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Briefing

Sustainable steel construction: building a better future

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As part of its commitment to sustainable development, the UK Government is encouraging business to develop sectoral sustainability strategies. The steel construction sector has risen to this challenge and, in December 2002, launched its strategy *Sustainable steel construction: Building a better future*.

1. INTRODUCTION

Whether doomsday scenarios for population growth, resource depletion and climate change are accurate or not, there is significant scope for the construction industry to become more sustainable. In particular, this includes more efficient use of resources, waste reduction and improved operational efficiency of buildings. Implementation of many of these actions will offer clear business benefits, usually cost savings. Where this is not the case, or where a greater economic incentive is needed, government has not been slow to introduce fiscal measures to stimulate change. The landfill and primary aggregates taxes and the climate change levy are relevant examples.

Construction companies are responding to the challenge of sustainability in a variety of ways that may be broadly, and simplistically, categorised as follows.

(*a*) Ignore it!
(*b*) 'Greenwash' and marketing.
(*c*) We can do it but the client doesn't want to pay for it!
(*d*) Engagement with stakeholders and implementation of cost-effective, sustainable measures.

Although it may be that radical change in the way we do things is needed to avert the long-term consequences of non-sustainable development, a measured, step-wise approach to implementing sustainability seems to be the pragmatic and readily achievable way forward—particularly within the constraints of current economic and political systems.

2. STRATEGY DEVELOPMENT

The steel production industry has been engaged in environmental issues, and more recently in sustainable development issues, for many years. Although more remains to be done, significant progress has been achieved in terms of improved energy efficiency, reduced air emissions and waste, and management of the social issues resulting from the restructuring of the industry.

The steel construction sector sustainability strategy has been developed by a consortium comprising Corus, SCI and BCSA. Developed in consultation with the sector and with the support of the DTI/DEFRA Pioneers Group, the strategy involves three phases:

1. understanding what sustainable development means, both for the sector and for the wider construction industry
2. reviewing work that has already been done by the sector, in support of sustainability
3. prioritisation of ongoing and future actions.

3. THE CURRENT POSITION

The review of progress achieved by the sector over recent years has demonstrated the following.

(*a*) Steel construction is efficient, competitive, and makes a significant contribution to the national economy.
(*b*) Buildings can be rapidly constructed using steel-based components and systems that are efficiently manufactured off-site and therefore are of high quality and with few defects.
(*c*) Steel framing and cladding systems provide the scope, in association with other materials, to design buildings with low overall environmental impacts.
(*d*) Steel-based construction systems provide flexible spaces, which have the potential to be easily modified and adapted so that the life of the building can be extended by accommodating changes in use, layout and size.
(*e*) At the end of the useful life of buildings, steel components can be dismantled relatively easily. Reclaimed steel products are currently reused (10%) or recycled (84%) without degradation of properties.
(*f*) Off-site manufacture facilitates less itinerant working conditions, which, in addition to being safer, promotes stability in the workplace, encourages skills development, and fosters good local community relations.

4. THE WAY FORWARD

The steel construction sector sustainability strategy outlines 25 relevant initiatives in support of sustainable construction that are currently taking place or being extended. It also outlines the sector's long-term commitment to sustainability by outlining programmes of work to:

(*a*) improve supply chain engagement and reporting

(*b*) support the selection of responsible contractors
(*c*) encourage the adoption of environmental reporting
(*d*) support the development and acquisition of information required by the industry to enable informed decision-making
(*e*) fund the development of credible, robust whole-life assessment tools and guidance on the subjects of design for flexibility, adaptability, recyclability and reuse
(*f*) evaluate progress and awareness and develop measurable targets. In due course, the Steel Construction Sector Sustainability Committee (SCSSC) intends that this will lead to the publication of key performance indicators for sustainable steel construction.

More remains to be done, however, and to move forward, the strategy sets out twelve steps to actively promote and demonstrate practical progress towards a more sustainable future for steel construction. These steps address the need to engage the supply chain, to inform decision-makers about what is important for sustainable steel construction, to align commercial and national priorities, and to establish the means to measure and report progress.

For steelwork contractors, steel producers and component manufacturers there is a need to act as the focus to engage commitment to sustainable development by the whole supply chain. This will be achieved by

(*a*) the adoption of environmental reporting
(*b*) the establishment of a sector sustainability group to pioneer the adoption of sustainability
(*c*) the encouragement of supply chain reporting.

Clients and designers need to develop design solutions that address sustainable development issues. To assist this, the sector will

(*a*) provide accurate information for environmentally friendly and resource-efficient design
(*b*) increase the appreciation of recyclability
(*c*) improve the selection of responsible contractors.

Business leaders in the sector need to ensure that the objectives of commerce and government are aligned. Commercial organisations in the sector need to develop products that address the sustainability issues raised by the market. Government agencies need to be aware of what regulatory objectives industry can realistically meet. This will be achieved by

(*a*) developing products that meet the market's ambitions for sustainability
(*b*) making reuse of steel components more practical
(*c*) engaging in dialogue with government and other stakeholders.

The Steel Construction Sector Sustainability Committee has accepted the responsibility to act as a forum for assessing progress by

(*a*) reviewing the effectiveness of ongoing initiatives that support sustainability in the areas of R&D, best practice and dissemination
(*b*) measuring awareness of sustainable development issues by clients and designers
(*c*) developing measurable targets for use as key performance indicators for sustainable steel construction.

The full version of the strategy can be downloaded from the websites hosted by Corus,[1] SCI[2] and BCSA.[3] The strategy is certainly not intended to be the end, but rather the beginning, of a continuous process of improvement.

REFERENCES

1. See http://www.corusconstruction.com
2. See http://www.steel-sci.com
3. See http://www.steelconstruction.org

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