

IFE/BRE Global Workshop: Fire and Sustainability

14th October 2010, BRE, Watford

A fire safety overview

Martin Shipp

Technical Development Director, Fire Safety

BRE Global

Existing technology that have environmental implications in a fire

- Fire retardants
 - Wildfire
 - Firefighting foams
 - Coalmines fires
 - Release of soot
 - Release of toxic material – asbestos, dioxins etc
- The BRE Trust is funding a project titled “Fire retardants – a balancing act” - part of the BRE Trust Thematic Research Programme on Low Impact Processes, Materials and Products (LIPMP).

In 40 years time we will still be using 80% of the buildings that currently exist

New sustainable/environmentally friendly technologies that have fire safety implications

Modular construction Timber

SIPS Structural Insulated Panel Systems



- BRE research for CLG – “The Performance in Fire of Structural Insulated Panel Systems”
- Report to be published

Engineered joists Cladding systems



- BRE research for CLG – “The Performance in Fire of Structural Insulated Panel Systems – work on engineered timber floor joists”
- Report to be published

Unexpected construction –
Problems for firefighters?

Recycled tyres

Straw

Cardboard

Phase change materials

Green roofs

- When a house is made with from tires dirt is packed into the tires and then the tires are laid like brick.
- About 2,500 tires were needed.
- The walls are then covered in either an adobe coating or a concrete coating.

- Recycled tyre rubber is used for other building products



Natural insulation

Hemp Batt insulation is made of natural hemp fibres and treated with inorganic salts to deliver excellent fire and pest resistance.



Sheep's wool is a natural insulation made into slabs from wool from British hill sheep and is absolutely safe to use. It is suitable for timber walls, floors, sloping ceilings and lofts.

Green walls



Energy saver light bulbs



“One of the xxxx energy saver light bulbs that I installed recently went off with a loud bang and a flash that took out all the other lights in my house. When I examined it I found that it had partially melted and sooty deposits were around the tubes. This worried me as I leave a light on when out and at night while sleeping and think this could have caused a fire.”

“I bought some from xxxx. After many hours of use one of them went off with a bang that put out my lights and melted the plastic.”
Postings on <http://forums.moneysavingexpert.com>

Wind turbines

Photovoltaic (PV) roofing



With the permission of Bodo Wolters

breglobal

Conclusions

- We need to consider the environmental impact of fire
- We need to consider the environmental impact of fire protection systems
- We need to ensure that the innovations in designs, products and materials that are supporting more sustainable and environmentally friendly buildings do not introduce unexpected fire risks
- We need to ensure that the fire issues are dealt with logically and professionally and not subject to simple commercial pressures
- So it is time for the wider fire safety community to engage fully with the sustainability agenda

