



The CARES Sustainability Report 2022/2023

Your **Assured** Steel Products Supply Chain



SUPPLIERS

Take a look at the global reach of the scheme



PERFORMANCE

See the latest data and targets to 2025, 2030 and 2050



SPECIFY

Learn how to procure sustainability scheme certified steel products

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Introduction

About this report

This report focuses on how CARES impacts on sustainable development. It provides the context of CARES operations and the latest updates and performance of the CARES' Sustainable Constructional Steel (SCS) and Environmental Product Declaration (EPD) schemes. It demonstrates how a CARES-approved supply chain for constructional steel can help reduce business risk and provide confidence to downstream constructional steel users. For information on our wider operations and other certification schemes, please refer to our website and annual operating plan.

The principles within the BS 8902: 2009 standard (inclusivity, integrity, stewardship and transparency), and the Global Reporting Initiative (GRI) Standard 101 (materiality, context and report quality principles) inform the report's development. 2020 is the baseline year for the sector's environmental, social and economic metrics used in the report and we report on performance to 2022, the latest year of audited data. Data for previous years is available in earlier reports on our website. The narrative explains changes to the scheme or its operating environment to autumn 2023.

We welcome your comments and feedback on this report and on how the constructional steel sector can contribute to a sustainable future.

What is CARES?

CARES is an independent, profit for purpose certification body. Any surplus is reinvested into the business to support the fulfilment of its mission. Celebrating its 40th anniversary in October 2023, it operates for the benefit of the construction industry offering certification schemes for companies that produce steel materials, components or offer services, primarily to the reinforced concrete industry.

Clients specify CARES approved companies and products with the confidence that they comply with the relevant product or system standards and without the need for costly and time-consuming verification testing by the purchaser or contractor.

How is CARES Accountable?

CARES is governed by its Board, which consists of five independent members, including the Chair, and four Executives. It is advised on policy and strategy by its Policy Advisory Committee (PAC) and informed of stakeholder viewpoints through its Sustainability Technical Committee and a range of Stakeholder Forums.

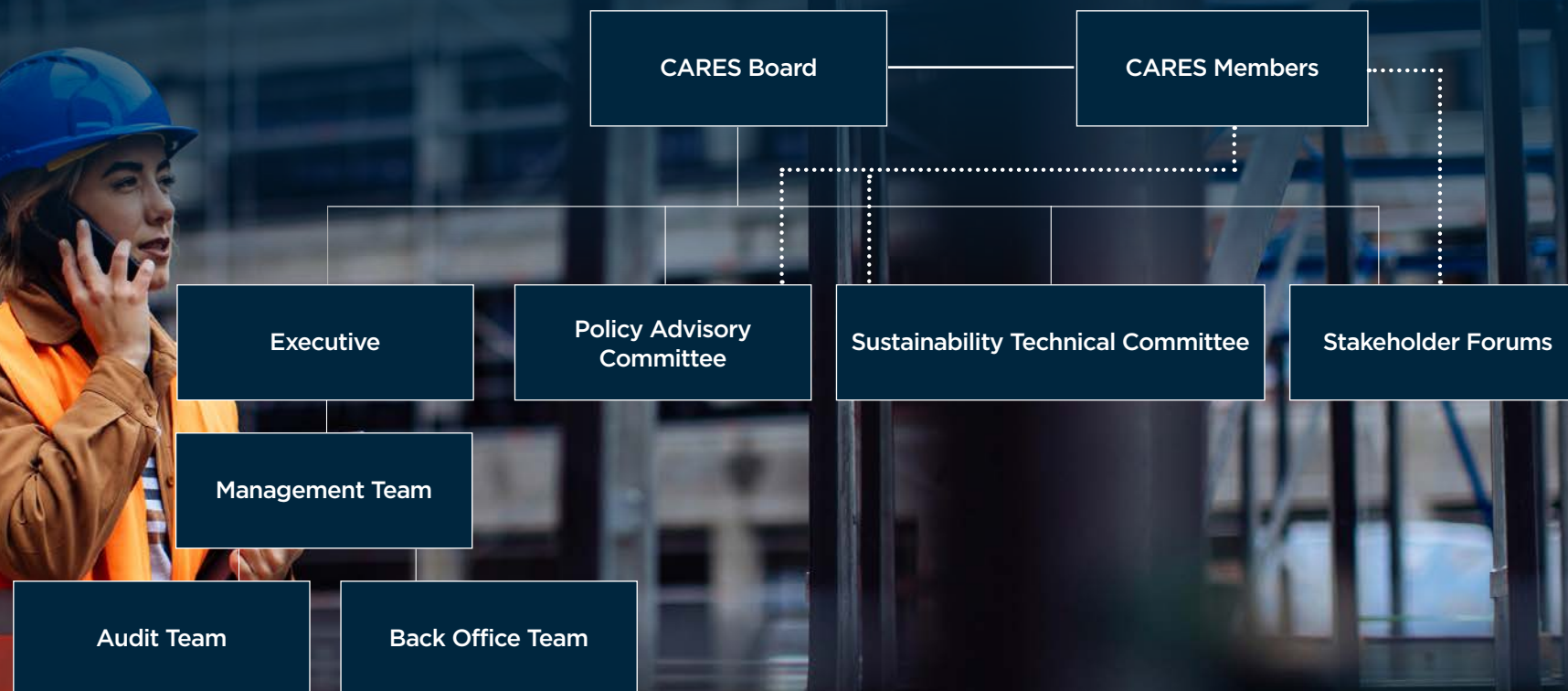
The members of the PAC are from the following organisations and professional institutions:

- Association of Consultancy and Engineering (ACE)
- National Highways
- Civil Engineering Contractors Association (CECA)
- CONSTRUCT
- Institution of Structural Engineers (IStructE)
- International Steel Trade Association (ISTA)
- Office for Nuclear Regulation (ONR/HSE)
- Rail Safety and Standards Board (RSSB)
- MPA Concrete Centre
- BIRFA
- International Contractor
- UK Steel
- Post Tensioning Association (PTA)

The Sustainability Committee is a technical advisory group made up of stakeholders from the construction industry, building rating organisations, Non-Governmental Organisations, independent experts and representatives from the steel industry. Its role is to review and advise on CARES sustainability schemes and activities.

