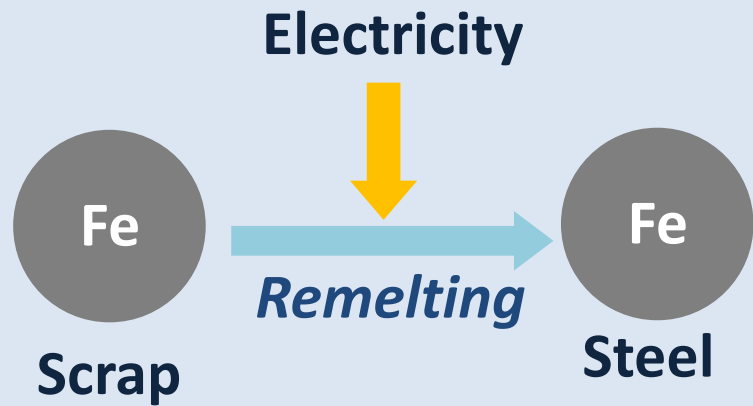
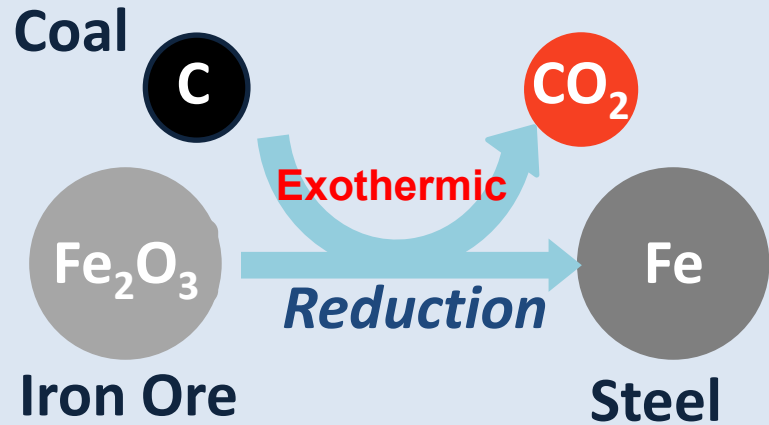
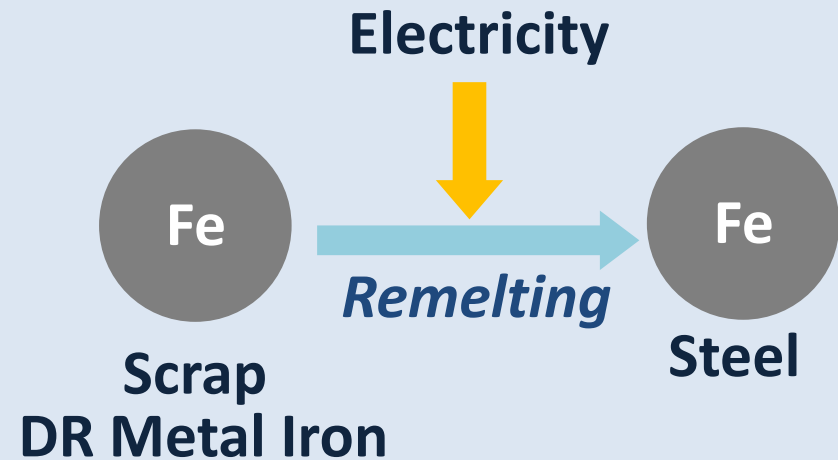
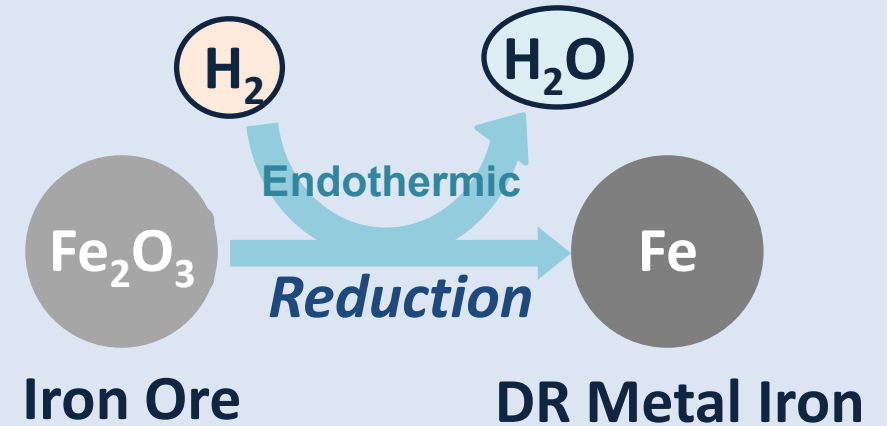


