

# YOUR ASSURED STEEL PRODUCTS SUPPLY CHAIN



**The CARES Sustainable  
Constructional Steel  
Scheme Sector Report  
2014/15**



## **UPDATE**

How is CARES SCS Scheme performing?

## **REAL LIFE**

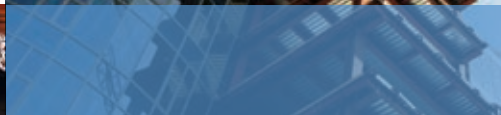
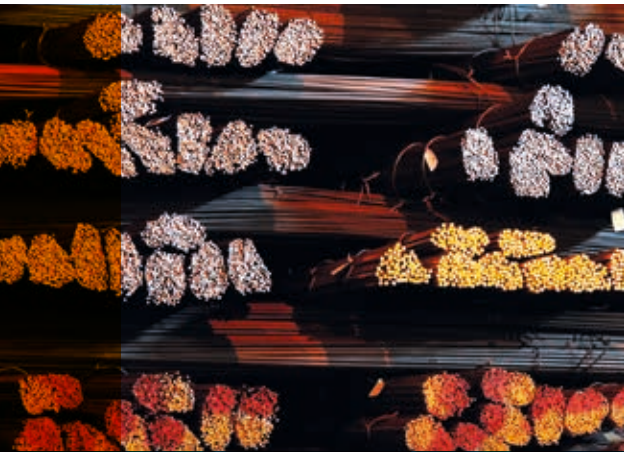
What approved suppliers think of CARES SCS Scheme

## **SUPPLIERS**

Take a look at the global reach of CARES SCS Scheme

## **HOW TO**

A mini-procurement guide to sustainable steel products



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## Who are CARES?

CARES is an independent, not-for-profit certification body. It operates for the benefit of the construction industry offering certification schemes for companies that produce materials, components or offer services, primarily to the reinforced concrete industry. Clients can specify CARES approved companies and products with confidence that they will comply with the relevant product or system standards and without the need for verification testing by the purchaser or contractor.

CARES is governed by its Board and advised by its Policy Advisory Committee composed of the following Members: Association for Consultancy and Engineering, LHR Airports Ltd, British Association of Reinforcement, Civil Engineering Contractors Association, CONSTRUCT, UK Contractors Group, Highways England, Institution of Structural Engineers, Post-Tensioning Association, UK Steel Association. The Chairman's nominees are International Steel Trade Association, Office for Nuclear Regulation (ONR/HSE), Rail Safety and Standards Board, and a stainless steel specialist expert.

## Executive statement: Securing resilience

Steel has a remarkable story to tell with a long tradition of product innovation, re-use as well as recycling, for example. Further, upstream, thanks to growing awareness of wider sustainable development risk and opportunity, greater attention is being paid to local economic development, behavioural safety, labour conditions, traceability and environmental management.

CARES product conformity and sustainability certification services help ensure this story gets through to decision makers when procuring materials for infrastructure and buildings. It's a story of full product traceability or 'chain of custody', throughout the whole supply chain from the producer to the end-user. Core to our commitment to sustainability in construction is the CARES Sustainable Constructional Steel (SCS) Scheme. The rigour, integrity and quality of our Scheme underpin its market position. The CARES SCS Scheme helps satisfy customer requirements on quality, risk, resource efficiency and green building rating systems. Third party certification to the highest levels of professionalism gives clients confidence. Confidence that their choice of materials will help their projects to be more resource-efficient and socially responsible.

As the first sustainable constructional steel responsible sourcing scheme accredited by UKAS to BS 8902, we continue to develop our competitiveness. Our list of approved suppliers is growing. We continue to provide verified EPDs to meet producers' and clients' demands. We continue to be a BREEAM-recognised Responsible Sourcing Certification Scheme.

Once again, I invite you to digest the tangible benefits of CARES in our sector and see the sector's environmental, economic and social performance updates.

**Professor Les Clark, OBE**

Chairman of CARES

## About this report

Inside we report updates and performance of CARES' Sustainable Constructional Steel (SCS) Scheme. The SCS Scheme accompanies CARES' product conformity Schemes. This report covers calendar year 2014 and shows how a CARES-approved supply chain for constructional steel can help reduce business risk and provide top-line benefits. The operations of CARES the organisation and other certification schemes offered by CARES are outside the scope of this report.

