Monday, January 11, 2021 | research report

Mo-BRUK: buy (new)

MBR PW; MBR.WA | Industrials, Poland

Waste Management Solutions for a Cleaner Future

With rising awareness of the impacts of climate change, and a growing understanding of the importance of waste reduction and prevention, the European Union, as part of its broader Climate Action, has called on member states to increase the proportion of municipal waste that can be recycled instead of landfilled or burned to 65% by 2035. This opens up major opportunities for waste management facilities in Poland, where, today, 50% of all household refuse is landfilled. This includes plants operated by Mo-BRUK, which use solidification and stabilization technology to prepare waste for controlled incineration, and which are set to capitalize on Poland's plans to virtually double its municipal waste incineration capacity over the coming years. Aside from Mo-BRUK only one other company can offer similar technology in the domestic market at the moment. Further, Mo-BRUK is perfectly positioned take advantage of Poland's multi-billion railway infrastructure replacement program by helping to reclaim an estimated 1.7 million tonnes of used railway sleepers by converting them to fuel. Last but not least, Mo-BRUK's incineration facilities benefit from increasing municipal waste disposal charges and a government clampdown on illegal dump sites, estimated at PLN 15 billion over 20 years. Mo-BRUK, which in the past decade completed PLN 200 million capacity upgrades, wants to keep growing its presence in northern Poland the CEE region while making consistent shareholder distributions at 50-100% of annual earnings – ambitions backed by a lack of debt, low working-capital needs, and expansion facilitated by high entry barriers to potential competitors. We initiate coverage of Mo-BRUK with a buy recommendation and a target price of PLN 387.49.

M&A Strategy

Mo-BRUK is keeping an eye out for attractive acquisition targets in similar sectors in Poland and the CEE region generating PLN 15-50m in annual revenue and PLN 5-15m EBITDA. In particular the Company is targeting facilities in central and northern Poland to diversify its geographic footprint beyond its southern base, and capitalize on potential demand from planned new incineration plants. Assuming opportunistic equity investing of PLN 100m, and potential additional capacity spend of PLN 35m max, Mo-BRUK would keep leverage capped at 1.0x EBITDA, allowing it to continue distributing up to 100% of earnings as dividends.

Strong Cash Flow Potential

Despite fast-increasing revenues, Mo-BRUK's operating cash flow in the 2017-2019 period as a percentage of adjusted EBITDA was upwards of 80% on average per year. Thanks to on-the-spot gate fee collection, the Company has a very limited need for working capital.

Geared Up to Accept More Waste

Mo-BRUK completed a PLN 200m capacity-building program in 2014 by adding and developing state-of-the art waste treatment technologies capable of handling a 50% larger volume than today. As a market leader Mo-BRUK is perfectly positioned to lead consolidation of the Polish recycling industry.

(PLN m)	2018	2019	2020E	2021E	2022E
Revenue	92.7	130.6	180.0	239.7	272.8
EBITDA	31.5	56.9	99.7	122.2	133.9
EBITDA margin	34.0%	43.6%	55.4%	51.0%	49.1%
EBIT	25.6	50.9	93.8	115.5	125.8
Net profit	19.7	40.6	75.3	92.9	101.1
P/E	44.5	21.6	11.5	9.3	8.5
P/CE	33.3	19.0	10.6	8.7	7.9
P/B	8.0	6.6	5.4	4.5	4.0
EV/EBITDA	28.1	15.2	8.3	6.6	5.9
DPS	0.56	4.82	13.77	17.14	21.15
Dividend Yield	0.2%	2.0%	5.6%	7.0%	8.6%

Current Price	PLN 246.00
Target Price	PLN 387.49
MCap	PLN 864.2m
Free Float	PLN 561.6m
ADTV (1M)	PLN 3.6m

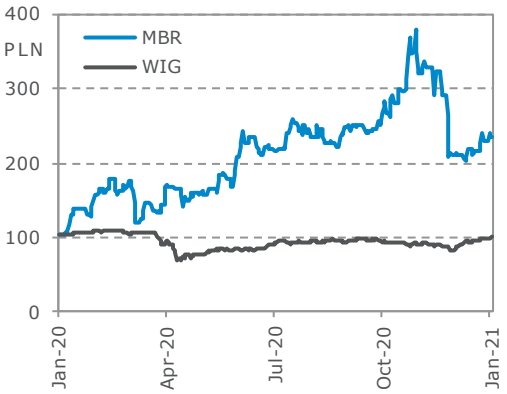
Shareholders

Ginger Capital	35.01%
Value FIZ	23.80%
OFE NN	6.32%
Others	34.87%

About Mo-BRUK

Mo-BRUK is a leading Polish industrial waste management company with estimated market share of 15-25%. Mo-BRUK operates through six waste disposal facilities in southern Poland with combined annual capacity over 500,000 tonnes (in 2019 the facilities were running at about 50% capacity). Mo-BRUK operates in three complementary areas of waste management: solidification and stabilization of wastes, incineration of industrial and medical waste, and production of refuse-derived fuel. Mo-BRUK completed a PLN 200m investment program in the past decade, and next it is planning to increase in capacity utilization at existing plants, and add new treatment sites to its network.

MBR vs. WIG



Company	Target Price		Recommendation	
	new	old	new	old
Mo-BRUK	387.49	-	buy	-

Company	Current Price	Target Price	Upside
Mo-BRUK	246.00	387.49	+57.5%

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About Mo-BRUK

Mo-BRUK is a **leading Polish industrial waste management company** with an estimated market share of **15-25%**. Mo-BRUK operates through **six waste disposal facilities** in southern Poland with combined annual **capacity of 500,000 tonnes** (in 2019 the facilities were running at about 50% capacity).

Mo-BRUK has the technology, expertise, and the necessary certification to handle more than 90% of the types of waste listed in the Polish Waste Catalogue. The Company operates in **three complementary areas of waste management**: **Solidification and Stabilization** of inorganic wastes, **Incineration**, and production of **Refuse-Derived Fuel** (RDF), with a focus on recycling and recovery.

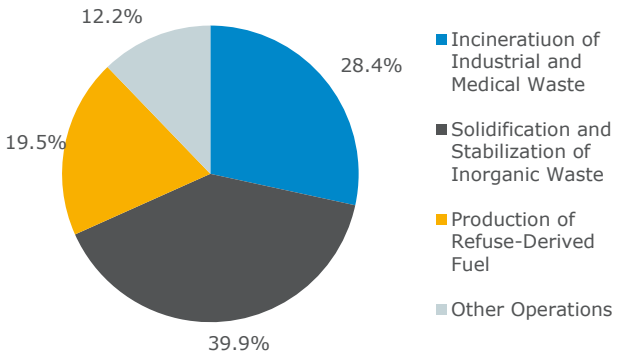
Mo-BRUK's core market of waste disposal has **high entry barriers** as a highly regulated industry subject to licensing, permits, and authorizations that take upwards of 2-3 years to complete before the construction of a waste management facility can even begin.

