Responsible Sourcing Requirements for ‘ResponsibleSteel Certified Steel’

Draft Version 3.0

1st July 2022
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**Background**

In November 2019, version 1.0 of the ResponsibleSteel Standard was approved and ratified by our membership and Board. The Standard is structured on 12 Principles with 370 associated requirements. Sites that are certified against the Standard are able to claim that their site is operated in a responsible manner and can promote themselves using the ResponsibleSteel ‘Certified Site’ logo. The 12 Principles for ‘Certified Site’ are shown on the following figure:

<table>
<thead>
<tr>
<th>Governance Principles</th>
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<tbody>
<tr>
<td>1. Corporate Leadership</td>
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<tr>
<td>2. Social, Environmental, Governance Management Systems</td>
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<table>
<thead>
<tr>
<th>Social Principles</th>
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<tbody>
<tr>
<td>3. Occupational Health and Safety</td>
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<td>4. Labour Rights</td>
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<td>5. Human Rights</td>
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<td>6. Local Communities</td>
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<td>7. Stakeholder Engagement and Communication</td>
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<thead>
<tr>
<th>Environment Principles</th>
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</thead>
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<tr>
<td>8. Climate Change and Greenhouse Gas Emissions</td>
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<tr>
<td>9. Noise, Emissions, Effluents and Waste</td>
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<tr>
<td>10. Water Stewardship</td>
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<tr>
<td>11. Biodiversity</td>
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<tr>
<td>12. Decommissioning and Closure</td>
</tr>
</tbody>
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In June 2021, ResponsibleSteel members voted on some amendments to version 1.0 relating to Principle 8, resulting in the adoption of version 1.1.

The first version of the ResponsibleSteel Standard includes some requirements for the sourcing of input materials (then referred to as raw materials) under Criteria 1.1 and 2.2. The input materials requirements ask for a high-level commitment to responsible sourcing and for evidence that this commitment is being implemented. However, the requirements do not provide incentives for steel companies and their suppliers to work towards high levels of ESG performance in their supply chains.

The Standard also specifies requirements under Principle 8 in relation to greenhouse gas (GHG) emissions. Principle 8 requires company- as well as site-level strategies, plans and targets to be in place for the reduction of GHG emissions, aligned with the goals of The Paris Agreement. It also requires that steel companies and sites report on their GHG emissions performance. However, it does not set performance thresholds for the current level of GHG emissions from the site or require disclosure of the GHG emissions associated with steel products produced at the site.

The ResponsibleSteel membership and Board agreed in 2019 that additional requirements in relation to these two critical issues - the responsible sourcing of input materials and performance thresholds for GHG emissions - would need to be met in order for sites to market their steel as ResponsibleSteel certified steel – referred to as ‘Certified Steel’.

The process for developing these additional requirements started in 2020 with preliminary proposals being presented to the membership and Board for review and comment. Fully developed sets of draft proposals were published for a formal 60-day public stakeholder consultation in August and September 2020. All comments were reviewed by the ResponsibleSteel Secretariat and revised draft proposals were published for a second 60-day public stakeholder consultation in April 2021.

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Between June and December 2021, the ResponsibleSteel Secretariat reviewed the comments received from the second public stakeholder consultation, and engaged in detailed discussions with ResponsibleSteel members and stakeholders to develop the draft proposals further. Consultations continued through to 30 March 2022, and draft 2.2 of the requirements were circulated to the ResponsibleSteel membership for review and comment from 1st April through to 27th May 2022. This draft 3.0 incorporates proposed changes in response to that feedback and is now subject to the ResponsibleSteel Board’s agreement that the ResponsibleSteel Standard Development Procedures have been followed. Once this is in place, the proposed requirements will be voted on by the business and civil society members of ResponsibleSteel.

If approved, these additional requirements for ‘Certified Steel’ will be combined with the ResponsibleSteel Standard Version 1.1, which will then be re-issued as the ResponsibleSteel Standard Version 2.0. The new requirements for GHG emissions will be added to the current Principle 8. The new requirements for the responsible sourcing of input materials will be incorporated as a new Principle 3. In consequence, the current Principles 3 to 12 will be renumbered 4 to 13, as shown below:

<table>
<thead>
<tr>
<th>Governance Principles</th>
<th>Social Principles</th>
<th>Environment Principles</th>
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</thead>
<tbody>
<tr>
<td>1. Corporate Leadership</td>
<td>5. Occupational Health and Safety</td>
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<tr>
<td>3. NEW: Responsible Sourcing</td>
<td>7. Human Rights</td>
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<td>4. Decommissioning and Closure</td>
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<td>12. Water Stewardship</td>
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<td></td>
<td>13. Biodiversity</td>
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* Note that the Decommissioning and Closure Principle has been assigned to the Governance pillar of the ResponsibleSteel Standard and is now Principle 4 instead of 12.

Terms and key concepts for which additional definitions have been provided here will be incorporated into the existing Glossary, which can be found on the ResponsibleSteel website. Its use is mandatory and ensures consistent understanding and interpretation of key terms and concepts.

Once approved, the new ResponsibleSteel Standard Version 2.0 will be the basis for both ‘Certified Site’ and ‘Certified Steel’ certification. For ‘Certified Site’, the existing 12 Principles must be met. For ‘Certified Steel’, the additional requirements specified in the new Principle 3 (Responsible Sourcing of Input Materials), together with the additional requirements specified in the renumbered Principle 10 (Climate Change and GHG Emissions), will have to be met in addition. The requirements for ‘Certified Steel’ will be clearly marked in the new Standard version.

ResponsibleSteel intends to include a 12-month ‘test phase’ for certain areas of the new requirements where testing seems important to ensure that the requirements are fit for purpose. The areas that will be covered by the 12-month test phase are marked accordingly in this document. If the test phase shows that changes are necessary, additional stakeholder consultation on those requirements will be conducted. Where these changes are deemed significant, they will be subject to membership voting. ‘Certified Steel’ certificates will still be issued during the test phase and will be valid for three years, which is the usual duration of ResponsibleSteel certificates. If significant changes are made to the requirements following the test phase, sites that have already been certified will be granted a transition period to meet any revised requirements. The existing
ResponsibleSteel Standard is scheduled for a formal review in 2023. The new requirements for responsible sourcing and GHG will be reviewed at the same time to align future review cycles.

The proposed requirements specify four performance levels – referred to as ‘level 1’, ‘level 2’, ‘level 3’ and ‘level 4’, for both GHG emissions performance, and for progress on the responsible sourcing of input materials. These performance levels are designed to allow downstream users and specifiers to distinguish between products depending on the GHG emissions intensity of the crude steel from which they are produced and depending on the ESG performance of suppliers to steel companies. **Level 1 is the ‘entry’ level, Level 4 the hardest to obtain.**

**Next steps**

Once the requirements for ‘Certified Steel’ have been approved, ResponsibleSteel will focus on developing the requirements to include downstream supply chains in the ResponsibleSteel certification programme through the development of a ‘downstream chain of custody’ standard, together with the requirements for claims that may be made in relation to ResponsibleSteel ‘Certified Steel’ and ‘Certified Sites’. Steel sites that achieve ‘Certified Steel’ certification are required to follow ResponsibleSteel guidance regarding claims, logos and labels. This guidance on claims, logos and labels is under development and will be subject to consultation with ResponsibleSteel members. Until this time, no claims regarding ResponsibleSteel ‘Certified Steel’ may be made.

**If you have any questions, please contact:**

assurance@responsiblesteel.org
Principle 3

Responsible Sourcing of Input Materials

Objective:
ResponsibleSteel certified sites increasingly source input materials from suppliers that are working to improve their environmental, social and governance (ESG) performance and address ESG risks.

Background:
Stakeholders, customers and society at large expect companies to understand what is going on in their supply chains and to help manage supplier ESG issues. This expectation reaches beyond the direct suppliers of companies and encompasses all stages of the supply chain. Our vision is that steel companies eventually source all input materials, services and goods from responsible direct and indirect suppliers. However, we recognise the challenges of multi-tier and multi-material supplier networks where a buyer’s influence diminishes the more distant suppliers are in the value chain. Since this vision of responsible sourcing will take time to implement, ResponsibleSteel has defined 4 levels that are associated with increasing ESG performance expectations.

The levels are intended to:
- Assist in reducing the complexity of responsible sourcing by defining discrete steps to achieve
- Provide a clear roadmap for the responsible sourcing journey for steel companies and their suppliers
- Help drive momentum for the creation of responsible supply chains
- Enable downstream customers and other stakeholders to specify which level of ESG performance they expect from steel companies and their suppliers.

The steel sector relies heavily on extracted minerals, on scrap and – in some cases – on wood for the production, processing and finishing of steel products. Mining, forestry and related processing activities can be important contributors to a country’s economy and to regional development. However, they can also be associated with complex environmental and social impacts. Rather than developing our own standards for the responsible conduct of these activities, we recognise programmes that credibly define and promote what responsible mining, forestry and processing look like and integrate them into our own requirements.

Agricultural residues and waste materials such as plastics are used to a small extent in the steel sector as a replacement for coal-based input materials and steel sites are expected to manage ESG risks associated with suppliers of these input materials. Annex 1 lists all input materials that are covered and not covered by the responsible sourcing requirements and those that are excluded, which currently are energy crops and wood from forests (as opposed to wood from plantations).

While there are a number of programmes for responsible mining, forestry and related processing that our Standard can build on, there are no comparable programmes for the collection and processing of scrap at the time of publishing these requirements. Being a recycled material, scrap supports sustainable production. However, scrap supply chains are significantly diversified, with many more players of different sizes and levels of formalisation and maturity than other supply chains. For these reasons, this document contains a separate set of requirements for scrap.
The structure of each set of Criteria is similar and can be summarised under the following 5 headings:

- Commit to responsible sourcing and incorporate it in key functions and processes (Criteria 3.1 and 3.6)
- Know your upstream supply chains (Criteria 3.2 and 3.7)
- Understand supplier ESG performance and promote improvement (Criteria 3.3 and 3.8)
- Strengthen and account for responsible sourcing (Criteria 3.4 and 3.9)
- Report publicly on responsible sourcing (Criteria 3.5 and 3.10)

The Criteria apply to the respective input materials where they are highlighted in blue in the following table.

<table>
<thead>
<tr>
<th>Input material</th>
<th>3.1 Levels</th>
<th>3.2 Levels</th>
<th>3.3 Levels</th>
<th>3.4 Levels</th>
<th>3.5 Levels</th>
<th>3.6 Levels</th>
<th>3.7 Levels</th>
<th>3.8 Levels</th>
<th>3.9 Levels</th>
<th>3.10 Levels</th>
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<tbody>
<tr>
<td>Iron</td>
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<td>Other input materials</td>
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<td>Wood from plantations</td>
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<td>Waste materials</td>
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Criterion 3.1 requires steel companies to commit to increasingly source input materials from suppliers that operate in a responsible manner. They are also expected to anchor their responsible sourcing commitment in key functions and processes to aid its implementation.

Under Criterion 3.2, steel companies are asked to know their direct and indirect supply chain links to an increasing extent, as defined in the different levels of the Criterion. Steel is made using a variety of input materials that might be raw or processed, that pass through different suppliers and are mixed and melted at various stages of production and processing. Only when these complex supply networks are understood, can steel companies start to understand supplier ESG performance and support improvements where needed.

Criterion 3.3 requires that the ESG performance of suppliers is reviewed and assessed and that recognised ESG standards are promoted to supply chains. A strategy to support good ESG practices in supply chains must be in place and progress on strategy implementation must be monitored.

Criterion 3.4 describes a progression in sourcing from suppliers that are committed to a recognised input material programme and can offer independent proof of how they perform on ESG issues. We rely on recognised input material programmes to deliver such proof. To achieve ResponsibleSteel’s mission, supplier ESG performance has to increase over time.

Under Criterion 3.4, we have also defined Chain of Custody requirements to monitor and record input material quantities as they move through supply chains. An intact Chain of Custody provides reassurance that input materials are indeed from responsible suppliers and is therefore an important credibility mechanism. However, the Chain of Custody model we describe, called mass balance, does not ask for the ability to trace input material back to the sites of origin as it allows blending and mixing of material throughout the chain. Requiring a proven, unbroken Chain of Custody from level 2 rather than level 1 will allow steel companies to build market demand and work with their suppliers on establishing a Chain of Custody.
Finally, under Criterion 3.5, steel companies are requested to publicly report key information and developments in relation to responsible sourcing. Providing transparency on what has been achieved and where progress is yet to be made is important for creating trust in the work that is being done to source input materials responsibly.

The requirements of Criteria 3.1 to 3.5 have to be met to achieve ‘Certified Steel’ certification, in addition to the requirements for GHG emissions intensity. Where levels are provided, at least level 1 has to be met for both responsible sourcing and GHG.

The different levels in Criteria 3.2 and 3.4 are intended as follows:

- **Level 1** requires steel companies to have good visibility of their supply chain links and to understand if their suppliers are committed to one of the recognised programmes. The aim of level 1 is to generate market demand to support the creation of responsible supply chains. Level 1 must be met at a minimum to be awarded ‘Certified Steel’ status.

- **Levels 2 to 4** build on Level 1 and steel companies can choose to work towards these higher levels. In line with our Theory of Change, expectations from downstream customers, investors, regulators, civil society and other stakeholders will provide incentives to do so. Levels 2 to 4 cannot currently be made mandatory since participation by suppliers in recognised input material programmes is too low to achieve them. This emphasises the importance of level 1 for building market demand.

- **To meet Level 2**, steel companies have to have high visibility of their supply chains links and must source large shares of their input materials from direct (tier 1) and indirect (tier 2, 3, etc.) suppliers that have achieved a pre-determined minimum ESG performance under an input material programme that is recognised by ResponsibleSteel (see the ResponsibleSteel website for more information).

- **Levels 3 and 4** can only be achieved where steel companies have even higher visibility of upstream supply chain links and where direct and indirect suppliers participate in input material programmes that are considered to be ‘best-in-class’ in their sector in the views of stakeholders and have demonstrated high levels of ESG performance as described in Criterion 3.4.

It should be noted that we require 90% FSC (Forest Stewardship Council) forest management and chain of custody certification for wood from plantations at Level 1, and 100% from Level 2. FSC is a well-established and recognised certification programme that has seen strong take-up over the last 30 years. The situation is therefore different than it is for mined and quarried input material, where only a small number of companies is currently signed up to recognised programmes.

The aim of our sourcing requirements is two-fold: Recognise well-performing suppliers and help improve ESG performance across supply chains. For Level 1, we have deliberately defined requirements that get the steel sector and suppliers started on the responsible sourcing journey. Level 2 should be understood as a stepping stone to responsibility. Levels 3 and 4 require ESG performance that can currently be considered aspirational in the mining sector. These higher levels recognise steel companies and suppliers that commit to and implement input material programmes that are considered to be ‘best-in-class’ in their sector in the views of stakeholders. Through these levels we intend to incentivise a race to the top when it comes to sourcing. We expect that there will be a 5th level in the future and that Level 1 will be phased out to help us all, over time, to achieve fully responsible supply chains. The achieved ‘Certified Steel’ level will be communicated through the ResponsibleSteel website together with key information to be transparent on the status of responsible sourcing at specific steel sites.

The requirements do not currently consider the ESG impacts of transportation, although CO2 emissions from transport are part of a steel company’s Scope 3 emissions and therefore covered by the GHG requirements. When the responsible sourcing requirements come up for revision, we expect to include transportation and...
hope to build on recognised ESG programmes for the transport sector, just like we do for mined and quarried material and wood from plantations. The requirements cover all the input materials that are listed in Annex 1. These are thought to account for 80 to 90% of the input materials used in iron and steel production, processing and finishing. Additional input materials, consumables and services may be added when the requirements are revised in five years’ time.

In terms of the practical implementation of the sourcing requirements, the following should be noted: The sourcing of input materials for steel production, processing and finishing is often done at the corporate level and for groups of sites rather than at individual steel sites. Due to this, engagement of the corporate owner of a steel site in ResponsibleSteel audits is expected and necessary to demonstrate that the sourcing requirements are achieved. For ease of reading, the responsible sourcing requirements have been written to address steel sites, but it is understood that the corporate owners of the sites will be heavily involved in meeting the requirements.

We have provided guidance on underlined terms and concepts, some of which is mandatory. It is therefore important to read the guidance to understand the full extent of what is expected for ‘Certified Steel’ and to understand the context of our requirements.

### Criterion 3.1: Commit to responsible sourcing and incorporate it in key functions and processes

There is a public commitment to increasingly source input materials from suppliers that operate responsibly and the commitment is incorporated in key purchasing functions and processes.

<table>
<thead>
<tr>
<th>3.1.1. The responsible sourcing policy is readily accessible to the public and contains commitments to:</th>
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</thead>
<tbody>
<tr>
<td>a) Strive to achieve full visibility of input material supply chains over time;</td>
</tr>
<tr>
<td>b) Promote recognised input material programmes to direct and indirect input material suppliers;</td>
</tr>
<tr>
<td>c) Establish a Chain of Custody in upstream supply chains for input materials that are from responsible sources;</td>
</tr>
<tr>
<td>d) Report publicly and regularly on efforts undertaken to source input materials responsibly.</td>
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</tbody>
</table>

| 3.1.2. At least one specified member of senior management has been assigned accountability to implement the responsible sourcing policy for the site. |

| 3.1.3. An effective training programme on responsible sourcing, Chain of Custody and company-specific procedures to implement the responsible sourcing policy is delivered for relevant personnel. |

<table>
<thead>
<tr>
<th>3.1.4. Direct suppliers of input materials are required to implement a code of conduct or similar instrument that covers at least the following issues:</th>
</tr>
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<tbody>
<tr>
<td>a) Compliance with applicable laws and regulations;</td>
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<tr>
<td>b) Prevention of corruption, bribery, extortion and money laundering;</td>
</tr>
<tr>
<td>c) Adherence to human rights and labour rights;</td>
</tr>
<tr>
<td>d) Protection of worker and local community health and safety;</td>
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<tr>
<td>e) Environmental stewardship;</td>
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<tr>
<td>f) Responsible sourcing;</td>
</tr>
<tr>
<td>g) Transparency on ESG-related issues;</td>
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</tbody>
</table>
h) Collaboration of supplier and customer to improve ESG performance;

i) Monitoring of supplier adherence to the code of conduct;

j) Expectation that suppliers demand similar ESG practices from their own suppliers.

3.1.5. New direct suppliers of input materials are assessed for their adherence to the code of conduct in line with a documented **approval procedure**.

3.1.6. Adherence of existing direct suppliers of input materials to the code of conduct is **regularly assessed**. Where gaps become apparent, **measures** are taken to ensure the supplier acts in line with the code of conduct.

**Mandatory Guidance:**

**Sourcing policy:** At a minimum, the responsible sourcing policy must cover the input materials listed in Annex 1, which is mandatory for sites that aim to achieve ‘Certified Steel’ certification.

**Full visibility of supply chains:** This means that all upstream supply chain links are known, up to the site(s) of origin. Visibility refers to internal visibility, there is no requirement to make supply chain links public knowledge.

**Supply chains:** Can be described using different terms, including tiers, levels and networks. In the context of the ResponsibleSteel responsible sourcing requirements, supply chain refers to upstream supplier activities, i.e. activities that take place prior to iron and steel making, processing and finishing, up to the sites of origin.

**Origin:** Refers to the mining or quarrying site, the harvesting site or, for waste materials, the first point of waste consolidation (not collection) after the plastic item became waste and was reclaimed, whether from industrial, residential or municipal sources, thereby constituting the starting point within the supply chain for waste material. The same upstream supply chain boundaries apply to the scrap requirements.

**Recognised input material programmes:** ResponsibleSteel seeks to collaborate with other programmes on ESG issues in supply chains through recognition of their work and their programme participants. Sourcing from recognised programmes is built into our responsible sourcing requirements and so we are asking steel companies to promote recognised input material programmes to their supply chains. See the ResponsibleSteel website for more information on recognition of other programmes and for an up to date list of programmes that are currently recognised. Note that ResponsibleSteel considers its own programme to be a ‘recognised programme’ where a supplier to a steel site is a producer of pre-processed input materials, such as DRI, HBI or pig iron, or where a steel plant supplies another steel plant.

**Direct and indirect suppliers:** Direct suppliers are often referred to as tier 1 suppliers. Indirect suppliers mean tier 2 suppliers, tier 3, tier 4, etc.

**Regularly:** Note the definition of ‘regularly’ in the mandatory ResponsibleSteel Glossary. When it comes to public reporting on responsible sourcing efforts, annual seems an appropriate frequency that is in line with other corporate reporting cycles and with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

**Specified member of senior management:** A named senior executive role that is in charge of procurement, for example a chief procurement officer or a head of sourcing.

**Approval procedure:** A procedure that describes the conditions for new suppliers to be added to the supplier pool, how fulfilment of the conditions is checked and who signs off on new suppliers. The conditions must reflect the issues covered by the code of conduct.
Guidance:

**Promote recognised input material programmes:** Ways to promote recognised programmes to supply chain partners are, for example, letters to suppliers, the inclusion of a commitment to a recognised programme in a supplier code of conduct or in terms and conditions, or offering rewards to suppliers that participate in a recognised programme.

**Chain of Custody (CoC):** A process by which inputs and outputs and associated information are transferred, monitored and controlled as they move through each step in the supply chain (adopted from ISO 22095:2020(E) Chain of custody - General terminology and models). See Criterion 3.4 for more detail.

**Report publicly:** See Criterion 3.5 to understand what kind of sourcing-related information is expected to be published through the ResponsibleSteel website.

**Human and labour rights:** Internationally recognised human and labour rights are laid out in the Universal Declaration of Human Rights and in the ILO Declaration on Fundamental Principles and Rights at Work. The core labour standards covered by the Declaration are laid out in eight conventions (see below).

**Environmental stewardship:** Refers to the efficient use of energy, water and other resources, the prevention of GHG emissions, air, water and land pollution, the application of the mitigation hierarchy to biodiversity and waste, the minimisation of toxic materials, and increased recycling.

Codes of conduct should, at a minimum, reference the following internally recognised conventions:

- **Basel Convention** on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
- ILO C029 and C105: The elimination of all forms of forced and compulsory labour
- ILO C087 and C098: Freedom of association and the effective recognition of the right to collective bargaining
- ILO C100 and C111: The elimination of discrimination in respect of employment and occupation
- ILO C138 and C182: The effective abolition of child labour
- International Bill of Human Rights (which consists of the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights, and the International Covenant on Civil and Political Rights and its two Optional Protocols)
- **Minamata Convention** on Mercury
- **Stockholm Convention** on Persistent Organic Pollutants

**Relevant personnel:** Includes personnel working in procurement, strategy, sustainability and other departments and teams with links to input material sourcing.

**Suppliers are required to implement a code of conduct or similar instrument:**

This can either be a code of conduct, or similar instrument, that suppliers have developed and that applies to all individuals working for the supplier, or it can be a supplier code of conduct of the steel company. A code of conduct can be made mandatory by linking it to supply contracts, terms and conditions, or similar. In either case, the code of conduct must cover all the issues listed in 3.1.4. Note the definition of ‘worker’ in the mandatory ResponsibleSteel Glossary.
Supplier adherence to the code of conduct is regularly assessed. Such assessments may take the form of supplier questionnaires with documentary evidence, site visits to suppliers, audits of suppliers, etc. Note also the definition of ‘regular’ above.

Measures taken to ensure the supplier acts in line with the code of conduct: These may range from soft measures such as communication of expectations, training and capacity building to surveying key performance indicators and formal warnings to hard measures such as contractual penalties. Positive incentives, such as longer-term contracts, increases in contract volumes or in paid prices, that are granted when the supplier can demonstrate conformance with the code of conduct are also possible measures.

Generally, the Responsible Jewellery Council’s ‘Due Diligence Member Toolkit’ (2020), and ISO 20400:2017 Sustainable procurement – Guidance are useful, hands-on resources that might help companies implement the responsible sourcing requirements. The Partnership for Sustainable Textiles has also developed helpful resources that guide companies on ESG issues in relation to supply chains. The resources have been developed specifically for the textiles sector, but most of the advice and good practice is relevant for steel supply chains too.

Criterion 3.2: Know your upstream supply chains

The upstream supply chain links for the input materials used at the site are increasingly known and key information on direct and indirect suppliers is recorded.

3.2.1. A documented procedure for collecting information on direct and indirect input material suppliers and for maintaining records to verify the extent to which supply chain links are known is being implemented for the site. Records are maintained for at least 5 years or for the legally required time, whichever is greater.

3.2.2. The following detail on the site’s direct and indirect suppliers is internally recorded for each input material on an annual basis:

a) Operating names and addresses (or geo locations in latitude/longitude) of sites of origin and upstream processing and/or other types of suppliers. Where direct or indirect suppliers oppose to disclose this information to the site, it may be shared by suppliers with the ResponsibleSteel auditors for the purpose of verification via an auditable mechanism (test phase).

b) For direct and indirect suppliers that are not known and are not shared via an auditable mechanism, the site describes what it has done to try and determine their identity and why it has been unable to do so;

c) For each direct supplier of input materials: Types, forms and tonnes of provided input materials, and how much of the respective input material the provided quantities account for.

3.2.3. Of the total tonnes received by the site in the last calendar or financial year, at least the following percentage is from upstream input material supply chains where all sites of origin and processing are known. There is evidence to verify the achieved percentage:

<table>
<thead>
<tr>
<th>Material</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Iron</td>
<td>≥ 80%</td>
<td>≥ 90%</td>
<td>≥ 95%</td>
<td>≥ 98%</td>
</tr>
<tr>
<td>b) Coal</td>
<td>≥ 80%</td>
<td>≥ 90%</td>
<td>≥ 95%</td>
<td>≥ 98%</td>
</tr>
</tbody>
</table>
### Mandatory Guidance:

**Origin:** See the definition in the mandatory guidance to Criterion 3.1.

**Site of upstream processing:** These include smelting, roasting and refining sites, as well as sites where plantation wood is turned into charcoal and where agricultural crops are processed.

**In the last calendar or financial year:** For the initial certification against the responsible sourcing requirements as part of ‘Certified Steel’, the evidence demonstrating that the required percentages have been achieved may cover a period that is shorter than 12 months, but cannot cover less than 6 months. At the next regular audit (which can be a surveillance audit or a re-certification audit, this depends on when in its certification cycle the site achieved ‘Certified Steel’ certification), the site must present evidence for the full previous calendar or financial year to uphold certification.

**Other types of suppliers:** Traders or brokers.

**Tonne:** Means metric tonne, with 1 metric tonne being 1000 kilogrammes or 2204.6 pounds or 1.1023 gross tonnes.

**The table in Criterion 3.2 and in 3.4** should be understood as follows:

- A site is awarded ‘Certified Steel Level 1’ status for responsible sourcing if it meets all the percentages shown in the ‘Level 1’ column. It is awarded level 2 status if all the percentages of the Level 2 column are met, and so on;
- If iron, coal or any other input material covered by the responsible sourcing requirements is used in processed form at the site that applies for ‘Certified Steel’, the respective requirement applies to the main input materials used by the supplier of the processed material. See Annex 1 for examples of ‘processed form’ and examples of the main input materials used in processing;
- For the line ‘other input materials (overall)’: This means that the received tonnes of ‘other input materials’ (see Annex 1) are summed up. Of the total, 60% have to be known up to the sites of origin to achieve Level 1 under Criterion 3.2.
- A steel site is awarded ‘Certified Steel’ certification to the lowest of its achieved levels. To give an example: If the site achieves Level 2 for some requirements and Level 1 for others, it will be certified to Level 1.

