

20th Analyst & Investor Tour



VALE

September 16th, 2020

**Construction works of a filtration
plant at the Vargem Grande Complex**

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Disclaimer

20th Analyst & Investor Tour



Presenters:
Marcello Spinelli
Vagner Loyola

Enhancing safety, flexibility and quality

Overcoming challenges and designing a new future

What we are doing



Reviewing and implementing new safety standards



Reviewing production plan



Ensuring supply to customers



Developing new flowsheet solutions

What are the targets?



400 Mtpy production level with capacity buffers



De-characterization of upstream structures



Quality improvements in portfolio



Alternatives to reduce dependence on dams

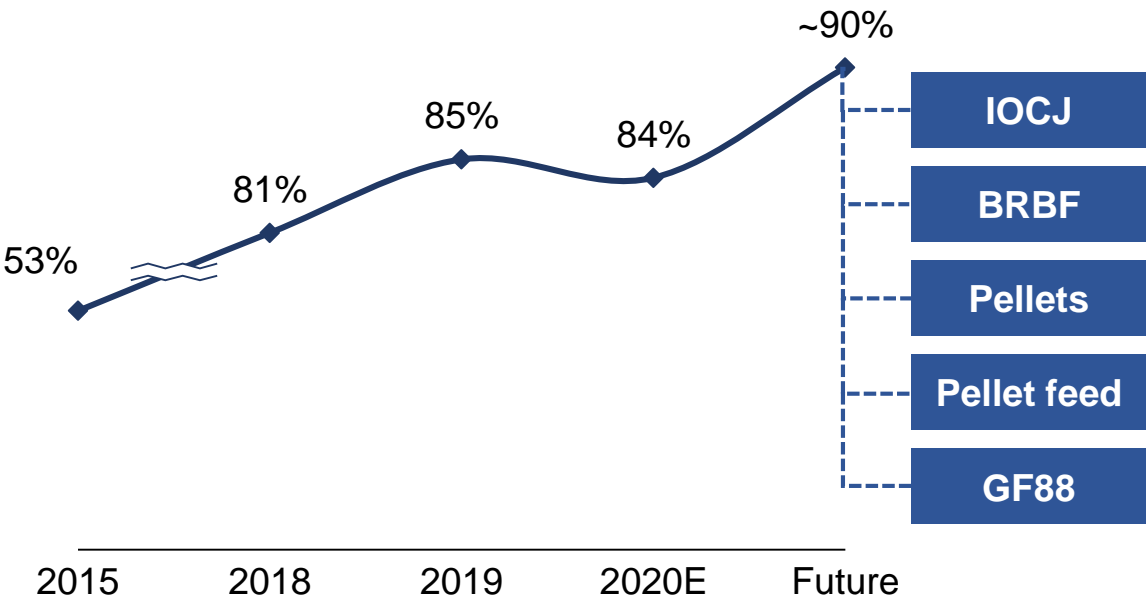
Enhancing safety, flexibility and quality

Stabilization of production adds quality to Vale's portfolio

Profile of iron ore products

	Seaborne average ¹	Vale Today	Vale Future
Fe%	60.8	63.5	64.0
SiO ₂ %	5.0	4.0	3.8
Al ₂ O ₃ %	2.1	1.4	1.4

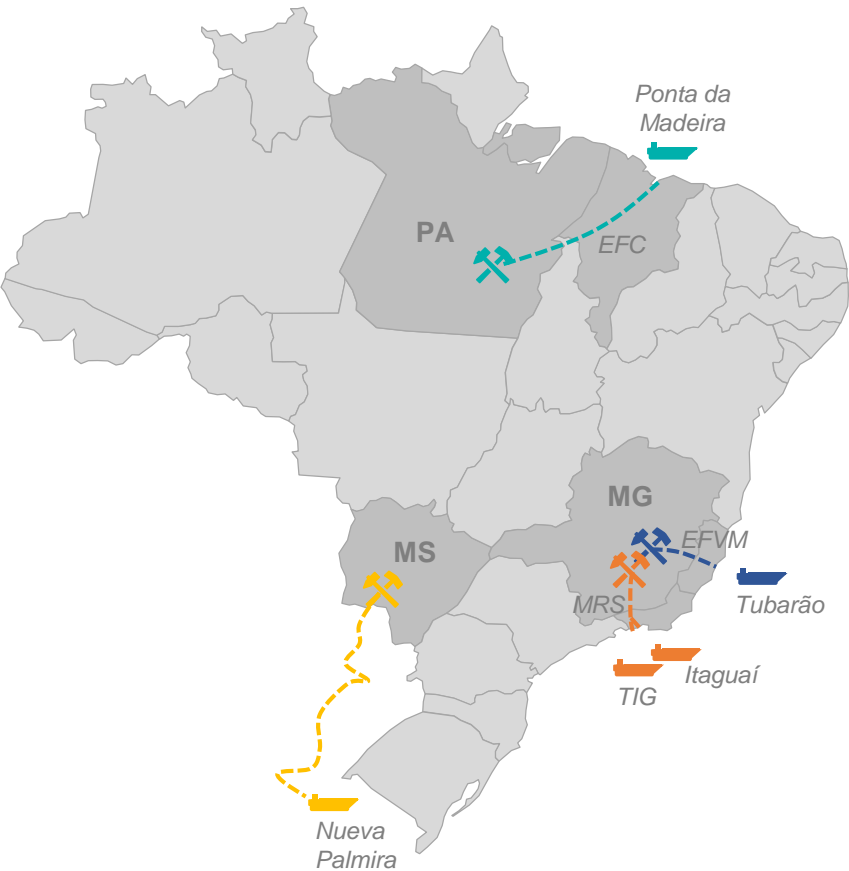
Share of premium products² (%)



¹ Current seaborne supply (excluding Vale). ² Composed of pellets, Carajás (IOCJ), Brazilian Blend Fines (BRBF), pellet feed and GF88.

Enhancing safety, flexibility and quality

Vale reinforces its flexibility by creating capacity buffer

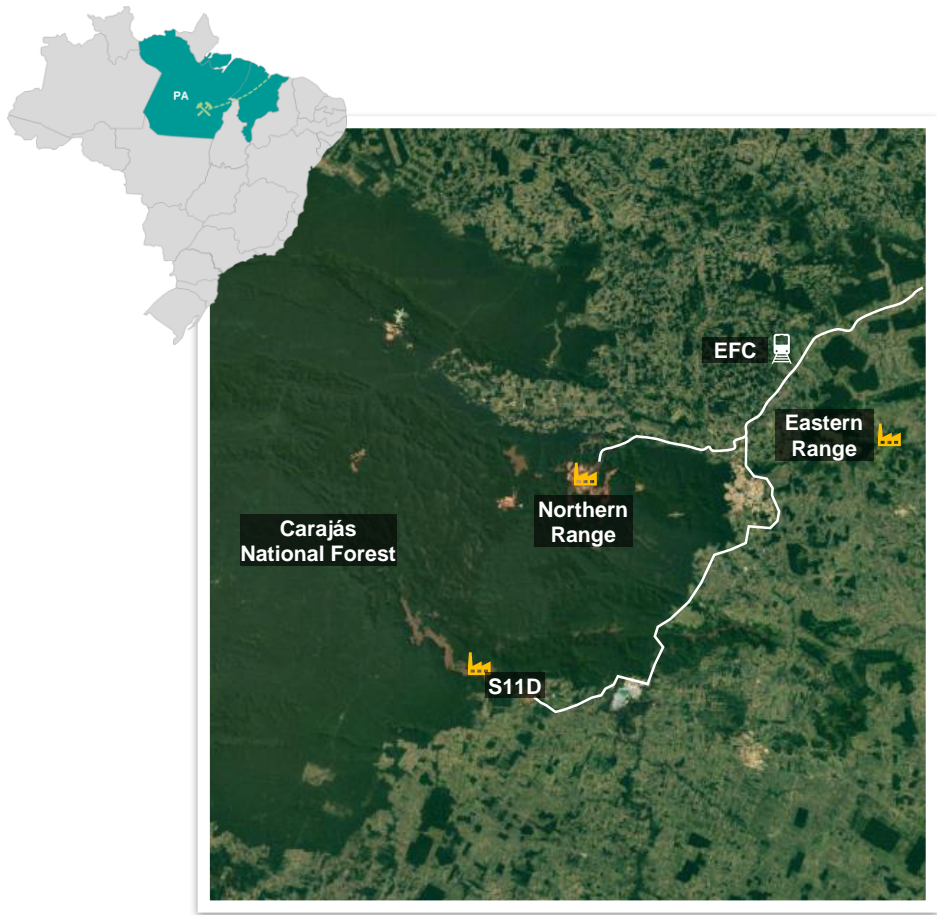


	Production (Mt)		Capacity (Mtpy)	
	2018	Today ¹	Path to 400Mtpy ²	Future
Northern System	194	202	230	260
Southeastern System	104	63	101	106
Southern System	84	51	67	82
Midwestern System	2	2	2	2
VALE	385	318	400	450



¹ Assumes actual capacity of the current operating assets. ² Minimum capacity to achieve 400 Mtpy.