In the last decade Mo-BRUK completed a **PLN 200m capacity-building program**, and next it is planning to increase utilization of the existing plants as well as adding new sites in order to capitalize on emerging opportunities created by Poland's efforts to crack down on illegal waste dumping.

Business Model & Strategy

Mo-BRUK operates in three complementary areas of waste management: **Solidification and Stabilization of wastes** (representing 40% of total 2019 revenues), **Incineration of Industrial and Medical Waste** (representing 28% of 2019 revenues), and production of **Refuse-Derived Fuel** (representing 20% of total 2019 revenue). **Other Activities** accounted for 12% of the revenues generated in 2019.

Breakdown of 2019 sales of Mo-BRUK by operating segment (%)



Source: Mo-BRUK, mBank

Incineration of Industrial and Medical Waste

Incineration of Industrial and Medical Waste is the second-biggest source of revenue for Mo-BRUK. The **customer base** for incineration services consists largely of public and private healthcare facilities, pharmaceutical producers, oil refineries, waste collection companies, and paint and coatings manufacturers.

The **heat** generated in the incineration process is used to dry RDF, and the excess **steam** is sold commercially (as of June 2020 Mo-BRUK was selling approximately PLN 1m-worth of steam to a nearby oil refinery in Jedlicze). In the future, Mo-BRUK would like to explore conversion of waste heat into electricity which would be used to power internal site operations, and potentially sold on a commercial basis if there is any surplus.

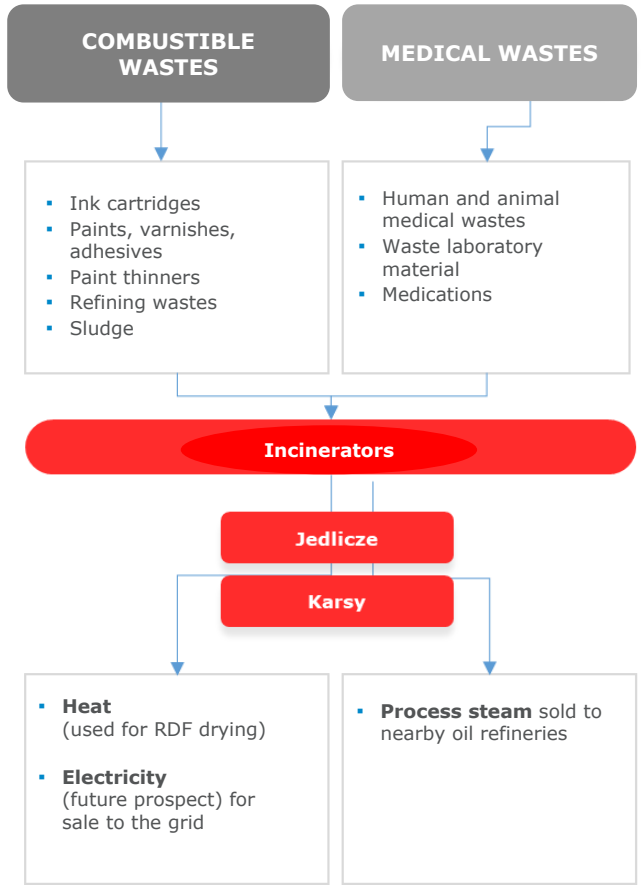
Mo-BRUK operates **two incineration sites**: a 10,000t-a-year facility in **Jedlicze**, and a 25,000t facility in **Karsy**.

The **Jedlicze** plant handles wastes supplied by industrial users, medical facilities, and veterinary practices. Through to 30 June 2020, Jedlicze sold waste process steam to a nearby oil refinery owned by PKN Orlen, however the contract has not been extended.

At the **Karsy** facility, hot air generated in the incineration process is used to pre-dry RDF supplied by a sister facility as a way of increasing its calorific value to meet customer requirements.

In 2019, Mo-BRUK **incinerators were operating at 68.4% of capacity**, i.e. they burned a combined 23.4 thousand tonnes of waste versus a total capacity of 35.0kt. The capacity of an incinerator depends on the calorific value of waste. Waste fractions with higher calorific value can reduce the incinerator efficiency, and they are therefore more expensive to treat. The capacity utilization rate of an incinerator is a function of volume and calorific value; in the future Mo-BRUK would like to maximize the average profit per tonne of input.

Flow Chart of the Waste Incineration Process

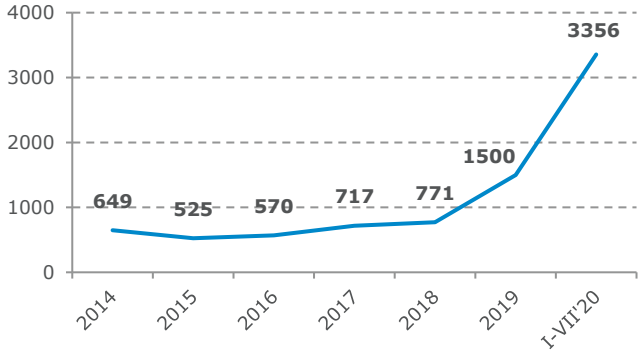


Source: Mo-BRUK, mBank

Incineration dramatically **reduces the volume of waste** that needs to be treated and disposed of. Mo-BRUK uses rotary kilns with pressure, temperature, and air flow control. Any residual hazardous ash and flue gas residue is burned off in post-combustion chambers. A waste heat recovery system generates process steam, and a high-performance flue-gas cleaning system is deployed to **minimize harmful emissions** in accordance with applicable restrictions. The fully automated incineration process is constantly monitored to ensure maximum safety and security. **The final product of incineration is stored in concrete silos and treated** in Mo-BRUK's inorganic treatment plants. Flue gas from kilns is also monitored.

In the last two years, Mo-BRUK's profits from industrial and medical waste disposal have been positively impacted by rising disposal fees. From **PLN 525 per tonne in 2015**, the average rate charged by Mo-BRUK for waste received at its treatment sites (the "**gate fee**") **jumped to PLN 3,356** in the seven months to July 2020. The **increased use of incineration** as a waste disposal option aside from **ballooning municipal landfill charges** is fueled by a race by Polish towns and cities to **clear illegal landfills** from their territories. The cost to clean up an unauthorized dumping site is estimated by Mo-BRUK to approximate PLN 8,000/t – a level which indicates potential for further growth in gate fees.

