# Earnings Release 4023 and 2023







4<u>0</u>23 Key Indicators Energy Production<sup>1</sup> 2,658.4 GWh

29% ↑ YoY (4023 X 4022)

Unit Gross Profit<sup>3</sup> R\$ 269.9/ MWh

> 13% ↑ YoY (4Q23 X 4Q22)

Total Cash<sup>2</sup>
R\$ 1.31 billion

1% ↑ QoQ (4Q23 x 3Q23)

Net Debt<sup>2</sup> R\$ 9.70 billion

376 T QOQ (4023 x 3023) Energy Gross Profit<sup>2</sup> R\$ 715.7 million

> 45%↑ YoY (4023 X 4022)

EBITDA<sup>2</sup> R\$ 568.6 million

46% ↑ YoY (4023 X 4022)

Energy Platform Gross Profit<sup>4</sup> R\$ 6.3 million

R\$ 4.1 million ↓ YoY (4023 x 4022)

Net Income R\$ 145.0 million

R\$ 8.0 million ↑ YoY (4Q23 × 4Q22)





Energy Production<sup>1</sup> 8,668.4 GWh

27% ↑ YoY (2023 × 2022)

Unit Gross Profit<sup>3</sup> R\$ 254.5/ MWh

> 3% ↑ YoY (2023 x 2022)

Total Cash<sup>2</sup> R\$ 1.31 billion

 $31\% \checkmark YOY$  (2023 x 2022)

Net Debt<sup>2</sup> R\$ 9.70 billion

25% T YoY (2023 x 2022) Energy Gross Profit<sup>2</sup> R\$ 2,194.9 million

**32%** ↑ YoY (2023 × 2022)

EBITDA<sup>2</sup> R\$ 1,637.5 million

39% ↑ YoY (2023 x 2022)

Energy Platform Gross Profit<sup>4</sup> R\$ 58.8 million

R\$ 10.8 million ↑ YoY (2023 × 2022)

Net Income R\$ 62.2 million

R\$ 70.2 million ↑ YoY (2023 × 2022)

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#### **2023 SUMMARY**

Serena delivered a record R\$ 1.638 billion full year EBITDA<sup>1</sup> in 2023, reflecting a 39% year-over-year (YOY) growth and surpassing the guidance mid-point by 9.1%. EBITDA Margin<sup>2</sup> for the year reached 75%, 370 bps above the 2022 figure, Net Income totaled R\$ 62.2 million and Cash Flow from Operations amounted to R\$ 1.5 billion.

Better gross margins resulted from new offtake agreements (R\$ 116 million increase), efficient cost management throughout the year (R\$ 64 million below budget) and additional results from Chui's restructuring (R\$ 88 million increase). These factors more than offset the effects of lower-than-expected energy production (8,668.4 GWh production was 6% below forecast) caused by lower resources and slight changes in ramp-up curves of new developments<sup>3</sup>.

Most notably, the completion of our largest-ever investment program (R\$ 4.5 billion invested in Assuruá Expansions and Goodnight Phase 1) with above-hurdle returns is a standout achievement leading us to a 17x EBITDA growth between our IPO in 2017 and 2023, and to a very positive first experience on greenfield developments as a listed company. Such on-time/on-budget journey to commission 148 new wind turbines (721 MW) in 2023 further positions us as a reference developer in Brazil and establishes a solid foundation for new endeavors in the US.

Rising revenues from the commissioning of new capacity made our indebtedness keep falling in 4Q23. In 4Q23 Serena Geração's Net Debt / EBITDA was 3.7x (Vs 3.9x in 3Q23) and our adjusted Net Debt / EBITDA net of the Tax Equity funding was 5.4x (Vs 6.2x in 3Q23). As planned, in the beginning of 2024<sup>4</sup> we amortized all Goodnight 1 bridge loans using the proceeds from Goldman Sachs' tax equity investment – US\$ 184.7 million (~R\$ 914 million<sup>5</sup>). Additionally, the Company is getting ready to replace the remaining R\$ 940 million of bridge loans related to its new plants in Brazil with proceeds from (i) additional long-term debt in Assuruá 4 and 5 holding and (ii) the remaining R\$ 224 million of FDNE funding for Assuruá 5. Financial expenses remained under control despite 2023's challenging credit market and peaking interest rates, and the long-term financing entering the company and its subsidiaries have better terms and rates than planned, supporting the long-term free cash flow to equity margins of our new assets.

We are updating today our 2024 EBITDA guidance contemplating (i) the swap of assets with EDFR<sup>6</sup> (conditions precedent have evolved, and closing is now expected by end of 1Q24) and (ii) revised indicators (IPCA index at lower levels than forecasted one year ago). New Adjusted EBITDA guidance for 2024 is R\$ 1.917 billion, reflecting a ~R\$ 40 million decrease in EBITDA due to the asset swap that yet creates positive NPV (~R\$ 100 million resulting from synergies with Assuruá, more advantageous capital structure and better offtake curve) and a ~R\$ 50 million decrease related to revised inflation forecasts.

2023 also marked the successful launch of our new market positioning, a step that brings us a great opportunity to amplify Serena's reach and make us lead the pack towards better solutions for a broader universe of energy consumers, now including SMEs and retail (2024 goal is to beat R\$ 115 million<sup>7</sup> of gross profit in our energy platform). Our growing skills to offer compelling products to any consumer combined with the successful investment program just completed – and the growing cash flows to be yielded by 2.8 GW of highly-contracted operating capacity – are valuable levers that get us further prepared to achieve our long-term business plan goals and continue exploring a myriad of opportunities to keep creating shareholder value and promoting energy prosperity for all.

#### 2023 HIGHLIGHTS

#### **Energy Production**<sup>8</sup>

• 8,668.4 GWh Energy: +27% YoY

#### **Profitability**

- R\$ 254.5/MWh Unit Gross Profit9: +3% YoY
- R\$ 2,194.9 mm Energy Gross Profit<sup>1</sup>: +32% YoY
- R\$ 1,637.5 mm EBITDA<sup>1</sup>: +39% YoY
- R\$ 62.2 mm Net Income: +874% YoY

#### **Cash and Financing**

- Cash Flow from Operations of R\$ 1.5 bn: +57% YoY
- R\$ 1.3 bn Adj. Total Cash<sup>1</sup>: +1% QoQ and -31% YoY
- R\$ 9.7 bn Adj. Net Debt<sup>1</sup>: +5% QoQ and +25% YoY
- Serena Geração Net Debt / EBITDA: 3.7x (Vs 4.5x Covenant)

#### **Development**

- Assuruá 4 (211.5 MW) full COD in Feb. 2023
- Assuruá 5 (243.6 MW) full COD in Oct. 2023
- Goodnight 1 (265.5 MW) full COD in Jan. 2024
- Distributed Generation: 8 plants energized (20 MW) by Feb. 2024

#### Other

- R\$ 58.8 mm Energy Platform Gross Profit<sup>10</sup>: +24% YoY
- Subsequent Event<sup>3</sup>: Tax Equity funding on Feb. 2, 2024 (US\$ 184.7 mm)<sup>4</sup>
- 2024 Guidance Update: Range of R\$ 1,721-2,113 mm



#### **MAIN INDICATORS**

1

## Energy Platform & Balance

2

Asset Management

3

**Development**<sup>5</sup>

Indicators	Unit	4Q23	4Q22	Var.	3Q23	Var.	2023	2022	Var.
Energy Platform									
Energy Sales	GWh	1,753	1,022	72%	1,815	-3%	6,507	3,772	73%
Energy Balance – Asset Portfolio									
Contracted Installed Capacity <sup>1</sup>	MW	2,772.9	2,683.4	3%	2,758.4	1%	2,772.9	2,683.4	3%
Assured Energy sold through Energy Offtake Agreements (2023-32) <sup>2</sup>	%	93%	89%	4.2 p.p.	93%	0 p.p.	93%	89%	4.2 p.p.
P50 sold through Energy Offtake Agreements (2023-32) <sup>3</sup>	%	91%	87%	4 p.p.	91%	0 p.p.	90%	87%	4 p.p.
Avg. Sales Price (2023-32) <sup>4</sup>	R\$/MWh	219.0	214.8	2%	219.0	0%	219.0	214.8	2%
Operating Installed Capacity	MW	2,414.8	2,067.7	17%	2,327.8	4%	2,414.8	2,067.7	17%
Energy Production <sup>1</sup>	GWh	2,658.4	2,067.9	29%	2,547.0	4%	8,668.4	6,805.3	27%
Gross Resource	GWh	2,892.5	2,880.6	0%	2,708.4	7%	9,494.0	7,538.2	26%
Asset Availability	GWh	5,050.1	4,017.4	26%	4,911.1	3%	18,632.6	15,625.0	19%
Availability	%	95.6%	95.9%	-0.2 p.p.	94.1%	1.5 p.p.	95.1%	95.3%	-0.2 p.p.
Adj. Availability⁵	%	97.2%	96.7%	0.5 p.p.	97.2%	0 p.p.	96.8%	96.6%	0.2 p.p.
(007710)		1000/	7.404	0.0	1000/	•	1000/	7.40/	0.0
Assuruá 4 Execution (211.5 MW)	%	100%	74%	26 p.p.	100%	0 p.p.	100%	74%	26 p.p.
Assuruá 5 Execution (243.6 MW)	%	100%	47%	53 p.p.	94%	6 p.p.	100%	47%	53 p.p.
Goodnight 1 Execution (265.5 MW)	%	98%	10%	88 p.p.	91%	7 p.p.	98%	10%	88 p.p.
DG Execution (89.5 MW)	%	22%	-	n.a.	3%	19.6 p.p.	22%	-	n.a.
DG Launched (108.5 MW)	%	82%	-	n.a.	69%	13.5 p.p.	82%	-	n.a.
Pipeline	MW	6,540.8	6,325.1	3%	6,358.6	3%	6,540.8	6,325.1	3%

2027

1,282.2

996.9

40.7

42.6

21.6

100.4

80.0

1,220.7

494.3

629.6

50.2

21.6

86.6

93%

93%

2028-2032

1,217.3

996.9

40.7

42.6

21.6

100.4

15.0

1,113.6

490.6

546.2

50.2

21.6

108.7

91%

91%



#### **ENERGY BALANCE PORTFOLIO BREAKDOWN**

Energy Portfolio Distribution [MWavg.]