The Northern System is a high-quality and low-cost growth platform

IOCJ, the world's high-grade benchmark





Capacity (Mt)

	2018 ¹	Today	Path to 400 Mtpy	Future	Bottleneck today
 Mine/Plant	194	202	230	260	Permitting of new mining fronts
 Port	197	230	230	260	

Main products

 IOCJ, BRBF input and GF88

Challenges

-  Opening of new pits and licensing
-  Ramp-up of operations

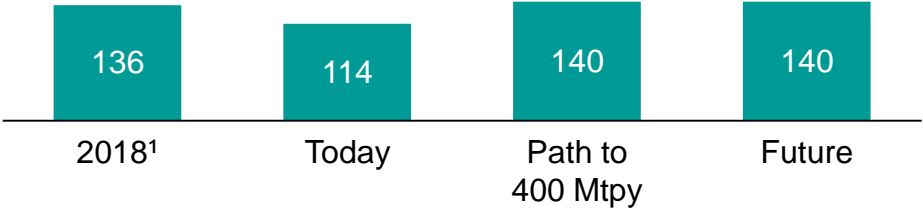
¹ Mine/Plant refers to production and Port refers to shipments.

The Northern System is a high-quality and low-cost growth platform

Northern and Eastern Ranges entail the opening of new mining fronts and licensing



Site capacity (Mt)



Ongoing solutions

- 4Q20** Resumption of Eastern Range operation (6 Mtpy capacity) after receiving licenses and completing maintenance works
- 2020
2023** Applying for new licenses and opening of new mining fronts such as Morro 1 and N3
- 2021
2023** Usina 1 shift to 100% dry processing temporarily impacting production
- 2022
2023** Start-up of (i) Gelado project, producing high quality pellet feed and (ii) Eastern Range expansion to 10 Mtpy capacity

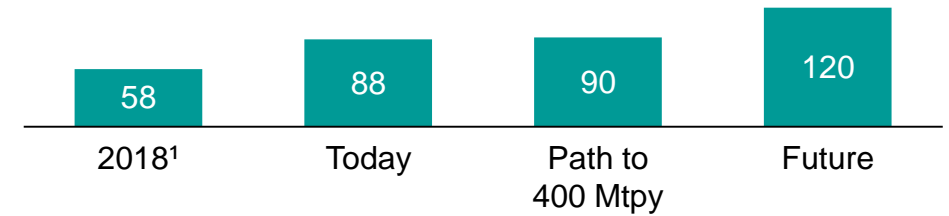
¹ Production in 2018.

The Northern System is a high-quality and low-cost growth platform

S11D, a brand new, innovative asset with Vale's lowest C1 cost



Site capacity (Mt)



Ongoing solutions

- 2020
2021** Installation of new crushers to process jaspilite ore bodies
- 2H22** Start-up of Northern System 240 Mtpy Project
- 1H24** Start-up of Serra Sul 120 Project
- TBD** Start-up of Northern System 260 Mtpy Project (logistics solution)

¹ Production in 2018.

The Northern System is a high-quality and low-cost growth platform

Serra Sul 120 means optionality and growth to the Northern System



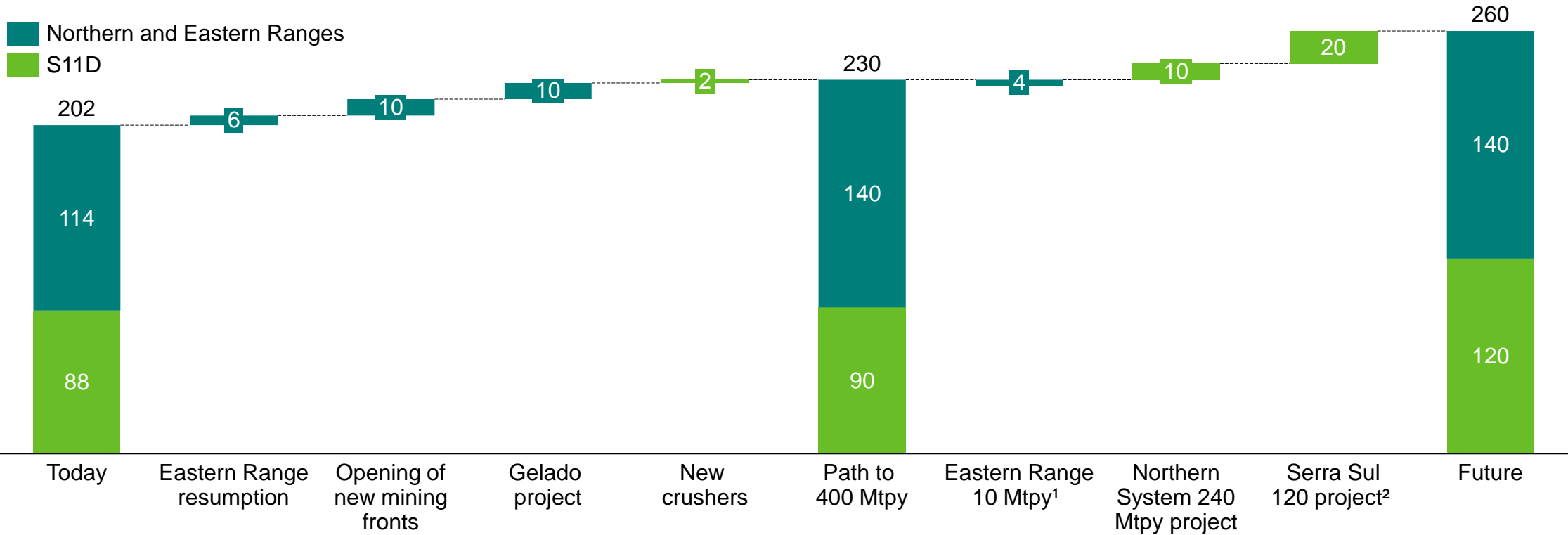
Serra Sul 120 Project

- CAPEX: US\$ 1.5 bn
- Start-up: 1H24
- Increasing S11D mine-plant capacity in 20 Mtpy
- Creates capacity buffer for the short-term, ensuring greater operational flexibility
- Environmental licensing in progress to access new areas in the site
- Logistics solution to increase Northern System capacity to 260 Mtpy is under development

