



*Brazilian Civil Society Working Group on Infrastructure and
Socio-Environmental Justice*

**Alert to Financial Institutions on risks of
participation in the Ferrogrão ‘greenfield’
railroad project (EF-170) in the Brazilian
Amazon**

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Alert to financial institutions on risks of participation in the Ferrogrão 'greenfield' railroad project (EF-170) in the Brazilian Amazon

The purpose of this document (extra-judicial notification) is to warn potential investors about financial, legal and reputational risks associated with the proposed railroad project known as **Ferrogrão (EF-170)**, part of the Brazilian government's Investment Partnership Program (PPI). Regarded as a priority by the Ministry of Infrastructure, the proposed project foresees the implementation of a 933-kilometer 'greenfield' railway between the cities of Sinop, in the state of Mato Grosso, and Miritituba, in the Amazonian state of Pará. The project objective is to reduce transportation costs of export-oriented soybeans and other large-scale, mechanized agribusiness commodities produced in the center-west of Brazil through a corridor known as “Arco Norte” (Northern Arch) in the central Brazilian Amazon, connecting to ports along the Tapajós, one of the major tributaries of the Rio Amazonas. However, there are critical weaknesses and flaws in the project design – especially with regard to socio-environmental impacts and economic viability - which are described below.

The route proposed for the Ferrogrão railway would traverse a highly-sensitive region of the Brazilian Amazon, marked by land conflicts and processes of environmental degradation, that is a focus of international attention within the context of the global climate crisis and concerns for protecting biodiversity and the rights of indigenous peoples. Independent studies demonstrate that, once implemented, the Ferrogrão railway would become a major driver of deforestation in the heart of the Brazilian Amazon and adjacent regions of tropical savannah (Cerrado), also of major ecological significance. As described below, planning studies for the Ferrogrão railway have seriously underestimated and, in some cases, ignored the project's social and environmental impacts, including risks for conservation units and indigenous territories – typically associated with land conflicts and legal issues in the licensing and concession of the project. This series of shortcomings threatens the economic feasibility of the project that, if implemented, would represent a deleterious intervention for the Amazon and its inhabitants, with serious implications for potential investors in terms of financial, legal and reputational risks.

Financial actors potentially interested in investing in the Ferrogrão project should not ignore this discussion of strategic importance to Brazil, the Amazon and its populations. Demands for corporations and investors to adopt more rigorous criteria for social and environmental governance are increasing throughout the world. The shortcomings of the proposed Ferrogrão railway must be duly analyzed by all potential financiers prior to decisions on involvement in the project – and we firmly believe this will lead to a logical conclusion to refrain from investing in the project. Failure to conduct such due diligence will not only expose such parties to noncompliance with their own policies of social and environmental responsibility (ESG), but also to risks of co-liability for socio-environmental damages

associated with the project, including risks not foreseen or addressed in environmental licenses, pursuant to Brazil's National Environmental Policy ([Federal Law 6938/81, article 14, IV/ § 3º](#)).

The following sections describe nine key flaws in the planning process of the proposed Ferrogrão railway project, including:

- 1. *Insufficient attention to international sustainability criteria***
- 2. *Underestimation of deforestation risks***
- 3. *Incentives for land conflicts, including land-grabbing (grilagem) on public lands***
- 4. *Increasing pressure to reduce conservation units***
- 5. *Violations of indigenous peoples' rights***
- 6. *Contradictions regarding zero deforestation commitments made by agribusiness companies***
- 7. *Underestimation of construction costs and excessive optimism in projections of economic returns***
- 8. *Flawed evaluation of competition from other transportation routes***
- 9. *Lack of consideration of alternative investments.***

1 - Insufficient attention to international sustainability criteria

The proposed EF-170 railroad (Ferrogrão) was conceived with the objective of reducing transportation costs for agribusiness commodities, mainly soybeans, produced in the state of Mato Grosso and destined for export. With an overall budget of 21.5 billion Brazilian Reals (approximately USD 4.3 billion) and initial installation costs estimated at 8.42 billion Brazilian Reals (USD 1.7 billion), the project foresees an export corridor that would traverse 933 kilometers into the Amazon forest, connecting centers of agribusiness production in the Brazilian center-west (Mato Grosso state) to port facilities in Miritituba (Pará state), a transshipment hub on the banks of the Tapajós river (a major tributary of the Amazon) transforming it into a major industrial waterway (hidrovia). From Miritituba, the cargo would proceed down the Tapajós and Amazon rivers via large barges to a seaport. The Ferrogrão railroad's planned route would largely follow that of the existing BR-163 (Cuiabá-Santarém) highway.

