

**Concrete Industry Guidance to Support
BRE Global BES 6001 Issue 3.1 Framework Standard for
Responsible Sourcing**

July 2017

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Introduction

BES 6001 Issue 3.1 uses the definition of Responsible Sourcing given in BS 8902: 2009 as **“management of sustainable development in the provision or procurement of a product”**

Responsible Sourcing can be demonstrated through an ethos of supply chain management and product stewardship and, importantly, includes a commitment to engage with stakeholders that may be affected by the impacts of a product.

BRE Environmental and Sustainability Standard BES 6001 Issue 3.1 *Framework Standard for Responsible Sourcing* provides a framework for the assessment of responsible sourcing and to give a route to certification of products.

Its key objectives are:

- To promote responsible sourcing of products;
- To give clear guidance on the sustainability aspects that should be addressed;
- To provide confidence that materials and products are being responsibly source
- To provide a route to obtaining credits within the Materials sections of the Home Quality Mark and the BREEAM family of certification schemes (and the Code for Sustainable Homes where relevant).

It describes the organisational management, supply chain management and sustainable development issues that BRE Global require to be addressed in the certification and approval of the responsible sourcing.

BES 6001 was developed by BRE Global in consultation with a wide range of industry stakeholders to provide a route to certification for responsibly sourced products. Issue 1.0 was published in October 2008, followed by revisions in 2009 and 2014. BES 6001 Issue 3.1 to which this Guidance applies came into force in September 2016.

This Concrete Industry Guidance Document provides an interpretation of the clauses and requirements of BES 6001 Issue 3.1 to assist organisations involved in the manufacture of concrete products and their constituent materials to adopt the principles of the Standard and where applicable prepare for independent assessment.

In addition, it provides background and guidance for assessors in the process of confirming third-party certification for BES 6001 Issue 3.1.

The higher levels of performance are achievable by adopting procedures that are considered as 'best practice' across the construction industry.

Reviewed statement by BRE Global

BRE Global

Since 2009 the Sustainable Concrete Forum (SCF) has produced a Guidance document in conjunction with BRE Global to provide sector specific guidance on how the concrete industry can comply with the requirements of BES 6001. This latest Guidance document (April 2017) has been updated to provide advice on BES 6001 Issue 3.1 and is approved by BRE Global.

BES 6001 Issue 3.1 is a framework standard for responsible sourcing and is the master Standard against which to demonstrate compliance. This sector guidance document provides an interpretation of the requirements of BES 6001 Issue 3.1 and how these can be effectively and consistently met throughout the concrete industry. BRE Global recognises that this

document details industry best practice guidance to demonstrate consistency and potentially compliance with BES 6001 Issue 3.1.

This sector guidance document should be read alongside BES 6001 Issue 3.1. and the BRE BES 6001 Issue 3.1 Guidance Document (PN 237) available on www.greenbooklive.com

BRE Global recognises that the UK Concrete Industries Sustainable Construction Strategy and Performance Indicators were developed in consultation with stakeholders and would encourage this to continue.

Basis of certification

1.1 Introduction

This section provides guidance relating to potential routes and processes to achieve certification.

Within its 'Scope' BES 6001 Issue 3.1 specifies the requirements of BRE Global for a 'product' to be classified as being responsibly sourced. This is different from other management system standards such as ISO 9001 and ISO 14001 where the systems are assessed regardless of the product being produced.

However, compliance with these principles may be demonstrated by a combination of overall organisational policies, procedures and records that apply to the site as being part of that organisation as well as site specific policies, procedures and records.

1.2 Certification

Certification is based upon initial assessment against the requirements of BES 6001 Issue 3.1 (supported by this guidance document) and is maintained by annual verification thereafter with full reassessment after three years.

Certification can be achieved directly through BRE Global, or through an appropriately accredited certifying body (under license to BRE Global). The accreditation body needs to be a member of the International Accreditation Forum (IAF) and/or European Cooperation on Accreditation (ECA). UKAS accreditation complies with this requirement. See <http://www.greenbooklive.com/custom-listing-bes6001.jsp?id=319> for current list of organisations licensed by BRE Global to provide certification services to BES 6001.

The management systems and procedures to meet the requirements of BES 6001 Issue 3.1 may be conveniently implemented by incorporation into the organisation's BS EN ISO 9001 or 14001 management systems. Separate certification to BES 6001 Issue 3.1 will need to be maintained but where the BS EN ISO 9001 and BS EN ISO 14001 systems are certified, assessment to BES 6001 Issue 3.1 can be simplified and on-going validation cost-effectively conducted as part of other system audits.

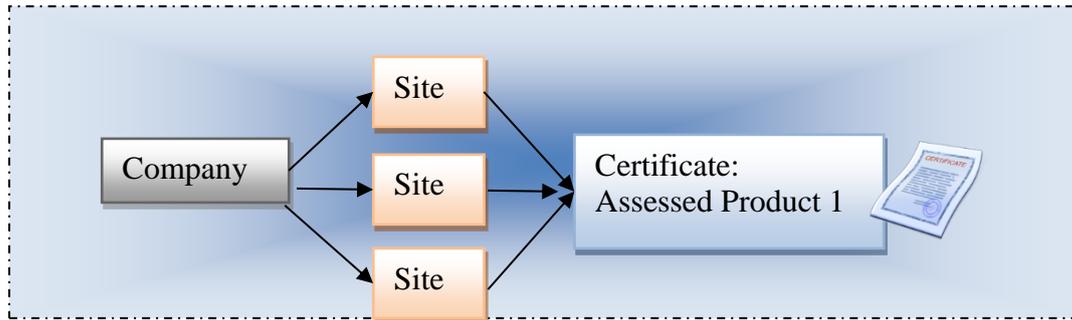
Where an organisation does not have an existing UKAS certified BS EN ISO 9001 or BS EN ISO 14001 system, stand-alone audits for BES 6001 will be required.

1.3 Certification routes

Certification must be 'product specific'. For the concrete industry this would refer to ready-mixed concrete, precast concrete products, cement, aggregate and other constituent materials as given in the Terms and Definitions section of this document.

The following are examples of certification routes for the concrete sector, although these are not exclusive and others may be available.

Example 1: Organisation with one or multiple sites producing the same product group



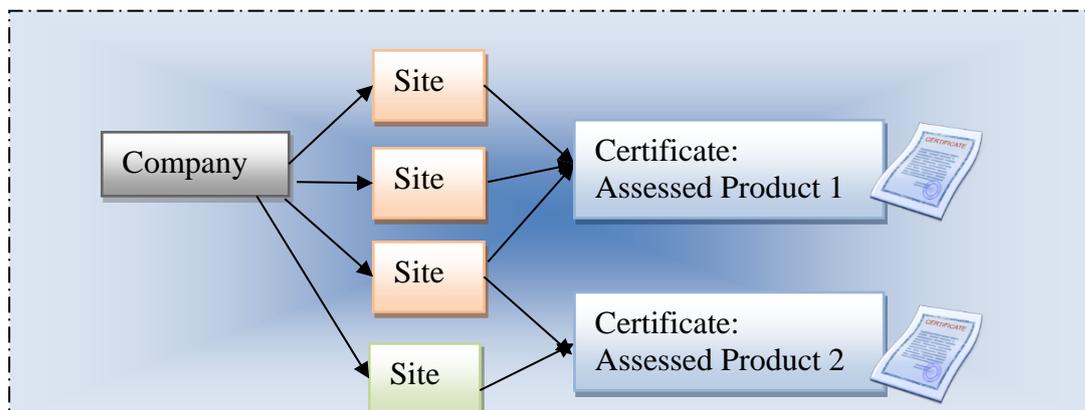
Where an organisation has one or several sites manufacturing one of the product groups described under “assessed product” in section 2 Terms and Definitions of this guide, certification can be achieved by one initial assessment by the UKAS accredited certification body, for the product group.

The assessment will typically take place at an appropriate location within the organisation where overall policies, procedures, management systems and data collection applicable to all plants and products being included in the assessment can be reviewed, for example typically the Head Office or a Regional Office. A number of other sites will also be visited in accordance with a sampling process agreed between the organisation and the assessor.

For the annual verification assessments, where the sites within the scope of the BES 6001 Issue 3.1 certification are covered by BS EN ISO 9001 or BS EN ISO 14001 certification, the additional site/plant specific visits are not required.

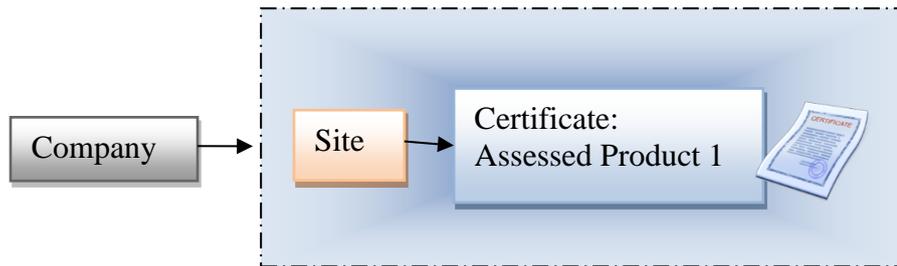
Under this route, the ‘% compliance’ criteria of sections 3.3.1 Material traceability through the supply chain, 3.3.2 Environmental management systems in the supply chain and 3.3.3 Health and safety management systems in the supply chain are calculated as an overall value from all of the sites/plants to be certified

Example 2: Organisation with one or multiple sites producing a range of distinct product groups



Certification may be granted, for instance, to an organisation in the manner described in Example 1, but with additional certification granted for specific sites/plants and/or a specific product if requested by the company. In this instance an additional audit/assessment would be required and an additional certificate would be produced.

Example 3: Individual plants and/or specific products



An organisation may be granted certification for individual sites/plants and/or specific products within its operation without the need to seek overall organisational certification as in *Example 1*. Individual production sites/plants would be issued with completely independent certificates, and this would result in individual audits/assessments being undertaken.

