



Discussion Materials

Meeting in NYC (Public Side) - Part I

November 27, 2018

SAMARCO



Meeting attendance

SAMARCO

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MOELIS & COMPANY

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Agenda

1. Background information: selected developments

- Social and environmental remediation
- Environmental licensing process
- Processes to resolve claims
- Tax claims

2. Operational continuity plan

3. Financial projections

Social and environmental remediation: selected developments

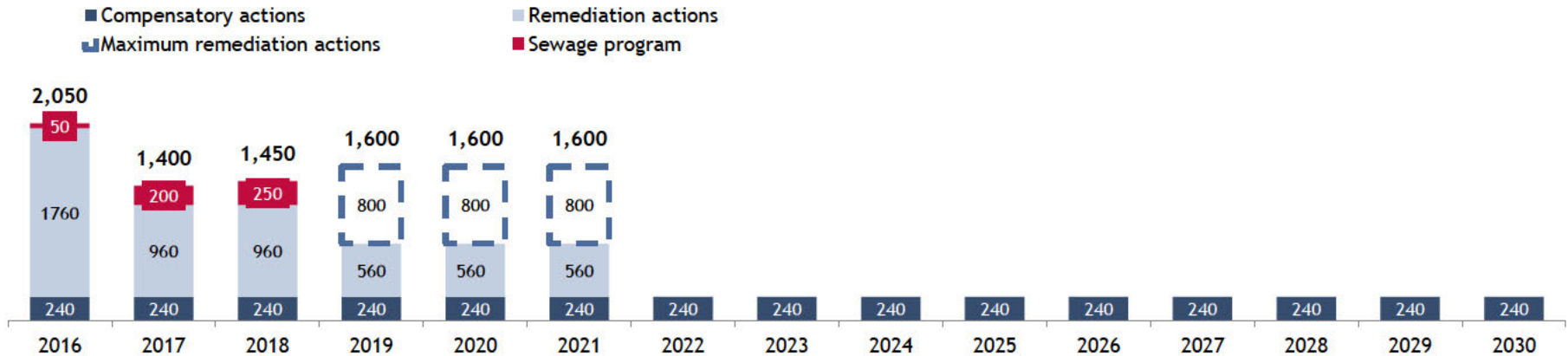
Framework Agreement and Fundação Renova

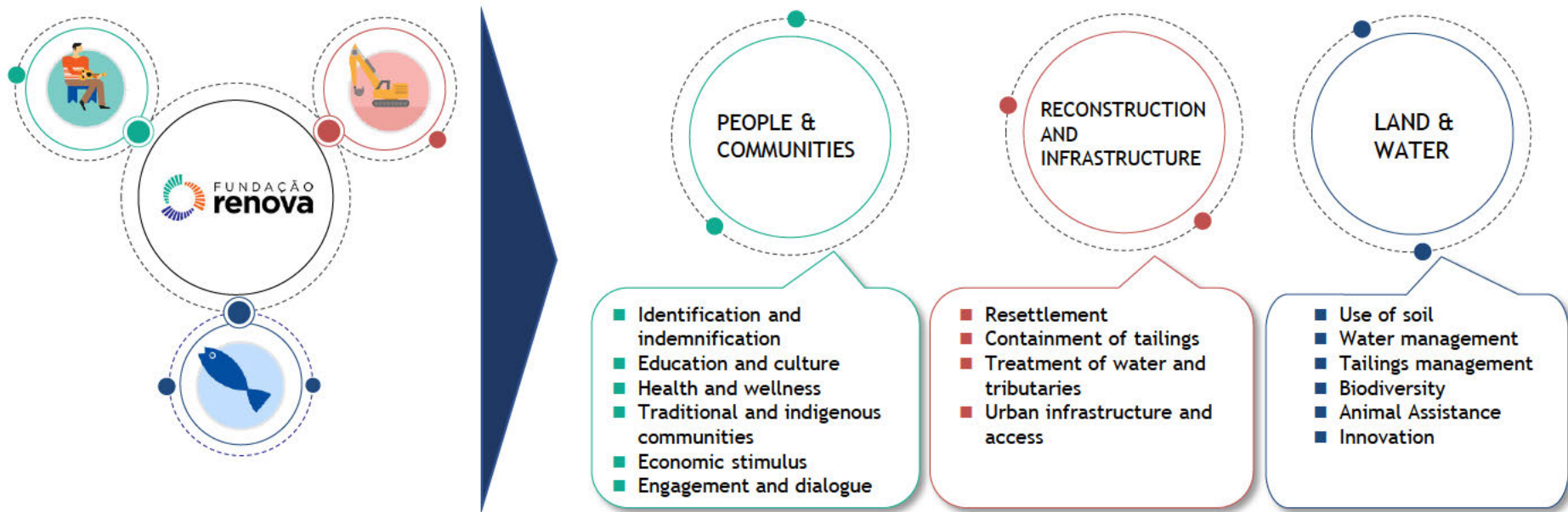


- On March 2nd, 2016 Samarco, its shareholders, Vale S.A. (“Vale”) and BHP Billiton Brasil Ltda (“BHP Billiton Brasil”), the Federal Government, the state governments of Minas Gerais and Espírito Santo, and several governmental agencies entered into an agreement (“Framework Agreement”) that provides a framework to address the environment and communities affected by the rupture of the Fundão dam
 - Creates a private Foundation (“Fundação Renova”) that will be responsible for 42 social and environmental programs aimed to remediate and compensate the affected regions
- The objective of the Framework Agreement is not only to establish the necessary framework in order to implement social and environmental programs in an efficient and coordinated manner, but also to execute it independently from Samarco
 - Mandatory annual cash contributions into Fundação Renova were established to guarantee the sustainability of all programs
 - Foundation has committed to carry on full remediation regardless of total remediation costs, pursuant to Brazilian laws
- The term of the Framework Agreement is 15 years, renewable for periods of one year until all obligations are performed
- To the extent Samarco does not meet its funding obligations as primary responsible party, Vale and BHP Billiton Brasil have the secondary obligation to fund 50/50 each
- Fundação Renova shall also have a minimum working capital of R\$100mm for the initial 10 years and R\$10mm for the subsequent years thereafter
- Mandatory contributions per annum are required as follows:

Framework Agreement Funding Obligations

(R\$ mm, real terms)





- R\$4.0 billion spent on repair and compensation programs from November 2015 through June 2018, of which R\$2.3 billion was spent on projects and programs coordinated by Fundação Renova
 - R\$1,111 million paid in indemnification and financial aid
 - R\$642 million spent on the containment and treatment of tailings
 - R\$463 million disbursed on the rehabilitation of the reservoir of Risoleta Neves (Candonga) Hydropower plant (HPP)
- 113 river tributaries recovered
- 92 data collection points placed to measure water quality along the Doce River Basin, which makes it likely the most monitored basin in Brazil
- 243,242 indemnification payments disbursed
- 41 monitoring points of aquatic life throughout Gualaxo do Norte, Carmo and Doce rivers



Engagement and dialogue

- 67,561 people took part in collaborative dialogue meetings
- About 100 employees are receiving an average of 1,500 calls daily
- Creation of a virtual platform to assist affected individuals about the status of their requests and other programs

Identification and indemnity

- 38,799 registrations submitted, with ~25,000 approved by CIF¹
- 640 professionals engaged in negotiations
- Water Indemnification Mediated Program:
 - 266,749 indemnity proposals accepted
 - 243,242 payments already disbursed

One of the affected people registered under Fundação's financial aid program



Health and well-being

- 83 professionals staffed, including doctors, nurses, social assistants, psychologists and psychiatrists
- Established epidemiological and toxicological studies to analyze health indicators within a 10-year horizon prior to and at least 10 years following the Fundão incident

¹ Comitê Interfederativo or Interfederative Committee. It is the body responsible for overseeing and executing all programs of Fundação Renova.

² Banco de Desenvolvimento de Minas Gerais or State Development Bank of Minas Gerais in free translation

³ Banco de Desenvolvimento do Espírito Santo or State Development Bank of Espírito Santo in free translation

Education and culture

- Partnership with Instituto Elos: 90 youths from different communities will be selected to help make a difference in their community
- In 2017, about 100 young children and youths from Mariana participated in a restoration initiative, helping mobilize surrounding communities
 - 1 million native species will be planted throughout the Doce River basin

Stimulation to local economy

- Investment funds established in partnership with BDMG² and BANDES³
- In 2018, it is expected to provide more than 1,000 seats in professional education courses
- R\$40 million of low-rate loans made available to small and micro business owners in municipalities impacted by the Incident

Workshop on fishing



Indigenous and traditional communities

- 1,576 families of traditional and indigenous communities are within the scope of the Foundation with respect to economic, food and water security
- Families assisted with financial aid:

Traditional groups

- Quilombolas Degredo (130 families)
- Faiscadores (213)

Indigenous tribes

- Krenaks (126 families)
- Comboios (192)
- Caieiras Velhas (915)



Relocation

- **391 families** are entitled to homes in urban and rural areas
- **Bento Rodrigues (225 families)**
 - Relocation area approved by the local community with 99% approval rate
 - Area acquired
 - All environmental licenses and urban approvals have been obtained and works to clear the land have commenced
 - Families are working with architects to design homes
- **Paracatu de Baixo (140 families)**
 - Relocation area approved by resident communities
 - Area acquired
- **Gesteira (26 families)**
 - Relocation area approved by resident communities
 - Selected area under negotiation

Treatment of water and effluents

- Enhancement of 14 water treatment stations
- 6 pipelines delivered
- Alternative water collection methods, such as pipelines or wells, installed in 24 municipalities
- R\$500 million to be allocated for the construction of sewage treatment plants and landfills in 39 municipalities
- Sewage infrastructure rehabilitation of the 39 municipalities concluded in Mar-18



Infrastructure and access

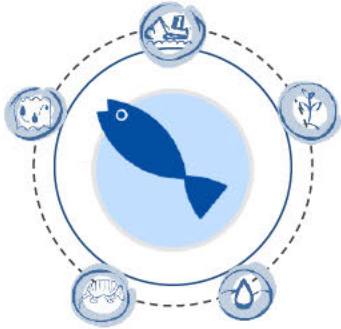
- Recovery and reconstruction of damaged infrastructure
 - 630 projects completed
 - 232 km of recovered roads
- 205 km of fences rebuilt to meet new planting demands

Barra Longa affected by the mudslide (left) and recovered (right)



