

Monday, January 20, 2020 | update

## JSW: hold (downgraded)

**JSW PW; JSW.WA | Coal, Poland**

### JSW Production Volumes Miss Targets In Q4 2019

JSW missed its production targets for Q4 2019, reporting volumes well below the expectations of analysts and its own guidance. Total mine output for the period came out at 3.9 million tonnes against a forecast of 4.2mmt, and as a consequence the full-year volume at 14.8mmt fell short of the 15+mmt target. o our disappointment, the share of coking coal in the fourth-quarter production mix was only 66%, less than the 70% anticipated by us. The end-of-year total coal inventory leftover at December 2019 amounted to 1.8mmt, an increase of 200k+ tonnes relative to September despite plans to keep stockpiles stable. When it comes to sales, the effective sales prices for coking coal and coke achieved in Q4 2019 were 10% and 6% below their respective market benchmarks. Based on weaker-than-expected production figures, we are forced to cut our 2019 Q4 EBITDA estimate for JSW to assume an operating loss of PLN 45m versus positive EBITDA of +PLN 200m anticipated initially. Furthermore, we predict that after continued depletion the cash holdings of JSW dropped more than expected to an estimated PLN 1.3bn (PLN 11/share) at December 2019 (vs. PLN 1.9bn estimated earlier). After further adjusting our FY2019 and FY2020 earnings estimates to reflect weak production, most notably of coking coal, combined with high inventory, we downgrade JSW from buy to hold with the price target cut from PLN 28.04 to PLN 23.32 per share.

### Lower output from an expanded mining area

At 3.9mmt, JSW's 2019 Q4 quarterly coal volume was only 4% higher than in the same year-ago period as well as falling short of our original 4.2mmt estimate. The low production happened despite the addition of six new mining areas in Q4 to make 29 compared to 22-23 areas operating in the first half of the year. The 66% share of metallurgical coal in the production mix is a disappointing ratio compared to 71% recorded in the previous quarter and 72% anticipated by us. Amid weaker demand, coke production also dropped in Q4, falling 22% on the year to a disappointing 0.68mmt.

### Low sales prices

JSW sold its coking coal in Q4 2019 at an effective sales price 10% below the corresponding average market price, alongside a discount of about 6% realized on the period's coke sales. The low prices were a disappointing turn of events considering the premium prices that JSW was still able to charge in the previous quarter.

### No stabilization in inventory

Contrary to the Company's pledge to keep inventories stable, JSW's total coal stockpile increased by more than 200,000 tonnes in Q4 2019 to show 1.79mmt at December. The reason for this was weak demand from the metallurgical industry, resulting in higher unmoved stocks of coking coal while the thermal coal reserves held relatively steady.

(PLN m)	2017	2018	2019E	2020E	2021E
Revenue	8,877.2	9,809.5	8,658.8	8,459.2	8,435.1
EBITDA (adj.)	3,508.8	3,100.8	1,759.1	725.5	966.3
EBITDA margin	39.5%	31.6%	20.3%	8.6%	11.5%
EBIT (adj.)	2,684.1	2,334.8	779.8	-384.6	-248.4
Net profit (adj.)	2,188.7	1,802.4	579.1	-344.4	-237.7
P/E (adj.)	1.2	1.5	4.6	-	-
P/CE	0.8	1.1	1.8	3.5	2.7
P/B	0.4	0.3	0.3	0.3	0.4
EV/EBITDA (adj.)	0.4	-	1.0	3.3	2.9
DPS	0.00	0.00	1.71	0.00	0.00
Dividend Yield	0.0%	0.0%	7.5%	0.0%	0.0%

Current Price	PLN 22.68
Target Price	PLN 23.32
MCap	PLN 2.7bn
Free Float	PLN 1.2bn
ADTV (3M)	PLN 55.5m

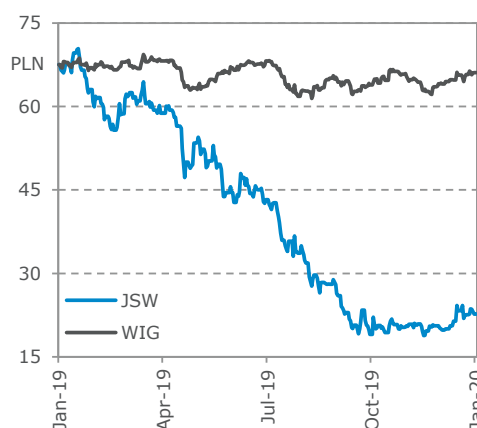
### Ownership

State Treasury	55.17%
Others	45.83%

### Business Profile

JSW is the largest coking coal producer in the European Union with 2018 production at 10.3 million tonnes, equivalent to about 20% of the total EU demand. The Company also extracts more than 4 million tonnes of thermal coal, and produces 3.5 million tonnes of coke per year. JSW derives about 50% of its revenues from sales in Poland, with 38% generated in other EU countries and 7% coming from India. Its mines are located in southern Poland, near the border with the Czech Republic. JSW's coking plant "Przyjaźń" is the largest non-vertically integrated facility of this type in the EU.

### JSW vs. WIG



Name	Target Price		Recommendation	
	new	old	new	old
JSW	23.32	28.04	hold	buy
Name	Current Price	Target Price	Upside	
	22.68	23.32	+2.8%	
Forecast Update		2019E	2020E	2021E
EBITDA (adj.)		-20.2%	-8.9%	-2.7%
Net Profit (adj.)		-29.3%	-	-
Met Coal Price (US\$/t)		-1.9%	0.0%	0.0%
Thermal Coal (PLN/t)		+1.2%	0.0%	0.0%
Coke (USD/t)		-1.7%	0.0%	0.0%
Total Coal Prod. (kt)		-2.0%	-1.9%	0.0%
Met Coal Production (kt)		-3.9%	-5.7%	-4.5%
Coke Production (kt)		-2.2%	0.0%	0.0%

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## 2019 Fourth-Quarter Production Update

At 3.9mmt, JSW's 2019 Q4 **quarterly coal volume** was only 4% higher than in the same year-ago period as well as falling short of our estimate despite the fact that the number of areas mined in the period increased to 29 from 22-23 in the first half of the year. It seems that JSW produced only about 134.5kt of coal on average per longwall face in Q4 2019, down from 143-158kt in the three preceding quarters. We assume the new production areas will improve performance going forward as they move toward their full potential.

