

EU State Aid at a Crossroads: Green Steel Projects are Stalling Despite Public Subsidies Worth Billions

March 2025

Highlights

- EU member states have granted at least EUR 9.3 billion in state aid to support the steel industry in shifting from coal to natural gas and hydrogen.
- Several of the projects face significant implementation delays and are at risk of not meeting the conditions set out in the respective state aid contracts.
- The steel industry should have phased out coal and gas entirely by 2037 at latest, according to the state aid contracts and announced timelines. However, based on deep dives on five state aid backed projects in the EU, project delays put this deadline at risk.
- The lack of transparency on the conditionalities of EU state aid decisions for the steel sector has prevented public engagement and monitoring, as the European Commission has for a long time been reluctant to publish versions of the deals that can be shared publicly.
- Project delays and the lack of transparency on funding conditions puts the EU's leadership on decarbonising steel at risk.

Introduction

This briefing presents a stocktake of EU state aid projects for five key decarbonisation projects in the steel industry. The EU Green Deal saw a swathe of project announcements by major steelmakers in Western Europe, followed by a series of positive state aid decisions by the European Commission to back those projects using public funds.

Decarbonising the EU steel sector requires the retirement of coal-based assets and their replacement with alternative, lower-carbon technology (gas, hydrogen or electric based steel manufacturing).¹ Additionally, those large investments have to be taken in a relatively short timeframe to be in line with EU climate objectives. Government subsidies are seen by steel

¹ EU Joint Research Centre (2022). EU climate targets: how to decarbonise the steel industry. https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/eu-climate-targets-how-decarbonise-steel-industry-2022-06-15_en

companies² as crucial to support the steel industry in overcoming its coal lock-in and transition to steel production based on renewable energies.

This briefing is a product of several months of research, including desk based research, freedom of information requests and interviews. The amount of available information varied from project to project. For the projects in Dunkerque and the Saarland, public versions of the state aid decisions were available, although later corrections are not.³ In the case of the other three projects, public versions of the decisions were not available at the time of writing.⁴ In Spain, a Royal Decree provides details on aspects of the project.⁵ The public version of the state aid decision was published after the time of researching on 27 January 2025.⁶ For the remaining two German projects, information was compiled from news articles, interviews and other relevant documents partly sourced through freedom of information requests.

What is state aid?

State aid is the European Union's mechanism to control selective subsidies to single companies or industries while preserving fair competition and the single market.

The EU internal market is built on the idea of an **economic level playing field**, which the EU aims to ensure by removing and preventing market barriers and restricting selective subsidies. Such subsidies to one or several companies or industries in EU Member States are called **state aid** and are regulated at EU level. In essence, EU Member States can submit applications to subsidise industrial decarbonisation projects which the European Commission has to approve in order to not violate EU internal market rules.

*'To preserve fair competition between companies and trade between Member States, the EU has a **state aid control policy** in place. The European Commission is responsible for overseeing and enforcing the rules of the state aid policy with the aim to **allow state aid in a controlled and effective manner.**'*⁷

² Reuters, ArcelorMittal looking for partners, subsidies for cleaner steelmaking in Germany, 26/03/2021 <https://www.reuters.com/article/business/arcelormittal-looking-for-partners-subsidies-for-cleaner-steelmaking-in-germany-idUSKBN2BI1I3/>

SteelNews, Threats: Thyssenkrupp wants to force green steel subsidies? 26/05/2023

<https://steelnews.biz/threats-thyssenkrupp-force-green-steel-subsidies/>

S&P Global, Salzgitter, LKAB partner on steel decarbonization, 3/06/2022

<https://www.spglobal.com/commodity-insights/en/news-research/latest-news/metals/060322-salzgitter-lkab-partner-on-steel-decarbonization>

³ A Corrigendum in the case of Dunkerque and an Amendment in the case of the Saarland

⁴ As per 9 January, 2025

⁵ Ministerio de Industria, Comercio y Turismo (2023). BOE-A-2023-8579. Last visited on 19 December, 2024: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2023-8579

⁶ European Commission (2025). State Aid SA.104904 (2023/N) – Spain Aid to ArcelorMittal for project H2 Circular DRI. Last viewed on 6 March, 2025:

https://ec.europa.eu/competition/state_aid/cases1/20255/SA_104904_124.pdf

⁷ ClientEarth (2024). state aid control in the EU - A state aid guide for civil society. P 6. Last viewed on 12 November, 2024:

<https://www.clientearth.org/media/ojukkerk/clientearth-state-aid-control-in-the-eu-a-state-aid-guide-for-civil-society.pdf>

There have been indications that EU state aid rules could undergo revisions. The incoming EU Commission and in particular Teresa Ribera, new Commissioner in charge of competition and state aid, has signalled ‘a relaxation of state aid policy to spur the green transition’.⁸

For a detailed account of state aid rules and environmental protection, see Client Earth’s report [state aid control in the EU - A state aid guide for civil society](#).