See the mandatory Annex 1 for a list of input materials that are covered and not covered by the responsible sourcing requirements, or that are excluded for ‘Certified Steel’ certification.

**Test phase:** ResponsibleSteel intends to include a 12-month ‘test phase’ for certain areas of the new requirements where testing seems important to ensure that the requirements are fit for purpose. If the test is successful, the requirement will then be made mandatory.

---

<table>
<thead>
<tr>
<th>c) Other input materials (overall) (test phase)</th>
<th>≥ 60%</th>
<th>≥ 70%</th>
<th>≥ 80%</th>
<th>≥ 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>d) Plantation wood (test phase) with FSC forest management and chain of custody certification, or equivalent</td>
<td>≥ 90%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Agricultural residues</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td>f) Waste materials</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
<td>90%</td>
</tr>
</tbody>
</table>
phase shows that changes are necessary, additional stakeholder consultation on those requirements will be conducted. Where these changes are deemed significant, they will be subject to membership voting. ‘Certified Steel’ certificates will still be issued during the test phase and will be valid for three years, which is the default duration of ResponsibleSteel certificates. If significant changes are made to the requirements following the test phase, sites that have already been certified will be granted a transition period to meet any revised requirements. The existing ResponsibleSteel Standard is scheduled for a formal review in 2023. The new requirements for responsible sourcing and GHG will be reviewed at the same time to align future review cycles. The areas that will be covered by the 12-month test phase are marked ‘test phase’ in this document.

**FSC forest management and chain of custody certification, or equivalent (test phase):** This means wood and wood-based products from plantations that are covered by valid FSC forest management certificates and FSC chain of custody certificates. ‘Controlled Wood’, meaning wood and wood-based products labelled as ‘FSC MIX’ are out of scope of the responsible sourcing requirements, excluded and cannot be used by steel sites seeking ‘Certified Steel’ certification. ‘Or equivalent’ means that ResponsibleSteel is open to assessing whether there are other responsible forestry programmes in some regions that can be recognised.

Note that plantations on areas that have been converted from natural forests after 1994 are not eligible for FSC certification. However, FSC is running a public consultation until 14 October 2022 that aims to address the question if and how deforestation that took place between 1994 and 2020 could be remedied and how converted areas might become eligible for FSC certification. See also [here](#). ResponsibleSteel will accept whichever decision FSC takes on this.

For further information on permissible biomass-based input materials, see the mandatory Annex 1.

**Guidance:**

**Evidence to verify:** For example, an internal database with details on suppliers, also identifying knowledge gaps and reasons for those gaps. Reports on supply chain research, supplier declarations, Chain of Custody certificates from other programmes (such as ASI for bauxite-derived materials, FSC for material from certified plantations or IRMA for all kinds of minerals originating from mines that participate in the IRMA programme), also invoices, shipping bills, bills of lading, certificates of origin, or customs clearances, contracts, purchase orders. There might be other types of records that fulfil the same purpose, i.e. that provide confidence that supply chain links are indeed known to the required extent.

Note that Criteria 3.3 and 3.4 also require supplier-related procedures. These procedures do not have to be stand-alone procedures but may be part of an integrated procedure to collect and record information on suppliers. There is a logical link between the information that has to be collected on input material suppliers under Criteria 3.2, 3.3 and 3.4, and we recommend connecting the various supplier data points internally to keep administrative burden as low as possible.

It should also be noted that we are looking for site-level information on suppliers, not company-level. However, we realise that some types of suppliers, such as traders and brokers, might not have sites where physical input material is stored and managed. In such cases, company-level information is appropriate.

The following special cases should also be noted:

Transportation is currently out of scope of our sourcing requirements (but is covered by the GHG requirements). This means that if a trader or broker or other supplier uses a transportation company to deliver the input material to the steel site, the transportation company would be considered a service provider, not a supplier. The responsible sourcing requirements would there not be applicable to the transportation company.
If a mine site that is a supplier to the steel site purchases ore from other mine sites (including artisanal and small-scale sites), the mine site would be expected to provide information on the mine sites it sources from to the steel site.

**Auditable mechanism (test phase):** In case input material suppliers are not willing to share the identity of their own suppliers with the steel site, they may be willing to cooperate through an ‘auditable mechanism’. The mechanism would work as follows and will be subject to a 12-month test phase. Note that ResponsibleSteel will develop separate guidance on how the auditable mechanism should be implemented by steel companies and auditors:

- The suppliers let the steel site know for how many tonnes of the total tonnes of provided input material they know all sites of origin and upstream processing. This information allows the steel site to understand whether the percentages required by the table in 3.2.3 above are reached;
- However, for the steel site and ResponsibleSteel stakeholders to be confident that input material suppliers do indeed know what they say they know, this information is verified by the ResponsibleSteel auditors of the steel site. Initially, there might be a relatively large number of suppliers that does not agree to share supplier identities with the steel site. To keep the effort for identity verification reasonable, a sample of suppliers would be interviewed;
- Prior to the ResponsibleSteel audit, the steel site provides the ResponsibleSteel auditors with a list of input material suppliers that do not want to disclose information about their own suppliers to the steel site, together with the tonnes procured from each supplier in the most recent calendar or financial year;
- The ResponsibleSteel auditors select a sample of input material suppliers in advance of the audit and ask them to provide evidence directly to the auditors on their sources under a Non-Disclosure Agreement (NDA). The NDA serves to reassure suppliers that the provenance and other commercially sensitive information is treated confidentially;
- The auditors arrange focused interviews with the selected suppliers to review evidence related to their supply chain links, such as an internal database, customs declarations, certificates of origin, shipping logs, bills of lading, vessel packing lists, purchase orders, contracts or other equivalent documentation and records. The interviews can take place remotely, meaning off-site using an internet-based communication tool that allows screen-sharing. A site visit is not needed;
- The auditors use this information to verify the supply chain links and percentages required in the table above, without sharing the information with the steel company.

It should be noted that the costs for these remote interviews have to be borne by the site that seeks ‘Certified Steel’ certification, so there is a clear incentive to encourage input material suppliers to share the identities of their own suppliers with the steel site rather than draw on the ‘auditable mechanism’. See below for guidance on how to encourage suppliers to share information.

In the case that the ResponsibleSteel auditors come across any inconsistencies in the input material suppliers’ information, they will inform the steel site of the nature of the inconsistencies so the site can act on this, while adhering to the clauses of the NDA.

There are also specialised service providers that can help identify supply chain links.

**Direct supplier:** Also referred to as tier 1 supplier. Might be a processor or a miner, or a trader or a broker. In the case of a steel processing site seeking ‘Certified Steel’ certification, the direct supplier might be a steel making site. In the case of a steel making site it might be an iron making site.
What it has done to try and determine the supplier identity: Activities to determine the identity of direct and indirect input material suppliers may include the following:

- Entering into dialogue with suppliers to explain what the information is for. E.g. written correspondence, direct engagement (meetings, etc.) to discuss the data enquiry and how the supplier may accommodate it
- Where there is resistance, identify what barriers may be preventing the sharing of relevant information and explore what opportunities may be available to address or remove these barriers
- Enter into agreements to assure input material suppliers that the provided information will not be disclosed to other parties
- As a last resort, point out sanction mechanisms (e.g. reduced orders)
- Desktop analyses of publicly available information may also increase supply chain visibility
- There are also specialised service providers that can help identify supply chain links.

The way that steel sites communicate with suppliers is crucial for being successful in the collection of data. The following advice might help ensure appropriate communication:

- Clearly and openly communicate the reasons for collecting information on direct and indirect input material suppliers
- Highlight the importance of supply chain visibility and the fact that regulators and stakeholders increasingly expect companies to understand supply chain links beyond direct suppliers
- Highlight potential benefits of supply chain transparency for the supplier (e.g. risk identification, improved quality and product management, competitive advantage through transparency)

Be prepared for and ready to answer supplier questions on (financial) support for collecting data and on potential consequences of not sharing information.

Criterion 3.3: Understand supplier ESG performance and promote improvement

The ESG performance of direct and indirect input material suppliers is understood and an effective strategy to help improve performance is being implemented.

3.3.1. There is a documented procedure to collect information on the ESG performance of direct and indirect input material suppliers and to analyse and classify that information:

a) The procedure establishes the following information hierarchy: Site-level information is given preference, meaning information on those sites of direct and indirect suppliers that are engaged in the respective input material supply chain. Where site-level information is not available, information is collected on the corporate owner of the sites. Where this is not available, information on the respective input material and on the countries of origin and upstream processing is collected;

b) The procedure lists the sources that are used to understand and assess the ESG performance of direct and indirect suppliers and, where these are not known, of the countries of origin and upstream processing;
c) The procedure defines how to determine whether the ESG performance of direct and indirect suppliers poses high, medium or low risk to people and nature based on the likelihood and severity of negative impact as a result of supplier performance;

d) The procedure specifies that input materials or relevant shares thereof are classified as high risk if neither the sites of suppliers, nor their corporate owners, nor the countries of origin and upstream processing are known;

e) The procedure defines regular frequencies for updating risk classifications and describes unforeseen events that trigger unscheduled updates.

3.3.2. In line with the procedure, the ESG performance of all direct and indirect input material suppliers, up to the origin of the concerned material, has been analysed and classified, and, where these are not known, for all countries of origin and upstream processing. The results have been documented and are updated as required by the procedure.

3.3.3. An analysis of the business practices of the site’s corporate owner has been carried out to understand how they might evolve to enable good ESG performance of input material suppliers. The results of the analysis have been documented.

3.3.4. There is a documented strategy to help strengthen ESG performance in upstream input material supply chains. The strategy:

   a) Specifies how the business practices of the site’s corporate owner are evolving to enable good ESG performance of suppliers, reflecting the results of the conducted analysis;

   b) Outlines how unknown supply chain links might be turned into known ones over time;

   c) Describes how information gaps on the ESG performance of direct and indirect suppliers are addressed;

   d) Describes which direct and indirect suppliers and ESG risks and impacts are given priority to help avoid or reduce negative impact on people and nature;

   e) Defines measures that are taken to help avoid or reduce negative impact of direct and indirect suppliers on people and nature;

   f) Describes how recognised input material programmes are promoted to direct and indirect suppliers;

   g) Contains time-bound targets and objectives to increase the quantity of input material coming from sites of origin and upstream processing that participate in a recognised input material programme.

3.3.5. Implementation of the strategy to strengthen ESG performance in upstream input material supply chains is regularly reviewed. The results of the review and progress against the targets and objectives are documented, and the strategy is updated to reflect the review’s findings.

**Mandatory Guidance:**

**Information hierarchy:** Where input material suppliers operate more than one site, ESG performance can differ from site to site, especially when they are located in different countries. Steel companies should seek to get site-level information on direct and indirect input material suppliers. Where this is not obtainable, company-level information is the next best choice. Where steel companies cannot get company-level information, they should at least seek to understand potential ESG risks in supply chains by reviewing how
strongly specific input materials are associated with ESG issues, and whether countries of origin and upstream processing are associated with ESG issues.

See the mandatory Annex 1 for a list of input materials that are covered and not covered by the responsible sourcing requirements, or that are excluded for ‘Certified Steel’ certification.

**Origin:** See the definition in the mandatory guidance to Criterion 3.1.

**Guidance:**

**Sources to understand input material supplier ESG performance:** There are a number of tools that can help steel companies understand supplier ESG performance. Some are publicly available and for free, others are liable to fees. More information is provided in Annex 2.

When analysing ESG risks at input material suppliers, the conventions listed in the guidance to Criterion 3.1 should be taken into account at a minimum.

**Regular:** See the definition in the mandatory ResponsibleSteel Glossary. Note that the recently passed German ‘Law on Corporate Due Diligence in Supply Chains’ requires that risk assessments are carried out annually.

**Unforeseen events:** For example, a major incident with fatalities at an input material supplier, incidents of child, forced or compulsory labour, failures leading to grave environmental damage or damage to cultural heritage.

**Enable good ESG performance of suppliers:** Obstacles and challenges for suppliers can arise from a number of aspects, for example: The steel company’s procurement strategy, forecasting and planning, price calculations and price negotiations, terms of payment, terms of termination of business relations, changes to orders, lead times. The following functions should be analysed at a minimum: Strategy-setting, sourcing, product development, compliance.

**ESG risks that are given priority:** Companies should follow the United Nations Guiding Principles on Business and Human Rights. They state that where prioritisation of risks is necessary because there are too many risks to address them all at once, companies should first seek to avoid and reduce those risks that may be the most severe from the perspective of affected stakeholders. This means that risks that are low-likelihood and high-severity have to be prioritised, just like risks that are high-likelihood and low-severity. The severity of the (likely) impact should drive the company’s approach to risk management. This is reflected in the risk matrix in Annex 2. In looking at risk, companies should also focus on the (likely) impact on the affected stakeholders rather than on the (likely) impact on business. This is distinct from traditional business risk prioritisation.

In some cases, it will be clear whether or not a risk is severe. In other cases, it will be important to engage with potentially affected stakeholders to gain an understanding of the likely severity.

Some examples of circumstances that should always be prioritised: Where risk of child, forced or compulsory labour is identified, they should be immediately addressed, but in doing so the well-being of the child or the person affected by forced or compulsory labour must be ensured. Where mine sites or harvesting sites threaten World Heritage sites and other types of protected areas and the values for which the sites were granted protection, this should also be considered a high risk that should be addressed immediately. Likewise, the contamination of rivers, streams or lakes, destruction of natural forests, mine sites with high risk tailings dams, or where suppliers are party to legal or tribunal disputes regarding land tenure.

**Measures to help reduce negative impacts:** For example:
- Building and exerting influence over those suppliers that can most effectively avoid or reduce negative impact from supply chains;

- Continuing sourcing while working with suppliers to avoid or reduce ESG impacts, but making clear to suppliers that sourcing will be suspended in case there are no improvements after a set time period. Alternatively, suspending sourcing while working with suppliers to avoid or reduce ESG impacts, for example through:
  - Capacity building and training on ESG issues, joint ESG projects;
  - Financial or technical resources to address ESG issues;
  - Better contractual terms linked to improved ESG practices.

- Disengagement from suppliers should be the last resort and should only take place if the supplier is unwilling to address identified issues. For example, if the supplier is unwilling to address child or forced labour. Companies should support suppliers that are willing to improve the situation and their practices but that face genuine difficulties in doing so. Disengagement can have negative implications for the people who work for the supplier and for local communities, so disengagement should always be done responsibly.

It is advisable to develop measures in consultation with suppliers and affected stakeholders to make sure the measures are relevant and appropriate for addressing specific ESG issues.

Note that grievance mechanisms are considered to be important tools for identifying ESG risks and impacts. Steel sites are required to have a grievance mechanism that is open to all stakeholders and to any kind of concern to achieve ‘Certified Site’ status under the Responsible Steel programme. This grievance mechanism is sufficient for responsible sourcing purposes as ‘Certified Site’ is a prerequisite for ‘Certified Steel’.

**Promoted to direct and indirect suppliers**: See the guidance to Criterion 3.1 for more information.

**Time-bound targets and objectives**: See Criterion 3.4 to understand the minimum targets and objectives that should be set.

---

**Criterion 3.4: Strengthen and account for responsible sourcing**

Input materials come from suppliers that participate in recognised programmes to strengthen their ESG performance and there is an accounting system to support an upstream Chain of Custody.

3.4.1. In the last calendar or financial year, suppliers accounting for the below percentages of input material compared to the total tonnes of the respective input material met the following:

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppliers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>are committed</td>
<td>Minimum ESG performance achieved under a recognised programme</td>
<td>IRMA 50, or equivalent</td>
<td>IRMA 75, or equivalent</td>
<td></td>
</tr>
<tr>
<td>to a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>recognised</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) Iron

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 60%</td>
<td>≥ 80%</td>
<td>≥ 80%</td>
<td>≥ 80%</td>
<td></td>
</tr>
</tbody>
</table>
b) Coal

<table>
<thead>
<tr>
<th></th>
<th>≥ 60%</th>
<th>≥ 80%</th>
<th>≥ 80%</th>
<th>≥ 80%</th>
</tr>
</thead>
</table>

c) Other input materials (overall) (test phase)

<table>
<thead>
<tr>
<th></th>
<th>≥ 40%</th>
<th>≥ 60%</th>
<th>≥ 60%</th>
<th>≥ 60%</th>
</tr>
</thead>
</table>

d) Plantation wood (test phase) with FSC forest management and chain of custody certification, or equivalent

<table>
<thead>
<tr>
<th></th>
<th>≥ 90%</th>
<th>100%</th>
</tr>
</thead>
</table>

For levels 2 to 4, which constitute 'CoC Input Material':

3.4.2. There is at least one specified member of staff that is responsible for the site’s implementation of Chain of Custody requirements, as defined below.

3.4.3. Direct suppliers of input materials are required to contribute to an unbroken upstream Chain of Custody as follows:

a) Direct suppliers record shipments they receive, or specified shares thereof, as 'CoC Input Material' where documentation provided by their own suppliers confirms that the input material comes from a supply chain with an unbroken Chain of Custody;

b) The following information is recorded by direct suppliers for any shipment of 'CoC Input Material' they receive:
   - Supplier that delivered the input material;
   - Date shipment was received;
   - Types, forms and tonnes of received 'CoC Input Material';
   - ESG performance levels achieved by the sites of origin and upstream processing and the names of the recognised programmes they participate in.

c) Direct suppliers retain documentation they receive from their own suppliers confirming the status and tonnes of received 'CoC Input Material' for at least 5 years;

d) Direct suppliers ensure that they only sell as many tonnes of 'CoC Input Material' as they have received from their own suppliers;

e) Direct suppliers provide documentation to the site that identifies shipments, or relevant shares thereof, as 'CoC Input Material' as follows:
   - Date shipment was dispatched;
   - Types, forms and tonnes of shipped 'CoC Input Material';
   - ESG performance levels achieved by the sites of origin and upstream processing and the names of the recognised programmes they participate in.

f) Direct suppliers require from their own suppliers that they contribute to an intact Chain of Custody as outlined in a) to e) above.

3.4.4. The site records received shipments of 'CoC Input Material', or relevant shares thereof, as follows:

a) Date shipment was received;

b) Types, forms and tonnes of received 'CoC Input Material';
c) ESG performance levels achieved by the sites of origin and upstream processing and the names of the recognised programmes they participate in.

3.4.5. **Documentation** provided by direct suppliers on ‘CoC Input Material’ and on the received tonnes thereof is retained for at least 5 years by the site.

3.4.6. Where input materials are purchased for a portfolio of sites:

a) The portfolio of sites is clearly defined, including names and locations of the individual sites;

b) The received tonnes of ‘CoC Input Material’ and the total tonnes of received input materials have been calculated for the portfolio of sites for the last calendar or financial year;

c) The received tonnes of ‘CoC Input Material’ and the total tonnes of received input materials have been calculated for the site seeking ‘Certified Steel’ certification based on its share of the total tonnes of input materials received by the portfolio of sites;

d) The share of ‘CoC Input Material’ calculated for the site seeking ‘Certified Steel’ certification meets at least the percentages provided in 3.4.1;

e) Evidence to verify that the percentages provided in 3.4.1. have been met and how the calculations have been done are kept for at least 5 years.

3.4.7. Once certified and if the site *sells any of its steel as ‘Certified Steel’*, a documented procedure is being implemented to capture how much of the produced or processed steel was sold as certified (in tonnes), to which customers and in which forms in the last calendar or financial year.

3.4.8. Where steel products are imported to the site from other steel sites, a documented procedure is implemented to ensure that:

a) The imported steel products are sold as ‘Certified Steel’ only if they are from sites that have themselves achieved ‘Certified Steel’ status; or

b) The imported steel products are kept physically separate from the site’s own steel products and, after processing or finishing, are not sold as ‘Certified Steel’ if they are imported from sites that have not themselves achieved ‘Certified Steel’ status.

**Mandatory Guidance:**

**In the last calendar or financial year:** For the initial certification against the responsible sourcing requirements as part of ‘Certified Steel’, the evidence demonstrating that the required percentages have been achieved may cover a period that is shorter than 12 months, but cannot cover less than 6 months. At the next regular audit (which can be a surveillance audit or a re-certification audit, this depends on when in its certification cycle the site achieves ‘Certified Steel’ certification), the site must present evidence for the full previous calendar or financial year to uphold certification.

**Chain of custody [test phase]:** Process by which inputs and outputs and associated information are transferred, monitored and controlled as they move through each step in the supply chain. See Annex 6 for more information about the Chain of Custody model we have defined for upstream supply chains that participate in recognised input material programmes.

**Recognised input material programme:** Note that ResponsibleSteel considers its own programme to be a ‘recognised programme’ where a supplier to a steel site is a producer of pre-processed input materials, such as DRI, HBI or pig iron, or where a steel plant supplies another steel plant. Where a site is a steel processing site that receives, for example, slabs, billets or blooms as input materials, the crude steel production sites that it sources from must be ‘Certified Steel’ certified for the steel processing site to demonstrate
achievement of the responsible sourcing requirements. See the ResponsibleSteel website for information on recognition of other programmes and for an up to date list of programmes that are currently recognised.

**Minimum ESG performance:** See the ResponsibleSteel website for the required minimum ESG performance to be achieved under recognised programmes.

**‘CoC Input Material’:** Input material from different suppliers can be blended and mixed throughout the upstream supply chain, but the share of input material from sites of origin and upstream processing that participate in a recognised input material programme is recorded at each supply chain stage and related information and documentation is transferred to the next stage in the chain. ‘Participate’ means that sites of origin and upstream processing have achieved at least the minimum ESG performance under that programme. Suppliers may sell this share as ‘CoC Input Material’.

See the mandatory Annex 1 for a list of input materials that are covered and not covered by the responsible sourcing requirements, or that are excluded for ‘Certified Steel’ certification.

**Upstream Chain of Custody:** Starts with the site of origin and ends with the respective steel site. In contrast to upstream Chain of Custody, ‘downstream Chain of Custody’ starts with the respective steel site and ends with the final user of the steel product, such as the site of a car maker or construction company. The details of downstream Chain of Custody will be worked out in 2022/2023.

**Supply chain with an unbroken Chain of Custody:** Where sites of origin or processing do not participate in a recognised input material programme or do not meet the required minimum ESG performance under that programme, the Chain of Custody is broken and suppliers cannot sell the respective input material as ‘CoC Input Material’. The Chain of Custody is also broken if suppliers do not record ‘CoC Input Material’ or do not transfer related information to their customers.

**Share of ‘CoC Input Material’:** This is calculated using the following simple formula. The result is expressed in percent:

\[
\text{Total tonnes of ‘CoC Input Material’} \times 100 / \text{Total tonnes of input material}
\]

**Accounts for at least:** The table in 3.4.1. has to be read as follows:

- To achieve ‘Certified Steel Level 1’ status, the respective steel site has to meet all the percentages shown in the ‘Level 1’ column. To achieve Level 2, all the percentages of the Level 2 column have to be met, and so on;

- If iron, coal or any other input material covered by the responsible sourcing requirements is used in processed form at the site that applies for ‘Certified Steel’, the respective requirement applies to the main input materials used by the supplier of the processed material. See Annex 1 for examples of ‘processed form’ and examples of the main input materials used in processing;

- For the line ‘other input materials (overall)’: The received tonnes of ‘other input materials’ (see Annex 1) are summed up. The sum of the ‘other input materials’ used at the site provides the basis for meeting the percentages of the respective levels. To give an example: For Level 1, the suppliers of 40% of the ‘other input materials’ used at the site must be committed to a recognised input material programme. To achieve Level 2 to 4, 60% of the ‘other input materials’ used at the site must come from suppliers that have achieved the required ESG performance under a recognised programme;
• A steel site is awarded ‘Certified Steel’ certification to the lowest of its achieved Levels. To give an example: if the site achieves Level 2 for some requirements and Level 1 for others, it will be certified to Level 1.

**Level 2:** The required ESG performance level is different for each recognised input material programme because they all use different scales of performance and because they are not equivalent.

**Levels 3 and 4:** These levels serve to reward steel companies and suppliers that commit to and are implementing recognised input material programmes that are considered to be ‘best-in-class’ in their sector in the views of stakeholders. They are frontrunners in terms of the depth and breadth of their standard, the quality of their assurance and oversight mechanisms, the inclusivity of their governance structure, and the transparency about their processes, operations and participants. See the ResponsibleSteel website for more information on recognised programmes for more information on recognised programmes.

**FSC forest management and chain of custody certification, or equivalent (test phase):** See the mandatory guidance to Criterion 3.2.

**Input materials purchased for a portfolio of sites:** Only those sites in the portfolio that achieve ‘Certified Steel’ certification can sell steel as certified and make claims in that regard.

**Sells any of its steel as ‘Certified Steel’:** Sites that have achieved ‘Certified Steel’ certification can label all their outgoing steel products as certified. However, to provide transparency on the extent that input material comes from responsible suppliers, key information has to be published on the ResponsibleSteel website. See Criterion 3.5 for more information. In addition, recording how much steel was sold as certified will enable a downstream Chain of Custody to be established between steel sites and sites of end users such as car makers or construction companies. Downstream Chain of Custody requirements will be developed in 2022/2023.

**Steel products imported to the site:** If imported steel products are re-melted as part of a steel making process, they are treated as any other input material and the requirements of Criteria 3.1 to 3.5 apply.

**Guidance:**

**Require direct suppliers to contribute to an unbroken upstream Chain of Custody:** For example, clauses in supplier contracts or in terms and conditions, or other mechanisms that direct suppliers are required to adhere to. The mechanism must cover points a) to f) to meet the full requirement.

**Forms of input material:** For example, ingots, pellets, sinter, slabs.

**Evidence to verify:** For example, delivery notes, invoices, shipping bills, bills of lading, certificates of origin, customs clearances or other documentation confirming that the shipment or specified parts thereof contains ‘CoC Input Material’ and showing the shipped tonnes of ‘CoC Input Material’. Also, audit reports or other publications from one of the recognised input material programmes (which may be available from the programme’s website) confirming the audit results of the suppliers, or Chain of Custody certificates from other programmes such as ASI, FSC or IRMA.

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**Criterion 3.5: Report publicly on responsible sourcing**

Key information regarding responsible sourcing is regularly reported to ResponsibleSteel for publication on its website.

3.5.1. The following information is regularly reported for publication on the ResponsibleSteel website:

a) The site’s responsible sourcing policy;
b) Description of how the responsible sourcing policy is incorporated in key purchasing functions and processes;

c) A summary of the site’s strategy to help strengthen ESG performance in upstream input material supply chains, including any time-bound targets;

d) A summary of the progress made in implementing the strategy and reaching defined targets;

e) The criteria used to prioritise ESG risks found at suppliers;

f) A description of the site’s grievance mechanism (as required by 6.2.1 for ‘Certified Site’ in the existing Standard);

3.5.2. The following site-specific information is regularly reported for publication on the ResponsibleSteel website. The information is reported separately for input materials based on iron, coal, plantation wood and waste materials (other than scrap), and collectively for other input materials. Where sourcing is done for a portfolio of sites, the information is reported for the same portfolio that has been specified in 3.4.6.:

a) Percentage of input material sourced for the site:
   - that is from supply chains where the sites of origin and upstream processing are known;
   - that originates from high, medium and low risk sites of origin;
   - that is from high, medium and low risk upstream processing sites;

b) Description of the high and medium ESG risks that have been identified at sites of origin and upstream processing;

c) Description of key measures taken to promote good ESG practices in upstream supply chains and to help reduce ESG risks, and the outcomes of those measures;

d) For level 1: Percentage of input material sourced for the site that is from supply chains where the sites of origin and upstream processing are committed to a recognised input material programme;

e) For levels 2, 3 and 4: Percentage of input material sourced for the site that is from supply chains where the sites of origin and upstream processing have achieved the required ESG performance.