An analysis conducted by researchers at the Climate Policy Initiative (CPI) and the Catholic University of Rio de Janeiro (PUC-Rio) indicated that Ferrogrão's Technical, Economic and Environmental Feasibility Study (EVTEA in Portuguese) and Environmental Impact Assessment (EIA) failed to assess essential socio-environmental components, according to international guidelines.¹ The findings of the analysis show that only three out of the ten key components defined by international guidelines were included in the Terms of Reference (TR) of Ferrogrão's feasibility studies (EVTEA): (i) conservation units, (ii) traditional communities (indigenous and quilombola) and (iii) forest cover. In the

¹ Chiavari et al. (2020)

researchers' assessment, "both the EVTEA's Term of Reference and the EVTEA itself failed to predict and analyze the most relevant components to verify the potential socio-environmental impacts of the project", such as impacts on water resources, biodiversity and natural habitats, as well as on historical and cultural heritage sites.

2 – Underestimation of deforestation risks

Ferrogrão would stimulate the production of soybeans and other export-oriented commodities through reduced transportation costs and expansion of large-scale, mechanized agribusiness throughout the railway's extensive area of influence, including displacement of cattle ranching into the interior of the Amazon forest. The research carried out by the Climate Policy Initiative (CPI) and the Catholic University of Rio de Janeiro (PUC-Rio) estimated that the expansion of the agricultural and livestock frontiers in the state of Mato Grosso, driven by the construction of the railway, could directly contribute to the deforestation of more than 2,000 km² of native forest². This is equivalent to an area larger than the city of São Paulo.

The researchers highlighted that "this increase in deforestation would intensify carbon emissions by 75 million tons". Considering the price of US\$25 per carbon equivalent ton, this magnitude of deforestation could mean an additional cost of US\$1.9 billion (approximately R\$10 billion), should it be incorporated into the project — accounting for some 60% of the costs already anticipated in the railroad's implementation.

Additionally, the project would potentially impact 4.9 million hectares of protected areas in 48 municipalities in the area of influence of the railroad, according to a study developed by the Remote Sensing Center of the Federal University of Minas Gerais (CSR/UFGM).³ These include municipalities in the states of Goiás, Mato Grosso and Mato Grosso do Sul, where production costs of agribusiness commodities would fall if the railroad were to be constructed.⁴ The cumulative area of threatened conservation units would be equivalent to an area slightly larger than the state of Rio de Janeiro. Threats would be associated with expanded agribusiness production, stimulated by reduced transportation costs, and the highly vulnerable situation of protected areas. The researchers reached this conclusion when considering a scenario in which Ferrogrão would rely on three cargo transshipment terminals: an initial terminal in Sinop (Mato Grosso State), an intermediate terminal in

² Araújo et al. (2020)

³ Leles et al. (2020)

⁴ The municipalities include: 1 Alto Araguaia, 2 Alto Garças, 3 Alto Taquari, 4 Bom Jardim de Goiás, 5 Bom Jesus do Araguaia, 6 Brasnorte, 7 Camapuã, 8 Campo Novo do Parecis, 9 Campo Verde, 10 Canabrava do Norte, 11 Chapadão do Céu, 12 Cláudia, 13 Costa Rica, 14 Diamantino, 15 Gaúcha do Norte, 16 Ipiranga do Norte, 17 Itaúba, 18 Itiquira, 19 Lucas do Rio Verde, 20 Marcelândia, 21 Matupá, 22 Mineiros, 23 Nova Mutum, 24 Nova Santa Helena, 25 Nova Ubiratã, 26 Nova Xavantina, 27 Paraíso das Águas, 28 Paranatinga, 29 Peixoto de Azevedo, 30 Perolândia, 31 Querência, 32 Rio Verde de Mato Grosso, 33 Rondonópolis, 34 Santa Carmem, 35 Santa Cruz do Xingu, 36 Santa Rita do Araguaia, 37 Santa Rita do Trivelato, 38 Santo Afonso, 39 São Gabriel do Oeste, 40 São José do Rio Claro, 41 São José do Xingu, 42 Sinop, 43 Sonora, 44 Sorriso, 45 Tangará da Serra, 46 Tapurah, 47 Torixoréu, 48 Vera.

Matupá (Mato Grosso State); and a final one, at the port of Miritituba, in Itaituba (Pará State). The intermediate terminal, in Matupá, is included in the official documents for the concession of the railway, prepared by the National Land Transportation Agency (ANTT). The study highlights that 1.3 million hectares of native forest have already been illegally deforested in these 48 municipalities. Any further expansion of the deforested area would occur mainly at the expense of legally-protected areas.⁵

Researchers at CSR/UFMG have ascertained that risks of accelerating deforestation were ignored in the Environmental Impact Assessment (EIA) prepared for the Ferrogrão project. In assessing the project's impact on indigenous territories, traditional lands of *quilombola* communities (descendants of runaway enslaved Africans) and protected cultural heritage sites, the railroad studies were limited to a mere 10-kilometer strip along the railroad axis. This decision was solely based on a highly controversial Inter-Ministerial Ordinance (Portaria Interministerial no. 60/2015), concerning the involvement of federal institutions responsible for indigenous peoples and their territories (FUNAI), quilombola communities (Fundação Palmares) and cultural heritage sites (IPHAN) in environmental licensing processes led by the federal environmental agency (IBAMA).