Candonga Hydro Power Plant

- Three metallic barriers have been constructed in order to reduce the risk of new tailings outflows and to better contain sediments
- Land has been acquired (Fazenda Floresta) to deposit tailings removed from Candonga
- Working to assist the plant resuming operations which may happen in 2020

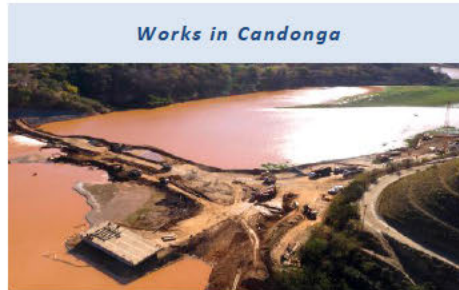


Forest recovery

- Recovery of **40 thousand hectares** of preserved areas to be completed in the next 10 years
- **20 million seedlings** to be planted in the upcoming years

Tailings management

- The Tailings Management Plan, approved in June, divided the impacted region into **17 areas**
- **670 km of waterways** are within the scope of the Tailings Management Plan



- Recovery of **113 tributaries** completed
- Emergency planting of **800 hectares** completed
- Reshaping of **1,628 hectares** of flat land through erosion control completed

Springs

- Protection and restoration of **5,000 springs** in the Doce River basin over a 10-year period
- More than **1,000 springs** should be protected by the end of 2018

¹ includes physical, chemical and biological

Biodiversity

- Renova has partnered with the Foundation Pró-Tamar to monitor sea turtles in a 156 km segment in the state of Espírito Santo
- **41 monitoring points** of aquatic life throughout Gualaxo do Norte, Carmo and Doce rivers
- Two CETAS (wild animal trial center) are expected to be completed in 2018

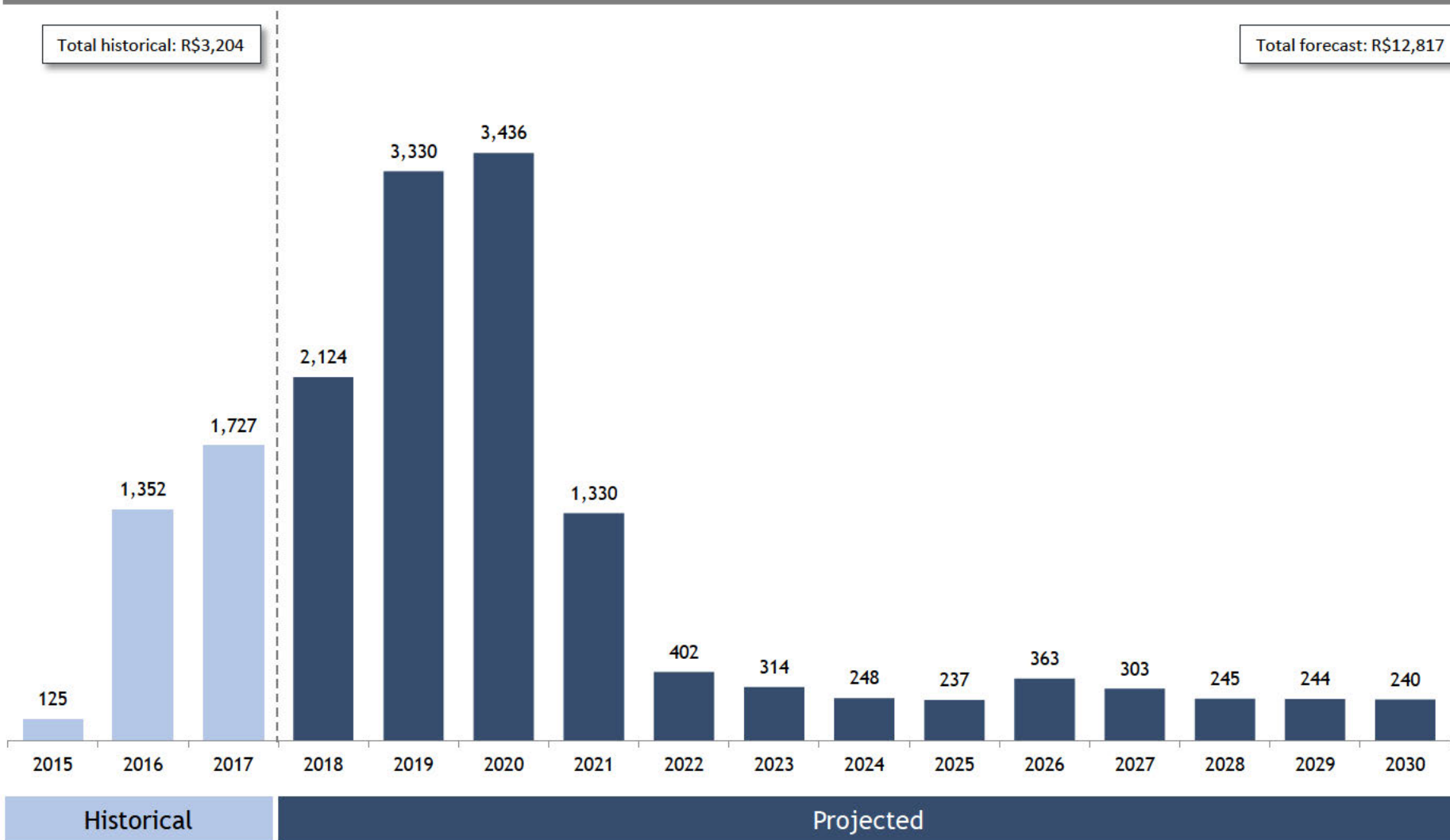
Water management

- **92 monitoring points** along Doce river and its coastal zone making it likely the most monitored river in the country
- **22 automatic stations**



- **80 thousand data points** collected and shared with environmental agencies
- **120 parameters analyzed¹** on water samples and sediments samples

Fundação Renova historical and projected program expenses (R\$mm, real terms)



¹ The magnitude, full scope, timing and costs of the future remediation programs are subject to significant uncertainty as they depend on the conclusion of expert studies, the preparation of action plans, the renegotiation of programs with Federal Prosecutors and also the outcome of pending court cases. Please refer to Samarco's Financial Statement for further information; ² Includes Renova's total expected program expenses, excluding administrative expenses and any financial income earned on available cash balance. This amount doesn't necessarily reflect actual disbursements into Fundação Renova by Samarco.

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Environmental Licensing process: selected developments

Process update of certain key licenses and approvals

Licensing processes

- In order to obtain the licenses to restart its operations, Samarco needs to finalize 2 (two) key licensing processes:
 - the Alegria South pit license and construction process for a new tailings disposal site
 - the Corrective Operation License, or LOC, related to reinstatement of the environmental licenses of the Germano complex

Return with reduced capacity

- Samarco has submitted licensing applications to restart operations at reduced capacity due to its technical restrictions on tailings disposal
 - C#3 restart is subject to the issuance of the LOC, completion of the construction works and licensing process for Alegria South pit, provision of water and a sufficient progress of filtration technology
 - C#2 restart is subject to the full implementation of filtration technology
 - C#1 restart is subject to the evolution of the licensing process of long term tailings storage options in order to avoid potential disruption in operations

Full capacity is conditional on new tailings disposal sites

- The operational continuity of C#2 and C#3 and the restart of C#1 in the current plan are subject to the licensing process of new tailings disposal sites
 - Samarco is currently working on the preliminary environmental studies for several alternatives sites including areas nearby the Germano site
 - Preliminary engineering technical studies have been initiated
 - Upon receiving the LOC, Samarco can file the licensing process of the selected long-term tailings disposal sites with the Environmental Agency of Minas Gerais ("SEMAD")

Alegria South pit license and construction works

- In June 2016, Samarco submitted the environmental studies (“EIA-RIMA”) for licensing the tailings disposal in Alegria South pit
- In October 2016, Samarco revised the EIA-RIMA to include the area for temporary storage of the material removed from the Alegria South pit, during the preparation phase of this pit
- In December 2016, Samarco held public hearings in Mariana and Ouro Preto
- On April 27, 2017 Samarco obtained the approval from the Specialized Council for Protection of Biodiversity and Protected Areas (“CBP Council”)
- On July 13, 2017 Samarco obtained the consent from UAIMII State park and on August 03, 2017 Samarco received the IBAMA consent
- On December 11, 2017 the Technical Chamber of Mining Activities, part of the State Council of Environmental Policy of Minas Gerais (“COPAM”) approved Samarco’s licensing process for Alegria South Pit
- On February 09, 2018, Samarco formalized within SEMAD and ICMBio certain conditions precedent required to be completed prior to the beginning of works
- On September 28, 2018, Samarco signed a Letter of Commitment with prosecutors with respect to the works on the Alegria South pit
- October 01, 2018, Samarco commenced the preparation works of the Alegria South pit

Corrective Operation Licensing - LOC

- In October 2016, Samarco was notified of the suspension of all of its environmental licenses in the Germano complex and was asked to perform the Corrective Operation Licensing (“LOC”)
- On September 1, 2017, Samarco filed the Environmental Impact Assessment (EIA) regarding the LOC process with SEMAD (“LOC EIA”)
- On September 05, 2017 SEMAD announced it had received Samarco’s LOC process and requested the interested parties to notify of their intention to have public hearings within 45 days
 - On December 06, 07 and 11, Samarco held public hearings in the municipalities of Matipó, Mariana and Ouro Preto
- On February 19, 2018 Samarco obtained the consent from Minas Gerais State Forest Institute’s (“IEF”) Specialized Council for Protection of Biodiversity and Protected Areas
- On August 10, 2018 SEMAD completed its technical site visit on Samarco’s Germano Complex
- On October 09, 2018, UAIMII State Park provided its consent to Samarco’s LOC process
- Next Steps: SEMAD to complete the following process (i) issue the required consents, (ii) issue Legal-Technical assessment approving the LOC studies and (iii) submit the LOC process for COPAM’s approval
 - Pending approval for the LOC include: Gandarela Federal National park authorization, State Institute of Historic and Artistic Heritage (“IEPHA”) consent, State Council for Water Resources (“CERH”) approval, IBAMA’s consent regarding the Atlantica Forest compensation program, and the consents from Piranga and Piracicaba Watershed Committees (“CBH”)
 - The completion of Alegria South works is also condition precedent for the LOC approval
 - If these steps are completed during the course of 2019, Samarco expects it would allow a return of operations during 2020

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Processes to resolve claims: selected developments

