

Rio Tinto: a just transition case study

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A just transition perspective often considers the social implications of the shift away from fossil fuels and how this can impact communities or cause political pushback, complicating the execution of the transition itself. This is the viewpoint we have explored in our previous two just transition case studies on American Electric Power (AEP)[1] and Poland.[2]

However, this argument can be flipped. As well as the social risks affecting the move **away** from fossil fuels, there are social risks associated with the move **to** renewable technologies.

This paper will investigate the mining company Rio Tinto (ticker RIOLN), particularly focusing on the company's experience in the Jadar lithium mine in Serbia, and the impact on bond investors. Lithium is a critical material for the energy transition, essential for electric vehicles (EVs) and battery storage, meaning any restrictions on mining the metal can directly impede the transition.

Rio Tinto plans to grow significantly in this area, having made considerable lithium investments in recent years in contrast to peers. Obtaining social approval is a key part of lithium mining – or, in fact, the business activities of any company, whereby having a social licence to operate (SLO) is essential.[3] This makes just transition risks particularly salient to the company.

Rio Tinto's activities in Serbia highlight a failure in earning an SLO, with longer-term financial consequences for bondholders. The key takeaways of this case study are:

- **Social risks affect the move to renewables, not just away from fossil fuels.** Lithium mining is critical to the energy transition, but is fraught with social risks.
- **Failure to earn an SLO can have significant financial impact.** Rio Tinto's inability to secure public acceptance for the Jadar lithium mine in Serbia led to its mothballing, affecting growth ambitions and future profitability.
- **A history of SLO failures compounds reputational and financial risk.** Prior incidents, such as the destruction of the Juukan Gorge caves in Australia, may have undermined Rio Tinto's ability to earn social acceptance in Serbia.
- **The SLO challenge in mining is not insurmountable.** Examples highlight how sector companies have achieved social acceptance and a streamlined regulatory process.
- **Rio Tinto's credit spreads did not seem to be directly impacted by the Jadar project suspension, widening in line with the market in the immediate aftermath.** Lithium isn't yet a significant driver of returns for Rio Tinto, but as the transition accelerates, social risks that jeopardise production could be relevant for bondholders.

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[1] "American Electric Power: a just transition case study", AFII, 30 Jan 2026.
[2] "Poland: a just transition case study", AFII, 1 May 2026.
[3] "Social license to operate", Learning For Sustainability, accessed 29 May 2026.

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Social licence to operate (SLO)

The SLO is a key aspect of the just transition. It refers to the *"ongoing acceptance or approval that organisations receive from communities and the wider groups affected by their activities"*.[4] The SLO is different from formal regulatory permission as it is built on trust, transparency and fairness, and is constantly evolving as an organisation's relationships with stakeholders develop.

For transition-related activities to be just, an SLO is crucial. This can be built over time by developing relationships with local communities and ensuring all stakeholders are appropriately consulted prior to launch. Earning an SLO is even more important in the mining industry,[5] which faces heightened ESG risk[6] and increased investor scrutiny. Lithium mining is critical to the transition, but if wider social buy-in for its extraction is not obtained, this may impede its production. As a result, the long-term benefits of the transition may never be realised.

Indeed, the importance of the SLO is reflected in Rio Tinto's own objectives, one of which focuses on "*strong sustainability and social licence*".[7]

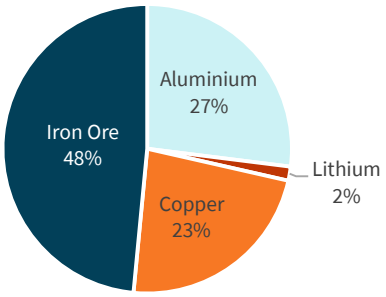
However, while important to the company, Rio Tinto's past experiences suggest that it has not always gained the trust of affected stakeholders. This failure to build an SLO has implications as it can delay ongoing projects, or even cause these projects to be abandoned.