Mandatory Guidance:

Regularly: The information listed in 3.5.1. must be reported by the certification body in the ResponsibleSteel audit reports, meaning at least 3 times in a 3-year certification cycle.

Audit reports must be submitted to ResponsibleSteel before a certification or re-certification decision is taken, i.e. every 3 years. In case of a positive certification decision, ResponsibleSteel will extract the information from the audit report and will publish it on the ResponsibleSteel website together with the name of the site that has achieved ‘Certified Steel’ certification.

At the time of the site’s surveillance audits, the certification body must request updated information on 3.5.1. In case of changes, updated information has to be submitted to ResponsibleSteel so that its website can be revised.

Reported for the same portfolio: The names and locations of the individual sites of the portfolio must be provided in the audit report and will be disclosed on the ResponsibleSteel website.
Guidance:

**Grievance mechanism:** As required by 6.2.1. in the existing ResponsibleSteel Standard, the grievance mechanism must be effective. The UN Guiding Principles on Business and Human Rights provide eight effectiveness criteria for grievance mechanisms that steel companies should meet:

1. Legitimate
2. Accessible
3. Predictable
4. Equitable
5. Transparent
6. Rights-compatible
7. A source of continuous learning
8. Based on engagement and dialogue

**High, medium, low risks:** See the guidance to Criterion 3.3 for a definition of high, medium and low risk and also the information provided in Annex 2.

**Key measures taken:** See the guidance to 3.3.4.e) on what these key measures might be.
Background on scrap

Scrap is an important input material for the steel sector. In primary steel production, 10 to 25% of material input is scrap. It is used in Basic Oxygen Furnaces to help control temperatures when pig iron is refined into steel and, in some cases, scrap is used in Blast Furnaces to add iron units. In secondary steel production, scrap steel can be up to 100% of material inputs in Electric Arc Furnaces. According to worldsteel data, around 650 million tonnes of scrap are consumed each year for steel production, compared with a total crude steel production volume of 1,869 million tonnes per year.

Over time, steel scrap stocks are expected to grow as societies develop. On average, developed countries have 8 to 12 tonnes stock per person and less developed countries between 1 and 2 tonnes. Dependent on its strength, durability and intended use, the life-cycle of steel varies before it becomes scrap. From a few months for a food can, to fifteen to twenty years for motor vehicles, up to a hundred years or more for constructional steels used in buildings and infrastructure. As steel is typically magnetic and can be recycled indefinitely without losing its properties, it can be more easily sorted than many other materials and is the most recycled material in the world. This supports societal moves towards circular economies. Only a small fraction of steel is lost when used in unrecoverable applications like deep pile foundations or seabed pipelines.

Scrap plays a key role in supressing industry emissions and primary resource consumption. Example data from May 2021 suggests that every tonne of scrap used for steel production avoids the emission of 1.5 tonnes of CO₂ and the consumption of 1.4 tonnes of iron ore, 740 kilogrammes of coal and 120 kilogrammes of limestone. As the world transitions towards circular economies and lower greenhouse gas emission production routes, scrap-based secondary steel production is thought to increase.

Scrap supply chains are very diversified, with many players of different sizes, levels of formalisation and maturity. At the base of the scrap supply chain, when looking at post-consumer scrap globally, there are hundreds of thousands, if not millions, of scrap collectors. Scrap trade is also very dynamic, with daily changing market conditions and prices.

Like any other sector, the recycling industry has its own ESG challenges. Consultation with stakeholders and research commissioned by ResponsibleSteel and others, including the World Resources Forum, indicate that there can be hazardous working conditions, labour exploitation, pollution from the recovery of metals from tyres, cables and electronic equipment, and from mismanagement of fluids and wastes. Cash purchases can be widespread in parts of the scrap market and cases of money laundering and corruption have been documented.

There can also be significant barriers to transparency and to understanding potential ESG risk in global supply chains. Scrap is no exception, with the business models of some scrap companies, predominantly traders and agents, being built on having exclusive knowledge of scrap provenance and mixing and blending of material adding additional challenges. But, where there is a break in the chain of provenance information and evidence, potential ESG risks cannot be assessed and ESG performance cannot be monitored at source or shared with customers. Although the full extent of good and poor practices in scrap supply chains and their impacts on people and nature are unclear due to the limited availability of well-founded research and data at sufficiently granular levels, the uncertainty has the potential to damage the reputation of companies in the scrap supply chain, of steel companies and steel end users. Pre-consumer scrap sourced from manufacturers using steel in their products, is often of higher quality and its manufacturing origin is easier to verify.

To date, scrap sourcing of steel companies usually and primarily focuses on availability, quality and price of scrap. In line with the ResponsibleSteel vision and mission, steel sites and their owners have a duty of care over their input materials, including scrap. ResponsibleSteel requires that steel companies broaden their horizon
and start looking into ESG issues for scrap, just like they do for other input materials. Our requirements for scrap sourcing differ from that for other input materials. While there are a number of programmes in place and under development for third-party assurance of responsible mining and minerals processing that we can recognise and build on, there is nothing directly comparable for scrap. In the absence of comparable programmes, ResponsibleSteel must define alternative ways to provide confidence that scrap supply chains are managed responsibly.

Our approach to scrap acknowledges that scrap contributes to sustainable production since it is a recycled material, but also that scrap supply chains are more diversified, with many more players of different sizes, levels of formalisation and maturity than the supply chains for other materials. In developing the requirements for the sourcing of scrap, ResponsibleSteel took account of the complexity of the steel recycling sector and focused on breaking down barriers to understand and enable action in relation to ESG risks that are potentially associated with the sources of scrap.

Introduction to the scrap requirements

The objective of the scrap requirements is that steel companies start to understand ESG performance in scrap supply chains and assess progress in the responsible sourcing of scrap. The scrap requirements must be met by steel companies for any of their sites that seek ‘Certified Steel’ certification. They apply in addition to the requirements for ‘Certified Site’ and in addition to the responsible sourcing requirements laid out in Criteria 3.1 to 3.5. ResponsibleSteel-commissioned research, stakeholder input and other relevant guidance, such as BIR (Bureau of International Recycling) publications and ISO/IWA 19: 2017 ‘Guidance principles for the sustainable management of secondary metals’ by the International Organization for Standardization informed the scrap requirements.

In analogy to Criteria 3.1 to 3.5, the scrap requirements introduce 4 levels. The levels and the relatively soft requirements reflect the structural characteristics of scrap supply chains that have been described above. The requirements are specified in 5 criteria that repeat the headings of the other responsible sourcing criteria and thus follow the same logic:

- Criterion 3.6. Commit to responsible sourcing and incorporate it in key functions and processes
- Criterion 3.7. Know your upstream supply chain
- Criterion 3.8. Understand supplier ESG performance and promote improvement
- Criterion 3.9. Strengthen and account for responsible sourcing
- Criterion 3.10. Report publicly on responsible sourcing

The level 1 requirements have been fully worked out. They provide a framework for steel companies, scrap suppliers and industry associations to work together to advance responsible sourcing and responsible management commitments and to increase the potential for positive impact on people and nature through scrap supply chains. Our intention is that the requirements for levels 2, 3 and 4 will be further developed and defined through collaboration with scrap suppliers, industry associations and other relevant stakeholders. Initial requirements and targets for levels 2, 3 and 4 are provided below to indicate the potential direction of travel for these additional levels.

The requirements recognise the range of visibility and influence steel companies have over their scrap sources. They may have better visibility to some sources (typically pre-consumer scrap) and poor visibility and little influence over others (typically towards the origin of post-consumer scrap). For these harder to reach and influence parts of the supply chain, the focus is on engagement and collaboration to identify and address areas with higher risks and more significant potential impacts.
We have defined a set of ‘Principles for the Responsible Management of Scrap’ (see Annex 3), which represent good practices to be communicated throughout the whole scrap value chain. The Principles can supplement and help inform existing guidance, codes of conduct, training, procurement due diligence and appraisals that are carried out with the scrap supply chain. They are intended to help steel companies send a consistent message of their expectations up the supply chain, raising awareness of ESG issues and recognising and supporting good practices.

‘Certified Steel’ requirements related to scrap

<table>
<thead>
<tr>
<th>Criterion 3.6: Commit to responsible sourcing and incorporate it in key functions and processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a public commitment to increasingly source input materials from suppliers that operate responsibly and the commitment is incorporated in key purchasing functions and processes.</td>
</tr>
</tbody>
</table>

*Note that Criterion 3.6 is the same as Criterion 3.1 for ‘Certified Steel’, but no Chain of Custody commitment is required for scrap and 3.6.4.h is unique to scrap.*

3.6.1. The responsible sourcing policy is readily accessible to the public and contains commitments to:
   a) Strive to achieve full visibility of input material supply chains over time;
   b) Promote recognised input material programmes to direct and indirect input material suppliers;
   c) Report publicly and regularly on efforts undertaken to source input materials responsibly.

3.6.2. At least one specified member of senior management has been assigned accountability to implement the responsible sourcing policy for the site.

3.6.3. A training programme on responsible sourcing and company-specific procedures to implement the responsible sourcing policy is delivered for relevant personnel.

3.6.4. Direct suppliers of input materials are required to implement a code of conduct or similar instrument that covers at least the following issues:
   a) Compliance with applicable laws and regulations;
   b) Adherence to human rights and labour rights;
   c) Protection of worker and local community health and safety;
   d) Environmental stewardship;
   e) Collaboration of supplier and customer to improve ESG performance;
   f) Monitoring of supplier adherence to the code of conduct;
   g) Expectation that suppliers demand similar ESG practices from their own suppliers;
   h) And specifically for scrap suppliers: Support implementation of the intent of the ‘Principles for the Responsible Management of Scrap’ up the full supply chain.

3.6.5. New direct suppliers of input materials are assessed for their adherence to the code of conduct in line with a documented approval procedure.

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3.6.6. Adherence of existing direct suppliers of input materials to the code of conduct is regularly assessed. Where gaps become apparent, measures are taken to ensure the supplier acts in line with the code of conduct.

**Mandatory Guidance:**

**Full visibility of supply chains:** This means that all upstream supply chain links are known, up to the site(s) of origin. Visibility refers to internal visibility, there is no requirement to make supply chain links public knowledge.

**Scrap:** Includes pre-consumer scrap (also known as manufactured or new scrap) as well as post-consumer scrap (also known as end-of-life or old scrap). Excludes internal and home scrap.

Home scrap: Scrap from a downstream steel production process within the steelworks (e.g. rolling, coating) that is returned to steel making processes (e.g. BOF or EAF).

Internal scrap: Scrap from a crude steel making unit that is then recycled within the same unit process (e.g. basic oxygen furnace (BOF) or electric arc furnace (EAF)) (adapted from ISO 20915:2018(E) Life cycle inventory calculation methodology for steel products).

**Scrap supply chain:** Can be described using different terms, including tiers, levels and networks. In the context of the ResponsibleSteel responsible sourcing requirements, supply chain refers to upstream supplier activities, i.e. activities that take place prior to steel making, processing and finishing, up to the sites of origin.

For scrap, 'origin' refers to the first point of consolidation (not collection) after the scrap was diverted from the waste stream from industrial, residential or municipal sources and reclaimed, thereby constituting the starting point within the scrap supply chain.

**Principles for the Responsible Management of Scrap:** A set of good practices to be communicated throughout the whole scrap value chain. The Principles can supplement and help inform existing guidance, codes of conduct, training, procurement due diligence and appraisals that are carried out with the scrap supply chain. The principles are contained in Annex 3.

**Approval procedure:** A procedure that describes the conditions for new suppliers to be added to the supplier pool, how fulfilment of the conditions is checked and who signs off on new suppliers. The conditions must reflect the issues covered by the code of conduct.

**Guidance:**

**Report publicly:** See Criterion 3.10 to understand what kind of sourcing-related information is expected to be published through the ResponsibleSteel website.

**Regularly:** The following extract of the definition of “regularly” is taken from the mandatory ResponsibleSteel Glossary: Scheduled at planned, appropriate intervals. The determination of appropriate intervals depends on the matter at hand. The intervals must be frequent enough to detect change and must take account of risk. Annual might be a suitable frequency for some matters. Where changes can happen quickly or where risk is high, the intervals must be shorter.

When it comes to public reporting on responsible sourcing efforts, annual seems an appropriate frequency that is in line with other corporate reporting cycles and with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.
Suppliers are required to implement a code of conduct or similar instrument:

This can either be a code of conduct or similar that suppliers have developed and that applies to all individuals working for the supplier, or it can be a supplier code of conduct of the steel company. A code of conduct can be made mandatory by linking it to supply contracts, terms and conditions, or similar. In either case, the code of conduct must cover all the issues listed in 3.6.4. The issues have been identified through analysis of commonalities in codes of conduct of ResponsibleSteel steel company members. Note the definition of ‘worker’ in the mandatory ResponsibleSteel Glossary

**Human and labour rights:** Internationally recognised human and labour rights are laid out in the International Bill of Human Rights and in the ILO Declaration on Fundamental Principles and Rights at Work. The core labour standards covered by the Declaration are laid out in eight conventions (see below).

**Environmental stewardship:** Refers to the efficient use of energy, water and other resources, the prevention of GHG emissions, air, water and land pollution, the application of the mitigation hierarchy for biodiversity risks and impacts, the minimisation of waste and toxic materials, and increased recycling.

Codes of conduct should, at a minimum, reference the following internally recognised conventions:

- [Basel Convention](https://www.basel.int/) on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
- ILO C029 and C105: The elimination of all forms of forced and compulsory labour
- ILO C087 and C098: Freedom of association and the effective recognition of the right to collective bargaining
- ILO C100 and C111: The elimination of discrimination in respect of employment and occupation
- ILO C138 and C182: The effective abolition of child labour
- [Minamata Convention](https://www.minamata-convention.org/) on Mercury
- [Stockholm Convention](https://www.pops.int/) on Persistent Organic Pollutants.

**Relevant personnel:** Includes personnel working in procurement, strategy, sustainability and other departments and teams with links to input material sourcing.

**Supplier adherence to the code of conduct is regularly assessed:** Such assessments may take the form of questionnaires substantiated by documentary evidence, site visits to suppliers, audits of suppliers, etc. Note also the definition of ‘regular’ above.

**Measures taken to ensure the supplier acts in line with the code of conduct:** These may range from soft measures such as communication of expectations, training and capacity building to surveying key performance indicators and formal warnings to hard measures such as contractual penalties. Positive incentives, such as longer-term contracts, increases in contract volumes or in paid prices, that are granted when the supplier can demonstrate conformance with the code of conduct are also possible measures.

Generally, the Responsible Jewellery Council’s ‘Due Diligence Member Toolkit’ (2020) and ISO 20400:2017 Sustainable procurement – Guidance are useful, hands-on resources that might help companies implement the responsible sourcing requirements. The Partnership for Sustainable Textiles has also
developed helpful resources that guide companies on ESG issues in relation to supply chains. The
resources have been developed specifically for the textiles sector, but most of the advice and good
practice is relevant for steel supply chains.

Criterion 3.7: Know your upstream scrap supply chain
The supply chains for scrap steel used at the site are increasingly known and key information on suppliers
is recorded.

3.7.1. The following details on direct scrap suppliers to the site is internally recorded on an annual basis:
   a) Operating names and addresses of all sites of direct suppliers that provide scrap to the steel
      site;
   b) The quantity of scrap, in tonnes, that each direct supplier provided to the site;
   c) The percentage split between pre- and post-consumer scrap received by the site. Where
      accurate numbers are not available, the split is estimated.

3.7.2. Working with direct suppliers and other stages in the supply chain, the following information is
       requested and documented for the scrap supply chain of the site:
       a) Countries of origin for scrap supply to the site;
       b) Where the country of origin is not attainable: The boundary of supply chain knowledge, gaps
          and reasons for being unable to identify source countries further up the chain;
       c) Steps taken to seek additional country of origin information and plans to improve data over
          time;
       d) Where suppliers are not sharing the countries of origin of their scrap: Whether they are willing
          or not willing to share this information with the ResponsibleSteel auditors for the purpose of
          verification via an ‘auditable mechanism’ (test phase).

3.7.3. Of the total tonnes of scrap received by the site in the last calendar or financial year, the countries
       of origin are known for at least the following percentage:

<table>
<thead>
<tr>
<th>Countries of scrap origin</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Mandatory Guidance:

**Tonne**: Means metric tonne, with 1 metric tonne being 1 000 kilogrammes or 2 204.6 pounds or 1.1023
gross tonnes.

**Sites of direct suppliers**: Where the direct supplier is a trader or broker, they should supply information on
the sites the scrap comes from prior to arriving at the steel producer. Where they are not willing to share
this information, the steel company should refer to the auditable mechanism (see the guidance below).

**Pre-consumer scrap**: Arises during the manufacture of products containing steel.

**Post-consumer scrap**: Arises when steel products reach the end of their useful life.
Pre and Post-consumer scrap sources typically have different ESG risk profiles. To build information on the relative ESG risks of different sources, ResponsibleSteel is requesting the pre- / post-consumer breakdown for scrap.

**Country of scrap origin:** Country where the steel or the steel-containing item becomes scrap and is aggregated and processed before export, or before domestic use in the steel making and recycling process. In cases where the scrap contained in a container or in a bulk shipment might come from several locations, the ‘country of origin’ is likely to represent the country of loading of the container or bulk shipment.

Where suppliers make the country of origin known to the auditors through the auditable mechanism, the tonnes of scrap that are supplied to the steel site by the respective supplier count towards the percentages in 3.7.3.

**In the last calendar or financial year:** For the initial certification against the responsible sourcing requirements as part of ‘Certified Steel’, the evidence demonstrating that the required percentages have been achieved may cover a period that is shorter than 12 months, but cannot cover less than 6 months. At the next regular audit (which can be a surveillance audit or a re-certification audit, this depends on when in its certification cycle the site achieved ‘Certified Steel’ certification), the site must present evidence for the full previous calendar or financial year to uphold certification.

**Guidance:**

Criterion 3.7 is not seeking to establish traceability of scrap used in steel making. Instead, steel sites are expected to increasingly know the countries of origin of scrap to inform ESG risk assessment using geography as a proxy indication of the likelihood of good supply chain management.

Some steel companies have completed extensive mapping of their supply chains and already know a high percentage of their scrap and other input material sources and each stage in the chain. ResponsibleSteel is not making the development of fully traceable input materials a requirement, but will supports its development over time. It recognises there are currently barriers to this for the very distributed scrap supply chain.

**Boundary of supply chain knowledge:** Refers to the furthest step in the supply chain for which information can be obtained. Scrap trades and origins can be complex, with many sources, multiple consolidation points, scrap grading, shredding, processing, aggregation and mixing. As transport costs can be very significant for scrap, local and regional supplies are often preferred by steel companies. However, to secure sufficient supply and required quality, countries with significant scrap needs often import significant volumes, in particular from developed countries and regions such as the USA, EU and Japan. This can be through shortsea shipping routes, the train freight network and deep sea (longer, international) routes. Scrap shipments may change hands several times during transportation and may be consolidated, mixed and further processed in dockside facilities. Steel companies often employ scrap assessors to assess scrap quality in outbound and inbound ports. As the focus is on securing supply of the right quality at the right price, scrap origins and ESG management and performance information is not always linked to the available supply. The boundaries where scrap source information becomes unobtainable should be documented together with the reasons for being unable to identify further back up the chain to the original source countries.

**Auditable mechanism (test phase):** In case input material suppliers are not willing to share the identity of their own suppliers or source countries with the steel site, they may be willing to cooperate through an ‘auditable mechanism’. For scrap, the mechanism will work as follows and will be subject to a 12-month test phase. Note that ResponsibleSteel will develop separate guidance on how the auditable mechanism should be implemented by steel companies and auditors:
- The suppliers let the steel site know for how many tonnes of the total tonnes of provided scrap they know the countries of origin. This information allows the steel site to understand whether the percentages required by the table in 3.7.3 above are reached;

- However, for the steel site and ResponsibleSteel stakeholders to be confident that suppliers do indeed know what they say they know, this information is verified by the ResponsibleSteel auditors of the steel site. Initially, there might be a relatively large number of suppliers that does not agree to share supplier identities or country of origin information with the steel site. To keep the effort for identity and origin verification reasonable, a sample of suppliers would be interviewed;

- Prior to the ResponsibleSteel audit, the steel site provides the ResponsibleSteel auditors with a list of its direct scrap suppliers and the tonnes of scrap procured from each supplier in the most recent calendar or financial year;

- The ResponsibleSteel auditors select a sample of scrap suppliers in advance of the audit and ask them to provide evidence directly to the auditors on their scrap sources under a Non-Disclosure Agreement (NDA). The NDA serves to reassure suppliers that the provenance and other commercially sensitive information is treated confidentially;

- The auditors arrange focused interviews with the selected suppliers to review evidence related to the countries of origin, such as customs declarations, certificates of origin, shipping logs, bills of lading, vessel packing lists, purchase orders, contracts or other equivalent documentation and records. The interviews can take place remotely, meaning off-site using an internet-based communication tool that allows screen-sharing. A site visit is not needed;

- The auditors use this information to verify the scrap country of origin, without sharing the information with the steel company.

It should be noted that the costs for these remote interviews have to be borne by the site that seeks ‘Certified Steel’ certification, so there is a clear incentive to encourage input material suppliers to share the identities of their own suppliers and country of origin information with the steel site rather than draw on the ‘auditable mechanism’. See the guidance to 3.2 on how to encourage suppliers to share information.

In case the ResponsibleSteel auditors come across any inconsistencies in the suppliers’ information, they will inform the steel site of the nature of the inconsistencies so the site can act on this, while adhering to the clauses of the NDA.

There are also specialised service providers that can help identify supply chain links.

**Test phase:** ResponsibleSteel intends to include a 12-month ‘test phase’ for certain areas of the new requirements where testing seems important to ensure that the requirements are fit for purpose. If the test phase shows that changes are necessary, additional stakeholder consultation on those requirements will be conducted. Where these changes are deemed significant, they will be subject to membership voting. ‘Certified Steel’ certificates will still be issued during the test phase and will be valid for three years, which is the default duration of ResponsibleSteel certificates. If significant changes are made to the requirements following the test phase, sites that have already been certified will be granted a transition period to meet any revised requirements. The existing ResponsibleSteel Standard is scheduled for a formal review in 2023. The new requirements for responsible sourcing and GHG will be reviewed at the same time to align future review cycles. The areas that will be covered by the 12-month test phase are marked ‘test phase’ in this document.
**Criterion 3.8: Understand supplier ESG performance and promote improvement**

The ESG performance of direct scrap suppliers and the risks related to the countries of origin of the scrap are increasingly understood and an effective strategy to help improve performance is being implemented.

3.8.1. A documented procedure is implemented to collect information on the ESG risks associated with direct scrap suppliers and countries of scrap origin, and to analyse and classify that information:

   a) The procedure requests that direct suppliers inform the steel site whether they have any of the following:
      - Third-party certifications to relevant, recognised international management system standards;
      - Second-party assessments to relevant standards;
      - First-party assessments to relevant standards;
      - If so, the names of the applied standards, the validity date of each certification or assessment, which of the ‘Principles for the Responsible Management of Scrap’ each certification or assessment covers, and whether the supplier meets these Principles.

   b) The procedure defines the method and sources used to determine whether the ESG performance of direct scrap suppliers and countries of origin pose low, medium or high risk to people and nature based on the likelihood and severity of negative impact as a result of that performance;

   c) Where the countries of origin are not known, the procedure specifies that the respective share of received scrap is classified as high risk;

   d) The procedure defines regular frequencies for updating risk classifications and describes unforeseen events that trigger unscheduled updates.

3.8.2. Direct scrap suppliers and all known countries of scrap origin have been analysed and classified in line with the procedure. Where high ESG risks have been identified, further investigation and assessment has been conducted to understand if there are negative impacts on people and nature and the extent thereof.

3.8.3. An analysis of the business practices of the site’s corporate owner has been carried out to understand how they might evolve to enable good ESG performance of scrap suppliers. The results of the analysis have been documented.

3.8.4. There is a documented strategy to strengthen ESG performance in scrap supply chains. The strategy:

   a) Specifies how the business practices of the site’s corporate owner are evolving to enable good ESG performance of scrap suppliers, reflecting the results of the conducted analysis;

   b) Outlines how unknown scrap supply chain links might be turned into known ones over time;

   c) Defines measures that are taken to help reduce high ESG risks and impacts of direct scrap suppliers;

   d) Describes how the steel company or its site are involved in initiatives and recognised input material programmes seeking to advance ESG performance in scrap supply chains and how these initiatives and programmes are promoted to supply chain partners;

   e) Includes objectives and time-bound targets to deliver the strategy.
3.8.5. Implementation of the strategy to strengthen ESG performance in scrap supply chains is regularly reviewed. The results of the review and progress against the targets and objectives are documented, and the strategy is updated to reflect the review’s findings.

**Mandatory Guidance:**

**Third-party certification:** Means that a fully independent and approved or accredited certification body has provided assurance that specific criteria defined in a standard have been met.

**Second-party assessment:** Means an assessment carried out by a person or an organisation that has an interest in the scrap supplier. For example, a scrap industry association or a customer of the scrap supplier.

**First-party assessment:** Means an assessment carried out by the supplier itself to judge its own performance. This is also called a self-assessment.

**Relevant, recognised international standards:** These include but are not limited to:

- Environmental management system certification to ISO 14001 or equivalent;
- Health and Safety management system certification to ISO 45001 or equivalent;
- Labour and Human Rights management system certification to SA8000 or equivalent.

**Equivalent:** In the context of this Criterion, this means a systematic, defined and documented management system is in place that contains the main elements of internationally accepted standards. Management system requirements should be appropriate to the size and resources of the supplier, i.e., expectations of micro and smaller enterprises should be less onerous, and some elements may be managed informally.

Where no certifications or assessments have been completed, the direct supplier should be deemed to be high risk. In the case of very small suppliers with an informal management system, steel companies should expect at least a self-assessment against the ‘Principles for the Responsible Management of Scrap’ supported by some evidence to substantiate the suppliers’ assessment. A small scrap supplier is one that produces less than 10,000 gross tonnes of ferrous scrap per month. This means 10,000 gross tonnes for the supplier as a whole, not for an individual site of the supplier.

Where there is a gap in the scope of the assessment in relation to the ‘Principles for the Responsible Management of Scrap’, this should be documented and the risk associated with the direct supplier should be classified accordingly.

**Guidance:**

**Risk Assessment:** An ongoing, proactive and reactive process through which steel company and site management assess their and their supply chains’ management practices and performance in respect of human and worker rights, degradation of the environment, impact on corruption and conflict.

To enable a common risk assessment approach to be applied, ResponsibleSteel has drawn on research it commissioned and leans on internationally recognised risk indices. Guidance is provided in Annex 5.

The information gathered under Criteria 3.7 and 3.8 will help to better understand to what extent:

- Third-party certifications exist in the scrap industry as indications of robust ESG management;
- Second and first-party assessments exist in the scrap industry as tools for managing ESG issues;
- ESG risks and impacts for people and nature are prevalent in scrap supply chains.
Where a ‘Principle for the Responsible Management of Scrap’ is out of scope of a third-party certification, second or first-party assessment, other ways to check fulfilment should be explored. For example, legal compliance registers, the results of financial audits, regulated activities, internal audit reports, publications and media reports (online and print).

The gathered information will also enable the ResponsibleSteel community to raise awareness for ESG issues within the scrap sector. This, in turn, will support efforts to initiate and support a project to create a comprehensive ESG standard, framework or similar tailored to the scrap sector that ResponsibleSteel can recognise.