Further, **coking coal** accounted for just 66% of the 2019 Q4 production mix at JSW, a disappointing ratio compared to 71% recorded in the previous quarter and the Company's own 70%-plus target.

### JSW 2019 Q4 production figures

	1Q'18	2Q'18	3Q'18	4Q'18	1Q'19	2Q'19	3Q'19	4Q'19
<b>Total coal output</b>	<b>4,115</b>	<b>3,799</b>	<b>3,369</b>	<b>3,736</b>	<b>3,481</b>	<b>3,528</b>	<b>3,851</b>	<b>3,900</b>
Coking coal output	3,040	2,741	2,262	2,308	2,397	2,466	2,751	2,590
Thermal coal output	1,075	1,058	1,108	1,428	1,085	1,061	1,100	1,310
<b>Total coal sales</b>	<b>2,768</b>	<b>2,504</b>	<b>2,514</b>	<b>2,581</b>	<b>2,474</b>	<b>2,112</b>	<b>2,301</b>	<b>2,828</b>
Coking coal	1,716	1,512	1,444	1,330	1,453	1,434	1,496	1,545
Thermal coal	1,053	992	1,070	1,251	1,021	678	805	1,389
<b>Avg. sales price of coking coal (PLN/t)</b>	<b>683</b>	<b>661</b>	<b>628</b>	<b>659</b>	<b>711</b>	<b>690</b>	<b>631</b>	<b>505</b>
<b>Avg. sales price of thermal coal (PLN/t)</b>	<b>235</b>	<b>235</b>	<b>260</b>	<b>270</b>	<b>277</b>	<b>265</b>	<b>282</b>	<b>288</b>
Intercompany sales of coal (1,000t)	1,195	1,115	1,050	1,102	1,100	1,091	1,013	866
Intercompany sales of coking coal (1,000t)	1,195	1,115	1,050	1,101	1,100	1,091	1,013	861
Intercompany sales of thermal coal (1,000t)	0	0	0	0	0	0	0	5
<b>Coal inventory (1,000t)</b>	<b>823</b>	<b>934</b>	<b>713</b>	<b>792</b>	<b>719</b>	<b>1,031</b>	<b>1,584</b>	<b>1,790</b>
Coking coal	753	804	549	453	320	254	516	700
Thermal coal	69	130	165	340	398	777	1,068	1,090
<b>Unit Mining Cash Cost (PLN/t)</b>	<b>299</b>	<b>420</b>	<b>407</b>	<b>470</b>	<b>430</b>	<b>465</b>	<b>390</b>	<b>482</b>
<b>Coke production</b>	<b>919</b>	<b>931</b>	<b>836</b>	<b>873</b>	<b>826</b>	<b>875</b>	<b>786</b>	<b>680</b>
Coke sales	849	857	848	984	846	766	741	580
<b>Avg. sales price of coke (PLN/t)</b>	<b>1,052</b>	<b>1,104</b>	<b>1,100</b>	<b>1,257</b>	<b>1,174</b>	<b>1,122</b>	<b>1,042</b>	<b>906</b>
Coke inventory (1,000t)	264	340	326	225	210	328	378	478
<b>Unit Coke Cash Conversion Cost (PLN/t)</b>	<b>139</b>	<b>154</b>	<b>167</b>	<b>189</b>	<b>171</b>	<b>175</b>	<b>163</b>	<b>226</b>

Source: JSW, mBank

Based on fourth-quarter volumes, we assume that JSW's **mining cash cost** in Q4 2019 increased by about 2.6% year over year to PLN 482/t. On lower prices, the **coking coal sales margin** for the quarter shrunk to estimated PLN 22/t vs. PLN 188/t in Q4'18 and PLN 241/t in Q3'19. At the same time, on a low volume, the **coke conversion cost** will have increased to PLN 22/t.

All told, we expect JSW's **2019 Q4 revenue** to be PLN 1.8bn after falling 29% from the same quarter a year earlier. Looking at the disappointing fourth-quarter volumes, we anticipate that the quarterly **EBITDA** will turn to a loss of PLN 45m.

**Coal stocks** stood at 1.79mmt at 31 December 2019 after an increase in **coking coal reserves** in the fourth quarter due to weaker demand from the metallurgical industry.

At the same time, JSW added 100kt to its **coke reserves** in Q4 despite a simultaneous drop in production by 22% relative to the same year-ago period. Coke sales in Q4 2018 were down 41% on the year.

When it comes to **prices**, JSW's realized averages in Q4 dropped below the respective benchmarks at PLN 505/t coking coal (10% below average) and PLN 906/t coke (-6%). On the other hand, thermal coal was able to fetch an 11% premium over the Upper Silesian Coal Basin benchmark at PLN 288/t.

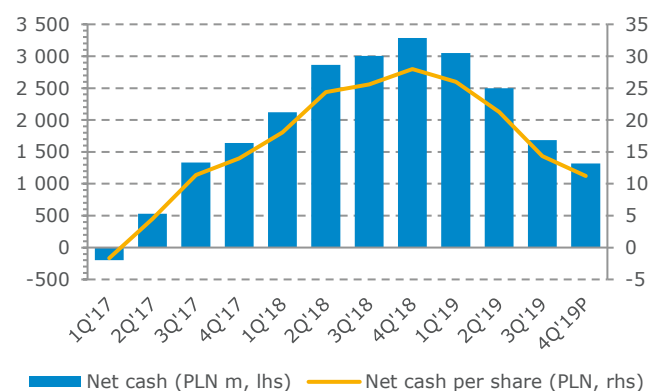
### 2019 Q4 estimates

(PLN m)	4Q'19E	4Q'18	y/y	2019E	y/y
Revenue	1,797.4	2,523.1	-29%	8,658.8	-11.7%
EBITDA (adj.)	-65.0	446.7	-	1,758.7	-22.0%
EBITDA	-45.0	611.9	-	1,640.2	-45.7%
EBITDA margin	-2.5%	24.3%	-	18.9%	-
EBIT	-315.0	399.5	-	641.3	-71.5%
Net profit	-222.3	295.1	-	466.8	-73.1%

Source: JSW, E - estimates by mBank

Based on worse-than-expected fourth-quarter production and sales figures, we have had to **revise our 2019 Q4 EBITDA estimate from an operating profit of PLN 200m to a loss of PLN 45m**. Consequently, we also currently expect a **lower 2019 year-end net cash position of PLN 1.3bn** at JSW, down from an initial estimate of PLN 1.9bn.