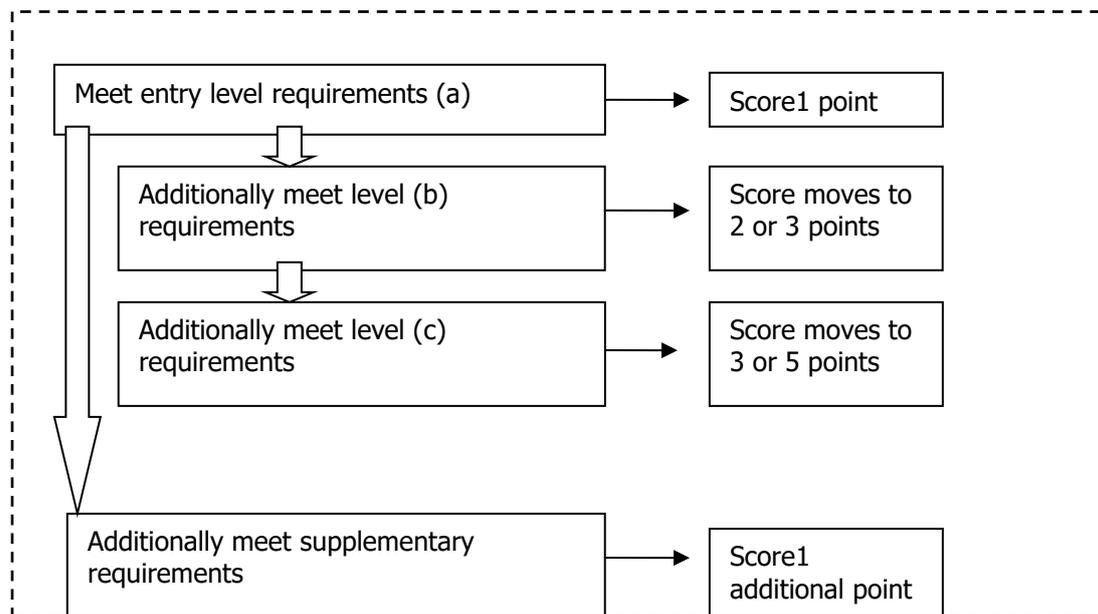
Note relevant to all options

The organisation is required to maintain records of its management system scores, data collection and processes in respect of BES 6001 in order that these may be examined by the UKAS accredited certifying body to verify compliance with the requirements of BES 6001. The records maintained/provided at the assessment stage will depend upon the certification option chosen.

1.4 Overall assessment score

BES 6001 Issue 3.1 is not simply a "Pass or Fail" standard but includes a range of performance levels above a minimum Pass level. Certification will result in an Overall Assessment Score (OAS) being given to the product being assessed. The OAS is divided into four categories; Pass, Good, Very Good and Excellent.

In general, each of the clauses comprises an entry level requirement, which for all but three of the clauses (3.4.2 Energy Use 3.4.7, Ecotoxicity and 3.4.11 Business ethics) is compulsory. This is then followed by optional, progressively increasing performance requirements and additional supplementary credits that can be obtained at any performance level once the compulsory level has been met. The credits obtained through meeting these different types of requirements are totalled to provide the OAS.



Compliance with all of the compulsory requirements only would result in a Pass rating.

To achieve the higher OAS levels requires the organisation to obtain credits by demonstrating compliance with the higher level requirements in clauses. The OAS level is then assigned by matching the total number of credits achieved against thresholds required for each OAS level. It is important to note that the scoring is effectively divided into two sections:

- a. The total score for 3.2 + 3.3
- b. The total score for 3.4

Each of these sections is given a performance rating and the final OAS is the lowest rating of these two parts.

The scoring methodology is detailed in Section 5 SCORING METHODOLOGY (NORMATIVE) of BES 6001 Issue 3.1.

Appendix H of this guidance document also contains a checklist to aid calculation of the Overall Assessment Score.

2 Terms and definitions

The following terms and definitions elaborate on the BES 6001 definition to provide specific interpretations that apply to the concrete sector. Where the BES 6001 definition needs no further interpretation this has been indicated.

Accreditation and accreditation body

See BES 6001 Issue 3.1.

Assessed product

For the concrete and constituent materials sector the term 'assessed product' as applied in BES 6001 could be defined as:

- Precast Concrete
- Ready-mixed Concrete
- Ready-mixed mortar/render/screed
- Dry silo mortar
- Bagged formulations
- Cements
- Primary and recycled Aggregates
- Additions/additives/admixtures
- Ground Granulated Blastfurnace slag
- Fly ash
- Furnace bottom ash

Benchmark

There may be specific benchmarks appropriate for the sector such as targets being developed by the relevant trade associations and within the SCF.

Biodiversity

See BES 6001 Issue 3.1

By-product

See BES 6001 Issue 3.1

Chain of custody

See BES 6001 Issue 3.1

Community reuse and recycling

See BES 6001 Issue 3.1

Commodity

See BES 6001 Issue 3.1

Constituent materials

The 'constituent materials' would generally be cementitious materials, aggregates, fillers, admixtures, reinforcing bar, fibres and pigments used in the manufacture of the products. Primary constituent materials would be those with no upstream supply chain.

For the purposes of assessment of concrete products to BES 6001 Issue 3.1 the **source** is defined for each constituent material as:

- **Cements as described in BS EN 206-1**
the cement production plant.
- **Natural aggregate**
the quarry from which it is extracted and/or licensed areas for dredging.

- **Manufactured aggregates**
the point of production of the aggregate
- **Products and production residues**
the point of production e.g. the collection point at the power station for fly ash and the grinding stage for ground granulated blastfurnace slag (GGBS).
- **Recycled materials**
the point of recovery.
- **Reinforcements, fibres, admixtures and pigments**
the point of manufacture.

Corruption

See BES 6001 Issue 3.1

Due diligence

See BES 6001 Issue 3.1

Environmental stewardship

In terms of the concrete industry this refers to the most efficient and effective use of natural resources and the protection of ecosystems, monitored and measured for example by the application of the SCF performance indicators given within Appendix B.

Freely and publicly available

Impact

Intensity

Metric

Objective

For each of the above see BES 6001 Issue 3.1

Organisation

BES 6001 Issue 3.1 uses the term 'organisation' for the body seeking certification of the product to the standard. For the concrete sector this will usually be the company or group that manufactures the product.

Policy

See BES 6001 Issue 3.1 and examples within Appendices of this guidance document

Priority Species/Habitat

See BES 6001 Issue 3.1

Product

See "Assessed Product" in this list of definitions

Procedure

See BES 6001 Issue 3.1

Process

See BES 6001 Issue 3.1

Raw materials

See BES 6001 Issue 3.1

Recycled materials

See BES 6001 Issue 3.1

Recovered material

See BES 6001 Issue 3.1

Responsible Sourcing

See BES 6001 Issue 3.1

Risk

See BES 6001 Issue 3.1

Significant

See BES 6001 Issue 3.1

Small Organisation

See BES 6001 Issue 3.1

Stakeholder

See BES 6001 Issue 3.1

Supplier

See BES 6001 Issue 3.1

Supply chain

For the purposes of BES 6001 Issue 3.1 the supply chain for the product being assessed includes both the constituent materials suppliers and the organisation manufacturing the product.

Where the product is a primary raw material e.g. a natural aggregate, the supply chain goes back to the source as defined above. In many cases the source (in this case the quarry) effectively forms the manufacturing site for this type of product.

There are several clauses in BES 6001 Issue 3.1 where the interpretation of how to meet the compulsory requirements and obtain the credits available depends on the length of the supply chain. These are explained within the individual clauses.

Sustainability aspect and Sustainability issue

See BES 6001 Issue 3.1

Traceability

See BES 6001 Issue 3.1

Waste

See BES 6001 Issue 3.1

Water abstraction

See BES 6001 Issue 3.1 and section 3.4.5 for further information.

Type III environmental product declaration

Environmental declaration, as defined by BS ISO 14025, based on lifecycle assessment (LCA) providing quantified environmental data using predetermined parameters and, where relevant, additional environmental information

NOTE 1: The predetermined parameters are based on the ISO 14040 series of standards, which is made up of ISO 14040 and ISO 14044.

NOTE 2: The additional environmental information may be quantitative or qualitative.

3 Requirements

3.1 General

This section of the guidance document provides a clause-by-clause interpretation of the requirements in BES 6001 Issue 3.1 using identical numbering.

The Standard is based around a set of requirements structured into three components:

3.2 Organisational management requirements:

These deal with how the manufacturing process is managed for sustainability.

3.3 Supply chain management requirements:

These deal with how the constituent raw materials are managed for sustainability.

3.4 Requirements related to the management of sustainable development:

These deal with particular key aspects of sustainability and how they are considered within the manufacturing organisation.

Notes

The majority of the clauses in BES 6001 Issue 3.1 have a compulsory minimum level requirement with optional higher-level requirements. Only clauses 3.4.2 Energy management, 3.4.7 Ecotoxicity and 3.4.11 Business ethics are optional.

All levels attract credit scores which are related to the four Overall Assessment Ratings Pass, Good, Very Good and Excellent outlined in Section 5 of BES 6001 Issue 3.1. Scores for Section 3.2 and 3.3 are combined and ascribed an assessment level. The scores in Section 3.4 are similarly totalled and allocated an assessment level. The lower of these two levels becomes the Overall Assessment Level included on the certificate.

See Section 1.4 of this Guide for further explanation.

3.2 Organisational management requirements

3.2.1 Responsible Sourcing policy

- a) It is compulsory for the organisation to have a written policy relating to responsible sourcing, approved by the company's senior management. An example policy is given within Appendix C of this guidance document.

The policy must be dated and signed by a Senior Manager and integrated into the appropriate organisational management system(s). The policy also needs to be regularly reviewed to ensure that it remains appropriate and evidence of this review will need to be provided. It also needs to be communicated and accessible to all staff, demonstrated for example through formal staff training, direct communications, company newsletters and 'Tool Box Talks'.