The principles of the Global Reporting Initiative (GRI) inform the report's development. 2011 is the baseline year for the sector's environmental, social and economic metrics used in the report. We welcome your comments and feedback on this report on how the constructional steel sector can contribute to a sustainable future.

## What is the Sustainable Constructional Steel (SCS) Scheme?

CARES is accredited by the UK Accreditation Service (UKAS) to provide certification for management systems, product conformity and – the subject of this Report – sustainability performance.

The CARES SCS Scheme operates in compliance with BS 8902: 2009 'Responsible sourcing sector certification schemes for construction products'. This Standard provides a framework for the responsible management, development, content and operation of sector certification schemes for supply of construction products. It was specifically developed for the constructional steel supply chain: it enables suppliers to declare the sustainability performance of their products and organisation. The SCS Scheme independently reports sector environmental and social performance levels against a number of key performance indicators and sets targets for the future. There are benefits for the end user: constructional steel products from CARES-approved suppliers are fully traceable, allowing an assured chain of custody from mill to site.



**Independent, impartial and trusted**

## Case study: Thames Reinforcements Ltd CARES' intensity and integrity are vital

Thames Reinforcements Ltd have been busy down at New Providence Wharf residential development site in London Docklands. High quality prefab units are produced and delivered correctly, to the required standard, every time. But without CARES it could have been more demanding.

At no stage in the development of 47 floors of prefab construction was the quality (implicitly encompassing sustainability credentials) questioned: primarily due to the experience and expertise of TRL but also due to the controlled operating environment that the discipline of CARES certification instils. If CARES approved products make the 'whole package' easier for the client then contractors can focus on project complexities, safety and saving time on site.

Customers increasingly demand CARES certification as it is, but companies like TRL offer an added buzz to their guidance to customers and get talking much earlier about the wider requirements of the build. Sustainability, and other new ways of doing business, help drive that conversation. Des Conaty, Operations Director, indicates that CARES quality and sustainability certifications offer more than just a ticket. They help to 'lubricate the cogs' of the commercial process: of not just selling quality prefabricated products, but also installing them.



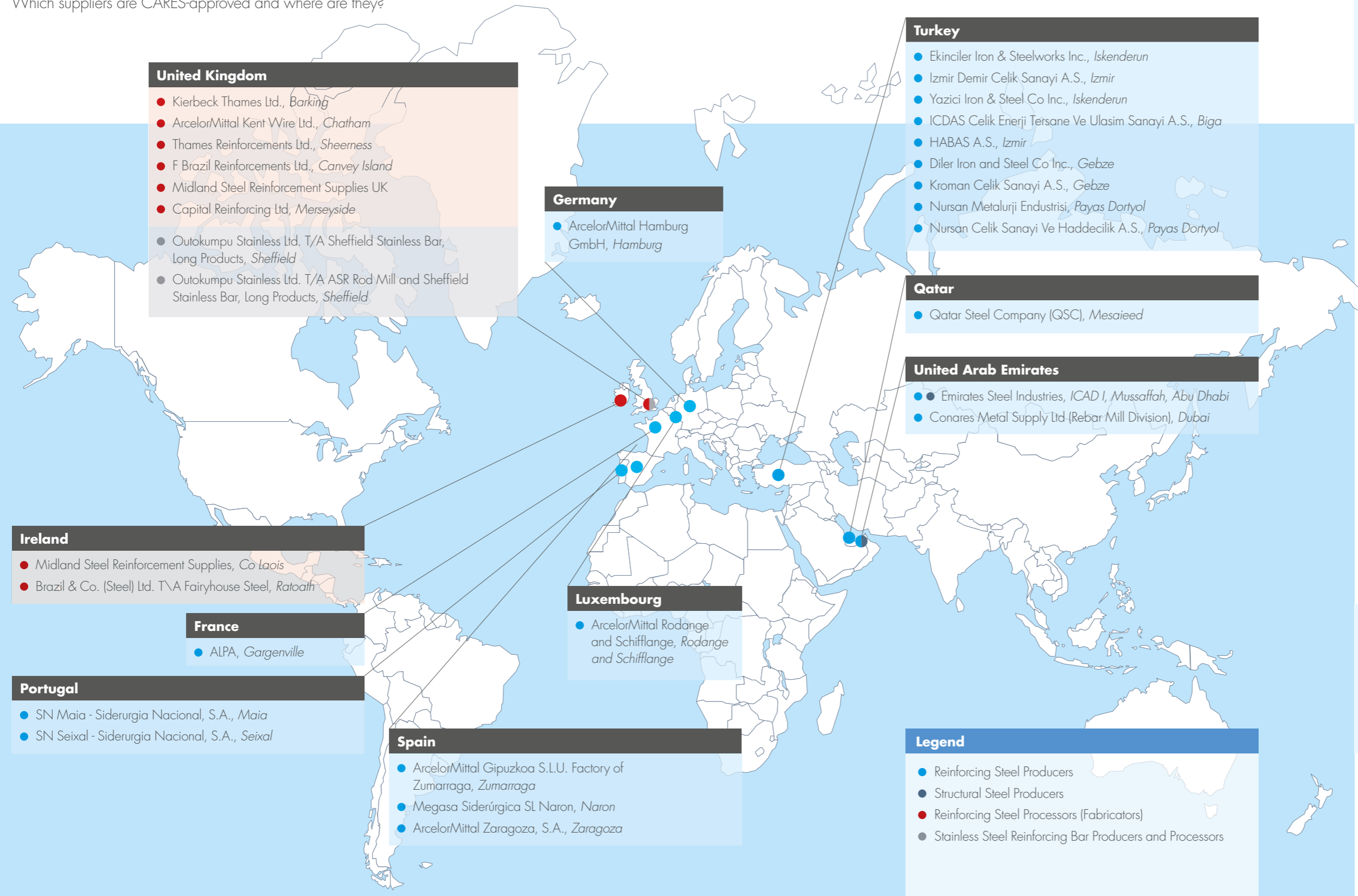
*"If only our customers knew the depth, effort and meticulousness of CARES auditors and staff. CARES schemes and people are top notch: intensity and integrity working hard together, providing an assurance that will stand the test of time."*