### Quarterly net cash position of JSW



Source: JSW, P - projections by mBank

Going forward, we assume that JSW's cash surplus will drop to about PLN 225m by the end of 2021, followed by a recovering free cash flow in subsequent years.

## Valuation

We used discounted cash flow analysis and relative valuation to assess the value of JSW. The DCF model yielded a value per share of PLN 16.38, and multiples comparison indicates a per-share price of PLN 27.50.

(PLN)	weight	price
Relative Valuation	50%	27.50
DCF Analysis	50%	16.38
	price	21.94
<b>9M target price</b>		<b>23.32</b>

## Relative Valuation

We compared the EV/EBITDA and P/E ratios of JSW with those of a peer group of global hard coal miners, representing median ratios calculated based on available earnings and consensus forecasts.

We assigned a 20% discount to the estimated value of JSW to reflect the high sensitivity of its core product, coking coal, to business cycles, coupled with pressures from strong labor unions.

## Multiples Comparison

	Country	P/E			EV/EBITDA		
		2019E	2020E	2021E	2019E	2020E	2021E
ALLIANCE RESOURCE PARTNERS	USA	4.5	8.6	9.5	-	-	-
PEABODY ENERGY CORP	USA	-	-	-	2.1	2.8	2.7
ARCH COAL INC - A	USA	4.8	6.0	5.0	2.8	2.6	-
SEMIRARA MINING AND POWER CO	Philippines	9.0	8.0	7.1	5.8	4.9	4.2
BUKIT ASAM TBK PT	Indonesia	7.3	8.3	8.0	4.4	4.8	4.7
HENAN SHENHUO COAL & POWER-A	China	14.8	16.4	11.7	-	-	-
SHANXI XISHAN COAL & ELEC-A	China	9.4	9.4	9.2	5.4	5.0	4.6
YANZHOU COAL MINING CO-H	China	3.3	3.9	3.9	5.8	6.2	5.9
BANPU PUBLIC CO LTD	Thailand	18.0	15.6	11.5	12.4	12.4	10.6
LUBELSKI WEGIEL BOGDANKA SA	Poland	3.9	4.9	6.3	1.1	1.0	1.1
SHAANXI HEIMAO COKING CO-A	China	9.0	8.5	-	-	-	-
CHINA COAL ENERGY CO-H	China	5.4	5.8	5.7	6.1	6.1	6.1
SHOUGANG FUSHAN RESOURCES GR	Hong Kong	7.4	7.3	8.3	-	-	-
TECK RESOURCES LTD-CLS B	Canada	7.1	8.0	7.5	3.3	3.8	3.5
STANMORE COAL LTD	Australia	2.7	4.5	7.3	1.2	1.8	2.7
TERRACOM LTD	Australia	2.4	4.4	3.4	-	-	-
RIO TINTO PLC	UK	9.7	10.9	13.6	5.4	6.0	6.8
BHP BILLITON LTD-SPON ADR	Australia	14.6	14.0	15.5	6.1	6.2	6.6
WARRIOR MET COAL INC	USA	4.2	6.5	6.1	2.8	3.4	2.7
Maximum		18.0	16.4	15.5	12.4	12.4	10.6
Minimum		2.4	3.9	3.4	1.1	1.0	1.1
<b>Median</b>		<b>7.2</b>	<b>8.0</b>	<b>7.5</b>	<b>4.9</b>	<b>4.9</b>	<b>4.6</b>
JSW		4.6	-8.1	-16.0	1.0	3.2	2.6
Premium / discount		-36.4%	-	-	-80.1%	-34.5%	-44.0%
<b>Implied Valuation</b>							
Median		8.0	7.5	4.9	4.9	4.6	8.0
Premium / discount		-20%	-20%	-20%	-20%	-20%	-20%
Multiple weight			0%			100%	
Year weight		0%	0%	0%	0%	50%	50%
<b>Equity value per share (PLN)</b>		<b>27.5</b>					

## DCF Valuation

### Assumptions:

- Risk-free rate: 3.5% (Polish 10Y Treasury bond yield).
- Future cash flows are discounted to their present value as of the end of December 2019.
- Net debt is as at year-end 2018 plus subsequent dividends.

