SDG Annual Report, 2016

Summary of Activities

Another busy year in which the methodologies associated with Sustainable Development and LCA (Life Cycle Assessment) continue to be debated and where the policy makers/legislators continue to grapple with their understanding and where high level political changes will influence sustainability policy outcomes in the next decade.

SDG members are actively participating in these debates, through presentations at conferences and seminars, and helping to organise and participate in relevant IOM3 events. The academic members of the SDG continue to develop educational opportunities for students/PhDs to carry out LCAs and sustainability assessments and to incorporate these into their course programmes. It is an imperative that future engineers and material scientists are aware of life cycle thinking and the principles of sustainable development.

Some of the key external activities, where SDG members are involved and where IOM3 is recognised as a source of expertise, have included:

1) The development of a British Standard on Circular Economy in Organisations, BS 8001 (due for publication May 2017)
2) A new ISO standard on the Life-Cycle Inventory (LCI) of steel products
3) The Product Environmental Footprint (PEF) pilot studies for European Products
4) Sustainable Innovation 2016 Conference, University for the Creative Arts, Epsom, November
6) Centre for Industrial Sustainability, Annual Conference, Cambridge University, July
7) The European Environmental Management and Audit Scheme for fabricated metals industry
8) Roadmap workshops for a) EU non-ferrous metals industry, and b) EU Steel Technology Platform
9) LCA workshop, University of Sheffield, November

Internal activities within IOM3, including contributions to other Divisions and Societies include:

1) SDG Awayday, with IOM3 management team, 26 July 2016
2) Eco-Design and Product Sustainability in the Transport Sector workshop, held in collaboration with the ADS Design for Environment group, on 17 May 2016 at 297 Euston Road.
3) SMEET III (Sustainable and Emerging Energy Technologies), Conference with Energy Materials Group and Surface Engineering Division, 1 December 2016 at 297 Euston Road
5) Organising Committee and support for the Steel Strategy Seminar, Technology Strategy for the Future UK Steel Industry, 30 November 2016 at 297 Euston Road
**SDG Board Meetings - 2016**

**14 January** at IOM3, Euston Road – 13 present (59% of Board membership)

**7 June** at IOM3, Euston Road – 14 attended (64%)

  - Tour of Institute of Making at UCL (kindly arranged by Sarah Wilkes)

**9 November** at IOM3, Euston Road – 9 members attended and 1 guest (38%)

  - Presentation on Responsible Sourcing – Jacqui Glass, Loughborough University

Over the year, attendance levels at Board meetings were generally similar to 2015, although the numbers in November were lower than expected, due to members’ changing commitments.

**Board Membership, End of 2016**

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation/Position</th>
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<tbody>
<tr>
<td>Tamara Alliot</td>
<td>Minor Metals Trade Association</td>
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<tr>
<td>Keith Barnes</td>
<td>Packaging Society</td>
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<tr>
<td>Stephen Barnett</td>
<td>IMMA</td>
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<tr>
<td>Louis Brimacombe</td>
<td>Formerly Tata Steel, now independent</td>
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<tr>
<td>Andrew Clifton</td>
<td>Rolls-Royce, and ADS (the premier trade organisation advancing the UK Aerospace, Defence, Security and Space industries)</td>
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<tr>
<td>Jim Coulson</td>
<td>TFT Woodexperts Ltd, Wood Technology Society</td>
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<tr>
<td>Andrew Dunster</td>
<td>BRE, Cementitious Materials Committee</td>
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<tr>
<td>James Goddin</td>
<td>Granta Design, Construction Materials Group</td>
</tr>
<tr>
<td>David Harding-Brown</td>
<td>1HQ Design and Branding Agency, Packaging Society</td>
</tr>
<tr>
<td>Geoff Hale</td>
<td>(Secretary/Coordinator)IOM3</td>
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<tr>
<td>Anthony Hartwell</td>
<td>Sustainable Materials Engineering Ltd, Formerly KTN</td>
</tr>
<tr>
<td>David Jesson</td>
<td>University of Surrey</td>
</tr>
<tr>
<td>Catherine Jocoe</td>
<td>KTN Ltd</td>
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<tr>
<td>Mark Jolly (Deputy Chair)</td>
<td>Cranfield University, Light Metals Division Board, Chair MSTD</td>
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<tr>
<td>Alan Maries</td>
<td>MIRO &amp; Society for Chemical Industry</td>
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<tr>
<td>Allan Matthews</td>
<td>University of Manchester, Surface Engineering Division Board</td>
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<tr>
<td>Sophie Parsons</td>
<td>University of Bath</td>
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<tr>
<td>Stuart Patrick</td>
<td>Polymer Society</td>
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<tr>
<td>Graham Sims</td>
<td>NPL, Composites Society</td>
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<tr>
<td>Richard Thackray</td>
<td>University of Sheffield, Board member, Iron and Steel Society</td>
</tr>
<tr>
<td>Sarah Wilkes</td>
<td>UCL Institute of Making</td>
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<tr>
<td>Pat Winfield</td>
<td>Oxford Brookes University, Vehicle Engineering</td>
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Membership Changes

New members during 2016 were Andrew Clifton from Rolls-Royce (September 2016). Andrew chairs the Design for Environment special interest group at ADS (the premier trade association for the UK Aerospace, Defence, Security and Space Sectors).