Des Conaty  
Operations Director, TRL

# Where are CARES sustainability Scheme-approved suppliers?

CARES has global reach. The SCS Scheme is internationally recognised as the preferred certification system for sustainable constructional steel. CARES-approved suppliers benefit from the wide acceptance of CARES-approved steel by green building rating systems around the world.

Which suppliers are CARES-approved and where are they?



## What does sustainability certification cover?

The CARES Sustainability Technical Committee has identified and prioritised the issues that must be covered in this performance report. They are a range of topics that are important to the sector and to the stakeholders who are affected by the sector, or who affect it. The issues prioritisation process is informed by the requirements of BS 8902 and the Ethical Trading Initiative (ETI) Base Code.

The list of issues is refined using the input of representatives from the main stakeholder groups relevant to UK CARES and the constructional steel sector. Questions answered during the process relate to the level of risk or opportunity relating to an issue, the management approach to an issue, or the significance of engagement on an issue.





# An assured steel supply to delight customers

Independent, reliable and trusted information on the wider impacts of using different materials: this is what designers and contractors increasingly want.

An internationally recognised certification system demonstrating a fully traceable product across the whole supply chain allows suppliers to demonstrate one more step to a green building certificate by credibly sourcing structural materials responsibly. Customers recognise this product differentiation. Suppliers make their business more resilient.

The CARES SCS Scheme offers unassailable features and benefits in support of this. For more benefits, features and endorsements of the Scheme, please see [www.ukcares.com](http://www.ukcares.com).



## Case study: Capital Reinforcement Ltd SCS: Excellent value for money

Larger customers increasingly expect sustainability credentials, so 12 months ago Capital Reinforcement Ltd got cracking on achieving their new SCS Certification, using their CARES SRC<sup>1</sup> certification as a springboard. The main driver was increased sales, but they immediately noticed cost benefits too. And they report that the whole experience was made a lot easier by the CARES team. As Colm McAleer, HSEQ & Sustainability Manager, explains, "I have been working with CARES for ten years, they are extremely knowledgeable and professional; a great team of auditors! And when you reflect on the certification experience, you get so much more for your money than a product sustainability ticket!"

Top line benefits, bottom line benefits... their new SCS Certification fits in nicely as they forecast strong growth in the business, a formal certification for their safety processes, and long term value from local development projects in areas such as youth skills. Good on them!