### Sales Price Projection

	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
Global coking coal price benchmark (US\$/t)	125.5	102.2	119.4	178.0	193.2	172.3	145.0	155.0	155.0
Global coking coal price benchmark (PLN/t)	395.1	382.9	471.1	615.2	696.6	660.6	538.7	558.0	558.0
JSW avg. coking coal sales price (PLN/t)	410.4	377.3	397.4	656.7	661.7	631.9	549.4	558.0	558.0
Premium/discount to benchmark (%)	3.9%	-1.5%	-15.7%	6.7%	-5.0%	-4.3%	2.0%	0.0%	0.0%
Global coke price benchmark (US\$/t)	178.0	140.6	182.5	266.1	310.4	269.2	233.8	246.7	246.7
Global coke price benchmark (PLN/t)	560.4	526.5	719.8	919.3	1,120.8	1,033.2	868.7	888.0	888.0
JSW avg. coke selling price (PLN/t)	668.2	648.5	583.5	936.0	1,128.4	1,060.8	894.7	879.1	879.1
Premium/discount to benchmark (%)	19.2%	23.2%	-18.9%	1.8%	0.7%	2.7%	3.0%	-1.0%	-1.0%
Coke-coking coal price spread (PLN/t)	165.3	143.7	248.8	304.1	425.6	372.1	330.0	330.0	330.0
JSW unit coke cash conversion cost (PLN/t)	151.7	144.4	133.5	149.5	162.1	194.7	212.1	203.1	208.1
Coal prices at ARA (US\$/t)	75.5	57.2	55.4	74.2	86.6	70.7	71.4	76.5	76.5
Coal prices at ARA (PLN/t)	237.5	215.0	218.8	279.1	313.4	271.1	265.3	275.4	275.4
Thermal coal prices at USCB* (PLN/t)	234.3	217.5	193.8	204.0	238.9	259.4	262.5	262.5	240.6
JSW avg. thermal coal sales price (PLN/t)	234.4	213.3	187.4	206.7	249.9	278.2	273.0	270.4	247.9
Premium/discount to USCB price benchmark (%)	0.1%	-1.9%	-3.3%	1.3%	4.6%	7.2%	4.0%	3.0%	3.0%
USD/PLN	3.15	3.74	3.94	3.46	3.61	3.84	3.72	3.60	3.60

\*Upper Silesian Coal Basin

Source: JSW, P - projections by mBank

### Mining Cost Projection

(PLN m)	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
Materials & utilities	1064.7	980.2	880.3	846.5	1022.2	1138.3	1017.4	890.5	841.9
Third-party services	1610.6	1292.6	1158.3	1275.9	1614.0	1773.3	1684.6	1509.6	1654.2
Employee benefits	3046.9	2583.8	2064.6	2370.3	3141.3	3415.5	3507.7	3575.5	3765.4
Taxes and fees	118.5	129.4	131.0	104.6	122.3	120.8	121.3	123.0	123.2
Other costs	-914.4	23.7	-2.2	18.3	54.6	69.7	69.3	70.3	70.4
<b>Mining cash cost (PLN m)</b>	<b>4926.3</b>	<b>5009.7</b>	<b>4232.0</b>	<b>4615.6</b>	<b>5954.4</b>	<b>6517.5</b>	<b>6400.3</b>	<b>6169.0</b>	<b>6455.0</b>
Coal output (mmt)	13.9	16.3	16.8	14.8	15.0	14.8	15.2	15.2	17.0
<b>Unit mining cash cost (PLN/t)</b>	<b>353.2</b>	<b>307.1</b>	<b>251.4</b>	<b>312.5</b>	<b>396.5</b>	<b>441.6</b>	<b>421.1</b>	<b>404.8</b>	<b>378.8</b>

Source: JSW, P - projections by mBank

### Coke cost projection

(PLN m)	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
Materials & utilities	53.6	47.7	53.0	50.6	59.4	61.0	57.8	65.5	65.5
Coal feedstock	43.2	59.5	48.3	48.4	55.8	52.6	58.9	68.0	68.1
Third-party services	214.5	211.2	196.3	169.6	162.2	171.8	165.7	191.2	194.6
Employee benefits	285.3	271.2	235.4	220.6	209.3	236.8	246.0	250.7	264.1
Taxes and fees	47.1	52.1	51.5	54.7	50.2	38.6	60.6	61.5	61.6
Other costs	3.8	5.4	4.5	3.2	65.2	77.0	72.9	82.6	82.6
COGS net of D&A	-38.2	-37.4	-35.7	-30.1	-26.9	-27.1	-25.6	-29.0	-29.0
<b>Cash conversion cost (PLN m)</b>	<b>609.3</b>	<b>609.7</b>	<b>553.3</b>	<b>517.0</b>	<b>575.2</b>	<b>610.7</b>	<b>636.3</b>	<b>690.5</b>	<b>707.4</b>
Quantity of coke produced for sale (mmt)	4.0	4.2	4.1	3.5	3.6	3.2	3.0	3.4	3.4
<b>Unit coke cash conversion cost (PLN/t)</b>	<b>151.7</b>	<b>144.4</b>	<b>133.5</b>	<b>149.5</b>	<b>161.6</b>	<b>192.8</b>	<b>212.1</b>	<b>203.1</b>	<b>208.1</b>

Source: JSW, P - projections by mBank

### Headcount & Payroll Projection

	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
Manual workers	26,201	24,598	21,152	20,485	21,720	22,744	23,100	23,100	24,100
Office workers	7,919	7,570	6,214	6,075	6,548	6,966	7,100	7,080	7,060
Avg. monthly pay (PLN 1,000)	8.90	9.11	8.77	10.08	12.05	12.71	12.57	12.82	13.08
Coal production per employee (t)	532	663	796	721	691	649	658	661	665