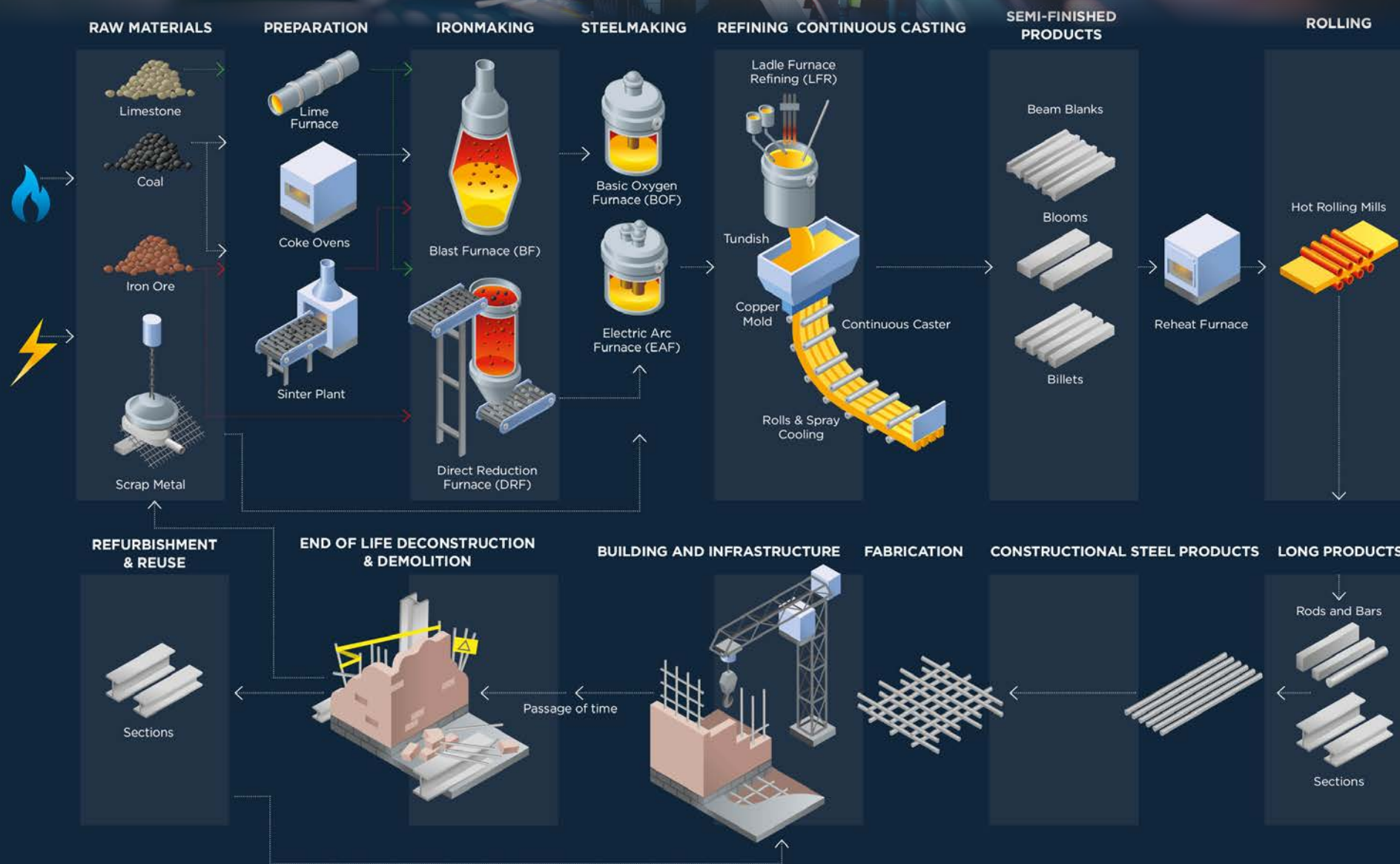
CARES governance structure

CARES governance structure



What does CARES do?

The scope of CARES certifications include all the process stages shown until the constructional steel products final use in a building or infrastructure



CEO's Statement

Building confidence in constructional steels



CARES role as the world's leading constructional steels certification body, is to provide confidence to construction industry stakeholders and we continue to do this as we celebrate our 40th anniversary. 2022 and 2023 have seen significant events impacting on the steel supply chain, and we have also seen significant changes within CARES.

It is with great pleasure that we welcomed a new independent Chair, Wayne Terry, who took up the position in July of this year. Wayne brings many years of experience within the certification industry. Currently the Chief Executive of the Association of British Certification Bodies, Wayne built his distinguished career from humble origins as an apprentice gas fitter to supporting competence, compliance and standards across UK and international businesses. We would also like to thank Alan Pickett, our outgoing Chair and long-standing Board member, for his insight and contributions over his tenure.

The recognition of the need to ensure safety critical infrastructure and buildings, and to drive decarbonisation and higher sustainability standards, continues to drive demand for our services internationally. In recent years, this has seen the formation and development of operating companies and capacity at CARES to enable us to better serve key markets, including in the Gulf Cooperation Region via the United Arab Emirates, Australia, Singapore and Hong Kong.

High levels of inflation and energy costs, continue to impact on the prices of all building materials and people's cost of living. As the Grenfell inquiry prepares its final report, the new UK Building Safety Act 2022 and associated regulation usher in some of the most important changes we have seen for construction and material supply chains in a generation. Heat records, wildfires and flooding globally, remind us of the urgency to decarbonise and to protect biodiversity.

Market focus on greenhouse gas and responsible sourcing criteria continues to become more sophisticated and widespread. Steel producers and fabricators alike rely on our Sustainable Constructional Steels (SCS) scheme, to demonstrate management practices and performance to their customers. Now in its 14th year, we look ahead, through an open consultation process, to maintain our leadership role as we consider the next version 10 of the scheme. During 2022 and 2023, our verified

Environmental Product Declarations (EPD) programme expanded, enabling more steel mills to obtain the EN 15804 compliant EPD verification and to provide Global Warming Potential data.

We widely engage in initiatives that drive best practices, including providing technical input and two case studies within the newly revised PAS 2080 Carbon Management in Infrastructure specification and guidance. We completed our first audit using the ResponsibleSteel standard at Borçelik (the Arcelor Mittal/ Borusan Holding Joint Venture in Turkey) and supported the development of a monitoring framework for construction companies seeking to demonstrate how they are meeting their SteelZero commitments to decarbonise. I now serve on the Emirati Green Building Council Board.

I welcome you to explore our sustainability activities through this Report and to collaborate with us to help address some of the most significant challenges of our times.

Lee Brankley
Chief Executive Officer



Sustainable Constructional Steel Scheme

Specifically developed for the constructional steel supply chain, the SCS scheme enables suppliers to declare the sustainability performance of in scope products manufactured at specified production sites. We are accredited by the UK Accreditation Service (UKAS) to provide certification for management systems, product conformity and sustainability management and performance schemes. The SCS scheme is compliant to BS 8902:2009 'Responsible sourcing sector certification schemes for construction products'- a framework for the management, development, content and operation of sector certification schemes applicable to the supply of construction products.

Our 'Extended Product Concept' infographic, shown on the next page, explains the scope of the SCS scheme in the context of our other certification schemes and the demands placed upon a modern construction material supply chain. CARES Product conformity standards are the basis of assurance for the physical product, such as reinforcement bar or structural steels. Clients also want reassurance beyond the physical product, extending their concern into the management of greenhouse gases, environmental impacts, human rights and labour

conditions throughout the supply chain. Effective stakeholder engagement, is a requirement of and underpins the scheme operation.

The scheme has a high entry level requirement. Third party certification to ISO 9001 for quality management, ISO 14001 for environmental management, and ISO 45001 for Health and Safety management, are prerequisites for approval. It has 72 mandatory criteria, 48 voluntary criteria (120 in total) and 34 mandatory Key Performance Indicators. Public reporting of material impacts and performance is also mandatory. Our highly skilled auditors, all with extensive steel industry experience, triangulate observational, documentary, and testimonial evidence and make a recommendation on certification.