Steelmaking process

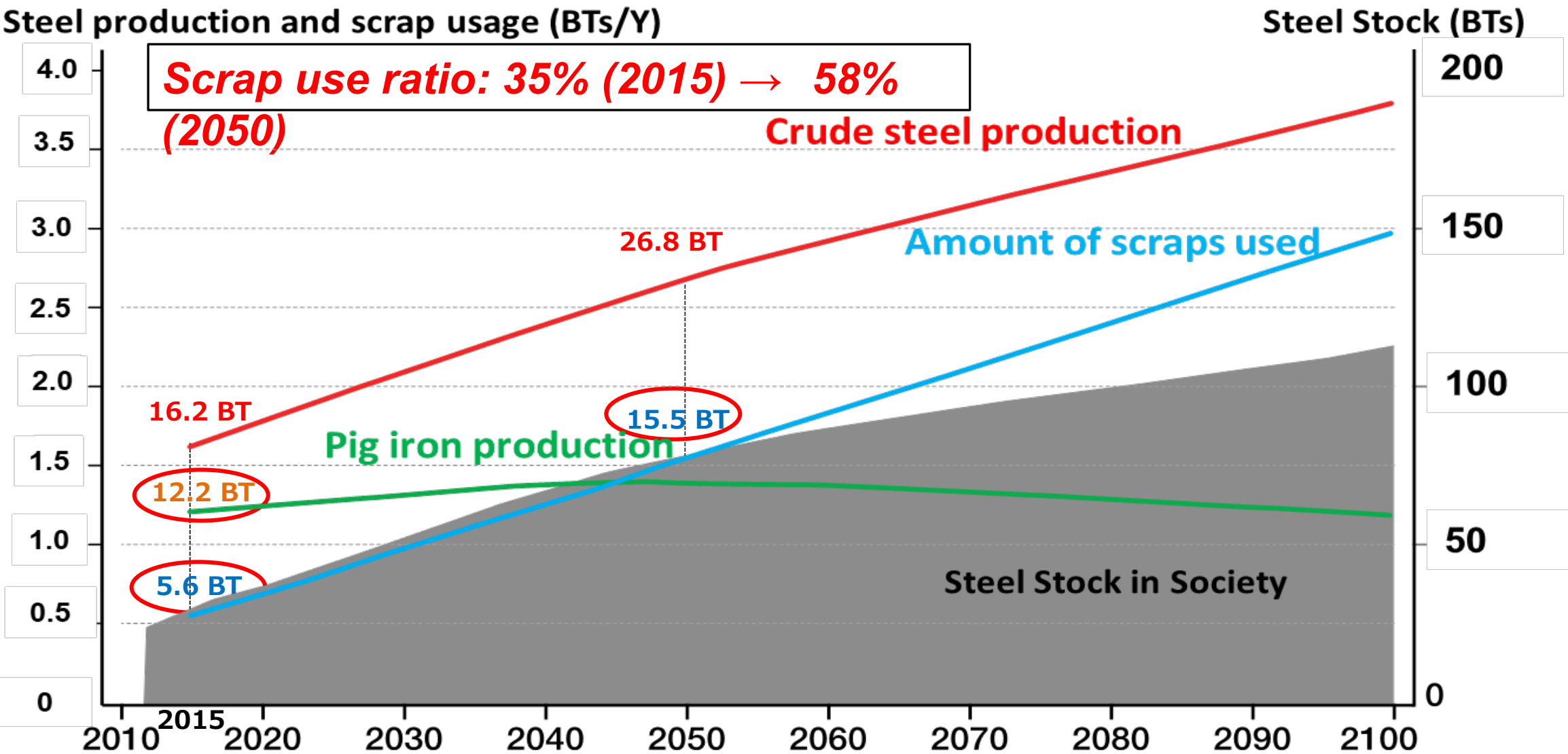
Present



Future



Ref. Scrap can not fill the global steel demand in 2050

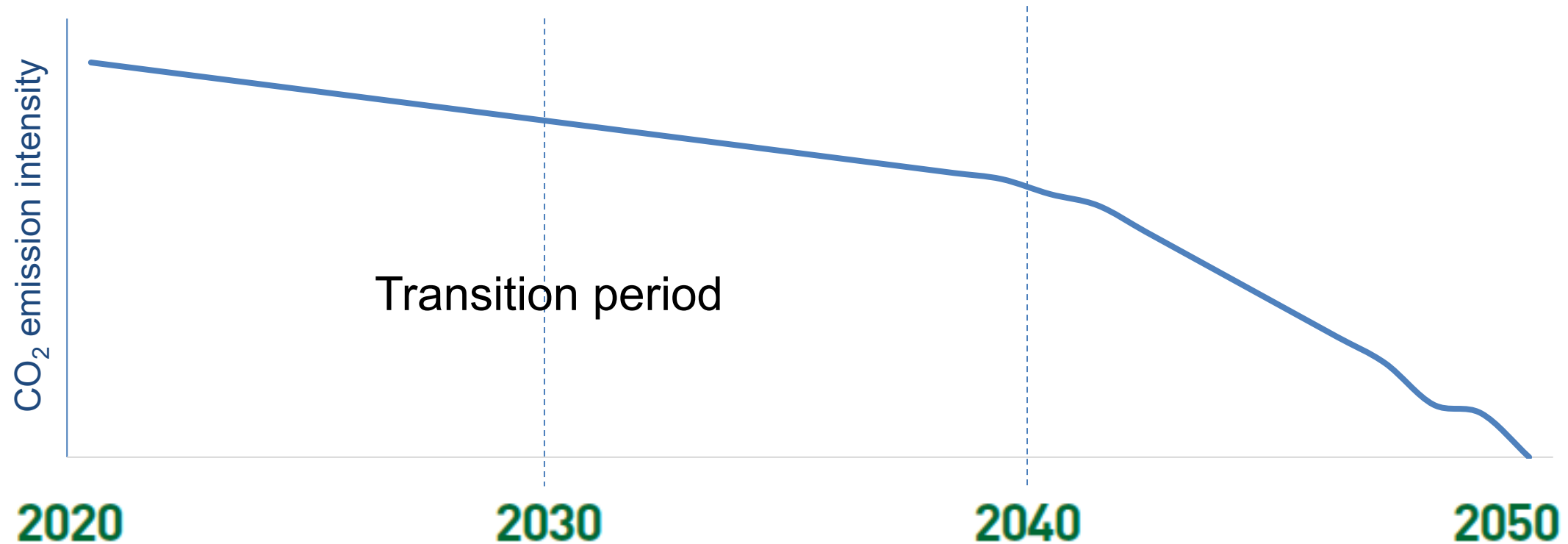


Source: "The Challenge of Zero Carbon Steel: Long-term Global Warming Countermeasures," Japan Iron and Steel Federation, November 2018

Roadmap for the Japanese steel industry

During the transition period, the plan is to gradually reduce emissions through partial hydrogen reduction and the use of electric furnaces, while focusing on research and development of innovative technologies (up to 2040), and then to implement innovative technologies and achieve decarbonisation (by 2050).

Because the estimated cost of transition will be enormous, it is necessary to create a GX market in which the green premium is appropriately evaluated on the demand side, and to make it possible to recover the investment, in order to make a sustainable transition possible.