Steel Decarbonisation Under the Green Deal

Upon the adoption of the EU Green Deal, many steel companies operating in the Western half of the EU announced projects aimed at replacing some of their coal-based assets (in particular blast furnaces) with gas- and hydrogen-based equipment. Member States governments quickly followed suit by requesting state aid approval to support the initial investment expenditures for these new plants.

By 2030, a large number of the EU’s coal-based steel assets will reach the end of their useful lives and redirecting reinvestment to lower-carbon steel production technologies is crucial to preserve a chance of meeting global climate targets, according to think-tank Agora Industry.⁹ With the European Union aspiring to play a leadership role in the global steel transition, the conditionalities attached to EU steel subsidies will shape the steel transition globally.

Since September 2022, the European Commission has greenlighted at least ten state aid measures in a total of five EU countries aimed at supporting the steel sector to get out of coal. These Measures include the provision of a total of nearly EUR 9.3 billion through mostly direct grants (see Table 1).

Lack of Transparency

Upon greenlighting a state aid Measure, the European Commission publishes state aid decisions in the state aid register available on DG Competition’s website.¹⁰ According to ClientEarth, the *‘non-confidential version of a decision is often published **some weeks, or sometimes only months**, after the adoption of a decision. The European Commission does however publish a press release upon the adoption of important decisions.*¹¹

In the case of the abovementioned steel decarbonisation state aid measures, however, transparency has generally been very low. Of the ten projects summarised in Table 1, public versions of the state aid decisions are available in six cases, five of which are large grants and the other being funding for a pilot plant. Two of these decisions were only published after the

⁸ Guardian (2024). EU’s new competition chief signals reform of anti-trust and state aid rules. Last visited on 12 December, 2024: <https://www.theguardian.com/world/2024/dec/10/eus-new-competition-chief-signals-reform-of-anti-trust-and-state-aid-rules>

⁹ Agora Industry and Wuppertal Institute (2023). 15 insights on the global steel transformation. P. 36: <https://www.agora-industry.org/publications/15-insights-on-the-global-steel-transformation#downloads>.

¹⁰ <https://competition-cases.ec.europa.eu/>

¹¹ ClientEarth (2024). P. 31.

date of writing this briefing (Spain and Belgium). In the case of the project in Salzgitter, more than two years have now passed since the European Commission's approval of the state aid measure, but the Commission had still not published the decision at the time of writing.¹² ARIA filed freedom of information requests to the European Commission to access state aid decisions for the Salzgitter, ArcelorMittal Bremen and ArcelorMittal Eisenhüttenstadt, Arcelormittal Gijon state aid projects without success. For ThyssenKrupp, Salzgitter and Saarstahl, we managed to obtain grant notifications from German sources via freedom of information requests. This lack of transparency on the side of the European Commission is an obstacle to public participation on the use of subsidies for industry, a matter of public interest.

¹² As per date of writing, 20 January 2024.

Table 1: Summary of EU state aid decisions to get steel out of coal. Highlighted projects are covered in this briefing.¹³

Date of EU announcement	country	parent company	form	Funding sum (EUR million)	Implicit carbon price (EUR/t CO2e)	Public version
Sep 21, 2022	Sweden	HYBRIT	Direct grant	473	Not available	Link
Oct 4, 2022	Germany	Salzgitter	Direct grant	1000	Not available	Grant notice ¹⁴
Feb 17, 2023	Spain	ArcelorMittal	Direct grant	460	6.5	Link
Feb 17, 2023	Germany	ArcelorMittal	Direct grant	55	78.6	Link
Jun 22, 2023	Belgium	ArcelorMittal	Soft loan, Direct grant	280	5.6	Link
Jul 20, 2023	France	ArcelorMittal	Direct grant	850	12.1	Link
Jul 27, 2023	Germany	ThyssenKrupp	Direct grant, conditional payment mechanism	2000	34.5	Grant notice¹⁵
Dec 19, 2023	Germany	SHS	Direct grant	2600	49.1	Link
Feb 23, 2024	Germany	ArcelorMittal	Direct grant	1300	18.6	Not available
Jun 26, 2024	Sweden	H2 Green Steel	Direct grant	265	Not available	Not available

