Developing a sector sustainability strategy for the UK precast concrete industry

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Introduction

The British Precast Concrete Federation (BPCF) is the trade association for the precast concrete industry in the UK. In 2004, the Federation, in collaboration with the Department of Civil and Building Engineering at Loughborough University, began a four-year research programme associated with the development of a sector sustainability strategy for the industry. This paper is a visioning paper; it sets out the context for the work in respect of sustainable development and sustainable construction, it considers other construction sector sustainability strategies, and suggests ways in which the precast sector strategy could be developed.

Although the research relates specifically to a UK based industry, it will be of interest to individual precast manufacturers and trade associations in other countries, and those measuring the progress of manufacturing industries towards sustainability goals such as government and environmental agencies. Architects, Engineers and Clients will also be interested in the research as sustainability moves up their agendas.

Sustainable development and construction

Sustainable development is about delivering a better quality of life for everyone and means achieving social, economic and environmental objectives at the same time [1]. The UK Government's strategy for sustainable development launched in 1999 [2], defined these objectives as:

- social progress which meets the needs of everyone;
- effective protection of the environment;
- prudent use of natural resources; and
- maintenance of high and stable levels of economic growth and employment.

In the consultation exercise that informed the strategy [3], it was recognised that:

- the construction industry had a significant impact on society and the environment;
- the construction industry provided the delivery mechanisms for many aspects of Government policy aimed at the provision and modernisation of the nation's infrastructure; and
- benefits could flow from a more efficient and sustainable construction industry.

This led to the publication of a sustainable development strategy aimed specifically at the construction industry in 2000 [1], with the Government driving the construction industry to:

- be more profitable and competitive;
- deliver buildings and structures that provide greater satisfaction, well-being and value to customers and users;
- respect and treat its stakeholders more fairly;
- enhance and better protect the natural environment; and

- minimise its impact on the consumption of energy (especially carbon-based energy) and natural resources.

In essence, it was encouraging the construction industry to take a pro-active attitude to sustainability on the basis that "Much of what needs to be done is about competitiveness and survival in the global economy and is good business sense".

There was also encouragement for sector representative bodies and trade associations to develop sectoral sustainability strategies. The reasoning behind this was "These will provide a framework for sectors to assess their economic, environmental and social performance; identify areas for improvement in the light of future opportunities and threats; set targets and implement action plans to bring about those improvements; and then to report on progress to stakeholders" [1]. To accelerate the development and implementation of these sectoral strategies, a best practice forum was established in 2001. This forum included brick, cement and concrete, forest products and steel construction. With the exception of cement and concrete, brick, forest products and steel have all now produced strategies.

Precast sector sustainability strategy

The BPCF, the precast industry's trade association in the UK, joined the forum in November 2002 to signal its willingness to develop a sector sustainability strategy applicable to the precast concrete industry. In September 2003, Loughborough University facilitated an industry workshop at the BPCF to discuss how the precast industry should proceed. The workshop concluded that BPCF should pursue the development of a sector sustainability strategy and aim to obtain maximum buy-in from its members. To help deliver the strategy, members of the BPCF's governing council agreed to support a four-year research programme in collaboration with the Department of Civil and Building Engineering at Loughborough University.

The research began with an analysis of the brick [4], forest products [5] and steel construction [6] sector strategies, together with other relevant sources of information [7]. Three common steps were identified in the development of these strategies:

1. they began by recognising and/or defining the impact of the industry, usually in economic, environmental and social terms;
2. they then set objectives to mitigate those impacts; and
3. key performance indicators were used to measure progress towards meeting those objectives.

Whilst development of the precast strategy is likely to follow the same process, it is important that the triple bottom line issues of economic, environmental and social development are treated in a balanced way.

The operational phase of a building or structure usually has significantly more economic, environmental and social impact than the construction phase. This led to variations in the scope of each strategy, for example, the brick strategy only covered brick production whilst the steel strategy extended to downstream issues of usage, but not upstream issues relating to iron and steel making. Because stakeholder consultation was identified as an important part of the strategy development process, it is considered important that the precast strategy does at least present a review of the end use of precast products.

A report on the progress the UK has made towards more sustainable construction between 2000 and 2003 [7], showed that whilst progress was being made in setting and promoting targets, monitoring and observing performance, and promoting best practice, there were also areas of poor performance. These included demonstrating a clear business case for sustainability and dissemination; the right information needed to be presented to the right audience in the right way, and there were problems in reaching SMEs

and entire supply chains. It is important that the precast strategy addresses these issues and is applicable to the whole sector as it is to sub-sectors and individual companies.

Over the next three years the research will focus on mapping the key sustainability issues for the sector, establishing useful targets and indicators, and developing consensus with industry stakeholders. It is the research team's intention to then present a reporting paper at the BIBM Congress in 2008 to communicate the results.

Conclusions

- Development of a sector sustainability strategy is about competitiveness and survival in the global economy and is good business sense.
- The sustainability strategy for the UK precast concrete industry has to balance the triple bottom line issues of economic, environmental and social development.
- Although the strategy will apply primarily to product manufacture, it must also aim to review issues of product use.
- Useful indicators and targets need to be established for the sector in order to measure its progress.
- Consensus needs to be developed with industry stakeholders up and down the supply chain.

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