Recognition of higher levels of performance, beyond the mandatory pass level, can be gained through achieving 1, 2, 3 or 4 Rosettes in the CARES Rosette Rating System. Moving from mandatory certification through the Rosette Ratings supports a transition towards science and context-based performance. The aspirational '4 Rosette Rating' requires near zero emission, responsibly sourced steel production. It aims for zero harm,

sustainably produced and processed constructional steel, with a digital record. Its introduction was part of a series of improvements within version 9 of the scheme, which is near to full adoption by approved firms.

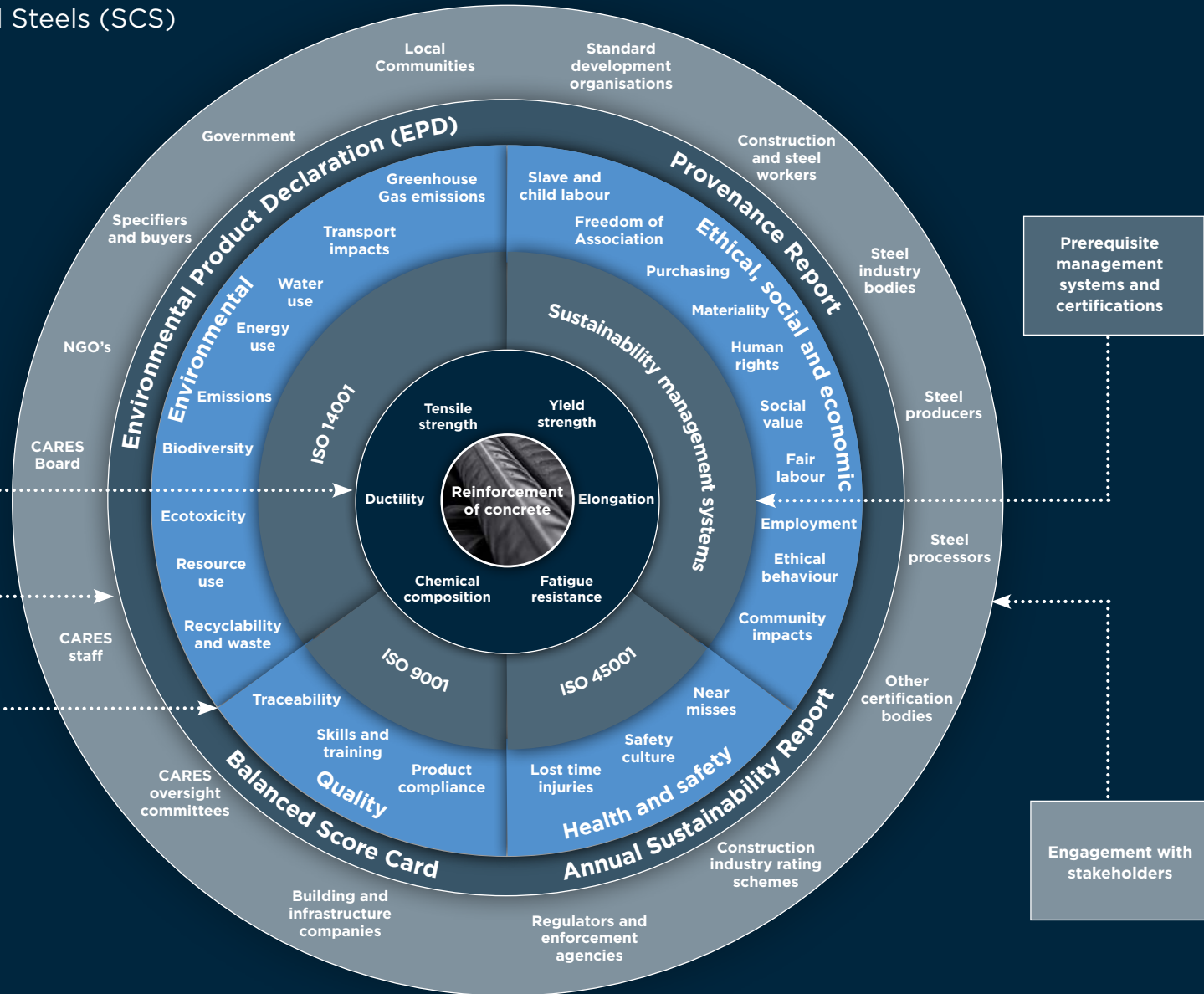
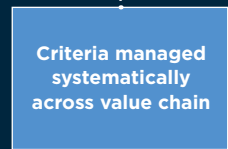
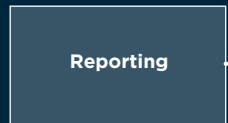
Enhanced criteria in version 9 relate to science-based targets and transition pathways, align to the reporting requirements to the Taskforce for Climate Related Financial Disclosures (TCFD) and support the calculation of social value at project levels. We have digitised the Global Warming Potential (GWP) data, the embodied emissions in SCS approved constructional steel products, and have improved the accuracy of transport emission impacts down to a project level.

We collate environmental and social performance data from the KPI reporting and set targets for future performance as shown on page 19. A key benefit for the end user is that constructional steel products from CARES approved suppliers are traceable, allowing an assured, identity preserved, chain of custody from mill to site.

Extended Product Concept

Extended Product Concept

Sustainable Constructional Steels (SCS) scheme requirements



Environmental Product Declaration (EPD)

An Environmental Product Declaration (EPD) is a transparent way of communicating a Life Cycle Assessment (LCA) of the environmental impacts of a product in a common format based on common rules. The CARES EPD covers Life Cycle stages from the extraction of raw materials, through processing, manufacture, refurbishment to eventual end-of-life and disposal and is based on the internationally recognised LCA standards ISO 14040 and ISO 14044.

The data, checked by CARES and verified by BRE, is produced in accordance with EN 15084 (Sustainability of construction works). EPD's are produced for each approved firm and for 13 approved producers which have the same data collection period and use scrap steel as raw material in the Electric Arc Furnace production route. All are available via Greenbook live and from our website. Fabricators produce simpler carbon footprints which detail their global warming impacts. Additional emissions estimates from transport are available from CARES to ensure completeness and accuracy of project level embodied emissions.

31 product and manufacturer specific EPDs and 1 CARES Sector Average EPD have been issued. Of these, 23 EPDs including the sector average EPD were renewed in 2023 and 7 EPDs will be renewed within 2024. EPD's are now offered as a standalone service, with an additional 18 under assessment, of which 7 are for 'prestressing wire & strand' products.

The Global Warming Potential Data from the EPD is now also available through the CARES Cloud and digital ecosystem. Accessible to producers, fabricators, contractors and clients, this innovation enables accurate data to be more easily brought into project carbon calculations and helps drive emissions reductions.