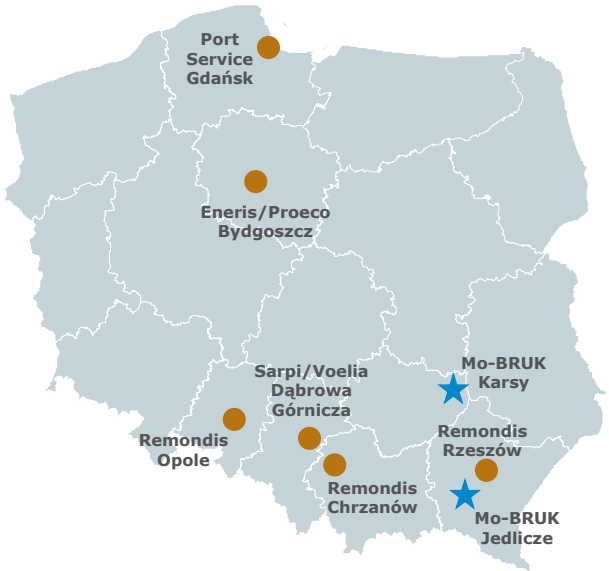
Average annual incinerator gate fees charged by Mo-BRUK (PLN/t)



Source: Mo-BRUK, mBank

Aside from the two Mo-BRUK facilities, **there are only six other industrial waste incineration sites in Poland,** including Remondis sites in Opole, Chrzanów, and Rzeszów and facilities run by Sarpi/Veolia in Dąbrowa Górnicza, Eneris/Proeco in Bydgoszcz, and Port Service in Gdańsk. Capacity-wise, only the **Sarpi/Veolia** facility is capable of **handling waste quantities comparable to Mo-BRUK**, such as those removed from illegal dump sites; the rest are small plants not designed to handle large loads. Between them, **Polish industrial waste incinerators have total capacity to burn approximately 100,000 tonnes of waste per year**, and Mo-BRUK accounts for 35,000t of this capacity. By way of comparison, the annual waste burning capacity of Germany is about 1 million tonnes.

Waste incineration sites in Poland



Source: Mo-BRUK, mBank

The main **barriers** to entering the waste incineration industry include know-how, high initial investment, skilled workforce, relationships with suppliers and buyers (of heat, steam, and electricity), and licensing and authorizations. It is also important to establish good relationships with local communities in areas where landfills and waste disposal facilities are built.

Mo-BRUK has no knowledge at this time of **any new facilities being built** or added in the territory of Poland. This means there is plenty of room on the market to increase waste disposal capacity in place of the existing informal sector. By way of comparison, Poland, with a population of

38 million, has waste incineration capacity of 0.1 million tonnes against Germany's 1 million tonnes for a population of approx. 80 million.

In December 2020, the Polish Ministry of Climate and Environment announced plans to build a waste treatment facility with the view among others to help clear existing landfills by dedicating 20-30% of the incineration capacity to those waste streams. According to the ministry's official, Jacek Ozdoba, such a facility could be ready in 2.5-3 years. Aside from landfill removal, Mr. Ozdoba sees more reasonable pricing as another benefit of having a state-run treatment facility.

Solidification and Stabilization of Inorganic Waste

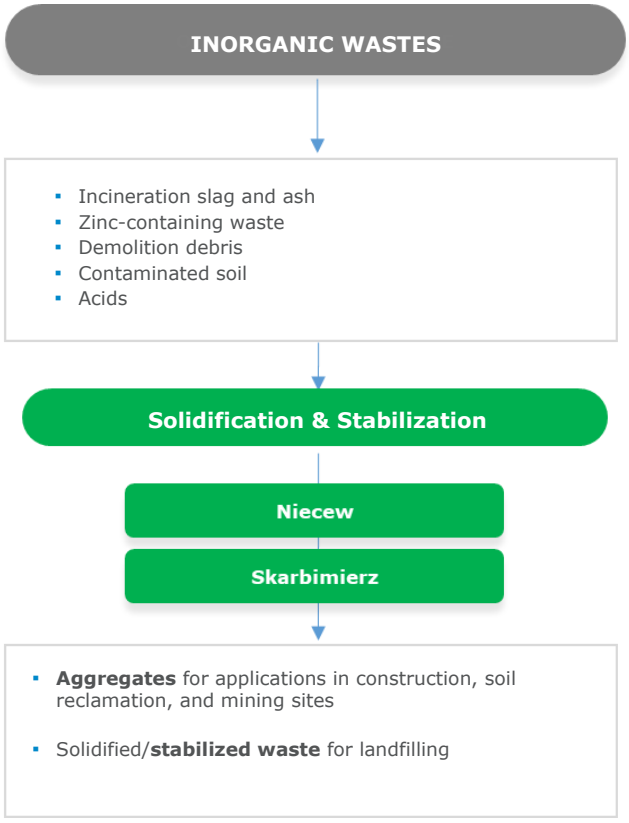
The solidification, stabilization, and conversion of hazardous waste into granulated cement-like aggregate material is the **main driver of revenues** for Mo-BRUK. The Company receives incinerator waste inputs from treatment plants, heat and power generators, foundries, the chemical and manufacturing industries, cement producers, and auto parts factories. The kinds of wastes supplied most often include incinerator ash and slag, metallurgical slag, construction and demolition debris, soils contaminated with petroleum and heavy metals, and acids. The wastes that go into an incinerator go through a cementation process and come out as **carbon-neutral aggregate material** used in road construction, land reclamation, the coal industry, and aggregate trading.

Mo-BRUK operates two cementation plants, one based in **Niecew,** with annual treatment capacity of 100,000 tonnes, and the other in **Skarbimierz**, with current capacity for 70,000t. The Company is in the process of formalizing the expansion of the two facilities to achieve combined target cementation capacity of 280,000t (140kt each) in 2021. Mo-BRUK's patented cementation technology gives the Company a unique position in Central and Eastern Europe to offer the capabilities and expertise needed to convert hazardous wastes into valuable construction material.

In 2019, the waste **solidification and stabilization ("S&S") units** were **were operating at 96.6% of capacity**, i.e. they processed a combined 164.2 thousand tonnes of waste out of total available capacity of 170,000t. Mo-BRUK expects to secure the environmental permits necessary to expand S&S operations in early 2021, paving the way to build capacity up to 280,000 tonnes (if the upgrades happened last year, the average annual capacity utilization rate would have been 59%).

The installed capacity of the Skarbimierz facility is higher than the value authorized under existing environmental permits, which means that Mo-BRUK does not have to invest extra money in order to increase S&S volumes in the future. For the facility in Niecew, the cost to legalize capacity expansions is estimated at PLN 3m.