Stephen Barnett stepped down from the SDG Board at the end of 2016 as he is returning to Australia. The Board want to thank him for his contribution. This leaves a vacancy for someone with a mining background; the Mineral Processing & Extractive Metallurgy Board has proposed Dr Gawen Jenkin of Leicester University as their representative to join the SDG in 2017.

General Matters, Activities and Contributions

The chairman of the SDG, Louis Brimacombe, retired from Tata Steel in July 2016 and has since taken on the role of Visiting Fellow at Sheffield University, and delivered his inaugural lecture in January 2017. He also participated in an LCA workshop held at Sheffield University in November 2016.

Sustainability methodologies are at a critical phase in their development and SDG members are involved in a range of activities, including those listed in the summary above. In addition, three EU Horizon 2020 projects on Sustainability Assessment Tools were also completed in 2016, one of which Tata Steel contributed to. It is critical that materials interests are well represented and that these assessments include life cycle considerations. To this end, the SDG believe that the Institute should maintain a position of leadership in these assessments. A key activity in 2017 could be to develop, or participate in, LCA training seminars associated with IOM3.

Stuart Patrick has taken on the role of webmaster for the SDG and has taken action to improve the contents of the microsite and to regularly update the site with members’ contributions. Stuart will need the support of the group to enable further improvements in 2017.

SDG members have expressed their views and concerns about the rationale of Brexit and the new Trump administration/presidency in terms of what this would mean for sustainable development in a global, European and UK context. Sophie Parsons produced an article for the IOM3 website which set out the position and proposed that IOM3 show leadership in these times.

The SDG had begun discussions for a series of conferences based on the title Vision 2050 Materials and Society. The ITPB have been considering new potential conference programmes and have recognised that there is a need to highlight the importance of materials in society and that this should be a key role for IOM3. A new conference series which will set out to explain the role materials play in society, titled The Great Materials Debate: Materials and Society has therefore superseded the initial idea, and the SDG will be active in supporting this.

The Board visited the Institute of Making (at UCL) which is a fantastic educational establishment to raise awareness of the vast extent of materials contribution to society both in terms of design, functionality and social contribution. This establishment also enables hands on learning of how to form, work and process a wide range of materials.

A one-day event entitled Eco-Design and Product Sustainability in the Transport Sector was held at IOM3 in London, 17 May 2016. Organised by IOM3 with support from ADS, the final attendance (just under 40 people) was less than had been anticipated and did not reflect the quality of the presentations. All who attended considered it a successful event. The presentation by Diane Gilpin on Sustainable Shipping was excellent. Most present were unaware that shipping is not covered under the carbon emissions rules.
Other activities

Three members of the SDG are actively involved in the development of a British Standard on the Circular Economy – Louis Brimacombe, Catherine Joce (KTN Ltd) and Graham Sims (NPL). It is expected that *Framework for implementing circular economy principles in organizations – Guide* will be published in May 2017.

Materials World

A Division focus article on the SDG was published in the June 2016 issue, which concentrated on the circular economy.

Activities/Plans 2017-2019

The future plans of the SDG at this stage are based around specific events that the SDG will develop and those which will be collaborative across other IOM3 Divisions/ Societies. The current status is that developments are at an early stage and the resourcing and support to deliver these activities/ideas will be a critical factor. Support from IOM3 Staff will also be key to enable and realise some of these activities. The SDG wants to acknowledge the contribution of Dr Geoff Hale, who as coordinator and secretary has made an immense contribution to the Group, he has maintained key networks between the SDG and the other groups across IOM3 which has resulted in many successful collaborations.

The list of potential future activities is as follows:

**Development of LCA training programmes, aimed at both industry and academia.**

**SDG support to the Great Materials Debate: Materials and Society Programme.**

Develop programmes for 1 or ½ day workshops to be held at IOM3 on the contribution of materials towards:

- Terrorism
- Natural Disasters
- Climate Change
- Ageing population

**Develop Guidance on the Role of Materials in the Circular Economy.**

In parallel with BS 8001, hold workshops/seminars on product design, remanufacturing, reuse and recycling.

**Development of a Prize/Award for Excellence in Sustainability and Life Cycle Assessment**

Aimed at Under-graduates/ PhDs

**Ongoing participation of SDG members across Divisions and Societies to promote Sustainability and good practice in all materials related activities, including for example:**

- Steel Strategy Seminars
- Polymers/ Plastics meetings ( Including PVC 2017 Conference)
- Responsible Sourcing/ Sustainable Manufacturing
- Construction materials and the Circular Economy