The information collected and analysed for Criteria 3.7 and 3.8 is also thought to inform the development of the definite targets and requirements for Levels 2, 3 and 4 in Criterion 3.9.

**Initiatives and recognised input material programmes:** Means initiatives focusing on advancing ESG performance in scrap supply chains. This includes, for example, working groups coordinated by recycling industry associations, multi-stakeholder initiatives, international standards development committees, government or NGO-led projects focused on specific regions or locations.

ResponsibleSteel is aware that, currently, there may not be any programmes that address the whole spectrum of ESG issues and anticipates that these will develop over time. Membership of ResponsibleSteel is a step towards this as it is working in support of multi-stakeholder initiatives that address ESG risks in the scrap supply chain on behalf of its members. However, membership of ResponsibleSteel alone is not sufficient evidence of involvement in relevant initiatives.

Further guidance on initiatives is contained in Annex 4.

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**Criterion 3.9: Strengthen and account for responsible sourcing**

Supplier performance is monitored and sourcing from suppliers who meet accepted ESG benchmarks increases over time.

**Note:** We anticipate that one or more comprehensive ESG standards or frameworks suitable for the scrap industry will become available soon. For example, there is an ISO process to develop a standard called "Secondary materials — Principles, sustainability and traceability requirements" that ResponsibleSteel might recognise.

3.9.1. In the last calendar or financial year, the share of scrap received from direct suppliers accounted for at least the below percentages compared to the total tonnes of scrap received from direct suppliers:

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites of direct scrap suppliers that have been subject to a third-party audit</td>
<td>-</td>
<td>30%</td>
<td>50%</td>
<td>60%</td>
</tr>
<tr>
<td>Sites of small scrap suppliers that have self-assessed against the ‘Principles for the Responsible Management of Scrap’</td>
<td>-</td>
<td>30%</td>
<td>50%</td>
<td>60%</td>
</tr>
</tbody>
</table>
Sites of direct scrap suppliers that have achieved at least the minimum ESG performance in a third-party audit under a recognised input material programme

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>30%</th>
<th>50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites of small scrap suppliers that can demonstrate that they meet the ‘Principles for the Responsible Management of Scrap’</td>
<td></td>
<td></td>
<td>30%</td>
<td>50%</td>
</tr>
</tbody>
</table>

**Mandatory Guidance:**

**In the last calendar or financial year:** For the initial certification against the responsible sourcing requirements as part of ‘Certified Steel’, the evidence demonstrating that the required percentages have been achieved may cover a period that is shorter than 12 months, but cannot cover less than 6 months. At the next regular audit (which can be a surveillance audit or a re-certification audit, this depends on when in its certification cycle the site achieved ‘Certified Steel’ certification), the site must present evidence for the full previous calendar or financial year to uphold certification.

**Small scrap suppliers:** A small scrap supplier is one that produces less than 10,000 gross tonnes of ferrous scrap per month (being 11,200 metric tonnes and 11,200,000 kilogrammes). This means 10,000 gross tonnes for the supplier as a whole, not for an individual site of the supplier.

**Guidance:**

The aim of Criterion 3.9 is to specify requirements that will provide assurance to steel companies, downstream users of steel and stakeholders in general that scrap supply chains are managed responsibly. The targets provided in the table are preliminary. The definite targets and additional underlying requirements to establish and demonstrate an unbroken Chain of Custody are to be developed in a collaborative process with the recycling industry and are intended to be added to the responsible sourcing requirements during future revisions of the ResponsibleSteel Standard. Please see Criterion 3.4 to understand what the aim of a Chain of Custody is and what requirements this might entail.

The information collected and analysed under Criteria 3.7 and 3.8 are thought to inform the development of the definite targets and requirements for Criterion 3.9.

When a direct supplier is a trader or broker, then the suggested targets would relate to the first physical site before supply to the steel producer.

**Minimum ESG performance achieved in third-party audit:** This is to be defined in a collaborative process with the recycling industry.

**Criterion 3.10: Report publicly on responsible sourcing**

Key information and developments regarding the responsible sourcing of scrap are reported publicly and regularly for the site and also shared with ResponsibleSteel.

*Note the public reporting requirements in 3.5. There is considerable overlap with 3.10 and steel companies are not expected to report identical information twice.*
### 3.10.1. The following site-specific information is regularly reported for publication on the ResponsibleSteel website. Where sourcing is done for a portfolio of sites, the information is reported for the same portfolio that has been specified in 3.4.6.:

- **a)** The site’s responsible sourcing policy;
- **b)** Description of how the responsible sourcing policy is incorporated in key purchasing functions and processes;
- **c)** A summary of the site’s strategy to help strengthen ESG performance in upstream input material supply chains, including any time-bound targets;
- **d)** A summary of the progress made in implementing the strategy and reaching defined targets;
- **e)** The criteria used to prioritise ESG risks found at suppliers;
- **f)** A description of the site’s grievance mechanism (as required by 6.2.1 for ‘Certified Site’ in the existing Standard);

### 3.10.2. The following site-specific information is regularly reported for publication on the ResponsibleSteel website. Where sourcing is done for a portfolio of sites, the information is reported for the same portfolio that has been specified in 3.4.6.:

- **a)** Percentage of scrap sourced from direct suppliers with a relevant third-party certification;
- **b)** Percentage of scrap sourced from direct suppliers with a relevant second-party assessment;
- **c)** Percentage of scrap sourced from high, medium and low risk countries of origin and changes since the last reporting period;
- **d)** Description of the high and medium ESG risks that scrap suppliers are linked to;
- **e)** Description of the high and medium ESG risks that the countries of scrap origin are linked to;
- **f)** Description of the key measures taken to help reduce high and medium ESG risks in scrap supply chains and the outcomes of those measures;
- **g)** Description of good practices found in the site’s scrap supply chains;
- **h)** Description of initiatives or recognised input material programmes that the site or its corporate owner engages in and what that engagement looks like;
- **i)** For levels 2 to 4: Percentage of scrap sourced from direct suppliers that have been subject to a third-party audit and percentage of those direct suppliers that have achieved at least the minimum ESG performance in a third-party audit under a recognised input material programme;
- **j)** For levels 2 to 4, small suppliers: Percentage of scrap sourced from small direct suppliers that have self-assessed against the ‘Principles for the Responsible Management of Scrap’ and percentage of those small direct suppliers that can demonstrate that they meet the ‘Principles for the Responsible Management of Scrap’.

**Mandatory Guidance:**

**Regularly:** The information listed in 3.5.1. must be reported by the certification body in the ResponsibleSteel audit report, which has to be submitted to ResponsibleSteel before a certification or re-certification decision is taken, i.e. every 3 years. In case of a positive certification decision, ResponsibleSteel will extract the information from the audit report and will publish it on the...
ResponsibleSteel website together with the name of the site that has achieved ‘Certified Steel’ certification.

At the time of the site’s surveillance audits, the certification body must request updated information on 3.5.1. In case of changes, updated information has to be submitted to ResponsibleSteel so that its website can be revised.

Reported for the same portfolio: The names and locations of the individual sites of the portfolio must be provided in the audit report and will be disclosed on the ResponsibleSteel website.

Small suppliers: Note the definition in the mandatory guidance to Criterion 3.9.

Guidance:

Grievance mechanism: As required by 6.2.1. in the existing ResponsibleSteel Standard, the grievance mechanism must be effective. The UN Guiding Principles on Business and Human Rights provide eight effectiveness criteria for grievance mechanisms that steel companies should meet:

1. Legitimate
2. Accessible
3. Predictable
4. Equitable
5. Transparent
6. Rights-compatible
7. A source of continuous learning
8. Based on engagement and dialogue

High, medium, low risks: See the guidance to Criterion 3.3 and Annex 5 on high, medium and low risk.

Key measures taken: See the guidance to 3.3.4.e) on what these key measures might be.

Good practices: See Annex 3 and the Principles for the Responsible Management of Scrap, which describe good practices. The list is not exhaustive though.
Annex 1 (mandatory):
Input materials covered, not covered and excluded

1. Input materials covered:
The list below shows the input materials that are covered by the responsible sourcing requirements. The list is based on the report ‘Responsible Sourcing and Due Diligence for the Worldsteel Membership’, which identifies the most material inputs to the steel industry overall. We added ‘lead’ and ‘oils’ to align the below list with the list of input materials covered by the GHG requirements. We also added ‘agricultural residues’ and ‘waste materials’ (other than scrap) as steel makers are searching for alternatives to coal-based input materials to support decarbonisation. The list is thought to account for 80 to 90% of the input materials used in iron and steel production, processing and finishing.

- Iron
- Coal
- Other mined or quarried input materials:
  - Bauxite
  - Boron
  - Calcium
  - Chromium
  - Cobalt
  - Dolomite
  - Graphite
  - Lead
  - Limestone
  - Magnesium
  - Manganese
  - Molybdenum
  - Nickel
  - Niobium
  - Oil (heavy as well as light)
  - Phosphorous
  - Silicon
  - Tin
  - Titanium
  - Tungsten
  - Vanadium
  - Zinc
- Pre-consumer and post-consumer scrap: Pre-consumer scrap is also referred to as manufacturing or new scrap. Post-consumer is also referred to as end-of-life or old scrap.
- Agricultural residues: For example, sugar cane bagasse, wheat straw, corn stover, barley straw, coconut shells.
- Waste materials: For example, reclaimed wood, post-consumer plastics, tyres.
- Wood from plantations: Only wood and wood-derived products from FSC certified plantations covered by an FSC chain of custody certificate may be used by steel sites seeking ‘Certified Steel’ certification. Wood from forests is excluded (see also below). For Level 1, 90% of wood-based input material must be from FSC certified plantations that are covered by an FSC chain of custody certificate. This includes only sawmill dust generated as a by product, and wood pellets made from such sawdust, which may be a mix of plantation and forest-derived sawdust, as it is not feasible to keep sawdust from different sources separate.

The input materials are usually listed in their raw, unprocessed form. If the steel site that aims to achieve ‘Certified Steel’ certification uses these materials in raw or processed form, the responsible sourcing requirements must be applied to them. For example:
• Raw iron ore and its processed forms such as pellets, sinter, pig iron, DRI and HBI are all covered by the responsible sourcing requirements

• Likewise, any form of coal, such as anthracite, coking coal or pulverised coal, is part of the responsible sourcing requirements

• Nickel metal, nickel oxide sinter, nickel pig iron are covered as they are based on nickel

• Wood from plantations and its product ‘charcoal’ are covered too.

If iron, coal or any other input material covered by the responsible sourcing requirements is used in processed form at the site that applies for ‘Certified Steel’, the respective requirement applies to the main input materials used by the supplier of the processed material. For example:

• Where a site uses pig iron, the main input materials used by the supplier will be iron ore and coal, charcoal, hydrogen or natural gas, plus limestone. Note that hydrogen and natural gas are currently not covered by the responsible sourcing requirements, so none of the requirements apply to hydrogen and natural gas. They do apply to the other key input materials though.

• For nickel pig iron, the main input materials are nickel ore, coal and a mixture of sand and gravel. While sand and gravel are not covered by the requirements, nickel and coal are covered and the requirements therefore apply;

• Where a site is a steel processing site that receives, for example, slabs, billets or blooms as input materials, the crude steel production sites that it sources from must be ‘Certified Steel’ certified for the steel processing site to demonstrate achievement of the responsible sourcing requirements;

• Note that producers of pre-processed input materials, such as DRI, HBI or pig iron, cannot themselves become ‘Certified Steel’ certified. However, the responsible sourcing requirements apply to them.

2. Input materials not covered:

The below input materials are not covered by the responsible sourcing requirements. This means that they can be used at steel sites, but there are currently no ESG expectations attached to them:

• **Home scrap**: Scrap from a downstream steel production process within the steelworks (e.g. rolling, coating) that is returned to steel making processes (e.g. BOF or EAF)

• **Internal scrap**: Scrap from a crude steel making unit that is then recycled within the same unit process (e.g. basic oxygen furnace (BOF) or electric arc furnace (EAF) (adapted from ISO 20915:2018(E) Life cycle inventory calculation methodology for steel products)

• **Hydrogen**

• **Natural gas**

• **Paints**

Input materials that are not listed as ‘covered’ or ‘excluded’ are considered to fall into the ‘not covered’ category.
3. Input materials that are excluded (test phase):

The following input materials are excluded. This means that they may not be used by steel sites seeking ‘Certified Steel’ certification:

- **Energy crops.** For example, maize, miscanthus (elephant grass) or short rotation coppice like poplar and willow

- **Wood from forests**

- **‘Controlled Wood’, meaning wood and wood-based products labelled as ‘FSC MIX’.**

Stakeholder views on whether these materials should be covered by the responsible sourcing requirements differ widely. Some fear that ResponsibleSteel could drive demand for energy crops if they were covered by the responsible sourcing requirements. Given that energy crops rely on arable land that is limited in quantity, this could prompt complex issues like land use change and food insecurity. Stakeholders also debate what is the better use of input materials like forest wood, in longer-lasting higher value products (e.g. construction or furniture) or as a bioenergy in industrial production processes. Others consider that where such sources are covered by recognised ESG certification programmes, this ensures responsible sourcing, and indeed that ResponsibleSteel should encourage the expansion of such certification to support the sustainable management of forests and also short rotation woody biomass.

Paris-aligned climate scenarios typically indicate that biological input materials will play a rather marginal role in the steel industry’s decarbonisation due to the limits on the availability of sustainably sourced materials of biological origin. In the International Energy Agency’s Sustainable Development Scenario, for example, the share of bioenergy in the sector’s total energy input mix increases from less than 1% to 5% in 2050. The modelling developed for the Mission Possible Partnership’s Net Zero Steel Sector Transition Strategy indicates in all scenarios that the steel sector would peak its use of bioresources in 2030 at less than 2% of the estimated truly sustainable bioresources available, and thereafter decline. By excluding the two categories listed, that are subject to particular stakeholder concern, but including agricultural residues and wood from FSC certified plantations, the ResponsibleSteel Standard avoids the risk of contributing to the issues outlined above whilst allowing for sufficient opportunity to source biological inputs responsibly.

The ResponsibleSteel Standard will be reviewed at least every five years and the list of input materials that are covered, not covered and excluded may change following these reviews.
Annex 2 (informative):
Sources to understand supplier ESG performance

Here, we provide some examples for site-, company, country- and material-level sources that might help steel companies understand their suppliers’ ESG performance.

Site-level information on ESG performance:

The standards of the input material programmes that ResponsibleSteel initially intends to recognise (see below for specifics) cover all ESG topics one would commonly consider when analysing and assessing ESG risks associated with specific sites of a supplier. Steel companies are asked to promote these programmes to their suppliers. Application of their standards will help steel companies understand suppliers’ current ESG performance and, where the standards are applied in third-party audits under the recognised programmes, they will also help meet the requirements of Criterion 3.4. Currently, the standards of the input material programmes that ResponsibleSteel intends to recognise are:

- **Bettercoal Code.** Where a mine (called Bettercoal Supplier) ‘Misses’ a certain category of the Bettercoal Code, this should be considered a high risk;
- **IRMA Standard for Responsible Mining.** Where a mine ‘Does not meet’ a certain chapter of the IRMA Standard or any of its 40 critical requirements, this should be considered a high risk;
- **The 9 TSM Protocols and the TSM Voluntary Responsible Sourcing Supplement.** Where a mine or a processing site comes out as ‘Level C’ in any criterion of the TSM Protocols or where ‘No’ is the response to any criteria that ask for a Yes/No judgement, this should be considered a high risk;

In cases where the supplier to a steel site is another steel site or is a stand-alone coking, sintering, pelletisation, HBI, DRI or pig iron production plant, having ResponsibleSteel ‘Certified Site’ status can serve as an indication of low ESG risk of that particular supplier since the certificate is only awarded if there are no major non-conformities with the ResponsibleSteel Standard. Issued site-level certificates are listed on the ResponsibleSteel website under ‘Issued certificates’.

The results of third-party audits against various ISO standards can give useful pointers to ESG risks if suppliers share the audit reports with the steel companies. Examples are:

- ISO 14001 for environmental management;
- ISO 45001 for health and safety;
- ISO 50001 for energy management.

Where the audits resulted in major non-conformities, these should be considered high risk.

It should be noted that none of these ISO standards consider social issues in a comprehensive manner. For social issues, third-party audits of the following nature can be valuable:

- on the basis of the ISO 26000 guidance on social responsibility
- against SA8000.

Other tools that may be used to understand the ESG performance of a specific site of a supplier are:

- the Sedex Supplier Risk Assessment Tool called **Radar**;
- the business sustainability ratings offered by Ecovadis.
Both cater for site and company-level assessments. Radar can be used as a self-assessment tool or can be used by companies to assess their suppliers, meaning it is a second-party assessment. The Ecovadis rating criteria are established by Ecovadis and it is also Ecovadis that carries out the desk-top based assessments.

**Company-level information on ESG performance:**

There are a range of tools that might be used to understand ESG performance at company-level, where site-level information cannot be obtained:

- **Assent Supply Chain Sustainability Platform**;
- **Ecovadis**;
- **ELEVATE Responsible Sourcing Assessment** (ERSA), developed and applied by ELEVATE with a focus on social issues;
- **Risk Readiness Assessment** (RRA) by the Responsible Minerals Initiative, an entry-level self-assessment tool;
- **Sedex Supplier Risk Assessment Tool** (Radar).

It should be noted that the ‘auditable mechanism’ described under Criterion 3.2 may be helpful with Criterion 3.3 as well: Where suppliers are not willing to share information on the ESG performance of their own suppliers or of individual sites of their suppliers, they might be willing to share information in anonymised form with the steel site. The information will enable a dialogue to be started with suppliers on how ESG issues identified in their supply chains may be addressed. The information provided by suppliers would have to be verified for a sample of suppliers using the ‘auditable mechanism’ as described in Criterion 3.2. The tools listed above provide examples of the types of evidence that ResponsibleSteel auditors would look for.

In case the ResponsibleSteel auditors come across any inconsistencies in the suppliers’ information, they will inform the steel site of the nature of the inconsistencies so the site can act on this, all the while adhering to the clauses of the NDA.

**Input material and country-level ESG risks:**

The below tools might help identify and classify ESG risks associated with individual materials, supply chain stages and specific countries where the materials are extracted or processed:

- **ESG Materials Score** by Levin Sources;
- **Material Insights by TDi Sustainability and the Responsible Minerals Initiative**;
- **Raw Material Outlook** by Drive Sustainability;
- **Country Profiles from Delve** provide a summary analysis of the artisanal and small-scale mining sector for a specific country;
- **The CSR Risk Check** by MVO Nederland helps identify industry and country-level risks. It also provides possible risk management measures;
- **The European Commission Directorate General for Trade (DG TRADE) has contracted RAND Europe to develop an indicative, non-exhaustive list of conflict-affected and high-risk areas (CAHRAS)**;
- **Note that the OECD has issued sector-specific guidance together with the FAO that might be useful for risk management in agricultural supply chains: OECD-FAO Guidance for Responsible Agricultural Supply Chains (2016).**
If none of the tools listed above are used by a steel company or where a certain country is not covered by them, the approach described in Annex 5 may be applied. It uses a combination of indices to understand how a specific country might be associated with ESG risks and the results indicate how complex the context of a supplier might be. The used indices are:

- CPI = [Corruption Perceptions Index](#)
- EPI = [Environmental Performance Index](#)
- HFI = [Human Freedom Index](#)
- WGI = [World Governance Index](#)

If a supplier or a specific site of a supplier that provides input material to the steel site is based in a conflict-affected and high risk area (CAHRA, see also the guidance above) and the steel company cannot obtain information on the supplier’s ESG performance, the supplier and their sites should be considered high risk.

Steel companies might use other tools not listed in this guidance to understand ESG performance of suppliers and their individual sites, of materials and countries. The tools should have the following characteristics:

- Cover human and workers’ rights, degradation of the environment, impact on corruption and conflict;
- Draw on legitimate risk evaluation indices and sources;
- Have been developed with input from different external stakeholders;
- Results are independently verified;
- Are maintained and kept up to date.

**Classifying high, medium and low risk**

Below, we propose a risk assessment matrix that can be used to classify the level of risk by plotting the likelihood of the risk becoming a reality against the severity of the consequence of this.

The likelihood can be:

- Definite: Almost certain, meaning over 80% chance, to occur in relation to the direct or indirect supplier or their site, or in relation to the material or the country in question
- Likely: 60 – 80% chance of occurrence
- Occasional: 30 to 60% chance of occurrence
- Seldom: 10 - 30% chance of occurrence
- Unlikely: Less than 10% chance of occurrence.

The severity of the consequence can be:

- Catastrophic
- Critical
- Moderate
- Marginal
- Insignificant

Severity is usually judged by looking at three factors:

- Scale: How grave would the impact be if the risks became a reality?
- Scope: How many people would be affected?
- Remediability: How difficult would it be to restore the situation to the state it was in before the impact occurred?
The way the risk matrix is applied should align with the United Nations Guiding Principles on Business and Human Rights, which means the following: Where prioritisation of risks is necessary because there are too many to address them all at once, companies should first seek to avoid and reduce those risks that may be the most severe from the perspective of affected stakeholders. This means that risks that are low-likelihood and high-severity have to be prioritised, just like risks that are high-likelihood and low-severity. The severity of the (likely) impact should drive the company’s approach to risk management. In looking at risk, companies should also focus on the (likely) impact on the affected stakeholders rather than on the (likely) impact on business. This is distinct from traditional business risk prioritisation.

See Criterion 3.3 for examples of ESG risks that should always be prioritised.
Annex 3 (mandatory):
Principles for the Responsible Management of Scrap

Establishing fully responsible scrap supply chains globally can only be achieved on the basis of a common understanding of ‘responsibility’ and through collaboration. The Principles for the Responsible Management of Scrap are a set of good practices, developed with input from the steel recycling industry, to help standardise expectations on management and improve ESG performance in the steel recycling industry.

The Principles can be applied as a stand-alone tool, can be integrated into or appended to supplier codes of conduct, can be reflected in relevant policies or procedures, used as the basis for ESG risk assessment by steel companies and their supply chains or in any other way deemed appropriate.

The Principles are to:

1. Collaborate to help meet the ResponsibleSteel mission, while keeping markets and trade flows free, avoiding protective and trade restrictive measures
2. Recognise and fairly reflect responsible supply practices in commercial decision making
3. Enable the recycled content in steel production to be maximised as a common goal of the steel and recycling industry to reduce the impacts of climate change and other negative external effects
4. Operate legal and ethical trading practices
5. Procure from and supply to responsible customers/counterparties (Know your customer/counterparty)
6. Improve knowledge of ESG risks and the potential for positive impact through effective supply chain mapping and assessment
7. Maximise high-quality segregation during manual and mechanical processing to avoid contaminants and pollution and to maximise the value obtained from the scrap. In particular, ensure that scrap with high chromium or nickel content is adequately sorted for use as an input material in stainless steel production
8. Monitor scrap consignments for radioactivity and document test certificates and conformity statements
9. Ensure the effective management and treatment of environmental pollutants avoiding untreated and hazardous materials and emissions escaping into air, water and onto land
10. Ensure the sound and legal disposal of reprocessing waste streams, encouraging circular economy principles. Do not engage in practices such as open burning and open dumping where steel is sourced from mixed materials, such as from old tyres
11. Develop and maintain good housekeeping practices during collection, including handling, transportation, logistics and at facilities
12. Enable safe manual and mechanical dismantling, handling and processing practices including the provision of appropriate Personal Protective Equipment (PPE)
13. Provide support and compensation for work-related death, injuries or illness to workers and their dependents
14. Respect internationally recognised Human Rights
15. Not use or tolerate child, forced and compulsory labour

16. Not engage in discrimination of any kind, with a particular focus on vulnerable and marginalised groups

17. Ensure fair and timely payment of workers to at least the legal minimum wage or a recognised equivalent when not defined in law

18. Ensure fair treatment of workers that meets local legislation or ILO standards, at a minimum including for working hours, breaks, defined and communicated contractual terms and conditions, collective bargaining opportunities and fair disciplinary practices

19. Communicate these Scrap Principles further up the scrap supply chain

20. Support ESG capacity further up the scrap supply chain, through training, awareness raising, and involvement in initiatives to improve ESG performance

21. Improve ESG achievement tracking and chain of custody practices so that confidence in responsible sourcing can be gained without compromising commercial arrangements.

**Good housekeeping practices** include adequate storage space and practices, dedicated and covered (where appropriate), safe spaces for hazardous materials, proper labelling and controls on materials handled, keeping working areas clear of debris, documentation of material flows through premises, maintaining vehicles and equipment and awareness raising and training.
Annex 4 (informative):
Further information on initiatives relevant for scrap

The Bureau of International Recycling (BIR) has published a series of tools and guidance which align to ISO standard requirements and incorporate international regulatory requirements relating to the recycling industry, such as end-of-waste procedures complementary to the Council of the European Union’s Regulation (EU) No 333/2011, OECD core performance elements for environmentally sound management and the 2009 Chinese Regulations Governing the Inspection, Quarantine and Supervision of Imported Solid Scrap Usable as Raw Materials.

Other relevant standards and tools include, but are not limited to:

- Institute of Scrap Recycling Industries (ISRI) RIOS standard for the recycling industry
- R2 – Electronics waste recycling standard
- ISO/AWI 59014: Secondary materials — Principles, sustainability and traceability requirements (under development)
- SA 8000 for social accountability certification
- Bureau of International Recycling, Tools for Quality Management
- Bureau of International Recycling, Tools for Environmentally Sound Management
Annex 5 (informative):
Risk factors and assessment of scrap supplies

Risk Assessment: On ongoing, proactive and reactive process through which corporate owners and site management assess their and their supply chains’ management practices and performance in respect of human and worker rights, degradation of the environment and impact on corruption and conflict.

The information below is not a comprehensive description of how to conduct a risk assessment nor is it a complete list of sources and relevant information. It is selected guidance relevant to a scrap supply chain risk assessment that should be supplemented by other sources and approaches. As well as extensive guidance provided by the OECD for due diligence, there are many other sources which may be useful as well as proprietary tools and services which can assist in or provide a risk assessment.

Scrap risk factors: Risks relating to scrap input material can vary significantly. A risk assessment should consider the following factors:

- The country of origin: Meaning when the scrap first becomes scrap after its previous use. This recognises that regulation and enforcement of regulation varies between countries and that known risks are prevalent in certain countries.

- The supplier: Existing knowledge of a supplier can influence risk assessment as can the size and type of supplier, recognising that risks may relate to the supply chain stage. For example, risks from poor worker conditions and human rights infringements during shipping may be considered for traders and shipping, while health and safety and environmental pollution risks may be more apparent at scrap aggregation and processing sites.

- The type of material: Pre-consumer scrap may present less ESG risks than post-consumer scrap and the ability to generate evidence may vary depending on the type of scrap.

- The value and format of transactions: Cash purchases are legitimate and acceptable practices. However, they present a greater risk of money laundering and corruption and are more common in certain geographies.

- Unusual circumstances: For example, unusual trading patterns, changes to typical supplier activity, new sources, unavailability of statutory trading documentation may raise risk.

- Established risk profiling information: Some references are provided in the risk assessment guidance below and there are many other sources of information that may be relevant to your scrap supply chain.

For scrap, ResponsibleSteel is initially focusing on the direct suppliers and the countries of origin for suppliers further upstream.