Thank you

Martin Shipp, Technical Development Director, Fire Safety
BRE Global

T: +44 (0) 1923 664960

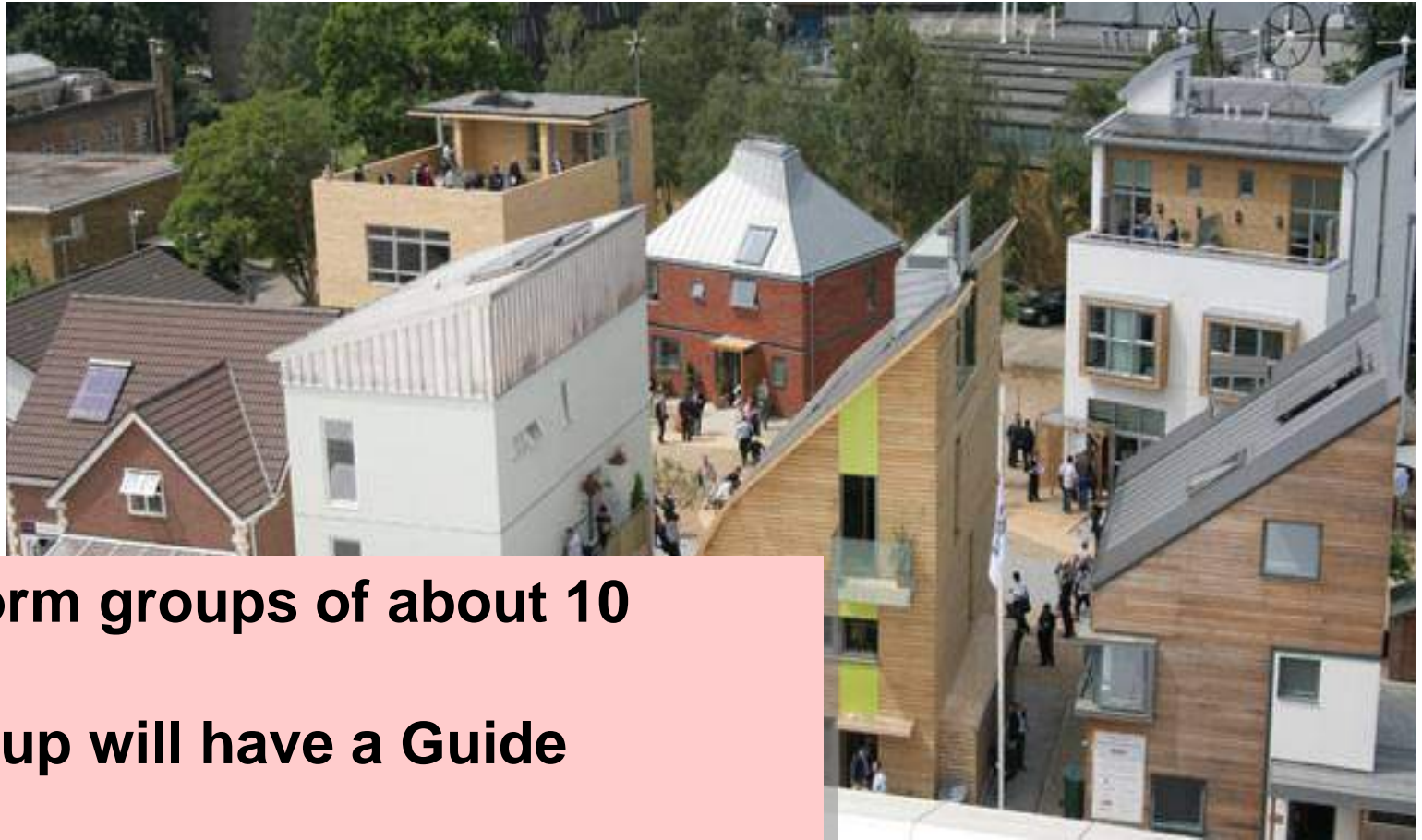
E: shippm@bre.co.uk

F: +44 (0) 1923 664910

W: www.bre.co.uk/fire

BRE, Garston, Watford WD25 9XX, UK

Tour of the BRE Innovation Park



Please form groups of about 10

Each group will have a Guide

Time for tour ~ 90 minutes

Meet back here at about 12.45

Protecting People, Property and the Planet

BRE Innovation Park – Health & Safety



!

Fire action
ON DISCOVERING A FIRE

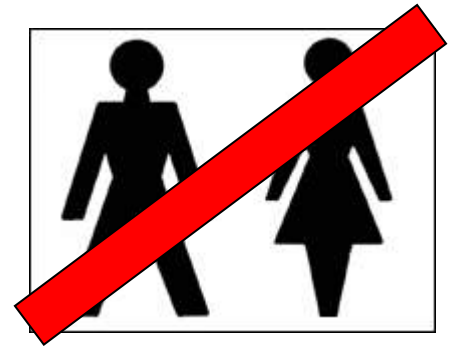
1. Sound the alarm.
2. Dial to call the fire brigade.
3. If possible tackle the fire using the appliances provided. (Do not endanger yourself or others in doing so).

ON HEARING THE FIRE ALARM

4. Leave the building by the nearest available exit.
5. Close all doors behind you.
6. Report to person in charge of assembly point at:

⊘

7. Do not take risks.
Do not stop to collect personal belongings.
Do not use lifts.
Do not re-enter the building for any reason unless authorised to do so.



BRE Innovation Park – Health & Safety