[Click to download](#)



Locations of CARES sustainability scheme-approved suppliers

- Fabricators
- Steel Mills















CARES sustainability scheme-approved suppliers • CARES SCS & BES 6001 SCHEME SCORES

Fabricators

Steel Mills (EAF Route)

Map














No	Auditee	SCS Certificate No	CARES SCS Score	BES6001 Certificate No	BES 6001 Score
1	Hy-Ten Reinforcement Co Ltd [Chatham, UK]	1445	1 Rosette 	1477	Very Good
2	Hy-Ten Reinforcement Co Ltd [Newark, UK]	1806	1 Rosette 	1807	Pass
3	Midland Steel Reinforcement Supplies [London Thamesport, UK]	1287	2 Rosettes 	1476	Very Good
4	Midland Steel Reinforcement Supplies [Mountmellick, Ireland]	1340	2 Rosettes 	1475	Very Good
5	ArcelorMittal Kent Wire Limited [Chatham, UK]	1554	1 Rosette 	1463	Good
6	ArcelorMittal Kent Wire Limited T\A AMCS [Chatham, UK]	1402	1 Rosette 	1464	Good
7	Thames Reinforcements Ltd [Sheerness, UK]	1293	1 Rosette 	1474	Very Good
8	Thames Reinforcements Ltd. [Nottingham, UK]	1749	1 Rosette 	1750	Good
9	Lemon Groundwork solutions Ltd [Creeksea, Essex, UK]	1743	1 Rosette 	1744	Pass
10	Roe Bros & Co Ltd [Peterborough, UK]	1441	Pass	1644	Good
11	Capital Reinforcing Ltd [Bromborough, UK]	1430	1 Rosette 	1469	Very Good
12	F Brazil Reinforcements Limited [Canvey Island, UK]	1352	1 Rosette 	1510	Good
13	Brazil & Co. (Steel) Ltd. T\A Fairyhouse Steel [Ratoath, Ireland]	1339	1 Rosette 	1491	Good
14	Total Construction Supplies Ltd - Site A [Wolverhampton, UK]			1754	Excellent

CARES sustainability scheme-approved suppliers • CARES SCS & BES 6001 SCHEME SCORES

Fabricators

Steel Mills (EAF Route)

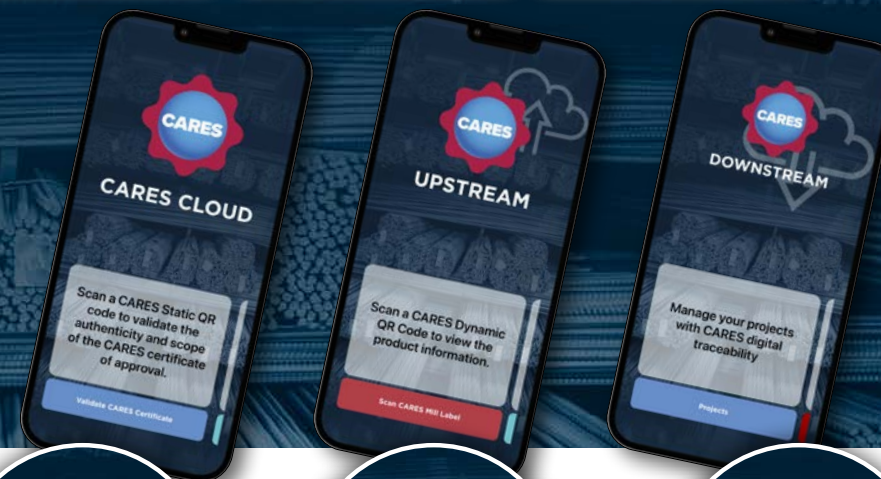
Map

No	Auditee	SCS Certificate No	CARES SCS Score	BES6001 Certificate No	BES 6001 Score
1	Liberty Steel, Rotherham Steel and Bar [Rotherham, UK]			1739	Very Good
2	Izmir Demir Celik Sanayi AS [Izmir, Turkey]	1234 / 1392	Pass (Rebar) / Pass (Structural)	1453	Pass
3	Yazici Iron & Steel Co Inc. [Iskenderun, Turkey]	1235	Pass	1452	Good
4	HABAS A.S - Rebar [Izmir, Turkey]	1273 / 1434	Pass (Rebar) / Pass (Flat)	1472	Pass
5	Diler Iron and Steel Co Inc. [Kocaeli, Turkey]	1272	Pass	1460	Pass
6	Bastug Metalurji [Toprakkale, Osmaniye, Turkey]	1391	Pass	1471	Pass
7	Ekinçiler Iron & Steelworks Inc. [Iskenderun, Turkey]	1239	Pass	1457	Pass
8	ICDAS Celik Enerji Tersane ve Ulasim Sanayii A.S [Canakkale, Turkey]	1285	1 Rosette 	1462	Pass
9	Kroman Celik Sanayi A.S [Kocaeli, Turkey]	1324	1 Rosette 	1461	Good
10	Colakoglu Metalurji A.S [Kocaeli, Turkey] ¹	1393 / 1429	Pass (Flat) 	1454	Pass
11	Yesilyurt Demir Celik [Samsun, Turkey]	1437	Pass	1465	Very Good
12	Megasa Siderúrgica SL [La Coruña, Spain]	1302	1 Rosette 	1467	Good
13	SN Maia - Siderurgia Nacional, S.A [Maia, Portugal]	1328	1 Rosette 	1455	Very Good
14	SN Seixal - Siderurgia Nacional, S.A [Seixal, Portugal]	1329	1 Rosette 	1458	Good
15	ALPA [Gargenville, France]	1344	Pass	1478	Good
16	ArcelorMittal Hamburg GmbH [Hamburg, Germany]	1319	1 Rosette 	1468	Good
17	Emirates Steel Industries [Abu Dhabi, United Arab Emirates]	1268 / 1338	1 Rosette (Rebar) / 1 Rosette (Structural) 	1459	Pass
18	Conares Metal Supply Ltd [Dubai, United Arab Emirates]	1377	Pass	1470	Pass
19	Qatar Steel Company (QPSC) [Mesaieed, Qatar]	1282	1 Rosette 	1451	Very Good
20	Qatar Steel Company FZE [Dubai, United Arab Emirates] ¹	1687	Pass	1688	Pass
21	Union Iron & Steel Company L.L.C [Mussafah, United Arab Emirates] ¹	1555	Pass	1556	Pass
22	Jindal Shadeed Iron and Steel LLC [Sohar, Sultanate of Oman]	1581	1 Rosette 	1582	Good
23	Hamriyah Steel FZC [Sharjah, United Arab Emirates]	1661	Pass	1662	Good
24	Kaptan Demir Celik Endustrisi Ve Ticaret A.S [Tekirdag, Turkey]	1678	1 Rosette 	1679	Good
25	Al Ittefaq Steel Products Company [Dammam, Kingdom of Saudi Arabia]	1762	1 Rosette 	1763	Good
26	ArcelorMittal Kryviy Rih PJSC [Kryviy Rih, Ukraine]	1520	1 Rosette 	1521	Pass
27	Kardemir Karabuk Demir Celik San. ve Tic. A.S [Karabuk, Turkey]	1857	Pass	1858	Pass
Other	1 FALK Panel Productie L1 & L2 [Netherlands]			1668	Very Good
	2 Delft Profielen B.V [Netherlands] ²			1740	Good

¹ SCS v9 transition of Colakoglu Metalurji, Qatar Steel FZE, Union Iron & Steel Company L.L.C has not been completed at the date of reporting and the SCS scores are therefore v8

² Awaiting audit report

Traceability and Digital Assurance



All CARES steels are 100% traceable at a batch and product level to the original steel producer. Many of its raw materials are also traceable to their source, with transport modes, distances and locations of key suppliers recorded as part of the scheme. Controlled blending and independent testing by CARES ensures the exact grade specified is produced with a unique cast number and the associated quality data for each cast is recorded on the CARES Upstream Cloud.