Current status

	Description ⁽¹⁾	Status
Private lawsuits	<ul style="list-style-type: none"> ■ Approximately 49,885 active private individual lawsuits in which Samarco was already served ■ Approximately 25,000 active private individual lawsuits in which Samarco has not been served ■ Majority of lawsuits relate to moral damages for water supply interruption stemming from the Fundão dam break 	<ul style="list-style-type: none"> ■ To address the individual lawsuits, Samarco is seeking to standardize the indemnifications through special procedures named Incidents to Solve Repetitive Demands (IRDR): <ul style="list-style-type: none"> ■ A first IRDR that covers small claims in the State of Espírito Santo (“ES”), which established R\$ 1 thousand as indemnification for moral damage due to water supply interruption in the State ■ Another IRDR that suspended individual private lawsuits in the State of Minas Gerais (“MG”) until the court establishes an amount to the indemnifications for moral damage due to water supply interruption in the State ■ In addition to the two procedures listed above, there is a third one, in the State of MG, in which a decision determined that, because of their complexity, claims that debate water quality should not be ruled by the small claims courts.
Administrative proceedings	<ul style="list-style-type: none"> ■ ~R\$792mm in administrative sanctions from IBAMA (R\$446mm), ICMBio (R\$143mm), Sisema (R\$195 mm) and others (R\$8 mm) 	<ul style="list-style-type: none"> ■ R\$129mm of the Sisema claims have been settled and agreed to be paid in installments ■ The company continues to present its defenses and discuss the specific issues of each case
Criminal lawsuits	<ul style="list-style-type: none"> ■ 8 criminal lawsuits ongoing 	<ul style="list-style-type: none"> ■ The major criminal lawsuit is currently in the first phase of Brazilian jury proceeding and evidence is being gathered before the judge of the Federal Court of Ponte Nova, in the State of Minas Gerais

(1) As of July, 2018

Processes to resolve claims: selected developments (cont'd)

Current status (cont'd)

	Description ⁽¹⁾	Status
US class action	<ul style="list-style-type: none"> Putative US federal securities class action commenced on behalf of all purchasers of Samarco's ten-year bond notes due 2022-2024 between October 31, 2012 and November 30, 2015 	<ul style="list-style-type: none"> A motion to dismiss the putative class action is pending before the US District Court (Southern District of New York)
Public Civil Actions	<ul style="list-style-type: none"> 18 agreements, which are called TACs⁽²⁾, to address claims arising from the incident have been entered into TACs include: <ul style="list-style-type: none"> Framework Agreement and Governance Agreement Emergency & socio-economic measures in Minas Gerais/Espírito Santo Construction/maintenance of water distribution Preservation/recovery of environmental and cultural areas 92 relevant actions, of which 71 are public civil actions and 21 are with public bodies (e.g. municipalities) In general, the actions relate to remediation and compensation obligations for damages suffered in connection with the Fundão failure, as well as legal obligation to provide information about remediation actions, risk/damage mitigation plans and assistance for people and villages 	<ul style="list-style-type: none"> Most of the 92 Civil Public Actions are duplicative of the petitions contained in the original R\$20bn case, and later in the R\$155bn case. The agreement signed on March 2016 ("Framework Agreement") with State and Federal authorities in Brazil regarding the R\$20bn case relating to the Fundão tailings dam failure and the subsequent agreements signed with State and Federal prosecutors (Preliminary and Barra Longa Agreement on January 18, 2017, the Amendment Agreement on November 16, 2017 and finally the Governance Agreement on June 25, 2018) consider a comprehensive approach to remediation and compensation of all impacts of the Fundão Dam Failure. As per the Governance Agreement, companies, Prosecutors and other signatories of the Framework Agreement have agreed to enter into a 24 month negotiation process to review the programs under the Framework Agreement. For more details and information on the agreements please refer to slides 18 and 19.

(1) As of July, 2018; (2) Stands for *Termo de ajuste de conduta*, or roughly Conduct Adjustment Agreement

Processes to resolve claims: selected developments (cont'd)

Summary of the negotiations with Federal and State Prosecutors

Overview

- The Federal Prosecutors Office (“Federal Prosecutors”) was not party to the agreement signed on March 2016 (“Framework Agreement”) regarding the R\$20bn (~US\$6.1bn) civil claim (the “R\$20bn Public Civil Action”) relating to the Fundão tailings dam failure on November 5, 2015
- At the time, the Federal Prosecutors argued that expert analyses and additional community participation were required prior to an agreement and thus filed the R\$155bn (~US\$47.5bn) civil claim (the “R\$155bn Public Civil Action”)

Timeline of negotiations

- On **January 18, 2017** Samarco, BHP Billiton Brasil and Vale (together with BHP Billiton Brasil the “Shareholders”, together with Samarco “Companies”) entered into a preliminary agreement (“Preliminary Agreement”) with the Federal Prosecutors in Brazil in relation to the Fundão tailings dam failure
 - Among other things, the Preliminary Agreement (a) established a timeline for negotiations of a settlement of the R\$155bn Civil Claim, (b) appointed 3 experts to advise the Federal Prosecutors, (c) replaced an injunction order requesting Samarco to deposit R\$1.2bn in a Court account with security of R\$2.2bn¹, (d) suspended the R\$155bn Public Civil Action and the R\$20bn Public Civil Action, and (e) established the obligation of the Companies to, within 90 days from signing, reserve R\$200mm to fund remediation and compensation activities for certain municipalities
- On **June 21, 2017** the Companies filed a judicial request to extend the deadline for a final settlement agreement and the Interim Security validity to October 30, 2017, allowing the parties to continue negotiations
- On **November 16, 2017** the parties agreed to replace the initially appointed expert from the socioeconomic area, and entered with Federal and State Prosecutors into an amended Preliminary Agreement (“Amendment Agreement”) which extended the negotiation for an additional 150 days, ending on April 20, 2018
 - Among other things, the Amendment Agreement appointed (i) Fundo Brasil to coordinate the technical advisory to be provided to the affected communities to and conduct 15 public hearings in the impacted localities and (ii) Fundação Getúlio Vargas (“FGV”) as the entity in charge of the assessment of the social and economic damages resulting from the Fundão dam break
- On **April 19, 2018**, Samarco and Shareholders requested an additional extension for the negotiations until June 25, 2018
- On **June 25, 2018**, Samarco, Shareholders, State and Federal Prosecutors announced an agreement to amend the Framework Agreement (“Governance Agreement”). The Governance Agreement was ratified by the 12th Federal Court of Minas Gerais on August 08, 2018

Summary of the Governance Agreement

The main effects:

- Termination of the R\$20bn case and suspension of the R\$155bn case for 2 years;
- Acceptance of the Framework Agreement by the Federal Prosecutors as a valid agreement among the original signatory parties;
- A revised governance structure, based on the Framework Agreement, was agreed upon to improve community participation in the remediation and compensation process;
- Extension of the Interim Security provided by the Companies in the Preliminary Agreement for 30 months. After this period, the Companies will need to keep guarantees in an amount equal or greater to Renova's annual budget for the year, but always limited to R\$2.2bn;
- Creation of a network of community committees along the Rio Doce River to secure public participation.

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Overview

- Per Brazilian law, if a company receives a tax infraction notice from a tax authority, it first has the opportunity to contest it at the administrative level. If the petition is not successful at the administrative level, the company can continue to challenge the infraction notice at the judicial level
- However, to do so, in some cases, it must provide guarantees for the amount in dispute in the form of cash, letters of credit (“LCs”) and/or fixed assets. If a company does not provide acceptable security at the judicial level and does not receive a favorable decision that suspends the tax credit in dispute, it would be required to pay the amount in question, plus interests, monetary adjustments, penalties and, as applicable, public attorney fees and other legal charges. Except for cash/judicial deposit, all other types of guarantee are subject to pre-approval by Procuradoria-Geral da Fazenda Nacional (“PGFN”). If the company fails to pay such amount, it could then be subject to a judicial tax enforcement, which after the regular legal process, could lead to the forfeiture of the company’s assets
- As of June 2018, Samarco is party to several administrative (R\$5.7bn) and tax judicial (R\$8.3bn) proceedings in various courts and government agencies
 - CSLL - Contribuição Social sobre o Lucro Líquido (Social Contribution over Net Profit): dispute over Samarco’s exemption in the payment of a CSLL 9% tax rate of taxable income
 - IRPJ - Imposto de Renda Pessoa Jurídica (Corporate income tax): Dispute regarding the applicable income tax rate to Samarco (25% statutory rate vs 18% incentivized rate relating to the export of minerals)
 - CFEM - Compensação Financeira pela Exploração de Recursos Minerais (Financial compensation for the Exploration of Mineral Resources): Disputes regarding the applicable taxable basis (sales price vs production costs)
 - Other: Include general corporate tax disputes (IPTU, ICMS, PIS/COFINS, etc.)
- Of the tax amounts currently under judicial dispute (R\$8.3bn), Samarco provided security of R\$2.8bn through a combination of cash deposits (R\$1.53bn) and LCs (R\$1.23bn). Another R\$5.1bn are currently with its enforceability suspended due to judicial court decisions and R\$0.4bn is currently awaiting the formalization of security by tax authorities.