Source: The Ministry of Economy, Trade and Industry, Technology Roadmap for Transition Finance in the Steel Sector

CFP and REPs (Reduced Emission of Products)

Carbon Footprint (CFP)

A numerical value representing the GHG emissions of a product over its entire life cycle. This is an indicator of past efforts.

Reduced Emission of Products (REPs) = GX value of product

GHG emission reductions generated by corporate decarbonization investments.

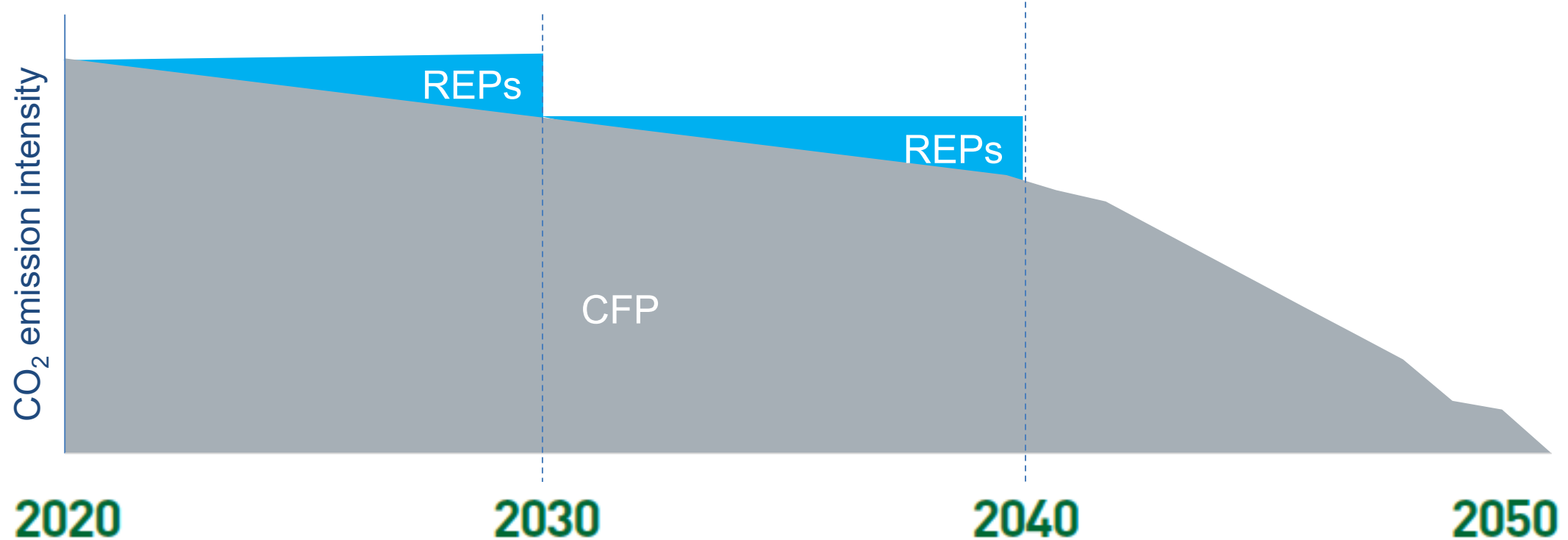
This is an indicator of current and future additional reductions, i.e. GX value.

Excerpts from the [Interim Report of the Study Group on GX Product Markets that Contribute to Demand Generation for Enhancing Industrial Competitiveness and Reducing Emissions](#)

The role of Green Steel applying REPs

The reality is that no steel companies in the world are currently able to manufacture steel products with significantly reduced CO₂ emissions, and it is predicted that near-zero emission steel will not be commercially available until around 2040.