The Northern System is a high-quality and low-cost growth platform

Northern System with +28 Mtpy capacity in the near term

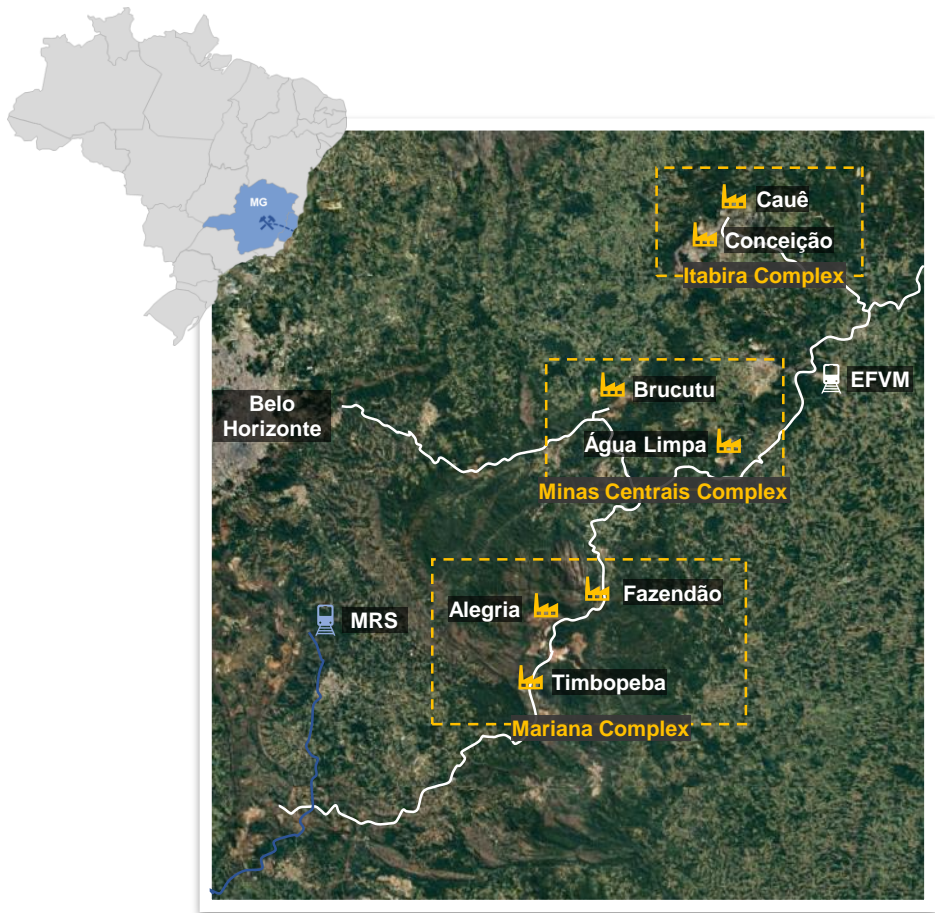
Northern System capacity (Mt)





¹ Replacement volumes. ² After the approval for the logistics project to increase Northern System logistics capacity to 260 Mtpy.


Southeastern System is key for pellet feed production

Developing alternatives to enable beneficiation process





Capacity (Mt)					Bottleneck today
	2018 ¹	Today	Path to 400 Mtpy	Future	
 Mine/Plant ²	104	63	101	106	Restrictions in tailings disposal
 Domestic market ³	15	13-17	15-20	15-20	
 Port	97	108	108	120	

Main products

 Pellet feed, pellets and BRBF input

Challenges

-  Assessment of geotechnical structures
-  Filtration and dry stacking solution



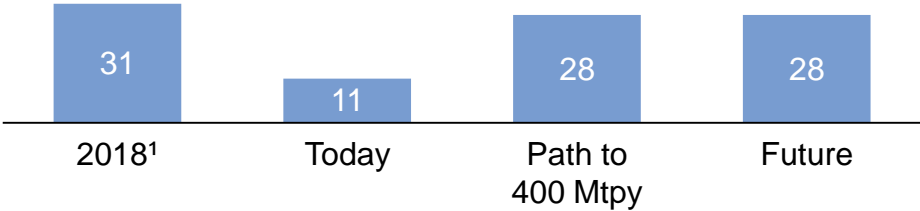
¹ Mine/Plant refers to production and Port refers to shipments. ² Including third-party purchases and not including ROM for sales. ³ Considering sales to Brazilian clients and losses in pellet making process.

Southeastern System is key for pellet feed production

Torto dam and filtering as solutions for Brucutu



Site capacity (Mt)



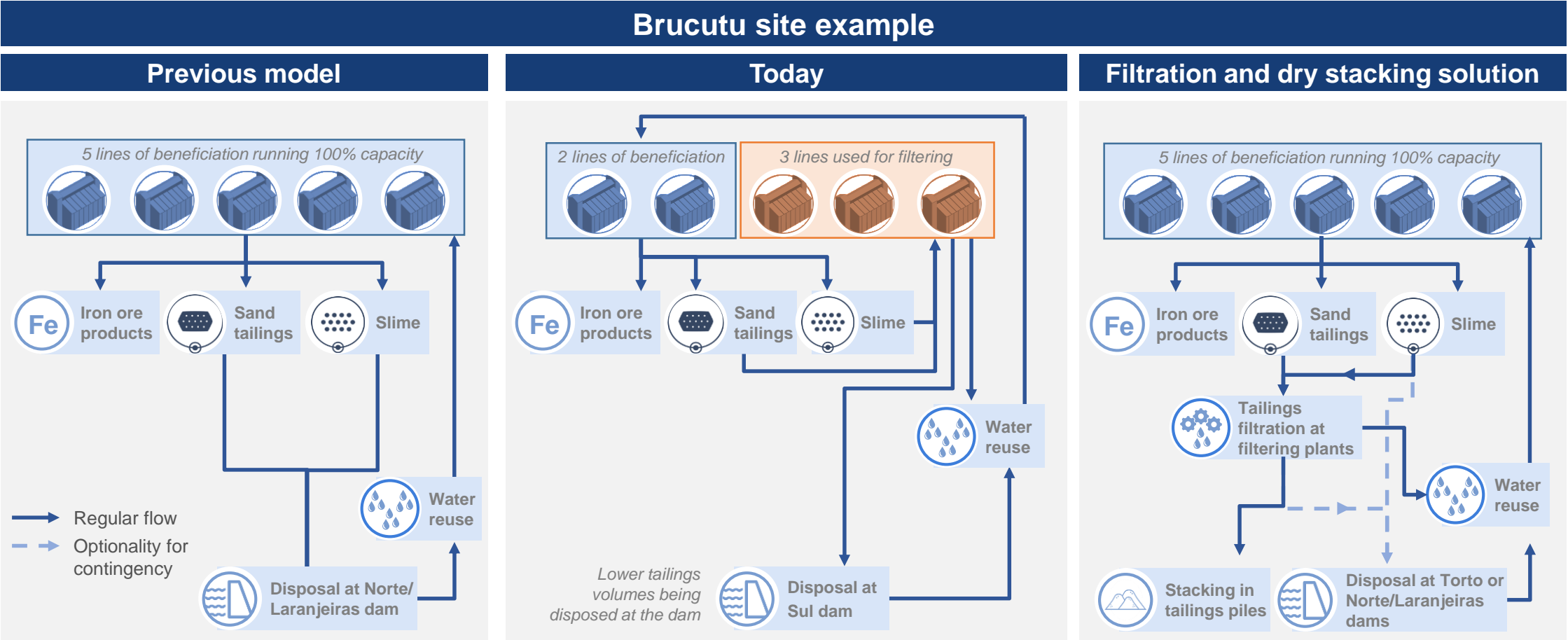
Ongoing solutions

- Today** Filtration at the plant with tailings' disposal at Sul dam, which has a limited area for disposal
- 2Q21** Torto dam start-up after conclusion of construction and receiving operational licenses and declaration of stability
- 2022** Filtration and dry stacking in tailings piles² and use of Torto and Norte/Laranjeiras³ dams as contingency

¹ Production in 2018. ² Disposal in tailings piles depends on receiving licenses. ³ Norte/Laranjeiras dam is under Emergency Level 1 and today does not have a positive stability declaration, which is required to resume operations. The dam's stability assessment and definition of necessary actions is expected in 4Q20 and the use of the dam as contingency in 2025.

