MatUK CONSTRUCTION WORKING GROUP - MATERIAL CHALLENGES FOR HOUSING

COMMUNITY MEETING – 3 July 07

Phil Ramsey

Materials Challenges for Housing

10.10 Scene-setting Presentations:

Michael Kelly – Chief Scientific Advisor, CLG

Rory Bergin – HTA Architects

Peter Walker – BRE Trust Chair, Bath University

Jeremy Sumeray – DTI

12.45 Lunch

13.30 Breakout Discussion Groups

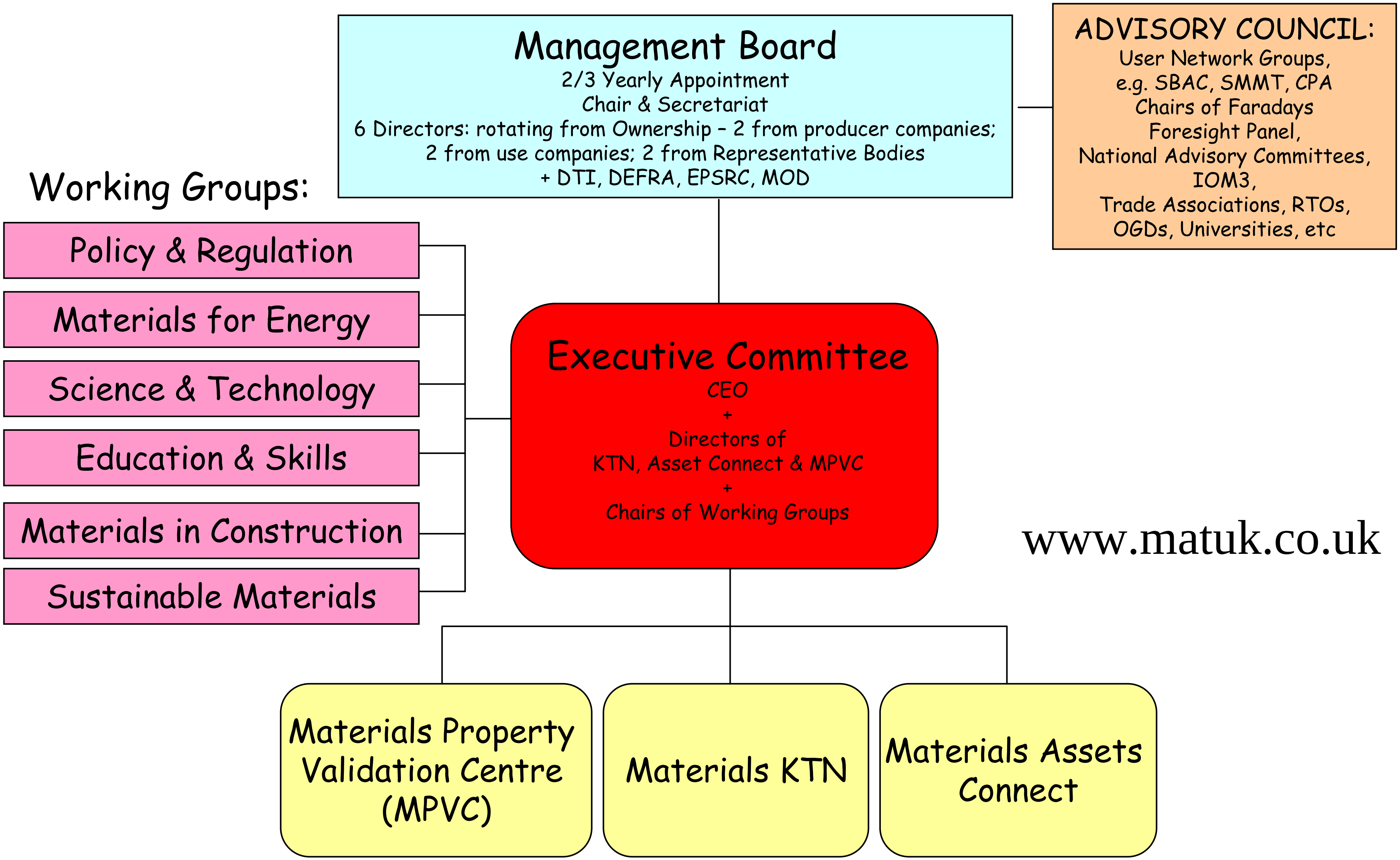
15.00 Feedback and Conclusion

15.30 END

Meeting Objectives

1. To inform the wider industry about Materials UK (MatUK), it's activities and the Construction Working Group
2. To increase participation and capture the views of all sections of the construction industry and other interested parties
3. To feed the output of the meeting into a materials research agenda for the industry
4. To learn lessons from this meeting for future meetings on non-residential buildings and infrastructure