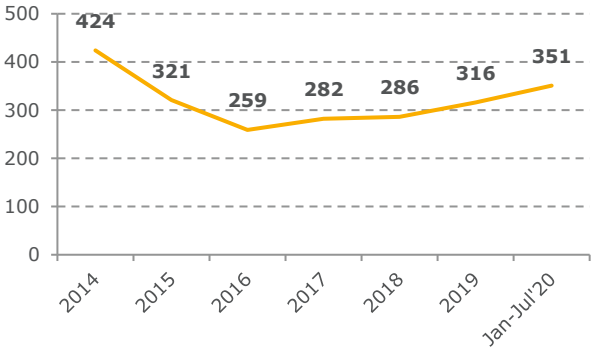
Process Flowchart for the Solidification and Stabilization of Waste



Source: Mo-BRUK, mBank

The waste material received by Mo-BRUK undergoes a **process of cementation** whereby it is stabilized and solidified into a cement-like consistency. The granular material, a synthetic substitute for natural construction aggregate, is sold to commercial buyers or uses to build roads. Summing up, the end product of the S&S process is environmentally-safe, residue-free commercially viable aggregate material with a wide range of applications from road construction and resurfacing to mining. Mo-BRUK's waste-derived aggregate has obtained the Technical Approval of the Polish Road and Bridge Research Institute.

Average annual gate fees charged by Mo-BRUK's S&S plants (PLN/t)



Source: Mo-BRUK, mBank

Similarly to incineration charges, the **gate fees for S&S waste** are seen to be rising from year to year, having already increased from an average of PLN 259/t in 2016 to PLN 351 in the year to July 2020. The primary reason for this are growing official waste streams as the Polish government cracks down on illegal landfills. Mo-BRUK sees

strong long-term growth potential in the domestic S&S market stemming from Poland's plans to grow district energy capacities and build more municipal waste treatment plants.

Mo-BRUK's local **competition** in terms of hazardous waste solidification and stabilization technology consists of **one facility** in Konin.

K+S underground waste disposal facilities in **Germany** could be considered an an option, but with these sites located 400km from the Polish border the **costs** in this case are **higher** due to transport alone, on top of the regular gate-fee rate €150t charged by the German firm. Plus, toxic waste shipments out of Poland require permission from the Climate Ministry that takes between four and six months to obtain, and it requires substantial financial guarantees. Furthermore, in December 2020 K+S agreed to enter into a joint venture with Remex GmbH, a subsidiary of Remondis. The joint venture, called REKS GmbH & Co. KG, is based in Kassel, Germany. It will have **exclusive access** to the waste management facilities of K+S, which manages underground treatment sites in Herfa-Neurode, Hesse, and Zielitz, Saxony-Anhalt, alongside several recycling sites. The transaction is expected to be closed in summer 2021.

Mo-BRUK has **no knowledge of any other S&S facilities being built or expanded** at the moment in Poland. An existing facility in Konin, "Zakład Unieszkodliwiania Odpadów," owned by Grupa Boryszew, has experienced fast-paced earnings expansion over the last few years, with its EBITDA for the nine months to 30 September 2020 reaching the same value as the full-year result for FY2019 at PLN 14m.

Waste stabilization and solidification sites in Poland

Source: Mo-BRUK, mBank

The S&S services offered by Mo-BRUK facilities are critical to the uninterrupted operation of municipal waste treatment plants and district heating plants, which have limited room to store fly ash and other combustion residues.

A type of clientele with an **increasing share in Mo-BRUK's S&S revenue stream** are industrial **companies performing clean-up and reclamation of their land**, e.g. by the removal of contaminated soil and debris. One example is the chemical group Synthos, which has enlisted Mo-BRUK's services to help clean up of mercury-contaminated debris from one of its sites. Soon, another major Polish chemical group, Grupa Azoty, expects to shut down three production facilities, and with an estimated 10-15 thousand tonnes of mercury-contaminated debris and waste per facility. At current prices (PLN 700/t) this would put the disposal costs in the range of PLN 7.0-10.5m.

The main **entry barriers** to the waste S&S market include patent protections, know-how, a need to set up laboratory operations to control each stage of the process, high initial investment, and permits. In order to run a successful S/S business, a market player has to establish relationships with prospects as well as local authorities and communities, and it has to have the ability to accurately assess costs and correctly set pricing.

Refuse-Derived Fuel

Production of alternative fuels, also called refuse-derived fuels (RDF) is Mo-BRUK's third-largest business segment by revenue. The Company receives the **input waste** streams from recycling plants, municipal solid waste collectors, factories, wrecking yards, and WEEE recyclers. The outgoing RDF typically has a calorific value of 15-19 GJ/t, which is less than that of thermal coal (20-30 GJ/t), but by using the right mix of wastes it can be adjusted to achieve calorific values over 20 GJ/t. Refused-derived fuel is a coal substitute and as such its prices are correlated with the prices of coal.

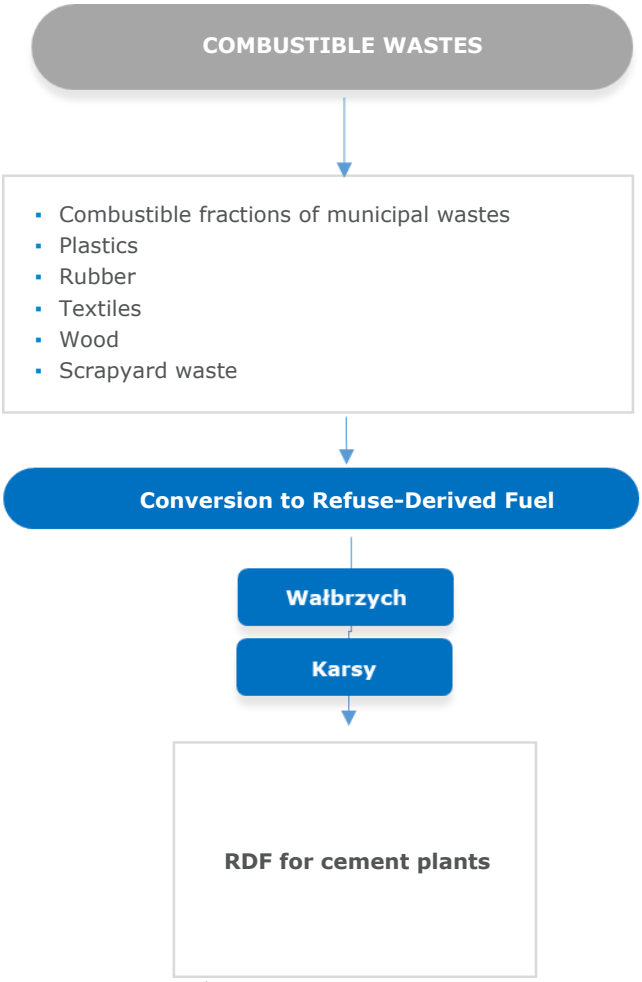
RDF can be custom-formed into small, 30mm fractions (e.g. for use by cement producers) or larger fractions of 12-15 cm (e.g. for sale to power plants). Fine-shred RDF is more expensive to make. The market for RDF consists largely of cement factories, and in the future the customer base could expand to include power and heating plants.