<sup>1</sup> Steel for the Reinforcement of Concrete – CARES primary product quality conformity Scheme

# 1

## Unique recognition

CARES is still the only sustainability scheme certification body accredited by the UK Accreditation Service to the rigorous requirements of BS 8902:2009 Responsible sourcing sector certification schemes for construction products. Where it is an option, UKAS accreditation is recommended by the UK Department for Business, Innovation and Skills. Such accreditation is the guarantee of the competence, impartiality and integrity of the certification body.

UKAS is the national accreditation body that assesses providers of certification, testing, inspection and calibration services. UKAS is appointed as the national accreditation body by the Accreditation Regulations 2009 and EU Regulations. The conformity assessment policy of the UK Department for Business, Innovation and Skills recommends the use of UKAS-accredited conformity assessment services. [www.ukas.com](http://www.ukas.com)

# 2

## Achieving green building credits

The CARES SCS Scheme allows approved suppliers to differentiate their products: they get credits in green building rating systems such as BREEAM and LEED, commonly specified by clients, contractors and designers.

The CARES SCS Scheme has been assessed by BRE Global for responsible sourcing credits within *BREEAM UK New Construction 2014*. The Scheme is on the list of recognised responsible sourcing schemes, under *Mat 03: Responsible sourcing of materials*.

Users of CEEQUAL on civil engineering projects in the UK can achieve maximum credits by procuring from CARES-approved suppliers. Finally, other green building assessment methods around the world promote the use of sustainable construction materials and responsible practices. They include LEED (USA), ESTIDAMA (UAE), GSAS (Qatar) and BEAM Plus (Hong Kong). The use of products from CARES-approved suppliers allows credits to be claimed under these schemes too.

# 3

## Full product traceability

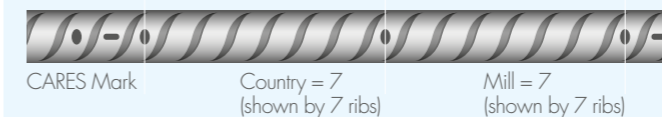
The global supply chain for constructional steel is vast and complex. You want to be confident about where your steel comes from; you want to avoid uncertainty about the properties or performance of materials purchased. Independent verification is vital.

Constructional steel products produced by CARES-approved suppliers are fully traceable, throughout the entire supply chain, from mill to site delivery. CARES-approved producers use a unique marking (see below). This traceability saves money: when steel arrives on site no further testing is required, so no costly construction delays.

## CARES SCS product markings

Traceability starts with a unique cast number. Molten steel is cast, rolled, and then delivered to the fabricator. During cutting or bending the cast number is accompanied by a 'bar schedule reference' and 'bar mark' before delivery and use. Batches of product will carry the labels shown below.

### Product marking



### Product labelling



"The CARES SCS Scheme is proving very helpful in achieving additional merit on our green rating projects due to its role in certifying responsibly-sourced steel. CARES certification of steel manufacturers in Qatar and the GCC region improves sustainable practices by promoting responsibly-sourced materials that benefit the national economies. It's a picture perfect scenario showcasing sustainability in action!"

Shakir Ismail  
Sustainability Specialist,  
KEO Intl Consultants (Qatar), 2015

# Your mini procurement guide

**So how do you specify sustainable constructional steel?** An approved supplier takes steps to ensure that materials purchased are from responsible sources. Purchasers can include the following in their specification:

## 1. UK project specifications

BS 4449:2005 and BS 4483:2005

All **hot rolled and cold worked steel bars** specified shall conform to BS 4449 (Grade B500B or B500C) and shall be cut and bent in accordance with BS 8666. The bars shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel reinforcement.

**Steel fabric reinforcement** shall conform to BS 4483 (Grade B500A, B500B or B500C) and shall be cut and bent in accordance with BS 8666. Steel fabric reinforcement shall have a minimum nominal bar size of 6mm (8mm for Grade B500A). Steel fabric reinforcement shall be delivered to site in flat mats or pre-bent. The steel fabric shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel fabric reinforcement.

NOTE: For diameters ≤ 12mm, Grade B500A, Grade B500B or Grade B500C conforming to BS 4449:2005 may be considered. For diameters > 12mm, Grade B500B or Grade B500C conforming to BS 4449:2005 shall be specified.

## 2. Non-UK project specifications

BS 4449:1997 or 2005 and BS 4483:1998 or 2005

All **hot rolled and cold worked steel bars** specified shall conform to BS 4449 [1997 or 2005] (Grade 460A or 460B or B500A, B500B or B500C) and shall be cut and bent in accordance with BS 8666. The bars shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel reinforcement.