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Operational Continuity Plan

Summary of Samarco's operations



Germano Complex (Mariana/MG)

Ubu Plant (Anchieta/ES)



Mining

Beneficiation (concentrators)

Pipeline

Pelletizing

Shipping

- Drilling/blasting
- Shoveling/loading
- Ore haulage by truck or conveyor

- 3 concentrators
- Crushing
- Fine grinding
- Flotation

- 3 slurry pipelines
- Concentrate transport from Germano (MG) complex to Ubu (ES)

- 4 pellet plants
- Filtering
- Preparation
- Pelletizing

- Port with two berths
- 33 Mtpy annual loading capacity
- Overland conveyor
- Port/ship loader

Run of Mine ("ROM")

- ~55-60 Mtpy @ 100% production
- 10.2 Mtpy sourced from Vale until 2026

Input: ROM
Output: Concentrate

- 45-50% conversion rate
- 25-28 Mtpy of concentrate @ 100% production

Input: Concentrate
Loss: 0%
Output: Concentrate

Input: Concentrate
Loss: ~3.6% avg.
Output:

- Pellets (97.2%)
- Feed/Screening (2.8%)

Mining waste:

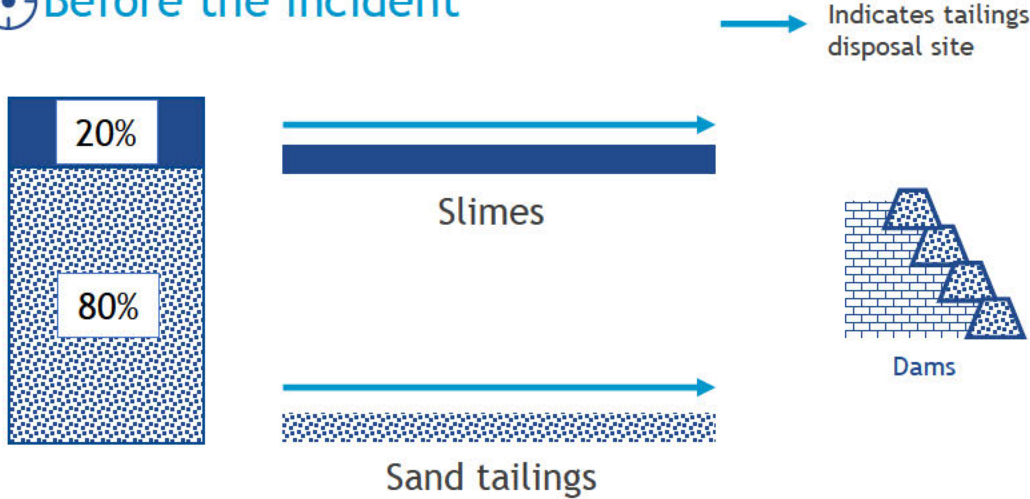
- 29 Mtpy avg. @ 100% production
- Stored at waste piles

Processing waste:

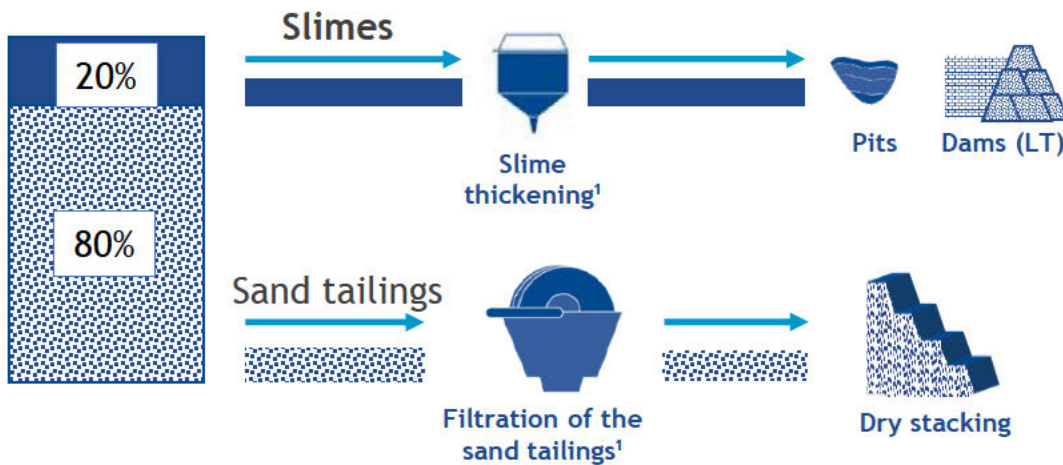
- 27 Mtpy avg. of slimes and sand tailings @ 100% production
- See tailings management strategy on following slides



Before the incident



After the incident



Description:

Slime thickening:

- ✓ Reduces the % of water which can extend the useful life of the tailings storage facility



Pit:

- ✓ Anthropized region
- ✓ Naturally contained structure, formed by rocks



Filtration:

- ✓ Reduces the % of water which can allow tailings disposal in piles and save the existing pits (confined deposition area)



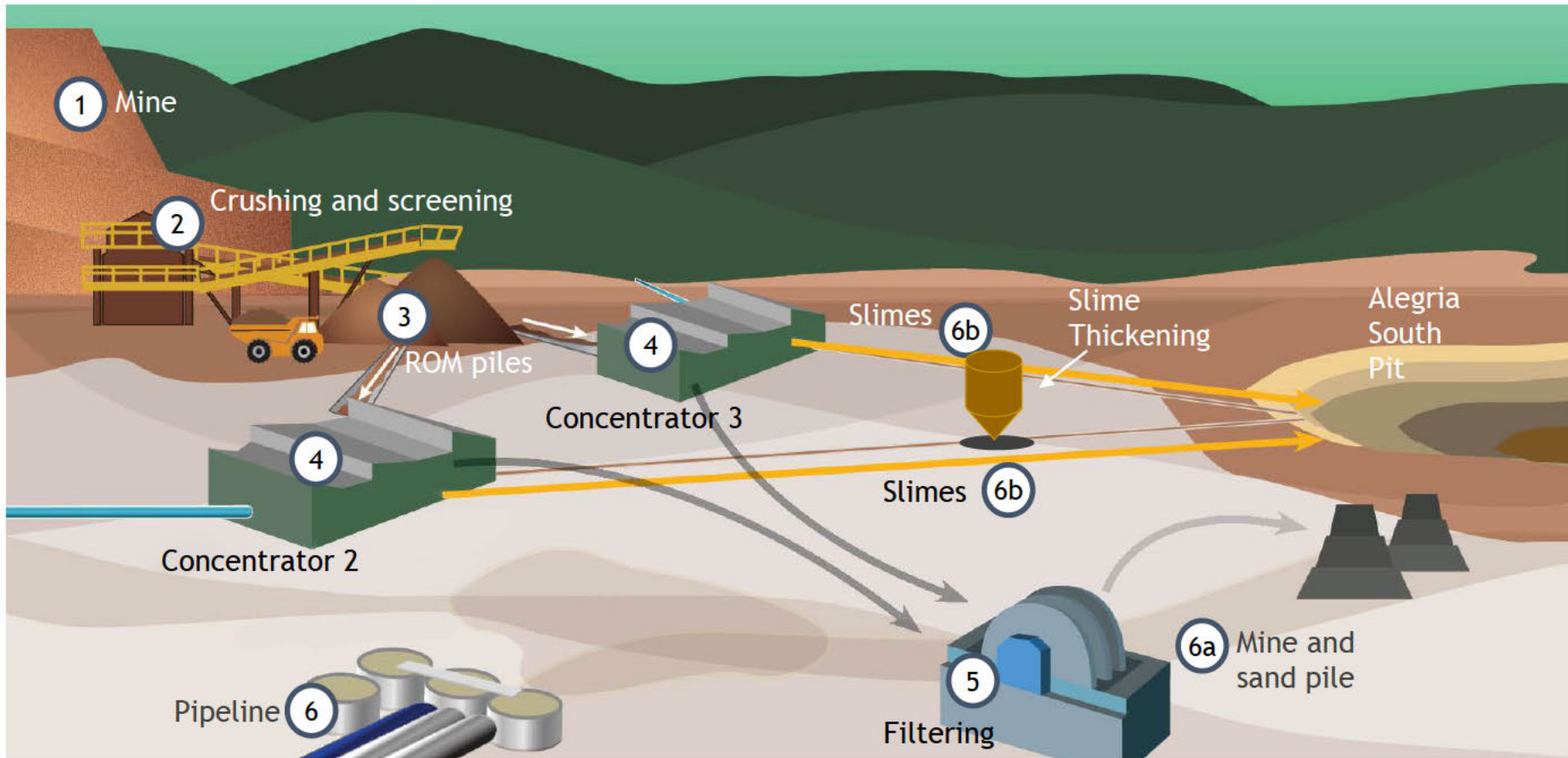
Dry stacking:

- ✓ Anthropized region
- ✓ Geotechnical stability and decrease on the propagation risk.



(1) Slime thickening and filtration processes were not used by Samarco previous to the Fundão dam break

Production process overview with new tailings management technical solution in the short-term



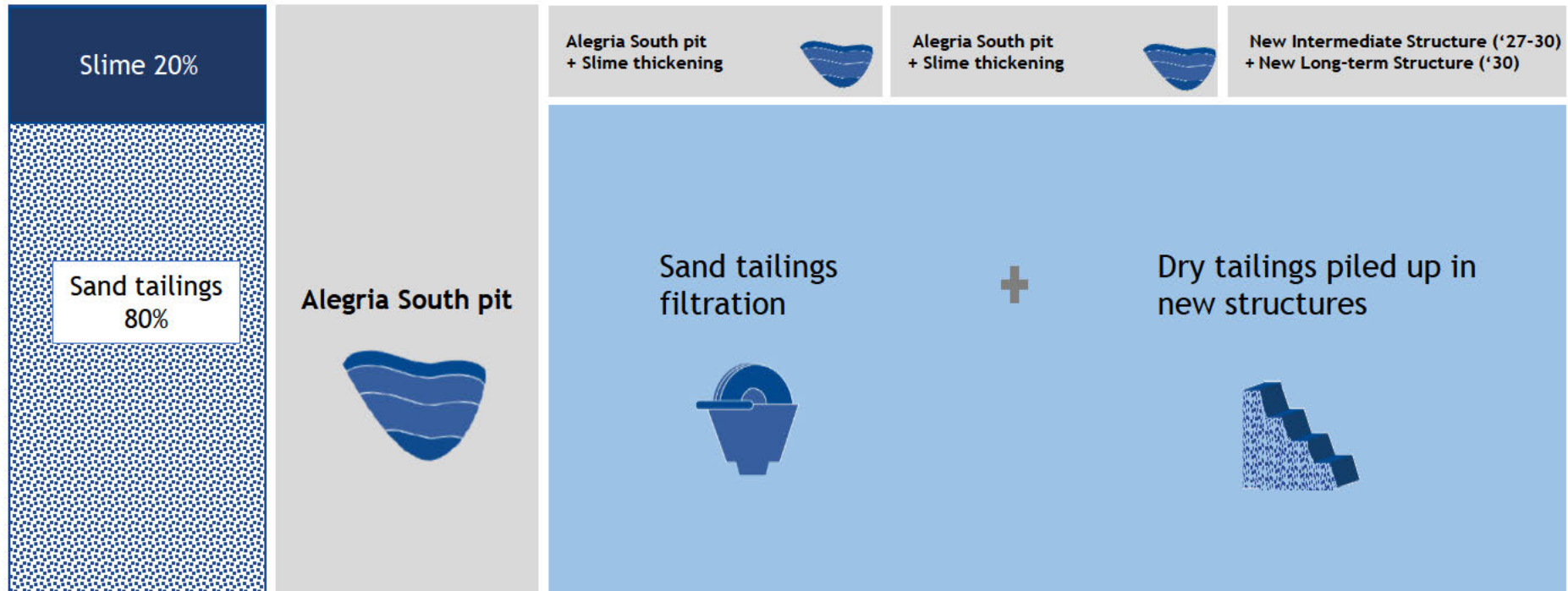
Run-of-mine is extracted from the mine (1) and moved through the crushing and screening processes (2) to control ore sizing. ROM is then sent to the ROM piles (3), which feeds into the concentrators (4), where grinding, desliming, and flotation take place, thereby increasing the iron concentration. The concentrated mineral is directed to the pipeline (6) and sent to the pelletizing plants, located in the Ubu (Anchieta-ES) unit. The tailing resulting from the beneficiation process is then disposed as follows: the sand tailing goes through the filter (5), where its moisture is reduced, allowing for dry stacking (6a), while the slime tailings are then sent to the slime thickening and finally to Alegria South Pit (6b)