Where an organisation has an existing range of policies, to avoid repetition, this may be accepted as effectively forming a documented responsible sourcing policy if it can be demonstrated that the policies encompass the principles included in Section 4 of BES 6001 Issue 3.1.

3.2.2 Legal compliance

- a) It is compulsory for the organisation to establish, implement and maintain procedures to demonstrate how it keeps up to date with new legislation/regulations. These procedures should be integrated into the management system(s).

Typical procedures are the use of internal or external legal specialists to analyse relevant developing legal issues or the use of external legal database systems by internal specialists e.g. Croner, ENDS, CEDREC.

A register of any convictions because of failure to comply with environmental, health & safety and employment legislation should be maintained but having a prosecution does not prohibit an organisation from achieving BES 6001 certification if it can demonstrate that it has taken or is taking steps to prevent any further non-compliance.

3.2.3 Quality management system

- a) It is compulsory for the organisation to have in place a documented quality management system which includes the assessed product within its scope. This system must follow the fundamentals of BS EN ISO 9001 but the system does not have to be certified. Responsible Sourcing procedures may be incorporated within an organisation's quality or environmental management system.
- b) To achieve this higher performance rating, the quality management system must be certified as in compliance with ISO 9001 (or equivalent) by an accredited certifying body. The product being assessed and the manufacturing site(s) details must be included within the scope of the certification.

3.2.4 Supplier management systems

- a) It is compulsory for the organisation to have in place a documented supplier and purchasing management system.

A convenient method to embed this into management systems that is within the organisation's quality management system, following the principles of the purchasing section of BS EN ISO 9001.

A list of suppliers of constituent materials must be maintained as part of the quality management system.

Where the organisation acquires constituent materials from a supplier based outside of the EU or from states that have not declared adherence to the OECD Guidelines for Multinational Enterprises, BES 6001 Issue 3.1 requires a risk assessment to be carried out and due diligence shown relating to determining **that supplier's** compliance with the ILO Declaration on Fundamental Principles and Rights at Work.

Where a risk assessment is appropriate it needs to be provided for 98% of all constituent materials.

BRE Guidance to BES 6001 Issue 3.1 acknowledges "*...the maturity of a sector is a challenge*" in this respect so that "*...where a Tier 1 supplier of an input material used in a product under assessment is located in the EU but constituent materials for that product are extracted from outside of the EU (best practice aside) BES 6001 does not require the organisation under assessment to have undertaken a risk assessment and to demonstrate due diligence on the Tier 2 supplier*"

Note

Any constituent material that is supplied under BES 6001 certification will be deemed to meet the requirements as being responsibly sourced. Where the product being assessed is a primary raw material (i.e. where there is no supply chain) being extracted or recovered by the organisation (e.g. aggregate) or its constituents are produced at the same site under the same management system (e.g. cement) it will be deemed to satisfy 3.2.4 Supplier Management Systems where requirements 3.2.1a Responsible Sourcing Policy, 3.2.2a Legal Compliance and 3.2.3a Quality Management System have been met.

3.3 Supply chain management requirements

The % performance rating for each of the following sub-sections should be based on the criteria which is most relevant for the product being assessed and the choice must be clearly defined, justified within the assessment and consistently used throughout the whole of Section 3.3. BRE suggests the criteria should be either volume, mass or cost. Mass seems the most appropriate criterion for concrete products.

3.3.1 Material traceability through the supply chain

- a)** It is compulsory for the organisation to be able to supply evidence to demonstrate that at least 60% by mass, volume or cost of the constituent materials of the product is supplied by:
- Organisations certified by a UKAS accredited certifying body to BS EN ISO 9001.
- or
- Organisations that can demonstrate equivalent documented evidence of material traceability.

For typical concrete materials traceability should be:

Primary Aggregates – to the quarry

Recycled aggregates – to the supplier recovering and recycling the materials into a usable product

By-product aggregates (e.g. furnace bottom ash, china clay residues) – to the source of production and processing e.g. in the examples the power station or the quarry

Cement – to the production plant

Fly ash – to the power station or contractor processing at the power station

GGBS – to the grinding plant

Admixtures – to the admixture manufacturer

Reinforcing steel – to the reinforcement manufacturing site

- b)** To achieve this higher performance rating the organisation must provide evidence as **a)** above but relating to at least 75% of constituent materials.
- c)** To achieve this higher performance rating the organisation must provide evidence as **a)** above but relating to at least 90% of constituent materials.

Note 1

The definition of constituent materials is given in the alphabetical list of definitions in this guidance document.

Note 2

Any material supplied under a certificated BES 6001 compliant RSM scheme can be included in the percentages meeting these requirements.

Where the product being assessed is a primary raw material (i.e. where there is no supply chain) being extracted or recovered by the organisation (e.g. aggregate) or its constituents are produced at the same site under the same management system (e.g. cement) it will be deemed to satisfy the requirements of higher level performance **c)** where requirement 3.2.3b has been met.

3.3.2 Environmental management systems (EMS) in the supply chain

- a) It is compulsory for the organisation manufacturing the assessed product to operate environmental management systems following the fundamentals of BS EN ISO 14001.

It is also compulsory that **60%** of its constituent materials are traceable to suppliers with environmental management systems following the fundamentals of BS EN ISO 14001.

(N.B this is a change to previous issues of BES 6001 where all 'traceable' constituent materials needed to demonstrate a documented EMS)

- b) To achieve this higher performance rating the organisation must provide evidence that at least 60% of the plants at which the assessed product is manufactured operate under an EMS system to BS EN ISO 14001, EMAS certificated by an accredited organisation or in the case of an SME, the EMS complies to BS 8555 (or equivalent) in structure and the organisation has completed the phase 1 to 4 audits.

and

The organisation must be able to supply evidence that at least 60% by mass, volume or cost of the constituent materials of the product is supplied by organisations operating environmental management systems that cover those materials and that the EMS systems are certificated to BS EN ISO 14001, EMAS by an accredited organisation or in the case of an SME, the EMS complies to BS 8555 (or equivalent) in structure and the organisation has completed the phase 1 to 4 audits.. The sites from which the constituent materials are supplied must be identified within the supplier's EMS certificates.

- c) To achieve this higher performance rating the organisation must provide evidence as **b)** above but providing evidence relating to at least 75% of the constituent materials.
- d) To achieve this higher performance rating the organisation must provide evidence as **b)** above but providing evidence relating to at least 90% of the constituent materials.

Note

Any material supplied under a certificated BES 6001 compliant responsible sourcing scheme can be included in the percentage meeting this requirement.

Where the product being assessed is a primary raw material (i.e. where there is no supply chain) being extracted or recovered by the organisation (e.g. aggregate) or its constituents are produced at the same site under the same EMS (e.g. cement) it will be deemed to satisfy the requirements of 'higher level performance **d)** where the EMS system complying with BS EN ISO 14001, EMAS or equivalent is certificated by an accredited organisation or in the case of an SME, the EMS complies to BS 8555 (or equivalent) in structure and the organisation has completed the phase 1 to 4 audits.

Constituent materials which are recycled materials, recovered materials or by-product as defined in BES 6001 Issue 3.1 are considered to satisfy this requirement without further verification. Examples for the concrete sector are ggbs, power station ashes, recycled aggregates and recycled concrete aggregates.

3.3 Supply chain management requirements (cont.)

3.3.3 Health and safety (H&S) management systems in the supply chain

- a)** It is compulsory for the organisation manufacturing the assessed product to operate a documented health & safety management system.

The organisation must demonstrate compliance with local legislation by maintaining an H&S legal register and records of any legal non-compliance.

Additionally, the organisation must keep records of near miss incidents, time loss incidents and fatal incidents.

Organisations signed up as members of Health & Safety Executive (HSE) schemes or recognised trade association schemes or similar can use their membership to demonstrate compliance to H&S recording and reporting.

It is also compulsory that **60%** of its constituent materials are traceable to suppliers that operate documented H&S management and similar incident reporting.

(N.B this is a change to previous issues of BES 6001 where all 'traceable' constituent materials needed to demonstrate a documented H&S system)

- b)** To achieve this higher performance rating the organisation must provide evidence that at least 60% of the plants at which the assessed product is manufactured operate under a BS OHSAS 18001 or equivalent scheme certificated by an accredited organisation.

and

The organisation must be able to supply evidence that at least 60% by mass, volume or cost of the constituent materials of the product is supplied by organisations operating H&S systems that cover those materials and that the H&S systems are certificated to OHSAS 18001 or equivalent by an accredited organisation. Current certification must be readily linked to manufacturing sites for raw materials.

- c)** To achieve this higher performance rating the organisation must provide evidence as **b)** above but relating to at least 75% of the constituent materials.
- d)** To achieve this higher performance rating the organisation must provide evidence as **b)** above but relating to at least 90% of the constituent materials.

Note

Any material supplied under a certificated BES 6001 compliant RSM scheme can be included in the percentage meeting this requirement.

Where the product being assessed is a primary raw material (i.e. where there is no supply chain) being extracted or recovered by the organisation (e.g. aggregate) or its constituents are produced at the same site under the same H&S system (e.g. cement) it will be deemed to satisfy the requirements of 'higher performance level **d)** where the H&S system is in compliance with OHSAS 18001 or equivalent certificated by an accredited organisation.

3.4 Requirements related to the management of sustainable development

General Requirements

To avoid repetition in the document, BES 6001 Issue 3.1 includes this general section in 3.4, which sets out the actions required under the terms 'establish a policy supported by documented management systems', 'report to its stakeholders' and 'external verification' where they are used in each of the Sub-clauses in 3.4.

'Establish a policy supported by documented management systems'

The organisation must have a written policy approved by the organisation's senior management for each of the relevant requirements of section 3.4. This could be a separate policy for each criterion but could be more conveniently dealt with by inclusion of a number of the criteria within a more general policy, for example an Environmental Policy (e.g. see Appendix D). Appropriate metrics must be produced and the organisation must also have documented objectives and targets relevant to its industry.