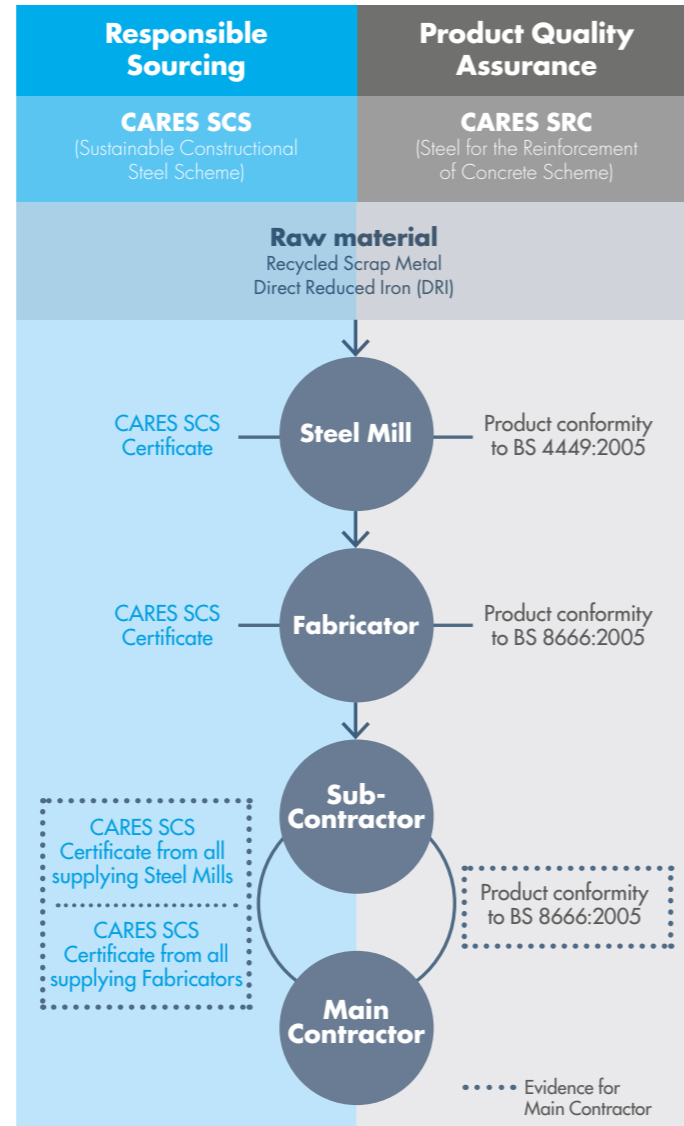
**Steel fabric reinforcement** shall conform to BS 4483 [1998 or 2005] (BS 4482:1985 Type 1 or Type 2, BS 4449:1997 460A, 460B or B500A, B500B or B500C) and shall be cut and bent in accordance with BS 8666. [Steel fabric reinforcement to BS 4483: 2005 shall have a minimum nominal bar size of 6mm (8mm for Grade B500A)]. Steel fabric reinforcement shall be delivered to site in flat mats or pre-bent. The steel fabric shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel fabric reinforcement.

## 3. Stainless steel

All **stainless steel bars** specified shall conform to BS 6744 (specify the grade and alloy) and shall be cut and bent in accordance with BS 8666. The bars shall be obtained from firms holding valid CARES (or fully equivalent schemes) product conformity and sustainability scheme certificates of approval for the production and supply of the steel reinforcement.

**What to look for when checking compliance with CARES SCS.** Procurement professionals will look for the following items, as shown on the graphic, when checking for compliance to CARES SCS Scheme:

- Producer's CARES SCS certificate
- Processor's CARES SCS certificate
- Producer's Environmental Product Declaration (EPD) – see page 7.