Total Resources Under Management (A)

Free Market (BR)<sup>3</sup>

Revenue Put (US)

Distributed Generation - Solar (BR)

Uncontracted Energy (C = A-B)

Contracted Level [%] (D = B/A)

Contracted (@Assured Energy)<sup>4</sup>

<b>Energy</b>
<b>Resources &amp;</b>
<b>Energy Sales</b>

Assured Energy - Wind (BR)<sup>2</sup> 996.9 996.9 996.9 931.6 Assured Energy - Hydro (BR) 40.7 40.7 40.7 40.7 Assured Energy - Solar (BR) 42.6 42.6 42.6 42.6 Distributed Generation - P50 - Solar (BR) 21.6 21.6 18.7 Certified P50 - Wind (US) 100.4 100.4 100.4 Purchase for Resale (BR) 82.4 75.0 61.0 Energy Sales (B) 1,014.9 1,178.4 1,241.5 1,221.5 Regulated Market (BR) 473.8 493.7 494.3 494.3

541.1

100%

100%

2023

1.014.9

#### Contracted Level

#### **Average Price**

Uncontracted Energy (@Assured Energy)	-	9%	6%	7%	7%	9%
Uncontracted Energy (@P50) <sup>5</sup>	3%	11%	9%	9%	9%	11%
Average Sales Price [R\$/MWh]	231.3	226.6	223.3	221.2	219.8	213.6
Regulated Market <sup>6</sup> (R\$/MWh)	254.9	249.3	249.3	249.3	249.3	245.6
Free Market <sup>6</sup> (R\$/MWh)	210.6	204.7	196.9	192.1	188.7	176.5
Merchant Price – Goodnight (U\$/MWh) <sup>7</sup>	-	31 (R\$ 153.5)	36.8 (R\$ 181.9)	37.5 (R\$ 185.5)	39.8 (R\$ 196.9)	36.9 (R\$ 182.7)
Distributed Generation (R\$/MWh) <sup>8</sup>	-	500.0	500.0	500.0	500.0	500.0

2024

1,260.3

578.7

50.2

18.7

119.0

91%

91%

2025

1,284.7

635.5

50.2

21.6

83.1

94%

94%

2026

1,277.2

625.5

50.2

21.6

85.7

93%

93%



#### **PORTFOLIO HIGHLIGHTS**

Serena's portfolio management has been strongly active in filling the uncontracted energy portion of our assets with long-term contracts at attractive prices, increasing our long-term gross margins.

#### **Energy Balance**

During 2023, we increased our 10-year average contract coverage (2023-32) after closing several new energy offtake agreements with better margins, reaching ~93% of Assured Energy in 4Q23 (vs. 87% in 4Q22):

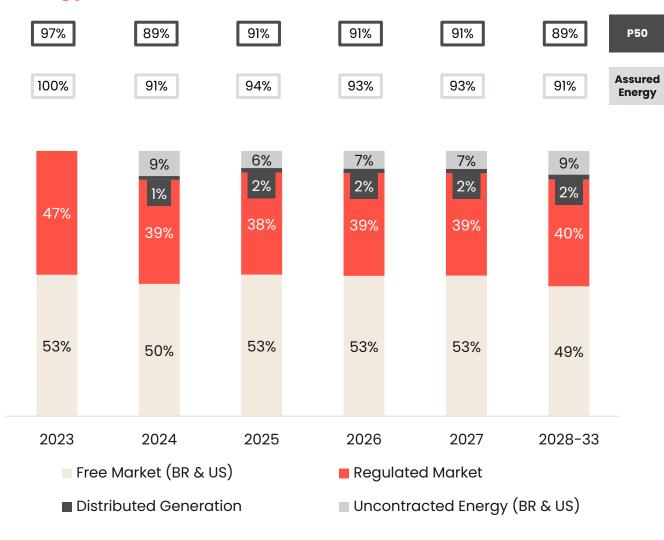
- For Brazil utility-scale portfolio, ~96% is contracted between 2023 and 2032 (meaning a ~93% contracted P50);
- 172 MWavg. of new long-term and above-market price bilateral sales;

#### **Average Price**

We closed 2023 with a 10-year average sales price of **R\$ 219/MWh** (2023-32), an increase of 2% (R\$ 4.2/MWh) Vs 4Q22 for the same period in real terms:

- For Brazil utility scale portfolio, R\$ 215.5/MWh of average sales price until 2032 (free and regulated markets)
- **U\$ 36/MWh**, expected, for Goodnight 1 (energy + RECs) until 2032<sup>1</sup>;
- R\$ 500/MWh average price for distributed generation.

#### **Energy Balance** (% contracted level @Assured Energy<sup>2</sup> and @P50<sup>3</sup>)



#### **ENERGY PLATFORM HIGHLIGHTS**

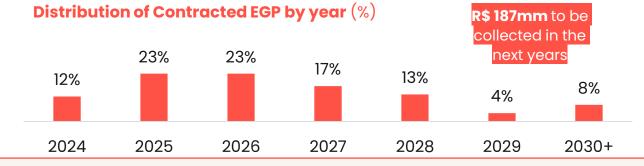
#### Free Market Energy Volumes and Financial Results

- 1,403 GWh of energy sold in 4Q 2023, totaling 6,766 GW (sold in 2023) of energy to be delivered from 2024 onwards;
- Additional R\$ 6.3 mm of EGP from Energy Platform in 4Q23, totaling
   R\$ 58.8 mm in 2023 (R\$ 61.7 mm including Environmental Attributes);
- R\$ 187 mm<sup>1</sup> of contracted energy gross profit to be collected in the next years;
- 1,000 GWh of net energy sales (sales purchase) between 2024-2028

#### **Distributed Generation on track**

- Initial projects delivered (SP and PI) on time and on budget;
- 144.5 MW of projects already contracted (including Serena's own investments and other suppliers), resulting in an estimated commercial margin of R\$ 20-25 million per year when all projects are commissioned.





#### **Our Energy Platform Plan**

In 2023, the EGP was R\$ 11 million above that of 2022, but it fell short of our projections. Factors such as lower margins / oversupply in free market as well as Distributed Generation Revenues still not being booked contributed to this outcome. In 2024 we expect R\$ 115 mm EGP through:

- Free market products for small and medium consumers (Free Market Opening in BR) through our long-term digital energy plans;
- Distributed generation products that offer small enterprises and households long-term digital energy plans;
- Tailored energy transactions; and
- Upside is launch of US energy platform late 2024 (most likely scenario is launch in 2025).

#### **Contracted Energy Gross Profit**

We are observing a recurrence in EGP growth from 2021 to 2023.

- From 2024 onwards, the Energy platform has approximately R\$ 387-437 mm in potential Gross Profit, once:
  - R\$ 187 mm in Energy Gross Profit is comprised of already locked future positions;
  - Expected R\$ 200-250 mm until 2033 in Distribution Generation Gross Profit from assets already being built and getting ready to start supplying power for local consumers

## Operational Summary



In 2023, new assets and Delta brought a 27% increase in portfolio's production<sup>1</sup>. On a sameasset base, the increase was of 2%.



Operating Assets	Installed	P50	Assured		Energy Production (GWh)						
Operating Assets	Capacity (MW)	(MWavg.) <sup>3,4</sup>	Energy (MWavg.) <sup>4</sup>	4Q23	4Q22	Var.	2023	2022	Var.		
BR Portfolio	2,417.8	1,177.2	1,109.4	2,625.6	2,067.9	27%	8,635.5	6,805.3	27%		
Delta Complex	573.8	316.6	298.0	918.1	836.8	10%	2,442.5	2,191.0	11%		
Bahia Complex	990.2	549.6	495.6	1,008.7	480.9	110%	3,709.7	2,014.6	84%		
Assuruá	808.1	454.2	409.2	812.1	373.6	117%	2,929.7	1,599.2	83%		
Ventos da Bahia <sup>1</sup>	182.1	95.4	86.4	196.6	107.3	83%	780.0	415.4	88%		
SE/CO Complex	271.1	101.4	96.8	196.5	219.4	-10%	815.2	847.3	-4%		
Pipoca <sup>2</sup>	20.0	10.3	11.9	14.1	31.2	-55%	88.0	118.3	-26%		
Serra das Agulhas	30.0	12.9	12.9	15.6	32.3	-52%	71.4	96.9	-26%		
Indaiás	32.5	23.7	22.4	41.8	39.2	6%	197.2	167.7	18%		
Gargaú	28.1	7.9	7.1	17.0	20.8	-18%	60.7	64.7	-6%		
Pirapora	160.5	46.7	42.6	108.0	96.0	13%	397.9	399.8	0%		
Chuí Complex	582.8	209.6	219.0	502.2	530.7	-5%	1,668.1	1,752.4	-5%		
US Portfolio	265.5	100.4	n.a.	32.8	-	n.a.	32.8	-	n.a.		
Goodnight Complex	265.5	100.4	n.a.	32.8	-	n.a.	32.8	-	n.a.		
Total Portfolio	2,683.3	1,277.6	1,109.4	2,658.4	2,067.9	29%	8,668.4	6,805.3	27%		
Other Operational Indicators	-			4Q23	4Q22	Var.	2023	2022	Var.		
Gross Resource (GWh) – Portfolio	-	-	-	2,892.5	2,219.1	30%	9,494.0	7,538.2	26%		
Asset Availability (%) – Portfolio	-	-	-	95.6%	95.9%	-0.2 p.p.	95.1%	95.3%	-0.2 p.		
Adj. Availability (%) <sup>5</sup> - Portfolio	_	_	_	97.2%	96.7%	0.5 p.p.	96.8%	96.6%	0.2 p.p		



#### **ENERGY PRODUCTION** (YoY analysis)

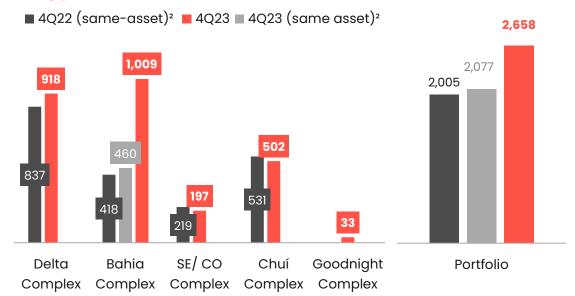
During 4Q23, resources were in line with expected, with positive highlights to Chuí, Goodnight and Delta Clusters, whereas hydro portfolio (only 3% of Serena's portfolio) performed 37.3 GWh below expected (as explained in the table on the right).