The policy must be dated and signed by a Senior Manager, procedures for obtaining data and setting objectives and targets should be supported by a management system or more conveniently integrated into the organisation's management systems such as Quality (QMS), Environmental (EMS) and HR management systems. The policy must be regularly reviewed and evidence of review will need to be available.

The Sustainable Concrete Forum (SCF) has agreed, as part of its stakeholder engagement process, a series of metrics in the form of performance indicators (PIs) that will be instrumental in the development of sector targets and benchmarks of performance. These are summarised in Appendix B of this guidance.

Adopting these PIs as the appropriate metrics for each of the environmental and social requirements of Section 3.4 of BES 6001 Issue 3.1 forms a convenient method to demonstrate the appropriate metrics are being used and aids the industry benchmarking and stakeholder engagement process.

The relevant PI for each requirement is indicated under each clause interpretation. For each of these the industry has produced further recommended guidance defining their measurement, collation and reporting. This facilitates consistent and comparable reporting and assessment across the industry (see "Concrete Industry Guidance on Sustainability Performance Indicators" available at www.sustainableconcrete.org).

Adopting the SCF and its member trade associations' improvement targets can also provide a convenient method of establishing objectives and targets. Depending on particular circumstance and previous improvements made it may not always be possible to adopt the overall industry target but using these as a starting point and demonstrating the reason for any variations can be useful.

These PIs and targets are advisory but, where others are used, the organisation is likely to need further justification with regard to the selection of the particular metric used, targets and objectives set and any relevant stakeholder consultation.

General (cont.)

'Report to its stakeholders'

BES 6001 Issue 3.1 requires the organisation to demonstrate that it has reported openly on its performance and consulted with relevant stakeholders that could be affected by the production and use of its products.

Evidence of communication to stakeholders can be via the organisation's web site or paper-based annual reports.

An example template for reporting the stakeholders is shown in Appendix H.

The concrete sector, represented by the SCF, has established a sustainability strategy, based on stakeholder consultation that includes eight key commitments (Appendix A). Organisations that have signed up to these commitments either directly or through their trade associations may use this as evidence of benchmarking where applicable in BES 6001.

Extract from Appendix A:

As instruments of change, trade associations will facilitate the collection of performance data from members, establish performance benchmarks, agree performance targets with their membership, take part in periodic target setting and reviews at association and industry levels, and contribute to a published annual performance report for the UK concrete industries.

'External verification'

The organisation must demonstrate that its data has been externally reviewed and verified as accurate by an independent competent third party.

BRE gives some guidance within clauses on schemes that can be regarded as providing evidence of verification but does not define what would be regarded as a 'competent' third party but if using this route to obtain higher performance credits it is recommended that an organisation determines that the verifier is acceptable to BRE and/or the licensed BES 6001 assessors. Type III declarations may also be used as verification confirmation as appropriate.

3.4.1 Greenhouse gas emissions

- a) It is compulsory for the organisation to establish a policy, supported by a documented management system and metrics with objectives and targets for the reduction of greenhouse gas emissions to the principles of BS EN ISO 14064-1.

It may be convenient to include procedures for managing this aspect within the organisation's EMS or energy management system.

The metric must include:

- Emissions and removal of GHG related to its direct operations for example from fuel burned and chemical processes that produce GHG
- Indirect emissions and removals related to energy use for example GHG from electricity production

The appropriate SCF metric is given in 2.2 of Appendix B to this guide. For the purpose of this guidance the term used is CO₂.

For many organisations the metric will be related to measurement of energy usage which can then be converted to GHG by the use of appropriate factors. In general, the

SCF PIs adopt DEFRA conversion factors published annually, although other factors used in EUETS, CRC and CCA schemes may also be used.

- b)** To achieve this higher performance rating the organisation must demonstrate reporting of performance to stakeholders.

BES 6001 acknowledges that there may be issues related to competition law that prevent an organisation from reporting publicly. In this case the organisation may provide evidence that it has submitted data to a trade association (for concrete such as MPA and British Precast) which then subsequently reports at sector level.

- c)** To achieve this higher performance rating the organisation must demonstrate external verification of the reported data.

The European Union Emissions Trading Scheme (EUETS), Carbon Reduction Commitment (CRC), Climate Change Agreement (CCA) and PAS 2050 reporting all include elements of third party verification of energy/carbon emissions data that can be used in this respect where the products the products under assessment are within the scope of the third-party scheme.

Environmental Product Declarations are not accepted as a means to demonstrate stakeholder reporting or verification in this section.

3.4.2 Energy Use

- a)** This is an optional criterion within BES 6001 Issue 3.1. To meet the requirements the organisation must have in place a policy relating to energy use, supported by a documented management systems and establish appropriate metrics and review performance. This policy does not need to be independent if the principles are covered in existing policies such as sustainability or GHG policy.

The aim is to encourage the organisation to reduce energy intensity. The appropriate SCF metric is given in 2.1 in Appendix B to this guide.

The scope of the energy being measured should relate to operations within the organisational boundary i.e. those operations that are under the financial and/or operational control of the organisation including those where financial and/or operational control is shared with another organisation. The Concrete Industry PI Guidance document provides more detail.

Certification to ISO 50001 or compliance with ESOS meets this requirement.

3.4.3 Resource use

- a)** It is compulsory for the organisation to establish a policy for the efficient use of constituent materials supported by a documented management system with metrics, and improvement targets and objectives in place.

Concrete sector materials and products are generally defined as non-renewable with regard to this requirement however materials such as natural aggregates can be regarded as abundant materials in relation to resource use. The industry also uses a significant volume of recycled, by-product and secondary materials such as fly ash and GGBS and recycled aggregates.

The appropriate SCF metrics are 3.1a, 3.1b, 3.1c and 3.1d of Appendix B to this guide.

Concrete product producers operate mix design and cost control to meet functional requirements that will also contribute to resource efficiency, for example by using cementitious contents no higher than required for the product function and the use of admixtures to optimise the performance of the cementitious component.

All concrete is fully recyclable and uses recycled constituent materials where environmentally beneficial within the limitations imposed by functional requirements.

In some cases, the function requirements of concrete products limit or even prevent the use of recycled materials. An organisation is likely to be required to supply evidence if this applies.

- b)** To achieve this higher performance level the organisation must demonstrate at least two types of action from the list in BES 6001 Issue 3.1.

End-of-life actions:

As concrete is fully recyclable at end-of-life and most concrete from demolition sites is recycled it can be argued that this action is fulfilled by concrete products. Stakeholders should be provided with information that this is the case through sales and technical literature.

Any work done on design for deconstruction and improving re-use of for example precast products and 'Take-back' schemes would also provide suitable evidence.

Lifetime extension actions:

As concrete as a material generally outlives its design life in modern projects through specifications related to strength and durability and is relatively maintenance free, it can be argued that meeting those specifications complies with this requirement.

Additional evidence such as research into mix designs, use of modified mixes with secondary cements and admixtures to meet specific in-service requirements (e.g. sulphate attack), structural and architectural design guidance to enhance durability and weathering and a whole range of in-use and maintenance guidance can be used to actively demonstrate extension of life issues.

Engagement activities:

Involvement and active support of the concrete REAPs and adoption of their recommendations would provide clear evidence of engagement as well as, for example, advice to stakeholders on the potential benefits of achieving a balance between local virgin materials and recycled materials.

Company technical literature is supported by a wide range of publications by MPA The Concrete Centre which provide stakeholders with advice on many of these aspects of resource efficiency and sustainability. Through membership of MPA and related concrete trade associations, organisations are effectively contributing to this continuous supply chain engagement. Documents can be found at www.sustainableconcrete.org.

Where the assessed product is effectively a constituent material for concrete, the organisation can also use its involvement and interaction with downstream concrete producers to support its resource use policy and management, particularly where products have been modified to improve the functionality and resource efficiency of concrete products.

The concrete industry has launched Resource Efficiency Action Plans to improve long term performance of concrete and its supply chain. An organisation can use support and involvement in these plans as evidence of commitment to resource efficiency.

- c) To achieve this higher performance rating the organisation must demonstrate reporting to stakeholders. An example of reporting is shown in Appendix H.

Supplementary

At any stage above the compulsory level this additional credit can be achieved by demonstrating environmental stewardship at the source of constituent materials. *Guidance to Issue 3.1 of BES 6001 suggest that this should cover at least the materials (60%) to meet the compulsory traceability requirement in 3.3.1.*

This can be demonstrated by providing specific externally verified evidence that constituent materials suppliers have biodiversity plans and other schemes that are common and encouraged under the MPA biodiversity strategy and the SCF targets in relation to PI 3.3 in Appendix B.

An example of external verification would be where there is evidence of the biodiversity plan within a certified EMS.

The use of constituent materials that are recycled, by-products or production residues is a good example of implementing resource use and circular economy principles. The use in concrete production of materials such as power station ashes, granulated and ground granulated blast furnace slags, recycled aggregates and by-product china clay residue is a key element in the environmental stewardship activities of the source producers of these materials. It is expected that sources such as power stations, steel smelters and quarries will have basic environmental management systems in place. Therefore, the use of these types of materials can be considered as contributing towards the 60% minimum for the traceable materials without further verification.

Where the product being assessed is a primary raw material (i.e. where there is no supply chain) being extracted or recovered by the organisation (e.g. aggregate) or its - constituents are produced at the same site under the same responsible sourcing policy (e.g. cement) it will be deemed to satisfy the requirements of this supplementary if there is an externally verified biodiversity action plan (BAP) or similar initiatives in place (see above for an example of external verification).

3.4.4 Waste Prevention and waste management

- a) It is compulsory for the organisation to establish a policy for the diversion of waste from landfill or incineration without energy recovery supported by a documented management system with metrics, and improvement targets and objectives in place.

The waste hierarchy refers to the principle of management of waste with the priority:

Reduce ⇔ Reuse ⇔ Recycle ⇔ Recover ⇔ Dispose

The appropriate SCF metric is 1.2 of Appendix B to this guide. (Note: Waste to incineration without energy recovery is counted as waste to landfill within this metric).