Southeastern System is key for pellet feed production

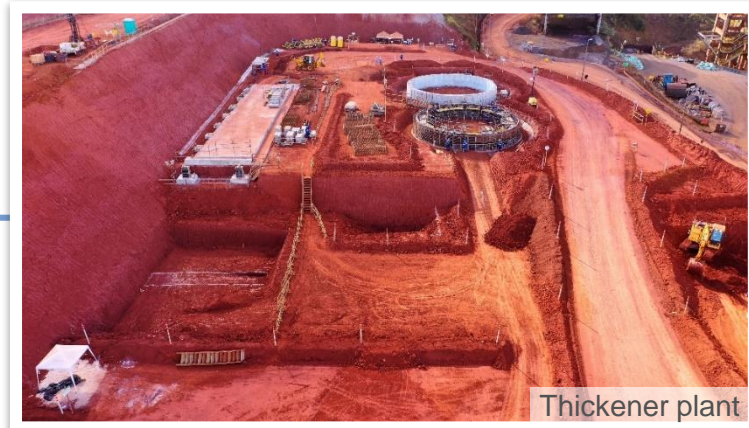
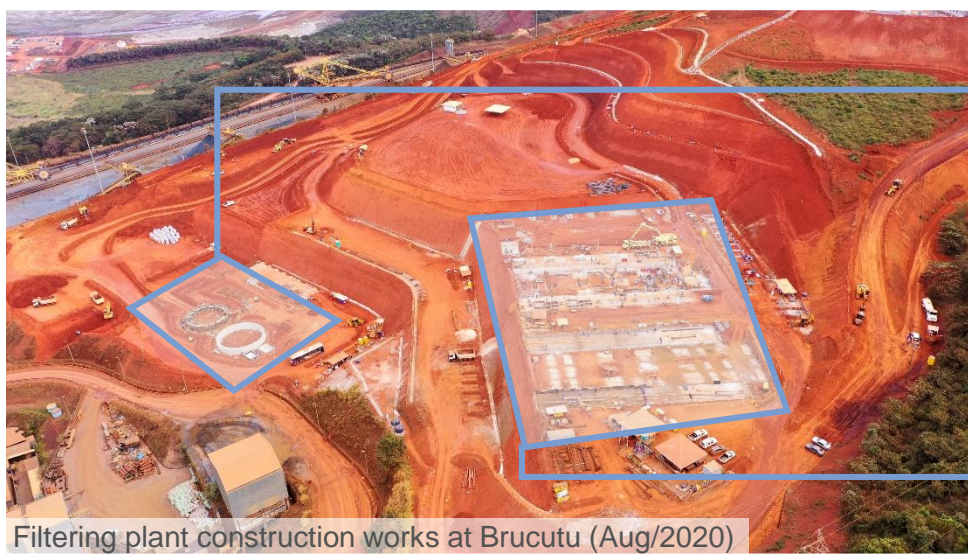
The filtering plant will allow dry stacking for up to 100% of tailings



Use of dams as contingency in wet seasons and licensing areas for tailings piles are key to reach full productivity

Southeastern System is key for pellet feed production

The start-up of the filtering plant in Brucutu is expected in 2022



Physical progress: 26%

Southeastern System is key for pellet feed production

Filtering will also play an important role in the Itabira Complex

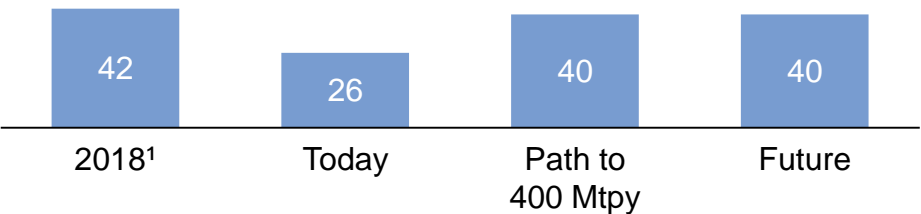


Cauê site



Conceição I site

Site capacity (Mt)



Ongoing solutions

- Today** Capacity limited by tailings disposal restriction (Itabiruçu dam) and temporary filtering in some plants to extend life of current assets
- 4Q20** Expectation of removal of emergency level of Itabiruçu dam and start of raising construction²
- 2022** Plants operating at full capacity, filtering tailings and disposing in tailings piles³ and using Itabiruçu dam as contingency

¹ Production in 2018. ² After conclusion, the approval of Economic Development Plan is necessary by National Mining Agency (ANM).

³ Disposal in tailings piles depends on receiving licenses.

Southeastern System is key for pellet feed production

Itabira's filtration plants are expected to start-up in 2022



Physical progress (Cauê): 15%



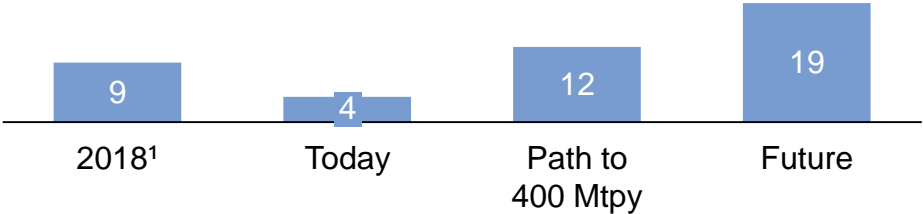
Physical progress (Conceição): 13%

Southeastern System is key for pellet feed production

In Timbopeba, the depleted pit is key to increase wet processing



Site capacity (Mt)



Ongoing solutions

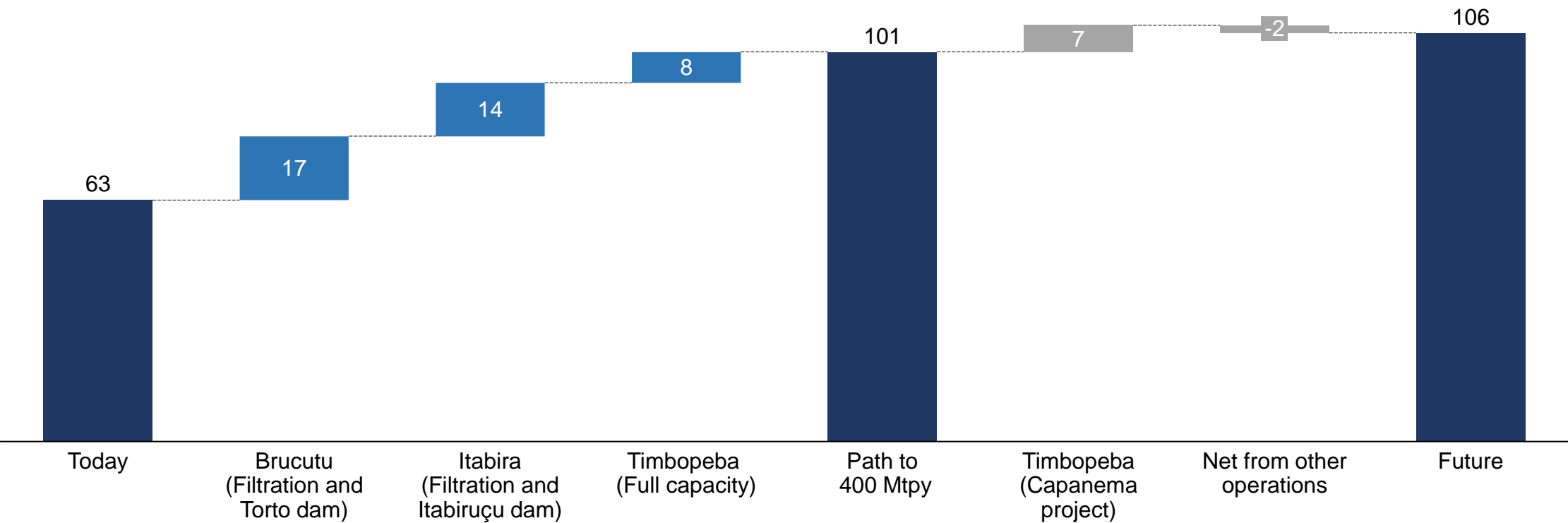
- Today** Temporary authorization² by National Mining Agency (ANM) to dispose tailings at Timbopeba pit
- 1Q21** Final authorization by ANM to dispose tailings at Timbopeba pit³ and conclusion of plant's adaptation to resume capacity to 12 Mtpy
- 2023** Start-up of Capanema⁴ project (dry processing) adding 7 Mtpy of net capacity in the first years

¹ Production in 2018. ² Valid until end of 2020. ³ The approval of Economic Development Plan is necessary by National Mining Agency (ANM). ⁴ Project with capacity of up to 18 Mtpy expected to be approved in 4Q20.