4Q23 vs. 4Q22

#### Energy Production in 4Q23 grew 29% YoY to 2,658.4 GWh, mainly due to:

- ↑ 32.8 GWh from Goodnight 1, which started its ramp-up phase in November. The asset reached 100% WTGs operational in early January;
- ↑ 486 GWh from new assets in Assuruá, leading Bahia's Cluster to a 110% increase YoY;
- ↑ On a same-asset base, production was 4% above YoY, with Delta (+10%) and Bahia (+10%) Clusters as the positive highlights, more than compensating the below-expected volumes in SE/CO (-10%) and Chuí Clusters (-5%).

#### **Energy Production**<sup>1</sup> (by Cluster) – in GWh



#### **RESOURCE INCIDENCE** (4023 vs. Expected) – in GWh

Cluster	Gross Resource <sup>3</sup> vs. Expected	Comments
Delta Complex (573.8 MW)	+4.8 GWh (+0.5%)	Delta resources came mostly in line with expected.
Bahia Complex <sup>1</sup> (990.2 MW)	-3.0 GWh (-0.3%)	Bahia net resources came mostly in line with expected. Assuruá (-9.2 GWh) and Ventos da Bahia (+6.3 GWh)
<b>SE/CO Complex¹</b> (271.1 MW)	-22.2 GWh (-9.5%)	Net wind and solar resources 12% (+15.1 GWh) above expected and net hydro resources 34% (-37.3 GWh) below expected, due to a drier season in the Cluster's region.
Chuí Complex (582.8 MW)	+28.7 GWh (+5.3%)	Chuí resources were above expected, due to higher wind levels throughout the southern region of Brazil (a classic El Niño spring effect).
Goodnight Complex (265.5 MW)	+3.6 GWh (+1.5%)	Goodnight started its energy production with resources mostly in line with expected.
Total	+11.9 GWh (+0.4%)	

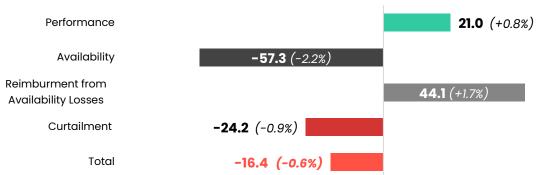
#### **OPERATIONAL PERFORMANCE** (4023 Breakdown)

Considering expected contractual availability reimbursement, **total operational performance in 4Q23 was 16.4 GWh below target (~R\$ 2.2 mm)**, mainly due to:

- ↑ Performance: 21.0 GWh gain (~R\$ 2.8 mm) mainly in Deltas, stemming from the active initiatives from our Asset Management team that improved our WTGs fleet.
- → Availability: 57.3 GWh loss (~R\$ 7.8 mm) mostly from corrective maintenances mainly in Deltas and Chuí. ↑ From this impact ~77% (44.1 GWh | R\$ 6.0 mm) is insured by the O&M provider and will be reimbursed in the coming quarters.
- → Curtailment: 24.2 GWh loss (~ R\$ 3.3 mm) from ONS curtailment<sup>1</sup>. The assets in our portfolio which were the most impacted in this quarter were Assuruá (19.6 GWh) and Delta Maranhão (7.6 GWh). It is worth mentioning that, in 4Q23, curtailment represented less than 1% of our portfolio's production in the period (that translates to ~0.5% of Energy Gross Profit).

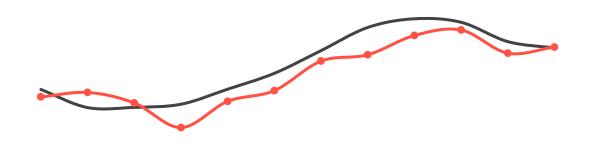
#### Operational Performance Analysis - 4Q23 in GWh

(% of total production)



#### **ENERGY PRODUCTION** (monthly view) – in GWh

- Despite 2023 energy production was 6% (160.0 GWh) below expected, our topnotch execution, creative ability to find optimizations in energy balance and in costs & expenses allowed us to deliver financial results above guidance
- More information on the financial performance can be found on <u>section B from</u> pages 23 to 34





The slower ramp-up of Assuruá 5's (expected to be fully operational by September 30<sup>th</sup>) represented a ~174 GWh total deviation compared to our 2023 business plan – that was financially compensated by equipment providers (~131 GWh in 3Q23 and ~43 GWh in 4Q23). The asset achieved Full COD in October.

#### **ENERGY PRODUCTION** (YoY analysis)

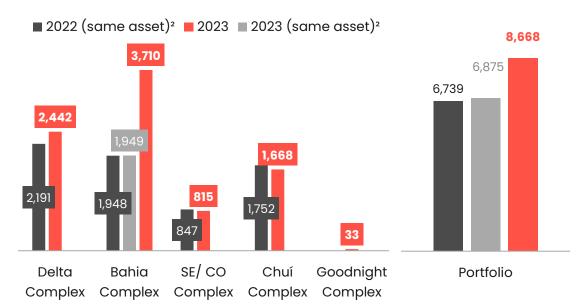
During 2023, the new assets brought an 27% YoY increase in Energy Production. On a same-asset base, the increase of 2% had Cluster Delta as the positive highlight.

#### 2023 vs. 2022

Energy Production<sup>1</sup> in 2023 grew 27% YoY to 8,668.4 GWh, mainly due to:

- ↑ 1,727.3 GWh from New Assets, leading Bahia's Cluster to an 84% increase YoY;
- ↑ On a same-asset base, production was 2% above YoY, with Cluster Delta as the positive highlight (+11%), as in 2022 the wind season was weaker and more volatile due to the predominance of La Niña's effects.

#### **Energy Production**<sup>1</sup> (by Cluster) – in GWh

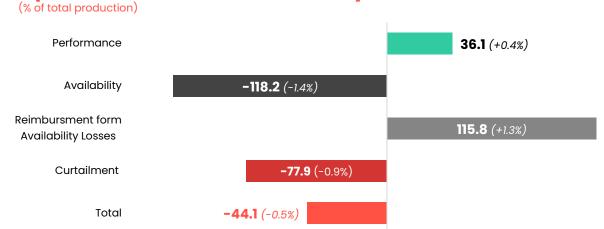


#### **OPERATIONAL PERFORMANCE** (2023 Breakdown)

Considering expected contractual availability reimbursement, **total operational performance in 2023 was 44.1 GWh (~R\$ 6.0 mm)** below target, mainly due to:

- ↑ Performance: 36.1 GWh gain (~R\$ 4.8 mm) mainly in Deltas, stemming from the active initiatives from our Asset Management team that improved our WTGs fleet.
- ◆ Availability: 118.2 GWh loss (~R\$ 16.1 mm) mostly from corrective maintenances mainly in Deltas and Assuruás during 2H23. ↑ From this impact ~98% (44.1 GWh | R\$ 15.7 mm) is insured by the O&M provider and will be reimbursed in the coming quarters.
- ↓ Curtailment³: 77.9 GWh loss (~R\$ 11.4 mm) from ONS curtailment³. It is important to mention that, although we saw an increase in curtailment³ losses during 2023, the total amount of losses represents less than 1% of our portfolio's production in 2023 (that translates to ~0.6% of 2023's Energy Gross Profit).

#### Operational Performance Analysis - 2023 in GWh



## Assuruá 4

Xique-Xique and Gentio do Ouro - Bahia (211.5 MW)

Full COD in 1Q23. On-time, below-budget & above target return.

 $\frac{1}{2}$ 

47/47

WTGs Operational (Full COD)

47/47

WTGs Assembled (Assembly)

47/47

WTGs Delivered (Delivery)

Civil:

100%

**Electric:** 

100%

Assembly:

100%

Full COD:

100%

Other Information:

Full Year EBITDA<sup>2</sup>
Projection:

R\$ 170 mm - R\$ 190 mm

WTG/O&M supplier: Vestas

**Load Factor:** 61.4%

Full COD: February 2023

**CAPEX**:

R\$ 1.229 bn1

**Total Capex Estimate:** 

R\$ 1.175 bn - R\$ 1.25 bn R\$ 1.237 bn expected



## Assuruá 5

Xique-Xique and Gentio do Ouro - Bahia (243.6 MW)

Full COD in 4Q23. 1 month delay, below-budget & above target return.

 $\frac{1}{2}$ 

42/42

WTGs Operational (Full COD)

42/42

WTGs Assembled (Assembly)

42/42

WTGs Delivered (Delivery)

Civil:

100%

**Electric:** 

100%

Assembly:

100%

Full COD:

100%

Other Information:

Full Year EBITDA<sup>2</sup>
Projection:

R\$ 175 mm - R\$ 195 mm

WTG/O&M supplier: GE

**Load Factor:** 54.6%

Full COD: October 2023

**CAPEX**:

R\$ 1.358 bn<sup>1</sup>

**Total Capex Estimate:** 

R\$ 1.35 bn - R\$ 1.415 bn R\$ 1.382 bn expected





## Goodnight 1

Armstrong County - Texas (265.5 MW)

Full COD in 1Q24. On-time, on-budget & in-line target return. Serena received US\$ 184.7 mm with the Tax Equity disbursement from Goldman Sachs.



**59**/<sub>59</sub>

WTGs Operational (Full COD)

**59**/59

WTGs Assembled (Assembly)

**59**/59

WTGs Delivered (Delivery)

Civil:

100%

**Electric:** 

100%

Assembly:

100%

**Full COD:** 

100%

Other Information:

Full Year EBITDA<sup>2</sup>
Projection:

US\$ 20 mm - US\$ 25 mm

WTG/O&M supplier: Vestas

**Load Factor:** 37.8%

**Full COD: 1Q24** 

**CAPEX**:

US\$ 285 mm<sup>1</sup>

#### Total Capex<sup>3</sup>:

US\$ 295 mm - US\$ 300 mm US\$ 300 mm expected



Notes: Find our Complete Financial Data in our Financial Worksheet available in our website. (1) Up to Q4 2023. (2) First full year of the asset. In nominal terms. Does not consider tax-equity and first-year special allocation in Goodnight 1 EBITDA. (3) From a total investment of US\$ 410 mm to 430 mm (US\$ 394 mm already deployed | US\$ 414 mm expected).