Source: JSW, P - projections by mBank

### Coal and Coke Volume Projection

	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
<b>Coal production (1,000t)</b>	<b>13,947</b>	<b>16,313</b>	<b>16,835</b>	<b>14,768</b>	<b>15,019</b>	<b>14,760</b>	<b>15,200</b>	<b>15,240</b>	<b>17,040</b>
- coking coal	9,882	11,151	11,580	10,675	10,351	10,204	10,812	10,917	12,377
- thermal coal	4,065	5,162	5,255	4,093	4,668	4,556	4,388	4,323	4,663
<b>Sales (1,000t)</b>	<b>8,728</b>	<b>11,182</b>	<b>11,653</b>	<b>10,105</b>	<b>10,366</b>	<b>9,714</b>	<b>11,973</b>	<b>11,111</b>	<b>12,665</b>
- coking coal	5,186	5,800	6,364	5,937	6,001	5,928	7,066	6,607	7,985
- thermal coal	3,542	5,381	5,289	4,168	4,365	3,786	4,907	4,504	4,679
<b>Sales revenue (PLN m)</b>	<b>2,972</b>	<b>3,449</b>	<b>3,552</b>	<b>4,926</b>	<b>5,085</b>	<b>4,817</b>	<b>5,222</b>	<b>4,905</b>	<b>5,616</b>
- coking coal	2,130	2,196	2,546	3,930	3,971	3,746	3,882	3,687	4,456
- thermal coal	843	1,253	1,006	996	1,114	1,071	1,340	1,218	1,160
<b>Avg. sales price of coking coal (PLN/t)</b>	<b>410</b>	<b>377</b>	<b>397</b>	<b>657</b>	<b>662</b>	<b>632</b>	<b>549</b>	<b>558</b>	<b>558</b>
<b>Avg. sales price of thermal coal (PLN/t)</b>	<b>234</b>	<b>213</b>	<b>187</b>	<b>207</b>	<b>255</b>	<b>283</b>	<b>273</b>	<b>270</b>	<b>248</b>
<b>Intercompany sales (1,000t)</b>	4,943	5,447	5,529	4,453	4,461	4,069	3,797	4,304	4,304
- coking coal	4,709	5,312	5,455	4,453	4,460	4,064	3,797	4,304	4,304
- thermal coal	234	135	75	0	1	5	0	0	0
<b>Coal inventory (1,000t)</b>	<b>1,259</b>	<b>1,011</b>	<b>493</b>	<b>645</b>	<b>792</b>	<b>1,790</b>	<b>1,219</b>	<b>1,044</b>	<b>1,116</b>
- coking coal	605	696	329	593	453	700	649	655	743
- thermal coal	654	315	164	53	340	1,090	570	389	373
<b>Unit Mining Cash Cost (PLN/t)</b>	<b>353</b>	<b>307</b>	<b>251</b>	<b>313</b>	<b>396</b>	<b>442</b>	<b>421</b>	<b>405</b>	<b>379</b>
<b>Coke production (1,000t)</b>	<b>4,016</b>	<b>4,222</b>	<b>4,145</b>	<b>3,458</b>	<b>3,559</b>	<b>3,168</b>	<b>3,000</b>	<b>3,400</b>	<b>3,400</b>
<b>Sales (1,000t)</b>	<b>4,162</b>	<b>4,015</b>	<b>4,133</b>	<b>3,461</b>	<b>3,538</b>	<b>2,932</b>	<b>3,178</b>	<b>3,462</b>	<b>3,400</b>
Sales revenue (PLN m)	3,489	3,052	2,823	3,688	4,452	3,467	2,761	3,074	3,019
<b>Avg. sales price of coke (PLN/t)</b>	<b>668</b>	<b>648</b>	<b>584</b>	<b>936</b>	<b>1,095</b>	<b>1,033</b>	<b>869</b>	<b>888</b>	<b>888</b>
Coke inventory (1,000t)	129	279	236	194	225	478	300	238	238
<b>Unit coke cash conversion cost (PLN/t)</b>	<b>152</b>	<b>145</b>	<b>134</b>	<b>150</b>	<b>162</b>	<b>193</b>	<b>212</b>	<b>203</b>	<b>208</b>

Source: JSW, P - projections by mBank

### CAPEX Projection

(PLN m)	2013	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
<b>Coal Segment</b>	<b>1,379</b>	<b>1,335</b>	<b>797</b>	<b>691</b>	<b>854</b>	<b>1,406</b>	<b>1,700</b>	<b>1,500</b>	<b>1,250</b>	<b>1,230</b>
PP&E	875	889	412	311	395	864	450	500	500	450
Mine development	504	446	385	380	459	541	700	850	800	800
<b>Coke Segment</b>	<b>232</b>	<b>147</b>	<b>50</b>	<b>71</b>	<b>45</b>	<b>50</b>	<b>150</b>	<b>150</b>	<b>120</b>	<b>120</b>
PP&E	232	147	50	71	45	50	150	150	120	120
<b>Other Operations</b>	<b>151</b>	<b>206</b>	<b>210</b>	<b>251</b>	<b>123</b>	<b>213</b>	<b>200</b>	<b>50</b>	<b>50</b>	<b>50</b>
PP&E	151	206	210	251	123	213	200	50	50	50
<b>Total</b>	<b>1,762</b>	<b>1,688</b>	<b>1,057</b>	<b>1,013</b>	<b>1,023</b>	<b>1,669</b>	<b>2,050</b>	<b>1,700</b>	<b>1,420</b>	<b>1,400</b>

Source: JSW, P - projections by mBank

## DCF Model

(PLN m)	2019P	2020P	2021P	2022P	2023P	2024P	2025P	2026P	2027P	2028P	+
Revenue	8,658.8	8,459.2	8,435.1	9,071.1	9,396.4	9,525.4	9,661.1	9,565.0	9,559.9	9,562.1	9,567.3
change	-11.7%	-2.3%	-0.3%	7.5%	3.6%	1.4%	1.4%	-1.0%	-0.1%	0.0%	0.1%
EBITDA	1,620.6	725.5	966.3	1,392.5	1,614.4	1,678.7	1,728.9	1,608.8	1,550.6	1,494.6	1,498.6
EBITDA margin	18.7%	8.6%	11.5%	15.4%	17.2%	17.6%	17.9%	16.8%	16.2%	15.6%	15.7%
D&A expenses	979.3	1,110.2	1,214.7	1,329.3	1,395.0	1,393.7	1,396.5	1,396.5	1,398.3	1,399.1	1,400.0
EBIT	641.3	-384.6	-248.4	63.2	219.4	285.0	332.4	212.2	152.3	95.5	98.6
EBIT margin	7.4%	-4.5%	-2.9%	0.7%	2.3%	3.0%	3.4%	2.2%	1.6%	1.0%	1.0%
Tax on EBIT	111.2	-75.2	-50.2	8.7	38.4	51.0	59.9	36.9	25.2	14.1	14.5
NOPLAT	530.1	-309.4	-198.2	54.5	180.9	234.0	272.5	175.3	127.1	81.3	84.1
CAPEX	-2,050.0	-1,700.0	-1,420.0	-1,400.0	-1,400.0	-1,400.0	-1,400.0	-1,400.0	-1,400.0	-1,400.0	-1,400.0
Working capital	-885.2	280.1	95.1	102.9	58.2	27.4	20.1	-18.1	-4.2	-2.7	2.2
Other / Adjustments	138.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FCF	-1,287.3	-619.1	-308.3	86.7	234.2	255.2	289.0	153.8	121.2	77.7	86.3
WACC	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.3%	8.0%	7.9%
discount factor	1.0	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5
PV FCF	-1,287.3	-570.6	-261.9	67.9	169.0	169.7	177.1	86.9	64.1	38.8	40.5