Mo-BRUK produces RDF in two facilities, one based in Wałbrzych, with capacity for 60,000 tonnes a year, and one in Karsy, where 200,000t of RDF can be produced per year.

In 2019, these facilities were **running at an average of only about 30% capacity**, and they put out 77.9kt of RDF out of 260kt installed.

Until recently, Mo-BRUK's waste treatment business also included a recycling plant in Zabrze, which separates metal fractions from other fractions. In 2019 the plant generated annual sales of about PLN 1.5m, and it posted an EBITDA loss of PLN 0.3m. Mo-BRUK sold the Zabrze plant for PLN 12m net in September 2020. The buyer will be making payments until 31 December 2021. The transaction is collateralized by mortgage, temporary title transfers, and personal guarantees.

Flow chart for the RDF process



Source: Mo-BRUK, mBank

In the first stage of turning **waste to fuel,** the wastes are inspected, mixed, and pre-cut. Then, metal materials are removed using a magnet, and glass is removed using mechanical screening. This leaves a wet fuel alternative which is then dried and shredded.

In terms of sales value, the **pricing** for RDF differs depending on biomass content. For example, substitute fuel derived from old rail-ties has a high biomass content, and therefore offers a low-emissions alternative that helps to reduce costs of carbon certificates for Mo-BRUK's customers.

Gate fees for RDF waste have increased significantly over the recent years, rising from PLN 120/t on average in 2014 to PLN 562/t in the year to July 2020. The main reason are hikes in waste disposal fees which are set by the Ministry of the Environment. In 2020, the charge per tonne of separated solid municipal waste was PLN 270 compared to PLN 74 levied in 2017 and today it has risen further to PLN 276.21. As landfills also adjust pricing to the higher government-regulated disposal rates, Mo-BRUK enjoys more space to keep its gate pricing up to speed with the market.

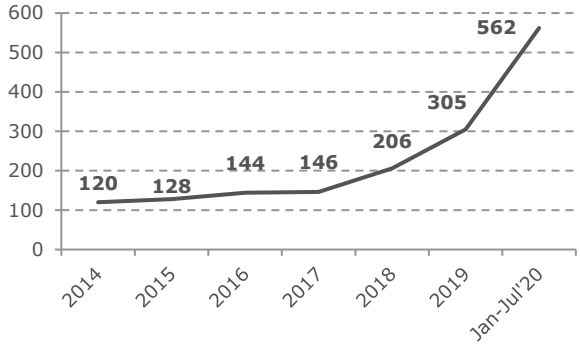
When it comes to the **sales prices** for RDF, however, it is a different story. Whereas, a few years ago, Mo-BRUK was able to bill buyers two-digit-zloty fees per tonne of RDF sold, today, due to stiff competition from much cheaper coal, the Company has to pay cement manufacturers PLN 120/t to take its fuel.

Mo-BRUK is on a quest to find new markets for RDF, including outside of Poland. For example, in September 2020, the Company made its first foray into the Ukrainian market, where there are coal shortages, with a contract to sell 10,000 tonnes of RDF. Subject to the approval of Ukrainian authorities, Mo-BRUK will be paying 1 euro per tonne of the fuel delivered to the Ukrainian buyer, but thanks to lack of transport charges it stands to save as much as PLN 1.1m. The Ukrainian contract also contains an option to increase the quantity of RDF deliveries by 20,000 tonnes, in which case in 2021 Mo-BRUK's savings could go up by PLN 2m.

In its efforts to develop new export markets, Mo-BRUK has also signed a deal to deliver 10,000 tonnes of low-emissions rail-tie RDF to a buyer in Germany (to this end the Company has retooled its RDF facilities in Wałbrzych for rail-tie recycling).

Further, Mo-BRUK wants to diversify its customer base away from cement plants and into the heat and power sector. RDF for CHP applications does not have to be as finely shredded, and it is therefore less expensive to make. As demand for alternative fuels from heat and power plants grows, suppliers will be able to capitalize on this trend by raising prices. Alongside efforts to add new customers, Mo-BRUK also aims to extend reach within the existing customer base; the Company is in a dialogue with one of its RDF buyers to increase deliveries by 40% in 2021.

Average annual RDF waste gate fees charged by Mo-BRUK (PLN/t)



Source: Mo-BRUK, mBank

The future growth of the RDF market is aided by **environmental policies**, specifically regulations that aim to reduce the amount of waste going to landfill. In Poland, where landfilled waste today accounts for about 50% of total, the goal is to recycle 65% by 2035.

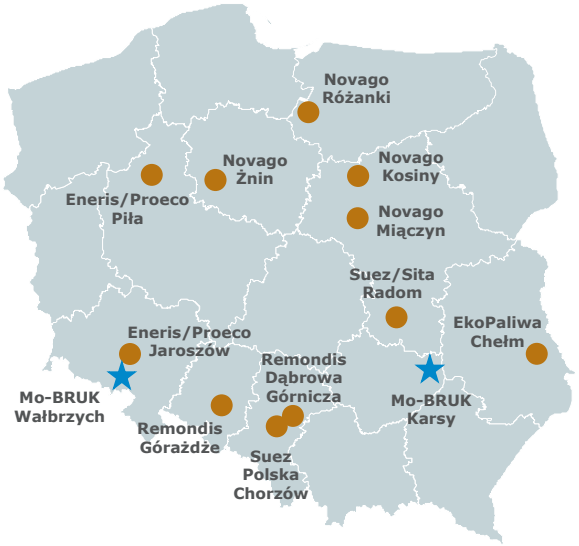
Last but not least, Poland is in the process of modernizing its rail network, and Mo-BRUK hopes to capitalize on this thanks to its rail-tie recycling technology. The Company estimates that about 25% of Poland's wooden rail ties have become worn and have to be replaced, representing a potential waste stream of 1.7 million tonnes. Assuming 50,000 tonnes of the waste ties are recycled per year, this gives 30 years of uninterrupted operation.

As mentioned, in Poland cheap coal creates strong competitive pressure on producers of alternative fuels, including RDF which is offered at negative prices. That is why Mo-BRUK is seeking to expand beyond Poland to maximize its sales potential. The two latest deals to **supply RDF to Ukraine and Germany** have the power to boost sales volumes by 50% and generate additional revenues of PLN 22-23m at current gate prices. Ukraine, with its coal deficit, could become a major prospective market for Mo-BRUK's RDF.

Poland produces approximately **12 million tonnes of solid municipal waste** per year, of which **50-60% are combustible fractions convertible to RDF**. The domestic thermal waste-to-energy capacity is approx. 2.8 million tonnes per year, which leaves a surplus of combustible fractions that represents potential input for RDF.

Mo-BRUK's biggest **competition** in the home market includes Novago, Eneris/Proeco, Suez Sita, EkoPaliwa, Remondis, and Suez Polska.