Southeastern System is key for pellet feed production

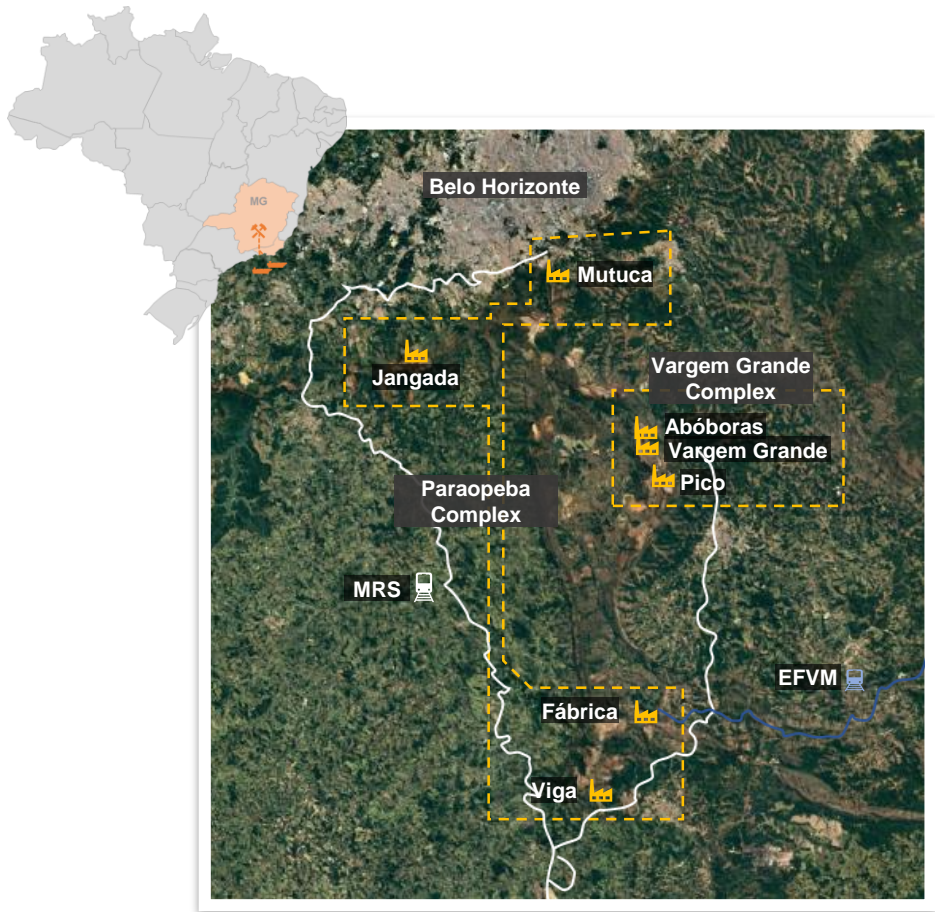
Southeastern System with +38 Mtpy capacity in the near term

Southeastern System capacity (Mt)



Besides pellets, Southern System fits precisely Vale’s blending strategy

Gradual resumptions in Vargem Grande and Paraopeba Complexes



Capacity (Mt)					Bottleneck today
	2018 ¹	Today	Path to 400 Mtpy	Future	
Mine/Plant ²	84	51	67	82	
Domestic market ³	14	8-12	12-16	12-16	
Port	60	75	75	75	Operations near upstream dams

Main products

BRBF input, 62% Fe products and pellets

Challenges

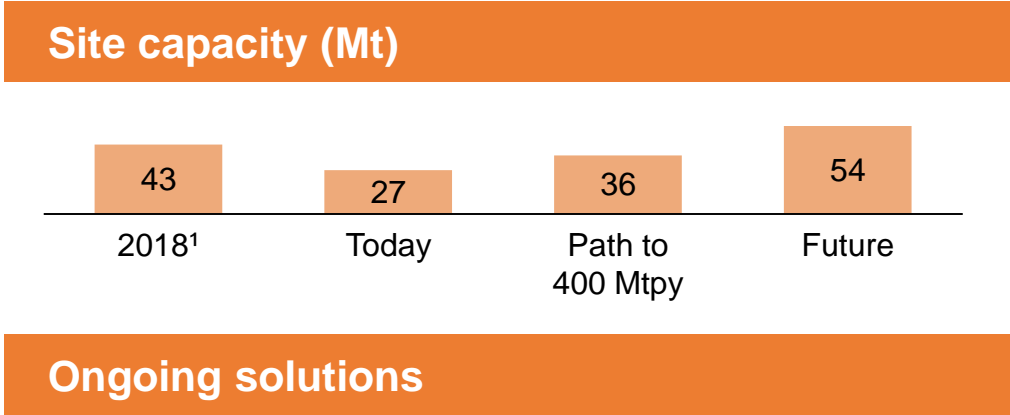
Unlock mining capacity

Solve interference with upstream dams

¹ Mine/Plant refers to production and Port refers to shipments. ² Including third-party purchases and not including ROM for sales. Part of production uses Southeastern System’s logistics.
³ Considering sales in domestic market and losses in pellet making process.

Besides pellets, Southern System fits precisely Vale’s blending strategy

Maravilhas III dam improves quality and volumes in Vargem Grande Complex



- Today** Mines and plants operating with limited capacity with tailings being disposed at Maravilhas I dam and Cianita waste dump
- 2Q21** Conclude Maravilhas III dam construction² and implement filtering³, increasing mine-plant capacity to 53 Mtpy and enabling resumption of VGR pellet plant
- 2022** Progress on VGR dam de-characterization to unlock conveyor belt capacity⁴ and licensing of new mining areas, which today limit capacity at 30 Mtpy
- 2020-2027** Advance in studies to elevate automated train productivity while decreasing emergency levels of Forquilha and Grupo dams⁵, which today limit capacity in 36 Mtpy

¹ Production in 2018. ² The receipt of positive stability declaration is necessary start operation. ³ Disposal in tailings piles depends on receiving licenses. ⁴ Resumption of conveyor belt relies on external approvals by National Mining Agency (ANM) and external auditors. ⁵ Decrease of emergency levels also depends on external evaluation by ANM and external auditors.

Besides pellets, Southern System fits precisely Vale's blending strategy

Filtering, expected in 2021, will extend Maravilhas III dam lifespan

Vargem Grande Complex



Physical
progress
77%

Besides pellets, Southern System fits precisely Vale's blending strategy

Mechanical dismantling ending in 2021¹: improved productivity and costs

Vargem Grande Complex



Abóboras mine



Sapecado mine (Pico site)

↑ ~50%
of mining cost
increase²

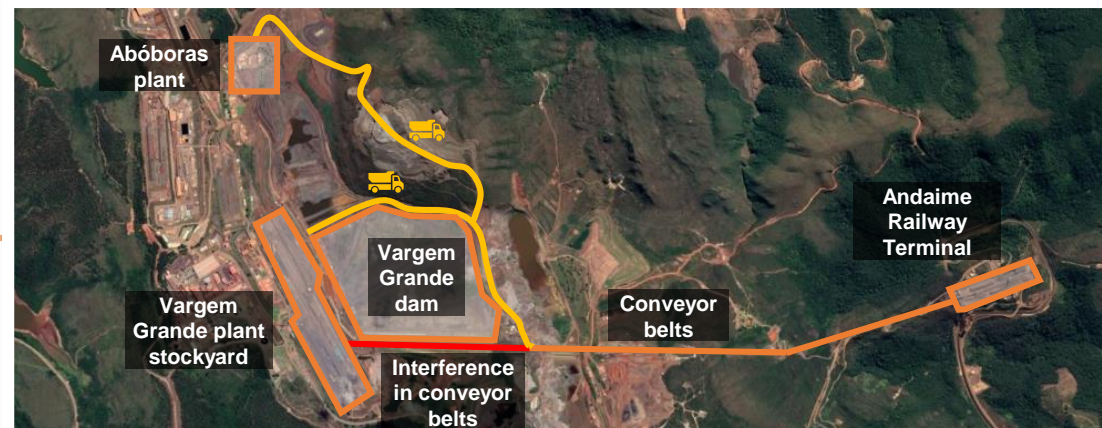
¹ Depending on the conclusion of absence of impact in adjacent structures and on the external approval by National Mining Agency (ANM) and external auditors.

² Variation of mining costs per ton (mechanical dismantling and others) of Abóboras and Sapecado/Galinheiro (Pico) mines in 2020 (vs. 2018) in BRL.