The potential of Ferrogrão to promote deforestation and burning in an extensive region of the Brazilian Amazon is also related to cumulative and synergistic impacts with other large infrastructure projects, including:

- i) the newly-paved Cuiabá-Santarém highway (BR-163) where an expected increase in cargo traffic was used to justify a private concession to operate the road between Sinop and Itaituba;
- ii) the expansion of secondary roads and their traffic, feeding into the railway terminals, including the MT-322 state highway;
- iii) the implementation of port terminals in Miritituba, Santarenzinho and Itapacurá, and navigation operations in Tapajós towards the city of Santarém, as well as ports in the Amazonas estuary, as a continuation of the commodity export route of the so-called “Arco Norte (North Arch)”.
- iv) the expected construction of large hydroelectric power plants in the so-called Tapajós Complex.

Despite the requirements of Resolution 01/86 of the National Environmental Council (CONAMA)⁶, the EIA for Ferrogrão did not consider cumulative and synergistic impacts with other large infrastructure projects, as well as alternatives.

It is important to note that the installation of agribusiness port facilities in the district of Miritituba — linked to the existing BR-163 highway, and that would be further expanded as

⁵ See: Policy Brief: what to expect from the social and environmental impacts of Ferrogrão? Available at: <<https://csr.ufmg.br/csr/2020/11/26/policy-brief-o-que-esperar-dos-impactos-socioambientais-da-ferrograo/>>

⁶ <http://www2.mma.gov.br/port/conama/res/res86/res0186.html>

a result of Ferrogrão — has already caused harm to indigenous peoples and other traditional local communities that live along the Tapajós River." According to a recent report issued by the Institute for Socioeconomic Studies (Inesc), during the peak season of soybean exports, the small district of Miritituba is faced with traffic of up to 1,500 trucks a day, which pass through the town while waiting for their turn to unload cargo at one of the ports along the Tapajós river. "During interviews, we heard reports concerning the impacts related to private appropriation of roads and streets, to pollution and escalating violence, to drug trafficking and prostitution", states the Inesc report⁷. Moreover, the implementation of the port infrastructure has adversely interfered in the fishing activity of local populations — which is fundamental for the livelihoods of local populations — in terms of both subsistence and income generation. According to Inesc, "day-to-day fishing activities are affected by the ports in three ways: by the cordoned-off area; by the movement of barges along the river; and by impacts on fisheries in the region". If implemented, Ferrogrão would increase the volume of grains transported through the ports of Miritituba, further expanding the reach and intensity of such impacts.

3 - Incentives for land conflicts, including land-grabbing (grilagem) on public lands

The Technical, Economic and Environmental Feasibility Study (EVTEA) commissioned for Ferrogrão recognizes that the project is located in the area of influence of the so-called "Arc of Deforestation" in the Brazilian Amazon.⁸ This is a region where agricultural frontiers are expanding, marked by recurrent land conflicts. The construction of the railroad would worsen ongoing conflicts in the region.

The mere expectation of the construction and operation of the railway has already heightened regional tensions. In 2016, the federal government issued Provisional Measures (MPs) No. 756 and 758, which reduced the limits of Conservation Units (CU) to accommodate areas of the railroad project's planned domain. This initiative was followed by an increase in the number of invasions into protected areas. Even the CUs whose limits were not changed by the MPs suffered invasions.⁹

These impacts are amplified by the absence of adequate instruments for territorial and environmental governance. A large percentage of recent deforestation in the Brazilian Amazon has taken place on public lands, a phenomenon encouraged by the federal government through regulations that recognize forest clearing and the establishment of cattle pasture as 'improvements' for the purpose of granting private land titles in large areas. In this regard, recent examples of setbacks in the legal framework that stimulate land invasions, social conflicts and deforestation on public lands include Law 13465/2017,

⁷ *Enquanto a soja passa: impactos da empresa Hidrovias do Brasil em Itaituba, Pará.* (While soybeans pass through: impacts of Brazilian waterways in Itaituba, Pará State). Available at: <https://www.inesc.org.br/wp-content/uploads/2021/02/DossieHidrovias-VersaoFinal_PT2.pdf>

⁸ Relatório III - Diagnóstico Ambiental - EF-170 Trecho Sinop/MT - Itaituba/PA. (Report III - Environmental Diagnosis - EF-170 Sinop/MT - Itaituba/PA Segment). November 2016, p. 7.

⁹ <<https://www.socioambiental.org/pt-br/noticias-socioambientais/mps-ja-estimulam-destruicao-de-florestas-protegidas-no-para>>

Provisional Measure 910/2019, and Bill 4348/2019, recently approved by the Brazilian Senate.