### **Distributed Generation**

SE, NE and MW (89.5 MWac<sup>1</sup>)

34 approved projects have started construction, from which 8 are already apt to grid connection.



**20**<sub>MW</sub>

64.5<sub>MW</sub> 89.5<sub>MW</sub>

**Grid Connected** 

**Under Construction** 

**Contracted Capacity** 

Connected:

22%

Assembly:

39%

Civil Started:

61%

Procurement:

100%

Other Information:

Full Year EBITDA<sup>3</sup> **Projection:** 

R\$ 62 mm - R\$ 72 mm

**Supplier:** WEG

Load Factor: ~31% (first year)

Full COD: January 2023

CAPEX:

R\$ 215 mm<sup>2</sup>

Total Capex Estimate<sup>4</sup>:

R\$ 410 mm - R\$ 460 mm





## 2023 Investment Plan - Post-Completion Review

Key Metrics	<b>Assuruá 4</b> (Operational)	<b>Assuruá 5</b> (Operational)	<b>Goodnight 1</b> (Operational)
Installed Capacity	211.5 MW	243.6 MW	265.5 MW
Load Factor (%)	61.4%	54.6%	37.8%
Construction Start	June 2021	March 2022	September 2022
Location	Bahia, Brazil	Bahia, Brazil	Texas, US
Full COD	February 2023	October 2023	January 2024
Serena's Share <sup>1</sup>	100%	100%	100%
Total CAPEX Estimate	R\$ 1.175 bn – R\$ 1.25 bn	R\$ 1.35 bn – R\$ 1.415 bn	US\$ 295 mm − 300 mm⁴
CAPEX Deployed <sup>1</sup>	R\$ 1.229 bn	R\$ 1.358 bn	US\$ 285 mm
Funding	~73% BNB + Complementary Debt³	~68% FDNE + Complementary Debt³	~52% Tax Equity + Back-loan <sup>5</sup>
Full Year EBITDA Expectation <sup>2</sup>	R\$ 170 mm – R\$ 190 mm	R\$ 175 mm – R\$ 195 mm	US\$ 20 mm – US\$ 25 mm <sup>6</sup>

## **Current Development Pipeline**

	On-going DG	Future DG	Goodnight 2	Hybrid Assuruá (Solar)	Wind P	ipeline	Solar P	ipeline	Wind P	ipeline	Storage Pipeline	Total
Key Metrics	(Building and NTP)	(Ready to Build)	(Ready to Build)	(Late Stage)	(Late s	Stage)	(Mid + Ea	rly Stage)	(Mid + Ea	rly Stage)	(Early Stage)	i otai
	BR	BR	US	BR	BR	US	BR	US	BR	US	US	BR + US
Location	BR	BR	Texas, US	Bahia, BR	-	-	-	-	-	-	-	-
Potential <sub>,</sub> Capacity	89.5 MWac	19 MWac	265.5 MW	100 MW	124.8 MW	-	Up to 4,200 MWac	Up to 260 MWac	Up to 864 MW	Up to 510 MW	Up to 108 MW	Up to 6,540.8 MW
Load Factor (%)	~31% (First Year)	29% - 32% (First Year)	37.8%	28% - 33%	40% - 60%	-	28%- 33%	~26%	~52%	38% - 42%	-	-
Construction Start	June 2023	-	-	-	-	-	-	-	-	-	-	-
Full COD	1Q25	2Q25	-	-	-	-	-	-	-	-	-	-
Serena's Share <sup>2</sup>	72%	70%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-
Total CAPEX Estimate	R\$ 412 mm - R\$ 462 mm (Serena Share) <sup>4</sup>	R\$ 118 mm - R\$ 158 mm (Serena Share) <sup>4</sup>	-	-	-	-	-	-	-	-	-	-
CAPEX Deployed <sup>2</sup>	R\$ 215 mm (Serena Share)	-	-	-	-	-	-	-	+	-	-	-
Funding	All phase BNB, BNDE		-	-	-	-	-	-	-	-	-	-
Full Year EBITDA Expectation <sup>3</sup>	R\$ 62 mm - R\$ 72 mm (Serena Share   by 2025)	R\$ 18 mm - R\$ 28 mm (Serena Share   by 2025)	-	-	-	-	-	-	-	-	-	-

#### MAIN INDICATORS

#### Profitability Summary

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Cash and Financing Summary

	Unit	4Q23	4Q22	Var.	3Q23	Var.	2023	2022	Var.
Adjusted Energy Gross Profit	R\$mm	715.7	492.3	45%	639.9	12%	2,194.9	1,660.0	32%
Energy Gross Profit	R\$mm	625.8	424.2	48%	547.2	14%	1,843.0	1,387.5	33%
Unit Gross Profit <sup>2</sup>	R\$/MWh	269.9	239.8	13%	252.0	7%	254.5	246.0	3%
Adjusted EBITDA <sup>3</sup>	R\$mm	568.6	389.0	46%	493.1	15%	1,637.5	1,177.5	39%
Adjusted EBITDA Margin <sup>4</sup>	%	79.4%	79.0%	0.4 p.p.	77.1%	2.4 p.p.	74.6%	70.9%	3.7 p.p.
EBITDA	R\$mm	518.0	359.3	44%	444.1	17%	1,424.2	1,001.1	42%
Net Income (Losses)	R\$mm	145.0	137.0	6%	102.5	41%	62.2	-8.0	n.a.

9,700.5 9,230.4 5% 9,700.5 7,774.8 Adjusted Net Debt 7,774.8 25% 25% R\$mm Adjusted Net Debt net to Tax Equity 5 9,230.4 8,786.9 7,774.8 13% -5% 8,786.9 7,774.8 13% R\$mm Net Debt 8,703.2 6,691.9 8,255.2 8,703.2 6,691.9 R\$mm 30% 5% 30% 1,319.1 1,903.8 -31% 1,308.9 1,319.1 1,903.8 Adjusted Cash Balance 1% -31% R\$mm 1,181.3 1,684.1 -30% 1,001.8 1,181.3 1,684.1 Cash Balance 18% -30% R\$mm Adj. Cash Flow From Operations 955.5 643.5 358.0 80% 370.7 74% 1,500.7 57% R\$mm

#### 1. Profitability Summary

## Profitability Summary



In 4Q23, Adjusted EBITDA<sup>3</sup> grew 46%, totaling a 39% YoY growth in 2023.



P&L (R\$ million)	4Q23	4Q22	Var.	2023	2022	Var.
Net Revenues	978.7	721.0	36%	3,037.3	2,436.7	25%
Energy Purchase	-407.8	-333.6	22%	-1,365.8	-1,175.7	16%
Tax Credit	54.8	36.8	49%	171.5	126.5	36%
Energy Gross Profit	625.8	424.2	48%	1,843.0	1,387.5	33%
Operating and maintenance costs	-114.6	-77.4	48%	-364.9	-323.8	13%
Administrative, personnel and general expenses	-52.6	-18.6	183%	-161.1	-128.7	25%
Other operating income (expenses)	33.0	21.7	53%	24.3	21.4	13%
Equity income	26.4	9.3	184%	82.9	44.9	85%
EBITDA	518.0	359.3	44%	1,424.2	1,001.1	42%
Depreciation and amortization	-132.3	-103.5	28%	-472.1	-409.7	15%
EBIT	385.8	255.8	51%	952.1	591.5	61%
Net financial result	-217.7	-114.5	90%	-800.6	-558.8	43%
EBT	168.1	141.2	19%	151.5	32.7	363%
Income and social contribution taxes	-23.1	-4.3	442%	-89.3	-40.7	119%
Net income (Losses)	145.0	137.0	6%	62.2	-8.0	n.a.
Adjusted Energy Gross Profit¹(R\$ million)	4Q23	4Q22	Var.	2023	2022	Var.
Energy Gross Profit	625.8	424.2	48%	1,843.0	1,387.5	33%
Energy Gross Profit from JVs	89.9	68.1	32%	351.9	272.6	29%
Adj. Energy Gross Profit	715.7	492.3	45%	2,194.9	1,660.0	32%
Unit Gross Profit (R\$/MWh)²	269.9	239.8	13%	254.5	246.0	3%
Adjusted Opex & Expenses¹ (R\$ million)	4Q23	4Q22	Var.	2023	2022	Var.
Opex & Expenses	-134.2	-74.2	81%	-501.7	-431.2	16%
Opex & Expenses from JVs	-12.9	-11.2	15%	-53.1	-36.0	48%
Adj. Opex & Expenses	-147.1	-85.4	72%	-554.9	-467.2	19%
Adj. Opex & Expenses (R\$k/MW)	-60.8	-45.5	34%	-229.5	-248.5	-8%
D&A from JVs	-19.3	-17.8	8%	-76.9	-63.3	22%
Adjusted EBITDA <sup>3</sup> (R\$ million)	4Q23	4Q22	Var.	2023	2022	Var.
EBITDA	518.0	359.3	44%	1,424.2	1,001.1	42%
(-) Equity income	-26.4	-9.3	184%	-82.9	-44.9	85%
(-) Non-recurring items	0.0	-17.8	-100%	-2.5	-15.4	-84%
EBITDA from JVs	77.0	56.9	35%	298.7	236.6	26%
Adj. EBITDA	568.6	389.0	46%	1,637.5	1,177.5	39%
Adj. EBITDA margin⁴ (%)	79.4%	79.0%	0.4 p.p.	74.6%	70.9%	3.7 p.p.

## **B. Financial Performance**Energy Gross Profit

#### **ENERGY GROSS PROFIT** (YoY analysis)

4Q23 YoY growth results from new assets commissioning/incorporation as well as the margin optimization initiatives.

