. You can influence occupant behaviour quite easily e.g., making it clear to the users what is happening. We tend to build buildings which ignore our sensual requirements.

Craig spoke in regards to Kingsmead Primary School which was designed as a Teaching/Learning School. He stated that every classroom has 2 Velux windows and that all the classrooms face North. The School also has a rainwater harvest roof.

Every child has access, but not control, to some of the CCTV cameras, and the Building Management System to view the building in use. As a result the kids are very knowledgeable and aware of energy use.

Kingsmead completed a Post Occupancy Evaluation and scored the highest score ever.

Craig intimated his practice are working with BRE and the Welsh Assembly Government to look at how they can reduce CO² emissions etc in the home.

He feels that ground source heat pumps are an excellent source of energy.

Rob thanked Craig for his presentation and asked for any questions.

Question

Do you think Biomass boilers are the way forward ?

Answer

Yes, if you acquire these from local district sources.

**2.3 Bryan Bennett - Michelin Tyre Company
Wind Turbines - Making Tyres out of Fresh Air**

Bryan is a Graduate Engineer and has worked for Michelin Tyre Company since graduating some years ago.

He moved to the Dundee factory 18 years ago and has worked in a number of management posts on site. He has been Head of Engineering for the last 10 years and is Project Manager for the Wind Turbine project on the Dundee site.

Bryan reported that the Michelin Factory has been long established in Dundee since 1970 and is a mass market tyre manufacturing company.

He stated that, with the Government's influence in regards to climate change, customers are now expecting them to demonstrate that they are managing their environmental impact.

They have their own internal and external drivers e.g., Benchmarking, Corporate Statements etc. These are known as Performance Responsibility e.g., a statement of corporate responsibility (achieve industrial performance and corporate performance)

Michelin's have installed 2 x 2 Mw Wind Turbines on their Dundee site and manufacturing costs on the site have been reduced through the installation of the turbines.

Michelin's are a major local employer. However, it was absolutely critical that the Community was involved in this project and Michelin's had to go through a fairly comprehensive and extensive process to prove all things were acceptable.

Communication was a major factor and factory employees were kept well informed. Michelin's opened up channels with the local media and tried to ensure that the representatives of the community were well briefed.

One of the critical initiatives was an information line to allow people to access information.

A display centre has been set up and this has received interest from local Schools, Universities, Rotary Clubs etc.

Michelin's believe that the project has given significant benefits to the factory and has reduced running costs etc.

RP thanked Bryan for his presentation and asked for any questions. (These were put forward during the site visit and are as follows):-

Question

Are the Wind Turbines harmful to the bird population.

Answer

RSPB have no objections to Wind Turbines. Electric Pylons pose more of a hazard.

Question

Did you use economics.

Answer

Yes, carried out a mathematical correlation model.

Question

What about the payback period.

Answer

There are several ways in which you can realise this e.g., merge and power arrangement (which Michelin chose).

Question

How much electricity do the turbines produce.

Answer

They produce 30-35% per year.

Question

How important is the actual location.

Answer

This is quite important. The actual physical siting of the turbines is important. They require good clean wind. They do not cause a lot of turbulence, they capture the wind. Wind passes through the rotors, it does not pull the wind down.

Question

What is the expected life of the Wind Turbines.

Answer

The Turbines have an expected life of 25 years. The turbine has no gear box and is electrically controlled. They were manufactured in Germany and have a very low maintenance cost.

**2.4 Rob Pedersen - Architectural Services Division, Dundee City Council
Update on Demonstration House and Solar Cities Scotland**

Rob Pedersen intimated that the Demonstration House project being undertaken by the Architectural Services Division of Dundee City Council is an old Janitor's house which is to be a test bay for various sustainable initiatives.

It had been hoped to have the house up and running but this has not been possible due to the way in which the work has been procured i.e., materials and labour free of charge, and the availability of the contributors to carry out the work.

Zigges have completed the bore holes and it is hoped to have the trusses and kits on site on Tuesday of next week. The shell of the building should be completed by the end of this month and thereafter the initial trades will be up and running.

It is hoped to have a web-cam link for the next SSCF meeting in Aberdeen.

Solar Cities Scotland was unsuccessful in its bid to bring forward an Energy Centre. The Partners are now looking at other sources of funding for this initiative.

3.0 MINUTES OF MEETING HELD ON 2 JUNE 2006

The minute of the previous meeting held on 2 June 2006 was accepted as a true record.

4.0 MATTERS ARISING

4.1 Membership Update

It was noted there are now 216 members representing 100 organisations. This has risen by 5 since June 2006.