Operational Continuity Plan (cont'd)

Summary of disposal solutions



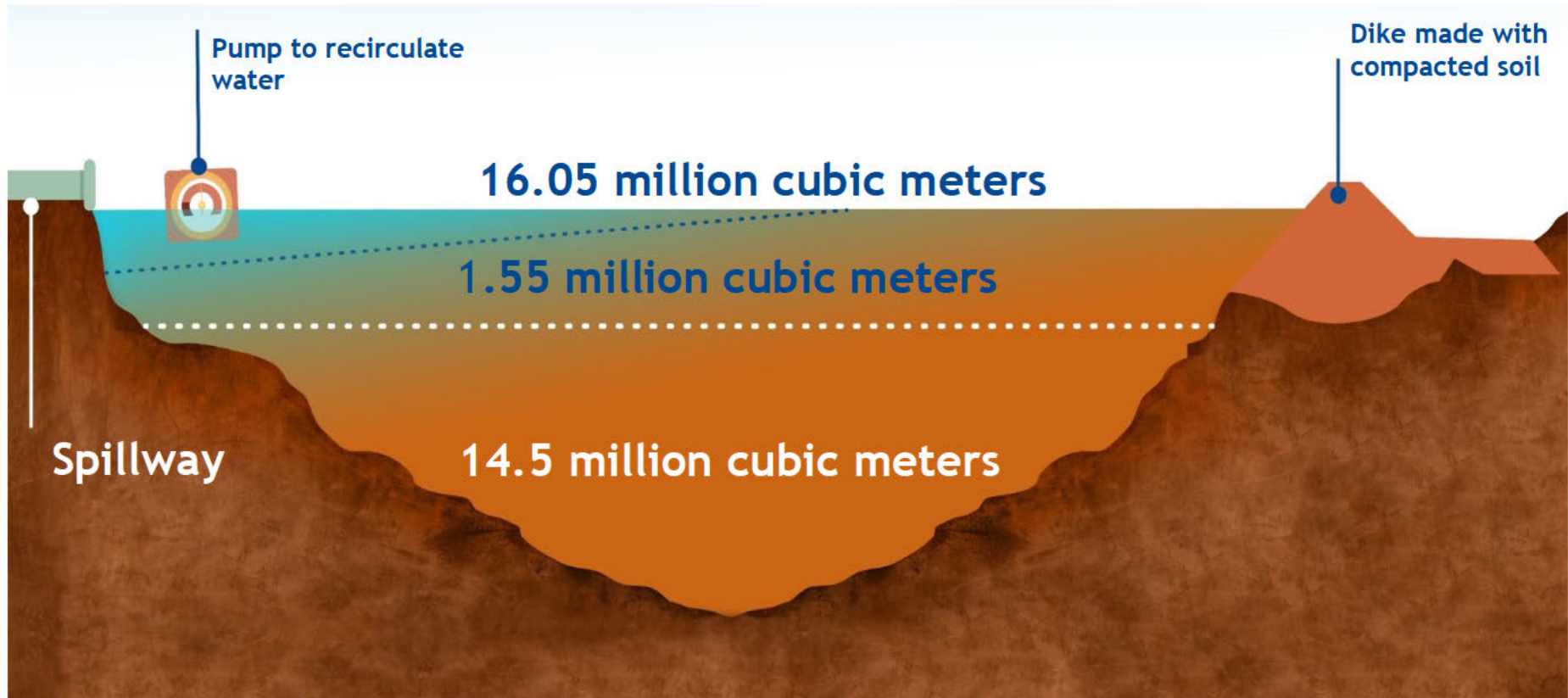
Tailings from concentration	Phase I: Resume operations	Phase II: Continuity		Phase III: Long Term Solution
Duration	12 months	30 months	44 months	NA
Concentrators in operations	C#3	C#3 and C#2	C#3, C#2 and C#1	
Capacity	31-28% ~7.7 Mt of concentrate	64-61% ~16-17 Mt of concentrate	100% ~25-28 Mt of concentrate	



Operational Continuity Plan (cont'd)

Alegria South pit overview

- Alegria South pit will have an initial capacity of 14.5 Mm³ that will be further increased to 16.05 Mm³ after the construction of a dike with compacted soil
- Preparation works will mainly comprise the removal of around 13.5 Mt of material from the pit
- Total required capex in 2018-2019: R\$248mm



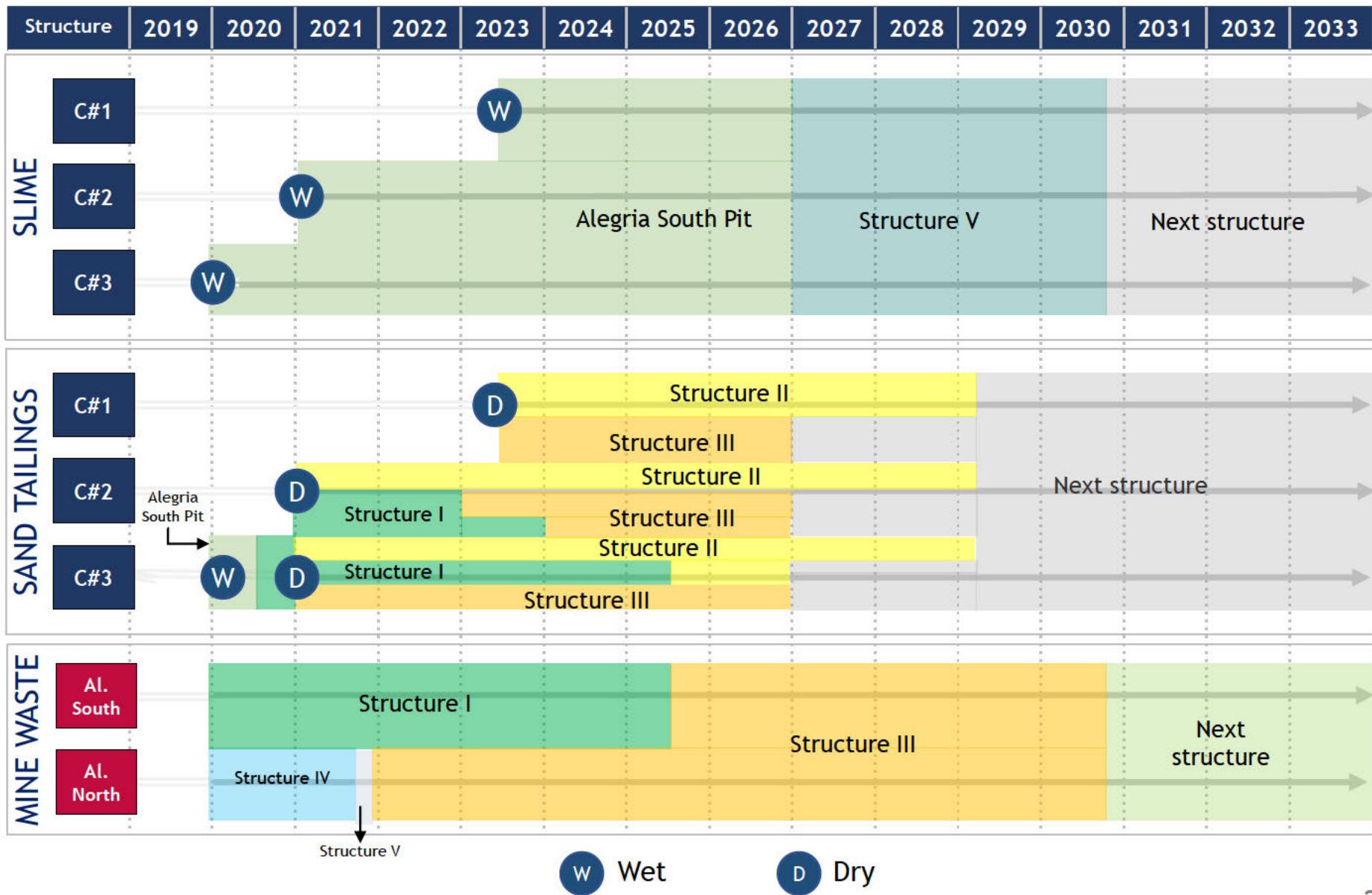
Operational Continuity Plan (cont'd)

Summary of disposal solutions: location of structures



Operational Continuity Plan (cont'd)

Summary of disposal solutions: timeline and structures



Agenda

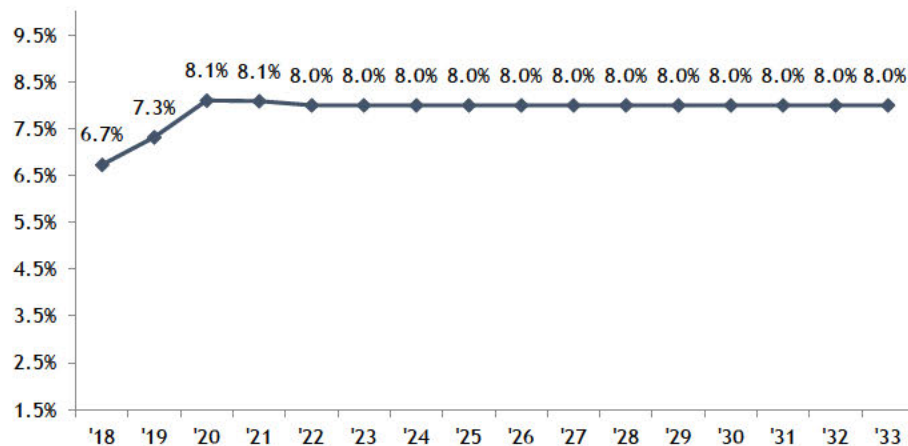
1. Background information: selected developments
2. Operational continuity plan
3. Financial projections

Macro Assumptions

CDI, IPCA, USD Libor, USD/BRL

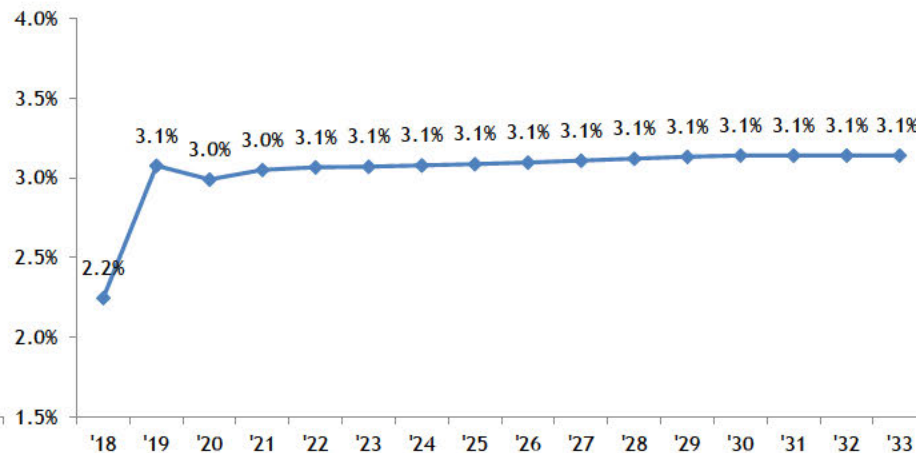


CDI (Avg.)