#### 4Q23 vs. 4Q22

EGP<sup>1</sup> grew R\$ 223.4 mm to R\$ 715.7 mm, increasing 45% YoY mainly due to:

↑ Addition of New Assets: +R\$ 85.4 mm (~38% of the increase):

- Assuruá 4: +R\$ 36.1 mm (increase vs. R\$ 4.3 mm in 2022);
- Assuruá 5: +R\$ 31.6 mm;
- Ventos da Bahia 3: +R\$ 12.2 mm (increase vs. R\$ 4.9 mm in 2022);
- Goodnight 1: +R\$ 5.4 mm.
- ↑ From Same Assets: +R\$ 138.0 mm (~62% of the increase):
  - Energy supply transactions that optimize our revenue model and increase margins: +R\$ 49.4 mm (~22% of the increase);
    - Energy balance surpluses from new energy offtake agreements: +R\$ 39.0 mm;
    - Gains from our recent energy offtake agreement in Chuí: +R\$ 10.4 mm.
  - Energy Platform: +R\$ 3.0 mm (~1% of the increase);
  - Others, as a result from inflation impact on PPAs and generation increase, offset by the effect of Delta 5/6 PPA migration from Bilateral to Regulated starting in 1H23: -R\$ 2.0 mm.
  - Positive effect from liability write off connected to post-acquisition restructuring:
     +R\$ 87.9 mm (~39% of the increase).

#### **2023 vs. 2022** (YoY analysis)

EGP<sup>1</sup> grew R\$ 534.8 mm, 32% YoY, mainly due to:

- ↑R\$ 277.0 mm from New Assets (~52% of the increase);
- ↑ R\$ 257.8 mm mainly from higher margins and post-acquisition restructuring (~48% of the increase).

#### **ENERGY GROSS PROFIT** (vs. Expected)

Despite 2023 energy production was 6% (160.0 GWh) below expected, our top-notch execution, creative ability to find optimizations in energy balance and in costs & expenses allowed us to deliver financial results above guidance

#### 4Q23 vs. Expected

EGP<sup>1</sup> was R\$ 87.1 mm above expected, representing +13.8% versus our forecast, mainly due to:

- ↑ New energy offtake agreements with higher margins: +R\$ 49.4 mm
  - Energy Balance surpluses from new offtake agreements: +R\$ 39.0 mm;
  - Gains from our recent energy offtake agreement in Chuí: +R\$ 10.4 mm
- ◆ Energy Platform: -R\$ 36.7 mm;
- ↑ Others, mainly a positive effect from liability write off connected to post-acquisition restructuring, partially offset mostly by below-expected production: +R\$ 74.4 mm.

#### 2023 vs. Expected

EGP<sup>1</sup> was R\$ 73.6 mm above expected, representing +3.5% versus our forecast, mainly due to:

- ↑ New energy offtake agreements with higher margins: +R\$ 115.7 mm:
  - Energy Balance surpluses from new offtake agreements: +R\$ 90.7 mm;
  - Gains from our recent energy offtake agreement in Chuí: +R\$ 25.0 mm;
- ◆ Energy Platform: -\$ 58.3 mm;
- ↑ Positive effect from liability write off connected to post M&A restructuring, partially offset mostly by below-expected production: +R\$ 16.2 mm.

#### **B. Financial Performance FBTTDA**

#### **EBITDA** (YoY analysis)

4Q23 YoY growth results from new assets commissioning/incorporation as well as the margin optimization initiatives.

#### 4Q23 vs. 4Q22

EBITDA<sup>1</sup> grew R\$ 179.6 mm to R\$ 568.8 mm, increasing 46% YoY, mainly due to:

- ↑ New Assets variation: +R\$ 60.5 mm:
- Assuruá 4: +R\$ 25.9 mm (increase vs. R\$ 3.5 mm in 2022);
- Assuruá 5: +R\$ 18.5 mm;
- Ventos da Bahia 3: +R\$ 11.4 mm (increase vs. R\$ 3.5 mm in 2022);
- Goodnight 1: +R\$ 4.8 mm.
- ↑ Same Assets effects explained in Energy Gross Profit (page 25): +R\$ 138.0 mm.
- ♦ Increase in Opex & Expenses (without D&A) from Same Assets: -R\$ 19.0 mm.

#### **Detailing Adj. Opex & Expenses**<sup>1</sup> increase of R\$ 61.7 mm to R\$ 147.1 mm:

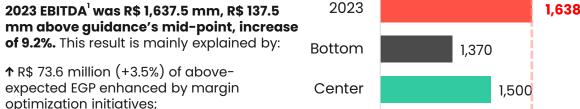
- ◆ New Assets: -R\$ 25.5 mm:
- O&M contracts: -R\$ 10.7 mm:
- SG&A: -R\$ 7.7 mm;
- Regulatory Charges: -R\$ 7.1 mm.
- **↓** Same Assets: -R\$ 19.0 mm:
  - Availability and insurance indemnifications: +R\$ 9.0 mm;
  - O&M increase in 2023 mostly related to maintenance and personnel: -R\$ 5.9 mm;
  - SG&A increase: -R\$26.3mm. Mainly from:
    - Personnel: -R\$13.0 mm;
    - 2022 gains from costs and expenses capitalized during new assets construction and reverted in COD: -R\$ 13.1 mm;
  - Other: +R\$4.2 mm.

◆ 2022 non-recurring income related to the negative goodwill purchase of Ventos da Bahia 3 in 4Q22: -R\$ 17.8 mm

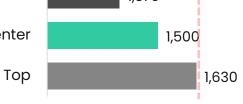
#### **EBITDA** (vs. Expected)

The decision to focus our guidance in the Adj. EBITDA<sup>1</sup> indicator is to state our target on delivering economic results both in challenging and plentiful scenarios in terms of resources and, consequently, energy production.

#### 2023 Guidance



↑ R\$ 63.9 million (-10.3%) of belowbudget OPEX & Expenses by managing cost tightly.



#### 4Q23 vs. Expected

EBITDA1 was R\$ 99.2 mm above the expected for 4Q23, growth of 21.1%. This result is mainly explained by:

↑ R\$ 87.1 million (+13.8%) of above expected EGP;

↑ R\$ 12.2 million (-7.6%) of below-budget OPEX & Expenses:

- Regular contractual indemnifications from O&M suppliers and others: +R\$ 21.1 mm;
- Postponements from other quarters: R\$ 8.9 mm.

#### **2023 vs. 2022** (YoY analysis)

EBITDA<sup>1</sup> grew R\$ 460.0 mm, 39% YoY, mainly due to:

↑R\$ 206.8 mm from New Assets (~45% of the increase);

↑R\$ 257.8 mm of additional EGP from same-assets and margin optimizations (~55% of the increase).

#### **TOTAL UNIT GROSS PROFIT¹** (YoY analysis)

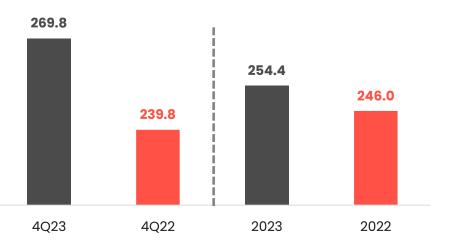
4Q23 year over year growth results from margin optimizations, energy liabilities restructuring and inflation.

#### 4Q23 vs. 4Q22

Unit Gross Profit<sup>1</sup> grew R\$ 30/MWh to R\$ 269.8/MWh, increasing 12% YoY, mainly due to:

- ↑ Energy Platform growth and margin optimizations: +R\$ 20/MWh;
- ↑ Inflation: +R\$ 8/MWh;
- ↑ Energy liabilities restructuring on past assets' acquisitions: +R\$ 33/MWh;
- ◆ Start of the regulated contracts in Delta 5 and 6, at lower prices than former free-market PPAs: -R\$ 13/MWh;
- ◆ Lower prices from the new assets as the assets were ramping up and their definitive contracts hadn't started yet and unfavorable contract flexibilization: -R\$ 18/MWh

#### Unit Gross Profit (EGP / Production) in R\$ / MWh



#### **ENERGY PLATFORM P&L** (YoY analysis)

Energy Gross Profit from the energy platform of R\$ 58.8 mm, 24% above 2022. Minor volatility in expected results since our future positions are already locked.

KPIs (R\$ mm)	4Q23	4Q22	Var.	3Q23	Var.	2023	2022	Var.
Net Revenues	293.0	228.9	28%	297.6	-2%	1,060.5	813.0	30%
Energy Purchase	-301.2	-233.0	29%	-303.9	-1%	-1,083.5	-818.1	32%
Energy Gross Profit from Energy Sales	-8.2	-4.1	99%	-6.3	30%	-22.9	-5.1	351%
Gross Profit from Future Positions	14.5	14.5	0%	49.2	-71%	81.7	53.1	54%
Energy Gross Profit	6.3	10.4	-39%	42.9	-85%	58.8	48.0	22%
OPEX and Expenses	-13.4	-13.6	-2%	-13.5	-1%	-43.6	-42.0	4%
EBITDA	-7.1	-3.3	117%	29.4	-124%	15.2	6.0	154%

#### **B.** Financial Performance

#### 2. Cash and Financing Summary

# Cash & Financing Summary



In 4Q23, Adjusted Net Debt<sup>1</sup> reached R\$9.7 billion (or R\$ 8.8 billion adjusted to tax-equity). Net Debt / EBITDA LTM of the operational arm was 3.7x, a 0.2x decline QoQ and 0.5x decline YoY, as the company continues to deleverage.



Indebtedness (R\$ million)	4Q23	3Q23	Var.	4Q22	Var.
Gross Debt (in BRL)	8,080.0	7,460.9	8%	7,637.0	6%
Gross Debt (in foreign currency)	1,853.0	1,848.1	0%	801.4	131%
Total Gross Debt	9,933.0	9,309.0	7%	8,438.3	18%
Transaction Costs	-48.4	-52.0	-7%	-62.3	-22%
Total Gross Debt (net of transactions costs)	9,884.5	9,257.0	7%	8,376.0	18%
(-) Total Cash	1,181.3	1,001.8	18%	1,684.1	-30%
Cash and Equivalents	950.2	758.5	25%	1,473.0	-35%
Restricted Cash	231.1	243.3	-5%	211.1	10%
Net Debt	8,703.2	8,255.2	5%	6,691.9	30%

Adjusted Net Debt¹(R\$ million)	4Q23	3Q23	Var.	4Q22	Var.
Net Debt	8,703.2	8,255.2	5%	6,691.9	30%
Net Debt from JVs	1,089.1	975.1	12%	1,082.8	1%
Gross Debt from JVs	1,240.3	1,282.3	-3%	1,302.6	-5%
(-) Total Cash from JVs	151.2	307.1	-51%	219.8	-31%
(-) Minority Interest from Arco Energia (JV with Apolo)	-91.7	-	n.a.	-	n.a.
Adjusted Net Debt <sup>1</sup>	9,700.5	9,230.4	5%	7,774.8	25%

Avg. Nominal Cost and Term³	4Q23	3Q23	Var.	4Q22	Var.
Debt Cost (%)	8.75%	9.08%	-33 bps	10.68%	-193 bps
Term (years)	3.9	4.0	-0.1 years	4.7	-0.8 years

Other Credit Metrics	4Q23	3Q23	Var.	4Q22	Var.
Operational Arm (Serena Geração)					
Net Debt/EBITDA (LTM) - Covenant	3.7x	3.9x	-4%	4.4x	-16%
Adj. Net Debt/EBITDA¹ (LTM)	3.8x	3.9x	-3%	4.4x	-13%
Operational + Development Arm (Serena Energia)					
Net Debt/EBITDA (LTM)	6.3x	6.6x	-5%	6.8x	-7%
Adj. Net Debt/EBITDA¹ (LTM)	6.0x	6.2x	-4%	6.3x	-6%
Adj. Net Debt to Tax Equity Disbursement/EBITDA <sup>12</sup> (LTM)	5.4x	6.2x	n.a.	6.3x	n.a.