Project summaries

This briefing zooms in on five projects in three countries, which were selected based on a variety of criteria, including total subsidy volume, level of public engagement and the availability of information on the project:

- **France:** ArcelorMittal in Dunkirk
- **Germany:** ThyssenKrupp in Duisburg, ArcelorMittal in Bremen and Eisenhüttenstadt, SHS Stahl-Holding-Saar (Saarland)
- **Spain:** ArcelorMittal in Gijón

¹³ All projects covered in this table aim to develop commercial-scale steel production technology based on alternative energy carriers than coal (fossil gas and hydrogen) and direct reduction technology to replace blast furnaces

¹⁴ BMWK (17 April 2023). Zuwendungsbescheid. BMWK (July 2023). Redacted document accessed via FOI request. Available here:

<https://drive.google.com/file/d/1mcfvF6vMI5WR07G9niIKWtzoZvTF9HIOg/view?usp=sharing>

¹⁵ BMWK (July 2023). Zuwendungsbescheid: Anlage: "Regelungen des Monitoringmechanismus", p. 5, clause 5 Redacted document accessed via FOI request. Available here:

<https://drive.google.com/file/d/1HGPIces94CMDd5ukbsQR1Hmx3kXoYhRX/view?usp=sharing>

; see also: European Commission. 20/07/2023. State aid: Commission approves German €550 million direct grant and conditional payment mechanism of up to €1.45 billion to support ThyssenKrupp Steel Europe in decarbonising its steel production and accelerating renewable hydrogen uptake". Last accessed October 25 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3928

If carried out, the five projects together would lead to the closure of 6 blast furnaces¹⁶ and claimed emission reductions of 321.9 million tonnes of CO₂ over the project timeframes.¹⁷ The retired facilities would be replaced with 5 new direct reduction plants (DRP) and 8 new electric arc furnaces.¹⁸ State aid for these five projects amounts to EUR 7.2 billion. The implicit cost of carbon reduction of these state aid measures for governments, i.e. the funding sum divided by the claimed carbon savings over the project lifetimes, varies between EUR 6.5 and 49.1 per tonne of CO₂ saved. This compares to an average carbon price in the EU Emissions Trading System of EUR 83 per tonne of CO₂ in 2023.¹⁹

Dunkerque

The ArcelorMittal steelworks in Dunkerque is operated by its subsidiary ArcelorMittal France S.A. The state aid contract for Dunkerque foresees the closure of one of the three blast furnaces at the Dunkerque site and its replacement with a direct reduction plant.²⁰ This would reduce blast furnace capacity at the site by 1.8 million tonnes per annum (26%).²¹ A second blast furnace (1.5 Mtpa²²) would be retired as part of a separate project focussed on increasing recycling, and would be replaced with an electric arc furnace.²³

The project is currently delayed (see section on delays) due to ArcelorMittal's decision to put on hold its decarbonisation projects.²⁴

Duisburg

The two steel production sites in Duisburg are operated by ThyssenKrupp Stahl, a subsidiary of the ThyssenKrupp Group. The subsidiary is currently in the process of being sold to the Czech billionaire Daniel Křetínský, the CEO and main owner of energy company EPH.²⁵

¹⁶ One each in Spain and France, one in Duisburg, one in the Saarland and one each in Bremen and Eisenhüttenstadt.

¹⁷ Sum of cumulative emission reductions cited in the Commission's state aid press releases. The available information on project timeframes is 15 and 16 years for Dunkirk and Bremen/Eisenhüttenstadt, respectively.

¹⁸ One direct reduction plant in each location, plus 2 electric arc furnaces in Dunkirk, 2 in the Saarland, 1 in Bremen, 2 in Eisenhüttenstadt, and 1 in Gijón.

¹⁹ EEA (2024). Use of auctioning revenues generated under the EU Emissions Trading System. Last visited on 9 January, 2024:

<https://www.eea.europa.eu/en/analysis/indicators/use-of-auctioning-revenues-generated>

²⁰ European Commission (6 September, 2024). 'Dunkirk state aid Decision', page 7. Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

²¹ Global Energy Monitor. ArcelorMittal Dunkerque steel plant. Last visited on 12 December, 2024: https://www.gem.wiki/ArcelorMittal_Dunkerque_steel_plant

²² Mtpa = million tonnes per annum

²³ European Commission (6 September, 2024). 'Dunkirk state aid Decision', page 7. Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