Rio Tinto

Background

Rio Tinto is one of the world's largest mining companies, operating across 34 countries and focusing on four core commodities: iron ore, copper, aluminium and lithium.[8] As shown by Figure 1, lithium currently constitutes a very small share of Rio Tinto's underlying revenue.

Figure 1. Rio Tinto segmental revenue 2025. Source: 2025 Annual Report.



However, the company has outlined plans to grow this segment rapidly. As part of its push into this market, it acquired Arcadium Lithium in March 2025 for USD6.7 billion, making it the world's third-largest lithium producer.[9] Rio Tinto is hopeful the metal will be a core part of its future portfolio due to its essential role in the energy transition, in contrast to peers BHP Group and Anglo American, which have opted against large-scale lithium investments.[10]

Credit rating agency Fitch reports how Rio Tinto's lithium expansion "*entails execution risk*".[11] This highlights the credit relevance of factors that impact Rio Tinto's lithium production strategy. We will show this includes social risks.

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[4] "Social license to operate", Learning For Sustainability, accessed 29 May 2026.
[5] "Top 10 business risks and opportunities for mining and metals in 2026", EY, 16 Oct 2025.
[6] "Rio Tinto Group ESG Score", S&P Global, 24 Feb 2026.
[7] "Our business", Rio Tinto, accessed 29 May 2026.
[8] Ibid.
[9] "Rio Tinto establishes dominant position in lithium market by acquisitions", S&P Global, 26 Sep 2025.
[10] "Rio Tinto to invest $2.5bn in latest commitment to lithium", FT, 12 Dec 2024.
[11] "Fitch Affirms Rio Tinto at 'A'; Stable Outlook", Fitch Ratings, 15 May 2026.

Jadar mining project

Rio Tinto discovered the proposed Jadar mine in Serbia in 2004. It contains one of the largest lithium deposits in the world, estimated to hold sufficient reserves to meet approximately 90% of the EU's lithium demand.[12] Given lithium's importance to the energy transition, the EU has designated the mine a strategic project under its Critical Raw Minerals Act (CRMA).[13]

Figure 2. Location of Jadar valley mining project in Serbia. Source: OpenStreetMap, BISI.



The company was granted permission in 2017 from the Serbian government to extract lithium from the site and subsequently planned to begin mining in 2022. However, in the lead up to the proposed mine opening, reports emerged that Rio Tinto had failed to consult the local population adequately, offer enough information on the environmental impacts and consider opposition to the project.[14] Main concerns surrounding the project included water contamination, biodiversity loss and the displacement of local communities. What began as local opposition grew to become huge nationwide protests against the negative environmental and social impacts of the Jadar mine, eventually resulting in the government halting the project in January 2022.[15]

However, following two years of lawsuits and negotiations, the Serbian government unblocked Rio Tinto's ability to mine lithium at Jadar in July 2024, resulting in another wave of major national protests. While Rio Tinto attempted to reassure the public, particularly the local population, on how it planned to mitigate the effects of the project, significant public discontent remained, leading to the company's eventual decision to mothball the mine in November 2025 (despite its designation under the EU's CRMA only a few months earlier).[16]

Financial impact

As well as significant reputational damage, the case also illustrates the financial impact of failing to earn an SLO. When committing funding to the project, Rio Tinto was aiming to produce 2.3 million tonnes of lithium carbonate over the expected 40-year life of the mine, in line with its bullish long-term outlook for lithium demand.[17] The overall project was expected potentially to generate EUR11.5 billion in undiscounted net profit over its lifespan.[18] As of January 2022, when it was first called off, Rio Tinto had spent USD450 million in pre-feasibility, feasibility and other studies.[19] Final costs are likely to be higher, given nearly four years elapsed until the project's eventual mothballing. S&P, another credit rating agency, also notes that social opposition to the Jadar mine