Finally, it is important to recognize the prevalence of concentrated patterns of land tenure in this region. Over the past 20 years, the expansion of the agricultural frontier in Mato Grosso State has been marked by the dominance of large landholdings. Today, Mato Grosso is a state with one of the highest levels of land concentration in Brazil, with 869 documented cases of individual landholdings that control over 10,000 hectares each.¹⁰ The construction of the Ferrogrão railway would further contribute to patterns of land concentration. The area of influence of Ferrogrão, where land concentration would be stimulated, includes 102 agrarian reform settlements and 16 indigenous territories, in addition to conservation units, composing a region that is extremely significant socially, culturally and for biodiversity conservation. The expansion of large landholdings, stimulated by Ferrogrão, would intensify deforestation and land conflicts within these territories.¹¹

4 - Increased pressure to reduce conservation units

The proposed route of the Ferrogrão railroad traverses an area of the Jamanxim National Park that is currently the fifth most deforested conservation unit (CU) in Brazil. In 2017, the Park's boundaries were reduced through a Provisional Measure (*Medida Provisória* 758/2016) signed by ex-President Michel Temer, intended to authorize the proposed trajectory of the railway. Eight hundred and fifty-two hectares of the Park were decommissioned along the projected route of the Ferrogrão railway.

The decommissioning of portions of the Jamanxim National Park has become a focus of litigation in the Brazilian judicial system. In March 2021, an injunction by Justice Alexandre de Moraes, of the Federal Supreme Court (STF) suspended the efficacy of Law 13452/2017, which stemmed from Congressional approval of MP 758/2016. This decision was based on the understanding that conservation units cannot be reduced through provisional measures issued unilaterally by the President, only through an act of Congress – a position supported by a previous STF ruling in 2019.¹²

Prior to the Supreme Court decision, Provisional Measure MP 758/2016 was already a focus of controversy while under debate in the Brazilian Congress. An amended version of MP 758/2016, catering to politicians of the conservative agribusiness lobby known as the *ruralistas*, was initially approved in Congress, expanding the decommissioning to 101,000 hectares, affecting other conservation units in the area of influence of Ferrogrão and

¹⁰<http://www4.planalto.gov.br/consea/comunicacao/noticias/2018/copy2_of_maio/censo-aponta-aumento-de-numero-de-produtores-que-utilizam-agrotoxicos-na-lavoura>

¹¹ See: Contribution - Technical Grants | EF-170 Railway Concession Process (FERROGRÃO). Available at: <https://www.socioambiental.org/sites/blog.socioambiental.org/files/nsa/arquivos/subsidios_tecnicos_-_concessao_da_ferrograo_-_audiencia_publica_0142f2017_-_antt.pdf>

¹²<<https://valor.globo.com/empresas/noticia/2021/03/16/moraes-do-stf-suspende-reducao-de-parque-para-obra-da-ferrograo.ghtml>>

elsewhere in the Amazon and Atlantic rainforest. A similar situation occurred with Provisional Measure 756/2016, that would exclude over 300,000 hectares from the Jamanxim National Forest.¹³ In response, a high-profile national and international campaign - led by civil society organizations with support from celebrities - demanded that President Michel Temer veto attempts at indiscriminate reduction of protected areas.¹⁴

Despite the formal creation of conservation units such as National Forests and National Parks in the region of influence of Ferrogrão, the forests and rivers within their boundaries have not been effectively protected. Although scientific evidence has clearly demonstrated the enormous significance of protected areas for biodiversity and ecosystem integrity, conservation units have suffered from the federal government's inaction and complacency in the face of illegal logging and gold mining, as well as forest clearing associated with invasions of public lands by land-grabbers (*grileiros*). Provisional Measures (*Medidas Provisórias*) signed by the Brazilian President, such as MPs 756 and 758, and related acts by Congress aimed at decommissioning extensive areas of conservation units - with no technical justification or public consultations - have been a major impetus to intensified environmental devastation in fragile territories.

With increased pressure on remaining forest areas – especially from illegal loggers and land-grabbers (*grileiros*) - associated with the implementation of the Ferrogrão railroad, vulnerable conservation units would certainly face additional risks of devastation and decommissioning.

5 - Violations of indigenous peoples' rights

Indigenous peoples and other traditional populations have the right to Free, Prior and Informed Consultation and Consent (FPIC) with regard to legislative or administrative decisions that affect their territories and livelihoods. This right is guaranteed by international conventions to which Brazil is a signatory nation, such as Convention 169 of the International Labor Organization (ILO) and the American Declaration on the Rights of Indigenous Peoples, established under the auspices of the OAS.