Additional metrics relating to this are 3.1a, 3.1b, 3.1c and 3.1d in Appendix B.

The organisation should also provide evidence that all controlled waste arising is treated

correctly to reduce and risk to human health and the environment is low and all local regulatory requirements are fulfilled. Correct storage, segregation and removal by licensed waste contractors could be appropriate evidence usually managed within an EMS. Licensed waste treatment and disposal contractors will be able to provide information on the amount of waste they handle that is recycled and how non-recycled product is disposed.

To ensure this the organisation needs to understand the scope of its controlled waste which is defined in the Environment Protection Act of 1990 and the Controlled waste Regulations 1992 as 'household, industrial, commercial waste or any such wastes that require a waste management licence for treatment, transfer or disposal'.

- b)** To achieve this higher performance rating the organisation must report its performance to stakeholders including levels of waste production relative to output set against targets for reduction over time and comparison to industry benchmarks where available.

The SCF PI's represent appropriate reporting metrics while the SCF and other sector annual sustainability reports provide suitable benchmarking.

- c)** To achieve this higher performance rating the organisation must demonstrate external verification of the reported data.

Supplementary

At any stage above the compulsory level this additional credit can be achieved by reporting to stakeholders on at least two of the list of aspects.

Sector overview:

The SCF, MPA and BPCF reports provide a useful overview of the sector performance that can be referenced. The industry consumes a mass of waste, recycled and by-product materials that is many times more than the waste it disposes to landfill.

Encourage post-consumer actions/future re-use and recycling:

Evidence supporting the 'end-of life' actions noted under 3.4.3 would also be appropriate in this context.

Levels of Community re-use:

Reporting on whether there are formal local schemes for reuse or recycling of the organisations waste.

Reporting levels waste disposal against targets:

Reporting as in (b) above using the SCF PIs would be appropriate.

Staff and Supply Chain engagement:

Examples such as internal (e.g. regular updates on performance, tool box talks) and external communications to encourage staff and stakeholders to reduce waste to the waste hierarchy principles could be used. Technical literature related to design and site practices to reduce waste and reworking could be used as supporting evidence.

3.4.5 Water abstraction or Usage

- a)** It is compulsory for the organisation to establish a policy for the reduction of its use of water relative to its production output, supported by a documented management system with metrics and improvement targets and objectives in place.

It is accepted that for certain concrete industry products, a finite amount of water must be used for the hydration of cement and to facilitate handling and compaction of concrete. This water must be of potable quality (as restricted by the relevant British and European Standards pertaining to concrete industry products).

The appropriate SCF metric is 3.2a and 3.2b of Appendix B to this guide. These relate to the use of mains water and controlled groundwater respectively.

Water footprint calculation to ISO 14046 would be regarded as suitable metric.

Controlled groundwater is defined as water abstracted from boreholes and other surface abstracted water such as rivers and streams (all of which are interconnected).

BES 6001 Issue 3.1 allows certain types of water to be excluded from the policy and management system.

Any water abstracted from a groundwater source and then returned to the same source without being used, together with recycled water and rain water should be excluded. This is classified as water subject to transfer licenses under the 2003 water act.

Where products do not need direct input of water e.g. dry silo mortar and bagged products, the BRE guidance to BES 6001 Issue 3.1 acknowledges that the policy "need only be appropriate in scale to the usage level of water".

- b) To achieve this higher performance rating the organisation must report its performance to stakeholders on levels of water usage relative to output set against targets for reduction over time.

The SCF PI's represent appropriate reporting metrics while the SCF and other sector annual sustainability reports provide suitable benchmarking.

- c) To achieve this higher performance rating the organisation must demonstrate external verification of the reported data.

Supplementary

At any stage above the compulsory level this additional credit can be achieved by providing evidence that the company has promoted the reduction of water use. Evidence of activities related to staff and supply chain engagement to promote behavioural change and share best practice in water use reduction are a typical example of appropriate evidence.

Evidence could be in the form of internal communications such as regular performance reporting and tool box talks on water usage and external information given, for example, to customers on designing with concrete products to facilitate efficient water management during construction and the life of a project. Many concrete products are instrumental in providing the infrastructure and other means to manage water usage effectively and mitigate the effects of climate change such as flood resistance and control. Best practice examples and case studies shared within concrete sector publications, the concrete industry REAPs and industry awards could provide good examples.

3.4.6 Life cycle assessment (LCA)

- a) It is compulsory for the organisation to have a policy to use life-cycle thinking and/or assessment methods to identify and improve performance in relation to significant environmental impacts of the products being assessed which is supported by documents

within the management systems.

To meet this requirement the organisation must be able to demonstrate how it has systematically considered the whole life cycle from raw materials extraction through to eventual disposal or recycling ('Cradle-to-Grave').

Examples of how to demonstrate this could be to assess and provide information to stakeholders on:

- Methods in place to assess the most appropriate raw materials and their suppliers to minimise environmental impacts.
 - How materials transported to the production site and any implications of deliveries for the environment and local community.
 - Methods to establish the environmental aspects and impacts of product manufacture.
 - How deliveries of product are organised to minimise impacts
 - How product design and handling affect the construction process and waste generation.
 - How correct design, installation, use and maintenance of the products can influence the environmental performance of the building or projects.
 - What methods can be used to reuse or recycle the products at end of life to avoid disposal.
- b)** To achieve this higher performance rating the organisation must demonstrate that they have participated in a freely and publicly available LCA study that conforms to the requirements of ISO 14040 and ISO 14044.

Examples would be providing evidence that data has been provided for incorporation into BRE Environmental Profiles and Green Guide Ratings, generic product sector LCA studies and EPD and PAS 2050 declarations. The BPCF generic EPD launched in 2016 meet this requirement. However, in all cases data from the organisation being assessed must have been included in the LCA/EPD.

- c)** To achieve this higher performance rating the organisation must provide an independently verified Environmental Product Declaration (EPD) for its assessed product that conforms to the requirements of ISO 14025 and ISO 21930 or EN 15804. The EPD must be freely and publicly available.

N.B the credits for c) in this clause can be achieved without having met the requirements for b)

3.4.7 Ecotoxicity

- a)** This is an optional criterion within BES 6001 Issue 3.1. To meet the requirements the organisation must be able to demonstrate that it has carried out a hazard assessment of chemicals present and used in the manufacture of its product against the full list and candidate list of Substances of Very High Concern (SVHC) within the REACH regulations.

http://www.thereachcentre.com/site/content_svhc_information_page.php.

In most cases, material suppliers and manufacturers of other chemicals used directly in production will be able to provide information on the constituents and give advice of anything included on the SVHC lists.

The assessment does not need to include other chemicals and substances not used in production e.g. office supplies, machine lubricants.

3.4.8 Transport impacts

- a) It is compulsory for the organisation to establish a policy for continually reducing the environmental impacts associated with the transport of materials, goods, and people involved in its operations. The policy needs to be supported by documented management systems, metrics and improvement objectives and targets.

N.B. The inclusion of the term 'materials' in this requirement does not refer to constituent materials transported for use in the assessed product. These are covered in requirement (b).

The policy needs to identify appropriate, significant, direct impacts associated with the modes of transport used by the organisation. The methodology used needs to be documented with mitigation strategies for the significant impacts.

The BRE Guidance to Issue 3.1 provides further advice that the methodologies would typically be comprised of actions such as:

- Map out the scope of the transport activities over which the organisation itself has direct financial or operational control.
- Identify impacts where improvements can be made for example, fuel usage/efficiency, emissions to air, land and water, accidental emissions (spills) to air and water, noise, packaging used for transport/distribution
- identify actions to reduce impact
- prioritise impact reduction activities
- regularly review progress on these activities
- regularly report on progress

Typical mitigation strategies to reduce environmental impacts can include but are not limited to a range of issues such as:

- Providing driver training
- Modernising fleets"

The SCF industry analysis of significant impacts concluded that CO₂ emission from the use of fuel was the major environmental impact of delivery of products and materials and reports these annually with the aim of setting improvement targets once reliable base data has been obtained. Data is being collated on the basis of the SCF metrics in 2.3a, 2.3b, 2.3c and 2.3d of Appendix B to this guide.

The Concrete Industry Performance Indicator Guidance includes a simplified method for calculating the CO₂ emissions per tonne from transport which can be used to assess the impact of product delivery transport.

As customers will in the main request delivery to specific sites, an organisation often has limited options for reducing the delivery distance unless they have a number of sites producing identical products. It is also possible that with rationalisation of production sites the average distance may tend to rise. Mitigation of impacts is mainly through choice of production location where possible, maximisation of payload of each delivery to reduce the number of vehicle movements and choice of the most effective mode of transport. The SCF PIs were chosen to reflect this.

An example impact assessment for transport is shown in Appendix I

With regard to people movement, this applies mainly to people travelling on company business and using company vehicles. Typical evidence would include policies relating to driver training, types of vehicle used, business mileage monitoring.

- b)** To achieve this higher performance rating the organisation must extend the policy and metrics in (a) to the transport of its traceable constituent materials as determined in 3.3.1.

Where constituent materials in use are certified to BES 6001 Issue 3.1 it can be assumed that those suppliers have met the compulsory transport requirements and therefore the organisation has by extension met the requirements of this part of their own product's assessment.

Where primary raw materials themselves are the assessed product they are deemed to meet this requirement by having met the requirements of part (a) of this clause.

Supplementary

At any stage above the compulsory level this additional credit can be achieved by reporting performance against its transport policy and objectives to stakeholders on at least **two** of the following aspects:

- Methodology for identifying significant environmental impacts
- The significant environmental impacts identified
- Mitigation strategies for these impacts
- Performance against targets

Publishing the impact assessment (e.g. via a website or annual report) and providing data related to the SCF KPIs could provide appropriate evidence for this credit.

3.4.9 Employment and skills

- a)** It is compulsory for the organisation to establish a policy, supported by a documented management system with metrics and objectives and targets for the learning and development of its employees and carry out regular reviews of performance.