Besides pellets, Southern System fits precisely Vale's blending strategy

The internal logistics interference by Vargem Grande dam is expected to be solved until 2022¹

Vargem Grande Complex

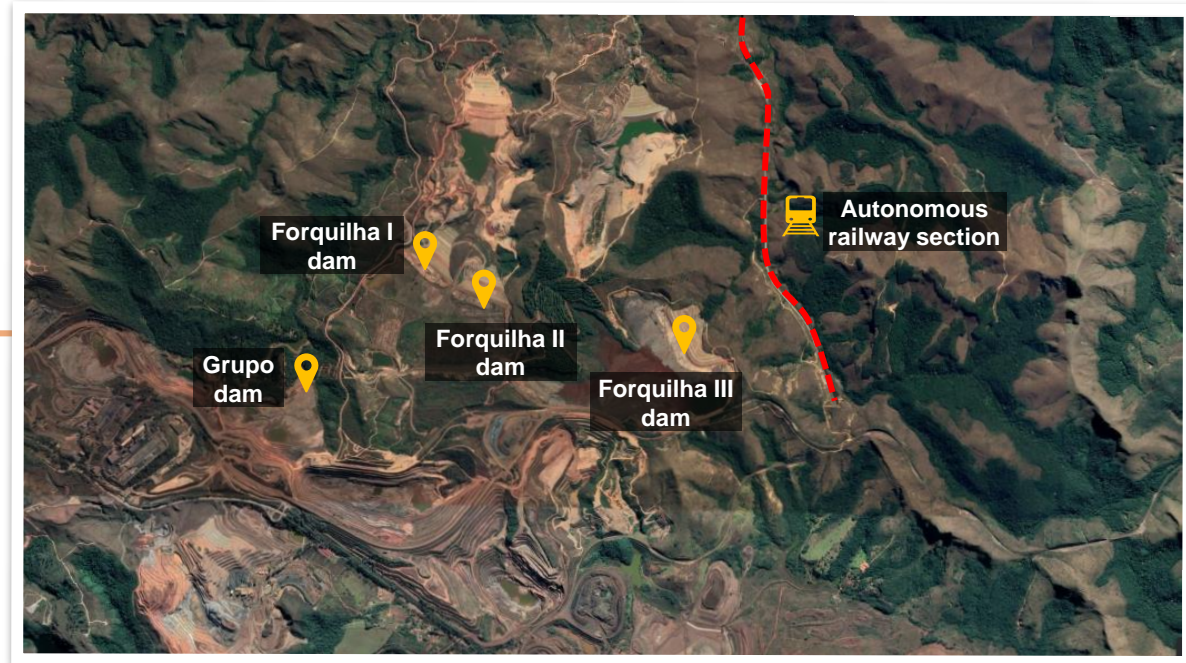
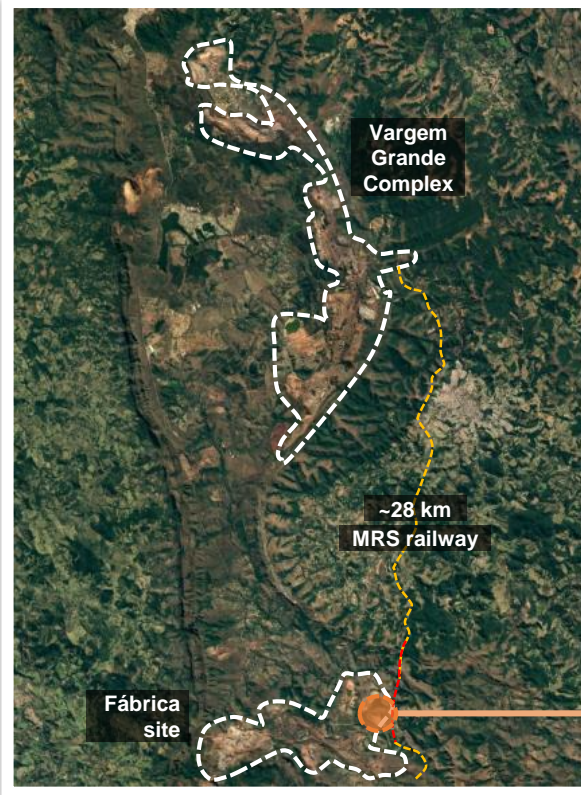


¹ Resumption of conveyor belt relies on external approvals by National Mining Agency (ANM) and external auditors.

Besides pellets, Southern System fits precisely Vale's blending strategy

Increase autonomous train productivity and decrease emergency level at Forquilhas and Grupo dams elevate Vargem Grande capacity

Vargem Grande Complex

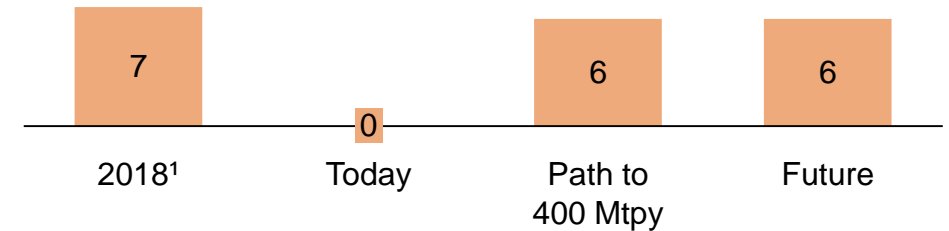


Besides pellets, Southern System fits precisely Vale's blending strategy

Fábrica resumption is key to supply the domestic market with pellets



Site capacity (Mt)



Ongoing solutions

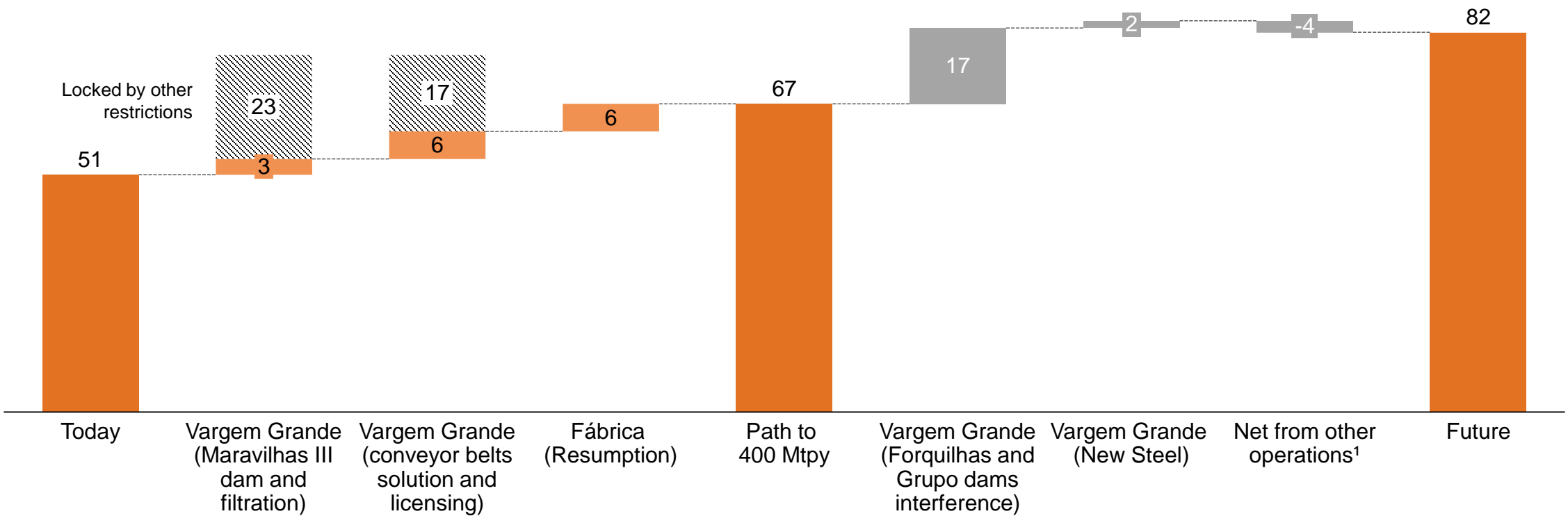
- 1Q21** Conclusion of required vibration tests (to certify the absence of impacts on the site's structures) and evaluation by external auditors and ANM
- 2Q21** Resume site's production after concluding pipeline construction for tailings disposal at Forquilha V dam
- 3Q21** Resume pellet production after concluding above-mentioned steps, which relies on market conditions

¹ Production in 2018.