This right applies to infrastructure projects, such as Ferrogrão. The consultation process needs to take place throughout the project lifecycle — including during the feasibility assessment stage of the project, so that indigenous peoples and other traditional communities may effectively take part in decisions that will affect their territories and livelihoods. During the technical and economic assessment phase, decisions concerning a project's feasibility should incorporate inputs from prior consultations with indigenous peoples and other affected communities. Should a project proceed, consultations should

¹³ <<https://imazon.org.br/publicacoes/reducao-da-flona-do-jamanxim-vitoria-da-especulacao-fundiaria/>>

¹⁴ <<https://www.oeco.org.br/salada-verde/continuamos-de-olho-responde-gisele-bundchen-sobre-mensagem-de-veto-de-temer/>>

influence its physical design, as well as actions aimed at prevention, mitigation and compensation of social and environmental impacts.¹⁵

The Technical, Economic and Environmental Feasibility Study (EVTEA) of Ferrogrão recognizes that the railway's planned route would be in proximity to 16 indigenous territories, all of which should be considered within the project's area of influence. These indigenous communities residing within these territories were not, however, consulted about Ferrogrão during the planning phase of the project.¹⁶

The Terms of Reference for the 'Indigenous Component' of Environmental Impact Assessment (EIA) for Ferrogrão, issued by Funai (National Indigenous Foundation) in September 2019, recognizes only the Praia do Índio and the Praia do Mangue Indigenous Territories, traditionally occupied by the Munduruku people along the Tapajós River near the town of Miritituba, as affected by the implementation of the railroad — in direct contrast to the 16 indigenous peoples identified in the technical feasibility studies¹⁷.

FUNAI's exclusion of the majority of affected indigenous territories from the EIA was based on a highly controversial inter-ministerial ordinance (Portaria Interministerial no. 60/2015) that arbitrarily limits federal agencies from analyzing socio-environmental impacts of major projects on indigenous peoples, other traditional communities and cultural heritage sites beyond a radius of 10 km from its physical infrastructure.

Since 2017, indigenous peoples threatened by Ferrogrão have been demanding their right to Free, Prior and Informed Consultation and Consent (FPIC). Initial demands were presented by the Munduruku and Kayapó peoples, between May and December of 2017. These demands were not met, with the federal government attempting to invoke Portaria 60/2015 as a justification.¹⁸ In May 2018, the government announced that it would not proceed with consultations with indigenous peoples before the railroad was tendered to private operators, in contrast to its legal obligations.

While stating that only the *Praia do Índio* and the *Praia do Mangue* communities would be consulted as part of the environmental licensing process for Ferrogrão, the federal

¹⁵"The consultation should take place during the diagnosis or planning phase of the project or measure, sufficiently before the beginning of the execution activities. The consultation should take place in the early stages of designing or planning of the project or measure so that indigenous peoples can truly participate and influence decision making." (Opinion n.4/2012 EMRIP, A/HRC/21/55 paragraph 14).

¹⁶<<https://www.socioambiental.org/pt-br/noticias-socioambientais/mpf-manda-parar-processo-de-concessao-da-ferrograo-por-falta-de-consulta-a-povos-indigenas>>

¹⁷<<https://economia.estadao.com.br/noticias/geral,area-tecnica-do-tcu-vai-contra-acao-do-ministerio-publico-para-travar-ferrograo,70003637596>>

¹⁸ In 2017, the staff of the Ministry of Transportation, Ports and Civil Aviation (MTPA) in office at the time, issued the Technical Note no. 9/2017, in which it refused to carry out the FPIC on the grounds that "the proposed route for the implementation of EF-170 (Ferrogrão) would be at a distance greater than the one likely to cause direct socio-environmental impacts on the indigenous land, considering the distances set forth under the Interministerial Ordinance no. 60/2015".

government failed to stipulate whether this would occur as a pre-condition for issuing a first phase license (Licença Prévia) and tendering of the project. Meanwhile, Munduruku associations have reported that in initial contacts regarding Ferrogrão, government representatives have failed to respect their autonomous protocols to ensure a process of free, prior and informed consultation and consent.¹⁹

In short, the Ferrogrão project has advanced despite a blatant disregard for the rights of indigenous peoples to Free, Prior and Informed Consultation and Consent (FPIC). Since July 2020, such issues related to the concession of Ferrogrão have been under the scrutiny of the Federal Accounting Tribunal (TCU).²⁰ Currently, non-compliance with legal obligations regarding FPIC are the object of a formal complaint from the Federal Public Prosecutor's Office (MPF) and Indigenous People's associations that was filed with the TCU in October 2020. On April 12, 2021, the failure to ensure a process of FPIC among indigenous communities was further challenged in a lawsuit filed by the Public Prosecutors acting within the TCU (MPTCU). At the time, the MPTCU "expressed its support for the Court to determine the performance of Free, Prior and Informed Consultation with the indigenous peoples affected by the Ferrogrão railroad project (MT/PA)". Furthermore, MPTCU recommended that the feasibility studies for the Ferrogrão concession be returned to the National Land Transportation Agency (ANTT) and that such studies should only be re-submitted after consultations with indigenous peoples have been carried out.²¹