For ESG risk assessments of direct suppliers, the following proprietary services may be used to support supply chain risk assessment at company and sometimes site-levels: Assent Supply Chain Sustainability Platform, Ecovadis, ELEVATE Responsible Sourcing Assessment (ERSA), Responsible Minerals Initiatives (RMI) - Risk Readiness Assessment (RRA), Sedex Supplier Risk Assessment Tool (Radar, which also provides for site assessments), Sourcemap, Track Record Global, to name a few. Other services are available and it should be noted that the Material Insights platform will soon feature a scrap profile.
Where a company has an existing approach to risk assessment for its scrap supply chain, or uses such a proprietary service, it should be based on the following characteristics:

- it covers human and workers’ rights, degradation of the environment, impact on corruption and conflict;
- it draws on legitimate risk evaluation indices and sources;
- it has been developed with input from different external stakeholders;
- its results are independently verified;
- it is maintained and kept up to date.

For country-based ESG risk assessments, the following information may be used, extracted from the August 2020 report ‘Responsible Sourcing of Scrap Metal as a Raw Material for Steel Making’, which was drafted by Track Record Global for ResponsibleSteel. The full report is available to ResponsibleSteel members on request. It can be used to provide an indication of ESG issues in individual countries. It can be further combined with internationally recognised, country-based indices of risk, as detailed below.
<table>
<thead>
<tr>
<th>Country</th>
<th>Shipbreaking Activity</th>
<th>Processing Activity</th>
<th>Metal Theft</th>
<th>Money Laundering</th>
<th>Material Quality</th>
<th>Regulatory Strength</th>
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## Responsible Sourcing Requirements for 'Certified Steel' – DRAFT Version 3.0

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<th>Shipbreaking Activity</th>
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**Legend:**
- **x** concern
- **o** serious concern
- **c** moderate concern
In addition, for country of origin-related risk assessments, the following indices and thresholds can be used:

<table>
<thead>
<tr>
<th>Risk</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
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</thead>
<tbody>
<tr>
<td>Scrap country of origin with:</td>
<td>Scrap country of origin with:</td>
<td>Scrap country of origin with:</td>
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<tr>
<td>CPI score &gt; 50</td>
<td>CPI score 30 - 50</td>
<td>CPI score &lt; 30</td>
<td></td>
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<tr>
<td>EPI score &gt; 60</td>
<td>EPI score 60 - 50</td>
<td>EPI score &lt; 50</td>
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<tr>
<td>HFI score &gt; 7</td>
<td>HFI score 7 - 6.5</td>
<td>HFI score &lt; 6.5</td>
<td></td>
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<tr>
<td>WGI aggregate score &gt; 60</td>
<td>WGI aggregate score 40 - 60</td>
<td>WGI aggregate score &lt; 40</td>
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</table>

CPI = [Corruption Perceptions Index](#)  
EPI = [Environmental Performance Index](#)  
HFI = [Human Freedom Index](#)  
WGI = [World Governance Index](#)

Regarding the World Governance Index (WGI):

To get an aggregate WGI score for a particular country, go to the WGI website, select 'Country Data' view, then select 'multiple indicators' from the dropdown indicator menu and check all indicators, enter the year and country. Whichever risk is highest should be adopted as the risk assessment for that country. Details of the risk profile can inform the scrap ESG performance improvement strategy.

**General guidance on carrying out risk assessments and due diligence:**

The commentary to the UN Guiding Principles on Business and Human Rights (item 17) acknowledges that carrying out due diligence on every individual relationship may be impossible in some circumstances. In such cases: "...business enterprises should identify general areas where the risk of adverse human rights impacts is most significant, whether due to certain suppliers' or clients' operating context, the particular operations, products or services involved, or other relevant considerations, and prioritise these for human rights due diligence". For scrap supply, this can be informed by risk factors provided in this guidance.

Key choke points in supply chains are key points of transformation that include relatively few actors that handle or process the material and have higher visibility and control over upstream stages. In the scrap supply chain these are likely to be the initial scrap consolidation, collection, shredding, grading and sorting activities that happen at a local or regional level within countries before the scrap is sold onto domestic and international markets. Typically, these processes occur at businesses operating a physical scrap yard and may be linked to transport hubs, ports and shipments. Risk assessments may seek to focus on these choke points and activities.

Small or medium-sized enterprises with many business relationships may face resource constraints in carrying out effective risk assessments. They should look to existing resources such as public information on risks in certain supply chains. They should also work with their industry associations to obtain technical assistance as appropriate.

Traders are often a chokepoint where risk assessment information can be restricted. The examples below offer some guidance on opportunities for the risk assessment/due diligence of particular trading types. (Edited from Source: Box 21, p32 of the Commodity Trading Sector Guidance on Implementing the UN Guiding Principles: High level scenarios: The Swiss Government and the Institute for Human Rights and Business, 2018)
1. Commodity Futures Exchanges: In cases when a seller and a buyer are matched by a commodity futures exchange, the parties involved are typically unable to undertake prior due diligence on the other party, including supply chain due diligence. Enterprises could, as part of their policy commitment to the ResponsibleSteel Scrap Principles, individually and collectively encourage exchanges to include assessment of ESG risks as part of contract specifications. Exchange deliveries are typically treated as low risk (with respect to performance), but these should be treated as higher risk for human rights, labour conditions and environmental due diligence.

2. Commodity Brokers: In cases when a seller and a buyer are matched by a commodity broker, that broker will typically be given a “permitted counterparties” list by its client that includes all the parties with whom that client is prepared to be matched. That list will contain only the names of companies that passed the client’s Know Your Counterparty/Customer processes and had credit limits put in place in respect of it. Commercially reasonable due diligence for inclusion on a permitted counterparties list can include human rights, ethical practices, labour conditions and environmental due diligence provisions.

3. Seller/Buyer Relationships: In cases when a seller and a buyer form a relationship outside a market (exchange, trading platform or network of brokers) due diligence will depend in part on what is achievable prior to the first transaction. Clauses should be included in contract terms that permit a termination of the contract in the event that a code of conduct is found to have been breached. This may allow time for a buyer to conduct more due diligence between the time of entering into the contract and the time of performance of the contract. Where the relationship is to be continued over time, it is usual to conduct more comprehensive due diligence, for example reviewing or requesting (if not publicly available) code of conduct or policies, Health, Safety, Security, Environment (HSSE) records, sustainability reports (if applicable) and additional checks on the company and its management from different systems and sources a company has access to, including resources on the ground.

4. Spot Supply Contracts: In cases when a seller and a buyer enter into a spot supply contract where the commodities are already in transit (for example on board a vessel) then it is likely that the seller will give no opportunity for due diligence other than to supply required documents (quality and quantity certificates, origin certificate, etc). Enterprises should treat these types of purchases as high risk as it is difficult to verify the accuracy of the certificates or to conduct further due diligence. New digital technologies are being developed in an effort to address these concerns. Industry-wide action will be required to address these high risk practices.

For further detail on potential risk assessment documentation regarding environmental impact of relevance to traders, please see: Follow-up to the Indonesian-Swiss country-led initiative to improve the effectiveness of the Basel Convention. Framework for the environmentally sound management of hazardous wastes and other wastes, June 2013.

Additional information in relation to reducing risks related to scrap procured from higher risk sources, including from developing countries can be found in ISO/IWA 19:2017(E) Guidance principles for the sustainable management of secondary metals.

For further information on expectations of due diligence in conflict-affected and high risk areas see: OECD 2016. OECD Due Diligence Guidance For Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, Third Edition.
Annex 6 (informative):  
Background to Criteria 3.2 and 3.4

Background to Criterion 3.2: Know your upstream supply chains

We acknowledge that it is a big challenge to know 100% of supply chain links and to know these at all times. Especially when input material is purchased on spot markets, via brokers or traders, it might not always be possible to find out the identity of more distant suppliers. However, if supply chain links are not known, steel companies will not be able to understand the ESG risks and impacts associated with these materials to guide their sourcing decisions. For this reason, ResponsibleSteel’s vision is that, eventually, 100% of supply chain links are known. This will take time, but tightening regulations, pressure from downstream customers, investors, civil society and other stakeholders, as well as technological advances will help achieve this. While ResponsibleSteel’s requirements currently do not specify that 100% of supply chain links must be known, our intention is that the next iteration of our requirements will do so and this will form the basis of member and stakeholder consultation when the time comes.

Note that ResponsibleSteel will consider developing a platform or adopting an existing platform for collecting and safely sharing supplier information among ResponsibleSteel certified entities to help keep administrative burden low for both steel companies and suppliers of input materials. Whether such a platform is a feasible option for ResponsibleSteel will be discussed with our members.

Background to Criterion 3.4: Strengthen and account for responsible sourcing

Criterion 3.4 is divided into 4 levels. For level 1, it requires that a large share of input material used at the steel site comes from suppliers that are committed to a recognised input material programme. For levels 2, 3 and 4, suppliers must have achieved a pre-determined ESG performance level under a recognised programme, with the required performance increasing from one level to the next. To prove that the required input material share is achieved under levels 2 to 4, an unbroken Chain of Custody has to be in place, starting with the sites of origin and ending with the respective steel site. We refer to this as ‘upstream Chain of Custody’. In the context of ResponsibleSteel, upstream Chain of Custody means that input material from different suppliers can be blended and mixed throughout the supply chain, but that the share of input material from sites of origin and upstream processing that are part of a recognised input material programme is recorded at each supply chain stage and that related information is transferred from one stage to the next. Suppliers may sell this share as ‘CoC Input Material’. The Chain of Custody model we aim to establish will monitor the movement of input material through the supply chain, but it will not make it possible to trace individual shipments or individual components in a steel product back to the place where the raw material was extracted or harvested. Full traceability would require that ‘CoC Input Material’ is kept separate from other input material on-site at steel companies and at their suppliers. Since the steel sector relies on many different materials from many different suppliers, this is deemed too complex to achieve. In essence, our Chain of Custody will not create a link between the physical input material and the associated paper trail. This means that even if the delivery note of the supplier or other relevant documentation states ‘CoC Input Material’, the actual provided input material might not originate from a mine or forest management unit that participates in a recognised input material programme. The purpose of a Chain of Custody is to create trust that the share of input material that is claimed to be from responsible suppliers does indeed come from suppliers with decent ESG performance. If correctly implemented, our proposed Chain of Custody model will do that, but readers should be aware of the disconnect between the physical input material and the associated paper trail. The Chain of Custody model we want to implement is referred to as ‘mass balance’. It is widely used in other sectors and this short video illustrates how mass balance works (provided by the Rainforest Alliance).
‘CoC Input Material’ can only be sold in supply chains with an unbroken Chain of Custody. Where extraction sites or upstream processing sites do not meet the required ESG performance under that programme, the Chain of Custody is broken and suppliers cannot sell the respective input material as ‘CoC Input Material’. The same applies if direct and indirect suppliers do not record ‘CoC Input Material’ or do not transfer related information to their customers.

Responsible sourcing is a shared supply chain effort and an intact Chain of Custody can only be realised if steel companies and their supply chains work together. Initially, we will not require that suppliers become certified to a full-fledged Chain of Custody Standard. Instead, the requirements we have outlined below in levels 2 to 4 are the starting point to establishing a robust Chain of Custody system in steel supply chains. This approach recognises the current immaturity in the steel sector in applying Chain of Custody standards. Going forward, however, we will expect that supply chain partners achieve Chain of Custody certification to protect ResponsibleSteel and its members from risk of false claims related to responsible sourcing. To this end, we will seek to recognise Chain of Custody Standards that already exist or are under development, such as those of the Aluminium Stewardship Initiative (ASI), the Forest Stewardship Council (FSC) or the Initiative for Responsible Mining Assurance (IRMA). The requirements outlined in this document are thought to be a suitable stepping stone to alignment with these Chain of Custody Standards. We will also work with any recognised input material programme to make sure that their systems enable the establishment and maintenance of an unbroken Chain of Custody. The Chain of Custody requirements outlined in Criterion 3.4 will be subject to a 12-month test phase to ensure they are fit for purpose.

In light of the above and to prepare for a full Chain of Custody system, steel companies will have to ask their direct and indirect input material suppliers – whether they are traders, brokers, processing or sites of origin – to contribute to establishing a Chain of Custody. Some modification to the accounting systems of suppliers and steel companies will be needed to record incoming and outgoing ‘CoC Input Material’, to mark relevant shipments as ‘CoC Input Material’ and to determine the share of ‘CoC Input Material’ compared to the overall quantity of received input material. It should be noted that Chain of Custody certification is common practice in other sectors such as forestry, fisheries and agriculture and should become standard practice in steel supply chains too.

Note that the Chain of Custody requirements initially do not apply to scrap.
Annex 7 (informative):
General considerations in relation to responsible sourcing

<table>
<thead>
<tr>
<th>Responsible sourcing is a journey</th>
<th>Origin of input material is often not known, meaning the ESG performance of suppliers is often not known</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Only a fraction of suppliers can currently provide independent evidence of performance across the full spectrum of ESG issues</td>
</tr>
<tr>
<td>It is complex</td>
<td>Steel company influence on indirect suppliers is often low</td>
</tr>
<tr>
<td></td>
<td>There are many materials and many suppliers, and mixing and blending of material throughout supply chains is a reality</td>
</tr>
<tr>
<td></td>
<td>We are dealing with supply networks rather than supply chains</td>
</tr>
<tr>
<td>One of many challenges</td>
<td>The 12 Principles for ‘Certified Site’ with their 370 requirements must be met by steel sites as a prerequisite to ‘Certified Steel’</td>
</tr>
<tr>
<td>Keep it manageable</td>
<td>Focus on materials that are most closely associated with steel production and processing</td>
</tr>
<tr>
<td></td>
<td>Build on existing and recognised programmes for verifying supplier ESG performance</td>
</tr>
<tr>
<td></td>
<td>Potentially develop an online platform for managing supplier engagement</td>
</tr>
<tr>
<td>Make it relevant</td>
<td>Different requirements for extracted materials and for scrap to reflect the structural differences of the sectors</td>
</tr>
<tr>
<td></td>
<td>Requirements will be reviewed at least every 5 years, meaning they can be adjusted if they are not found to be effective or achievable</td>
</tr>
<tr>
<td>Be transparent and truthful</td>
<td>Communicate clearly what our responsible sourcing requirements entail and what participating steel sites have achieved to build trust with stakeholders and to avoid raising false expectations</td>
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<tr>
<td></td>
<td>The claims that certified entities can make, i.e. the messages they are allowed to use to communicate their certification, have to be proportionate to what has been achieved</td>
</tr>
</tbody>
</table>
References

In developing these draft requirements for responsible sourcing, we looked to other standards, guidance and sources for inspiration, data and information. For example:

- ASI Chain of Custody (CoC) Standard V2 – Guidance
- Bettercoal Code 2.0
- Bureau of International Recycling, World Steel Recycling in Figures 2016 – 2020
- CRAFT Code
- EMAS EU Eco-Management and Audit Scheme
- Follow-up to the Indonesian-Swiss country-led initiative to improve the effectiveness of the Basel Convention. Framework for the environmentally sound management of hazardous wastes and other wastes
- FSC Principles and Criteria for Forest Stewardship and International Generic Indicators
- IRMA Chain of Custody Standard for Responsibly Mined Materials (draft published for consultation)
- IRMA Standard for Responsible Mining
- ISO 14001:2015 Environmental management systems — Requirements with guidance for use
- ISO 20400:2017 Sustainable procurement – Guidance
- ISO 22095:2020(E) Chain of custody - General terminology and models
- ISO 26000:2010 Guidance on social responsibility
- ISO 37301:2018 Occupational health and safety management systems — Requirements with guidance for use
- ISO/IWA 19 (Guidance principles for the sustainable management of secondary metals)
- OECD Due Diligence Guidance for Responsible Business Conduct
- OECD-FAO Guidance for Responsible Agricultural Supply Chains
- R2 (Responsible Recycling practices for Use in Accredited Certifications Programs)
- RIOS (Recycling Industry Operating Standard)
- Sustainable Materials without the hot air, J. Allwood & J. Cullen, University of Cambridge, 2015
- The Commodity Trading Sector. Guidance on Implementing the UN Guiding Principles on Business and Human Rights
- Tools for Environmentally Sound Management (Bureau of International Recycling)
- Tools for Occupational Health and Safety Management (Bureau of International Recycling)
- TSM Protocols & Frameworks
- Worldsteel scrap factsheet and other information on scrap
Principle 8: Climate Change and Greenhouse Gas Emissions

Draft Version 3.0

1st July 2022
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Drafting notes

In this draft the guidance notes follow the relevant criteria and the associated requirements to which they refer, rather than preceding the requirements as in the previous draft. When the document is printed out the requirements are now on the left-hand side of a double-page spread (on pages with even page numbers), with the guidance notes facing on the right-hand side (on pages with odd page numbers).
Background

In November 2019, version 1.0 of the ResponsibleSteel Standard was approved and ratified by our membership and Board. The Standard is structured on 12 Principles with 370 associated requirements. Sites that are certified against the Standard are able to claim that their site is operated in a responsible manner, and can promote themselves using the ResponsibleSteel Certified Site logo. This is what we call ‘Certified Site’. The 12 Principles for ‘Certified Site’ are shown on the following figure:

In June 2021, ResponsibleSteel members voted on some amendments to version 1.0 relating to Principle 8, resulting in the adoption of version 1.1.

The first version of the ResponsibleSteel Standard includes some requirements for the sourcing of input materials (then referred to as raw materials) under Criteria 1.1 and 2.2. The input materials requirements ask for a high-level commitment to responsible sourcing and for evidence that this commitment is being implemented. However, the requirements do not provide incentives for steel companies and their suppliers to work towards high levels of ESG performance in their supply chains.

The Standard also specifies requirements under Principle 8 in relation to greenhouse gas (GHG) emissions. Principle 8 requires company- as well as site-level strategies, plans and targets to be in place for the reduction of GHG emissions, aligned with the goals of The Paris Agreement\(^1\). However, it does not set performance thresholds for the level of GHG emissions from the site.

The ResponsibleSteel membership and Board agreed in 2019 that additional requirements in relation to these two critical issues – the responsible sourcing of input materials, and performance thresholds for GHG emissions – would need to be met in order for sites to market their steel as ResponsibleSteel certified steel – referred to as ‘Certified Steel’.

The process for developing these additional requirements started in 2020 with preliminary proposals presented to the membership and Board for review and comment. Fully developed sets of draft proposals were published for a formal 60-day public stakeholder consultation in August and September 2020. All comments were reviewed by the ResponsibleSteel Secretariat and revised draft proposals were published for a second 60-day public stakeholder consultation in April 2021.

Between June and December 2021 the ResponsibleSteel Secretariat reviewed the comments received from the second public stakeholder consultation, and engaged in detailed discussions with the ResponsibleSteel membership to develop the draft proposals further. Consultations continued through to 30 March 2022, and draft 2.2 of the requirements were circulated to the ResponsibleSteel membership for review and comment.

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from 1st April through to 27th May 2022. This draft 3.0 incorporates proposed changes in response to that feedback, and is now subject to the ResponsibleSteel Board’s agreement that the ResponsibleSteel Standard Development Procedures have been followed and the Terms of Reference for the Standard have been met. Once this is in place, the proposed requirements will be voted on by the business and civil society members of ResponsibleSteel.

If approved, these additional requirements for ‘Certified Steel’ will be combined with the current ResponsibleSteel Standard Version 1.1, which will then be re-issued as the ResponsibleSteel Standard Version 2.0. The new requirements for GHG emissions will be added to the current Principle 8. The new requirements for the responsible sourcing of input materials will be incorporated as a new Principle 3. In consequence, the current Principles 3 to 12 will be renumbered 4 to 13, as shown below:

Terms and key concepts for which additional definitions have been provided here will be incorporated into the existing Glossary, which can be found on the ResponsibleSteel website. Its use is mandatory and ensures consistent understanding and interpretation of key terms and concepts.

Once approved, the new ResponsibleSteel Standard Version 2.0 will be the basis for both ‘Certified Site’ and ‘Certified Steel’ certification. For ‘Certified Site’, the existing 12 Principles must be met. For ‘Certified Steel’, the additional requirements specified in the new Principle 3 (Responsible Sourcing of Input Materials), together with the requirements specified in the renumbered Principle 10 (Climate Change and GHG Emissions), will have to be met in addition. These additional requirements for ‘Certified Steel’ will be clearly marked in the new Standard version.

ResponsibleSteel intends to include a 12-month ‘test phase’ for certain areas of the new requirements where testing seems important to ensure that the requirements are fit for purpose. The areas that will be covered by the 12-month test phase are marked accordingly in this document. If the test phase shows that changes are necessary, additional stakeholder consultation on those requirements will be conducted. Where these changes are deemed significant, they will be subject to membership voting.

‘Certified Steel’ certificates will still be issued during the test phase and will be valid for three years, which is the usual duration of ResponsibleSteel certificates. If significant changes are made to the requirements following the test phase, sites that have already been certified will be granted a transition period to meet any revised requirements. The existing ResponsibleSteel Standard is scheduled for a formal review in 2023. The new requirements for responsible sourcing and GHG will be reviewed at the same time to align future review cycles.

The proposed requirements specify four performance levels – referred to as ‘level 1’, ‘level 2’, ‘level 3’ and ‘level 4’, for both GHG emissions performance, and for progress on the responsible sourcing of input materials. These performance levels are designed to allow downstream users and specifiers to distinguish between products depending on the GHG emissions intensity of the crude steel from which they are produced and
depending on the ESG performance of suppliers to steel companies. Level 1 is the ‘entry’ level, Level 4 the hardest to obtain.

**Stainless and high alloy steels**

The GHG emissions intensity performance levels and thresholds specified in this Standard are based on data for carbon steels. Sites producing high alloy or stainless steels are likely to have significantly greater GHG emissions intensities compared to carbon steels, due to the relatively high embodied GHG emissions associated with the extraction and processing of ferro alloys and non-ferrous metals they contain.

Technical specifications and GHG emissions intensity performance thresholds for specific application to the ResponsibleSteel certification of high alloy steels (including stainless steels) are subject to ongoing discussion with stakeholders. Technical specifications and performance levels will be developed following the ResponsibleSteel Standard Development Procedures and will be submitted for member approval once finalised.

This Standard can be used by sites producing high alloy and stainless steels, either exclusively or together with lower alloy steels, but pending finalisation of the applicable technical specifications and performance levels it will not be permitted to market or sell high alloy or stainless steels produced at such sites as ResponsibleSteel certified.

**Next steps**

Once the requirements for ‘Certified Steel’ have been approved, ResponsibleSteel will focus on developing the requirements to include downstream supply chains in the ResponsibleSteel certification programme through the development of a downstream ‘chain of custody’ standard, together with the requirements for claims that may be made in relation to ResponsibleSteel ‘Certified Steel’ and ‘Certified Sites’.

Steel sites that achieve ‘Certified Steel’ certification are required to follow ResponsibleSteel guidance regarding claims, logos and labels. This guidance on claims, logos and labels is under development and will be subject to consultation with ResponsibleSteel members. Until this time, no claims regarding ResponsibleSteel ‘Certified Steel’ may be made.

If you have any questions, please contact: assurance@responsiblesteel.org
Principle 8\textsuperscript{2}. Climate Change and Greenhouse Gas Emissions

Objective:
The corporate owners of ResponsibleSteel certified sites are committed to achieving the goals of the Paris Agreement. The actions needed to achieve these goals are being implemented at corporate and site levels in line with ambitious targets to greenhouse gas (GHG) emission reduction targets. Sites measure and disclose their GHG emissions. Sites producing crude steel determine the GHG emissions intensity for its production on an internationally consistent basis including their direct (Scope 1), indirect (Scope 2) and upstream indirect (Scope 3) emissions associated with the extraction, processing and transportation of input materials. The GHG emissions intensity performance of sites producing crude steel is disclosed, allowing downstream users and specifiers of steel, policy makers and other stakeholders to support steelmakers in their efforts to reduce the GHG emissions of the steel sector through product specifications, purchasing commitments, financing and investment decisions, policy and other measures.

Background:
The United Nations recognises climate change caused by man-made emissions of greenhouse gases as the defining issue of our time, and its Sustainable Development Goal 13 urges countries to take urgent action to combat climate change and its impacts.

The steel industry, responsible for between 7% and 9% of direct GHG emissions from the global use of fossil fuel\textsuperscript{3}, has a critical role and responsibility both in relation to the reduction of GHG emissions associated with steelmaking, and in the supply of the materials that will be needed to achieve the transition to a net zero carbon economy.

The requirements of ResponsibleSteel Principle 8 are written to support the Paris Agreement of the parties to the United Nations Framework Convention on Climate Change. The agreement recognises the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge, and aims to strengthen the global response in the context of sustainable development and efforts to eradicate poverty, including by:

a. Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change

b. Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and

c. Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

The standard requires that companies that wish to benefit from ResponsibleSteel certification of their sites

\textsuperscript{2} The Climate Change and GHG Principle is numbered ‘8’ in this document, following the numbering in the existing ResponsibleSteel Standard and the numbering that has been used during the drafting process. The Principle and associated Criteria and Requirements will be renumbered as Principle 10 when the Standard is updated after the new requirements have been approved.

\textsuperscript{3} Steel’s contribution to a low carbon future and climate resilient societies - worldsteel position paper © World Steel Association 2019 ISBN 978-2-930069-83-8
must be able to demonstrate their commitment to the goals of the Paris Agreement through the development of science-based targets for the reduction of their greenhouse gas emissions. The public policy environment is critically important to steelmakers’ ability to achieve this objective, and requires that companies identify and then engage to achieve the necessary policy changes. Recognising the need for effective corporate leadership, the standard requires that companies implement the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

Long-term company level targets must be translated into specific targets and plans to reduce GHG emissions at the level of individual sites, and GHG emissions must be measured and monitored at site level to determine whether targets are being met.

Sites that wish to market or sell ResponsibleSteel certified steel must achieved a minimum threshold level of performance for the intensity of GHG emissions for the production of crude steel. The threshold level of performance is determined in accordance with internationally consistent GHG accounting rules which require that all significant greenhouse gases must be taken into account, including methane as well as CO₂. The GHG emissions associated with the extraction, transportation and processing of input materials must be included, as well as the site’s direct emissions and the indirect emissions associated with its energy use.

Of key importance, the standard defines GHG emissions intensity performance having taken account of the proportion of scrap that is used as input material, ensuring that it is globally applicable and does not simply divert the limited supply of scrap from one use or user to another, without achieving GHG emission reductions for the sector as a whole.

The standard defines and distinguishes between four levels of performance from a basic threshold for ResponsibleSteel certification (level 1) through to the production of ‘near zero’ steel (level 4), allowing steel users, specifiers and policy makers to design their own specifications, commitments and incentives to maximise the speed of the steel sector’s transition to the production of ‘near zero’ steel.

Finally, the standard requires that any ResponsibleSteel certified product must be accompanied with a declaration of its product carbon footprint, in accordance with existing standards. This allows downstream users to track the total embodied carbon associated with their use of steel at a project or company level, in line with their own net zero GHG emission targets.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Summary of Requirements</th>
<th>Must be met for ‘site certification’</th>
<th>Must be met to sell ‘certified steel’</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>* The corporate owner has published a science-based target to reduce the company’s GHG emissions in line with the achievement of the goals of the Paris Agreement</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8.2</td>
<td>* The corporate owner is implementing the recommendations of the Taskforce for Climate-Related Financial Disclosures (TCFD)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8.3</td>
<td>* GHG emissions are measured at the site level using a recognised international or regional standard</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8.4</td>
<td>* Site level GHG emissions are measured from ‘cradle to crude steel’ following internationally consistent scope boundaries and GHG accounting rules</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8.5</td>
<td>* GHG emissions reduction targets are in place and are being implemented at the site level</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
| 8.6       | * The site has achieved at least the ResponsibleSteel threshold level of performance for the GHG emissions intensity of its production of crude steel  
* The GHG emissions intensity performance for the site is disclosed, tracking progress towards ‘near zero’ GHG emissions  
* The product carbon footprint for all ResponsibleSteel certified products is determined and disclosed in line with a recognised international or regional standard | ✓ | ✓ |
| 8.7       | * Key site level information published on the ResponsibleSteel website, including:  
* Site level GHG emissions data and decarbonisation target  
* Site level GHG emissions intensity performance data and performance level  
* Product level carbon footprint data available to customers | Site level emissions & reduction targets only | ✓ |

**Figure 1. Summary of Principle 8 Requirements**
Criterion 8.1: Corporate commitment to achieve the goals of the Paris Agreement

The site’s corporate owner has defined and is implementing a long- and medium-term strategy to reduce its greenhouse gas (GHG) emissions to levels that are compatible with the achievement of the goals of the Paris Agreement, with an aspiration to achieve net-zero GHG emissions through work with policy makers and others.