4.2 Funding

This still requires to be addressed. It was noted that £5,000 has been set aside for this year by the Scottish Executive. There was a tentative suggestion that members be asked to contribute around £50 for membership.

4.3 Website Update

Presentations from this meeting will be placed on the Website. ***Craig White requested that if anyone wishes to use his presentation that they credit the source.***

Rob asked members for any further information for the website. Anyone wishing information placed on the website should forward this to Yvonne at - yvonne.mchugh@dundeecity.gov.uk

4.4 Targets 2006/07

Questionnaire - Rob reported only 30 responses had been received and figures may therefore not be as accurate as hoped. (Report attached)

4.5 New Initiatives

None.

5.0 ANY OTHER BUSINESS

5.1 Sun City Conference

Elaine Morrison intimated that the Sun City Conference scheduled for 17 November 2006 has been rescheduled to February 2007. It was decided to reschedule the Conference to allow for the completion of the Demonstration House which will be show cased at the Conference. However, it has been decided to hold a Dinner Debate on the 17 November 2006 which will include Speakers, food and wine. If you are interested in attending please contact Elaine Morrison at elaine@solarcityscotland.org.uk or Rob Pedersen at rob.pedersen@dundeecity.gov.uk

6.0 /.....

ALL

6.0 FUTURE PRESENTATIONS/SPEAKERS

RP stated the next meeting will be held Aberdeen on the 9 February 2007 and that several speakers had been suggested. These are as follows :-

- Mike Winter - TRL
- Craig White - White Design Associates
- Stuart Robertson - Aberdeenshire Council
- Mike Grieves
- Helen Donnelly - Envirocentre Glasgow Meeting)

7.0 DATE OF NEXT MEETING

The next meeting will be held on **FRIDAY 9 FEBRUARY 2007** in the St Nicholas Room of the Town House, Aberdeen.

Please Note : Copies of the presentations will be available shortly on the SSCF Website - www.sscforum.org.uk

Where it is not possible to place a Presentation on the website this can be made available on disc and anyone wishing a copy should contact Yvonne in the first instance at yvonne.mchugh@dundee.gov.uk

RP Thanked the Speakers once again for their Presentations.

Rob Pedersen thanked everyone for attending.

Distribution

All Forum Members
Councillor Julie Sturrock
Director of Support Services
Chief Executive
A Anderson, ECPD
Councillor Jill Shimi
Ken Laing
Mike Galloway
Anne Wilson

cc Councillor George Regan
Councillor Fraser McPherson

**N.B. PLEASE FORWARD ANY AGENDA
ITEMS FOR NEXT MEETING**

RP/YM
8 September 2006

SCOTTISH SUSTAINABLE CONSTRUCTION FORUM

FRIDAY 8 SEPTEMBER 2006

COMMITTEE ROOM 1, 14 CITY SQUARE, DUNDEE

LIST OF CONFIRMED ATTENDEES

	NAME	<u>LOCAL AUTHORITY/ ORGANISATION</u>
1	David Banks	Tayside University Hospitals Trust (TUHT)
2	Ian Cameron	Perth and Kinross Council
3	Hazel Carnegie	Aberdeen City Environmental Forum
4	Ian Inglis	Perth & Kinross Council
5	Lindsay Cowan	Mansell
6	Doug Duncan	Mansell
7	Linda Sheridan	Scottish Building Standards Agency
8	Mike Jones	Aberdeenshire Council
9	Wolfgang Kopp	Dundee City Council
10	Mandy Wilkinson	Excel Building Solutions
11	John Anderson	Dundee City Council
12	Willie Mahoney	Perth and Kinross Council
13	Craig Muir	DCC
14	Raymond O'Donnell	South Ayrshire Council
15	Rob Pedersen	DCC (Chairperson SSCF)
16	Brenda Roddy	Falkirk Council
17	Alison Wisely	SCARF
18	Ian Mathers	Torith
19	Graham Hutchison	Dundee City Council
20	David Duncan	DCC (Energy Efficiency Mgr)
21	Amanda Waugh	Glasgow City Council (Project Mgr)
22	Stuart Brown	DCC (Environmental Manager - ASD)
23	Sheena Stone	Margaret Blackwood Hsg Association (Sustainability Champion)
24	Yvonne McHugh	DCC (Secretary - SSCF)
25	Ron Mackenzie	DCC (Senior Eng) P&T Dept
26	Ed McIntosh	Ninewells Hospital (Head of Estates)
27	Ian Carstairs	SET, (Renewable Energy Advisor)
28.	Jon Rathjen	Scottish Executive
29	Misa Jack	Scottish Federation of Hsg Associations (Policy & Practice Officer)
30	Elaine Morrison	SCARF (Development Officer)
31	Colin Brown	Thirdwave Scotland Ltd (SISP Prog Officer)
32	Alan Mackie	DCC (QS)
33	Clare Du Boulay	Vivarium, co-housing for older people
34	Bill Browning	North Lanarkshire Council
35.	Pete Davidson	Dundee City Council
36.	Kevin Christie	SCARF
37.	Len Dunkerley	Fife Council