Product labelling:



When the molten steel is cast and rolled the unique CARES bar marks (as shown on the back cover of this report) are added to each piece of rebar, which enable individual mills and the country of production to be identified. It is then batched, labelled as shown and delivered to the fabricator. During cutting, bending and welding the cast number is accompanied by a 'bar schedule reference' with the 'bar mark' retained during this process and through to the construction site.

The CARES Downstream Cloud holds relevant information sought by the client including the Global Warming Potential (GWP) data from the EPD. This information can be accessed by contractors using the CARES App.

Case study



- Source Locations, Transport distances and modes for all key materials
- Risk assessment and Due diligence requirement for higher tiers of supply network

- Controlled Blending Chain of Custody
- Product conformity assurance and testing available on CARES Cloud
- CARES bar mark cast into product (see back page)
- Origin, Cast and Batch information recorded
- Bundle/Batch labels with QR codes added

- Identity preserved Chain of Custody tracing each product from mill to site
- Batch labels scanned at key locations/entry to site
- Check CARES bar mark and scan QR code for product provenance information and data using CARES App

Case Study:

Lessons learnt from Cloud Innovation Trials

Reinforcing steel is one of the most safety critical elements in any project. Working collaboratively, CARES partnered with construction contractors and clients to trial its Cloud capability on full-scale infrastructure projects. It tracked each batch of reinforcing steel from its point of origin to the construction site providing compliance and carbon footprint data plus sustainability credentials to achieve credits in BREEAM and/or CEEQUAL.

The trial tested the ability of the CARES Cloud to demonstrate how products are effectively tested, certified, marketed, and traced from the manufacturer to the construction site. The scope included, manufacturers, traders, fabricators (processors) and contractors who install the reinforcing steels.

This Cloud-based solution was able to provide accurate, reliable, easily accessible product conformity and global warming potential for each tonne of reinforcing steel delivered, evidence of assurance and details of the journey through the supply chain. It demonstrated its ability to update BIM models with data collected from the supply chain and seamless connect to other systems via secure Application Programme Interfaces (API's).

The digital platform uses customizable dashboards and a suite of Apps to allow online and hand-held scanners and smartphones to trace what has been manufactured, procured, fabricated and delivered in real-time. It replaces existing manual paper-based processes which are labour intensive, and vulnerable to damage or malicious alteration and potentially leave significant gaps in assurance trails. The CARES Cloud will also

enable a value-based procurement approach providing a reliable digital twin of the installed (fixed) reinforcement.

The trial confirmed the ability to access real-time provenance data, secure CARES certificates of approval and carbon footprint data for the whole supply chain. Site productivity was improved by reducing operational time and costs by implementing digital recording of material receipt and demonstrating that paper proforma record sheets can be removed.

Case study: Arkan

Case study: Grimshaw Architects

Jindal Shadeed

Thames Reinforcements

Case Study: Emirates Steel Arkan introduces digital materials passports

Emirates Steel Arkan (ESA), one of the Gulf Cooperation region's largest publicly traded steel and building materials manufacturers, has adopted CARES' state-of-the-art Dynamic QR Code verification technology to assure fast and seamless traceability of its rebar products, as part of its drive to digital assurance.

Eng. Saeed Khalfan Al Ghafri, CEO of Emirates Steel, an Emirates Steel Arkan company, said: "We recognize the tremendous benefits that digitalization brings and are confident that it will remain a key factor in driving our future success. By adopting this innovative Dynamic QR Code solution, we will ensure that our customers can access up to date, accurate information for critical structural materials such as rebar."

He added: "It is essential for us to remain at the forefront of technological innovation and make product and sustainability data available to all stakeholders throughout the construction value chain. We look forward to continuing our collaboration with CARES and other stakeholders to provide this level of digital transparency to local and global markets where CARES product certification is required."

Adopting the CARES Cloud digital ecosystem offers instant access to product information. Scanning the Dynamic QR Code reveals the mechanical properties of ESA's CARES-certified products, along with information on product sustainability performance. Traceability is assured through a secure digital passport capturing contemporaneous information, which is constantly updated.



Case study: Arkan

Case study: Grimshaw Architects

Jindal Shadeed

Thames Reinforcements

Case Study: Grimshaw Architects collaborative working for a regenerative built environment

Covering architecture, planning and industrial design across all major sectors Grimshaw has been instrumental in improving the sustainability in the development of many high-profile buildings and infrastructure. Founded by Sir Nicholas Grimshaw in 1980, the practice became a Partnership in 2007 and operates worldwide with offices in Los Angeles, New York, London, Paris, Dubai, Melbourne, Sydney and Auckland employing over 650 staff.

Grimshaw has publicly committed to design and deliver socially and environmentally regenerative buildings

and assets by 2030, and as a first step to reach this, to design to an outcome of net zero carbon/net zero carbon ready for all its design work by the end of 2025. It works collaboratively across disciplines to plan, design, build and construct in ways that promote positive planetary impacts, including alignment to the Paris climate agreement. Its strategy involves collaborating with clients and suppliers that share the same ambitions, upskilling and training its architects and designers, and partnering with research organisations and other groups to deliver its objectives.

Dr Paul Toyne, its Sustainability Leader said 'For constructional steels, this means ensuring project teams can gain confidence in product quality and that we have data to its embodied emissions for our whole life carbon calculations. We recommend to our clients that they specify construction materials that have credible environmental data. CARES certifications and its verified Environmental Product Declarations is one way of achieving these objectives.'



Case study: Arkan

Case study: Grimshaw Architects

Jindal Shadeed

Thames Reinforcements

Case study: Jindal Shadeed innovates for sustainability

Jindal Shadeed Iron & Steel LLC (JSIS) is the largest privately-owned integrated steel producer in the Persian Gulf region. Strategically located in the industrial port of Sohar, the Sultanate of Oman and a two-hour drive from metropolitan Dubai, the 'HOTLINK' Direct Reduced Iron (DRI) and Electric Arc Furnace facility has an annual steel production capacity of 2.4 million tons.

The HOTLINK process uses gravity to deliver DRI from the Midrex Shaft furnace, which is carefully positioned adjacent to and above the Electric Arc Furnace, with

minimal heat loss and no oxidation. Harssha Shetty, Chief Executive Officer commented, 'We are proud of our innovations to improve sustainability performance which also deliver commercial benefit. Jindal Shadeed operates the world's first HOTLINK DRI plant and in 2022 this enabled us to avoid 221,702 t CO₂ emissions in addition to saving energy and reducing costs.'

JSIS transparently reports key environmental metrics, goals and progress including in relation to global warming. The current goals align with the Transition Pathway Initiative's 2 Degrees and Below 2 Degrees

benchmark scenario. This includes interim targets to reduce GHG emissions intensity (scope 1 and 2) by 12.1% by FY 2025 from a FY 2018-19 Baseline.