²⁴ ArcelorMittal, ArcelorMittal provides update on its European decarbonization plans, 26/11/2024. <https://corporate.arcelormittal.com/media/press-releases/arcelormittal-provides-update-on-its-european-decarbonization-plans>

²⁵ Reuters (26 April, 2024). Thyssenkrupp sells stake in steel unit to Czech billionaire Kretinsky. Last viewed on 23 January, 2025:

The state aid decision foresees the retirement of one out of four blast furnaces²⁶ at the Duisburg works, and its replacement with a direct reduction plant. This plant is expected to replace 2.3 million tonnes of blast furnace-based hot metal production at the site.²⁷ Differently to the other projects covered in the briefing, the project does not include the construction of electric arc furnaces.²⁸

In October 2024, ThyssenKrupp declared that it would review its decarbonisation plans according to internal documents reported on by Handelsblatt.²⁹ In November, the company announced intentions to cut 11,000 out of 27,000 jobs in the steel segment.³⁰ At the time of writing, the fate of the steelworks and its green steel plans is unclear. In February, 2025, Bloomberg reported that ThyssenKrupp was scaling back its ambition and was unwilling to commit to a specific date for a switch from natural gas to hydrogen.³¹

Saarland

Saar-Holding-Stahl (SHS) is the main owner of a decentralised steel mill in the German region of Saarland, including the production sites of Dillinger, Saarlöhne and ROGESA. ArcelorMittal France has minority ownership in the vehicle.³² SHS is controlled by a foundation (Montan-Stiftung Saar) that has the purpose to preserve the steel industry in the German region of Saarland and promote research, skills development and environmental protection.³³

<https://www.reuters.com/markets/deals/thyssenkrupp-enters-strategic-partnership-with-kretinskys-epcg-2024-04-26/>

²⁶ Global Energy Monitor (2024). ThyssenKrupp Steel Duisburg steel plant. Last viewed on 21 January, 2025: https://www.gem.wiki/ThyssenKrupp_Steel_Duisburg_steel_plant

²⁷ European Commission, (20 July, 2023). 'ThyssenKrupp Steel state aid Press Release'. Last accessed on 12 December, 2024: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3928

²⁸ Agora Industry, Wuppertal Institute and Lund University (2024): Low-carbon technologies for the global steel transformation. A guide to the most effective ways to cut emissions in steelmaking.

<https://www.agora-industry.org/publications/low-carbon-technologies-for-the-global-steel-transformation>

²⁹ Handelsblatt (8 October, 2024). Bei ThyssenKrupp könnte grünes Milliardenprojekt kippen. Last viewed on 21 January, 2025:

<https://www.handelsblatt.com/unternehmen/industrie/deutschland-bei-thyssenkrupp-koennte-gruenes-milliardenprojekt-kippen/100075399.html>

³⁰ Reuters (25 November, 2024). ThyssenKrupp to cut 11,000 jobs at steel division in major corporate shakeup. Last visited on 12 December, 2024:

<https://www.reuters.com/markets/commodities/loss-making-thyssenkrupp-steel-slash-5000-jobs-by-2030-2024-11-25/>

³¹ Bloomberg (17 February, 2025). Germany Set to Scale Down Climate Ambitions. Last viewed on 17 February, 2025:

<https://www.bloomberg.com/news/articles/2025-02-17/germany-set-to-scale-down-climate-ambitions>

³² Montan-Stiftung-Saar (n.d.). 'Stiftung'. Last visited on 12 December, 2024:

<https://www.montan-stiftung-saar.de/montanstiftung/de/stiftung/index.shtml>

³³ Montan-Stiftung-Saar (n.d.). 'Stiftungszweck'. Last visited on 12 December, 2024:

<https://www.montan-stiftung-saar.de/montanstiftung/de/stiftungszweck/index.shtml>

The state aid measure for SHS foresees the closure of one of two blast furnaces with a capacity of 2.3 million tonnes³⁴ located at ROGESA and its replacement with a direct reduction plant and two electric arc furnaces.³⁵

The SHS project is farther ahead in realisation than the other projects analysed in this briefing. In contrast to the other companies, SHS has taken an investment decision and has placed orders for key equipment with suppliers.³⁶

Bremen & Eisenhüttenstadt

ArcelorMittal owns two integrated steelworks in Germany. The state aid measure involves the closure of two of three total blast furnaces at the works in Bremen and Eisenhüttenstadt. In total, the measure foresees the transition of 3.8 million tonnes of crude steel to direct reduction technology, which today are produced through the blast furnace route.³⁷