The policy must give an objective to cover the principles of responsible sourcing, as it relates to the organisation's policies, within induction programmes and in all relevant professional and functional training. Appendix F gives an example Training Policy.

BS EN ISO 9001, BS EN ISO 14001 and OHSAS 18001 management systems include specific requirements for 'training and competence' pertaining to initial and ongoing training, assessment and review and can be used in providing supporting evidence.

The appropriate SCF metric is 4.2a and 4.2b of Appendix B to this guide.

Typical further evidence in support of this requirement could include regular personal development and training reviews, training matrices, tool box talks and other competence measures such as NVQ's, IOSH and mobile plant handling qualifications.

MPA British Precast collects the simple metric of 'training hours per employee'.

The BRE Guidance now confirms that having Investors in People (IiP) certification is no longer deemed to satisfy this requirement although elements of the organisations IiP may provide appropriate evidence.

- b) To achieve this higher performance level the organisation can either:

Report to stakeholders on its learning and development of its employees,

or

Extending the policy to include an intention to enhance the diversity and inclusiveness of the workforce and undertake regular reviews of its performance.

BES 6001 Issue 3.1 does not give formal definitions of inclusiveness and diversity but the BRE Guidance document gives broad definitions:

- “**Inclusion** is about a work environment where everyone has an opportunity to fully participate in creating business success and where each person is valued for their distinctive skills, experiences and perspectives”
- “**Diversity** is the recognition of the existence of many unique individuals in the workplace. This includes men and women from different nations, cultures, ethnic groups, generations, backgrounds, skills, abilities and other unique differences”

The SCF is investigating a diversity related metric through the reporting of a range of gender and age specific data.

- c) To achieve this higher performance level the organisation must demonstrate external verification of the reported data.

A typical reporting template is included in Appendix H

3.4.10 Local communities

- a) It is compulsory for the organisation to establish a policy to identify and consult with local community stakeholders directly affected by the activities and operations of the organisation. The policy needs to be supported by documented management systems, metrics and improvement objectives and targets.

The organisation must also have written procedures to record all complaints from the local community and stakeholders and any subsequent prosecutions and associated corrective actions. This may be undertaken as part of an organisation’s existing BS EN ISO 9001 or BS EN ISO 14001 management systems (which already include specific requirements pertaining to complaints handling, monitoring, corrective and preventative actions).

Whilst the above systems cover all activities, it is recognised that the impact of certain sites on the local community are less significant than others and therefore the organisation shall hold a list of ‘relevant’ sites for the purposes of community liaison activities, together with justification of exclusions. The term ‘relevant’ refers to production sites such as quarries or cement works that directly impact on the local community and/or the environment. However, the vast majority of single production plants/sites such as ‘ready-mixed concrete’ and ‘precast’ plants would be excluded as they are generally located within industrial areas and have little or no impact upon their immediate community.

Community liaison activities can refer to, but is not exclusively limited to the following:

1. Complaints management
2. Liaison groups or council meetings
3. Open days
4. Public meetings
5. Community Newsletters
6. Social, recreational and educational activities involving the local community
7. Other as appropriate

The appropriate SCF metrics are 1.3 and 4.3 of Appendix B to this guide.

An example of an additional metric would be to use the record of complaints to demonstrate the level of impact on the local community. It would seem reasonable for most sites in the concrete supply chain to target zero complaints or significant reduction where a site is in a more sensitive location that may naturally generate more local issues.

- b)** To achieve this higher performance rating the organisation must carry out regular reviews of its performance in terms of local community stakeholders, liaison activities and complaints.

It must also carry out one of the following:

Report to its stakeholders on its performance as above (for example reporting on complaints).

In many cases the majority of the constituent materials are sourced from within a relatively small radius of the site. The data to demonstrate this will be being maintained within the constituent materials receipts records. A reporting example may be the percentage of materials sourced from within a local distance of the site

or

Have a written policy to use local sourcing and local business where appropriate and practical.

BES 6001 Issue 3.1 does not define 'local' although the BRE guidance document does include a definition based on the 'administrative area' but does not give a definition of the administrative area.

- c)** To achieve the higher performance rating the organisation must demonstrate external verification of the reported information and data.

3.4.11 Business Ethics

- a)** This is an optional criterion within BES 6001 Issue 3.1. To meet the requirements the organisation must have in place a policy and documented code of business ethics signed by a senior manager where adherence to the code is an obligation for all employees. There must be positive evidence of adherence to the code for example all employees being required to sign a statement in relation to adherence as part of their employment terms and conditions.

The organisation must also conduct and document a risk assessment of its operations focussed on the avoidance of bribery and corruption which must be reviewed regularly as appropriate to the operations of the organisation.

There are templates available from HR specialists to assist smaller organisations to carry out this type of risk assessment.

The organisation must also have in place a mechanism for the confidential reporting, investigation and resolution of suspected bribery and/or corruption cases.

Supplementary

A supplementary credit is available if the organisation can provide evidence that it produces an Anti-Trafficking and Slavery statement that demonstrates a commitment to the eradication of forced labour and trafficking and ongoing due diligence to prevent it.

See link to the Modern Slavery Act 2015:

<http://www.legislation.gov.uk/ukpga/2015/30/contents/enacted>

An example of a modern slavery policy and statement published by the Homes and Communities Agency is available at

<https://www.gov.uk/government/publications/modern-slavery-act-2015-policy-and-statement>

Appendix A (Concrete industry sustainability strategy)

2008 Strategy



Sustainable Construction Strategy

FOR THE UK CONCRETE INDUSTRIES

We, the undersigned, agree to contribute to the fulfilment of the UK Concrete Industries' vision to be recognised as leaders in sustainable construction; to support the four strategic objectives and to deliver the eight commitments, as outlined in the Concrete Sustainable Construction Strategy dated 30 July 2008 and as summarised here.

We agree as companies to implement these fully, or as trade associations to encourage our members to do so. We will communicate the strategy both internally and externally to try and ensure the commitments become a reality.

As instruments of change, trade associations will facilitate the collection of performance data from members, establish performance benchmarks, agree performance targets with their membership, take part in periodic target setting and reviews at association and industry levels, and contribute to a published annual performance report for the UK concrete industries.

Vision

By 2012, the UK concrete industry will be recognised as the leader in sustainable construction, by taking a dynamic role in delivering a sustainable built environment in a manner that is profitable, socially responsible and functions within environmental limits.

Strategic objectives

1. Agree and adopt a common framework.
2. Improve our environmental profiles.
3. Enable our clients to achieve sustainable construction.
4. Communicate our progress and solutions.

Commitments

1. To launch an annual Sustainability Performance Report for the UK Concrete Industries commencing in March 2009.
2. To set targets for Performance Indicators by the end of 2009.
3. To design an industry R&D Programme to reduce CO₂ and other impacts.
4. To design an industry Skills Transformation Programme aimed at positioning the industry to play a leading role in meeting the challenge of sustainable construction.
5. To provide clients with industry data for LCA (life cycle analysis) models.
6. To develop sustainable construction solutions.
7. To provide clients with the knowledge and tools to adopt new solutions.
8. To demonstrate the benefits of concrete in the built environment.

[Signed] on behalf of [Company]

[Signature] Aggregate Industries

[Signature] CEMEX

[Signature] Hanson

[Signature] Lafarge Cement

[Signature] Tarmac

[Signature] Brett Group

[Signature] Marshalls plc

[Signature] Trent Concrete

[Signature] Lafarge Aggregates

[Signed] on behalf of [Trade Association]

[Signature] BCA

[Signature] QPA

[Signature] BPCF

[Signature] CSMA

[Signature] CAA

[Signature] UKQAA

[Signed] on behalf of The Concrete Centre

[Signature] The Concrete Centre

30 July 2008

CONCRETE INDUSTRY SUSTAINABLE CONSTRUCTION STRATEGY 2020

Vision

The UK concrete industry will be recognised as a leader in sustainable construction, by taking a dynamic role in delivering a sustainable, zero carbon built environment in a socially, environmentally and economically responsible manner.

Strategic objectives

1. Commit to our role in achieving a sustainable built environment and contribute to construction industry and government initiatives
2. Engage with the broader supply chain to inform good practice and continue to explore new ways of improving our sustainable production performance
3. Communicate with clients to provide knowledge of concrete solutions to enable the design and construction of a sustainable built environment

Commitments

1. Contribute to the delivery of a **zero carbon** built environment
2. Provide **Life Cycle Assessment** data compliant with codes and standards
3. Develop a **Material and Resource Efficiency Programme** to inform best practice across the life cycle of concrete in the built environment
4. Develop a **Low Carbon Freight Initiative** to support improvement in transport performance through the concrete supply chain to construction sites
5. Develop a **Water Strategy** to support the measurement and reporting of sustainability performance and target setting
6. Target continuous improvement of sustainable **production performance** and report performance annually

The strategy represents progression, continuous improvement and an increase in scope.

The updated strategy requires the concrete industry to continue to improve and develop performance indicators to ensure they continue to be relevant to our stakeholders. Our current targets for 2012 have all been reviewed and challenging new targets have been established for 2020.