8.1.1. The site’s corporate owner ascribes publicly to a credible, long-term emissions reduction pathway for the steel industry as a whole that is compatible with the achievement of the goals of the Paris Agreement, and which includes:

a. Explicit projections of long-term steel consumption;

b. Explicit projections for the production and use of primary as well as scrap steel, and the associated GHG emissions; and

c. Explicit assumptions in relation to the public policy and other key conditions on which it is based.

8.1.2. The site’s corporate owner has defined and made public both a long-term emissions reduction pathway and a medium-term, quantitative, science-based GHG emissions target or set of targets for the corporation as a whole. The corporation’s emissions reduction pathway and medium-term target(s) are compatible with the long-term emissions reduction pathway it ascribes to for the steel industry, and the projections for the production of primary as well as scrap steel as applicable to its own portfolio of sites.

8.1.3. The site’s corporate owner has a credible, documented strategy for the achievement of its corporate level GHG emissions target(s), outlining the timeline for change across its portfolio of sites and identifying the conditions that would need to be in place for the successful implementation of the strategy, and the specific actions, including policy engagement, it is committed to take to help bring these conditions about.

8.1.4 The corporate owner reviews the implementation of its strategy on a regular basis, documents the findings of the review, and updates the strategy to take account of the review’s findings.

8.1.5 The review shows that the corporate owner is implementing its strategy effectively over time.
Guidance
(8.1.1) An emissions reduction pathway for the steel industry that is compatible with the goals of the Paris Agreement is one which limits the global average temperature to well below 2°C above pre-industrial levels and supports efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

(8.1.1) Long-term in this context means a time horizon of 15 to 35 years.

(8.1.2) Medium-term in this context means a time horizon between 5 and 15 years from the present time.

(8.1.1, 8.1.2) Medium- or long-term refers to the time measured from the start of the relevant implementation period. For example, a ten-year (medium-term) target set seven years ago is still valid even if it has only three years still to run. However, if a medium-term target expires during the period of validity of a certificate, this would create a non-conformity with the requirement of the standard unless it is replaced by an updated medium-term target.

(8.1.2) A technically justified and publicly accessible 2050 net zero emissions target supported by a medium- and long-term transition pathway for the company would be sufficient to meet the requirements of 8.1.2. A science-based target (SBT) validated by the SBTi (Science Based Targets initiative) would be sufficient to meet the medium-term requirements of 8.1.2. Other quantitative, scientifically justified targets (or sets of targets, for example for separate processes) may also be recognised, as long as the ambition, quality and coverage of the target is comparable.

(8.1.3) Specific actions may also include investments at the corporate or site levels, R&D, building of pilot facilities to develop, test and scale up new technologies, proposition to seek funding through ‘green bonds’, general commitments to upgrade sites over a period of time, supply chain collaborations, etc.
Criterion 8.2: Corporate Climate-Related Financial Disclosure

The site’s corporate owner is implementing the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

8.2.1. The site’s corporate owner has allocated responsibility for oversight of climate-related risk and opportunity to at least one board committee, with an understanding that material climate-related risks and opportunities that impact business strategy will need to be discussed at the full board level.

8.2.2. The site’s corporate owner has a documented commitment in place to implement the core recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) according to its four pillars - Governance, Strategy, Risk Management, and Metrics and Targets - in accordance with applicable TCFD guidance, within three years of the date of application for the site’s certification.
Guidance

Implementation in accordance with applicable TCFD guidance requires that the corporate owner makes the recommended disclosures associated with the four core recommendations. For detailed guidance see:


  This 2021 “Annex” provides both general and sector-specific guidance on implementing the Task Force’s disclosure recommendations. It updates and supersedes the 2017 version of Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures. Updates reflect the evolution of disclosure practices, approaches, and user needs.


The ResponsibleSteel period of certification is three years. Corporations which have not implemented the TCFD recommendations within three years of the date on which their first site achieved certification would not be issued with any further certificates until the TCFD recommendations have been implemented. The failure would also jeopardise the maintenance of any certificates previously issued to the corporate owner.
Criterion 8.3: Determination of GHG emissions for the purpose of site level GHG emissions reduction targets and planning

The site measures and records key aspects of its GHG emissions in accordance with a recognised international or regional standard.

8.3.1. The total direct GHG (CO₂ e) or CO₂ emissions for the site are measured, recorded and verified in accordance with the requirements of an applicable, recognised international and/or regional standard.

8.3.2. There is a system in place to estimate the total GHG emissions (CO₂ e) associated with the generation of electricity, heat and steam imported to the site from outside the site boundary.

8.3.3. There is a system in place to estimate the total GHG emissions (CO₂ e) associated with materials imported to the site from outside the site boundary.

8.3.4. For sites that produce crude steel, the GHG emissions intensity for the crude steel produced (metric tonnes of CO₂ e/metric tonne crude steel) is calculated in accordance with the requirements of an applicable, recognised international and/or regional standard.
Guidance

(8.3.1) 8.3.1 refers to the direct (Scope 1) GHG emissions of the site (see glossary)

(8.3.1) ResponsibleSteel currently recognises the following international or regional standards for this purpose:

- The GHG Protocol and EN 19694 (parts as applicable) for measurement of GHG emissions by steelmaking and other sites.
- ISO 14404 (parts as applicable) for the measurement of CO₂ emissions by steelmaking sites, as applicable.

(8.3.2) 8.3.2 refers to the energy indirect (Scope 2) GHG emissions of the site (see glossary)

(8.3.3) 8.3.3 refers to the upstream indirect (Scope 3) GHG emissions of the site (see glossary)

(8.3.3) The system to assess upstream emissions should include a screening of imported materials to identify those that may be associated with significant GHG emissions such as mined materials or hydrogen where relevant.

(8.3.3) The site must provide an explanation of the basis for the calculation, including a listing of the input materials that have been included and excluded from the calculation, and the use of primary data, emission factors or other secondary data where used.

(8.3.3) As a minimum, the site must consider the GHG emissions associated with the materials listed in Annex 1 of this Standard where used (from ISO 14404-1:2013 Table 2 and ISO 14404-2:2013 Table 2) and other materials that may be associated with significant GHG emissions. A material’s GHG emissions are not considered to be significant if there is evidence that they are likely to constitute less than 5% of the total GHG emissions associated with all of the materials imported to the site from outside the site boundary.

(8.3.3) The estimate may make use of emission factors such as those referenced in ISO14404 or from other secondary sources where no other reliable data are available. Where such secondary data or emission factors are used, these data must be referenced in the public report specified in 8.7.1 below. More resources should be committed to estimating the more significant sources of emissions, for example through the collection of primary emissions data from suppliers.

(8.3.3 & 8.3.4) In cases where direct reduced iron (DRI), granulated pig iron (GPI), hot briquetted iron (HBI), pig iron or steel (other than scrap metal itself) is imported to the site from upstream sites, the associated GHG emissions must be accounted for using primary data specific to the input material’s site of production if this is available. If primary data is not available the default upstream emission factors for the category of input material as specified on the ResponsibleSteel website (see Annex 2, Table A1 of this standard for provisional values) may be used. The site must ensure that GHG emissions associated with imported iron or steel are clearly and explicitly included in the calculations of GHG emissions.
Criterion 8.4. Determination of site level GHG emissions for the purpose of reporting the GHG emissions intensity for the production of crude steel.

In order to market or sell its steel or other products as ‘ResponsibleSteel certified’ the site measures and records key aspects of its GHG emissions in accordance with the specifications of this Criterion, in addition to the requirements of Criterion 8.3.

8.4.1 GHG emissions data — general requirements.

a. The determination of GHG emissions includes consideration of the emissions of carbon dioxide (CO₂), methane (CH₄), nitrogen trifluoride (NF₃), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆), using Global Warming Potential (GWP) values relative to CO₂ (CO₂e) with a 100-year time horizon as published in the most recently published IPCC Assessment Report.

b. The unit of measurement for GHG emissions is tonnes CO₂ equivalent (CO₂ e).

c. The data for the determination of the GHG emissions intensity for crude steel production as specified in this Criterion 8.4 have been independently verified in accordance with the requirements of ISO 14064-3:2019, Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements, to either the ‘reasonable level of assurance’ or the ‘limited level of assurance’.
Guidance

Conformity with the requirements of Criterion 8.4 is mandatory for all sites that wish to market or sell products as ResponsibleSteel certified. Conformity is voluntary for other ResponsibleSteel certified sites.

The requirements of Criterion 8.4 differ in some respects from the requirements of other regional or international standards recognised by ResponsibleSteel in relation to Criterion 8.3. Where definitions or requirements specified in this Criterion conflict with the specifications of other international or regional standards adopted by the site, the definitions or requirements specified in this Criterion take precedence for the purposes of calculating the GHG emissions intensity for products that are to be marketed or sold as ResponsibleSteel certified (see Criterion 8.6 and Criterion 8.7).

Sites that plan to market or sell products as ResponsibleSteel certified in the future are recommended to align their systems for the determination and reporting of GHG emissions with the requirements of this Criterion as soon as possible.

Where companies or sites report GHG emissions results determined using different methodologies they should provide an accompanying explanation for any resulting differences in the reported figures.

(8.4.1.a) The GHGs listed in 8.4.1.a are as specified in the GHG Protocol (revised edition, 2015). The potential influence of all the listed GHGs must be considered. If an initial review shows that the potential influence of a particular GHG is not material (less than 0.5% of the direct (Scope 1) GHG emissions (CO₂e) for the site or less than 5% of the total embodied GHG emissions for a source of upstream indirect (Scope 3) GHG emissions then it is not required to include further consideration of that GHG in the determination of the site’s GHG emissions. The 100-year time horizon is used for consistency with most other GHG measurement methodologies and data. The potential to move to 20-year time horizons will be kept under review.

The GWP factors for the major greenhouse gases as specified in the most recent IPCC Assessment Report 6 (Table 7.SM.7) for 20-year and 100-year time horizons are as follows:

<table>
<thead>
<tr>
<th>species</th>
<th>GWP-20</th>
<th>GWP-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>carbon dioxide (CO₂)</td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>methane (CH₄)</td>
<td>81.2</td>
<td>27.9</td>
</tr>
<tr>
<td>nitrous oxide (N₂O)</td>
<td>273</td>
<td>273</td>
</tr>
</tbody>
</table>

GWP factors for other GHGs are listed in the IPCC Assessment Report 6 Table 7.SM.7.

(8.4.1.c) ISO 14064-3:2019 Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements defines two possible levels of assurance: verification at a ‘reasonable level of assurance’, and verification at a ‘limited level of assurance’. Verification must be provided at least at the ‘limited level of assurance’. Under 8.7.1 the site is required to report the level of assurance provided.

GHG accounting rules should be applied consistently with the aim to provide a true picture of the total annual GHG emissions for the production of steel. For example, emissions for material such as sinter produced on site might be allocated to steel production at the time the sinter is produced, or at the time the sinter is used for the production of steel. Whichever approach is adopted it must be applied consistently over time.
8.4.2 Scope boundaries

a. The scope boundary for the determination of the GHG emissions for the production of crude steel at the site includes:

- Direct (Scope 1) GHG emissions (see 8.4.3)
- Energy indirect (Scope 2) GHG emissions (see 8.4.4)
- Upstream indirect (Scope 3) GHG emissions (see 8.4.5), including GHG emissions associated with:
  - Material extraction
  - Material preparation and processing
  - Transportation

b. The end point of the scope boundary for the determination of the total GHG emissions for the production of crude steel, and therefore for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance, is the point at which crude steel is first produced. GHG emissions associated with further processing of the crude steel after casting (for example, hot rolling, cold rolling, coating) are not included for this purpose.

c. The scope boundary for the determination of the product carbon footprint for steel products, co-products and by-products exported from the site is defined in accordance with the applicable international or regional standard(s) used (see 8.6.4).

8.4.3 Direct (Scope 1) GHG emissions

a. The direct (Scope 1) GHG emissions for the site are measured, recorded and verified in accordance with the requirements of an applicable, recognised international and/or regional standard as specified in Criterion 8.3 and in accordance with the requirements of Criterion 8.4.6 for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site.

b. The determination of the site’s direct (scope 1) GHG emissions does not include carbon offsets or similar instruments.
Guidance

(8.4.2.b) Downstream indirect (Scope 3) GHG emissions outside the site boundary do not need to be considered, with the exception of emissions associated with the disposal of waste (see 8.4.6.e).

(8.4.2.b, 8.4.2.c) The end point of the scope boundary for the determination of the product carbon footprint for steel products, co-products and by-products exported from the site may be different to the end point of the scope boundary for the determination of the site’s ResponsibleSteel crude steel GHG emissions intensity performance. GHG emissions associated with the further processing of crude steel after first casting should be accounted for and recognised in the determination of the product’s product carbon footprint.

(8.4.3) The requirements of Criteria 8.4.6 and 8.4.7 apply to the determination of direct (Scope 1) GHG emissions. These requirements will differ in some respects from those of the regional or international standard adopted by the site for other purposes. In all cases, the requirements of Criterion 8.4.6 or 8.4.7 as applicable take precedence, for the purpose of determining the ResponsibleSteel crude steel GHG emissions intensity performance for the site, and for the purpose of determining the allocation of the site’s total GHG emissions to products, co-products and by-products, respectively.

(8.4.3.a) The direct (Scope 1) GHG emissions associated with the use of charcoal, bio-coal, bio-coke, other biological sources of carbon, used plastic, used tyres and waste/ reclaimed wood etc for iron- or steelmaking must be counted in full, as for all direct (Scope 1) GHG emissions.

(8.4.3.b) GHG offsets are not recognised for the purpose of determining the site’s GHG emissions intensity, in relation to its direct (Scope 1), energy indirect (Scope 2) or upstream indirect (Scope 3) GHG emissions. Likewise, carbon sequestration associated with land-use (e.g. forest management) whether on- or off-site, is not recognised for the purpose of determination of the site’s crude steel GHG emissions intensity. Carbon sequestration associated with biomass production is considered in 8.4.5.c, below. ResponsibleSteel recognises that the role of offsets will need to be considered in relation to definitions and standards for ‘net zero’ steel, and will consult with its membership and other stakeholders on these issues as required.

Glossary

Crude steel: Steel in the first solid state after melting, suitable for further processing or for sale. Synonymous with raw steel. (source: worldsteel)

NOTE: For the purpose of determining the ResponsibleSteel GHG emissions intensity for crude steel, the end point for measurement of the GHG emissions associated with crude steel production is measured at the point at which continuous casting or ingot casting has been completed, and prior to any further processing such as roughing or hot rolling.

The crude steel tonnage figure used to calculate the site’s crude steel GHG emissions intensity shall be the saleable tonnage, after quality control. Saleable tonnage may also be referred to as ‘financial tonnage’, or ‘net tonnage’. This is aligned with the definition of ‘crude steel’ as defined by worldsteel as being ‘suitable for further processing or for sale’. There may be some variation between sites, depending on their configuration, as to the exact point at which saleable tonnage is measured. In all cases the earliest point of measurement is preferred.
8.4.4 Energy indirect (Scope 2) GHG emissions

Energy indirect (Scope 2) GHG emissions are determined in accordance with the requirements of an applicable, recognised international and/or regional standard as specified in Criterion 8.3 and with the following requirements:

a. Imported electricity

- GHG emissions for imported electricity are quantified in accordance with the requirements of ISO 14064-1:2018 Annex E.2 Treatment of imported electricity, using the emission factor that best characterises the pertinent grid, i.e. dedicated transmission line, local, regional or national grid-average emission factor.
- Grid-average emission factors are from the emissions year being reported, if available, or the most recent year if not. Grid-average emissions factors for imported consumed electricity are based on the average consumption mix of the grid from which the electricity is consumed.
- The determination of energy indirect (Scope 2) GHG emissions may be based on the use of renewable energy certificates, power purchase agreements, virtual power purchase agreements, or green tariffs paid in relation to the site's sourcing of electricity where these meet the requirements of ISO 14064-1:2018 E.2.2 Additional information.
- **Imported electricity that is used upstream of the production of crude steel at the site and that has been generated from the use of the process gases for production of crude steel at the site is excluded from the determination of the site’s energy indirect (Scope 2) GHG emissions for the purpose of determining the ResponsibleSteel crude steel GHG emissions intensity for the site.**

b. Heating, cooling and steam

- GHG emissions for imported energy other than electricity are quantified using a source-specific emission factor.
- GHG emission factors are from the emissions year being reported, if available, or the most recent year if not. Average emission factors for imported energy are based on the average consumption mix of the energy generator.
Guidance:

(8.4.4.a) The exclusion of imported electricity generated from the use of the site’s process gases and used upstream of the production of crude steel is excluded ensures that the utilisation of process gas for power generation is recognised even if the energy is generated off site and is re-imported. See 8.4.7.d.i for further details on the GHG accounting of process gas used for power generation.

Glossary:

**Direct (Scope 1) GHG emissions:** GHG emissions that result from sources within the site boundary.

Note 1. A GHG source is any physical unit or process that releases GHG into the atmosphere

Note 2. Direct (Scope 1) GHG emissions can include the CO₂ emissions from fuel consumption within the site boundary.

(Adapted from Scope 1 definition for an organisation, applied to the site. From GRI Standards, GRI 305: Emissions. Global Sustainability Standards Board, 2016).

**Energy indirect (Scope 2) GHG emissions:** GHG emissions that occur outside of the site boundary and that result from the generation of purchased or acquired electricity, heating, cooling and steam consumed by the site.

(Adapted from Scope 2 definition for an organisation, applied to the site. Source GRI Standards, GRI 305: Emissions. Global Sustainability Standards Board, 2016).

**Upstream indirect (Scope 3) GHG emissions:** GHG emissions associated with the activities of the site that occur outside of the site boundary and upstream of its activities.

**Downstream indirect (Scope 3) GHG emissions:** GHG emissions associated with the activities of the site that occur outside of the site boundary and downstream of its activities.
8.4.5 Upstream indirect (Scope 3) GHG emissions

The upstream indirect (Scope 3) GHG emissions of the site are determined in accordance with the following requirements.

a. The determination of the upstream indirect (Scope 3) GHG emissions of the site includes the direct (Scope 1), energy indirect (Scope 2), and upstream indirect (Scope 3) GHG emissions from ‘cradle to gate’ for the following input materials, if applicable:

- **Ferrous containing materials**: cold iron, direct reduced iron (DRI), granulated pig iron (GPI), hot briquetted iron (HBI), iron ore, pellets, scrap, sinter, steel slab
- **Auxiliary materials**: argon, burnt dolomite, burnt lime, crude dolomite, limestone, nitrogen, oxygen
- **Alloys and metallic additives**: aluminium, copper, ferro-chromium, ferro-manganese, ferro-molybdenum, ferro-nickel, ferro-silicon, ferro-vanadium, lead, magnesium, manganese, molybdenum oxide, nickel metal, nickel oxides, nickel pig iron, silico-manganese, silicon metal, tin metal
- **Solid fuels**: charcoal, bio-coke, biomass, coal, coke, petroleum coke, used plastic, used tires
- **Liquid fuels**: heavy oil, kerosene, light oil, liquified petroleum gas (LPG)
- **Gas fuels**: hydrogen, natural gas, biogas
- **Other input materials for steelmaking**: other inputs that are assessed as likely to contribute more than 5% to the total upstream (Scope 3) GHG emissions of steelmaking at the site.
Embodied GHG emissions: the GHG emissions associated with a product's life cycle, including the emissions associated with raw material extraction, transportation, raw material processing, and product manufacturing, reported per functional unit. The term is synonymous with the term embodied carbon (cf), but preferred in this Standard in relation to the determination of the embodied GHG emissions for input materials used for steelmaking: 1) to emphasise that the determination is not limited to the consideration of CO$_2$ and includes GHGs such as methane, and 2) to avoid confusion in relation to the carbon contained in a product such as charcoal, bio-coke, metallurgical coal or anthracite that may be emitted when the material is used in steelmaking.

Embodied GHG value: the value of the embodied GHG emissions of an input material in terms of the CO$_2$e per unit.

NOTE: the embodied GHG values referenced by ResponsibleSteel differ from the ‘upstream emission factors (Scope 1, Scope 3)’ referenced in the worldsteel CO2 Data Collection methodology in that the ResponsibleSteel embodied GHG values include consideration of GHGs other than CO$_2$, and also include consideration of the GHG emissions associated with the extraction and transportation of the input materials.

NOTE: the embodied GHG value is not the same as the ‘direct emission factors’ referred to in ISO 14404. Direct emission factors are an estimate of the CO$_2$ or CO$_2$e emitted to the atmosphere when an input material containing carbon is used for the production of steel. In contrast, the embodied GHG value is an estimate of the ‘cradle to gate’ GHG emissions associated with the production of the input material prior to its use in iron and steelmaking.

Embodied carbon (cf embodied GHG emissions): GHG emissions associated with a product’s life cycle, including at least the emissions associated with raw material extraction, transportation, raw material processing, and product manufacturing, reported per functional unit.
b. The determination of the upstream indirect (Scope 3) GHG emissions of the site uses:

i) Either, the current ResponsibleSteel default embodied GHG values as published by ResponsibleSteel on its website

ii) Or, primary data provided by the supplier that meets the requirements specified in 8.4.5.c, below.

c. The site uses primary data to determine the upstream indirect (Scope 3) GHG emissions of input materials provided by the supplier when the supplier has provided a declaration of the embodied GHG values associated with the input materials in conformity with the following specifications:

- The declared embodied GHG value is for the material supplied by the supplier and based on the supplier’s determination of its own GHG emissions in conformity with the requirements of a ResponsibleSteel-recognised international standard
- The declared embodied GHG value includes an estimation of the direct (Scope 1), energy indirect (Scope 2), and upstream indirect (Scope 3) GHG emissions of the supplied input material from the original source (‘cradle’) to the point of sale
- The declared embodied GHG value is exclusive of any carbon offsets
- The declared embodied GHG value conforms with any ResponsibleSteel guidance provided for the specific material (see guidance notes)
- The declaration of the embodied GHG value includes reference to the international standard that was used as the basis for the determination, the date on which the determination was made, whether the determination has been independently assured and if so the level of assurance for the determination.

d. The site includes an estimation of the GHG emissions associated with the transportation of the input materials from the point of purchase to the site.

e. The site’s upstream indirect (Scope 3) GHG emissions are reduced pro rata if imported materials whose GHG emissions have been included in the determination of the GHG emissions for the production of crude steel at the site are subsequently exported from the site before such use.

**DRAFTING NOTE:** Provisional default embodied GHG values are given in Annex 2, Table A1. Table A1 will be published on the ResponsibleSteel website when the Standard is approved, and will then be updated as GHG emissions for the production of input materials decrease over time, and/or as more reliable data become available. The default embodied GHG values as published on the ResponsibleSteel website must be used for the purpose of certification assessment. The website reference will be included in the final version of the Standard on publication.
Guidance

(8.4.5.b) the embodied GHG values referenced by ResponsibleSteel differ from the ‘upstream emission factors (Scope 1, Scope 3)’ referenced in the worldsteel CO2 Data Collection methodology in that the ResponsibleSteel embodied GHG values include consideration of GHGs other than CO2, and also include consideration of the GHG emissions associated with the extraction and transportation of the input materials. The embodied GHG value also differs from the ‘direct emission factors’ referred to in ISO 14404. Direct emission factors are an estimate of the CO2 or CO2e emitted to the atmosphere when an input material containing carbon is used for the production of steel. In contrast, the embodied GHG value is an estimate of the upstream ‘cradle to gate’ GHG emissions associated with the production of the input material prior to its use.

(8.4.5.b) Non-ferrous metals and ferro-alloys

A default value equivalent to the ResponsibleSteel level 1 performance threshold value for the primary production of steel from iron ore (currently 2.8 tonnes CO2e/tonne crude steel) shall be used as a replacement value for the determination of the upstream indirect (Scope 3) GHG emissions for all non-ferrous metal and ferro-alloy additives, as specified in Table A1. If primary data shows that the upstream embodied GHG value for a non-ferrous metal or ferro-alloy is higher than the replacement value, the replacement value shall still be used. If primary data shows that the upstream embodied GHG value for a non-ferrous metal or ferro-alloy is lower than the replacement value, the lower value may be used. See Guidance to 8.6.4.c for an explanation.

The requirements of 8.4.5.b in relation to the use of ‘replacement’ values for the determination of the upstream indirect (Scope 3) GHG emissions for all non-ferrous metal and ferro-alloy additives are earmarked for review during the 12-month test phase.

(8.4.5.b) Except as specified above in the case of non-ferrous metals and ferro-alloys, when the steelmaker has received primary data from a supplier for the embodied GHG value for the supplied input material the steelmaker must use these data for the determination of its upstream indirect (Scope 3) GHG emissions and may not use the default embodied GHG value for the material even if the default value is lower.

(8.4.5.b) If a steelmaker has primary data provided by some but not all suppliers, primary data must be used for the proportion of the material for which primary data is available, and default embodied GHG values must be used for the proportion of the material for which primary data is not available.

(8.4.5.c) For the different categories of upstream indirect (Scope 3) GHG emissions see: Corporate Value Chain (Scope 3) Accounting and Reporting Standard: Supplement to the GHG Protocol Corporate Accounting and Reporting Standard, GHG Protocol, 2011. The eight categories of upstream indirect (Scope 3) emissions are: 1. Purchased goods and services; 2. Capital goods; 3. Fuel- and energy-related activities (not included in direct (Scope 1) or energy indirect (Scope 2) GHG emissions; 4. Upstream transportation and distribution; 5. Waste generated in operations; 6. Business travel; 7. Employee commuting; 8. Upstream leased assets. For steelmakers the key categories for indirect (Scope 3) GHG emissions considered in this standard are categories 1, 3, 4 and 5. For mining companies they are categories 1, 3 and 7.

(8.4.5.c) ResponsibleSteel-recognised international standards to support the determination of the embodied GHG values for input materials are currently:

(8.4.5.c) Supply specific primary data may be an average value for the embodied GHG of the specified material supplied by the company, or may be more specific. More specific data should be used where this is available.

(8.4.5.c) Data provided by a third party (e.g. company- or site-specific data listed on a third party database) may be used if it meets the requirements listed in 8.4.5.c and is explicitly confirmed by the company that produces the relevant material.

**8.4.5(c) Mined materials**

For mined materials the supplier’s estimate of its own upstream indirect (Scope 3) GHG emissions for the material must include consideration of GHG Protocol Scope 3 categories 1, 3 and 7:

1. Purchased goods and services
2. Fuel- and energy-related activities (not included in direct (Scope 1) or energy indirect (Scope 2) GHG emissions
3. Employee commuting.