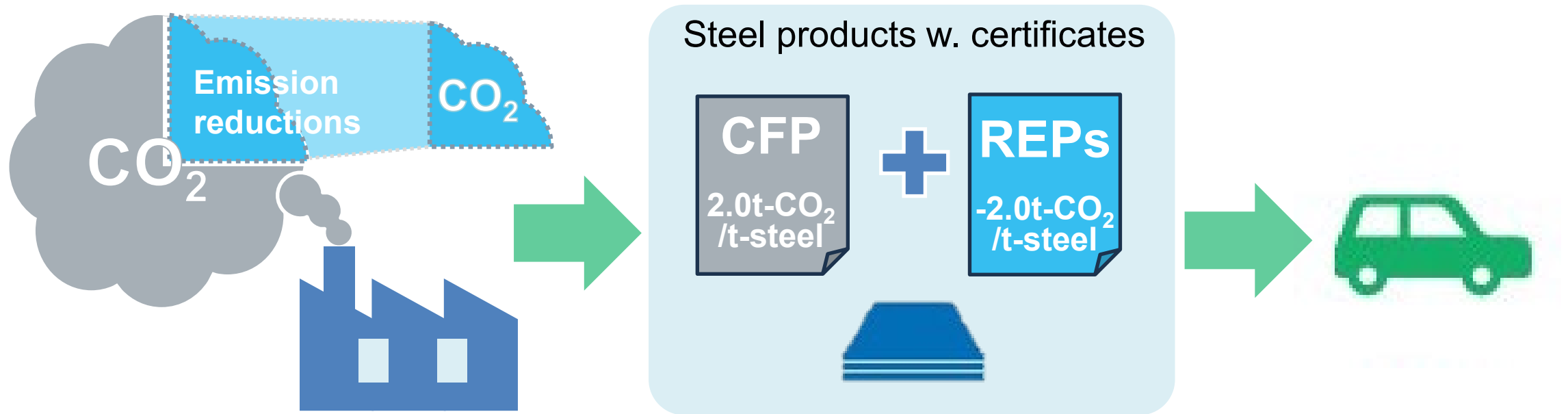
During the transition period, the provision of green steel, which embeds the value of REPs, will be the only way to meet customers' needs for green steel.



<https://www.jisf.or.jp/en/activity/climate/index.html>

Application of REPs for Green Steel

By issuing certificates of REPs based on the results of a company's emission reductions and selling them together with steel products, it has been possible to supply customers with green steel products that have substantially reduced their embedded emissions. Customers can reduce their Scope 3 emissions by using certificates of REPs. By a premium paid for green steel, steel companies can raise funds for their next decarbonisation investment.



<https://www.jisf.or.jp/en/activity/climate/index.html>

Rulemaking for REPs

Establish the principles and theories
with the LCA Society

Establish sectoral standards
with JISF, worldsteel, ISO/TC 17

Establish general standards
World/ ISO(TC308、TC207)、GHG Prot.、SBTi
Domestic/ Guidelines for REPs

Establish procurement rules
UN/IDDI, Domestic Green Purchasing Law
Automobile LCA, Building SBTi, etc.

Mandatory
procurement

Strong incentive for
purchasing

Create public /private demand
and acquire GX value

Guidelines for green steel
upon the application of
the mass balance approach

Version 2.0 | Revised October 2023



Table of Contents

1. Outline.....	2
2. Why is JISF proposing green steel applying the mass balance approach?	2
3. Calculation of GHG emissions intensity for steel products	2
1) Methodology to be applied	2
2) Requirements	3
3) Obtaining third-party certification	3
4. Calculation of GHG emission reductions	3
1) Methodology to be applied	3
2) Requirements	3
(1) Requirements of emissions reductions projects	4
(2) Time range of reduction project	4
3) Calculation of GHG emissions reductions	5
4) Management of multiple reduction projects	5
5) Obtaining third-party certification	5
5. Supply of steel products with reduction certificates	5
1) Methodology to be applied	5
2) Requirements for internal management of emissions reductions	6
(1) Account setup and management	6
(2) Calculation period	6
(3) Allocation period of emission reduction effect	6
(4) Geographic boundary	6
3) Emissions reduction allocation (issuance of certificates)	6
(1) Allocation method	6
(2) Maximum allocations of emissions reductions to steel products	6
(3) Handling of steel products to which reductions are not allocated	7
4) Obtaining third-party certification	7
6. Others	7
Annex I Terms and Definitions	8
Revision History	9