Materials UK



www.matuk.co.uk

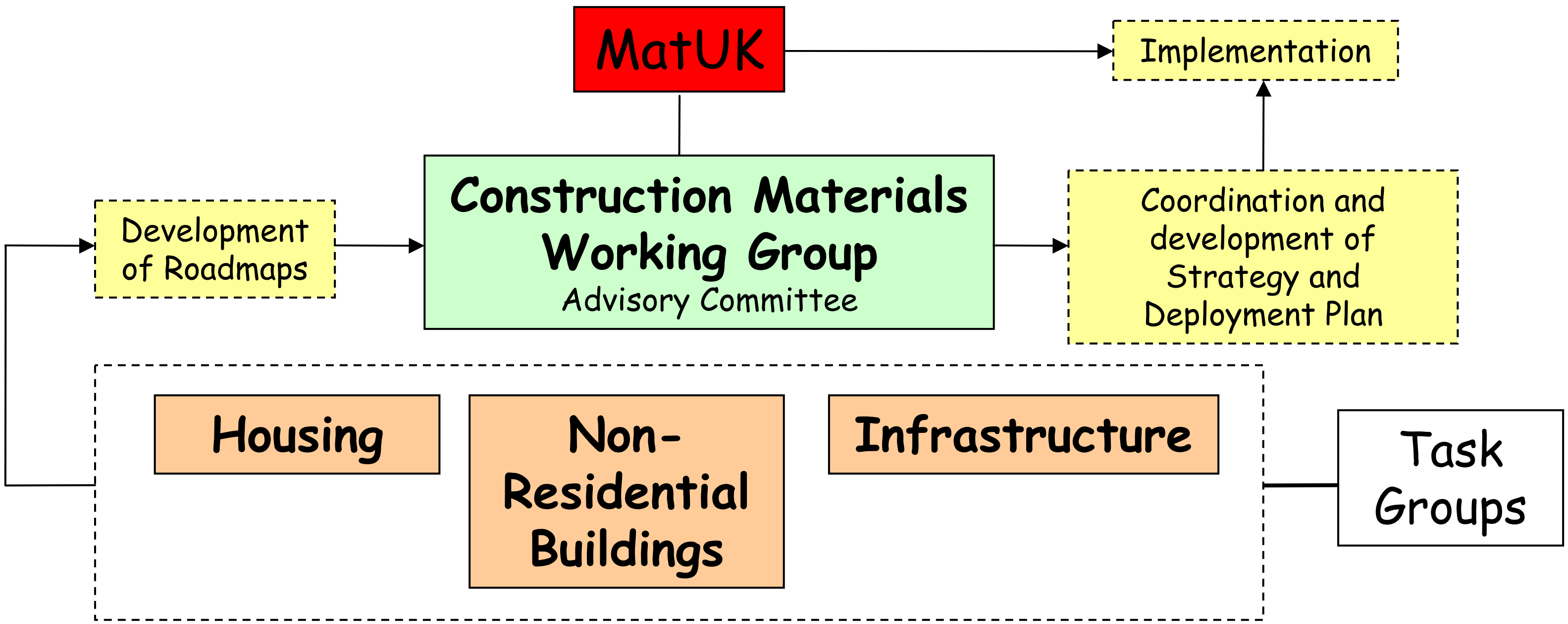
Construction Working Group - Deliverables

A Strategic Research Agenda (SRA) for Construction Materials which defines the drivers, barriers and roadmap for R&D over the next 20 years.

A Deployment Plan which indicates how the SRA will be implemented and impact on the UK materials industry.

This will be formally presented through MatUK to key stakeholders of Government officials, Research Councils, RDAs and the Technology Strategy Board to develop an agreed, long term, sustainable Construction Materials Research Programme for the UK.

Construction Working Group - Structure



Materials UK
Owned by the materials community

Construction Working Group – Steering Committee

Membership of Steering Committee:

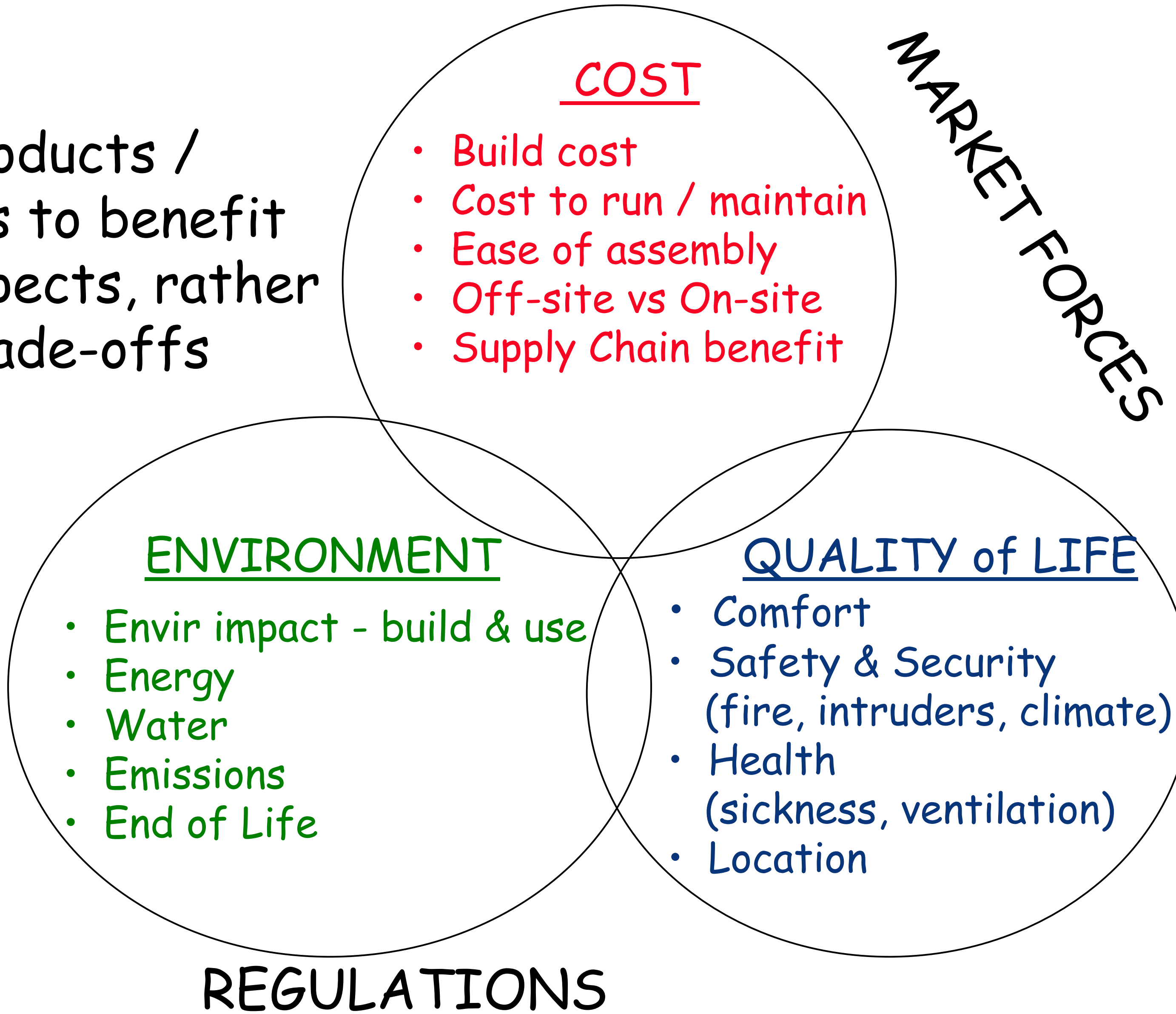
Phil Ramsey	Pilkington	Glass (chair)
John Tebbit		CPA (sec)
David Adams	Knauf	Insulation
Tim Broyd	ex CIRIA now Halcrow	Research
John Brumwell		DTI
Graham Couchman		BRE
John Davenport	TWI	Composites
Cliff Fudge	H+H Celcon	Concrete
David Gittens	Imerys	Raw Materials
Denzil Spencer	Ibstock	Ceramics
Andy Tyler	Omya	Raw Materials
Roy Wakeman	Mumfood Wood	Timber

Other potential members: Plastics, Metals

Need input from wider community: Designers, Contractors, CIBSE,
Universities, DEFRA, RDAs, etc

Important Factors

New products / systems to benefit all 3 aspects, rather than trade-offs



Innovation

Innovation in Construction tends to be incremental

Barriers to Innovation (Materials IGT Workshop and Tech Strategy for Built Environment, both May 05 :

- Client Behaviour
  - Purchase bespoke solutions
  - Not aware of available innovations in UK and elsewhere
  - Risk averse, "tried and tested"
  - Capital cost, not whole life cost
- Gov responsibility for policy is split over several departs
- Adversarial, fragmented supply chain
- Skills gaps

So, innovation tends only to occur to:

- Solve specific problems
- Make a statement
- Meet new regulations

Example - Reduced Energy Loss Through Windows

U-values (W/m^2K):

Single Glazing 5.4

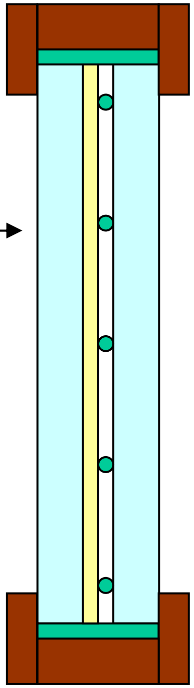
Double Glazing (IGU) 2.8

IGU with Low-E and Ar 1.1

Triple Glazing with Low-E and Ar 0.8

Vacuum Glazing 0.3-0.4

Also need to consider solar heat gain



In theory can add other properties:

- self-cleaning
- bacteria-eating
- energy generation
- switchable properties

BUT, cost and reliability (lab to mass market)

All about Materials

- Spacer material
- Surface condition
- Low-E coating
- Sealing
- Framing

Numerous process issues

- Not the glass it's the additional materials
- Hybrid systems
- Joining technologies

SYSTEMS

Breakout Groups

Please consider the following questions:

1. What are the major material (and product and system) challenges for the Housing industry over 5, 10 and 20 year timeframes (materials R&D agenda)
2. What are the barriers to achieving these goals
3. How can we increase our chances of success