Appendix B (Concrete industry sustainability PI's)

UK Government Strategy 'Shared Priority'	Sustainability Principle	Current Good Practice	Performance Indicator	Unit of expression
Sustainable Consumption and Production	Environmental Management Systems	Have systems in place to operate in a legal and sustainable manner with continual performance improvements	1.1 % of production sites covered by a UKAS certified EMS (ISO 14001, EMAS and for SMEs, BS 8555)	% of production sites (and absolute number compared to total)
	Waste Minimisation	Manage all waste streams effectively and minimise waste disposed of to landfill	1.2 Tonnes of waste to landfill as a proportion of production output (supplemented by 3.1a - c)	kg per tonne and kg per m ³
	Emissions (excluding CO₂)	Minimise emissions to air and water from the production process (excluding CO ₂)	1.3 Number of convictions for air and water emissions per annum	Number per annum
	Stakeholder Engagement	Communicate and work constructively with the supply chain and other key national stakeholders (see also below for local community engagement)	<i>No Indicator - performance to be covered qualitatively (Can be undertaken by relevant Associations/SCF) - See 3.4.1 of this Guidance</i>	n/a
	Quality and Performance	Continue to develop materials and products that contribute to a sustainable built environment	1.4 % of production sites covered by a UKAS certified 9001 quality management system	% of production sites (and absolute number compared to total)
Climate Change and Energy	Energy Efficiency	Use energy efficiently in production	2.1 Energy used in production as a proportion of production output	kWh per tonne and kWh per m ³
	CO₂ Emissions (Production)	Minimise CO ₂ emissions associated with the production of materials and products	2.2 CO ₂ emissions as a proportion of production output	kg CO ₂ per tonne and kg CO ₂ per m ³
	CO₂ Emissions (Transport)	Minimise CO ₂ emissions associated with the transportation of materials and products	2.3a Average delivery distance travelled per tonne/m ³ (from factory gate to customer) 2.3b Tonnes or m ³ moved split by three modes: road, rail, inland barge 2.3c Average load for each mode (tonnes) 2.3d CO ₂ emissions	km per tonne (and per m ³) per mode kg CO ₂ per tonne (and kg CO ₂ per m ³) per mode

UK Government Strategy 'Shared Priority'	Sustainability Principle	Current Good Practice	Performance Indicator	Unit of expression
			as a proportion of production output	
Natural Resources and Enhancing the Environment	Resource Efficiency	Use all primary, secondary and recycled materials in the most efficient manner	3.1a Material diverted from the waste-stream for use as a fuel source as a % of total energy use	%
			3.1b % of additional cementitious materials (GGBS, fly ash etc) as a proportion of total cementitious materials used	%
			3.1c Recycled/ secondary aggregate use as a proportion of total aggregate use within concrete production	%
	Resource Efficiency	Use of waste and recovered materials in manufacture of cement	3.1d % of waste derived and recovered material as a proportion of total raw material used in the manufacture of cement	% and total tonnes used on a dry mass basis
	Water	Use water efficiently and minimise demand on mains, groundwater and other sources	3.2a Mains water use as a proportion of production output 3.2b Controlled groundwater use as a proportion of production output	litres per tonne and litres per m ³
	Site Stewardship	Be responsible stewards of sites used, by recognising the importance of national heritage, biodiversity and geodiversity during use and after the end of life of each site	3.3 % of relevant production sites that have site specific action plans	% of relevant production sites (and absolute number compared to total)

Continued.

UK Government Strategy 'Shared Priority'	Sustainability Principle	Current Good Practice	Performance Indicator	Unit of expression
Creating Sustainable Communities	Health & Safety	Operate in a responsible manner to protect the health and safety of employees, contractors and visitors	4.1 Lost Time Injuries for 'direct employees' per 1 million hours worked	Number per 1 million hours worked; absolute number per annum and number of 'direct employees'
	Employment and Skills	Continue to support sustainable communities by providing employment and economic activity and recognise the importance of developing a skilled and competent workforce	4.2a % of employees covered by UKAS certified 9001/14001/ 18001 systems (i.e. Training and Competence sections) 4.2b % employees covered by systems to principles of 18001 and 14001	Number employed and % of employees covered by UKAS 9001/14001 systems
	Local Community	Positively engage with the local community	4.3 % of relevant production sites with community liaison activities (supplemented by 1.3)	% of relevant production sites (and absolute number compared to total)

Note: The term 'UKAS' used within the table above, and specifically in PIs **1.1**, **1.4** and **4.2a**, refers to 'certification being granted by a UKAS accredited certifying body'

Appendix C – Example responsible sourcing policy

Our aim is to ensure that the constituent materials used within the delivery of services and products to our clients are responsibly sourced in accordance with the guidelines set out under BES 6001.

The organisation will operate/undertake the following to demonstrate this:

- An ethical business policy
- Procedures to ensure compliance with legislation
- Suitable quality management systems
- Suitable supply chain management systems
- Environmental policy and systems
- Health & safety policy and systems
- Site stewardship
- Environmental and social policies to establish metrics for:
 - Energy Management and the reduction of greenhouse gases
 - Resource use
 - Waste prevention and management
 - Water abstraction
 - Life cycle assessment
 - Transport impacts
 - Employment and skills
 - Local communities
- Stakeholder engagement

Signed
Dated
Issue Number

Appendix D – Example environmental policy

Our aim is reduce the affect our day-to-day work has on the environment by:

- Ensuring our procedures are appropriate to the nature and scale of our activities.
- Ensuring our procedures are fully compliant with appropriate environmental legislation.
- Ensuring all staff have a commitment to continual improvement and prevention of pollution and to complying with relevant environmental legislation and regulations.
- Ensuring our systems are documented, implemented, maintained and communicated to all employees.
- Recognising environmental managements systems (EMS) as an integral part of our business performance.
- Placing the management of EMS as a prime responsibility of line management, from most senior executive to first-line supervisory level.
- Ensuring employee involvement and consultation to gain commitment to the policy and its implementation and periodic review of the policy, the management system and audit of compliance to policy.
- Ensuring that employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities.
- Formulating contingency plans for foreseeable environmental incidents and to mitigate their affects.
- Implementing corrective and preventative actions shown to be necessary.

Signed
Dated
Issue Number

Appendix E – Example health & safety policy

Our aim is to work within a safe environment by:

- Recognising health & safety (H&S) as an integral part of our business performance.
- Achieving a high standard of H&S performance, with compliance to legal requirements as the minimum, and to continual improvement in performance.
- Placing the management of H&S as a prime responsibility of line management, from most senior executive to first-line supervisory level.
- Ensuring its understanding, implementation and maintenance at all levels in the organization.
- Adopting employee involvement and consultation to gain commitment to the policy and its implementation.
- Periodically reviewing the policy, the management system and audit of compliance to policy.
- Ensuring that employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities.
- Formulating operational plans to implement arrangements to control the risks identified to meet the requirements.
- Formulating contingency plans for foreseeable incidents and to mitigate their effects
- Implementing corrective and preventative actions shown to be necessary.
- Identifying the competencies required and organising any necessary training.

Signed

Dated

Issue Number

Appendix F – Example training policy

General

- All personnel (whether directly/indirectly employed or subcontract) will be competent on the basis of appropriate education, training, skills and experience.
- BE EN ISO 9001 systems with regard to training and competence will be applied to all staff.
- All staff will be assessed against minimum industry/appropriate levels of competence relative to their job function, and their competency/authority to work records will be maintained.
- The competency of each member of the work force will be confirmed prior to allowing any individual to undertake tasks that may affect the quality of the product or services provided.

The minimum levels of competency will therefore be used as part of the company induction process.

Competence, awareness and training

In complying with the above, the company will:

- Determine the necessary competence for all personnel/job function.
- Provide training or take other actions to ensure the above is satisfied.
- Evaluate the effectiveness of the action taken.
- Ensure that all staff and work force are aware of the relevance of the above.
- Maintain records of education, training, skills and experience.

Signed

Dated

Issue Number

Appendix G - Example complaints policy

The organisation operates a complaints system whereby:

- All complaints are logged
- Complaints are investigated and actioned and the outcome (both internally and externally) is recorded.
- Complaints are rectified to the satisfaction of the client and to the original specification.

Additionally:

- The organisation operates a system to control of non-conforming product, whereby the company ensures that any product/service that does not conform to Specification requirements is identified and controlled to prevent its further use.
- The company also deals with non-conforming product/services by one or more of the following ways:
 - By taking action to remove the non-conformity
 - By authorising its use, release or acceptance under the concession of a relevant authority and/or customer
 - By taking action to preclude its original intended use or application
- Results of complaints and non-conformance should feed back into the overall review of the company procedures, and result in the amendment of company documents/methods and/or training where required.

Signed
Dated
Issue Number

Appendix H - Example of stakeholder reporting

Reporting against the aspects below for the product being assessed would potentially cover all of the criteria included in BES 6001 Issue 3.1 Section 3.4.

It is not necessary to report all of these but include those indicators that relate to criteria for credits are being sought?

Aspect	Company Year 1	Company Year 2	Company Target	Sector Average* Year 1	Sector Average* Year 2
Carbon dioxide emissions <i>kg/tonne of production</i>			x% reduction on 20?? By 20??		
Energy Use <i>kWh/tonne of production</i>			x% reduction on 20?? By 20??		
Secondary/recycled materials content <i>% by mass</i>			x% reduction on 20?? By 20??		
Waste to licensed disposal <i>kg/tonne of production</i>			x% reduction on 20?? By 20??		
Mains water usage <i>Litres/tonne of production</i>			X% by 20??		
Average delivery <i>Distance miles</i> <i>Tonnes per delivery*</i> <i>CO₂ per tonne</i>			> X x% reduction on 20?? By 20??		
Training and development <i>Hours/employee</i>			x% increase on 20?? By 20?? Or maintain at y hours?		
Number of environmental complaints or incidents			0 by 20??		
% of materials purchased locally ??	e.g. x% within y miles?				

***For example SCF report value or MPA Precast Sustainability Matters value**

Appendix I - Example of transport impact assessment

Product Delivery			
Stage	Typical Impacts	Significance	Mitigation
Product Loading at production site	e.g. Fuel for loading equipment, H&S	Relative significance of each identified impact	e.g. use of fuel efficient vehicles, safe loading procedures
Packaging requirements	e.g. shrink-wrap		e.g. reduction and recycling
Impact on neighbours	e.g. noise		
Transport to site	e.g. fuel use and emissions		e.g. reduction measures
Offloading at construction site	e.g. Traffic congestion		e.g. Timed loads and scheduling procedures
Return journey	e.g. Fuel emissions for empty journey		e.g. backhauling

Materials Delivery			
Stage	Typical Impacts	Significance	Mitigation
Road mileage	e.g. fuel use and emissions		e.g. reduction measures
Packaging requirements	Packaging waste at concrete production site		e.g. reduction and recycling measures
Impact on neighbours	e.g. dust		e.g. sheeting

Appendix J - Example calculation of transport CO₂

Table 1 shows fictitious input data for an organisation delivering 58,000 t of material or product by road and rail:

Table 1:

KPI	Units	Data Required	Average	Total
2.3a Average delivery distance travelled from factory gate to customer)	km (including return)	Road	50 ⁽²⁾	125,000 ⁽¹⁾
		Rail	200	400
		Water	0	0
		All deliveries	50.1	
2.3b Tonnes or m ³ moved split by three modes: road, rail, inland barge	Tonnes moved and total by each mode	Road		55,000 ⁽³⁾
		Rail		3,000
		Water		0
		Total		58,000
2.3c Average load for each mode	Tonnes per load	Road	22 ⁽⁴⁾	
		Rail	1,500	
		Water-Barge	0	
		Water-marine	0	

123 = data input by organisation

N.B. As a cross-check of the data input:

Total distance transported⁽¹⁾ should be equal to average distance⁽²⁾ x total tonnes⁽³⁾/average load size⁽⁴⁾.