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[12] "Rio Tinto Returns? The EU's Risky Embrace of Serbia's Lithium Mine", Bloomsbury Intelligence & Security Institute, 23 Jun 2025.
[13] "Selected strategic projects", European Commission, 4 Jun 2025.
[14] "Rio Tinto disregards residents' discontent, announces mine construction in 2022", Balkan Green Energy News, 5 Mar 2021.
[15] "Jadar project timeline: a full overview of the most controversial investment in Serbia's recent history", Balkan Green Energy News, 13 Nov 2025.
[16] Ibid.
[17] "Rio Tinto commits funding for Jadar lithium project", Rio Tinto, 27 Jul 2021.
[18] "HOW MUCH WOULD SERBIA GAIN FROM THE JADAR PROJECT?", Kreni-Promeni, 10 Oct 2024.
[19] "Jadar Project - Facts at a Glance", Rio Tinto, Jul 2021.

meant that the company lost out on the 2023 lithium bull cycle, when prices surged in response to EV demand.[20]

With significant financial benefits and growth opportunities linked to the project, Rio Tinto's experience in the Jadar mine appears to be material for bondholders and a setback for the company's lithium expansion plans. Indeed, the subsequent acquisition of Arcadium Lithium in March 2025 may have been a response to its struggles in Jadar,[21] allowing Rio Tinto to access immediate lithium production rather than developing its own assets.

As the company seeks to establish itself as a global leader in energy transition materials, social risks are important to consider as they can result in missed revenue opportunities and notable changes to company strategy.

This is not the first occasion Rio Tinto has experienced social pushback. One reason the company may have struggled to build an SLO in Jadar is due to its reputation, which suffered significantly due to an incident at the Juukan Gorge in Australia in May 2020.

Previous experience in Juukan Gorge

The Juukan Gorge in Western Australia is an ancient Aboriginal site, famously known for a sacred cave system containing evidence of continuous human occupation for over 46,000 years.

In May 2020, the caves were permanently destroyed by Rio Tinto, which had obtained ministerial consent to expand iron ore mining at the site in 2013. The rockshelters reportedly sat above high-grade iron ore worth USD104 million.[22]

The destruction of the caves prompted international outcry and widespread media coverage, eventually leading to the resignations of board chair and CEO, shareholder revolt over executive remuneration and significant reputational damage.[23] Although measuring the direct financial impact of the incident is difficult, turnover of senior executives and shareholder backlash clearly constitute material consequences that could concern both equity and fixed income investors. The case may have also impacted Rio Tinto's ability to earn future social acceptance, such as in Jadar.

While not as directly related to the transition as lithium mining, the Juukan Gorge incident spotlighted the importance of an SLO and the business execution consequences of not considering social risks.

Engagement

Rio Tinto's experience in Juukan Gorge also highlighted the impact of equity market engagement, with shareholders able to exert influence and pressure, ultimately resulting in senior management stepping down and social licence becoming an objective of the company. Fixed income investors concerned with Rio Tinto's approach to social issues also have tools at their disposal for effective engagement to ensure these risks are being considered. These are outlined in AFII's toolkit on

[20] "Rio Tinto establishes dominant position in lithium market by acquisitions", S&P Global, 26 Sep 2025.
[21] "Rio Tinto 'welcomes' Serbia lithium court ruling, while Citi says buy Arcadium Lithium instead", The West Australian, 12 Jul 2024.
[22] "Juukan Gorge: Rio Tinto investors in pay revolt over sacred cave blast", BBC News, 7 May 2021.
[23] Ibid.

bondholder engagement.[24] For a full list of Rio Tinto's current outstanding bonds, please see Table 1 in the Appendix.

SLO concerns can be addressed

Although mining is an industry highly exposed to social concerns, there are instances where companies have successfully earnt an SLO.