Besides pellets, Southern System fits precisely Vale’s blending strategy

Southern System with +16 Mtpy capacity in the near term

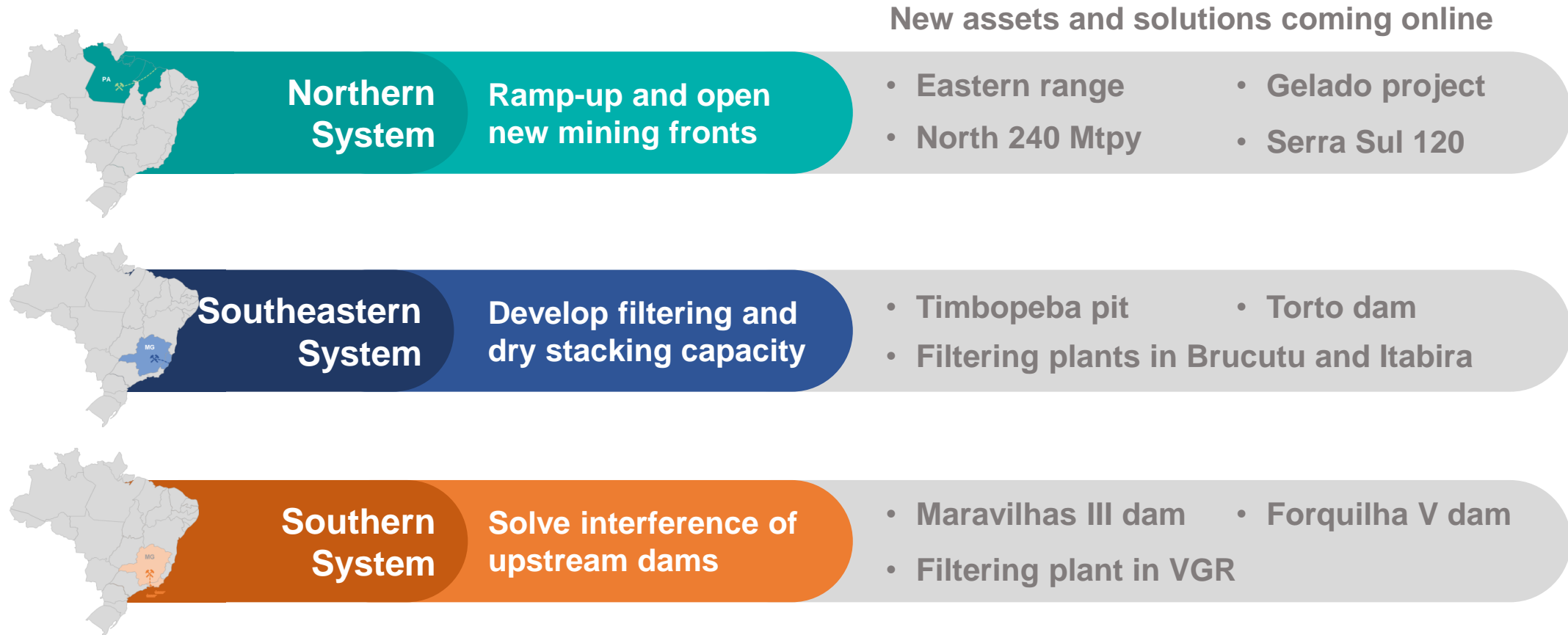
Southern System capacity (Mt)



¹ Including third-party purchases.

Creating buffers to deliver production stability

Vale will create capacity buffers to ensure ~400 Mtpy production



20th Analyst & Investor Tour



Presenter:
Luciano Siani Pires



De-risking Vale

the evolution of our roadmap

Keeping fast pace at Brumadinho's reparation

Focusing on operational excellence and dam safety

Approaching ESG towards best practices

Achieving business stability with capital discipline

Keeping fast pace at Brumadinho’s reparation

Over R\$ 10 billion spent¹



A new nursery and healthcare unit built in Parque da Cachoeira, Brumadinho (MG)

Brumadinho’s Master Plan
finalized after extensive
community consultation and
submitted to the authorities’
approval²

R\$ 4.1 billion in indemnifications³

Indemnities	Emergency Aid	Civil and Labour
People	+106,000	+7,940

33 agreements a robust legal framework

 Indemnify people affected	 Recover the environment
 Support families and communities	 Ensure external audits
 Ensure water supply	 Compensate Social Security

¹ Excludes de-characterization expenditure. ²Submitted to the municipality of Brumadinho. ³Approximate figures, referring to signed agreements (paid and payable, civil and labour), labour indemnification paid for collective damages and emergency aid paid, updated on September 10th, 2020.

Keeping fast pace at Brumadinho's reparation

Provisions for reparation are well-sized and timely disbursed



¹ EBITDA impact in 2019 and 1H20 accumulated at US\$ 3.947 billion. PV & FX depreciation effects related to 2019 and 1H20 of US\$ 858 million. Average FX rate BRL/US\$ estimate at 5.20 in 2H20, 5.10 in 2021 and 4.77 in 2022+. Provisions for de-characterization excluded. ²As of June 30th, 2020.

Focusing on operational excellence and dam safety

By transforming our culture with VPS



People development

Standardization of best practices

Operational discipline

Compliance with routine

North Atlantic



- Robust nickel production since 4Q19.
- Increased stability of our value chain.
- Improved predictability in processes and results.

Focusing on operational excellence and dam safety

By continuously improving dam management

Business units		Safety & Risk	Internal audit		External sentinels		
Geotechnical operations team	Geotechnical support team	Safety & Operational Excellence Office	Independent Board Committee for Dam Safety	Chief Compliance Officer Internal audit and whistleblower channel	Engineer of Record Dam safety inspections and performance assessments	Independent Auditors Public Prosecutors technical reviews and Tailing Review Boards	Dam Safety Reviews Periodical technical reviews by external engineering company
1 st layer	2 nd layer	2 nd line of defense	3 rd line of defense				
1 st line of defense							

ICMM
International Council
on Mining & Metals



The Mining Association of Canada
ADVOCACY STEWARDSHIP COLLABORATION

CDA  **ACB**
Canadian Dam Association Association Canadienne des Barrages



Approaching
international practices

Focusing on operational excellence and dam safety

By increasing safety in nearby areas



Sul Superior back-up dam, delivered in 2020

Focusing on operational excellence and dam safety

By increasing safety in nearby areas



B3/B4 back-up dam, to be delivered in 2020

Focusing on operational excellence and dam safety

By increasing safety in nearby areas



Forquilha back-up dam, to be delivered in 2021

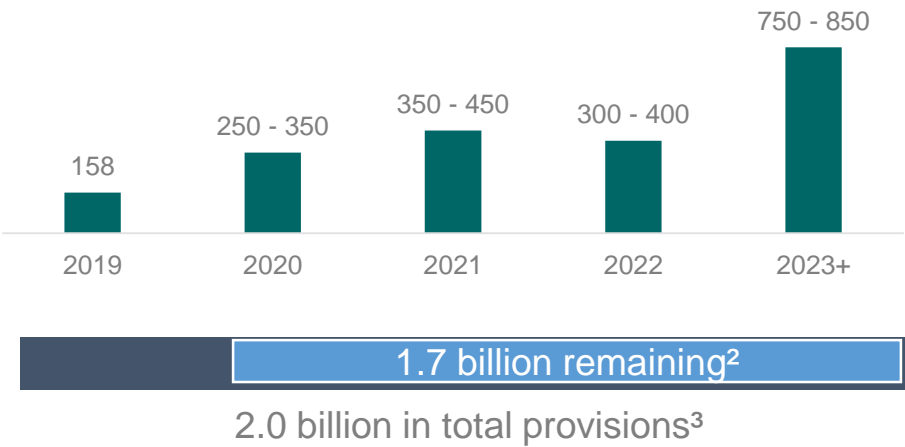
Focusing on operational excellence and dam safety

By evolving with our de-characterization plan

The updated de-characterization timeline is available at www.vale.com/esg



Cash outflow
US\$ million



¹ After further assessments, the Xingu drained pile was reclassified as upstream dam. ²US\$ 1,686 million as of June 30th, 2020. ³Considering a 2019 EBITDA impact of US\$ 2,624, with PV & FX adjustments of US\$ 669 million.

We are evolving with our ESG practices

For more information,
please visit:
www.vale.com/esg

Where we stand today¹



33% emissions reduction target for scopes 1&2 by 2030



Carbon neutral by 2050 in scopes 1&2



New Pact with society



Goal to double percentage of women on the workforce



Creation of Chief Compliance Office



Sustainability targets in long term remuneration goals

Next steps¹



Scope 3 target ambition



Sensitivity analysis/stress test related to water



Systematic involvement of local stakeholders in the CDP²



Stablish a human rights due diligence process



First Board election with Nomination Committee



Integrated Reporting

¹ Non-exhaustive measures. ²Community Development Planning.

Achieving business stability with capital discipline

Closing cash drains

2020E	VNC	COAL	SAMARCO
Milestones achieved	VNC refinery was shut down in 2Q20	New mining plan and plant revamp defined	Operational resumption approved by authorities
Ongoing measures	Exiting VNC, starting with placing it on care & maintenance	Plant revamp to start in November 2020, following improved pandemic scenario	Preparatory works to restart operations by December 2020
2020 cash drain (US\$ million)	~350	~1,100	~200 ¹
Tapped drain (E)	2021	2022	2021

¹ Excludes expenses related to the Renova Foundation.