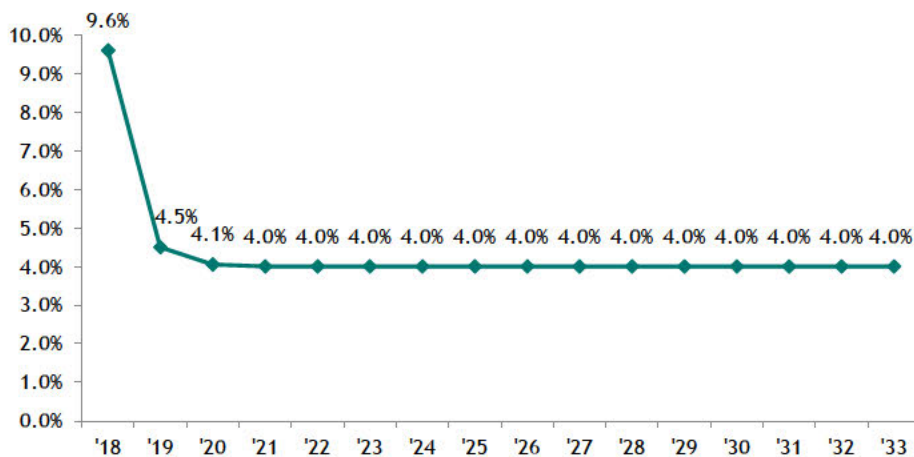
Source: Focus-Bacen; from September 28, 2018

USD LIBOR (Avg.)



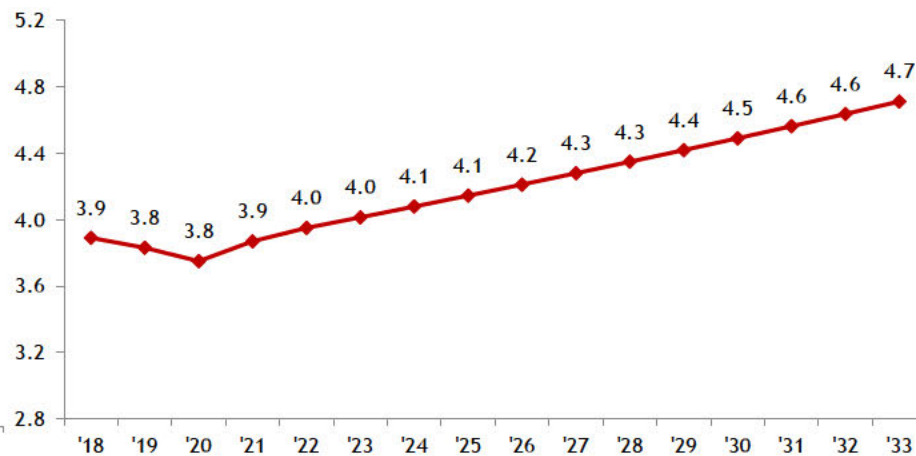
Source: Bloomberg; from September 28, 2018

IGPM Inflation (Avg.)



Source: Focus-Bacen; from September 28, 2018

USD:BRL Foreign Exchange (EOP)



Source: Focus-Bacen until 2022, then adjusted by BZ/US inflation differential; from September 28, 2018

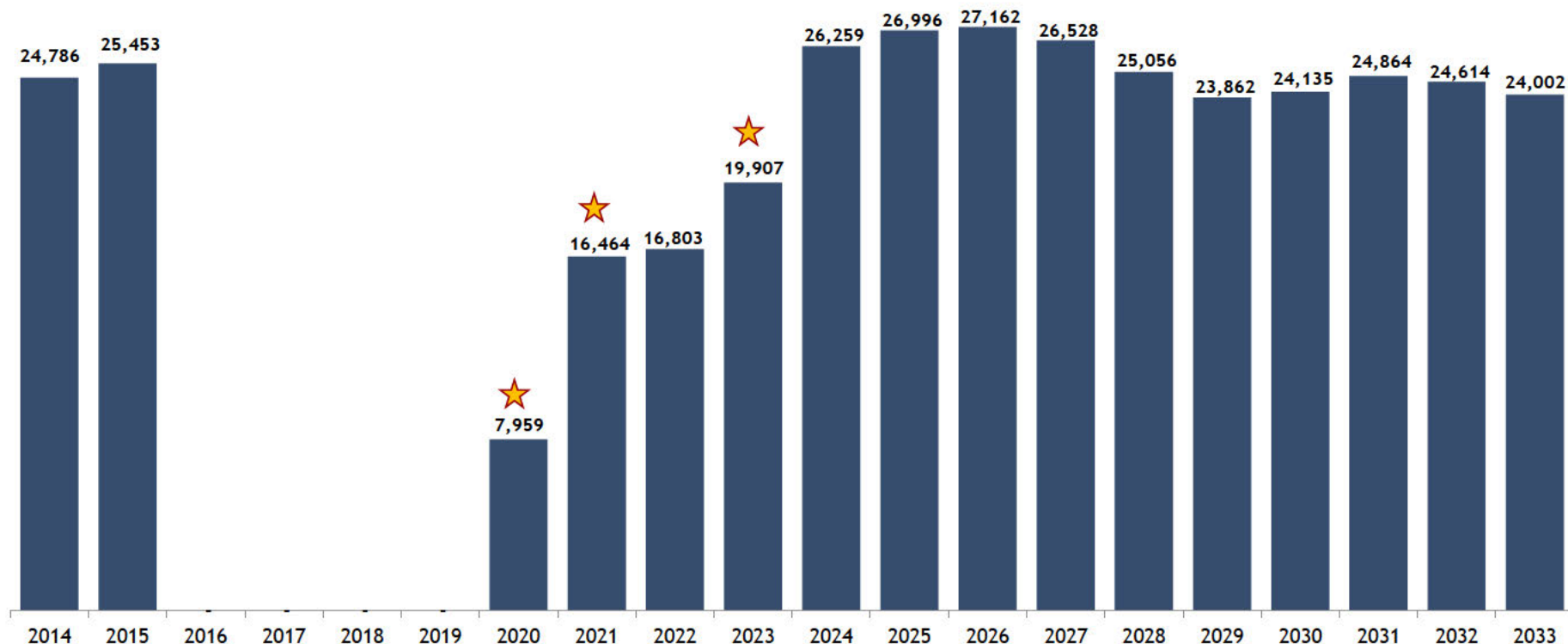
Revenue Assumptions

Production output



Pellet production (DMT '000)

■ Pellet production

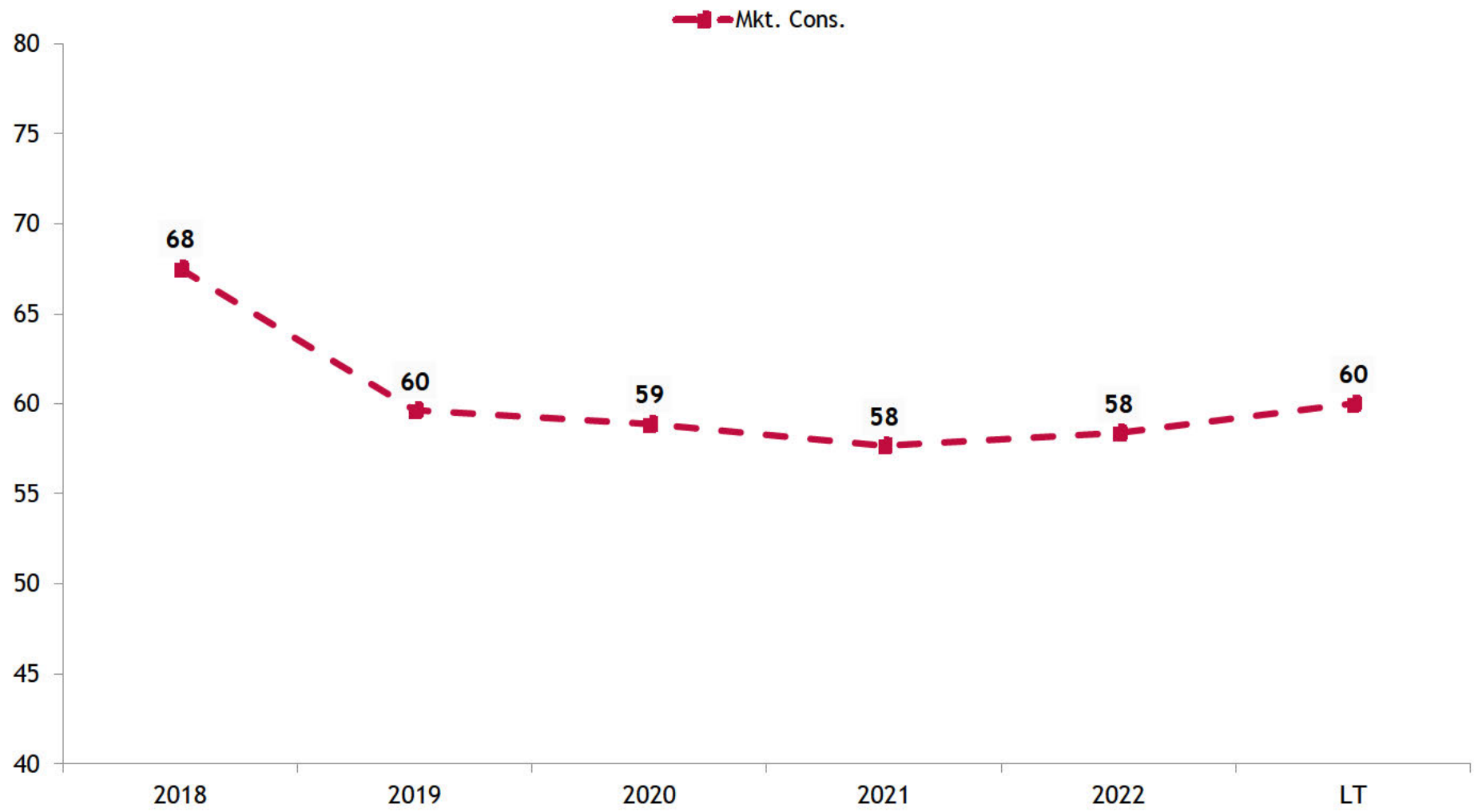


Revenue Assumptions (cont'd)

Price build-up: Platts market consensus projections



Iron ore - 62% Fe (US\$/tms) (real terms)*



(1) Samarco's iron ore price projections are based on market consensus from the median of projections from select brokers, including broker-dealers and independent third party consultants.
 * Some brokers present their projections only in nominal terms, thus, we adjusted it according to the US Inflation per broker's forecasts.