WACC	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.3%	8.0%	7.9%
Cost of debt	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Risk-free rate	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Risk premium	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Effective tax rate	17.6%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%
Net debt / EV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	10.7%	14.4%
Cost of equity	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
Risk premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

FCF growth after the forecast period	0.0%
Terminal value	1,098.4
Present value of terminal value	548.4
Present value of FCF in the forecast period	-1,346.4
Enterprise value	-798.0
Net debt	-3,085.1
Other noncore assets	0.0
Minority interests	364.0
Equity value	1,923.1
Shares outstanding (millions)	117.4
Equity value per share (PLN)	16.4
9M cost of equity	6.3%
<b>Target Price (PLN)</b>	<b>17.4</b>
EV/EBITDA ('19) at target price	0.6
EV/EBITDA ('19) at target price	3.5
TV / EV	-68.7%

## Sensitivity Analysis

	FCF growth in perpetuity				
	-2.0%	-1.0%	0.0%	1.0%	2.0%
WACC +1.0 p.p.	15.5	15.8	16.2	16.8	17.4
WACC +0.5 p.p.	15.9	16.3	16.8	17.4	18.2
WACC	16.4	16.9	17.4	18.1	19.1
WACC -0.5 p.p.	16.9	17.4	18.1	19.0	20.2
WACC -1.0 p.p.	17.5	18.1	18.9	20.0	21.5

**Earnings History and Future Projections**

(PLN m)	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
Revenue	6,814.9	6,934.9	6,731.3	8,877.2	9,809.5	8,658.8	8,459.2	8,435.1	9,071.1
change	-10.7%	1.8%	-2.9%	31.9%	10.5%	-11.7%	-2.3%	-0.3%	7.5%
Sales of coal	2,972.3	3,449.4	3,551.6	4,925.9	5,084.6	4,817.1	5,222.2	4,904.6	5,615.6
Sales of coke	2,968.5	2,735.4	2,570.0	3,367.2	4,033.2	3,191.2	2,484.6	2,766.8	2,717.3
Sales of coal products	520.7	316.4	252.7	320.9	418.3	276.0	276.1	307.4	301.9
Other	353.4	433.7	357.0	263.2	273.4	374.4	476.3	456.3	436.3
Costs	6,819.6	6,985.1	5,501.6	5,638.3	6,938.4	7,199.5	7,868.4	7,659.7	7,969.4
D&A expenses	1,303.3	1,362.9	838.8	824.7	766.0	998.5	1,110.2	1,214.7	1,329.3
Materials & utilities	1,464.4	1,443.2	1,157.0	1,243.0	1,612.0	1,735.5	1,437.7	1,373.4	1,324.9
Third-party services	1,622.0	1,561.7	1,441.2	1,457.7	1,793.3	1,960.5	1,866.0	1,716.8	1,865.1
Employee benefits	3,643.4	3,517.5	2,880.9	3,213.8	4,086.4	4,531.6	4,555.4	4,643.4	4,890.1
Taxes and fees	211.7	224.3	222.0	188.8	207.4	193.8	216.6	219.7	219.9
Other costs	38.3	40.4	8.3	31.0	65.2	82.1	103.9	113.9	113.2
COGS	67.2	154.9	80.8	166.5	71.3	53.0	53.0	53.0	53.0
Selling expenses	362.4	350.1	342.4	282.4	298.8	273.2	254.9	288.9	288.9
Administrative expenses	610.8	535.5	480.6	480.8	623.8	706.4	720.5	734.9	749.6
Other	533.6	466.0	505.5	603.6	648.0	592.2	745.8	760.7	776.0
Change in inventory	-23.9	31.8	201.1	120.4	92.6	783.6	-246.8	-109.2	11.6
Costs of products, materials, and merchandise sold	6,867.4	6,921.5	5,099.4	5,638.3	6,938.4	7,199.5	7,868.4	7,659.7	7,969.4
Other operating revenue/expenses	203.1	-2,960.2	-180.1	640.8	305.6	161.6	0.0	0.0	0.0
EBIT	-774.8	-3,896.0	226.6	3,116.5	2,254.1	641.3	-384.6	-248.4	63.2
change	-	-	-	-	-27.7%	-71.5%	-	-	-
EBIT margin	-11.4%	-56.2%	3.4%	35.1%	23.0%	7.4%	-4.5%	-2.9%	0.7%
Net financing gains/losses	-107.8	-149.4	-206.9	7.0	-61.7	-46.1	-11.3	-15.8	-17.5
One-offs/Adjustments	-521.8	-3,569.9	10.9	432.4	-80.7	-138.5	0.0	0.0	0.0
Pre-tax income	-882.2	-4,045.3	19.6	3,123.6	2,192.4	595.2	-396.0	-264.2	45.8
Tax	-225.1	-760.1	15.2	580.3	431.7	104.6	-75.2	-50.2	8.7
Minority interests	2.0	-19.7	-2.3	4.4	23.7	23.7	23.7	23.7	23.7
Net profit	-659.1	-3,265.5	6.7	2,538.9	1,737.0	466.9	-344.4	-237.7	13.4
change	-	-	-	-	-31.6%	-73.1%	-173.8%	-31.0%	-105.6%
margin	-9.7%	-47.1%	0.1%	28.6%	17.7%	5.4%	-4.1%	-2.8%	0.1%
Net profit (adjusted)	-236.4	-373.9	-2.1	2,188.7	1,802.4	579.1	-344.4	-237.7	13.4
D&A expenses	1,303.3	1,362.9	838.8	824.7	766.0	979.3	1,110.2	1,214.7	1,329.3
EBITDA	528.5	-2,533.1	1,065.4	3,941.2	3,020.1	1,620.6	725.5	966.3	1,392.5
change	-62.3%	-	-	269.9%	-23.4%	-46.3%	-55.2%	33.2%	44.1%
EBITDA margin	7.8%	-36.5%	15.8%	44.4%	30.8%	18.7%	8.6%	11.5%	15.4%
EBITDA (adjusted)	1,050.3	1,036.8	1,054.5	3,508.8	3,100.8	1,759.1	725.5	966.3	1,392.5
Shares outstanding at eop (millions)	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4
EPS	-5.6	-27.8	0.1	21.6	14.8	4.0	-2.9	-2.0	0.1
CEPS	5.5	-16.2	7.2	28.6	21.3	12.3	6.5	8.3	11.4
ROAE	-9.3%	-85.1%	0.2%	39.7%	21.5%	5.8%	-4.5%	-3.2%	0.2%
ROAA	-4.3%	-27.6%	0.1%	21.0%	12.6%	3.4%	-2.6%	-1.8%	0.1%