Refuse derived fuel production sites in Poland



Source: Mo-BRUK, mBank

Major **barriers to entry into RDF** production include having to secure a steady supply of the right kinds of waste, quality assurance, know-how, trained staff, high initial investment, and permits. A successful RDF producer will set up locations close to prospective buyers, and establish good relationships with customers and partners.

Other Operations

Mo-BRUK lists recovery of coal from waste coal slurry, road construction and concrete surfacing, and liquid fuel filling stations, under "**Other Operations**," which represent its third business segment. Other Operations generate the least profit for the Company, which is in the process of phasing out the road business and has put up for sale the fuel stations.

History of Mo-BRUK

Mo-BRUK's CEO and founder, Józef Mokrzycki, started the business in 1985 as a terazzo tile factory targeting mostly individuals. From **1996** the Company's primary focus is on the management, treatment, and recycling of waste. In **1997** Mo-BRUK opened the Niecew treatment plant. In **2002** Mo-BRUK bought an industrial landfill in Wałbrzych, where in **2004** it launched the recycling plant. In **2007,** Mo-BRUK completed he RDF plant in Karsy. In **2008,** Mo-BRUK acquired the Raf-Ekologia incinerator in Jedlicze. In **2011** the Company launched an in-house R&D lab, and in 2013 it opened the coal recovery facility in Wałbrzych. In **2014** Mo-BRUK completed the expansion of the Karsy RDF plant with the addition of a toxic w2aste incinerator, and in the same year it launched the Zabrze metal recycling plant and the inorganic waste treatment plant in Skarbimierz.
Mo-BRUK was able to finance the ambitious **investment push of 2008-2014** from internal cash resources combined with debt financing and EU grants (funding under EU programs typically covers 50-60% of eligible expenses). Money for subsequent investment, mostly research and development to create new technology, came from cash on hand and EU funding.

Organizational Structure

The Mo-BRUK Group of Companies consists of the parent company, Mo-BRUK S.A., and its wholly-owned subsidiary Raf-Ekologia Sp. z o.o.

When it comes to production assets, these can be summarized as follows:

- **Zakład Odzysku Odpadów**, a waste solidification and stabilization facility with 100,000t annual capacity, established 1997 in Niecew,
- **Zakład Odzysku Odpadów Nieorganicznych,** a waste solidification and stabilization facility with 140,000t annual capacity in Skarbimierz, which underwent upgrades in 2014,
- **Zakład Recyklingu Odpadów,** a refuse-derived fuel facility with annual processing capacity of 60,000t in Wałbrzych, modernized in 2013,
- **Zakład Produkcji Paliw Alternatywnych** in Karsy**,** consisting of an RDF plant with annual capacity of 200,000 t, modernized in 2013-14, and an industrial waste incineration plant with 25,000t capacity completed in 2014,
- **Raf-Ekologia**, a medical and toxic waste incineration plant est. 1997 in Jedlicze, and acquired in 2008, with annual capacity of 10,000t,
- **Zakład Budowy Nawierzchni Betonowych**, a surface concrete plant in Niecew
- **Składowisko Odpadów Przemysłowych,** an industrial waste landfill in Wałbrzych closed on 20 March 2019, and
- **Zakład Odzysku Mułów Węglowych**, a coal slurry recovery plant in Wałbrzych.

Mo-BRUK also operates a chain of fuel stations and a car diagnostic shop in Łęka near Korzenna.

Location of Mo-BRUK facilities relative to the A4 motorway

Source: Mo-BRUK, mBank

All Mo-BRUK plants are located in southern Poland, in regions estimated to produce the largest quantities of waste and contain the most illegal landfills. The south of Poland is also rife in prospective buyers of coal fuel substitutes. Last but not least, the close proximity of all locations to the A4 motorway is a source of major advantage when it comes to transportation.

Customers and Suppliers

Mo-BRUK is not dependent on any one customer. In the year to November 2020, the **biggest buyer**, Remondis, accounted for 9.5% of total sales, followed by the Warsaw water and wastewater utility MPWiK with 5.7%, and other customers accounting for no more than 2-4% of revenues each. Over recent years, the proportion of the top 10 largest buyers as a percentage of sales increased slightly from 35% in 2017 to 40% in 2020. It is worth noting that some of the top customers, like Remondis and Sarpi, are also Mo-BRUK's biggest competition. In 2018 and 2019 Mo-BRUK performed demolition site clear-up services for the chemicals company Synthos which in those years ended up being the biggest buyer.

Largest customers of Mo-BRUK in the year to November 2020

Name	Services	Pct. share in sales
Remondis	waste management	9.5%
Warsaw Water Utility	waste management	5.7%
Warsaw Waste Removal Service	waste management	3.8%
PreZero Service Południe	waste management	3.2%
Public Utility Holding Company of Krakow	waste management	3.2%
Utylimed	waste management	3.1%
AMINEX	waste management	2.9%
PKP LHS	waste management	2.9%
Municipality of Chybie	waste management	2.9%
Orlen Eko	construction	2.6%

Source: Mo-BRUK, mBank

Mo-BRUK's vendors and **suppliers** are mostly small providers of transport services, energy, and repair and maintenance services. Between 2017 and 2020, the proportion of the largest suppliers as a ratio of revenues decreased from over 30% to 16%. The biggest supplier, the oil refiner PKN Orlen, supplies fuels to Mo-BRUK's filling stations – a business which the Company will most likely spin off and sell at some point in the near future.

Largest suppliers of Mo-BRUK in the year to November 2020

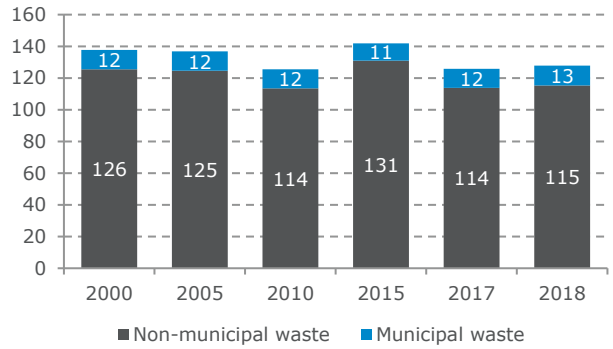
Name	Services	Pct. share in sales
Orlen Paliwa	fuel supply	16.0%
Cement Ożarów	waste management	7.3%
Mostostal Zabrze GPBP	contracts	3.4%
Tauron Sprzedaż	electricity	3.0%
Cometto Ciszewski	transport	2.7%
PPHUT Grzegorz Kwiecień	transport	2.5%
ZW Trans Zygmunt Baran	transport	2.4%
Firma Haller	equipment	2.3%
UTHO Janusz Dąbkowski	transport	2.2%
PPHU Ryszard Mężyk	materials	2.1%

