

EMBEDDING SUSTAINABILITY AND THE CIRCULAR ECONOMY IN MAJOR PROJECTS - THE OPPORTUNITY AND THE CHALLENGE

Highlights from the Major Projects Association Annual Conference held on **16th–17th September 2019**

Sustainability is now a core issue for the major projects community. The sector must respond to pressure from governments, clients, investors, insurers and the public for projects to make a greater contribution to the triple bottom line.

'Time, cost and quality is old school. People, planet and profit is the new way forward.'

Isabelle Linden, Managing Consultant, Sustainability and Circular Economy Expert, PA Consulting

The UN's 17 **Sustainable Development Goals** (SDGs) provide project leaders with a shorthand for understanding the breadth of these economic, social and environmental challenges. When the SDGs are translated into specific objectives, such as the UK's commitment to reduce net carbon emissions to zero by 2050, the demand for radical, generational change becomes very clear.

This all creates a significant opportunity for major projects. The community needs to be bold in its ambitions, embrace technology and innovation, and develop collaborative relationships across the project life cycle. If it is successful it can do good, grow in profitability, build public support and attract the next generation into the industry.

This year's annual conference explored how to grasp this opportunity, with a particular focus on the role of the circular economy in driving the transition to sustainable development.

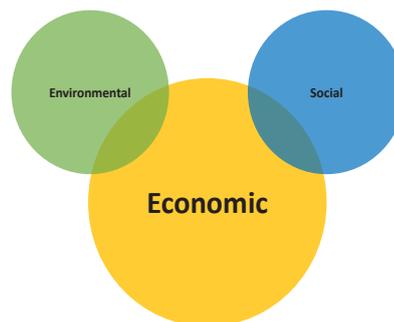
'The transition to a circular economy could present a global growth opportunity of \$4.5 trillion by 2030.'

Mike Wilkins, Managing Director and Head of Sustainable Finance, S&P Global Ratings

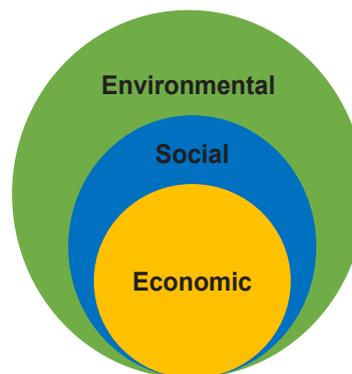
FROM MICKEY MOUSE TO STRONG SUSTAINABILITY

The idea of sustainable development has been around since the 1980s but too often it has been 'greenwash', with tokenistic environmental or social features bolted on to projects focused on short-term economic benefit. Projects now need to aim for strong sustainability. This means delivering inclusive growth while respecting the fragility of the earth's ecosystems exposed by the climate crisis, and not leaving anyone behind.

'MICKEY MOUSE'



'STRONG SUSTAINABILITY'



(Bernard Aritua, Senior Infrastructure and Logistics Specialist, World Bank)

FROM LINEAR TO CIRCULAR

The first step in the circular economy is to understand the residual value of the materials embedded in assets (or possible assets). We then need to identify how to preserve that value through the asset life. And at decommissioning we need to find ways to reuse what we can for future projects. In practice, circularity embraces a range of principles including designing out waste, design for disassembly or adaptability, materials selection and waste as a resource.

'We should think of the three lives of materials. First, what we can harvest and reuse from assets reaching the end of their life. Second, how we can make current buildings last longer. Third, designing new buildings to maximise the opportunity to reuse products, materials and assets in the future.'

Gilli Hobbs, Director, BRE

Circularity underpins many new business models. Firms such as Philips have offered 'Light as a Service' for several years. A more ambitious variant of the same model is to offer the whole of a building's exterior façade on this service basis. The supplier retains ownership of materials and responsibility for their performance, maintenance and renewal. This allows the client to spread costs over the life of the building and incentivises the supplier to work hard to maintain the quality of the materials to ensure they can be reused.

In sectors such as aerospace the key to unlocking circularity has been the creation of **materials passports**. This provides transparency on the source, uses and condition of materials and provides the basis for a market for their reuse or repurposing.

EMBEDDING THE TRIPLE BOTTOM LINE AT THE START OF PROJECTS

Understanding the breadth of potential benefits is key. A flood defence scheme will have the primary goal of protecting land and property, but it can deliver many other social, economic and environmental goods. Project appraisal methodologies need to evolve so that they can capture and assess all of these benefits.

All options for realising the benefits need to be considered. Wessex Water reported that it had secured carbon reductions via no build or low build options. It has also worked directly with farmers to deploy precision agriculture techniques that can protect water courses from nitrate pollution.