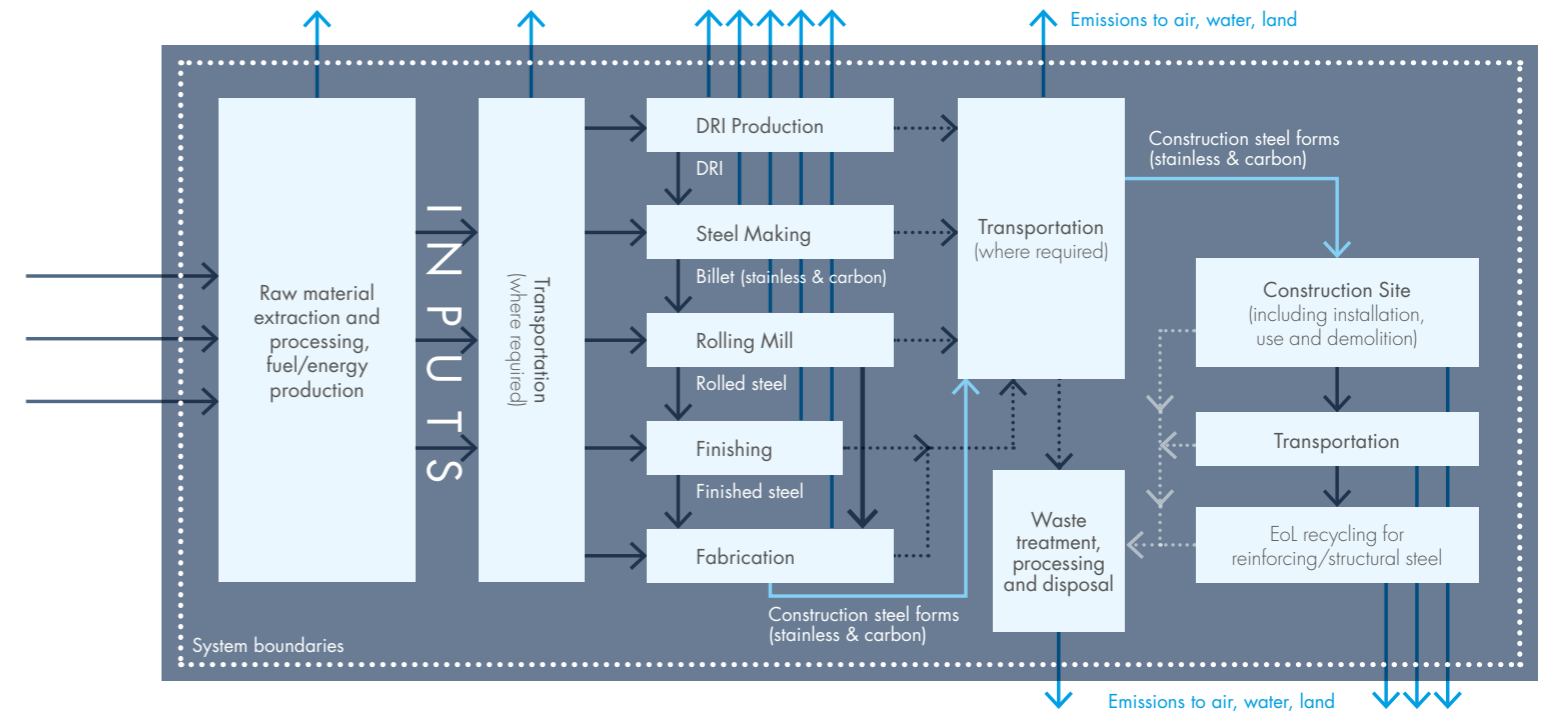


“There is increased interest from stakeholders in the construction industry to understand and document the environmental performance of materials – the first step towards improved material selection and reduced overall project environmental footprint. Within this trend, CARES has set the bar high by developing a detailed environmental product declaration for a key construction material, and has done so while bringing the key stakeholders of the industry together at the same table.”

Jamila El Mir  
Environment and Sustainability Senior Consultant, Arup

## Global warming potential: Reporting system boundaries and scope

Data describing the global warming potential (GWP) of a product vary significantly depending on who prepares the data, what assumptions are made, what methods are used and where organisational boundaries are drawn. CARES EPD and carbon footprint tools allows approved-suppliers to assess performance parameters of constructional steel products from cradle to grave.



An Environmental Product Declaration (EPD) is a particular type of Life Cycle Assessment that provides environmental information from LCA studies in a common format, based on common rules. If you have an EPD then you can refer to data relating to environmental impacts from extraction of raw materials, through processing, manufacture, refurbishment to eventual end-of-life and disposal. The data are verifiable and in accordance with ISO standards. So, overall, it is a strong evidence demonstrating compliance with the requirements of CARES SCS Scheme<sup>2</sup>. A CARES EPD provides confidence and a consistent basis to assess, for example, global warming potential of production of steel products.