JSIS aims to be one of the foremost employers of choice in Oman, working to provide a safe, stable and collegial working environment for its workforce. Continuing education, on-the-job training and broader investment in developing future skills of its employees, as well as supporting our local community are key parts of its strategy.

Case study: Arkan

Case study: Grimshaw Architects

Jindal Shadeed

Thames Reinforcements

Case study: Thames Reinforcements strengthens its sustainability credentials'

Thames Reinforcements operates from two depots based in Sheerness (Kent) and Nottingham. Its production capacity exceeds 2000 tonnes per week and offers construction industry clients cut and bent reinforcing steel, prefabricated cages, mechanical splicing and associated products and services.

Sustainability is critical to Thames Reinforcements and it takes every opportunity to reduce its environmental impacts. Energy usage comes from 100% renewable

sources some of which is sourced from the recently installed solar panels at the Sheerness depot. The company operate an Integrated Management System, which is certified by CARES as well as other industry standards including CARES SCS and BES 6001, thereby giving clients the confidence of fully digitally traceable material combined with responsible sourcing as they prioritise purchase of raw material from suppliers that hold a responsible sourcing accreditation.

The company is driven to reduce their environmental impact by paying due diligence to the environment in which they operate and taking the needs of stakeholders into account. In 2021 it launched a training scheme for the long term unemployed which has provided to be a great success for both Thames Reinforcements and its employees.

Case study: Arkan

Case study: Grimshaw Architects

Jindal Shadeed

Thames Reinforcements

How to Specify

Case study: Emerates Steel

Case study: Grimshaw Architects

Governments are increasingly requiring major projects to specify product conformity and carbon performance. For example, the UK governments procurement guidance note PPN 0621 requires suppliers bidding for major government contracts to commit to achieving Net Zero by 2050 and publish a Carbon Reduction Plan and its PPN 0423 requires the tracking of steel origins.

Steel Reinforcement

All reinforcement shall conform to BS 4449, BS 4482 or BS 4483 as appropriate. All stainless steel reinforcement shall conform to BS 6744. All reinforcement shall be cut and bent in accordance with BS 8666. The reinforcement shall be obtained from firms holding valid CARES product conformity scheme certificate of approval for the production and supply of the steel reinforcement.

When specifying steel reinforcement do not refer to EN 10080 without referencing BS 4449 and the grade, B500A, B500B or B500C, because EN 10080 is an 'open Standard' and does not contain any product performance requirements.

Digital construction

All reinforcement manufacturers and suppliers shall use the 'CARES Cloud' digital traceability platform.

Sustainable construction and responsible sourcing

All reinforcement suppliers shall hold a valid CARES Sustainable Constructional Steel (SCS) Scheme Certificate of Approval for the manufacture and/or fabrication issued by CARES. They shall provide the Rosette Ratings achieved by the manufacturer and the fabricator, where achieved.

The reinforcement manufacturer shall additionally provide an independently verified Environmental Product Declaration (EPD) which conforms to EN 15804.

For more information on how to specify visit <https://www.carescertification.com/resources/specification-guide>

Responsible Sourcing

CARES SCS
(Sustainable Constructional Steel Scheme)

Product Quality Assurance

CARES SRC
(Steel for the Reinforcement of Concrete Scheme)

Main raw materials • Recycled Scrap Metal or Direct Reduced Iron (DRI)

CARES SCS Certificate



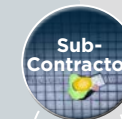
Product conformity to
BS 4449/ 4482/ 4483/ 6744

CARES SCS Certificate



Product conformity to BS 8666

CARES SCS Certificate from all
supplying Steel Mills
Rosette Rating Achieved



Product conformity
to BS 8666
Product conformity
to BS 4449/ 4482/ 4483/ 6744

CARES SCS Certificate
from all supplying Fabricators
Rosette Rating Achieved



Evidence for Main Contractor

Evidence for Main Contractor

Summary performance 2015-2022

The following table summarises performance for a range of material metrics from 2015 to 2022 and performance against the target (from a 2020 baseline). It includes the schemes main impacts from 16 approved producers which use recycled steel in the Electric Arc Furnace (EAF)

process. From 2021 we started included data from other production routes and plan to expand these data sets and introduce related targets in future years. Fabricators impacts are quite different and excluded from this data set as they are less material impacts across the life cycle.

SCS scheme performance in perspective

Aspect	Key Metrics	2015	2016	2017	2018	2019	2020	2021	2022	Target 2025	Performance Achieved	Target Status
Environment	Material Efficiency - % for producer (tonnes billet, bloom or slab produced as % of total raw materials)	82.9	83.1	82.3	82.6	82.8	81.5	81.2	83.2	83	2.0%	Achieved
	Global Warming Potential (Scrap based EAF) (kg CO ₂ e per tonne of carbon steel bar produced) ^{1, 2}	840	840	898	760	755	741	818	756	750	2.0%	On Track
	Global Warming Potential (DRI based EAF) (kg CO ₂ e per tonne of carbon steel bar produced) ^{1, 2}							1989	2001	no target		
	Water Use m ³ per tonne of steel (Scrap based EAF)	1.01	0.93	0.93	0.97	0.97	1.04	1.19	1.06	0.9	1.5%	Off track
	Water Use m ³ per tonne of steel (All SCS approved)							1.51	1.24	no target		
	Steel scrap recycled in approved product (% by mass) ³ (Scrap based EAF)	96.9	98.1	97.3	94.7	95.8	95.9	96.0	95.1	no target		
	Waste to landfill (kg per tonne of steel)	58	43	47	24	4	12	13	9	5	-23.2%	Progress made
Waste to incineration (Kg per tonne of steel)	0.46	0.04	0.02	0.01	0.01	0.03	0.02	0.07	0	61.0%	Off track	
Social	Health and Safety - Lost time Injury Frequency Rate (Lost time injuries per million hours worked)							24	26	10		Off track
	Skills and Training - Development of Employees (Number of training hours per employee and contractor)	27	22	23	24	27	28	25	28	30	0.6%	Progress made
	Community Relations, increase or decrease in initiatives							13 Increase 9 decrease		Increase	New target	On Track
Sustainability Management	Total number of environmental and social complaints resulted in a successful prosecution by an external Regulator in the data collection/reporting period ⁴	0	1	5	0	3	0	369	2	0	2	Off track
	Suppliers evaluated against responsible sourcing policy and the social and environmental issues listed in CARES SCS Operational Assessment Schedule (%)	n/a	13	20	13	18	6	27	91.74	75%		Achieved
	Reporting Sustainability Performance to Stakeholders - Publication of CSR/Sustainability Report on yearly basis (%)	n/a	19	27	24	35	53	55	86	100%	86%	Progress made
Economic	Local Purchasing - Increase or Decrease							17 increase 5 decrease	20 increase 1 decrease	Increase	New target	Increasing
	Local Employment - Increase or Decrease							6 increase 2 decrease 14 all local	4 increase 2 decrease 15 all local	Increase	New target	Increasing

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

1 The Global Warming Potential (GWP) data point includes GWP from raw material supply, transport, and the manufacturing of steel products, i.e. Raw materials and Production: A1-3 as per EN 15804. It excludes impacts from the use of product, end-of-life stages and recovery stages (Construction: A4-5, Use stage: B1-7, End-of-life: C1-4 and Benefits and loads beyond the system boundary: D). The full data sets, commonly referred to as 'Cradle to Gate + options', are available in the published EPD.