Indebtedness

#### **INDEBTEDNESS**

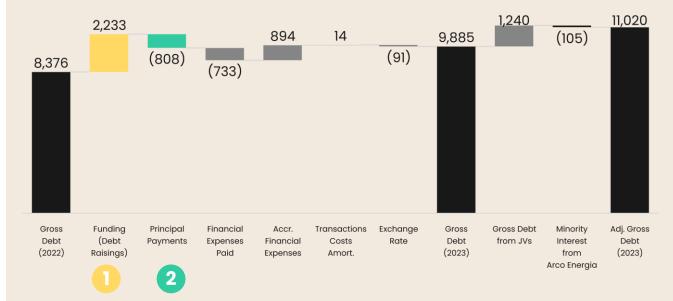
Adjusted Net Debt<sup>1</sup> reached R\$ 9,700.5 mm, 5% (R\$ 470.2 mm) above 3Q23 and 25% above 4Q22 (R\$ 1.9 bn)

The increase is mostly related to Company's additional 721 MW built between 4Q22 and 4Q23 (Goodnight 1 and Assuruás 4&5) and DG investments. Rising revenues from the commissioning of such new capacity made our indebtedness (Net Debt / EBITDA) keep falling in 4Q23.

#### **Indebtedness Breakdown**

Indebtedness (R\$ mm)	4Q23	3Q23	Var.	4Q22	Var.
BNDES	1,942.1	1,972.6	-2%	2,051.0	-5%
Debentures	4,227.2	3,882.9	9%	3,999.0	6%
BNB	1,320.7	1,336.6	-1%	1,152.2	15%
CCB	32.0	37.1	-14%	52.3	-39%
FDNE	558.0	231.8	141%	219.1	155%
Gross Debt (in BRL)	8,080.0	7,460.9	8%	7,473.6	8%
Offshore Loan	746.8	760.3	-2%	801.4	-7%
Construction Loan	944.0	929.8	2%	-	n.a.
Promissory Note	162.2	158.0	3%	163.3	-1%
Gross Debt (in Foreign Currency)	1,853.0	1,848.1	0%	964.7	92%
Gross Debt	9,933.0	9,309.0	7%	8,438.3	18%
Transaction Costs	-48.4	-52.0	-7%	-62.3	-22%
<b>Total Gross Debt</b> (net of Transaction Costs)	9,884.5	9,257.0	7%	8,376.0	18%
Cash and Cash Equivalents	1,181.3	1,001.8	18%	1,684.1	-30%
Net Debt	8,703.2	8,255.2	5%	6,691.9	30%
Net Debt from JVs	1,089.1	975.1	12%	1,082.8	1%
(-) Minority Interest from Arco Energia	-91.7	0.0	n.a.	0.0	n.a.
Adjusted Net Debt <sup>1</sup>	9,700.5	9,230.4	5%	7,774.8	25%

#### Changes in Indebtedness (2023)



#### Funding (Debt Raisings):

- ↑ ~R\$ 321.9 mm of FDNE in Assuruá 5;
- ↑ ~R\$ 200.0 mm of DG Bridge Loan (Arco Energia);
- ↑~R\$ 350.0 mm of Debentures in Arco Energia;
- ↑~R\$ 220.2 mm of BNB in Assuruá 4;
- ↑~R\$ 931.7 mm of the US bridge and construction loans<sup>2</sup>;
- ↑~R\$ 161.1 mm of refinancing of the SD³ Promissory Note (Resolution 4131)<sup>4</sup>;

#### Principal Payments:

- - → ~R\$ 204.7 mm of DG Bridge Loan (Arco Energia);
  - → ~R\$ 439.3 mm of SG<sup>5</sup> consolidated debt;
  - → ~R\$ 11.1 mm of BNB in Assuruá 4.

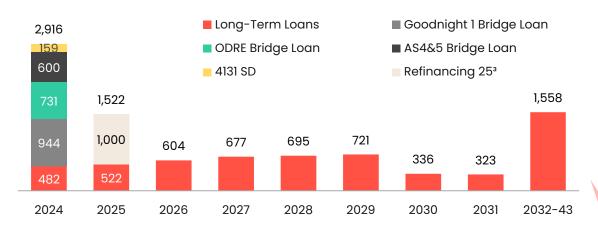


## **B. Financial Performance**Amortization and Credit Metrics

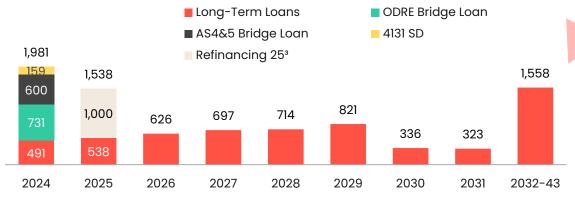
#### Principal Amortization Curve (in million Reais)

Operational + Development Arm<sup>1</sup>

#### Amortization schedule as of 31-Dec-2023



## Adjusted schedule to Tax Equity funding and Term Loan of 02-Feb-2024 (Notice to the Market)<sup>2</sup>



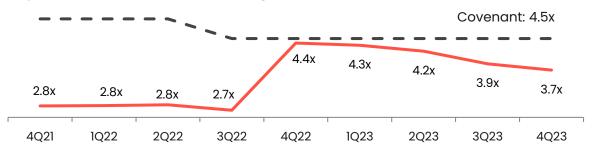
#### 2024 Refinancing Explained

The long-term loans of Assuruá 4, Assuruá 5 and Goodnight 1 projects will naturally refinance the bridge loans that mature in the following months post new plants start generation:

- Goodnight 1 Bridge Loan <u>paid with funding from disbursed Tax Equity</u> (~US\$ 185 mm) plus project's Term Loan<sup>4</sup> (~US\$ 38 mm). Conversion took place on February 2<sup>nd</sup>, 2024.
- Assuruá 4 and Assuruá 5 Bridge Loan (OD4 + 4131 SD): already contracted **FDNE lines with R\$224mm** still remaining to be disbursed plus a R\$ 750mm long term debt to be issued.
  - Company has <u>several options to fund Serena US (ODRE)</u> including: (i) sell down process or other capitalization structure in US, (ii) new margin optimization transactions enabling additional margins in 2024 through energy transactions in line with DG funding, and (iii) other refinance options given space created with new EBITDA level and conclusion of high-capex cycle (Serena Geração crossed 4Q23 with a 0.8x space from covenant and Net Debt / EBITDA should continue to fall).

#### **Net Debt / EBITDA**

Operational Arm (Serena Geração)





#### **FINANCIAL RESULTS**

Net Financial Result reached R\$ 238.2 mm, 13% above 3Q23 and 90% up from 4Q22.

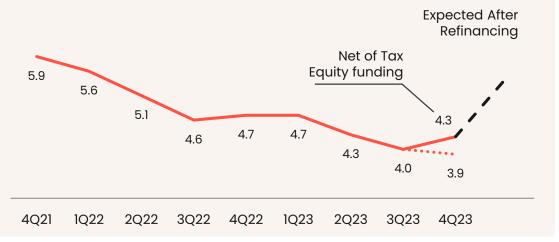
As planned, Serena successfully executed its debt raising process to finance recently delivered projects in Brazil and in the US.

On a quarterly basis the increase in financial expenses was mainly driven by the R\$ 627.5 mm (7%) increase in total gross debt a reflection of (i) additional disbursements in Assuruá 5's FDNE (R\$ 321.9 mm), (ii) the last disbursements in Goodnight 1's bridge loan¹ (R\$ 23.2 mm) and (iii) the bridge loan to our DG investments (R\$ 350 mm).

As the Company enters its refinancing cycle – natural from project finance – financial expenses tends to decrease.

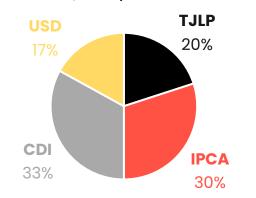
#### **Average Term (years)**

Operational + Development Arm (Serena Energia)



#### **Debt Indexes Breakdown<sup>2</sup>**

(as of Dec. 31, 2023)



#### **Debt Position**<sup>3</sup>

(as of Dec. 31, 2023)

#### Average term:

3.9 years (↓ 0.1 years QoQ)

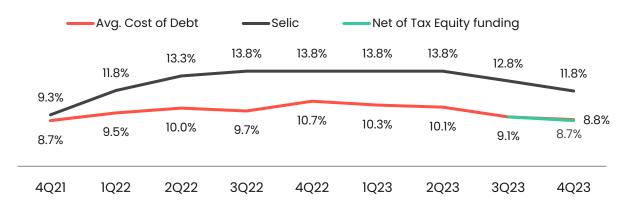
#### **Average nominal cost:**

8.75% p.a (**↓** 33 bps QoQ)

#### **Average Nominal Cost of Debt (%)**

Operational + Development Arm (Serena Energia)

The Average Cost of Debt dropped 34 bps QoQ, driven by SELIC cuts.



Cash Position



**CASH POSITION** (as of December 31, 2023) - QoQ analysis<sup>1</sup>

Total Cash<sup>2</sup> grew R\$ 179.5 mm to R\$ 1.3 billion, 18% above 3Q23:

#### **Operational:**

- ↑ Cash from Operations² (including tax paid, dividends received and others): R\$ 509.4 million;
- ↑ Cash from JVs: R\$ 151.2 million.
- ◆ Minority interest from Arco Energia: R\$ 91.7 million.