**NOTE:** Category 7 includes the emissions associated with ‘fly-in fly-out’ working at mine sites.

Where a supplier of mined materials has previously determined the direct (Scope 1) and energy indirect (Scope 2) GHG emissions of the supplied input materials in accordance with a ResponsibleSteel recognised international standard, but has not yet included their upstream indirect (Scope 3) GHG emissions, an estimate of their upstream indirect (Scope 3) GHG emissions must be included in the total reported emissions. The estimate may be provisional.

Primary data may be provided as an average for the specified material for the supplying company, or it may be specific to the mine or a group of mines of origin, including, for example, mines within a defined geographical area such as a country.

ResponsibleSteel recommends that suppliers of mined materials/metal follow the recommendations of Santero and Hendry (2016) in relation to the partition of GHG emissions between different product streams or categories (Santero, N and Hendry, J. Harmonization of LCA methodologies for the metal and mining industry, _The International Journal of Life Cycle Assessment_ (2016) 21: 1543 – 1553). Independently verified data which applies another allocation methodology would be considered acceptable.

In the case of mine sites that are owned and/or operated by the steelmaker, the specifications for the determination of emissions associated with the extraction and transportation of input materials apply on the same basis as if the input materials were supplied by a third party.

**8.4.5(c) Natural gas, LNG**

Primary data for the supply of natural gas may be specific to the supplying company, to a country from which the gas is sourced, or to a more granular level where such data is available.
(8.4.5.c) Charcoal and other input materials of biological origin

The default upstream embodied GHG value for input materials from biological sources (including the GHG emissions related to land use, management, harvesting and processing of materials) is zero (see Annex 2, Table A1). These input materials may be assigned a negative upstream embodied GHG value (ie recognising the carbon sequestered during biological growth) only if the supplier provides primary data for the GHG emissions for the supplied material determined in accordance with either:

- PAS 2050:2011 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services

The determination must include explicit accounting for the GHG emissions associated with land use change and forest/agricultural management for at least 20 years prior to harvest, as well as the GHG emissions associated with harvesting and further processing and transportation of the input material.

(8.4.5.c) Scrap and post-consumer reclaimed material

The use of primary data is not applicable in the case of scrap and post-consumer reclaimed material, for which the default embodied GHG value of zero always applies.

(8.4.5.c, d) It is the responsibility of the purchaser to ensure that an estimate for the GHG emissions associated with transportation of the input material up to the point of delivery has been provided in accordance with the point of delivery specified in the purchase contract (e.g. free on rail at mine gate, free on board, or including carriage, insurance and freight). The purchaser is responsible for determining any additional estimated GHG emissions associated with further carriage of the material by the purchaser.

Estimates should consider the transportation distance, mass of material and the mode of transportation (road, rail, ship) and the related carrier type. Emissions may be estimated using LCA software such as GaBi by Sphera.

In the case of scrap and other recycled or reclaimed materials the GHG emissions associated with transportation should be estimated from the commercial collection point to the ResponsibleSteel certified site gate.
8.4.6 GHG emissions accounting rules for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site. This requirement is only applicable to sites that produce crude steel.

a. Carbon embedded in final products, co-products and by-products
Carbon that remains embedded within steel or other final products, co-products or by-products produced at the site and that is not emitted to the atmosphere through further processing or use is not included as a GHG emission for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site. See 8.4.7 for consideration of carbon capture and use or storage of process gases.

b. Allocation of GHG emissions to co-products and by-products
The GHG emissions associated with steelmaking are allocated in full to the site’s production of crude steel. There is no reduction of the ResponsibleSteel crude steel GHG emissions intensity for the site due to the allocation of GHG emissions to the production of steel by-products or co-products at the site (for example process gases, dust, sludge, chemicals, oils). See 8.4.7 for consideration of carbon capture and use or storage of process gases.

c. Allocation of emissions for exported intermediate products (‘merchant’ production)
Where a site produces and exports intermediate products such as coke, pig iron, GPI or industrial gases from the site, the GHG emissions associated with the production of the exported quantity of the intermediate products should be determined and be deducted from the total GHG emissions for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance of the site.

d. Energy use for on-site processing of crude steel
GHG emissions associated with the on- or off-site processing of crude steel are not included as emissions for the purpose of determining the ResponsibleSteel crude steel GHG emissions intensity performance of the site. The energy indirect (Scope 2) GHG emissions associated with the downstream processing of crude steel should be deducted from the total energy indirect (Scope 2) GHG emissions of the site for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site.

e. Emissions associated with waste or residual materials exported from the site
GHG emissions associated with the storage or disposal of waste or residual materials, whether on- or off-site, must be estimated and included as an emission for the purpose of determining the ResponsibleSteel crude steel GHG emissions intensity performance of the site.
Guidance

The site must follow the requirements specified in 8.4.6 for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site. Different GHG accounting rules may be applicable to the determination of the product carbon footprint for products manufactured at the site, in conformity with the specific standard the site has selected for this purpose under Requirement 8.6.4.

(8.4.6.a) Examples of carbon embedded in final products include the carbon in carbon steels, and carbon embedded in slag.

(8.4.6.b) The allocation of GHG emissions refers to the partition of GHG emissions between a range of products, co-products on or by-products. GHG emission credits for the capture and utilisation or storage of process gases are considered separately in 8.4.7.

(8.4.6.c) The deduction of GHG emissions for the export of intermediate products must be determined on the basis of the proportion of exported intermediate product by mass and is not related to the value of the intermediate product.
8.4.7. GHG emissions accounting rules for carbon capture and utilisation or storage (CCU/CCS) for process gases or their constituents

a. The site determines and records the direct (Scope 1) GHG emissions (\(\text{CO}_2\text{e}\)) associated with process gases (e.g., coke oven gas, blast furnace gas, basic oxygen furnace gas) that are emitted to the atmosphere or are flared under 8.4.3.

b. The site determines and records the GHG emissions (\(\text{CO}_2\text{e}\)) that would have resulted if process gases (e.g., coke oven gas, blast furnace gas, basic oxygen furnace gas) that are captured for utilisation, export or storage had instead been flared. This is referred to as the captured process gas baseline GHG emissions for the site.

c. The captured process gas baseline GHG emissions for the site are included in the determination of the total GHG emissions of the site for the purpose of reporting the GHG emissions intensity for the production of crude steel, minus any credits that are assigned for the subsequent utilisation or storage of the process gases, as specified in paragraphs 8.4.7.d) to 8.4.7.g) below.

d. Credit for the use of process gas for power generation

i. Where process gas is captured and subsequently utilised either on- or off-site for the generation of power the captured process gas baseline GHG emissions for the site is reduced by the allocation of a GHG emissions credit on the following basis:

   o The amount of power generated from the use of process gases is recorded in MWh (= A kWh).
   o If primary data for the amount of power generated is not available, it may be estimated using the current worldsteel default value for the amount of process gas required to generate 1000 MWh of power.
   o The amount of power used by the site upstream of crude steel production is recorded in MWh (= B MWh).
   o The amount of power used by the site upstream of crude steel production (B) is deducted from the total amount of power generated from the utilisation of process gases (A).
   o The site is allocated a GHG emissions credit equal to (A minus B) multiplied by the most recent global grid intensity (\(\text{CO}_2\text{e}/\text{MWh}\)) as determined by the IEA.

e. Credit for the re-use or recycling of process gas

i. Where process gases are captured and re-utilised either on- or off-site for purposes other than for the generation of power the captured process gas baseline GHG emissions for the site is reduced by the allocation of a GHG emissions credit on the following basis:

   o When process gas is used on-site, upstream of crude steel production its use reduces the site’s energy indirect (Scope 2) GHG emissions and/or its upstream (Scope 3) GHG emissions for its production of crude steel, and no further reduction of GHG emissions is applicable.
   o When process gas is used on- or off-site, downstream of crude steel production the site is allocated a GHG emissions credit equal to the GHG emissions that would have been generated through the use of natural gas for the same purposes.
Guidance

The requirements of 8.4.7 are earmarked for a 12-month test phase. Additional stakeholder consultation and membership voting on these requirements would be conducted if the test phase shows that changes are necessary. ResponsibleSteel certified steel certificates will still be issued during the test phase and will be valid for three years as normal.

(8.4.7) Process gases that are captured and subsequently utilised either on- or off-site, for example for the generation of electricity, as inputs for further production, for carbon capture and long-term storage, or for other uses are accounted for as described in this section of the Standard. The accounting for the GHG emissions associated with process gases from the production of steel follows the general approach of the worldsteel CO2 Data Collection methodology (worldsteel CO2 Data Collection, User Guide, version 10, 24 February 2021). In general terms:

- Process gases that are emitted to the atmosphere are accounted for as direct (Scope 1) emissions under 8.4.3.
- The GHG emissions that would have resulted from the release of the process gas to the atmosphere if the process gases were not captured is determined and used as a baseline (referred to as ‘Scope 1.1’ emissions in the worldsteel methodology)
- The baseline level of emissions is then reduced by assigning a ‘credit’ that recognises the system level reduction of GHG emissions from the utilisation or storage of these gases.

The intent is to incentivise actions and investments that reduce system level GHG emissions through their recognition in the ResponsibleSteel crude steel GHG emissions intensity performance measure. In the case of credits for energy generation, and credits for carbon capture and utilisation, the value of the credits will decrease over time as the global grid intensity and GHG emissions intensity for alternative production methods decreases.

(8.4.7.d.i) Credit for the use of process gas for power generation:

- Where electricity is generated on-site and used upstream of of the production of crude steel this results in a reduction of the quantity of imported energy, and a consequent reduction in the site’s upstream indirect (Scope 2) GHG emissions. Where electricity is generated from the use of the site’s process gases off-site and is re-imported, the upstream indirect (Scope 2) emissions for this imported energy is excluded from the determination of the site’s upstream indirect (Scope 2) GHG emissions under 8.4.4.a.
- The most up-to-date worldsteel default value must be used. As of June 2022 the worldsteel default value is that 9.8 GJ of process gas generates 1 MWh of power, equivalent to a 37% conversion efficiency.
- The GHG emissions credit associated with the production of crude steel must use the most recent global grid intensity as estimated by the IEA (https://www.iea.org/reports/tracking-power-2021). The most recent global grid intensity value in March 2022 is the value for 2020, which is 458 gCO₂/kWh.

(8.4.7.e) the internal re-use or recycling of process gases may have further advantages in terms of efficiency improvements (e.g. in relation to reduced reductant requirements), but these are considered to be sufficiently accounted for through general reductions in direct (Scope 1), indirect (Scope 2) and/or upstream indirect (Scope 3) GHG emissions, and are not considered separately.
f. Credit for the use of process gas for the production of co-products (carbon capture and utilisation, CCU)

i. Where process gases are captured and utilised either on- or off-site for the production of co-products the captured process gas baseline GHG emissions for the site is reduced by the allocation of a GHG emissions credit:

   A: on the basis of the net GHG emissions sequestered in an end product, and
   B: in accordance with the GHG emissions for the production of the co-product from process gas compared with the GHG emissions for the production of the same co-product using other production methods.

ii. GHG emissions reductions under A are determined as follows:

   o The full life cycle product carbon footprint for the co-product is determined and verified in accordance with the requirements of a specified international standard, including any direct (Scope 1) and indirect (Scope 2) GHG emissions associated with further processing, using a zero value for the embodied GHG emissions (ie upstream indirect (Scope 3) GHG emissions) for the process gas itself, and including downstream indirect (Scope 3) GHG emissions through to ultimate end of life disposal.
   o The product carbon footprint assessment report for the co-product is publicly available and references the international standard used for the assessment.
   o The captured process gas baseline GHG emissions for the site is reduced by the net amount of emissions that are determined to have been sequestered at the end of life of the co-product.

iii. GHG emissions reductions under B are determined as follows:

   o The GHG emissions for the production of the co-product are determined and verified in accordance with the requirements of a specified international standard for determining the product carbon footprint of the co-product from cradle to gate, using a zero value for the embodied GHG emissions for the process gas itself.
   o The global average GHG emissions for the production of a like product using other production methods has been determined and verified in accordance with the requirements of a specified international standard for determining the product carbon footprint of a product from cradle to gate.
   o The product carbon footprint assessment reports for the production of the co-product and for the production of the like product through other production methods are publicly available and reference the international standard used for the assessments.
   o The captured process gas baseline GHG emissions for the site is reduced by the amount of emissions saved by producing the co-product using process gases compared to producing it using other production methods.

iv. The captured process gas baseline GHG emissions for the site may be reduced by the GHG emissions reduction determined under A in addition to the GHG emissions reduction determined under B.

v. The maximum allowable reduction of the captured process gas baseline GHG emissions from A and B combined is equal to the direct (Scope 1) GHG emissions determined in 8.4.7.b above.
Guidance

(8.4.7.f) Examples of co-products that may be manufactured from captured process gases include: building materials such as concrete or carbonate aggregates; chemical intermediates such as methanol, formic acid or syngas; fuels such as aviation fuels, fuel ethanol or methane; food additives; polymers; carbon fibres; and other products.

(8.4.7.f.ii and iii) The site may select what it considers to be the most appropriate international standard for the purpose of determining the product carbon footprint as referred to in 8.4.7.f.ii and iii. The ResponsibleSteel standard does not specify which international standard is likely to be the most appropriate, but specifies that the report on the determination must be published and so be subject to public scrutiny.
g. Credit for carbon capture and storage (CCS) of process gas constituents

i. Where constituents of process gases are captured for permanent storage the captured process gas baseline GHG emissions for the site may be reduced as follows:
   - The direct (Scope 1) and energy indirect (Scope 2) GHG emissions associated with the operation of the carbon capture technology (e.g. direct (Scope 1) and energy indirect (Scope 2) GHG emissions associated with the energy for the compression of process gas constituents, and GHG emissions associated with the capture, transport and storage) must be estimated and included in the determination of the ResponsibleSteel crude steel GHG emissions intensity performance of the site.
   - The site must provide a public report that:
     - describes the technology used for storage
     - quantifies the GHG emissions that are claimed to be captured and stored permanently
     - justifies the claim that the captured emissions will be stored permanently
     - includes an explicit statement confirming that the leakage of the stored GHGs will be monitored, and that any leakage that is detected will be publicly reported by the site
   - The captured process gas baseline GHG emissions for the site is reduced by the amount of emissions that are claimed to be permanently captured minus any direct (Scope 1) and energy indirect (Scope 2) emissions associated with the carbon capture technology.

ii. In the event of subsequent leakage from the storage site the GHG emissions (CO$_2$e) associated with the leakage shall be attributed to the production of steel for the certified site in the year in which the leakage occurs.

8.4.78. Downstream indirect (Scope 3b) GHG emissions

Downstream life cycle considerations such as product GHG emissions in use and emissions associated with end-of-life disposal of products except as specified above are excluded from the calculation of the ResponsibleSteel crude steel GHG emissions intensity performance of the site.
**Guidance**

(8.4.7.g) Carbon capture and storage refers to the capture of constituents of process gases for permanent storage (for example in geological formations).

(8.4.7.g.i) Upstream indirect (Scope 3) emissions associated with the CCS project (including emissions associated with capital goods) are not included in the crude steel GHG emissions intensity determination.

**Glossary**

**Permanent storage:** permanent storage is defined as the expectation that the storage site is very likely to retain over 99% of the stored GHGs for over 100 years and likely to retain over 99% of the stored GHGs for over 1000 years. ‘Very likely’ is a probability of 90 to 99%. ‘Likely’ is a probability between 60 and 99%.

Criterion 8.5: Site-level GHG emissions reduction targets and planning

There is a medium-term GHG emissions reduction target and plan for the site that is aligned with the achievement of the corporate owner's corporate level GHG emissions target(s).

8.5.1. There is a time-specific, medium-term target for the reduction of the GHG emissions for the site or defined portfolio of sites that is at or below the trajectory required for the corporate owner to achieve the medium-term GHG emissions reduction target for all of its sites, as specified under requirement 8.1.2.

For steelmaking sites, the target is defined in terms of the GHG emissions intensity of crude steel production (metric tonnes of CO₂ equivalent/metric tonne crude steel).

8.5.2 There is a time-specific, medium-term target to reduce the net GHG emissions associated with the site's use of imported electricity, where the GHG emissions associated with the use of imported electricity are significant.
Guidance

(8.5.1) The site-level target must itself be below the average trajectory required to achieve the corporate owner’s overall corporate level target, OR, if this is not the case, the corporate owner must show that its whole portfolio of sites meets the requirements of 8.5.1 to 8.5.5, and so demonstrate that in combination its sites are on track to achieve its corporate level target.

(8.5.1) The site-level target is not required to include consideration of upstream indirect (Scope 3) GHG emissions, or measures for the reduction of the site’s upstream indirect (Scope 3) GHG emissions. However, sites which are planning in future to meet the requirements to market or sell their steel as ResponsibleSteel certified are recommended to consider measures for the reduction of their upstream indirect (Scope 3) GHG emissions at the earliest opportunity as the upstream indirect (Scope 3) GHG emissions will be included in the determination of the crude steel GHG emissions intensity performance for the site under the requirements of Criterion 8.4.

(8.5.1, 8.5.2) The medium-term plan should cover activities planned for the following five to fifteen years, in accordance with the site’s financial and operational planning cycle. Longer term planning is also compatible with this guidance, so long as the time-specific milestones provide for effective monitoring in the medium term.

(8.5.2) This requirement could be met, for example, through targets for: the purchase of electricity from low or zero carbon sources, renewable energy certificates, power purchase agreements, virtual power purchase agreements, or green tariffs paid in relation to the site's sourcing of electricity. GHG reductions achieved through the use of biofuels that do not meet recognised sustainability standards shall not be recognised as contributing to the achievement of the net GHG reduction targets associated with the use of imported electricity. Recognised sustainability standards for biofuels are currently limited to the voluntary schemes recognised as meeting the sustainability criteria of the European Union’s Renewable Energy Directive (EU) 2018/2001 (see list of approved Voluntary Schemes: https://energy.ec.europa.eu/topics/renewable-energy/biofuels/voluntary-schemes_en#approved-voluntary-schemes-and-national-certification-schemes).

(8.5.2) Where a site introduces a new technology that has a major impact on reducing its direct emissions but results in an increase in the amount of imported electricity, the baseline for reducing net emissions for the imported electricity is set when the new technology is introduced.

(8.5.2) GHG emissions associated with imported electricity are considered significant if they represent more than 10% of the site’s total (direct and indirect) GHG emissions.

(8.5.2) Where imported electricity is generated from the use of the site’s own co- or by-products (e.g., process gases) whose GHG emissions have already been accounted for under 8.5.1, the GHG emissions for this imported electricity are considered to be zero for the purpose of calculating net GHG emissions under 8.5.2.

(8.5.2) Low carbon energy procurement must be consistent with a specified, recognised international or national standard or regulation and must be publicly reported (see 8.7.1.b). Examples of recognised standards include:

- The quality criteria set in the GHG Protocol Scope 2 guidance
- The RE100 credible claims guidance.
8.5.3. There are plans in place, approved by senior management, to achieve the site’s GHG emissions target(s) within the specified timelines as defined in 8.5.1 and 8.5.2. The plans include:

a. Time-specific milestones for each target from present through to the achievement of the medium-term target levels;

b. Explicit quantification of the site’s reduction of direct GHG (CO\textsubscript{2} e) or CO\textsubscript{2} emissions required to achieve the target(s) specified under 8.5.1;

c. Specification of the international or regional standard that will be used to measure progress towards the target, and a description of the elements that are included or excluded from consideration (e.g., whether upstream indirect (Scope 3) GHG emissions are considered, and how any emissions associated with the site’s products, co-products, by-products or waste are to be taken into account);

d. Consideration of the technology, equipment, management system changes or other options to achieve the targets over time;

e. Consideration of the costs of installing any specified technology or equipment;

f. Consideration of the proposed mechanism for financing the proposed technology or equipment;

g. Consideration of external conditions that will need to be in place for the plan to be successfully implemented, or conditions that might prevent successful implementation.

8.5.4. Progress on the implementation of the plans is monitored and reported to the site’s board or equivalent oversight body on a regular basis, including an explanation of relevant issues such as changes to production in response to market conditions, closures for repairs or other significant factors, and the plans are updated if appropriate.

8.5.5 The medium-term targets for the site or defined portfolio of sites, as specified under requirements 8.5.1 and 8.5.2 and progress towards achieving these targets are reported publicly and on a regular basis.
Guidance

(8.5.3) The content of the site’s plans is considered to be commercially confidential and shall not be disclosed by ResponsibleSteel or any auditors acting to verify compliance with the requirements of the ResponsibleSteel standard. The specified medium- to long-term targets and progress towards their achievement would, however, be reported.

(8.5.5) The medium-term target is reported to the ResponsibleSteel Secretariat under Requirement 8.7.1.d for publication on the ResponsibleSteel website.
Criterion 8.6. Requirements to market or sell products as ResponsibleSteel certified

The site may only market or sell steel products, co-products or by-products as ResponsibleSteel certified when the following requirements are met.

Note: This Criterion is only applicable to sites that produce crude steel and that wish to market or sell their steel or other products as ResponsibleSteel certified.

8.6.1. Measurement of GHG emissions, crude steel production and scrap use

a. The site measures and records on a consistent basis:
   - its annual production of crude steel (saleable tonnes)
   - the quantity of iron and steel scrap and other scrap metals used in its annual production of crude steel (tonnes)
   - the GHG emissions (tonne CO₂ e) associated with its crude steel production in accordance with the requirements specified in Criterion 8.4 of this standard.

b. These data are collated and recorded for the site’s previous year of operation.

8.6.2 The site calculates and records the ResponsibleSteel crude steel GHG emissions intensity performance of the site in accordance with the equation:

\[
\text{ResponsibleSteel crude steel GHG emissions intensity performance (tonne CO₂ e/tonne) = total GHG emissions (tonne CO₂ e) for the previous year of operation / saleable tonnes of crude steel produced in the previous year of operation (tonne)}
\]
Guidance

(8.6.1.a) For the purpose of determining the ResponsibleSteel GHG emissions intensity for crude steel, crude steel production is measured at the point that continuous casting or ingot casting has been completed, and prior to any further processing such as roughing or hot rolling. ‘Tonnage’ means ‘saleable tonnage’ (see glossary: Crude steel).

(8.6.1.a) For the purpose of determining the ResponsibleSteel GHG emissions intensity for crude steel, the quantity of scrap used in the annual production of crude steel includes end of life scrap, manufacturing scrap and home scrap, but excludes internal scrap (see glossary). Crude steel that is rejected for quality reasons before the point at which the crude steel saleable tonnage is determined and which is returned to the steelmaking process is considered to be internal scrap. Metal waste that is generated after the point of measurement of crude steel saleable tonnage, and which is returned to the steelmaking process is considered to be home scrap.

Glossary

Scrap: iron, steel and other metal material in metallic form that is recovered in multiple life cycle stages, including steel production processes, the manufacturing processes of final products and the end of life of final products, and is recycled as a raw material for steel production.

(Source: ISO 20915: 2019(E) Life cycle inventory calculation methodology for steel products.)

NOTE: the definition of scrap has been extended in this standard to include other metals in addition to iron and steel scrap.

End of life scrap: scrap from after the end of life of final products

(Source: ISO 20915: 2019(E) Life cycle inventory calculation methodology for steel products.)

Home scrap: scrap from a downstream steel production process within the steelworks (e.g. rolling, coating) that is returned to steel making processes (e.g. BOF or EAF)

(Source: ISO 20915: 2019(E) Life cycle inventory calculation methodology for steel products.)

Internal scrap: scrap from a crude steel making unit process that is then recycled within the same unit process [e.g. basic oxygen furnace (BOF) or electric arc furnace (EAF)]

(Source: ISO 20915: 2019(E) Life cycle inventory calculation methodology for steel products.)

Manufacturing scrap: scrap from the manufacturing processes of final products, such as automobiles and buildings

(Source: ISO 20915: 2019(E) Life cycle inventory calculation methodology for steel products.)

(8.6.1.b) Site-specific data must be for a specified year of operation and be representative of current production. The year of operation may be defined as a calendar year, or in relation to a reporting year for the site. The completed year immediately prior to the audit shall be used as the default period, but if an earlier year is used this shall be reported and justified.
8.6.3. The site may only market and sell steel products produced at the site as being made with ResponsibleSteel certified steel when the requirements of this Requirement 8.6.3 and the following Requirement 8.6.4 have both been met:

a. The GHG emissions intensity of the crude steel produced at the site has been determined in accordance with the requirements of Criterion 8.3 and Criterion 8.4.

b. The GHG emissions intensity (metric tonnes of CO\textsubscript{2} equivalent/ metric tonne crude steel) of the crude steel produced at the site is below the ResponsibleSteel basic threshold level of performance as specified for in accordance with the formula:

\[
y < 2.8 - 2.45 (x)
\]

Where:

- \( y \) = the determined GHG emissions intensity for crude steel production (tonne CO\textsubscript{2} e/ tonne crude steel) at the site
- \( x \) = the proportion of scrap used as an input material for crude steel production at the site, specified as the percentage of the total metallics input
Guidance

(8.6.3.b) Mandatory Guidance:

The proportion of scrap used as an input material is specified as the percentage scrap share of the metallics input for crude steel production.

The proportion of scrap includes iron and steel scrap as well as other non-ferrous metal scrap used as an input for crude steel production.

NOTE: if scrap is the only input material, then the scrap input specified as the percentage share of the metallics input will be 100%. If the proportion of scrap were to be measured as a percentage of the saleable production of crude steel (qv), the proportion of scrap would be greater than 100%, as some metallic material is lost during processing, and so it takes more than 1 tonne of metal in scrap to produce 1 tonne of saleable production.

The determination of the total metallics input must include the contribution of non-ferrous metallics input from non-ferrous metals and ferro-alloys.

Glossary:

**Metallics input**: the total amount of metallics input to the steelmaking process, including the metallics input from secondary materials (ie. scrap metal) as well as from primary materials (ores, pellets, ferro-alloys, etc). The amount of metallics input is the mass of the metal atoms in the input materials.

NOTE: the metallics input includes non-ferrous metallics input from non-ferrous metals and ferro-alloys.

NOTE: the metallics input will be greater than the total saleable quantity of metal produced, as some metal is incorporated into slag and so lost as waste.
c. the ResponsibleSteel GHG emissions intensity for crude steel production (tonne CO\(_2\) e/ tonne crude steel) \(y\) has been verified as being below the applicable ResponsibleSteel performance threshold level for the proportion of scrap used at the site as input material \(x\), according to the values of \((a)\) and \((b)\) shown in the table below and the formula:

\[ y < a - b \times x \]

<table>
<thead>
<tr>
<th>ResponsibleSteel Basic Level 1 threshold</th>
<th>(a): ResponsibleSteel crude steel GHG emissions intensity performance using 0% scrap as input (tonne CO(_2) e/ tonne crude steel)</th>
<th>(b): gradient</th>
<th>ResponsibleSteel crude steel GHG emissions intensity performance using 100% scrap as input (tonne CO(_2) e/ tonne crude steel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ResponsibleSteel Performance Level 2 threshold</td>
<td>2.00</td>
<td>1.75</td>
<td>0.25</td>
</tr>
<tr>
<td>ResponsibleSteel Performance Level 3 threshold</td>
<td>1.20</td>
<td>1.05</td>
<td>0.15</td>
</tr>
<tr>
<td>ResponsibleSteel Performance Level 4 threshold</td>
<td>0.40</td>
<td>0.35</td>
<td>0.05</td>
</tr>
</tbody>
</table>

**Figure 1.** Illustration of the four performance levels for crude steel GHG emissions intensity.
Guidance

The specification of the ResponsibleSteel ‘basic threshold’ levels of performance has been subject to extensive discussions with the ResponsibleSteel membership and other stakeholders since 2018. The final threshold level is based on the scope boundaries and GHG accounting rules specified in Criterion 8.4. It has been specified taking account of: existing publicly accessible estimations on GHG emissions for steel production; site-specific data made available to ResponsibleSteel by its steelmaker member organisations, following both the worldsteel CO$_2$ data methodology and the worldsteel LCI methodology; site-specific data for approximately 300 steelmaking sites around the world modelled by the consultancy organisation CRU; and the crude steel GHG emissions intensity reference values determined by IEA for steel production using pulverised coal injection (PCI) and electric arc furnace (EAF) technologies in the IEA report ‘Achieving Net Zero Heavy Industry Sectors in G7 Members’ (May 2022).