6 – Contradictions of zero deforestation commitments made by agribusiness companies

In July 2006, the main soy trading companies made a commitment not to sell grains grown in areas of the Amazon that had been deforested after that date (years later, this milestone would be changed, from 2006 to 2008). The agreement, which became known as the Soy Moratorium, was motivated by the release of studies which demonstrated that forest clearing in the Amazon was associated with the expansion of large-scale mechanized grain production.²² Two years earlier, an estimated 27,772 square kilometers, an area larger than the state of Massachusetts, had been cleared in the Amazon, with mechanized soybeans

¹⁹ The Munduruku people of the middle Tapajós region, represented by the Pariri Indigenous Association, issued a letter to report the attempt to advance with the Study of the Indigenous Component of the EF-170 amidst the Covid-19 pandemic, and with disregard to its Consultation Protocol. See news at: <https://www.socioambiental.org/pt-br/noticias-socioambientais/munduruku-repudiam-avanco-dos-estudos-da-ferrograo-sem-respeito-ao-seu-protocolo-de-consulta> For further information about Consultation and Consent Protocols, see: <http://observatorio.direitosocioambiental.org/videoprotocolos-en/>

²⁰ The Federal Accounting Tribunal (Tribunal de Contas da União – TCU) is linked to the Brazilian Congress and plays a similar role to the General Accounting Office (GAO) of the US Government, overseeing public expenditures.

²¹ <http://www.mpf.mp.br/pa/sala-de-imprensa/noticias-pa/mptcu-emite-manifestacao-favoravel-a-que-tcu-determine-consulta-previa-sobre-projeto-ferrograo-mt-pa/?utm_source=Guilherme+Coelho&utm_campaign=b6bfb7e0d2-EMAIL_CAMPAIGN_2020_10_16_01_42_COPY_01&utm_medium=email&utm_term=0_3a0c211d2f-b6bfb7e0d2-1305141114>

²² *A 10-Year Soy Moratorium in the Amazon: history, impacts and expansion into cerrado areas*. Available at: <https://www.imaflores.org/public/media/biblioteca/IMF-10-years-of-soy-moratorium-WB.pdf>

identified as a major driver of deforestation. Consumer markets, especially in Europe, started demanding that agribusiness producers and traders adopt stricter environmental commitments to ensure that supply chains of soybeans and other commodities were not linked to deforestation in the Amazon.²³

Amaggi, ADM, Bunge, Cargill and LDC, among other corporations, are members of a group that committed itself to zero deforestation in their supply chains. In 2012, these same five corporations, in partnership with *Estação da Luz Participações (EDLP)*, established the Pirarara Consortium.²⁴ The consortium was responsible for including Ferrogrão in the project portfolio of EPL (Empresa de Planejamento e Logística, S.A), the parastatal enterprise responsible for strategic planning in the transportation sector, through a “Public Manifestation of Interest” (PMI) presented to the federal government.

The construction of Ferrogrão railroad would jeopardize the ‘zero deforestation’ commitments previously made by the above-mentioned agribusiness companies. As previously described in section 2, the project — if implemented — will stimulate deforestation in a vast area of the Amazon forest, threatening conservation units, indigenous territories and other fragile lands.

7 - Underestimation of construction costs and excessive optimism in projections of economic returns

Independent analyses have indicated that the estimates of capital expenditures (Capex) for Ferrogrão presented by project proponents to the Federal Accounting Tribunal (TCU) were underestimated by more than 200%. The project design submitted to the TCU in July of 2020 estimated initial installation costs of BRL 8.42 billion (USD 1.7 billion). According to economist Claudio Frischtak, one of Brazil’s leading experts in infrastructure planning, under a realistic scenario, the Capex would be BRL 28.98 billion (USD 5.8 billion) , considering an installation cost of BRL 23 million (USD 4.6 million) per kilometer, and a margin of risk of 20%, “which is very modest, given the high complexity of the project, the quality of the soil, the relief and rainfall prevalent in the Ferrogrão route, as well as the experience of other projects in the country and international references” (Frischtak, 2021).

Frischtak reached these conclusions by comparing the Ferrogrão project to another recent greenfield project, the Center-West Integration Railway (FICO). In the case of FICO, the costs of implementing the railway infrastructure and superstructure were estimated at BRL 22.72 million (USD 4.5 million) per kilometer.

Frischtak highlights other factors of vulnerability that would tend to increase project costs. A significant stretch of the Ferrogrão would run alongside the Jamanxim river, in an area of

²³See: <https://brasil.mongabay.com/2017/03/moratoria-da-soja-solucao-desmatamento-marketing-corporativo/>

²⁴<<https://summitagro.estadao.com.br/agro-no-brasil/entrevistas/ferrograo-e-a-nova-revolucao-na-agricultura-diz-executivo/>>

wetlands of the Jamanxim National Park. “The railway would have a significant segment (at least 2 km inside the park at an elevation of 5 meters) submerged for periods of up to five months of the year, in addition to another 3 km outside the Park subject to the same conditions”, the author highlights.