#### Financing:

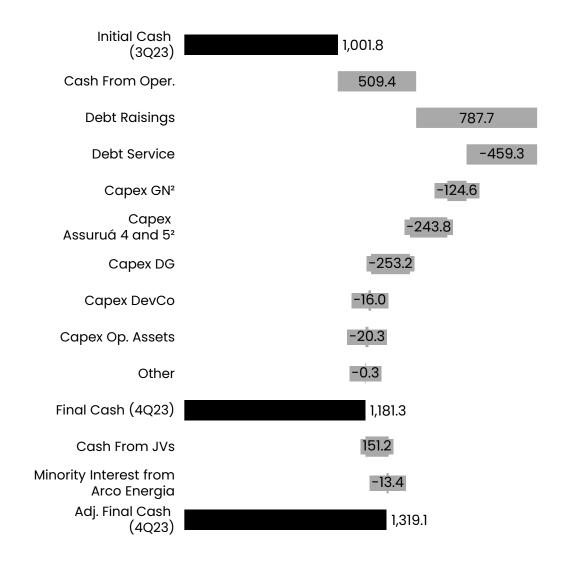
- ↑ **Debt Raising:** R\$ 787.7 million from planned financing in Brazil (FDNE and DG Bridge Loan) and in the US (Bridge Loan);
- **▶ Debt Service:** R\$ 459.3 million.

#### **Investments:**

- ◆ Capex ASS4 and 5: R\$ 243.8 million;
- **↓ Capex GN:** R\$ 124.6 million;
- ↓ Capex DG: R\$ 253.2 million;
- ◆ DevCo Capex: R\$ 16.0 million;
- ◆ Operating Assets Capex: R\$ 20.3 million.

Others: ↓ R\$ 0.3 million

#### 4023 x 3023 - Cash Position



Cash Position

#### **CASH POSITION** (as of December 31, 2023) - YoY analysis<sup>1</sup>

Total Cash<sup>2</sup> was R\$ 502.8 mm below 4Q22, -31% YoY, to R\$ 1.2 billion.

#### **Operational:**

- ↑ Cash from Operations (including tax paid, dividends received and others): R\$ 1.4 billion;
- ↑ Cash from JVs: R\$ 151.2 million.
- ◆ Minority interest from Arco Energia: R\$ 91.7 million

#### Financing:

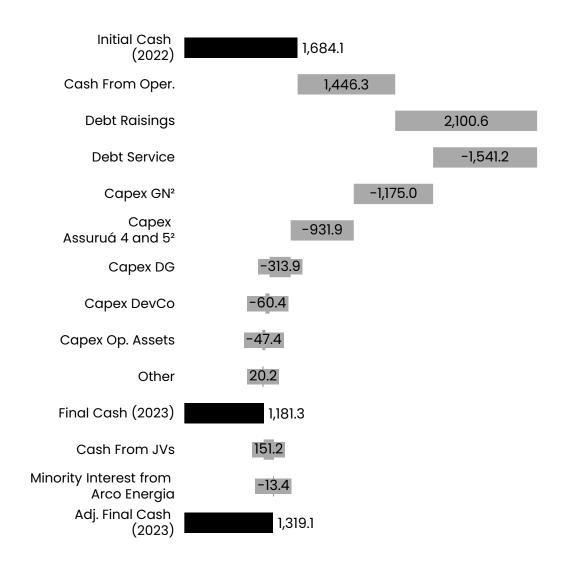
- ↑ **Debt Raising:** R\$ 2.1 billion from planned financing in Brazil (BNB, FDNE and DG Bridge Loan) and in the US (Bridge Loan);
- **▶ Debt Service:** R\$ 1.5 billion.

#### **Investments:**

- ◆ Capex ASS4 and 5: R\$ 931.9 million;
- ↓ Capex GN: R\$ 1.2 billion;
- ↓ Capex DG: R\$ 313.9 million;
- **▶ DevCo Capex:** R\$ 60.4 million;
- ◆ Operating Assets Capex: R\$ 47.4 million.

Others: ↑ R\$ 20.2 million

#### 4<u>0</u>23 x 4<u>0</u>22 - Cash Position



#### **2024 OUTLOOK - UPDATE**

On January 30, 2023, we extraordinarily disclosed both the 2023 and 2024 Adj. EBITDA<sup>1</sup> Guidance<sup>2</sup> due to the substantial amount of greenfield investments planned for the year as well as the start-up of related plants ("Ramp-up") throughout 2023. Now in February, we disclosed our 2024 Adj. EBITDA Guidance update<sup>3</sup>, reflecting operational and macroeconomic updates for 2024. We are updating today our 2024 EBITDA guidance contemplating (i) the swap of assets with EDFR<sup>4</sup> (conditions precedent have evolved, and closing is now expected by end of 1Q24) and (ii) revised indicators (IPCA index at lower levels than previously forecasted for FY23 and FY24). New Adjusted EBITDA guidance for 2024 is R\$ 1.917 billion.

- Had inflation remained the same as originally forecasted and the asset swap not executed, 2024 EBITDA would total R\$ 2.007 billion.
- The asset swap generates a ~R\$ 40 million decrease in EBITDA and yet creates positive NPV (~R\$ 100 million resulting from synergies with Assuruá, more advantageous capital structure and better offtake curve).

Indicator	Unit	2024E <sup>2</sup> (as disclosed in Jan/23)	2024E³ (updated in Feb/24)
Adjusted EBITDA¹ Center	R\$ million	2,000	1,917
Adjusted EBITDA¹ Range	R\$ million	1,780 to 2,200	1,721 to 2,113

#### **2024 Guidance Assumptions**

#### 1. Energy Production

Varying from 10,900 GWh to 12,200 GWh, in line with portfolio long-term P50:

- 2,683 MW operational in the beginning of 2024;
- Swap of assets with EDFR by 1Q24 (driving operating capacity to 2,705 MW);
- Ramp-up of DG assets (~100 MW expected until 4Q24).

#### 2. Unit Gross Profit

R\$ 234/MWh considering:

- Inflation escalation;
- Market projections for spot prices (given that our energy portfolio is highly contracted, spot prices have little effect on the Company's results).

#### 3. Macroeconomic Scenario

- IPCA: between 4% to 5%;
- USD/BRL close to R\$ 5.00.

#### 2024 Estimates by Cluster

Complex	EBITDA 2024
Delta Complex	350 to 440
Bahia Complex	745 to 855
Chuí Complex	290 to 330
SE/CO Complex	120 to 130
Goodnight Complex	120 to 220
Distributed Generation	20 to 30
Energy Platform	60 to 120



## **D. Sustainability Metrics**2023 Ambition

In line with the Company's strategy, our **pure sustainability goals represented between 7.5% and 12% of our 2023 Corporate Goals**<sup>1</sup>, impacting the variable compensation of all coentrepreneurs<sup>2</sup>, including statutory executives. The 2023 Integrated Report is expected to be published in 1Q24, containing details of all ESG activities during the year.

#### SDGs 4, 7 and 9 results

	Material Theme	2023 Ambition	2023 Results	Status
4 QUALITY EDUCATION	Social and Environmental Responsibility Material Theme Education and Income Generation Operational Priority	Contribute, as a Founding Associate, to the expansion of the reach and positive impact of the Janela para o Mundo Institute <sup>3</sup>	In 3Q23, the Institute <sup>3</sup> overcame the higher education approval rate <sup>4</sup> by achieving 64% of admissions. Additionally, enrollment surged by 93% compared to 2022 with 1,331 enrolled students above the expected 1,302. We achieved a literacy rate of 97%, with 70% of 3rd-grade students and 100% of students from 4th to 9th grade being taught to read and write by the Institute.	•
7 AFFORDABLE AND CLEAN EVERTY	Energy Efficiency Material Theme	To continue the Company's leadership in expanding access to a clean, renewable, and affordable energy market for all Brazilians	We contributed to regulatory changes in Brazil to ease access for High Voltage consumers to the free market starting in 2024. A notable advancement is the revision of migration rules outlined in Regulatory Resolution ANEEL 1,081/23.	•
CLEAN ENERGY	Clean and Affordable Energy Operational Priority	To expand the Company's sustainable portfolio in the Americas	In 1Q23, we completed the expansion works for Assuruá 4, and in 3Q23, we finalized the construction of Assuruá 5. In December (4Q23), we completed <b>Goodnight 1 (USA)</b> , now <b>100% operational</b> , adding <b>720.6 MW</b> of installed capacity to our operational portfolio, marking a growth of <b>36.7% compared to December 31, 2022</b> .	•
9 MOUSTINY, INNOVATION AND INFRASTRUCTURE	Business Innovation and Resilience Material Theme Digital Platform and Technological Asset Management Operational Priority	To develop and promote the growth of the Energy Platform through an increase in transaction volume and the launch of new products	In 1Q23, we introduced, for the first time, a Distributed Generation solution to our customers. By the conclusion of <b>2023</b> , we were able to offer it in <b>five states</b> : Bahia, Goiás, Minas Gerais, São Paulo, and Piauí. In 2024, we expanded our coverage to include Maranhão and Pará.	•

Notes: (1) Goals purely linked to sustainability do not include targets related to the expansion of our renewable portfolio. (2) Except young apprentices (the ones under the Jovem Aprendiz legal regime). (3) The Janela para o Mundo was born in 2017 as a private social investment program of Serena Energia and, in 2022, was transformed into an institute – a non-profit association – focused on education and income generation. To learn more, visit <a href="https://en.janelaparaomundo.org/">https://en.janelaparaomundo.org/</a>. (4) The higher education approval rate may vary throughout the year as new admissions can still be announced by SISU, Prouni, and FIES.