Finally, the threshold for the ResponsibleSteel ‘near zero’ performance level 4 has been aligned with the IEA’s proposed threshold for ‘near zero emission production’ of steel, and the intermediate performance levels 2 and 3 have been aligned with the proposed IEA performance ranges.

Further information on how the ResponsibleSteel performance thresholds compare to other published estimates of the GHG emissions intensity for steel production and with performance measures that have been proposed by other organisations is provided in a separate ResponsibleSteel report (to be published in July 2022).

Review and revision of performance level thresholds

The specified levels and thresholds will be reviewed on a five-yearly basis and may be revised with the specific objective “to achieve the fastest global transition to a near zero steel sector”. The review will be carried out by ResponsibleSteel with the support of a working group of ResponsibleSteel members comprising equal numbers of business and civil society members, in accordance with a process to be agreed and overseen by the ResponsibleSteel board of directors.

The review will include consideration of:

i. Projections at the time for the sectoral transition required to achieve the goals of the Paris Agreement;

ii. Available data on the progress of the steel sector worldwide in reducing GHG emissions intensity for the production of crude steel;

iii. Projections for further reductions based on progress in the commercialization of new technologies, and public commitments by steelmakers worldwide;

iv. The status of demand side commitments to purchase/support ‘low GHG’/‘near zero’/‘net zero’ steel, including consideration of public procurement commitments, private sector commitments, finance sector commitments and relevant policies in relation to trade, carbon pricing, etc.

Revised thresholds, if agreed, will be applicable after a 2-year transition.
Sites producing high alloy and stainless steels

The performance levels and thresholds in 8.6.3.b and 8.6.3.c have been specified excluding sites specialising in the production of high alloy and stainless steels, and excluding the contribution of upstream indirect (Scope 3) GHG emissions associated with the use of non-ferrous metal and ferro-alloys. The performance levels and thresholds are therefore based on global performance for steel production excluding the GHG emissions associated with the use of non-ferrous metals in steelmaking.

Technical specifications and GHG emissions intensity performance thresholds applicable to the ResponsibleSteel certification of high alloy steels and stainless steels are subject to ongoing discussion with stakeholders. Technical specifications and performance levels will be developed following the ResponsibleSteel Standard Development Procedures and will be submitted for member approval once finalised.

Pending finalisation of technical specifications and GHG emissions intensity performance thresholds applicable to the ResponsibleSteel certification of high alloy steels and stainless steels a replacement value for the upstream indirect (Scope 3) GHG emissions for non-ferrous metals and ferro-alloy input materials shall be used for the determination of the upstream indirect (Scope 3) GHG emissions for the crude steel produced at the site. The replacement value is equivalent to the ResponsibleSteel level 1 performance threshold value for the primary production of steel from iron ore, as specified in Table A1. This is intended to have the effect of removing variability in the measurement of the GHG emissions intensity performance of a site related to variations in its use of non-ferrous metals and ferro-alloy input materials.

Sites producing stainless and high alloy steels may apply for certification under the current thresholds. If a site meets the specified performance threshold it may market and sell steels that are produced at the site and that contain less than 8% alloy content as ResponsibleSteel Certified Steel, in accordance with ResponsibleSteel claims guidance (forthcoming). However, sites are not permitted to market or sell steels that are produced at the site that contain more than 8% alloy content as ResponsibleSteel certified until the technical specifications and GHG intensity performance thresholds for high alloy and stainless steels have been finalised and approved.

Sites that produce both high alloy or stainless steels and lower alloy steels in different production lines, or through batch processing, and that are able to determine the GHG emissions intensities separately for crude steel production lines or batches, will in future be permitted to market steels with less than 8% alloy content as ResponsibleSteel certified in accordance with the level of performance achieved for the production line or batch, subject to the development of guidance by ResponsibleSteel on the application of this approach.

This approach is intended to allow sites that are producing a range of different steels to take part in the programme at the earliest opportunity. It ensures that high alloy steels are not marketed as ResponsibleSteel certified when a major part of their GHG emissions profile, associated with their use of non-ferrous metals and ferro-alloys, has not been subject to any evaluation or comparison. And finally, it ensures that high alloy steels produced at sites that specialise in producing high alloy steels only are not unfairly disadvantaged in comparison to similar steels produced at sites that produce high alloy steels together with lower alloy steels.
8.6.4 Determination of the product carbon footprint for steel products, co-products or by-products to be marketed or sold as ResponsibleSteel certified

a. The site determines the product carbon footprint for any steel product, co-product or by-product it wishes to market or sell as ResponsibleSteel certified, in conformity with the applicable requirements of specified regional or international standards for reporting the product carbon footprint.

b. The determination includes as a minimum the emissions of the products, co-products or by-products from ‘cradle to gate’ including emissions associated with raw material extraction, raw material processing, transportation and product manufacturing. Additional aspects (for example in relation to end of life emissions) may be determined, but if they are the emissions for these aspects must be clearly disaggregated from the ‘cradle to gate’ data.

Glossary:

**Embodied carbon (cf embodied GHG emissions):** GHG emissions associated with a product’s life cycle, including at least the emissions associated with raw material extraction, transportation, raw material processing, and product manufacturing, reported per functional unit.

**Product carbon footprint:** sum of GHG emissions and GHG removals in a product system, expressed as CO₂ equivalents and based on a life cycle assessment using the single impact category of climate change.

- **Note 1:** A product carbon footprint can be disaggregated into a set of figures identifying specific GHG emissions and GHG removals. A product carbon footprint can also be disaggregated into the stages of the life cycle.

- **Note 2:** The results of the quantification of the product carbon footprint are documented in the product carbon footprint study report, expressed in mass of CO₂e per functional unit.

(Source: adapted from ISO 14064:3 2019, 3.14 definition of ‘carbon footprint of product’)

Guidance

(8.6.4) The requirement allows for co-products to be sold as ResponsibleSteel certified if the site wishes. The standard requires that the product carbon footprint is determined and declared if the product/ co-product is to be marketed or sold as ResponsibleSteel certified. It is not a requirement when this is not the case.

NOTE: the determination and disclosure of the product carbon footprint is intended to ensure that GHG emissions associated with the processing of crude steel after its production are accounted for, and to provide customers with a full picture of the carbon footprint for the steel products they buy or specify.

A number of standards, methodologies and tools may be used to support the determination and reporting of the product carbon footprint, either as a unique attribute, or as one part of a broader assessment that considers other environmental aspects in addition to GHG emissions. These include:

Standards that focus specifically on the product carbon footprint:

- The GHG Protocol Product Life Cycle Accounting and Reporting Standard
- PAS 2050:2011 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services

Standards that cover a broader range of environmental aspects:

- EN 15804:2012 + A2:2019, Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products
- ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures
- ISO 20915:2018, Life cycle inventory calculation methodology for steel products
- ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of products and services.

Additional supporting tools and methodologies:

- EUROFER Methodology Report: Life Cycle Inventory on Stainless Steel Production in the EU, 2019
- The European Union Product Environmental Footprint (PEF) methodology (currently in transition phase of development)
- The CARES EPD Tool, for application to construction products
- The International Stainless Steel Federation (ISSF) Life Cycle Inventory / Analysis of Stainless Steel

(8.6.4) The rules of the applicable international or regional standard apply in relation to 8.6.4. ResponsibleSteel requirements (and in particular the requirements of Criterion 8.4) apply in relation to the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site. The respective GHG accounting rules applied by the site for the determination of the product carbon footprint may differ to those applied for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site. Sites and auditors must be mindful of such differences when preparing or verifying GHG emissions data for the different purposes of the determination of the product carbon footprint for specific product categories or for the determination of the ResponsibleSteel crude steel GHG emissions intensity performance for the site.
Criterion 8.7: GHG emissions disclosure and reporting

Key measures of the site’s GHG emissions performance are publicly disclosed.

8.7.1. The site has collated the following information for the site (or for each individual site within the defined portfolio of sites as specified in Criterion 8.5) for submission to the ResponsibleSteel Secretariat for publication on the ResponsibleSteel website:

a. The total GHG (CO₂ e) or CO₂ emissions for each site calculated in accordance with the requirements of Criterion 8.3 and in accordance with the specifications defined in Criterion 8.4 where these have been applied.

b. The basis for the determination of the total GHG emissions for each site, including:

i. The international or regional standard(s) used;

ii. Whether or not the determination has been prepared in conformity with the requirements specified in Criterion 8.4;

iii. Whether the determination includes the purchase of renewable energy certificates or similar mechanisms such as power purchase agreements, virtual power purchase agreements, or green tariffs paid in relation to the sourcing of the site’s electricity, and if so a description of the source and quantity of such certificates or agreements;

iv. A clear description of the scope boundary for the determination, including a clear description of which emissions associated with the extraction, preparation, processing and transportation of input materials have been included or excluded in the determination;

v. An explanation of the greenhouse gases that have been taken into account in the determination or, if only CO₂ emissions have been considered, a clear statement to this effect;

vi. The level of assurance provided by the verification body for the site’s determination of the reported GHG emissions, in accordance with the definitions and specifications for the level of assurance as specified in ISO 14064-3:2019 Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements.

vii. The date of the determination

viii. An explanation of variations in figures reported using different measurement standards if more than one standard has been used by the site and different figures have been reported as a result.

c. In the case of a portfolio of sites as specified in 8.5.1, in addition to the elements listed in 8.7.1a and 8.7.1b above:

i. the number of sites in the defined portfolio

ii. the names of the sites in the defined portfolio

iii. a consolidated summary of each of the elements listed in 8.7.1a to 8.7.1b, for the portfolio as a whole.

d. The time-specific medium-term targets for GHG emissions for the site or the defined portfolio of sites as determined to meet the requirements of 8.5.1 and 8.5.2.

Guidance
**Mandatory Guidance.** The certification body must provide the information listed in 8.7.1.a) to d) to the ResponsibleSteel Secretariat for review together with the public summary of its certification report, before a certification decision is taken.

ResponsibleSteel will publish a table on its website listing all the sites that are either ResponsibleSteel certified or that are included within a portfolio of sites as specified under Criterion 8.5. The table will be available to the public.

- In the case of sites that are certified on the basis of a medium-term target for GHG emissions for a single specific site under Criterion 8.5, the table will list the site-specific information specified in 8.7.1.a, b and d for each individual site.

- In the case of sites that are certified on the basis of a medium-term target for GHG emissions for a portfolio of sites under Criterion 8.5, the table will list the consolidated summary information for the portfolio of sites only, as specified in 8.7.1.c and d. When the publicly reported information is for a portfolio of sites this will be clearly stated in the table, and the individual site-specific information listed under 8.7.1.a and b will be held by ResponsibleSteel as confidential information.

The information specified in 8.7.1.a) to d) must be reviewed by the certification body at the time of the site’s surveillance visit and if the information has been revised the certification body must submit the updated information to the ResponsibleSteel Secretariat to update the table of public information as applicable.

(8.7.1) Each site within the portfolio must meet the requirements of Principle 8 individually in its own right, except as specified in relation to defining GHG targets across a portfolio of sites to meet the requirements of 8.5.1 and 8.5.2, the public reporting of information here under 8.7.1, and in relation to the public reporting of the average of the ResponsibleSteel crude steel GHG emissions intensity for the site under 8.7.2. Sites that are included in the portfolio under 8.5.1 but which are not themselves ResponsibleSteel certified are not required to be assessed or certified for conformity with the other Principles of the ResponsibleSteel Standard.

(8.7.1.b) ISO 14064-3:2019 Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements defines two possible levels of assurance: verification at a ‘reasonable level of assurance’, and verification at a ‘limited level of assurance’. Verification should preferably be provided at the reasonable level of assurance, but must be provided at least at the ‘limited level of assurance as defined in ISO 14064-3 (2019). Under this requirement the site is required to report the level of assurance provided for the verification of its GHG emissions data.
8.7.2. Crude steel GHG emissions intensity performance

**Note:** These requirements apply only to sites that produce crude steel and that wish to market or sell their steel or other products as ResponsibleSteel certified

a. The site has collated the following information for each site (including for individual sites in a group, if applicable, as specified under 8.7.2.b) for submission to the ResponsibleSteel Secretariat:

i. the name of the site

ii. the annual production of crude steel (saleable tonnes) for the site

iii. the proportion of scrap used as an input for crude steel production at the site (as determined in 8.6.1)

iv. the ResponsibleSteel crude steel GHG emissions intensity performance of the site (metric tonnes of CO$_2$ e/ metric tonne crude steel), as determined in conformity with the requirements of Criterion 8.4 and 8.6

v. the ResponsibleSteel crude steel GHG emissions intensity performance level (1, 2, 3 or 4) as specified in 8.6.3.c that has been achieved by the site

vi. The level of assurance provided by the verification body for the site’s determination of the reported GHG emissions, in accordance with the definitions and specifications for level or assurance specified in ISO 14064-3:2019 Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements.

vii. The date of the determination

viii. whether the crude steel GHG emissions intensity performance for the site will be reported publicly for the site individually, or as a weighted average with other sites.

b. In the case of a site that wishes to disclose its crude steel GHG emissions intensity performance as a weighted average of a group of sites, the site has collated the following information in addition to the elements listed in 8.7.2a, above:

i. the number of sites to be included in the group average

ii. the names of the sites to be included in the group average

iii. the name of the strategic business unit under which the sites are managed

iv. the type of steel produced by the sites (carbon and low alloy steels (<8% alloys and other elements); stainless steels (>10.5% chromium); high alloy steels (>=8% alloys and <10.5% chromium)

v. evidence demonstrating that the listed sites produce the same type of steel and are managed as a strategic business unit
Guidance

(8.7.2) Mandatory Guidance. The certification body must provide the information listed in 8.7.2.a) and b) for each site to the ResponsibleSteel Secretariat for review together with the public summary of its certification report, before a certification decision is taken.

If a certificate is issued the ResponsibleSteel Secretariat will publish the information listed under 8.7.2.a for the site, unless the site has specified that it wishes to disclose its crude steel GHG emissions intensity performance as a weighted average for a group of sites. The ResponsibleSteel crude steel GHG emissions intensity performance level for a group of sites may be published as a weighted average of the crude steel production volume (saleable tonnes) for each member of the group where:

i. All the sites within the group are managed within the same strategic business unit and produce the same type of steel (carbon and low alloy steels (<8% alloys and other elements); stainless steels (>10.5% chromium); or high alloy steels (>=8% alloys and <10.5% chromium)), and

ii. Each site within the group has itself achieved at least the ResponsibleSteel threshold level of performance (level 1)

(8.7.2.b.v) The steelmaker must be able to demonstrate that the sites within the group are managed as a strategic business unit (see glossary), meet customer orders through a collective production schedule and do not market their own products as separate entities.

(8.7.2.b) Sites within a group may use different steelmaking technologies, including for example EAF and BF/BOF sites within one group of sites reporting an averaged GHG emissions intensity for its crude steel production.

(8.7.2.b) When a site has chosen to report its ResponsibleSteel GHG emissions intensity performance and performance level to ResponsibleSteel as an average across a group of sites it may not report or claim a different site-specific ResponsibleSteel GHG emissions performance or performance level in any circumstances for other purposes. If this were to occur and be brought to the attention of ResponsibleSteel the site would be taken out of the group and the group average would be recalculated accordingly.

Publication of data by ResponsibleSteel

On the issue of a certificate the ResponsibleSteel Secretariat will add information about the crude steel GHG emissions intensity performance for each site to the table of certified sites published on the ResponsibleSteel website. In the case of sites that choose to report their crude steel GHG emissions intensity performance publicly for individual sites, the table will list the site-specific information specified in 8.7.1.a i) to vii) for the site. In the case of sites that have requested to report their crude steel GHG emissions intensity performance as an average across a group of sites, the table will list the average of the site-specific information specified in 8.7.1.a iii) and iv) weighted according to the quantity of crude steel (saleable tonnes) produced at each site in the group, together with the ResponsibleSteel crude steel GHG emissions intensity performance level (1, 2, 3 or 4) that has been achieved for the group of sites as a whole, based on the weighted average.

In the case of sites that choose to report their crude steel GHG emissions intensity performance as an average across a group of sites, this will be clearly stated in the table with the relevant information for the site as specified in 8.7.2.b.i – iii. The individual site-specific information specified in 8.7.2.a iii) and iv) will be held by ResponsibleSteel as confidential information.
8.7.3. The product carbon footprint for any product, co-product or by-product that is marketed or sold as ResponsibleSteel certified as determined in 8.6.4 is made publicly available, together with:

a. reference to the specific international or regional standard that has been used as the basis of the determination of the product carbon footprint for the product, co-product or by-product

b. the declaration of the ResponsibleSteel crude steel GHG emissions intensity performance level (1, 2, 3 or 4) for the crude steel the product is made from, where applicable.
Guidance

(8.7.3) See Glossary for definition of ‘public/ publication’:

Public/ publication: This means that information is either accessible by the public (e.g. through information published on the site’s website or through information published on a regulatory website) or that information could be accessed through legal public means (e.g. through information requests to regulators).

In the case of the product carbon footprint the information should be readily accessible via the certificate holder’s website.

(8.7.3) The declaration of the product carbon footprint (cradle to gate emissions) for the product must be communicated clearly and be clearly distinguished from the consideration of GHG emissions related to further product life cycle considerations taking place beyond the production site gate, for example in relation to emissions associated with the product’s use and/or end of life disposal, and/or potential benefits associated with its reuse, recovery, or recyclability.

(8.7.3) The declaration of the product carbon footprint of the product will follow the rules for disclosure and reporting as specified in the applicable international or regional standard(s) referenced in 8.6.4. The rules for averaging emissions across product categories or sites will also be as required by the applicable international or regional standard(s) and are independent of the rules for determining and reporting the GHG emissions intensity for crude steel production as specified in 8.7.2.

Updating disclosed GHG data

(8.7.1, 8.7.2, 8.7.3) The information specified in 8.7.1, 8.7.2 and 8.7.3 must be reviewed by the certification body at the time of the site’s surveillance visit and if the information has been revised (including any changes to the emissions intensity achieved at specific sites, and/or changes to the sites that are to be included in the group average) the certification body must submit the updated information to the ResponsibleSteel Secretariat which will update the table of public information as applicable.

Glossary:

Strategic Business Unit (SBU): a strategic business unit is a profit center which focuses on product offering and market segment. SBUs typically have a discrete marketing plan, analysis of competition, and marketing campaign, even though they may be part of a larger business entity. An SBU may be a business unit within a larger corporation, or it may be a business into itself or a branch. Corporations may be composed of multiple SBUs, each of which is responsible for its own profitability. SBUs are able to affect most factors which influence their performance. Managed as separate businesses, they are responsible to a parent corporation.
ANNEX 1: Materials for which the upstream GHG emissions must be considered under Requirement 8.3.3.

Gas fuel
- Natural gas
- Coke oven gas
- Blast furnace gas
- BOF gas
- Town gas

Liquid fuel
- Heavy oil
- Light oil
- Kerosene
- LPG

Solid fuel
- Coking coal
- BF injection coal
- EAF coal
- Sinter/BOF coal
- SR/DRI coal
- Steam coal
- Coke
- Charcoal

Auxiliary material
- Limestone
- Burnt lime
- Crude dolomite
- Burnt dolomite
- Nitrogen
- Argon
- Oxygen

Ferrous-containing material
- Pellets
- Sinter
- Hot metal
- Cold iron
- Gas-based DRI
- Coal-based DRI
- Hot briquetted iron (HBI)

Alloys
- Ferro-nickel
- Ferro-chromium
- Ferro-molybdenum

Modified list of materials based on ISO 14404-1:2013 Table 2, and ISO 14404-2:2013 Table 2
ANNEX 2: Provisional ResponsibleSteel default embodied GHG values

<table>
<thead>
<tr>
<th>Ferrous containing materials</th>
<th>Unit</th>
<th>Original data source</th>
<th>Basis for default (see notes)</th>
<th>Default embodied GHG value (tCO₂e/unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cold iron, charcoal based</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>2.350</td>
</tr>
<tr>
<td>• Cold iron, generic</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>2.623</td>
</tr>
<tr>
<td>• DRI, coal-based</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>2.623</td>
</tr>
<tr>
<td>• DRI, gas-based</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>1.219</td>
</tr>
<tr>
<td>• Granulated pig iron (GPI)</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>2.623</td>
</tr>
<tr>
<td>• Hot briquetted iron (HBI)</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>1.219</td>
</tr>
<tr>
<td>• Iron ore</td>
<td>t</td>
<td>worldsteel LCI 10</td>
<td>a</td>
<td>0.235</td>
</tr>
<tr>
<td>• Pellets</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>0.365</td>
</tr>
<tr>
<td>• Scrap</td>
<td>t</td>
<td>NA</td>
<td>b</td>
<td>0.030</td>
</tr>
<tr>
<td>• Sinter</td>
<td>t</td>
<td>CRU methodology for RS</td>
<td>a</td>
<td>2.920</td>
</tr>
<tr>
<td>• Steel slab, BOF</td>
<td>t</td>
<td>ResponsibleSteel level 1 performance threshold value for the production of steel with 15% scrap content</td>
<td>a</td>
<td>0.570</td>
</tr>
<tr>
<td>• Steel slab, EAF</td>
<td>t</td>
<td>ResponsibleSteel level 1 performance threshold value for the production of steel with 95% scrap content</td>
<td>a</td>
<td>2.800</td>
</tr>
</tbody>
</table>

**Alloys and metallic additives**

A replacement value equivalent to the ResponsibleSteel level 1 performance threshold value for the primary production of steel from iron ore shall be used for the determination of the upstream indirect (Scope 3) GHG emissions for all non-ferrous metal and ferro-alloy additives.

- • Non-ferrous metal and ferro-alloy additives replacement value  
  ResponsibleSteel level 1 performance threshold value for the primary production of steel  
  NA  
  2.800

**PROVISIONAL VALUES FOR INFORMATION ONLY:**

- • Aluminium  
  worldsteel LCI 10  
  a  
  2.0 |
- • Copper  
  worldsteel LCI 10  
  a  
  7.184 |
- • Ferro-chromium  
  ISSF LCI 2022  
  a  
  9.648 |
- • Ferro-manganese  
  worldsteel LCI 10  
  a  
  10.411 |
- • Ferro-molybdenum  
  IMOA 2022  
  a  
  6.000 |
- • Ferro-nickel  
  ISSF LCI 2022  
  a  
  16.295 |
- • Ferro-silicon  
  worldsteel LCI 10  
  a  
  24.335 |
- • Ferro-vanadium  
  worldsteel LCI 10  
  a  
  6.240 |
- • Lead  
  worldsteel LCI 10  
  a  
  6.240 |
- • Magnesium  
  worldsteel LCI 10  
  a  
  6.240 |
- • Manganese  
  worldsteel LCI 10  
  a  
  6.240 |
- • Molybdenum oxide  
  IMOA 2022  
  a  
  6.240 |
- • Nickel metal  
  ISSF LCI 2022  
  a  
  6.240 |
- • Nickel oxides  
  ISSF LCI 2022  
  a  
  6.240 |
- • Nickel pig iron  
  worldsteel CO₂ methodology  
  a  
  6.240 |
- • Silico-manganese  
  worldsteel LCI 10  
  a  
  6.240 |
- • Silicon metal  
  worldsteel LCI 10  
  a  
  6.240 |
- • Tin metal  
  worldsteel LCI 10  
  a  
  6.240 |

Table A1. Provisional ResponsibleSteel default embodied GHG values (continued on next page)
Table A1. Provisional ResponsibleSteel default embodied GHG values. The current table of emission factors as published by ResponsibleSteel at www.responsiblesteel.org must be used for the determination of the crude steel GHG emissions intensity performance of the site.

Notes to table: basis for default
a: source data multiplied by default factor of 1.2
b: ResponsibleSteel assignation
c: source data multiplied by default factor of 1.6 to reflect known high variability
NOTE

The default embodied GHG values shown in Table A1 are provisional. The table will be published on the ResponsibleSteel website after the Standard has been approved. Once published, the current version on the ResponsibleSteel website must be used for certification assessments.

The validity of the default embodied GHG values in the table is earmarked for review during the 12-month test phase, and emission factors will be updated as necessary, with the approval of the ResponsibleSteel CEO. Input materials that are identified as contributing more than 5% to the total upstream (Scope 3) GHG emissions of steelmaking at specific sites will be added to the list as required.

Guidance

(Table A1) ResponsibleSteel has applied a ‘burden of the doubt’ approach rather than a ‘benefit of the doubt’ approach to the use of default data when primary data are not available, in line with the recommendations of ISO 21930:2017: Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services that conservative assumptions should be applied to fill data gaps.

The default embodied GHG emission factors specified by ResponsibleSteel are therefore conservative. This may constitute a top decile figure, the top end of the error bars for a range of LCA data within a database, or a default additional percentage (e.g. +20%, +60%) on top of reported average LCA data for a category of input material. Suppliers with worse than average performance should therefore not generally benefit from claiming an average level of GHG emissions for the material they supply. Suppliers that have invested resources in measuring their actual GHG measurements should expect to benefit from this in the majority of situations.

Materials of biological origin

ResponsibleSteel requirements for the responsible sourcing of input materials, including materials of biological origin, are specified under ResponsibleSteel Principle 3: Responsible Sourcing of Input Materials.

Materials of biological origin that do not meet the requirements of Principle 3 are excluded from further consideration. Materials that meet the requirements of Principle 3 are assigned a default embodied GHG value of zero.

Post-consumer materials

ResponsibleSteel requirements for the responsible sourcing of input materials, including post-consumer materials, are specified under ResponsibleSteel Principle 3: Responsible Sourcing of Input Materials.

Post-consumer materials that do not meet the requirements of Principle 3 are excluded from further consideration. Post-consumer materials that meet the requirements of Principle 3 are assigned a default embodied GHG value of zero.

Steel (non-scrap)

If steel other than scrap is imported to the site as an input for production of crude steel at the site, and if primary data for its upstream emissions are not available, it is assigned a default upstream emission factor as for other ferrous input materials as listed in Table A1. If steel is imported to the site for further downstream
processing, the upstream emissions associated with its production are not included in the determination of the crude steel GHG emissions intensity for the site.

NOTE September 2022

Principle 10 Greenhouse Gas Emissions and Climate Change refers to default embodied GHG value (tCO2e / unit) for various ferrous materials, non-ferrous materials, alloys and metallic additives, solid fuels, liquid fuels, gaseous fuels, and other inputs used in steel making as listed in Annex 11 of the standard. The default GHG values listed in Annex 11 Principle 10 refers to multiple sources including worldsteel.

The ResponsibleSteel Secretariat has been notified by worldsteel that due to licensing restrictions imposed by the data provider, the values referenced from worldsteel may not be disseminated. ResponsibleSteel is discussing with data providers in order to be able to share these values as necessary on an ongoing basis. In compliance with the request from worldsteel, ResponsibleSteel Standards and Assurance has redacted these values from the Standard. Where draft copies of the standard have been distributed, the figures sourced from worldsteel should not be used or disseminated as this would infringe the IP of the data owner. This does not have any impact on ongoing site audits.