2 This figure represents the mean average GWP from the most recent CARES third-party verified EPD reports to EN 15804 available for each approved scrap-based producer.

3 Targets relate to scrap based EAF production route only unless stated. There are plans to enhance the targets and presentation of data to cover different production routes in future years. The baseline year for target setting is 2020.

4 This includes a financial penalty, an enforcement notice, a prohibition notice, and/or a prosecution. The anomalous 369 figure, for 2021, is explained on the following page.



SCS Scheme Performance in perspective

Transparency of verified performance data is a foundation principle of the CARES SCS scheme. Public disclosure of information informs decision making and drives performance improvement.

The performance table above, includes collated information for selected material impacts. Last year we started to expand the scope of reported information to include all steel production routes approved by CARES. This is incorporated into each metric where comparable or is presented separately where not. When sufficient data becomes available targets will be set for these recently incorporated process route metrics.

For detailed information about individual approved firms' performance, please review their own sustainability reporting and disclosures, which is a mandatory requirement under version 9 of the scheme.

At the end of October 2023, of the 46 SCS certificates, 43 are certified to v9, 3 are certified to v8 and will complete the transition to v9 when recertification becomes due, before the end of 2024 at the latest. Of the 27 producers, 17 are scrap based EAF (3 have dual certificates for different products), 2 are integrated iron and steel works, 3 are DRI based steel mills (one has dual certification for different products) and 5 are rolling mills. There are 13 fabricators, all with v9 certification.

The steel industry is approaching the technical maximums for key process efficiency as is evident from the material efficiency metric. It reached the target of 83% in 2022 and is likely to remain near to this level. The Global Warming Potential (GWP) performance

data for 2022 shows an improvement from the previous year and has also been subject to some underlying changes. As the sector average is highly dependent on electricity inputs, national grid factors and purchasing or direct generation of renewable electricity are important influencing factors and offer significant opportunities to decarbonise. The underlying tool has been updated to reflect the latest standard version (EN 15804+A2:2019) which provides greater accuracy, for example by including the percentage share of billets sourced from Blast Furnace plants. However, it's use of 'Consumption grid mix' for non-EU countries has resulted in increasing the total emissions across the sector average. With global legal and voluntary commitments to Net-Zero increasing all the time, this is a key metric for the scheme, and which will be subject to stakeholder engagement in support of improved target setting during 2023 and 2024.

Significant amounts of heat is needed to be removed during steel making using water. Although we have seen reductions this year, difficulties with leak identification and operational changes are limiting further improvement. Water use is best considered in the light of other catchment user needs and scheme criteria include this expectation.

Stimulating circular economies is central to the SCS scheme. As steel is indefinitely recyclable and the most recycled material in the world, scrap-based production will continue to grow as steel in end-of-life assets enters recycling streams. However, market conditions and commercial decisions mean that other factors are reducing the recycling rate. For example, some scrap

based EAF producers have been using some DRI in the process. The data includes pre- and post-consumer scrap. Waste to landfill and incineration have reduced significantly since 2015. Very small volumes of residual waste is still being incinerated.

The publication of Lost Time Injury Frequency Rates at a site level is mandatory under version 9 of the scheme and the average is now collated. There is considerable variation across the approved producers, and to industry averages, suggesting significant potential to reduce injury rates. Unfortunately, there were 2 fatalities at approved firms in 2022, which are both personal tragedies and avoidable. The SCS scheme promotes zero harm, which is also our 2050 target.

The target to maintain full compliance, was met in three of the seven years to 2022. In 2021, 1 firm had 365 incidents within this metric, an unusually high prosecution rate, mainly for related environmental incidents. Action Plans agreed with enforcement authorities, have been implemented and in 2022, two prosecutions were reported.

The scheme seeks to leverage the approved firms influence over their supply chain and requires the evaluation of the range of impacts covered by the scheme. 2022 saw significant progress made in this area and improvements in the quality of supply chain due diligence. Demands for transparent, public reporting of material sustainability information is growing, including from the financial community. 2022 also showed a significant increase in compliance to this indicator.

CARES own impacts

The adoption and implementation of our SCS and EPD schemes at approved firms is the main way we can influence sustainability performance. CARES own operational impacts are relatively small. For example, our total annual greenhouse gas emissions, which is our most significant impact, are less than 0.5% of those from a single small steel mill. Nevertheless, we take our responsibilities to reduce them seriously. As CARES returned to auditing on sites in 2022, post Covid 19 restrictions, our greenhouse gas emissions increased to 424 tCO_{2e}. 76% of our emissions came from flights, with just over 10% from surface transport and just under 8% from hotel stays. The majority of these emissions are a result of auditors travelling to sites. Our strategy of localising audit capacity and CARESmart risk-based

auditing will serve to reduce these. Emissions per audit day have decreased from an average of 0.48 Tonnes CO_{2e} in 2018 to 0.43 in Q1 2023.

This year, our team expanded to 40 employees and 7 subcontractors operating from three continents. Our auditors visit complex industrial facilities and construction sites with inherent safety risks. Their health, safety and wellbeing is of paramount importance to us. We are proud that we have a high retention rate and operate flexibly and continue to support them to meet the day-to-day challenges of life and work.

Our safety committee, led by our Chief Operating Officer, oversees our safety management system and

culture. Detailed risk assessments are completed for all operational activities and regular training is provided to all staff. Performance is monitored and regularly reviewed. There have been no significant incidents in this and recent reporting periods. Our five trained Mental Health First Aiders continue to support employees across all our operations with mental health awareness training available to all others. A Staff have access to a wellbeing Intranet Site, an employee portal, where team members can securely access all remuneration and personal records. We are shortly repeating our biennial employee opinion survey which provides our employees with an anonymous opportunity to feedback, and which informs our priorities.

Sustainability Strategy and transition plan

We support the UN's Sustainable Development Goals and its Race to Zero and have committed to reducing our direct emissions by 50% by 2030, to Net-Zero by 2050 and to disclosing our progress on an annual basis. Our transition strategy is based on developing our digital assurance practices and enhancing risk-based auditing (CARESmart) to determine on-site audit needs. This blended approach can reduce auditor travel and costs to approved firms. We are building our localised audit capacity to further reduce travel and are encouraging alternate travel modes when appropriate. Virtual meeting technologies are being

widely utilised, which also enhances access to our stakeholder events, meetings and the events we attend. **Pembroke House, our offices in Sevenoaks, have PV arrays, battery storage and 2 Electric Vehicle charging points. We, source 100% renewable electricity and are evaluating other options to reduce and eliminate residual emissions.**

We are consulting on the next version 10 of the SCS scheme and welcome feedback and involvement in this process. Our focus is on reviewing greenhouse gas emissions thresholds and credit scores, responsible

sourcing and ensuring schemes have additional relevance to local markets. Our Rosette Rating scoring system is also under review. We are moving toward mandatory reporting of science-based transition pathway strategies and targets are also being reevaluated. Our digitisation strategy should see all auditing processes digitised by the end of 2024 and our CARES Cloud and digital ecosystem is enabling the market to leverage emissions reductions and other environmental and social benefits.