## How the SCS Scheme works

To achieve CARES sustainability certification, a company's product, quality and environmental management systems are examined. Applicants undergo a two-stage audit process. The application form, environmental management system manual and ISO 14001 EMS certificate are examined. Once the applicant successfully completes the Stage 1 audit, a follow-up audit is completed that incorporates the Sustainability KPI workbook and EPD/Carbon Questionnaire. We audit over 60 performance indicators for each approved supplier. All being well, SCS certification is then awarded according to the timeline. CARES collects, audits and reports sustainability performance data in line with requirements set out in BS 8902 and the Scheme Principles.

## SCS Scheme terms of reference

The scheme is open to producers and processors (or fabricators) of steel bars and coils for the reinforcement of concrete. They must meet certain prerequisites. The Scheme itself must meet obligations under BS 8902: to publish the Scheme policy, objectives and principles. This demonstrates CARES commitment to the principles of sustainable development, including inclusivity, integrity and transparency<sup>3</sup>.

<sup>2</sup> For detail, please see [http://www.ukcares.com/downloads/general/CARES\\_Sector\\_Average\\_EP\\_D\\_Report\\_for\\_Constructional\\_Steel.pdf](http://www.ukcares.com/downloads/general/CARES_Sector_Average_EP_D_Report_for_Constructional_Steel.pdf)

<sup>3</sup> Please refer to pages 8-9 of the 2014 Sustainability Report [www.ukcares.com/downloads/general/sustainability\\_report\\_2014.pdf](http://www.ukcares.com/downloads/general/sustainability_report_2014.pdf)



# Environmental, Economic and Social Performance

The main environmental issues relevant to the sector and its stakeholders are covered by the certification schedules in the CARES SCS Scheme. CARES-approved firms must maintain an effective environmental management systems (EMS) certified to ISO 14001, improve energy efficiency, reduce greenhouse gas emissions, and report water consumption per tonne of finished product. A well-conceived EMS reduces wastes and operating costs, shows continual improvement, demonstrates compliance and engages employees. Let's see how they got on in 2014:

	Key metrics	2011	2012	2013	2014	2015 Target
Environmental management	Percentage of all employees at approved steel producers who are employed at ISO 14001 certified sites, or equivalent	96%	100%	100%	98%	100%
Energy efficiency and greenhouse gas emissions	Greenhouse gas emissions <sup>1</sup> (tonnes CO <sub>2</sub> e per tonne of carbon steel bar produced)	1.1	N/A	N/A	N/A	Reduce by 2.5%
	Global warming potential <sup>1</sup> (tonnes CO <sub>2</sub> e per tonne of carbon steel bar produced) <sup>2</sup>		1.3	N/A	N/A	Reduce by 2.5%
Materials	Tonnes of steel billet as percentage of tonnes of raw materials used	82	82	82	82	To be determined
	Post-consumer steel scrap in approved product (% by mass)	97%	97%	97%	98%	97%
Waste	Approved suppliers with waste management plans in place (%)	100%	100%	100%	100%	100%
	Waste sent to landfill (kg/tonne of finished product)	95	86	82	77	To be determined
	Waste incinerated (kg/tonne of finished product)	8	3	0.12	0.19	To be determined
	Waste recycled (kg/tonne of rolled steel billet finished product) [constructional steel producers]	175	164	158	149	Increase by 5%
Water	Water consumption (m <sup>3</sup> ) per tonne of finished product	1.1	1.0	1.1	1.02	Reduce by 5%
Biodiversity and ecotoxicity	Approved manufacturers who monitor and report on their biodiversity impacts (%)	71%	100%	100%	100%	80%
	Environmental incidents that resulted in an enforcement order or a penalty <sup>3</sup> at an approved manufacturer site (#)	1	0	2	0	0

<sup>1</sup>Relating to direct, indirect and avoided scrap burden. Scrap burdens - the world steel industry follows the 'substitution/avoided burden' approach to recycling at end-of-life, and assigns environmental impacts to ferrous scrap. Consuming scrap increases GHG emissions. Producing scrap (for recycling) gives a credit, reducing the overall carbon footprint. In this assessment it is assumed that the recycling rate at end of life is 90%. <sup>2</sup>Based on Electric Arc Furnace (EAF) route which uses recycled steel. <sup>3</sup>This includes a financial penalty, an enforcement notice, a prohibition notice, and/or a prosecution.