The project is currently delayed (see section on delays) due to ArcelorMittal's decision to put on hold its decarbonisation projects.³⁸³⁹

Gijón

ArcelorMittal controls several steel production sites in Northern Spain through its subsidiary ArcelorMittal España⁴⁰, one of which is the steelworks in Gijón in the principality of Asturias. The state aid decision foresees the retirement of one of two blast furnaces at the Gijón site.⁴¹ Over the past months, uncertainty has grown over whether or not ArcelorMittal Spain will carry on with the project at all.⁴² In September 2024, Spanish minister for industry Jordi Hereu

³⁴ Global Energy Monitor (2024). AG der Dillinger Hüttenwerke Dillingen steel plant. Last viewed on 21 January, 2025: https://www.gem.wiki/AG_der_Dillinger_H%C3%BCttenwerke_Dillingen_steel_plant

³⁵ European Commission (6 September, 2024). 'SHS state aid Decision', p. 10, clause (39) Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases/1/202442/SA_105337_152.pdf

³⁶ SHS (11 October, 2024). Next step in the transformation: Central plants ordered for Power4Steel – Europe's largest decarbonization project. Last visited on 12 December, 2024: <https://www.stahl-holding-saar.de/shs/en/news/press/next-step-in-the-transformation-central-plants-ordered-for-power4steel-europe-s-largest-decarbonization-project-114148.shtml>

³⁷ European Commission, (23 February, 2024). 'ArcelorMittal Germany state aid Press Release'. Last accessed on 18 February, 2024: https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1009

³⁸ ArcelorMittal, ArcelorMittal provides update on its European decarbonization plans, 26/11/2024. <https://corporate.arcelormittal.com/media/press-releases/arcelormittal-provides-update-on-its-european-decarbonization-plans>

³⁹ According to the timeline included in the EU Commission's press release announcing the state aid, the project was foreseen to be operational in 2026. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1009

⁴⁰ ArcelorMittal (n.d.). Productos Plantos. Last viewed on 21 January, 2025: <https://spain.arcelormittal.com/que-hacemos/productos-planos/>

⁴¹ European Commission, (20 July, 2023). 'ArcelorMittal España state aid Press Release'. Last accessed on 12 December, 2024: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_849

⁴² El País (23 October, 2024). Cuenta atrás en ArcelorMittal: una fábrica milmillonaria está en el aire. Last viewed on 21 January, 2024: <https://elpais.com/economia/negocios/2024-10-28/cuenta-atras-en-arcelormittal-una-fabrica-milmillonaria-esta-en-el-aire.html>

indicated that the decarbonisation project in Asturias is of strategic interest to the government, “with or without ArcelorMittal”.⁴³

The project is currently delayed (see section on delays) due to ArcelorMittal’s decision to put on hold its decarbonisation projects.⁴⁴

Project comparison

In the following section the five projects are compared around two main themes, project delays and key conditionalities around hydrogen use.

Delays

Among the five projects in focus, only SHS has taken a final investment decision. The company seems roughly on track to meet the timelines set out in the state aid decision, of which a public version is available, although an amendment to the decision has not been made public yet.⁴⁵

The remaining four projects are facing significant implementation delays.

On 26 November 2024, ArcelorMittal announced it was freezing all its investments in decarbonization projects based on direct reduction technology in the EU, impacting projects in Belgium, France, Germany and Spain.⁴⁶ This follows months of doubts about the feasibility of the company’s decarbonization projects.⁴⁷ In an op-ed to the Financial Times following the announcement, ArcelorMittal chairman Lakshmi Mittal cited the lack of hydrogen supply, threats of foreign steel imports and the unwillingness of customers to pay a premium for green steel as the reasons for the decision.⁴⁸ The company demands that EU leaders adopt emergency trade measures, a review of the EU Carbon Border Adjustment Mechanism and other changes to the EU Steel and metals action plans.