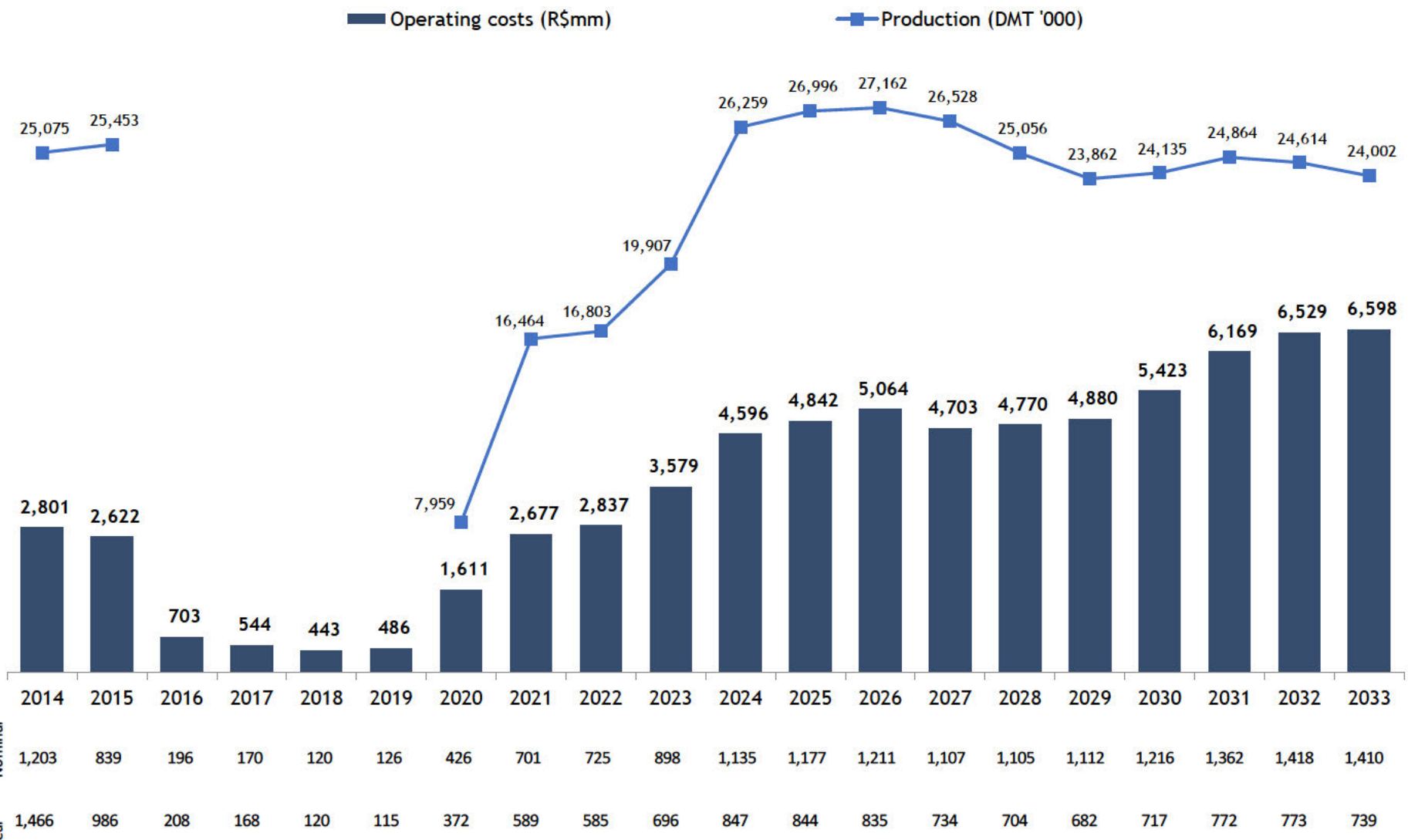


Operating Costs

Operating costs in BRL - nominal terms



Operating costs (R\$mm, nominal terms)¹

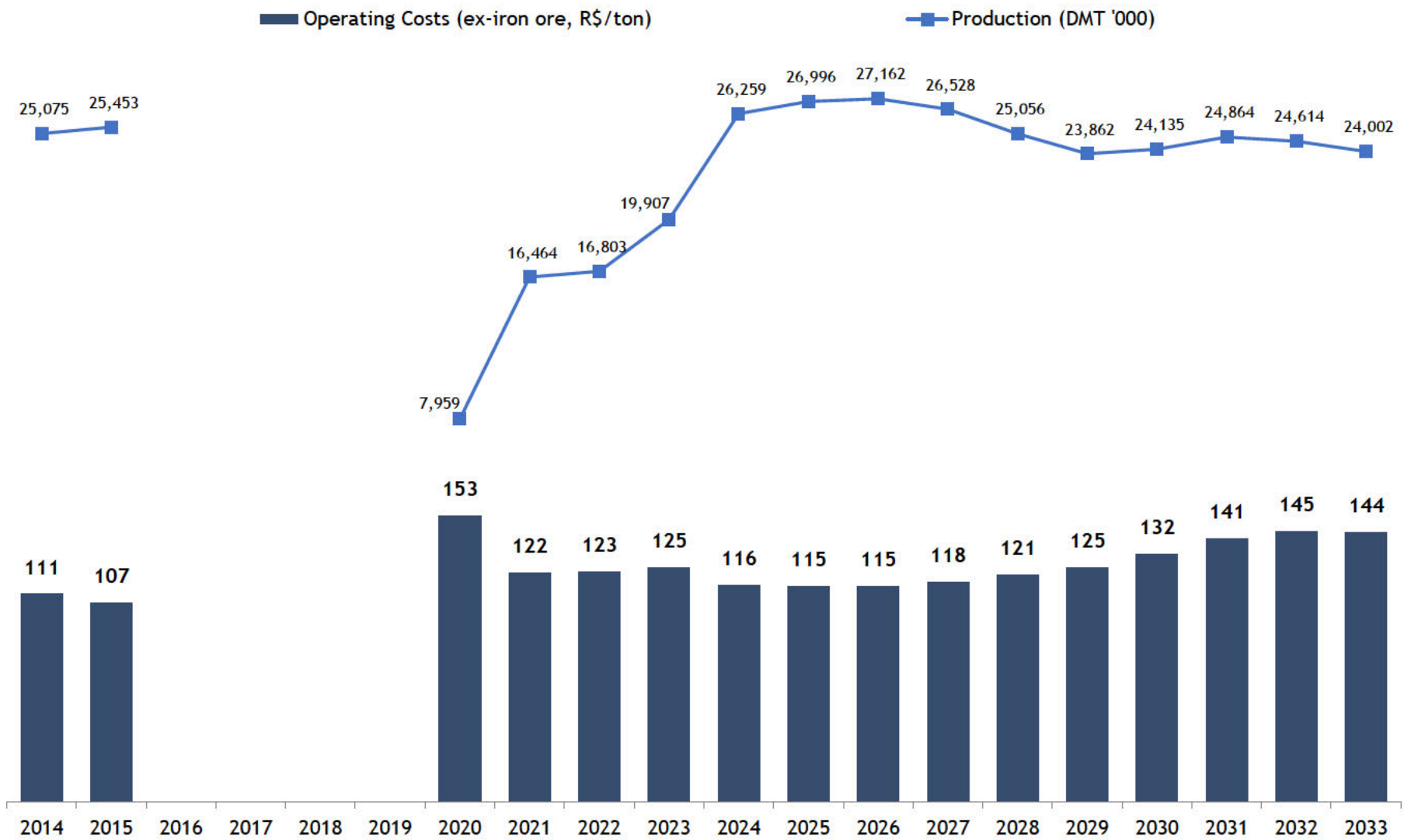


(1) Includes iron ore, consumables, outsourced services, materials, electricity, personnel expenses and other.

Operating Costs (cont'd)

Operating costs in BRL - real terms

Operating costs (ex-iron ore⁽¹⁾) - R\$/ton (real terms as of 2018 adj. by IGP-M)



(1) Excluded iron ore purchases.