	<u>SPEAKERS</u>	
	Gary Bell / Ian Harrison	Brand & Rae
	Craig White	White Design Associates Ltd
	Bryan Bennett	Michelin Tyre Company

SCOTTISH SUSTAINABLE CONSTRUCTION FORUM

ANALYSIS OF QUESTIONNAIRE – AUGUST 2006

(30 QUESTIONNAIRES RETURNED)

	Question	Yes	No
1.0	Does your organisation have an Environmental Policy in place	25	5
	If no are you considering this	5	
2.0	Does your organisation have a Sustainable Development Guide in place	18	12
	If no are you considering this	9	2
3.0	Does your organisation have a Sustainable Construction Policy in place	15	13
	If no are you considering this	10	3
4.0	Do you hold accreditation to ISO:14001 (Environmental Management System)	10	20
	If no are you considering this	6	9
5.0	Do you hold EMAS accreditation (Eco-Management and Audit Scheme)	1	29
	If no are you considering this	6	19
6.0	Do you measure sustainable initiatives on site using Performance Indicators	11	17
	If no are you considering this	7	8
	<p>The undernoted is indicative of the types of performance indicators being used by various member organisations :</p> <ul style="list-style-type: none"> - Recycling rate, Waste to landfill per occupant, Total Waste to Landfill, Total Waste Arising, CO² emissions, Energy & Water consumption, Building Research, Establishment, Environmental, Assessment, Method, Reduction in the percentage of car journeys to work, Travel Plan Investment, Business Travel, Business Travel Investment - Accredited Timber, Recycled Waste, Air Pollution, Noise, Traffic Management, Neighbour Relationship, Site Security - BREEAM for schools and offices - Social - health, safety - Economic - Labour, plant, materials utilisation in relationship to value from client and efficiency and performance of team - Environmental - linked to H&E reviews (H.S & E review) - Waste produced, % recycling, energy use, pool car mileages, % LPG use, use of videoconference equipment, % recycled paper bought, quantities of paper bought, CO2 emissions, water use - all per SNH office, reported per quarter to all Managers - Compliance; Products and Services; Corporate Engagement; Contractors, Suppliers and Joint Ventures; Employees; Community Openness and Transparency; Environment and Resource Use; Sustainable Profits; Reporting; Continuous Improvement; - Energy Efficiency (KPI's) - Waste to Landfill, Energy consumption - Depends on project - Satisfaction/comfort/temperature/energy/air movement/pollutants/water consumption/air tightness/Thermal/biodiversity etc. 		

	<ul style="list-style-type: none"> - Recycle content at manufacture stage Life cycle of product - content of recycle after life cycle - Management; Water; Waste; Noise and Vibration; Dust, Emission and Odours; Ground Contamination; Wildlife and Natural Features; Archaeology 		
7.0	Have you implemented any of the following initiatives in the past year or are you intending to implement in the next year:-	05/06	06/07
	Solar Water Heating	6	7
	Solar Heating	1	2
	Photovoltaics	6	5
	Wind Turbines	9	10
	Certified Timber	14	15
	Site Waste Management	17	14
	Recycling Waste	21	18
	Sustainable Audits	7	9
	Sun Tubes	5	9
	Heat Pumps	4	8
	Recycling Grey Water	9	10
	Biomass Heating	5	10
	BREAM Ratings	13	14
	Others specified :-		
	<ul style="list-style-type: none"> • Combined Heat & Power Projects (x3) • re-use of demolition materials • SUDS pond • Micro CHP 		

Possible Targets for 2006/07

- | | | |
|----|--|-----|
| 1. | Increase number of Environmental Policies - | 75% |
| 2. | Increase number of Sustainable Development Guides - | 60% |
| 3. | Increase number of Sustainable Construction Policies - | 50% |
| 4. | Increase accreditation to ISO : 14001 or EMAS | 30% |

RP/YM
29 August 2006