Considering similar projects in Brazil, Frischtak argues that a timeline of nine years for project installation of Ferrogrão - one of the assumptions submitted to the Federal Accounting Tribunal (TCU) - is simply unrealistic. The author calculates that 21.9 years would be necessary for the entire process of environmental licensing, concession and installation of the project.

Delays and cost overruns are commonplace in the implementation of large infrastructure projects in Brazil. If these estimates are confirmed, the implementation of Ferrogrão would eventually follow a similar pattern to that of other state-funded greenfield railroads built in the last three decades in Brazil: Norte Sul (North-South), Transnordestina (Transnortheastern), and FIOLE (East-West Integration Railway). Altogether, until 2019, there was an increase of 48.7% in the costs of these railways, in comparison to initial projections.²⁵

Moreover, Frischtak emphasizes that “assumptions about tariffs also seem to be unrealistic”. The documents submitted to the TCU estimate that tariff rates adopted by Ferrogrão would be BRL 107.55 (USD 21.51) per ton. Such a rate would be considered competitive and attractive to customers currently using the BR-163 highway. However, this rate does not take into account possible reductions in transportation costs on the BR-163 highway. Transportation costs along the BR-163 highway have fallen 26% since the road was paved, according to data from the Association of Soybean and Corn Producers (Aprosoja - MT). According to Frischtak, these costs should fall even further when the highway concession is granted to the private sector and improvements are made.

All of these factors combined make the project’s Internal Rate of Return (IRR) decrease substantially. Project proponents initially estimated the IRR of Ferrogrão to be 11.04%. Frischtak argues that, based on a more realistic analysis, the IRR should be between 1.69% and 3.13%. Avoiding this more pessimistic scenario would require the Brazilian Treasury to inject significant funds into the project in order to guarantee the optimistic rate of return previously announced – something which is highly unlikely, especially given the current fiscal crisis.

8 - Flawed evaluation of competition from other transportation routes

As previously mentioned, the proposed route for the Ferrogrão railway follows a path parallel to the BR-163 highway in the stretch that runs from Sinop (Mato Grosso state), to Miritituba (Pará state). According to the predictions of project proponents, the railroad

²⁵ Frischtak (2021)

would transport 21.2 million tons of cargo in the first year of operation, and 51 million tons annually in its thirtieth year.

Such estimates are based on the premise that Ferrogrão would replace the BR-163 highway as an economically superior alternative for grain transportation. However, the distance between the two modes of transportation was reduced as of late 2019, when the federal government completed the paving of the highway in the section that connects Sinop to Miritituba. The paving of BR-163 reduced freight costs by 26%, according to data collected in March 2020. Nonetheless, the Technical, Economic and Environmental Feasibility Study (EVTEA) conducted for Ferrogrão does not consider the impacts of paving the BR-163 highway in calculating the viability of the project.²⁶

In addition to competition from the BR-163 highway, Ferrogrão will compete with other railway alternatives that are already in operation or currently planned. Among the railway which are operational, there is *Ferronorte* — a railroad that connects Santa Fé do Sul (São Paulo state) to Rondonópolis (Mato Grosso state). There is also the *Norte-Sul* (North-South) railroad that connects Anápolis (Goiás state) to Açailândia (Maranhão state). The EVTEA for Ferrogrão mentions four competing transportation routes: the BR-163 Highway, the FICO Oeste (part of the Transcontinental Railroad), the Teles-Pires Waterway and the Araguaia Waterway. However, Frischtak (2020) argues that "the document (EVTEA) fails to address, with a minimum level of accuracy, the reason why enterprises evaluated as competitors would not make Ferrogrão economically unfeasible, albeit indicating that part of the demand would be captured by these competitors".

According to the EVTEA, competition from alternative transportation routes would only arise after Ferrogrão's construction and deployment, while actual perspectives show precisely the opposite. FICO - the Center-West Integration Railroad has already been awarded funds and is authorized to initiate construction, and the scenario of beginning its operations ahead of schedule is highly likely. Despite this fact, the EVTEA for Ferrogrão claims that the FICO railroad would only enter operation after the extension of Ferrogrão to Lucas do Rio Verde in 2035. The demand study, knowingly, does not take into account the fact that the first segment of the FICO railroad will connect Água Boa (Mato Grosso State) to the Norte-Sul (North-South) Railway, delivering cargo in the opposite direction of the Ferrogrão project.