Source: Mo-BRUK, mBank

Market Outlook

Mo-BRUK is poised to capitalize on shifts that are occurring in the market for waste disposal. In Poland, it is estimated that **128 million tonnes of waste** were produced in 2018, of which the majority was **industrial waste** (approximately 2 million tonnes) and **mining wastes** (110+ million tonnes) such as rocks, flotation tailings, soils, etc. When it comes to hazardous waste, for the most part it is either deposited in landfills or incinerated depending on chemical composition, with only small quantities being converted to energy. **Mo-BRUK's specialty is the treatment and disposal of industrial waste.**

Polish waste generation statistics, 2000-2018 (million tonnes)



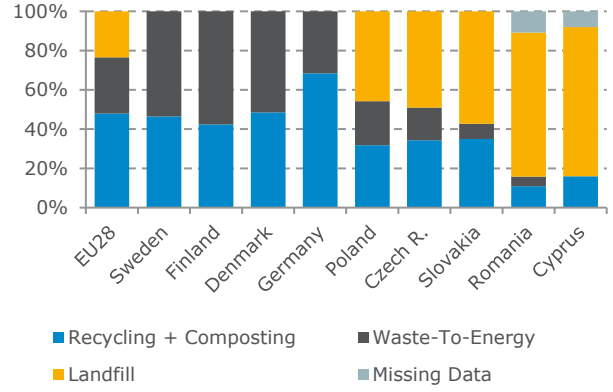
Source: GUS, mBank

Poland's Circularity Gap

As an EU member, Poland is **required to reduce the amount of waste sent to landfills**, and strive towards a circular economy which aims to maximize the conversion of waste into raw materials through recycling and other forms of recovery.

Under the EU's Circular Economy Package, **member states will have to recycle 55% of their municipal waste by 2025, rising to 60% in 2030 and 65% in 2035**. **In Poland** today **50% of waste is sent to landfills** compared to countries like Sweden, Finland, Denmark, and Germany, where landfilling has been virtually eliminated.

Municipal waste treatment methods in selected European countries, 2018 data



Source: mBank, Confederation of European Waste-to-Energy Plants

In addition, Member States should ensure that from 2030 onwards, no recyclable or otherwise recoverable waste, especially municipal waste, is accepted for landfilling.

Since **the amount of waste produced per capita is directly proportional to the wealth of the society**, Poles becoming richer will probably translate into an increase in the generated waste stream.

Economic development in Poland results in **changes in the citizens' mentality** in terms of environmental protection. This translates into an increase in the number of people separating waste, which in turn contributes to greater importance of the recycling industry and social perception of companies from the recycling industry. New technological solutions allow for more and more waste to be utilized in an environmentally-friendly manner. Households and industrial manufacturers are under increasing pressure to pay high charges for the waste they produce to help further a policy aimed at minimizing waste.

New Municipal Waste Incineration Plants — a Chance For The Solidification And Stabilization Segment

In Poland, there are currently nine **modern municipal waste incineration plants** with a total capacity of **1.35 million tonnes** per year, which is sufficient for the **disposal of only 10%** of the country's **municipal waste** output. Therefore, **there are plans to build** more incineration plants (**7 facilities**), e.g. in Gdańsk (160kt), Olsztyn (a three-year construction plan), Warsaw (expansion up to 305kt), Rzeszów, Oświęcim, Zamość and Radom, with total capacity of approx. **0.85 million tonnes** per year.

Each incineration plant generates approx. 7% of filter dust and 25% of slag compared to the input. **The current market potential** is **95 thousand tonnes of filter dust** (to be increased to 154kt in several years) and **338 thousand tonnes of slag** (to be increased to 550kt). It is worth mentioning that the waste solidification and stabilization capacity at Mo-BRUK will amount to 240 thousand tonnes per year after obtaining the additional permits. Moreover, there is only one competitor in Poland, operating in Konin. **The residues from the municipal waste incineration process are toxic** and must be controlled and disposed of safely.

The municipal waste incineration segment is also interesting from the point of view of chemical plants — for example, the Ciech Group, which is planning to build a municipal waste incineration plant together with Remondis, with capacity of 600 thousand tonnes per year. Remondis will be burning waste and the process will be generating energy and steam used by Ciech soda plants. The chemical group will abandon the existing coal-fired boilers and, as a result, CO_2 emissions into the atmosphere will decrease by 500 thousand tonnes per year. The incineration plant could be commissioned in 2026.

Operating and planned municipal waste incineration plants in Poland

Source: Mo-BRUK, mBank

Environmental Time-Bombs Powering Turnover In the Incineration Segment

The **waste industry** is an area of the economy that is **extremely vulnerable to malpractice** — the share of the grey market in waste has increased from PLN 2 billion in 2013 to PLN 2.7 billion according to current estimates (the Jagielloński Institute reckons that the market size is PLN 15.34 billion, including PLN 7.5 billion attributable to industrial waste alone). Mo-BRUK calculates based on information gathered from media reports that it could **cost Poland more than PLN 15 billion over at least two decades to clear just the illegal dumping sites** that have been identified to date.

According to figures reported by the Chief Inspectorate of Environmental Protection (GIOŚ), in November 2020 Poland had identified **768 illegal landfills**, of which 231 were proven to contain hazardous waste, 133 were holding mixed hazardous and other wastes, and 404 did not contain hazardous wastes. GIOŚ estimates the total volume of refuse stored on these sites at 3.86 million tonnes including 800,000t hazardous and 777,000t mixed wastes.

Government measures aimed at removing the so-called "environmental time-bombs" create an opportunity for Mo-BRUK to acquire new contracts over many years to come. In 2019, Poland's National Fund for Environmental Protection and Water Management adopted a **program to assist local governments in the removal and management of illegal waste dumping sites**.

The **PLN 400m** program offers a total of PLN 200m in non-refundable financing (of which PLN 100m allocated to the urgent removal of hazardous and toxic wastes) on top of PLN 200m refundable loans. It is scheduled to run until 2026, with the years to 2023 dedicated to making contracts with local authorities. Resources from the PLN 100m high-priority hazardous waste removal scheme will be distributed until the end of 2021 to facilitate completion of the toxic landfill cleanup by mid-November of next year.

Number of "environmental time-bombs" identified in Poland's provinces

Source: Mo-BRUK, mBank

One of the **municipalities that have applied for priority toxic waste cleanup funding** is Gorlice, where a call for proposals was made in September 2020 to remove an estimated 5,000 tonnes of illegally dumped hazardous waste – one of the biggest municipal cleanup jobs in history with a budget exceeding PLN 50m (Gorlice is seeking to have about 80% of the costs refunded). Only two bidders were eligible to make offers on the contract, among them Mo-BRUK, offering PLN 48.9m jointly with SARPI Dąbrowa Górnicza. The other offer by PPHU ABBA EKOMED was much higher at PLN 74.6m. With price being the only criterion, in October 2020 the Mo-BRUK consortium was selected to perform the assignment, and it signed the contract at the end of the month. Mo-BRUK has agreed to clear out the 5,000t of waste by mid-November 2021 and burn it by the end of July 2022.