Canadian mining company Skeena Resources is a precious metals developer, exploring a gold-silver mine in Eskay Creek, British Columbia. The mine sits on indigenous Tahltan land, yet the company has successfully collaborated with the Tahltan Central Government to ensure its project has been socially accepted by local communities.[25]

Initially, the Tahltan Central Government made a CAD5 million equity investment in Skeena in 2021, creating one of the first co-ownership arrangements of its kind in the industry.[26] Rather than simply consulting the Tahltan, Skeena treated the group as genuine decision-makers and in June 2022, the Tahltan Nation and the Province of British Columbia signed an agreement establishing the requirement for Tahltan consent before the mine could proceed.[27]

Building an SLO this way, through community engagement and co-ownership, resulted in a dramatically streamlined regulatory process. In January 2026, Skeena received its Environmental Assessment Certificate following federal, local and Tahltan government consent, allowing gold and silver mining to take place. Both Skeena and Tahltan representatives noted the mutual benefits of this decision-making process, preventing the project from running into social obstacles.[28] Financially, the project is expected to generate *"solid annual free operating cash flow (FOCF)"* and *"will likely benefit from high-grade deposits, low unit costs, and a long-term gold price of about US$3,000 per ounce"*.[29]

This example reveals how social concerns are not insurmountable in the mining sector. Although Skeena Resources is much smaller than Rio Tinto, the case demonstrates what is possible when an SLO is earnt over time. Adopting this approach may have helped Rio Tinto achieve social acceptance in the Jadar valley.

Rio Tinto spread performance

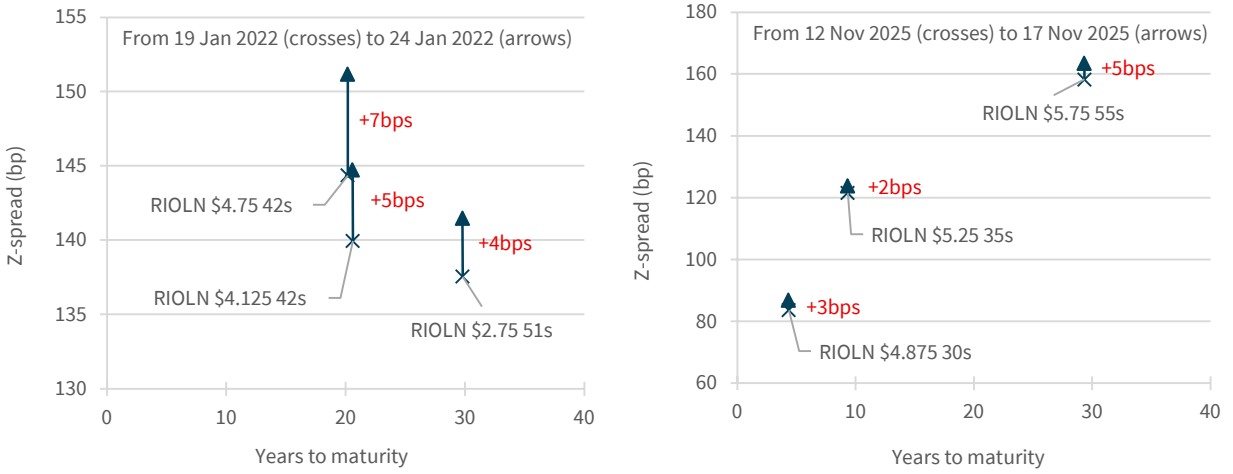
To assess whether Rio Tinto's failure to build an SLO in Serbia impacted market pricing of its bonds, we investigated the credit spread impact in the immediate aftermath of the Jadar project being suspended. As outlined above, this occurred twice: in January 2022, when the Serbian government revoked Rio Tinto's licence, and in November 2025, when the company itself announced it was mothballing the mine.

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[24] "Finding your voice: tools for better bondholder engagement on climate and nature risk", AFII, 5 Dec 2025.
[25] "Tahltan, B.C. make history with consent-based decisions on Eskay Creek mine", British Columbia Government News, 26 Jan 2026.
[26] "How Co-Ownership Built a Strong Relationship Between an Indigenous Community and a Mining Company", Triple Pundit, 8 Oct 2024.
[27] "The Eskay Creek Revitalization Project", Eskay Creek Revitalization, accessed 29 May 2026.
[28] "Skeena Resources secures assessment approval for Eskay Creek project", Mining Technology, 28 Jan 2026.
[29] "Research Update: Skeena Resources Ltd. Assigned 'CCC+' ICR, Outlook Stable; Proposed Secured Notes Rated 'B-' (Recovery Rating: '2')", S&P Global, 31 Mar 2026.