According to the Ferrogrão EVTEA, another competing railroad that would suffer from a lethargic pace of construction is the *Ferronorte*, operated by Rumo, which would reach Lucas do Rio Verde only in 2045, and, incidentally, as mentioned in the Demand Study, also transport cargo to Ferrogrão.²⁷

Finally, Frischtak (2021) questions the unusual terms proposed by the federal government for concession of the BR-163 highway. The concession period is 10 years, in contrast to the

²⁶ Frischtak et al. (2020)

²⁷ Frischtak et al. (2020)

35-year term normally adopted by the federal government for such concessions. The justification for this reduced concession period for the BR-163 is that, after ten years, Ferrogrão is expected to enter into operation. In Frischtak's opinion, "the public sector is limiting competition between modes of transportation under the implicit premise that a concession on normal terms would constitute an element to making Ferrogrão unfeasible".²⁸

Jointly, these factors highlight the fragility of arguments used by proponents of Ferrogrão concerning the economic viability of the project.

9 - Lack of consideration of alternative investments

As previously mentioned (item #6), the Ferrogrão project was included in the portfolio of EPL (Empresa de Planejamento e Logística, S.A) the parastatal company responsible for transportation sector planning at the request of the Pirara Consortium, formed by Estação da Luz Participações (EDLP) and five soybean trading companies. Currently, Ferrogrão is among planned projects in the EPL's National Logistics Plan (PNL), which defines the long-term priorities for the transport sector through 2035.

However, the inclusion of Ferrogrão as a priority project in the National Logistics Plan (PNL 2035) was arbitrary: it did not consider the country's needs for sustainable development and territorial integration in the medium and long terms. The decision was limited to such criteria having an engineering plan, the possibility of operation as early as 2025, and the interests of powerful agribusiness companies.²⁹

Alternatives to the proposed project of Ferrogrão were not analyzed in the federal government's sectoral planning on transportation logistics (PNL 2035). Similarly, in contrast to provisions of Resolution 1/86 of the National Environmental Council (CONAMA), the Environmental Impact Assessment (EIA) of Ferrogrão did not consider alternatives to the project in terms of reduced social and environmental risks and increased socio-economic benefits, including regions with more favorable conditions of territorial governance.

The feasibility study (EVTEA) of the project fails to explain why the transportation of agribusiness commodities through a northern corridor in the Amazon region would be economically more efficient than via alternative routes. As mentioned in item 08, the Ferrogrão railroad competes with transportation projects that are in progress or already operational, including: the *Ferronorte* railroad connecting to the port of Santos (São Paulo state) with plans for extension from Rondonópolis to Lucas do Rio Verde (Mato Grosso state); Norte-Sul (North-South) railroad; the Center-West Integration Railroad (FICO) and FIOI (West-East Integration Railroad, slated to be linked with the North-South Railroad and FICO, BR-163 (Cuiabá-Santarém) federal highway and the BR-158/155 federal highways (Mato Grosso-Pará subsystem) which are already under assessment for concessions.

²⁸ Frischtak (2021)

²⁹ Frischtak et al. (2020)

Considering its potential social and environmental impacts, the Ferrogrão project still lacks an independent study comparing alternative scenarios for the transportation of grains produced in the Center-West region of the country.

Conclusions

The problems identified in the planning of Ferrogrão (EF-170) - involving underestimation of social and environmental impacts, deficiencies in the analysis of economic feasibility and neglect of alternative strategies in the transport sector - undermine the project's overall viability, while signalling significant financial, legal and reputational risks for potential investors.

This document argues that the project displays irreparable flaws in its conception and design, associated with enormous risks for undermining urgently-needed actions to protect the Amazon forest and the rights traditional populations, in line with global efforts to address the climate crisis, protect biodiversity and promote the UN's 2030 Sustainable Development Goals (SDGs). The current dismantling of Brazil's social and environmental safeguards, especially during the administration of President Jair Bolsonaro, has further aggravated such problems.

As described above, significant legal risks still weigh against the Ferrogrão project, as illustrated by judicial actions concerning violations of the right of indigenous peoples and other traditional populations to Free, Prior and Informed Consultation and Consent (FPIC) and the unilateral decommissioning of the Jamanxim National and other protected areas.

In summation, potential investors must carefully weigh the economic, legal and reputational risks of involvement in Ferrogrão, in light of Brazilian legislation and international standards regarding environmental protection and human rights, prior to making decisions about involvement in the project. Such analysis will lead to a logical conclusion among responsible investors that they should refrain from investing in the project. As we have argued in this document, a failure to conduct such due diligence would not only expose investors to noncompliance with their own policies of social and environmental responsibility (ESG), but also to risks of co-liability for socio-environmental damages associated with the project, including risks not foreseen or addressed in environmental licenses, pursuant to Brazil's National Environmental Policy ([Federal Law 6938/81, article 14, IV/ § 3º](#)).

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- 1) GT Infraestrutura / Infrastructure Working Group
- 2) Fórum Brasileiro de ONGs e Movimentos Sociais – FBOMS
- 3) Fórum de Mudanças Climáticas e Justiça Socioambiental – FMCJS
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