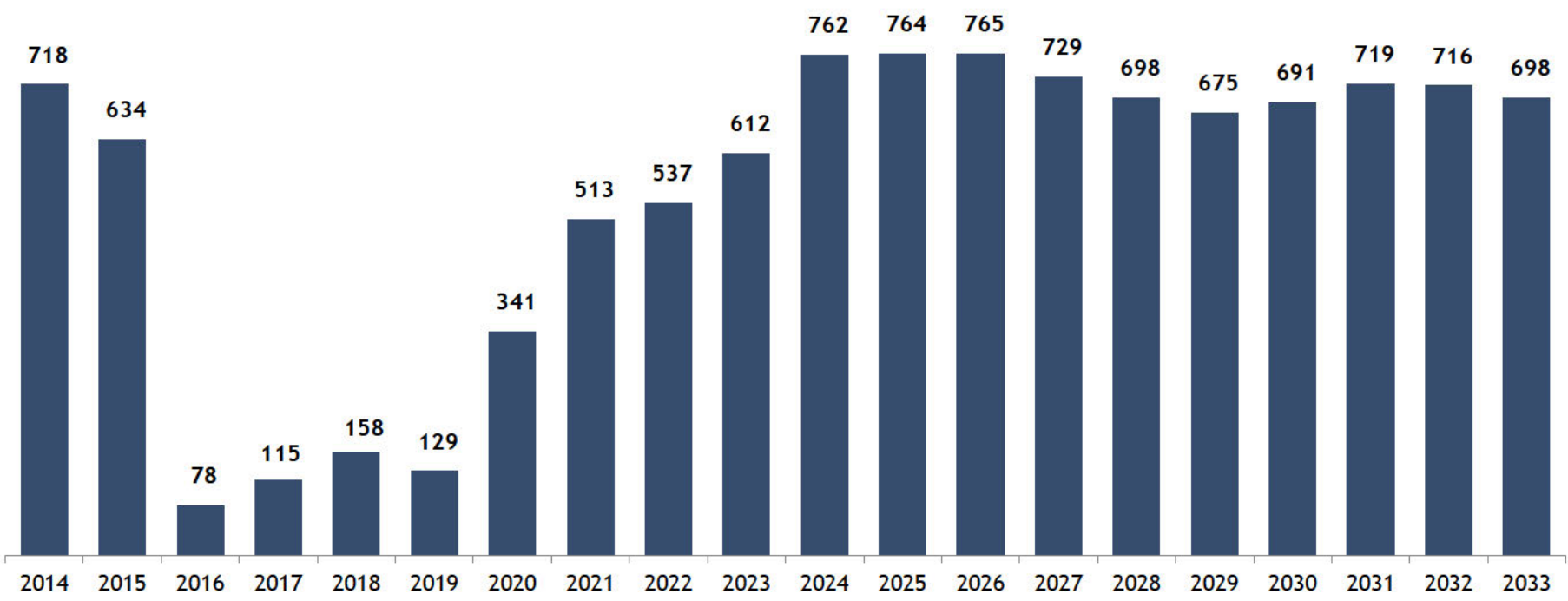
Other Expenses

Other expenses in BRL - real terms



Other Expenses (R\$mm in real terms as of 2018 adj. by IGP-M)¹

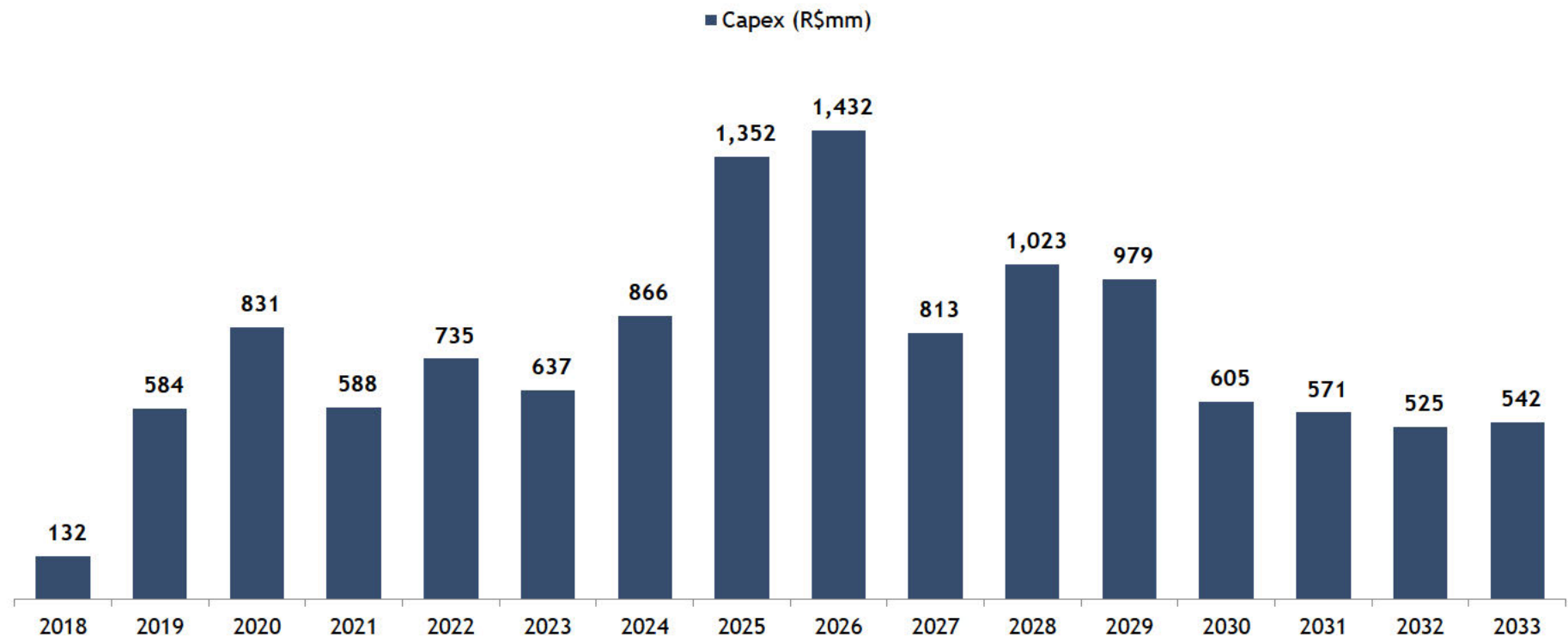
■ Other Expenses (R\$mm)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
R\$ MM Nominal	589	539	73	116	158	141	390	611	665	789	1,022	1,065	1,110	1,100	1,094	1,100	1,171	1,268	1,314	1,331
US\$ MM Nominal	289	60	120	56	49	37	103	160	170	198	252	259	265	259	253	251	263	280	285	285
US\$ MM Real	352	70	128	55	49	33	90	134	137	153	188	186	183	172	162	154	155	159	155	149

(1) Includes ICMS, CFEM, R&D, social investments, employee profit sharing and other.

Capex assumptions (R\$mm, real terms)



	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
R\$ MM Nominal	132	640	952	700	911	821	1,161	1,885	2,076	1,226	1,604	1,596	1,026	1,006	964	1,034
US\$ MM Nominal	34	166	251	184	233	206	287	458	497	288	371	364	230	222	209	221
US\$ MM Real	34	152	220	154	188	160	214	329	343	191	237	223	136	126	114	116

Financial Projections

Unlevered Free Cash Flow



Unlevered free cash flow forecast (US\$mm, nominal terms)

Samarco Mineração S.A. In USD mm	2018 Proj.	2019 Proj.	2020 Proj.	2021 Proj.	2022 Proj.	2023 Proj.	2024 Proj.	2025 Proj.	2026 Proj.	2027 Proj.	2028 Proj.	2029 Proj.	2030 Proj.	2031 Proj.	2032 Proj.	2033 Proj.	2018-33 Proj.	2020-33 Proj.
Operating data																		
Pellet production ('000 tons)	280	-	7,959	16,464	16,803	19,907	26,259	26,996	27,162	26,528	25,056	23,862	24,135	24,864	24,614	24,002	314,890	314,610
Blended BF/DR Pellet price (\$/ton)	114	110	99	95	103	105	110	110	112	114	116	119	122	124	127	129	n.a.	n.a.
Net Revenue	57	51	800	1,555	1,716	2,078	2,860	2,930	3,007	2,998	2,886	2,812	2,908	3,058	3,086	3,070	35,869	35,761
(-) Operating costs	(120)	(126)	(426)	(701)	(725)	(898)	(1,135)	(1,177)	(1,211)	(1,107)	(1,105)	(1,112)	(1,216)	(1,362)	(1,418)	(1,410)	(15,248)	(15,002)
(-) Other expenses	(49)	(37)	(103)	(160)	(170)	(198)	(252)	(259)	(265)	(259)	(253)	(251)	(263)	(280)	(285)	(285)	(3,367)	(3,282)
(-) Framework Agreement ¹	(559)	(824)	(994)	(348)	(108)	(82)	(63)	(60)	(131)	(113)	(95)	(106)	(108)	-	-	-	(3,591)	(2,209)
(-) Other expenses w/ accident (Ex-Renova)	(53)	(47)	(28)	(15)	(91)	-	-	-	-	-	-	-	-	-	-	-	(234)	(134)
EBITDA	(723)	(982)	(751)	331	622	900	1,410	1,434	1,399	1,519	1,432	1,343	1,321	1,416	1,383	1,375	13,429	15,134
% of Net Revenue	n.m.	n.m.	n.m.	21.3%	36.2%	43.3%	49.3%	49.0%	46.5%	50.7%	49.6%	47.8%	45.4%	46.3%	44.8%	44.8%	37.4%	42.3%
(-) Capex	(34)	(166)	(251)	(184)	(233)	(206)	(287)	(458)	(497)	(288)	(371)	(364)	(230)	(222)	(209)	(221)	(4,222)	(4,022)
(-) Taxes	-	-	(25)	(150)	(179)	(227)	(354)	(342)	(345)	(386)	(348)	(325)	(332)	(331)	(323)	(318)	(3,986)	(3,986)
(+/-) Δ WC and others	43	(12)	(107)	(143)	(87)	(206)	(156)	(151)	(164)	(165)	(47)	(62)	(75)	(49)	(51)	(56)	(1,489)	(1,520)
Unlevered FCF	(714)	(1,161)	(1,134)	(146)	123	261	613	483	394	679	666	592	684	814	799	779	3,732	5,607

¹ Framework Agreement refers to payments forecasted to be made under the terms of the Framework Agreement to Fundação Renova

Financial Projections (cont'd)

Sensitivity analysis on 2018-2033 cumulative UFCF (US\$ mm, nominal terms)

Levers

	Description	Impact
C2 and C3 Restart Date	<ul style="list-style-type: none"> 3-month move (backward or forward) 	+/- US\$ 114 mm ⁽¹⁾
C1 Restart Date	<ul style="list-style-type: none"> 6-month move (backward or forward) 	+/- US\$ 147 mm ⁽¹⁾
Foreign Exchange	<ul style="list-style-type: none"> R\$ 0.50 move in Real vs. US\$ 	+/- US\$ 148 mm per year ⁽²⁾
Pellet price	<ul style="list-style-type: none"> 5% change in Pellet price 	+/- US\$ 85 mm per year ⁽²⁾
Freight discount	<ul style="list-style-type: none"> US\$1.00 (real) change in freight 	+/- US\$ 16 mm per year ⁽²⁾

(1) Refers to the accumulated impact on UFCF after Framework Agreement from 2018 to 2033

(2) Average annual change from 2018-2033