Figure 3 below shows the respective moves in spreads, from the day before the suspension announcements (19 Jan 2022 and 12 Nov 2025) to the following Monday.[30] The Rio Tinto bonds selected are the company's three most recently issued USD bonds at the time of the suspension.[31]

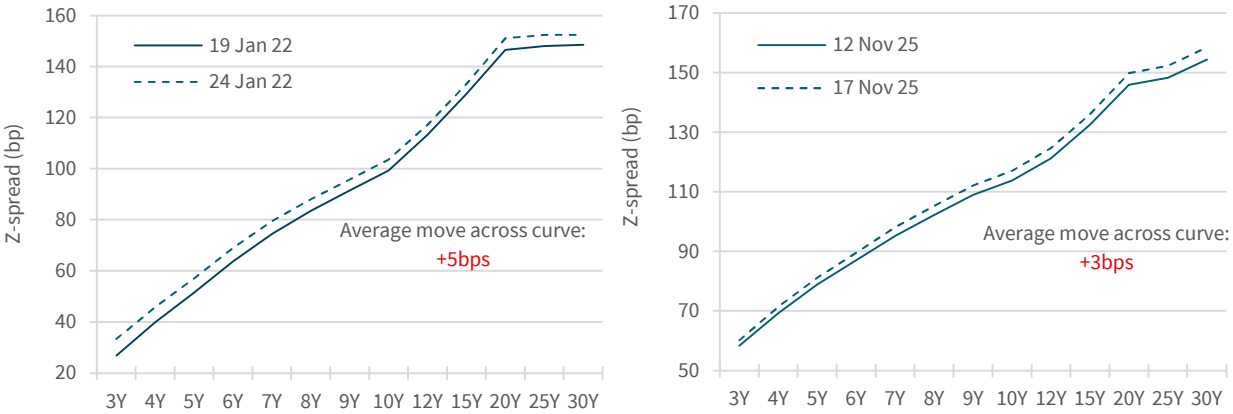
Figure 3. Rio Tinto USD spread moves following Jadar project suspensions. 19 Jan 2022 – 24 Jan 2022 LHS, 12 Nov 2025 – 17 Nov 2025 RHS. Source: Bloomberg Finance L.P., accessed 1 Jun 2026



As shown, Rio Tinto's bonds widened immediately after the Serbian government revoked the company's licence to mine in January 2022. The widening observed in November 2025 was smaller, when Rio Tinto mothballed the Jadar project.

To investigate how Rio Tinto's bonds performed in the context of the broader market, we looked at the curve performance of the USD US Composite A BVAL Curve Index over the same windows.[32] This is shown below in Figure 4.

Figure 4. USD US Composite A BVAL Curve Index Z-spread moves. 19 Jan 2022 – 24 Jan 2022 LHS, 12 Nov 2025 – 17 Nov 2025 RHS. Source: Bloomberg Finance L.P., accessed 1 Jun 2026



[30] Both announcements came on a Thursday (20 Jan 2022 and 13 Nov 2025). We have chosen to investigate the spread impact until the following Monday to try and isolate the impact of the Jadar headlines on spread movements, while also giving time for the news to be absorbed by the market.

[31] Rio Tinto printed a USD9bn, eight-tranche transaction in March 2025 to finance the acquisition of Arcadium Lithium. This was across 2yr, 3yr, 3yr FRN, 5yr, 7yr, 10yr, 30yr and 40yr tranches. The 2030s (5yr), 2035s (10yr) and 2055s (30yr) have been shown here.