⁴³ El Diario (13 September, 2024). Jordi Hereu confirma en Asturias el interés estratégico del Gobierno por la actividad siderúrgica “con o sin Arcelor”. Last visited on 12 December, 2024: https://www.eldiario.es/asturias/jordi-hereu-confirma-asturias-interes-estrategico-gobierno-actividad-siderurgica-arcelor_1_11650839.html

⁴⁴ ArcelorMittal, ArcelorMittal provides update on its European decarbonization plans, 26/11/2024. <https://corporate.arcelormittal.com/media/press-releases/arcelormittal-provides-update-on-its-european-decarbonization-plans>

⁴⁵ https://ec.europa.eu/competition/state_aid/cases1/202442/SA_105337_152.pdf

⁴⁶ ArcelorMittal, ArcelorMittal provides update on its European decarbonization plans, 26/11/2024. <https://corporate.arcelormittal.com/media/press-releases/arcelormittal-provides-update-on-its-european-decarbonization-plans>

⁴⁷ Manager-Magazin. ArcelorMittal stellt Milliardenprojekt in Bremen und Eisenhüttenstadt infrage. Published on 17 May, 2024: <https://www.manager-magazin.de/unternehmen/industrie/arcelormittal-stellt-gruenen-fabrikumbau-in-bremen-und-eisenhuettenstadt-in-frage-a-e0e3d732-0272-4972-937c-56881ca4d529>

Financial Times (3 June, 2024). Europe’s steelmakers risk missing climate targets despite billions in subsidies. Last viewed on 21 January, 2025: <https://www.ft.com/content/a3c4862e-6f32-4eb5-a316-2d8ef13096d6>

⁴⁸ Financial Times (3 December, 2024). Europe must make a choice on the steel industry. Last viewed on 21 January, 2025: <https://www.ft.com/content/98fd2771-ef07-4f3f-ab0f-e5bb7e52a588>

ThyssenKrupp's steel segment is struggling in a similar manner. In October 2024, it became public that ThyssenKrupp would review its decarbonisation plans according to internal documents reported on by Handelsblatt.⁴⁹ In November, the company announced intentions to cut 11,000 out of 27,000 jobs in the steel segment with the aim to 'achieve a competitive cost level'.⁵⁰ At the time of writing, the fate of the steelworks and its green steel plans is unclear.

Although indications exist that at least ThyssenKrupp has actually received aid instalments, information on state aid cash flows has been difficult to obtain. According to Handelsblatt, ThyssenKrupp had tapped into a quarter of their state aid grant by October 2024.⁵¹ The transfer of subsidies matters because instalments should follow investment decisions and equipment orders as explained in the available public state aid decisions. A lack of transparency in the payments of state aid instalments (in addition to the lack of transparency on the contracts themselves) makes it difficult to judge whether and where money transfers have occurred.

The EU's state aid Transparency Public Search Page⁵² only features information on the three German projects, but not on the ones in France and Spain. However, it is unclear if these "awards" represent actual flows of money or not. According to the EU register, SHS was awarded a total of EUR 2.6 billion (as per the state aid contract)⁵³. ThyssenKrupp was awarded EUR 2 billion EUR, and ArcelorMittal Bremen was awarded EUR 838 million. In France and Spain, the available public information suggests that no instalments have been paid out so far. ArcelorMittal France President said during a 22 January 2025 Parliamentary hearing that ArcelorMittal France hadn't received a single euro from the EUR 850 million in state aid at this date⁵⁴. The first instalment should have been paid out in 2023 already according to the public version of the state aid contract, suggesting that the French project is delayed already.⁵⁵

In sum, the significant project delays raise the question of whether the companies will be able to meet their climate targets if progress keeps on stalling. Conditionalities around hydrogen use timelines and clawback mechanisms found in the two state aid contracts available to the public

⁴⁹ Handelsblatt (8 October, 2024). Bei ThyssenKrupp könnte grünes Milliardenprojekt kippen. Last viewed on 21 January, 2025:

<https://www.handelsblatt.com/unternehmen/industrie/deutschland-bei-thyssenkrupp-koennte-gruenes-milliardenprojekt-kippen/100075399.html>

⁵⁰ Reuters (25 November, 2024). ThyssenKrupp to cut 11,000 jobs at steel division in major corporate shakeup. Last visited on 12 December, 2024:

<https://www.reuters.com/markets/commodities/loss-making-thyssenkrupp-steel-slash-5000-jobs-by-2030-2024-11-25/>

⁵¹ Handelsblatt (8 October, 2024). Bei ThyssenKrupp könnte grünes Milliardenprojekt kippen. Last viewed on 21 January, 2025:

<https://www.handelsblatt.com/unternehmen/industrie/deutschland-bei-thyssenkrupp-koennte-gruenes-milliardenprojekt-kippen/100075399.html>

⁵² <https://webgate.ec.europa.eu/competition/transparency/public?lang=en>

⁵³ EUR 813,690,300 to Saarstahl + EUR 637,524,600 to Dillinger + EUR 1,148,370,280 to ROGESA

⁵⁴ French National Assembly, Parliamentary hearing , Economic Affairs committee, 22/01/2025. Statement made at 2:41'.

https://videos.assemblee-nationale.fr/video.16059511_6790aaa43e3f0_commission-des-affaires-economiques--m-quillaume-darrasse-president-d-auchan-france--m-alain-le-22-janvier-2025

⁵⁵ European Commission (6 September, 2024). 'Dunkirk state aid Decision', p. 4., clause 14 Last accessed on 12 December, 2024:

https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

suggest that companies and member state governments might not be able to extend the commitment of approved state aid into the future indefinitely.