Achieving business stability with capital discipline

Advancing with capacity replacement and growth in **Nickel**

EBITDA
breakeven¹ US\$ 6,477/t

Average
price¹ US\$ 13,948/t

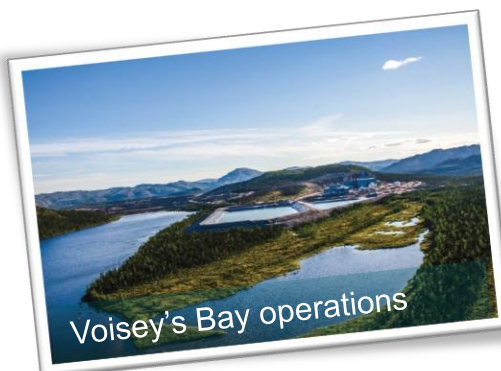
North Atlantic

CCM and VBME

Replacement projects

Start-up: 2021

Capacity: 45-55 ktpy²



South Atlantic

Onça Puma

Growth project

Start-up: 2023E³

Capacity: +20 ktpy



Indonesia

Pomalaa and Bahodopi

Growth projects

Through JVs³

Capacity: +110 ktpy⁴



¹ Nickel EBITDA break-even and average realized price in 2Q20. ² Both projects combined. ³ Pending approval. ⁴ Combined in a 100% equity project basis.

Achieving business stability with capital discipline

Advancing with growth projects for Copper

EBITDA
breakeven¹

US\$ 1,181/t

Average
price¹

US\$ 5,994/t

South Atlantic

Salobo III

Expansion project

Start-up: 2022E

Capacity: +30-40 ktpy

Alemão

Growth project

Start-up: 2024E

Capacity: +60 ktpy

North Atlantic

Victor deposits

In partnership with Glencore

Start-up: 2025+

Capacity: +30 ktpy

Indonesia

Hu'u

Searching for a partner

Start-up: 2030+

Capacity: +250 ktpy

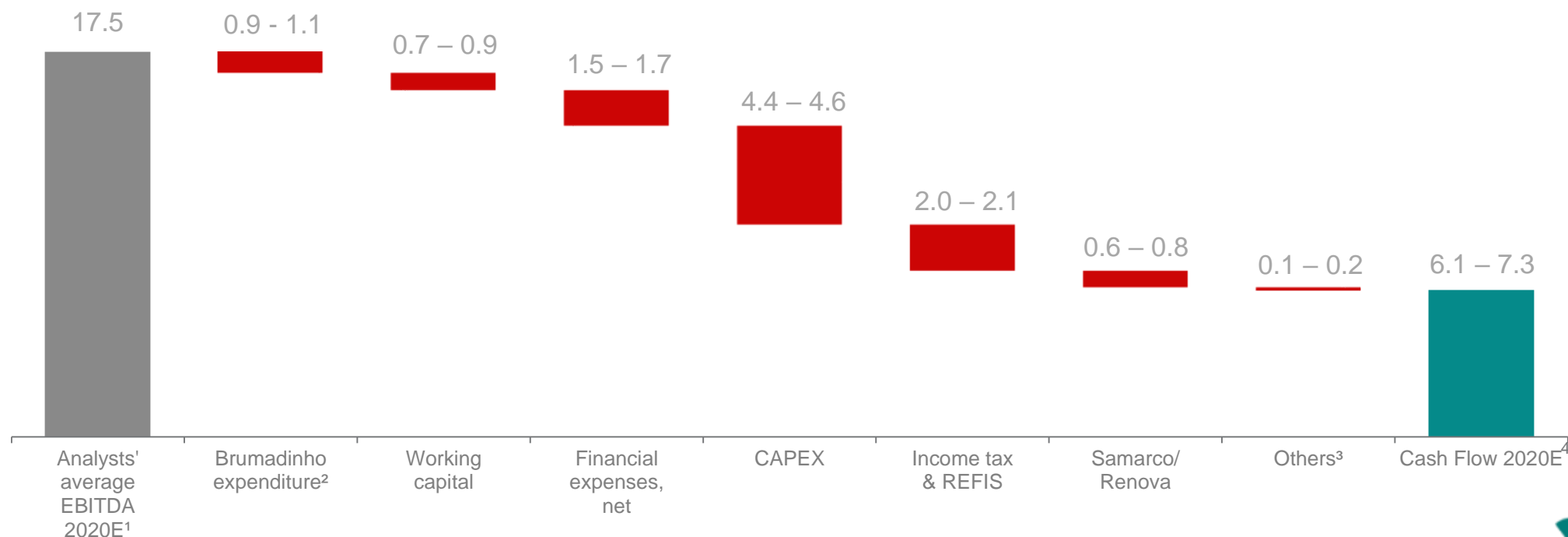


¹ Copper EBITDA break-even and average realized price in 2Q20.

Achieving business stability with capital discipline

Robust cash generation to sustain reparation, fund accretive projects and remunerate shareholders

2020 Expected Cash Flow, based on sell-side analysts' EBITDA estimates
US\$ billion

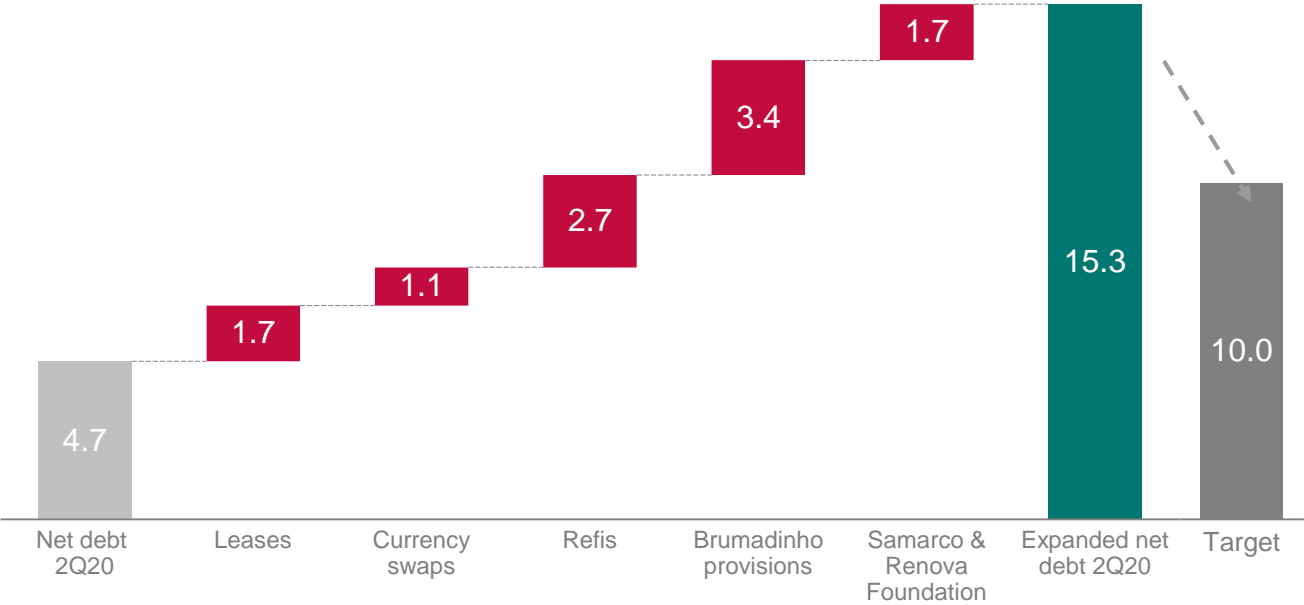


¹Analysts' consensus ranging from US\$ 15.0 billion to US\$ 20.8 billion. ² Includes reparation, de-characterization and incurred expenses, excludes the release of judicial deposits of US\$ 274 million. ³ Includes derivatives, dividends paid to non controlling interest, disbursements in accordance with IFRS16, disbursements with scrubbers and others. ⁴ Excludes dividends, bolt-on acquisitions and debt repayment.

Achieving business stability with capital discipline

Cash allocation plan based on long-term expanded net debt target

Expanded net debt target
US\$ billion



- Capital allocation
- Shareholder return
- Accretive growth opportunities
- ESG-driven

A roadmap for value creation