## Case study: ArcelorMittal Kent Wire CARES people: knowledge + expertise

CARES certification on its own is good. But there's more.

ArcelorMittal Kent Wire's CEO, Phil Taylor: "We pioneer technical products, new features such as QR coding, instant lifting equipment certification data, online order tracking, and new ways of going to market. While some customers expect sustainability credentials, others let us inspire them. CARES sustainability scheme is a resounding advantage in this work, enhancing what we offer and giving customers an unassailable confidence in us".

But it turns out that it's not just CARES products – product conformity with added sustainability certification in this case – that offer AM Kent Wire a competitive edge, it's the people at CARES. As Phil Taylor describes, "We have worked with CARES for 25 years: they have sound knowledge of standards, processes and the steel industry, coupled with a high level of service. What's more, we're delighted with the new leadership at CARES".

So, robust scheme + expert service = real contribution to business effectiveness.



All companies are exposed to wider economic risks and opportunities affecting employees, shareholders, communities and others. Principal impacts relate to employment, local procurement, civic governance, taxation and dividends. Doing business with integrity according to established financial standards helps earn a 'social licence to operate'. The following summarises performance in 2014:

Key metrics	2011	2012	2013	2014	2015 Target
Approved manufacturers with <b>externally audited accounts</b> for the latest financial reporting period	100%	100%	100%	100%	Maintain 100%
Approved manufacturers with a policy to comply with <b>ethical business practices</b>	79%	100%	100%	100%	Maintain 100%

Notes: 'Approved' product or 'approved' suppliers refer to product and suppliers approved under the CARES SCS Scheme.

In exercising its social license to operate, steel product suppliers deploy their strong historical experience of formal management approaches to ensure the safety of employees and contractors. As a significant employer, the steel-making sector has an interest in skills and career development: vital to productivity. With growing interest in supply chain responsibility, companies increasingly seek independently verified means to demonstrate how they manage human rights, fair labour practices, local community impacts and engagement. Performance is summarised below:

	Key metrics	2011	2012	2013	2014	2015 Target
Health & Safety	Employees located at OHSAS 18001 certificated sites (%)	89%	100%	100%	98%	100%
	Companies operating a system to ensure workers' conditions are safe and healthy (%)	100%	100%	100%	100%	Maintain 100%
Training	Number of training hours per employee	24	28	24	25	Increase by 5%
Human rights	Compliance with applicable laws and industry standards on fair wages, working hours and public holidays (%)	100%	100%	100%	100%	Maintain 100%
Community relations	Approved producers who have a policy in place to increase engagement with community stakeholders (%)	93%	100%	100%	100%	Maintain 100%
Community complaints	Approved producers who have specific systems in place to deal with local community complaints (%)	93%	100%	100%	100%	Maintain 100%

"Safety is our number one priority, but we are also proud of our steadily shrinking carbon footprint as a result of our commercial-scale Carbon Capture, Usage and Storage project that will annually sequester up to 800,000 tons CO<sub>2</sub>. We find that external stakeholder feedback provides important 'checks and balances' for our business in managing sustainability risks and opportunities. And each year the CARES SCS certification process is a strong example of this – talking through management systems and their performance, with the big picture in mind. It's good for our teams and good for business!"

Saeed Al Romaiithi,  
Chief Executive Officer, Emirates Steel



# YOUR ASSURED STEEL PRODUCTS SUPPLY CHAIN



## BETTER FOR CUSTOMERS

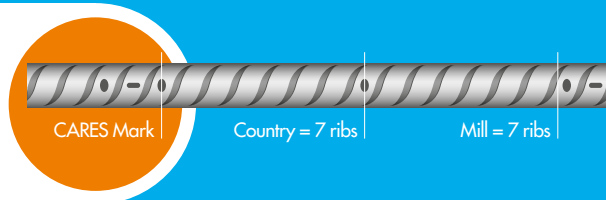
Product  
Quality  
certification

Full traceability  
from mill to  
site delivery

Sustainable  
Constructional  
Steel certification

Attract rating  
credits in  
**BREAM**  
**UK New**  
**Construction**

Trust the CARES mark: no further testing required



This image shows how the CARES mark identifies a specific mill in a specific country.

### Tell us what you think

This is our fourth report where we seek to capture how the CARES Sustainable Constructional Steel supply chain impacts on the environment, society and the economy. We welcome your feedback.

### CARES

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