GHG CO₂e Calculation basis

Key to calculation of kg CO₂e per tonne of material or product delivered is the **Emission Factor** which converts distance and tonnage of deliveries to carbon dioxide equivalent emissions.

For detailed calculations it is always preferable to use actual emissions data (e.g. in kg CO₂e per km for road transport) if this is known. If this is the case then the values used should be reported as additional information in the KPI data submission.

As actual emissions data is complex to collect, where it is not available the CSF PI calculation uses DEFRA default factors recommended for business reporting for a range of transport types. Annexe B of the KPI Guidance Document includes the 2013 values for factors used for previous transport GHG calculations for consistency of reporting.

Cont....

Example Calculation

Road Transport:

Total road CO₂e (kg) = Total km x Emissions Factor (kg CO₂e per km)

If the actual Emissions Factor for the type of road transport and the percentage fill used is **known** then this value should be used preferentially.

If the Emissions Factor is **not known** then the DEFRA default factors appropriate for the type of transport should be obtained from Appendix B2 of this Guide where the percentage fill can be assumed as 50% (average of full outward and empty return). Where an appropriate vehicle type and fill percentage is not contained in Appendix B, then the Emission Factor can be obtained from the DEFRA guidance from the following website:

<http://www.ukconversionfactorscarbonsmart.co.uk/>

For this example where the average load size is 22 tonnes, the DEFRA factor for Rigid >17 t @ 50% fill has been used = 0.93569 kg/km. (See Appendix B2)

Therefore, Total road CO₂e (kg) = 125,000 x 0.93569 = **116,961 kg**

- **Road CO₂e per tonne = Total road CO₂e /Total tonnes moved**
= 116,961/55,000 = **2.13 kg/tonne**

Rail Transport:

- **Total rail CO₂e (kg) = Total km x Average load t x Emissions Factor(kg CO₂e per t. km)**

If the actual Emissions Factor for the actual rail transport used is known then this value should be used preferentially.

If the Emissions Factor is not known then the DEFRA default factors appropriate for rail transport should be obtained from Appendix B2 of this Guide.

For 2016, the factor is 0.0295 kg CO₂e per t. km

Therefore, Total Rail CO₂e = 400 x 1,500 x 0.0295 = 17,700 kg

- **Rail CO₂e per tonne = Total rail CO₂e /Total tonnes**
= 17,700/3,000 = **5.9 kg/tonne**

Water Transport:

- No water transport to account for.

Total for all Transport:

- **Total Transport CO₂e (kg) = Total road CO₂e + Total rail CO₂e + Total water CO₂e**
= 120,012 + 16,320 + 0 = **136,332 kg**
-
- **Transport CO₂e per tonne = Total transport CO₂e /Total tonnes**
= 136,332/58,000 = **2.35 kg/tonne**

This checklist is to be read in conjunction with the full statement/ requirement of each clause within this guidance document, as the condensed terminology used herein is for ease of reference only.

3.2 Organisational management requirements applicable to the organisation manufacturing the assessed product		Requirement (compulsory/extra score)	Score achieved
3.2.1	Responsible sourcing policy		
a)	The policy is in place and approved by senior management.	Compulsory 1	
3.2.2	Legal compliance		
a)	Procedures for keeping up to date with legislation and regulation are in place and integrated into a management system. A register of convictions is maintained.	Compulsory 1	
3.2.3	Quality management system		
a)	A documented system is in place following the principles of ISO 9001	Compulsory 1	
b)	An ISO 9001 system is in place certified by a UKAS accredited certifying body. The product being assessed is included in the scope of certification.	2	
3.2.4	Supplier management system		
a)	The documented system is in place and is integrated into the ISO 9001 quality management system. The list of suppliers is maintained. The risk assessment regarding materials sourced from outside the EU has been completed satisfactorily.	Compulsory 1	
		Total Score for 3.2	

3.3 Supply chain management requirements applicable to the organisation manufacturing the assessed product and the supply chain		Requirement (compulsory/extra score)	Score achieved
3.3.1	Material traceability through the supply chain		
a)	There is evidence that 60% of the constituent materials are supplied from organisations with certificated ISO 9001 quality management systems.	Compulsory 1	
b)	As (a) but at the 75% level	2	
c)	As (a) but at the 90% level	3	
3.3.2	Environmental management systems (EMS) in the supply chain		
a)	The organisation manufacturing the assessed product has an EMS compliant with the principles of ISO 14001. There is evidence that suppliers of at least 60% of constituent raw materials has an EMS compliant with the principles of ISO 14001.	Compulsory 1	
b)	At least 60% of the assessed product is manufactured under an EMS system certified by a UKAS accredited certifying body. At least 60% of the constituent materials are supplied under appropriate certified EMS.	2	
c)	As (b) but at the 75% level.	3	
d)	As (b) but at the 90% level	4	
3.3.3	Health & safety management (H&S) systems in the supply chain		
a)	The organisation manufacturing the assessed product has an appropriate documented H&S management system. The local legislation non-compliance list is maintained. Near miss, lost time and fatal incidents are recorded. There is evidence that the suppliers of at least 60% of constituent raw materials has an appropriate documented H&S management system and that near miss, lost time and fatal incidents are recorded.	Compulsory 1	
b)	At least 60% of the assessed product is manufactured under an appropriate H&S system certified by a UKAS accredited certifying body. At least 60% of the constituent materials are supplied under appropriate H&S systems.	2	
c)	As (b) but at the 75% level.	3	
d)	As (b) but at the 90% level	4	
		Total score for 3.3	

3.4 Requirements related to the management of sustainable development		Requirement (compulsory/extra score)	Score achieved
3.4.1	Greenhouse gas emissions		
a)	The policy, management system, appropriate metrics and objectives and targets are established.	Compulsory 1	
b)	Engagement and reporting to stakeholders confirmed	3	
c)	There is evidence of appropriate external verification	5	
3.4.2	Energy Use		
a)	The policy, management system, appropriate metrics and objectives and targets are established.	1	
3.4.3	Resource use		
a)	The policy, management system, appropriate metrics and objectives and targets are established.	Compulsory 1	
b)	Required actions demonstrated	3	
c)	Engagement and reporting to stakeholders confirmed	5	
Supp)	Evidence provided of environmental stewardship of suppliers	+1	
3.4.4	Waste prevention and management		
a)	The policy, management system, appropriate metrics and objectives and targets are established.	Compulsory 1	
b)	Engagement and reporting to stakeholders confirmed	2	
c)	There is evidence of appropriate external verification	3	
Supp)	There is evidence of stakeholder reporting on 2 aspects	+1	
3.4.5	Water Abstraction		
a)	The policy, management system, appropriate metrics and objectives and targets are established.	Compulsory 1	
b)	Engagement and reporting to stakeholders confirmed	2	
c)	There is evidence of appropriate external verification	3	
Supp)	Staff and supply chain engagement confirmed	+1	

3.4 Requirements related to the management of sustainable development		Requirement (compulsory/extra score)	Score achieved
3.4.6	Life cycle assessment (LCA)		
a)	Life cycle thinking is demonstrated	Compulsory 1	
b)	Evidence of participation in the publicly available LCA	2	
c)	Independently verified EPD for products	3	
3.4.7	Ecotoxicity		
a)	Risk assessment undertaken	1	
3.4.8	Transport impacts		
a)	The policy, management system, appropriate metrics and objectives and targets are established.	Compulsory 1	
b)	Policy etc. extended to traceable constituent materials	3	
Supp)	Stakeholder reporting of at least two aspects confirmed	+1	
3.4.9	Employment and skills		
a)	The policy, management system, appropriate metrics and objectives and targets are established.	1	
b)	Engagement and reporting to stakeholders confirmed	2	
c)	There is evidence of appropriate external verification	3	
3.4.10	Local communities		
a)	The policy is established including appropriate metrics. Written procedures are in place to record all complaints and prosecutions and associated corrective actions.	1	
b)	Engagement and reporting to stakeholders confirmed	2	
c)	There is evidence of appropriate external verification	3	
3.4.11	Business Ethics		
a)	The risk assessment has been completed	1	
Supp)	An Anti-trafficking and Slavery statement is available	+1	
		Total score for 3.4	

Summary of performance					
Section	Score				
3.2.1					
3.2.2					
3.2.3					
Total for section 3.2					
3.2.1					
3.3.2					
3.3.3					
Total for section 3.3					
Total for sections 3.2 + 3.3.					
Rating against BES 6001		Pass = <i>Compulsory</i>	Good = 9	Very Good = 11	Excellent = 13
3.4.1					
3.4.2					
3.4.3					
3.4.4					
3.4.5					
3.4.6					
3.4.7					
3.4.8					
3.4.9					
3.4.10					
3.4.11					
Total for section 3.4					
Rating against BES 6001		Pass = <i>Compulsory</i>	Good = 15	Very Good = 23	Excellent = 32
Overall rating BES 6001		<i>Lowest of section 3.2+3.2 and 3.4</i>			

Assessed organisation/product.

Assessed organisation representative

Auditor name & company

Signature of auditor

Audit date

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