## **D. Sustainability Metrics**2023 Ambition

#### SDGs 8 and 13 results

	Material Theme	2023 Ambition	2023 Results	Statu
	Attracting, Developing,	To implement a hiring plan and engagement initiatives for our team of co-entrepreneurs and to reduce voluntary turnover.	In 2023, we conducted actions that contributed to achieving positive results, such as the launch of the Power Program, resulting in the hiring of 24 young talents at the beginning of their careers. We also implemented a weekly engagement survey with our co-entrepreneurs and redesigned well-being initiatives. These strategies were instrumental in reducing our voluntary turnover.	•
CENT WORK AND DNOMIC GROWTH	and Retaining Employees & Health and Safety Material Theme	To launch and conduct the second edition of the Supplier Development Project, which includes auditing and training stages on ESG criteria for suppliers considered priority for the Company's activities.	In 2023, we achieved the goal of the Supplier Development Project, with 95.5% of selected suppliers trained in the 'Getting to know the Company Ecosystem' course and 100% assessed in the 'ESG Radar'.	•
M	<b>People, our main asset</b> Operational Priority	To conduct the second local stakeholder satisfaction survey, including the US stakeholders.	In 3Q23, we analyzed the results of the survey and <b>obtained 89% satisfaction among the surveyed audiences</b> in Brazil and the United States, significantly exceeding the minimum score of 75%.	•
		To improve health and safety indicators, including reducing t Frequency Rate (TFR) by 20%.	In 2023, we progressed in asset indicators by <b>completing 100% of the actions outlined in the Health and Safety Master Plan 2023.</b> While we did not experience any severe <sup>1</sup> or fatal accidents, the targeted 20% reduction in the TRF was not achieved.	•
LIMATE CTION	<b>Climate Strategy</b> Material Theme	To improve the Company's reporting practices to the Carbon Disclosure Project (CDP), escalating the score from B to A.	The Board approved in January 2023 our Decarbonization Plan², that foresees a reduction in carbon emissions intensity in 75% until 2030 for scopes 1 and 2 through the execution of five actions. Nevertheless, such initiative was not reflected in CDP's score.	•
	Action Against Climate Change Operational Priority	To implement the activities planned for 2023 in the Company's Decarbonization Plan <sup>2</sup> .	In 2023, we <b>implemented 100% of the planned activities</b> for the year that contribute to the reduction of <b>Scope 1 and 2 emissions</b> , <b>in addition to qualitative actions related to Scope 3.</b> In 4Q23, a contractual clause was drafted requesting GEE <sup>3</sup> emissions information from key suppliers, and an internal engagement campaign promoting the use of biofuels by co-entrepreneurs was launched.	•
			Status	

#### Janela para o Mundo Institute aims to transform the world through education and income generation initiatives.



#### **Scalability**

**1.331** students, **93%** increase in the number of students served compared to 2022.



#### **Education**

**70%** of Learning Support students by the 3rd grade and **100%** by the 9th grade were literate.

**64%** of the students were admitted to college/university.

**85%** of students scored above the national writing average.



#### **Employability**

**2** partner companies, in addition to Serena Energia, for the professional development of our students. Of the **9** students who entered the job market **4** were hired by our partner companies..







#### And more...



**55** Serena co-entrepreneurs volunteer at Banco do Tempo, **136%** more than in 2022



**20** Strengthened business



**16** Public partner schools.



2 Honorable mentions in mathematics Olympiads;



State University of Maranhão - UEMA campus opened in Paulino Neves due to the increase in the number of students entering the University.



# Financial Statements & Operating Data



## E. Financial Statements & Operating Data Balance Sheet (Assets)

Assets (R\$ million)	4Q23	4Q22	Var.
Current assets	· ·		
Cash and equivalents	923.2	1,473.0	-37%
Trade accounts receivable	410.1	310.5	32%
Dividends receivable	-	4.0	n.a.
Recoverable taxes	107.3	118.9	-10%
Related parties	37.8	20.9	81%
Energy futures contract	756.7	960.5	-21%
Other	241.1	85.7	181%
Total Current Assets	2,507.0	2,973.6	-16%
Non-current assets			
Restricted cash	231.1	211.1	10%
Trade accounts receivable	57.5	46.7	23%
Recoverable taxes	21.8	12.9	69%
Related parties	73.5	47.3	56%
Deferred taxes (IRPJ and CSLL)	1.8	1.2	44%
Energy futures contract	1,621.6	1,472.3	10%
Other	75.9	10.3	641%
Total	2,083.3	1,801.6	16%
Investments	964.4	953.5	1%
Property. Plant and Equipment	11,640.3	9,583.0	21%
Intangible assets	1,601.1	1,565.9	2%
Total	14,205.8	12,102.3	17%
Total Non-current assets	16,289.1	13,904.0	17%
	, .,	•	
Total assets	18,796.1	16,877.6	11%

#### E. Financial Statements & Operating Data

Balance Sheet (Liabilities and Equity)

Liabilities and Equity (R\$ million)	4Q23	4Q22	Var.
Current Liabilities			
Trade accounts payable	395.8	236.7	67%
Loans, financing and debentures	3,204.0	1,724.5	86%
Labor and tax obligations	146.4	102.5	43%
Lease liabilities	12.3	17.5	-30%
Related parties	0.1	0.8	-91%
Energy futures contract	734.3	949.5	-23%
Accounts payable on acquisition	73.2	64.7	13%
Other	37.3	12.5	198%
Total Current Liabilities	4,603.5	3,108.7	48%
Non-current Liabilities			
Trade accounts payable	98.2	179.5	-45%
Loans, financing and debentures	6,680.5	6,651.5	0%
Lease liabilities	173.6	101.7	71%
Deferred taxes (IRPJ and CSLL)	73.8	54.9	34%
Energy futures contract	1,455.4	1,394.1	4%
Accounts payable on acquisition	128.4	193.4	-34%
Other	306.5	22.4	1266%
Total Non-current Liabilities	8,916.4	8,597.6	4%
Fotal Liabilities	13,519.9	11,706.3	15%
Partitus			
<b>Equity</b> Capital	4,439.4	4,439.4	0%
reasury Shares	-0.3	-	n.a.
Capital reserves	176.1	170.0	4%
Profit reserves	653.0	590.2	11%
Equity valuation adjustment	-61.4	-28.3	117%
Total	5,206.8	5,171.3	1%
Non controlling interest	35.0	J,1/1.J	n.a.
Total equity	<b>5,241.7</b>	5,171.3	1%
iotal oquity	3,241./	5,1/1.3	1 /0
Total liabilities and equity	18,761.7	16,877.6	11%
· · · · · · · · · · · · · · · · · · ·	10,7 01.7	10,011.0	1170

P&L (R\$ million)	4Q23	4Q22	Var.	2023	2022	Var.
Revenues	963.8	706.5	36%	2,938.2	2,383.6	23%
Fair value of trading portfolio	14.9	14.5	3%	99.2	53.1	87%
Operating and maintenance costs and purchases	-595.4	-473.7	26%	-2,014.8	-1,768.4	14%
Gross Profit	383.4	247.3	55%	1,022.5	668.3	53%
Administrative, personnel and general expenses	-57.0	-22.5	153%	-177.6	-143.1	24%
Other operating income (expenses)	33.0	21.7	53%	24.3	21.4	13%
Equity income	26.4	9.3	184%	82.9	44.9	85%
EBIT	385.8	255.8	51%	952.1	591.5	61%
Financial income	24.4	46.0	-47%	119.9	134.7	-11%
Financial expenses	-242.1	-160.5	51%	-920.5	-693.5	33%
Net financial result	-217.7	-114.5	90%	-800.6	-558.8	43%
ЕВТ	168.1	141.2	19%	151.5	32.7	363%
Income and social contribution taxes	-23.1	-4.3	442%	-89.3	-40.7	119%
Net income (Losses)	145.0	137.0	6%	62.2	-8.0	-874%



## E. Financial Statements & Operating Data Cash Flows

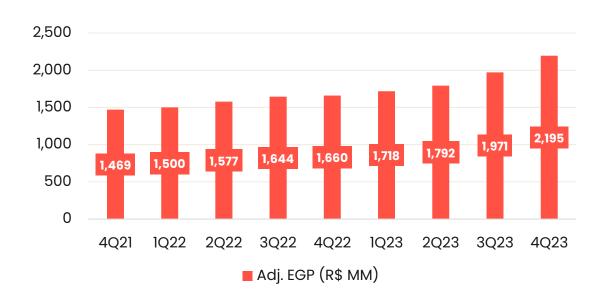
Cash Flows (R\$ million)	2023	2022	Var.
EBT	151.5	32.7	363%
Adjustments	1,087.6	973.5	12%
Δ Working Capital	77.4	-305.6	-125%
Dividend received	35.5	29.5	21%
Interest paid	-733.0	-598.6	22%
Federal income tax paid	-46.5	-49.0	-5%
Cash flow from operating activities	572.5	82.3	596%
Acquisition of Investments	_	-352.2	n.a.
CAPEX	-2,528.7	-2,665.3	-5%
Capital Reduction	-2,526.7	13.5	-5% n.a.
Marketable securities – restricted cash	611.5	-132.9	-560%
Cash flow from investing activities	<b>-1,917.2</b>	-3,136.8	-39%
outh non-non-nitrocaning doubling	-1,517.2	-3,130.0	-3376
Debt Raising	2,100.6	2,773.9	-24%
Amortizations	-808.2	-551.4	47%
Capital Increase	-	850.1	n.a.
Capital contribution from non-controlling shareholder	33.1	-	n.a.
Premium paid for stock grant	7.3	-	n.a.
Treasury Stock	-0.3	-	n.a.
Dividends Paid	-	-0.6	n.a.
Leases paid	-19.8	-18.9	5%
Cash flow from financing activities	1,312.7	3,053.0	-57%
Net increase (decrease) in Cash	-32.1	-1.5	n.a.
Cash and cash equivalent at beginning of period	85.6	87.2	-2%
Cash and cash equivalent at end of period	53.6	85.6	-37%

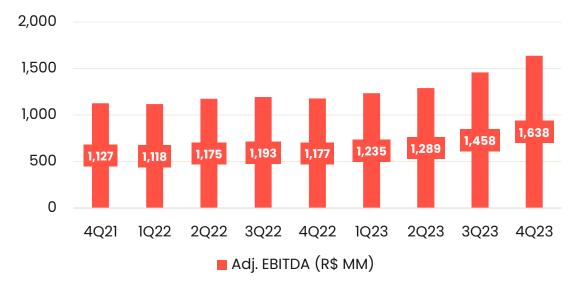
#### E. Financial Statements & Operating Data

Key Metrics Charts - Trailing 12 Months (TTM)









For more detailed information, please access our **Complete Financials Worksheet**, available at our investor's relations website.

https://ri.srna.co

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