## Balance Sheet

(PLN m)	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
<b>ASSETS</b>	15,369.3	11,812.2	11,519.6	12,090.2	13,762.6	13,651.7	13,241.9	12,996.4	13,218.1
Fixed assets	13,085.9	10,324.7	9,097.3	8,118.2	8,474.6	9,558.6	10,186.0	10,443.0	10,579.4
Intangible assets	156.2	145.8	125.4	116.3	130.8	324.2	482.5	612.9	741.3
Property, plant and equipment	12,153.6	8,624.5	7,483.2	6,835.9	7,303.0	8,193.7	8,662.6	8,789.2	8,797.3
Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Noncurrent receivables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Noncurrent investments	339.2	335.2	327.3	351.7	371.3	371.3	371.3	371.3	371.3
Noncurrent prepayments	436.9	1,219.2	1,161.4	814.3	669.5	669.5	669.5	669.5	669.5
Current assets	2,283.4	1,487.5	2,422.3	3,972.0	5,288.0	4,093.1	3,056.0	2,553.4	2,638.7
Inventory	538.2	491.9	342.5	499.4	656.5	1,219.1	898.8	798.8	823.9
Current receivables	1,008.2	634.6	897.9	806.7	1,146.7	1,092.5	1,067.3	1,064.2	1,144.5
Trade debtors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current investments	11.1	3.1	5.9	13.9	7.2	7.2	7.2	7.2	7.2
Cash	720.5	350.4	1,170.3	2,619.5	3,476.9	1,773.8	1,082.1	682.6	662.4
Current prepayments	5.4	7.5	5.7	32.5	0.7	0.6	0.6	0.6	0.6
<b>EQUITY &amp; LIABILITIES</b>	15,369.3	11,812.2	11,519.6	12,090.2	13,762.6	13,651.7	13,241.9	12,996.4	13,218.1
Equity	7,112.3	3,835.1	4,002.5	6,389.1	8,081.4	8,081.5	7,737.1	7,499.4	7,512.8
Share capital	1,251.9	1,251.9	1,251.9	1,251.9	1,251.9	1,251.9	1,251.9	1,251.9	1,251.9
Supplementary capital	905.0	905.0	905.0	905.0	905.0	905.0	905.0	905.0	905.0
Retained earnings	5,012.2	1,764.9	1,928.4	4,298.9	5,976.6	6,242.7	5,898.3	5,660.6	5,674.0
Minority interest	155.2	99.1	67.1	232.4	364.0	364.0	364.0	364.0	364.0
Non-current liabilities	3,244.7	1,132.3	2,318.1	1,557.5	888.1	888.1	888.1	888.1	888.1
Debt	142.2	184.5	1,589.0	863.2	36.5	36.5	36.5	36.5	36.5
Current liabilities	3,889.4	3,830.7	2,122.8	2,373.7	3,148.8	3,063.6	3,002.6	2,995.3	3,189.4
Trade payables	2,516.7	2,396.1	2,028.4	2,258.7	2,994.3	2,643.1	2,582.1	2,574.8	2,768.9
Debt	1,372.7	1,434.6	94.4	115.0	154.5	420.5	420.5	420.5	420.5
Provisions for liabilities	908.6	2,865.9	2,988.7	1,522.9	1,061.1	1,061.1	1,061.1	1,061.1	1,061.1
Other	59.1	49.1	20.4	14.6	219.2	193.5	189.0	188.5	202.7
Debt	1,514.9	1,619.1	1,683.4	978.2	191.0	457.0	457.0	457.0	457.0
Net Debt	794.4	1,268.7	513.1	-1,641.3	-3,285.9	-1,316.8	-625.1	-225.6	-205.4
Net debt / Equity	11.2%	33.1%	12.8%	-25.7%	-40.7%	-16.3%	-8.1%	-3.0%	-2.7%
Net debt/ EBITDA	1.5	-0.5	0.5	-0.4	-1.1	-0.8	-0.9	-0.2	-0.1
BVPS	60.6	32.7	34.1	54.4	68.8	68.8	65.9	63.9	64.0