[32] Rio Tinto is rated A1 / A / A, hence why this index was chosen. The BVAL sector curve is populated with senior unsecured fixed rate bonds with a given currency, country/region, BICS industry sector, and Bloomberg Composite rating. The yield curve is built daily with bonds that have BVAL prices at the market close. Bloomberg Curve ID: BS564 Corp

In both cases, the market widened, meaning we cannot conclude that the Jadar project suspension specifically impacted the spreads of Rio Tinto's bonds.

One reason why the market may have disregarded the mine suspension could be that lithium isn't yet a significant driver of returns, given its current small proportion in Rio Tinto's revenue. As the transition accelerates and the production of lithium becomes more financially material for the company, any failure to obtain an SLO that jeopardises production will be relevant for bondholders.

Conclusions

Although there are social risks as a result of the move away from fossil fuels, there are also social concerns affecting the shift to renewables, which can equally complicate the execution of the transition. Lithium is a critical metal for EVs and battery storage, yet its mining is fraught with just transition risks.

Failure to account for these risks can cause project delays and eventually abandonment, as was experienced by Rio Tinto at the Jadar mine in Serbia. The company did not successfully earn an SLO, leading to nationwide protests and the project being suspended. Financially, this likely damages Rio Tinto's lithium growth aspirations, not accounting for sunk costs in the past 22 years since the mine was initially discovered. Examples highlight that an SLO can be successfully built in the mining sector, despite its higher risk profile.

From a bondholder perspective, although Rio Tinto's credit spreads may not have widened directly due to the halting of Jadar project, repeated failures to secure an SLO (Jadar and Juukan Gorge most notably) could see its bonds subject to future volatility, particularly as the importance of lithium production to its business grows.

Appendix

Table 1. Rio Tinto outstanding bonds. Amount outstanding >USD300 million equiv. Source: Bloomberg Finance L.P., accessed 4 June 2026

Description	ISIN	Issue Date	Maturity	Currency	Amount Outstanding
RIOLN $4.375 27s	US76720AAQ94	14 Mar 2025	12 Mar 2027	USD	500,000,000
RIOLN $4.5 28s	US76720AAR77	14 Mar 2025	14 Mar 2028	USD	750,000,000
RIOLN $Float 28s	US76720AAY29	14 Mar 2025	14 Mar 2028	USD	500,000,000
RIOLN $7.125 28s	US767201AD89	27 Jun 2008	15 Jul 2028	USD	750,000,000
RIOLN £4 29s	XS0863076930	11 Dec 2012	11 Dec 2029	GBP	500,000,000
RIOLN $4.875 30s	US76720AAS50	14 Mar 2025	14 Mar 2030	USD	1,750,000,000
RIOLN $7.25 31s	US013716AQ81	23 Mar 2001	15 Mar 2031	USD	400,000,000
RIOLN $5 32s	US76720AAT34	14 Mar 2025	14 Mar 2032	USD	1,250,000,000
RIOLN $5 33s	US76720AAN63	09 Mar 2023	09 Mar 2033	USD	650,000,000
RIOLN $6.125 33s	US013716AU93	08 Dec 2003	15 Dec 2033	USD	750,000,000
RIOLN $5.25 35s	US76720AAU07	14 Mar 2025	14 Mar 2035	USD	1,750,000,000
RIOLN $5.2 40s	US767201AL06	02 Nov 2010	02 Nov 2040	USD	1,150,000,000
RIOLN $4.75 42s	US76720AAD81	22 Mar 2012	22 Mar 2042	USD	500,000,000
RIOLN $4.125 42s	US76720AAG13	21 Aug 2012	21 Aug 2042	USD	750,000,000
RIOLN $2.75 51s	US767201AT32	02 Nov 2021	02 Nov 2051	USD	1,250,000,000
RIOLN $5.125 53s	US76720AAP12	09 Mar 2023	09 Mar 2053	USD	1,100,000,000
RIOLN $5.75 55s	US76720AAV89	14 Mar 2025	14 Mar 2055	USD	1,750,000,000
RIOLN $5.875 65s	US76720AAW62	14 Mar 2025	14 Mar 2065	USD	750,000,000

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