Hydrogen conditionalities

A comparison of hydrogen conditionalities in the projects shows significant variation in the types of hydrogen that are allowed under the state aid deals and the timelines over which hydrogen is to be phased in. The case in Spain appears to be the most ambitious, with significant volumes of green hydrogen scheduled for use immediately when the direct reduction plant starts up.⁵⁶ In contrast to Spain and France, the German case of Duisburg seems to allow for blue hydrogen use,⁵⁷ and for the ArcelorMittal project in Germany no phase-out date for natural gas is known, raising questions over climate ambition. This distinction is important as gas and blue hydrogen have higher associated emissions than green hydrogen.⁵⁸

In sum, the project timelines, which are summarised in the table below, foresee a full phase-out of gas and phase-in of green and low-carbon hydrogen before 2038. However, the significant project delays accumulated put this timeline at risk.

⁵⁶ Anexo IX in Ministerio de Industria, Comercio y Turismo (2023). BOE-A-2023-8579. Last visited on 19 December, 2024: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2023-8579

⁵⁷ ThyssenKrupp (2024). thyssenkrupp Steel is intensively pushing ahead with developing the hydrogen economy. Last viewed on 21 January, 2025: <https://www.thyssenkrupp.com/en/newsroom/press-releases/pressdetailpage/thyssenkrupp-steel-is-intensively-pushing-ahead-with-developing-the-hydrogen-economy:-call-for-tenders-for-supplying-hydrogen-to-the-first-direct-reduction-plant-at-the-duisburg-location-251160>

⁵⁸ IEA (2023). Towards hydrogen definitions based on their emissions Intensity, p 41. Last viewed on 21 January, 2025: <https://iea.blob.core.windows.net/assets/acc7a642-e42b-4972-8893-2f03bf0bfa03/Towardshydrogendefinitionsbasedontheiremissionsintensity.pdf>

Table 2: Summary of hydrogen timelines and hydrogen types allowed per project under state aid contracts.

	Dunkirk ⁵⁹	Duisburg ⁶⁰	Bremen & Eisenhütten-stadt ⁶¹	Saarland ⁶²	Gijón ⁶³
Planned start of DRP operation	2026-2027	2026	2026	H2/2026	2025
Date of fossil gas phase-out	2035	2037	Not available	2036	2028/2029
Hydrogen types allowed	Renewable and low-carbon hydrogen (a)	Blue hydrogen, renewable hydrogen (a) ⁶⁴	Green and grey hydrogen	Renewable and low-carbon hydrogen (a)	Green hydrogen

Notes to table

(a) Needs to meet the following criterion: *‘hydrogen that complies with lifecycle greenhouse gas emissions savings of at least 70% relative to a fossil fuel comparator of 94 g CO₂e/MJ ... (also referred to in this decision as ‘low-carbon hydrogen’)’*⁶⁵

Potential loopholes and clawback mechanisms

Gas-to-hydrogen timelines for the projects are to be ensured through third party monitoring schemes and clawback mechanisms.

The SHS state aid deal foresees separate monitoring mechanisms to oversee the timeline for natural gas phase-out, the emissions intensity of hydrogen, the share of renewable hydrogen used, and the amount of total steel production at the sites.⁶⁶ In the case of Dunkerque, the

⁵⁹ European Commission (6 September, 2024). ‘Dunkirk state aid Decision’, p. 8, 10, and 40. Last accessed on 12 December, 2024:

https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

⁶⁰ European Commission, (20 July, 2023). ‘ThyssenKrupp Steel state aid Press Release’. Last accessed on 12 December, 2024: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3928

⁶¹ European Commission (23/02/2024), ‘Commission approves €1.3 billion German State aid measure funded under Recovery and Resilience Facility to support ArcelorMittal decarbonise its steel production’. Last accessed on 21 January 2025: https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1009

⁶² European Commission (6 September, 2024). ‘SHS state aid Decision’, p. 10 and 15. Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases1/202442/SA_105337_152.pdf

⁶³ Artículo 1.4 and Anexo VI in Ministerio de Industria, Comercio y Turismo (2023). BOE-A-2023-8579. Last visited on 19 December, 2024: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2023-8579

⁶⁴ BMWK (July 2023). Zuwendungsbescheid: Anlage: “Regelungen des Monitoringmechanismus”, p. 5, clause 5 Redacted document accessed via FOI request.