In parallel, projects need to engage potential funders. The market for Green Bonds and other sustainable investment instruments has exploded in recent years. Investors will need a clear line of sight from their commitments to the specific sustainability outcomes they are seeking alongside economic returns. Examples include Thames Water's £1.4bn credit facility, which has an interest rate tied to performance against environmental, social and governance metrics.

'It is no use talking about the triple bottom line if you don't bring the investors into the conversation.'

Bernard Aritua, Senior Infrastructure and Logistics Specialist, World Bank

AVOIDING AN IMPLEMENTATION DEFICIT

One of the biggest challenges facing projects is ensuring that sustainability and circular economy aspirations are reflected in what actually happens during procurement and delivery.

Sustainability and circular economy goals must be scored as part of tender appraisal, contracts must incentivise performance, and the gateway review process must ensure that performance is monitored during delivery.

At the policy level, the **HM Treasury Green Book** and the demands made by economic regulators must work with and not against Government's commitment to triple bottom line outcomes. The UK is lagging behind countries such as the Netherlands in creating a policy framework that supports carbon reduction and circularity through the asset life cycle.

COLLABORATE, COLLABORATE, COLLABORATE

Many clients are using relational contracts that align asset owners' ambitions with those of their suppliers, replacing more traditional transactional arrangements. This is helping clients to pull insight and innovation from their delivery partners to inform project initiation and early design. In turn, the client can help its supply chain to pool the cost of growing capabilities in areas such as reverse logistics, **CEEQUAL** assessment or the use of a building circularity index to assess the potential for reuse of materials at end of life.

Looking forward, there are untapped opportunities for collaboration at the national scale. In the UK there have already been tentative efforts to align major programmes so that the waste from one can be a valuable input into another. The **Major Infrastructure Resource Optimisation Group** (MI-ROG), made up of many of the UK's largest infrastructure clients, is hoping to create a national materials exchange that can leverage advances in platform technology to make this process work in real time.

'Count it, change it, scale it.'

Edward Davey, Director, Country Partnerships, Food and Land Use Coalition, World Resources Institute

TECHNOLOGY

Organisations need to reach a high level of digital maturity to be leaders in sustainability and the circular economy. Data has been key to recent advances in areas such as energy efficiency and will be key to progress in other areas of the sustainability agenda.

Geospatial tools allow data to be analysed in 4D to generate insight to support decision makers. Artificial intelligence and advanced analytics support the real-time decision-making and scenario planning vital for dealing with the complexity of the circular economy.

Blockchain technology can underpin the concept of a material passport by providing everyone in the market with a transparent and secure record of where a product has been and how it has been used.

Technological advances have also dramatically reduced the barriers to entry for small, innovative start-ups. Major projects need to find ways to tap into this ever-growing pool of expertise.

'Data is the best friend of the circular economy.'

Robert Spencer, Business Line Director – Sustainability, AECOM

COLLECTIVE COMMITMENTS

One of the objectives of the conference was to identify how we can work collaboratively to deliver a step change in the sustainability performance of our organisations and our projects and specifically what the Major Projects Association can do to support the community. Delegates from the participating organisations listed below agreed a number of priority actions.

Publish case studies

- Practitioners now need to move quickly from understanding the *what* of the circular economy to the *how* of delivery.
- The Association could work with its members to identify and share case studies on sustainability and the circular economy from major projects across the world.

Provide access to decision-making tools

- Time-poor projects need simple tools to help them do the right thing, for example to assess which project options are compatible with the UK's net zero-carbon target.
- The Association could ensure practitioners have access to the tools they need, either by signposting existing tools or where there is a need, bringing people together to create new ones.

Help establish a national platform for sharing resources

- One project's waste could be another's inputs. To achieve this goal, projects need to be able to exchange materials in real time.
- The Association could help broker a consensus on how to create a national platform for sharing resources.

Encourage personal and corporate commitments

- The transition to a circular economy requires individuals and organisations to make personal commitments.
- The Association could encourage member organisations and their leaders to make high-profile commitments to transformative actions.

Publish good practice guidance

- The major projects community could share a range of practical challenges, including developing triple bottom line business cases, fully embedding sustainability criteria into project appraisal and procurement criteria, relating the SDGs to the project level and developing frameworks that allow projects to access the innovation being generated by tech-savvy start-ups.
- The Association could scope and deliver practical guidance based on practitioner experience.

Clarify terms

- Working with members, the Association could ensure that throughout the major projects sectors we are all using the same language.

Over the forthcoming months the Association will work with its members and specialists to clarify, deliver and report back upon these commitments.

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Chair: Sir Tim Laurence, Chairman, Major Projects Association

Contributors: To see a full list of contributors please [click here](#)

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Anglian Water
Arup
Atkins - part of the SNC-Lavalin Group
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BAE Systems
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BBM Sustainable Design Ltd
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