## Cash Flow

(PLN m)	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
Cash flow from operating activities	644.3	725.1	896.5	2,870.7	2,856.1	894.6	1,019.7	1,036.3	1,397.3
Net profit	-659.1	-3,265.5	6.7	2,538.9	1,737.0	466.9	-344.4	-237.7	13.4
D&A expenses	1,303.3	1,362.9	838.8	824.7	766.0	979.3	1,110.2	1,214.7	1,329.3
Working capital	294.0	398.8	-349.4	-76.1	338.4	-885.2	280.1	95.1	102.9
Other	-293.9	2,228.9	400.4	-416.8	14.7	333.6	-26.2	-35.9	-48.2
Cash flow from investing activities	-3,040.4	-1,015.3	-354.4	-2,170.3	-1,581.7	-2,050.0	-1,700.0	-1,420.0	-1,400.0
CAPEX	-3,041.1	-1,031.3	-372.0	-736.5	-1,248.3	-2,050.0	-1,700.0	-1,420.0	-1,400.0
Equity investments	0.7	16.0	17.6	-1,433.8	-333.4	0.0	0.0	0.0	0.0
Cash flow from financing activities	1,079.7	-79.9	277.8	-701.2	-755.2	-209.5	-11.3	-15.8	-17.5
Debt	1,192.4	77.6	252.1	-618.6	-821.3	0.0	0.0	0.0	0.0
Dividends/Buyback	0.0	0.0	0.0	0.0	0.0	-200.8	0.0	0.0	0.0
Other	-112.7	-157.5	25.7	-82.6	66.1	-8.7	-11.3	-15.8	-17.5
Change in cash	-1,316.4	-370.1	819.9	-0.8	519.2	-1,364.9	-691.7	-399.5	-20.2
Cash at eop	720.5	350.4	1,170.3	2,619.5	3,138.7	1,773.8	1,082.1	682.6	662.4
DPS (PLN)	0.00	0.00	0.00	0.00	0.00	1.71	0.00	0.00	0.00
FCF	-1,988.2	-2,405.0	289.4	2,129.3	1,754.3	-1,287.3	-619.1	-308.3	86.7
CAPEX/Sales	-44.6%	-14.9%	-5.5%	-8.3%	-12.7%	-23.7%	-20.1%	-16.8%	-15.4%

## Trading Multiples

	2014	2015	2016	2017	2018	2019P	2020P	2021P	2022P
P/E	-	-	-	1.0	1.5	5.7	-	-	199.3
P/E (adj.)	-	-	-	1.2	1.5	4.6	-	-	199.3
P/CE	4.1	-	3.1	0.8	1.1	1.8	3.5	2.7	2.0
P/B	0.4	0.7	0.7	0.4	0.3	0.3	0.3	0.4	0.4
P/S	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
FCF/EV	-57.5%	-61.2%	9.1%	208.4%	-281.6%	-95.6%	-30.4%	-12.7%	3.5%
EV/EBITDA	6.8	-	3.0	0.3	-0.1	1.1	3.3	2.9	2.0
EV/EBITDA (adj.)	3.4	3.9	3.1	0.4	-0.1	1.0	3.3	2.9	2.0
EV/EBIT	-	-	14.3	0.4	-0.1	2.7	-6.2	-11.3	44.6
EV/S	0.5	0.6	0.5	0.1	-0.0	0.2	0.3	0.3	0.3
EV/EBITDA (adj.)	61%	70%	85%	82%	92%	51%	141%	107%	100%
Dividend Yield	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%	0.0%	0.0%	0.0%
Price (PLN)	22.68	22.68	22.68	22.68	22.68	22.68	22.68	22.68	22.68
Shares at eop (millions)	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4
MC (PLN m)	2,662.9	2,662.9	2,662.9	2,662.9	2,662.9	2,662.9	2,662.9	2,662.9	2,662.9
Minority interest (PLN m)	155.2	99.1	67.1	232.4	364.0	364.0	364.0	364.0	364.0
EV (PLN m)	3,612.5	4,030.7	3,243.1	1,254.0	-259.0	1,710.1	2,401.8	2,801.3	2,821.5

**List of abbreviations and ratios contained in the report:**

**EV** – net debt + market value  
**EBIT** – Earnings Before Interest and Taxes  
**EBITDA** – EBIT + Depreciation and Amortisation  
**P/CE** – price to earnings with amortisation  
**MC/S** – market capitalisation to sales  
**EBIT/EV** – operating profit to economic value  
**P/E** – (Price/Earnings) – price divided by annual net profit per share  
**ROE** – (Return on Equity) – annual net profit divided by average equity  
**P/BV** – (Price/Book Value) – price divided by book value per share  
**Net debt** – credits + debt papers + interest bearing loans – cash and cash equivalents  
**EBITDA margin** – EBITDA/Sales

**OVERWEIGHT (OW)** – a rating which indicates that we expect a stock to outperform the broad market  
**NEUTRAL (N)** – a rating which indicates that we expect the stock to perform in line with the broad market  
**UNDERWEIGHT (UW)** – a rating which indicates that we expect the stock to underperform the broad market

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**ACCUMULATE** – we expect that the rate of return from an investment will range from 5% to 15%  
**HOLD** – we expect that the rate of return from an investment will range from -5% to +5%  
**REDUCE** – we expect that the rate of return from an investment will range from -5% to -15%  
**SELL** – we expect that an investment will bear a loss greater than 15%  
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**DCF** – acknowledged as the most methodologically correct method of valuation; it consists in discounting financial flows generated by a company; its weak point is the significant susceptibility to a change of forecast assumptions in the model.

**Relative** – based on a comparison of valuation multipliers of companies from a given sector; simple in construction, reflects the current state of the market better than DCF; weak points include substantial variability (fluctuations together with market indices) as well as difficulty in the selection of the group of comparable companies.

**Economic profits** – discounting of future economic profits; the weak point is high sensitivity to changes in the assumptions made in the valuation model.

**Discounted Dividends (DDM)** – discounting of future dividends; the weak point is high sensitivity to changes in the assumptions as to future dividends made in the valuation model.

**NAV** – valuation based on equity value, one of the most frequently used method in case of developing companies; the weak point of the method is that it does not factor in future changes in revenue/profits of a company.

**mBank issued the following recommendations for JSW in the 12 months prior to this publication:**

**JSW**

recommendation	buy	buy	accumulate	hold	reduce	hold	reduce
date issued	2019-12-05	2019-09-05	2019-07-03	2019-05-09	2019-03-25	2019-02-20	2019-02-04
target price (PLN)	28.04	39.29	50.02	54.80	54.80	60.68	60.68
issue day price	18.80	26.50	47.00	49.86	62.50	59.96	68.30



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