⁶⁵ European Commission (6 September, 2024). ‘Dunkirk state aid Decision’. Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

⁶⁶ European Commission (6 September, 2024). ‘SHS state aid Decision’, p. 26, clause (88). Last accessed on 18 February, 2024:

https://ec.europa.eu/competition/state_aid/cases1/202442/SA_105337_152.pdf

French authorities plan to monitor the shares of natural gas and hydrogen used, as well as the ‘envisaged objectives as regards its CO2 emission savings’.⁶⁷

Furthermore, the three public state aid decisions show that clawback mechanisms are in place with the aim of avoiding overcompensation. Both SHS and ArcelorMittal will have to submit separate annual cash flow accounting to avoid this situation. In case this accounting comes back positive (i.e. subsidies outweighing expenses), 70% of the surplus aid will need to be paid back.^{68 69} In the case of SHS, a second clawback provision foresees separate analytical accounting of projected vs. actual hydrogen and natural gas costs, including the approval by an independent auditor.⁷⁰

On the other hand, the available state aid decisions for ArcelorMittal France and SHS suggest that hydrogen timelines can be delayed under certain circumstances. The decision for SHS provisions that if the price of hydrogen is too high, the share of hydrogen in the energy mix “may be further reduced”.⁷¹ A clause found in contracts for both SHS and Thyssenkrupp allows German authorities to waive penalties for failing hydrogen timelines in case of force majeure, which according to the documents includes hydrogen market situations beyond the beneficiaries’ control as well as situations of low renewable hydrogen availability.⁷² In France, the state aid decision for Dunkerque emphasises that ArcelorMittal will have to submit an action plan if it exceeds the hydrogen use timetable by more than 12 months, followed by a partial reimbursement of the aid in case of unmet obligations. However, if the delays are ‘based on objective technical reasons substantiated by the beneficiary and verified by external expertise’, French authorities are allowed to weaken the timeline.⁷³

Conclusions

Under the umbrella of the EU Green Deal, EU Member States are intending to provide at least EUR 9.3 billion through mostly direct grants to the steel industry to phase-out coal. While this is

⁶⁷ P. 25 in European Commission (6 September, 2024). ‘Dunkirk state aid Decision’, p. 24 cont. Last accessed on 12 December, 2024:

https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

⁶⁸ ‘Dunkirk state aid Decision’. Page 24. Last accessed on 12 December, 2024:

https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

⁶⁹ European Commission (6 September, 2024). ‘SHS state aid Decision’, p. 24 cont. Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases1/202442/SA_105337_152.pdf

⁷⁰ European Commission (6 September, 2024). ‘SHS state aid Decision’, p. 24 cont. Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases1/202442/SA_105337_152.pdf

⁷¹ European Commission (6 September, 2024). ‘SHS state aid Decision’, p. 13, clause (52). Last accessed on 18 February, 2025:

https://ec.europa.eu/competition/state_aid/cases1/202442/SA_105337_152.pdf

⁷² See footnote (60) in European Commission (6 September, 2024). ‘SHS state aid Decision’. Last accessed on 12 December, 2024:

https://ec.europa.eu/competition/state_aid/cases1/202442/SA_105337_152.pdf;

For Thyssenkrupp: BMWK (July 2023). Zuwendungsbescheid: Anlage: “Regelungen des Monitoringmechanismus”, p. 5, clause 2.7. Redacted document accessed via FOI request.

⁷³ P. 26 in European Commission (6 September, 2024). ‘Dunkirk state aid Decision’. Last accessed on 12 December, 2024: https://ec.europa.eu/competition/state_aid/cases1/202436/SA_104903_131.pdf

a positive sign for climate action, the lack of transparency around EU State Aid poses a threat to public oversight over the use of public money.

Among the five projects reviewed in this briefing, four seem seriously delayed, putting the companies' and EU climate targets at risk. Quick Member State action is needed to bring these projects back on track and preserve EU leadership on steel decarbonisation.

The incoming European Commission needs to ensure not only that the projects are brought back on track, but equally that they are delivered to the highest environmental standards. The Commission further needs to step up transparency over State aid decisions by finally making public versions available as it is supposed to do.

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