We support the UN's Sustainable Development Goals and its Race to Zero and have committed to reducing our direct emissions by 50% by 2030, to Net-Zero by 2050 and to disclosing our progress on an annual basis.



SCS Scheme Targets

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Aspect	Key Metrics	Target 2025	Target 2030	Target 2050
Quality	Quality data: % of product quality data available digitally via the CARES Cloud	100	Maintain	Maintain
Sustainability Management	Traceability: % of product fully traceable from construction site to steel mill with traceability information available through the CARES digital record.	100	Maintain	Maintain
	Responsible sourcing: For Producers: % of key raw material suppliers evaluated for sustainability impact (Processors shall buy from SCS approved steel producers or from producers with sustainability certifications acceptable to CARES for product to be claimed as SCS certified)	90	95	100
	Responsible sourcing: % of key raw materials, by mass, fully traceable to their source or with human rights due diligence completed	90	100	Maintain
	Reporting Sustainability Performance to Stakeholders: Publication of CSR/Sustainability Report or equivalent on yearly basis (%)	100	Maintain	Maintain
	Total number of environmental and social complaints resulted in a successful prosecution by an external regulator in the data collection/reporting period ²	0	Maintain	Maintain
Environment	Material Efficiency - % for producer (tonnes billet, bloom or slab produced as % of total raw materials)	83	84	84
	Global Warming Potential - maximum threshold (Kg CO ₂ e per tonne of carbon steel bar produced) ³	750	500	Zero
	Water Use - m ³ per tonne of steel	0.90	0.85	0.85
	Waste to landfill - kg per tonne of steel	5	3	0
	Waste to incineration - kg per tonne of steel	0	Maintain	Maintain
Social	Health and Safety, Lost Time Injury Frequency Rate (Lost time injuries per million hours worked)	10	8	0
	Skills and Training (Development of Employees) - Number of training hours per employee and contractor per year	30	Maintain	Maintain
	Community Relations - Increase or Decrease in community initiatives ⁴	Increase	Increase	Increase
Economic	Local Purchasing - Increase or Decrease in local purchasing ⁵	Increase	Increase	Increase
	Local Employment - Increase or Decrease in local employment ⁶	Increase	Increase	Increase

Metrics and targets relate to EAF - scrap-based producers of steel to BS4449, which is a high percentage of approved steelmills (82% in 2020). DRI based (14% in 2020), integrated mills (1% in 2020) and processors are not included in these targets. This enables comparability of the data by making it meaningful to the specific production process. Inclusion of all the approved firms would skew the data. CARES is reviewing this approach with stakeholders to ensure it provides the most relevant and transparent presentation of the data.

The baseline for any change in percentage is 2020.

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

SCS Scheme targets are subject to revision and are part of our consultation process for the creation of version 10 of the scheme. We welcome feedback on appropriate target values.

1. Special additional requirements apply where, due to market conditions, there is insufficient CARES SCS approved feedstock available. In these cases, the intention is that non-approved feedstock producers can demonstrate they meet equivalent requirements for key criteria in the scheme.

2. This includes a financial penalty, an enforcement notice, a prohibition notice, and/or a prosecution.

3. This figure represents the mean average from the most current CARES third party verified EPD reports to EN 15804 available for scrap-based producers approved by the scheme each year. The Global Warming Potential (GWP) data point includes GWP from raw material supply, transport, and the manufacturing of steel products, i.e. Raw materials and Production: A1-3, which constitutes 80+% of Life-Cycle GWP. It excludes impacts from the use of product, end-of-life stages and recovery stages (Construction: A4-5, Use stage: B1-7, End-of-life: C1-4 and Benefits and loads beyond the system boundary: D). The full data sets, commonly referred to as 'Cradle to Gate + options', are available in the published EPD. Please note, the GWP targets to 2025 and 2030 are subject to a review process and may reduce.

4. On average, have the approved firms increased or decreased their community investment rate or employee volunteering initiatives.

5. On average, have the approved firms increased or decreased their local purchasing (% spend in local currency)

6. On average, have the approved firms increased or decreased local employment (% of total employment). Local is taken to mean 'national' unless other definitions of local apply in law at the approved firm.

Better for customers

Product Quality certification

Full traceability from steel mill to construction site

Sustainable Constructional Steel certification

Attract credits in Building and Infrastructure Rating Systems

CARES Cloud and digital ecosystem

Specify CARES certified – not just any rebar

The CARES mark identifies a specific mill in a specific country



Trust the CARES mark

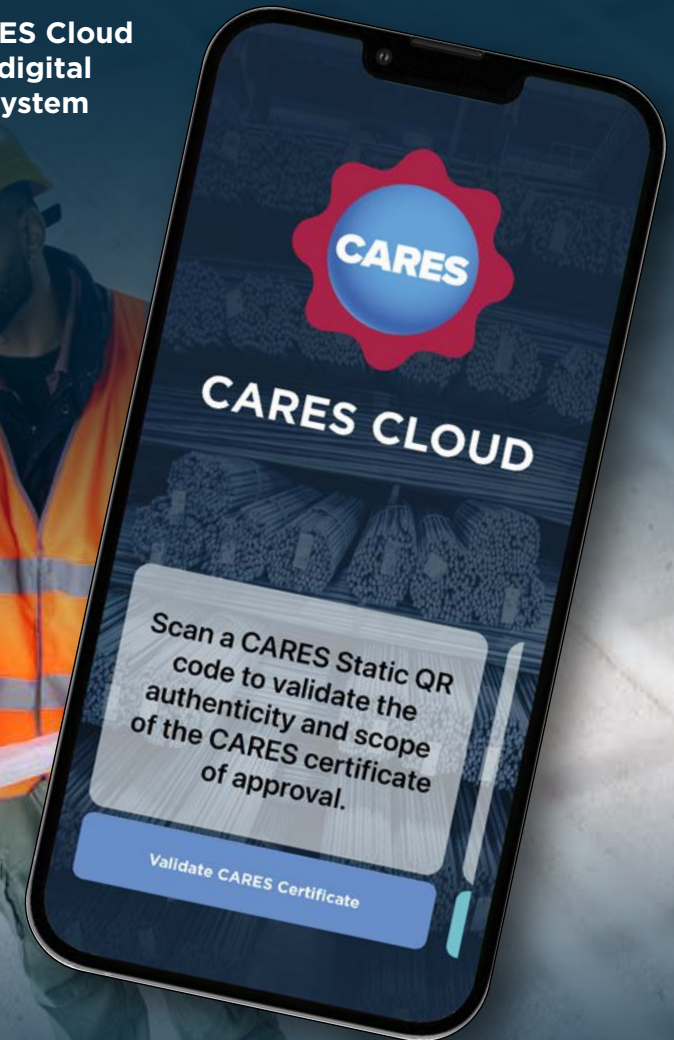
Country = 7 ribs

Mill = 7 ribs



Tell us what you think

This is our 12th 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.



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