As things stand, it seems that Polish municipalities should be afforded access to **additional funding** in their efforts to address illegal landfills. For example, the municipality of Zielona Góra in October 2020 issued its fourth call since 2018 to clear up a hazardous waste storage site after having to cancel the previous three due to no or over-budget bids. The first time Zielona Góra made a call to remove the 5,750 tonnes of hazardous waste was in August 2018. Offering a budget of PLN 10m, the city received a single quote (from a consortium involving Mo-BRUK) in the amount of PLN 18.2m. Zielona Góra reissued a PLN 10m tender in December 2018, by which time the price quoted by a consortium of basically the same firms went up to PLN 19.9m. The third attempt in May 2019 failed due to a complete lack of bids. The last tender is for the removal of 4,180 tonnes of waste with the same PLN 10m budget. Zielona Góra has received two offers so far, one from a consortium proposing to do the job for PLN 29.5m, and the other from Mo-BRUK, offering PLN 44.2m. The tender will most likely be canceled again given how much the bids are over budget, leaving Zielona Góra to rethink and adjust its price expectations to market reality.

Recycling Railway Sleepers Presents An Opportunity for RDF Production

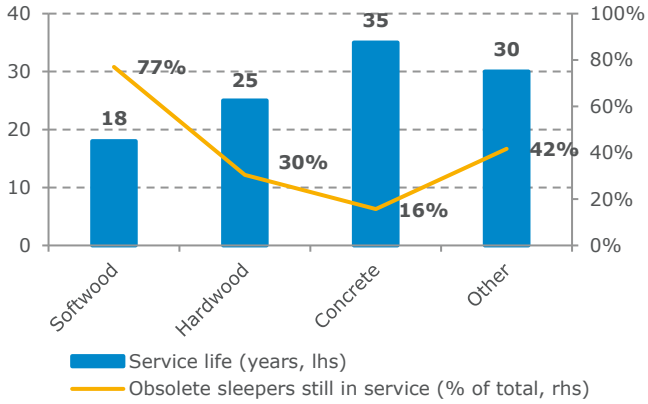
The main railway investment program in Poland until 2023 assumes investments amounting to PLN 75.8 billion. **At the end of 2017, ¼ of existing railway sleepers** in Poland (21 million pcs) **were already past their useful life**. Assuming that sleepers weigh approx. 80 kg each, there are potentially **over 1.7 million tonnes of sleepers available for disposal**. Assuming that 50 thousand tonnes of them are processed annually in Poland, the industry has prospects for operations using these resources for the next 30 years.

14.4 million tonnes of the "obsolete" sleepers are made of hardwood, which constitutes the perfect input for alternative fuel (also due to the fact that RDF produced from it has a large biomass content, which entails a lower balance of CO_2 emissions).

Obsolete **railway sleepers are considered hazardous waste** and must be disposed of safely. The treatment plant **gate fees** for railway sleepers currently exceed **PLN 800/t** compared to average RDF plant gate fees in the January–July 2020 period of PLN 562/t.

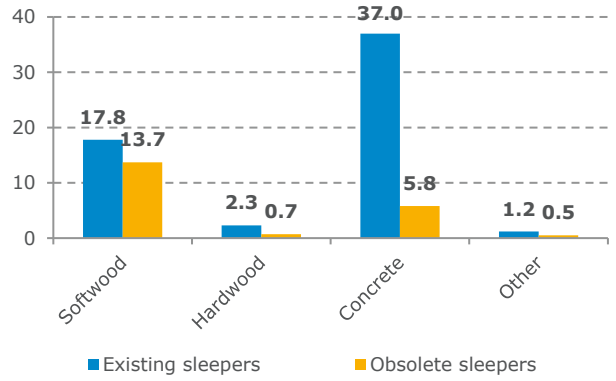
Mo-BRUK has adapted its alternative fuel production facilities in Wałbrzych (60 thousand tonnes per year) to the processing of railway sleepers.

Age structure of railway sleepers used in Poland at the end of 2017



Source: *Railway Reports*, a periodical publication of the Polish Railway Research Institute, Issue 181 of December 2018 [*Environmentally friendly recycling of railway sleepers*], mBank

Number of used and "obsolete" railway sleepers in Poland (millions of units)



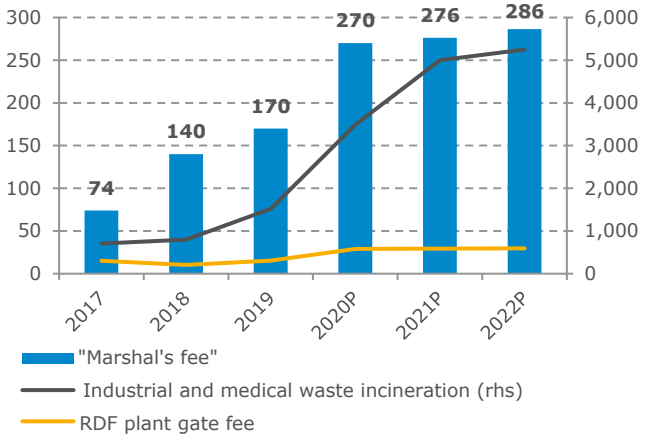
Source: *Railway Reports*, a periodical publication of the Polish Railway Research Institute, Issue 181 of December 2018 *[Environmentally friendly recycling of railway sleepers],* mBank

Favorable Legislation

The basic legislative act governing waste management in Poland is **the Waste Act**. One of its key objectives is to reduce the mass of biodegradable municipal waste sent to landfills to an appropriate level and to increase the level of recycling and recovery of selectively collected waste.

Specific regulations are also included in the **Environmental Protection Law,** which stipulates environmental fees and imposes the so-called marshal's fee, which landfills are obliged to pay per each tonne of waste accepted by the landfill. Current drafts of further regulations provide for a systematic increase of this fee in the coming years. According to the Management Board of Mo-BRUK, legislative works are currently underway to ensure that in the future **the landfilling fee increases at the same pace as the inflation rate**.

Landfilling "Marshal's fees" and Mo-BRUK gate fees for waste incineration and RDF production (PLN/t)



Source: Mo-BRUK, mBank forecasts

Additional regulations are also introduced by the **Water Law.** This act regulates water management in accordance with the principle of sustainable development, in particular the development and protection of water resources, water use and water resource management. In addition, the **Minister of the Environment issues regulations** specifying a surveillance system for controlling the place of waste storage or landfilling, fire safety requirements to be met by building facilities or parts thereof, as well as other places intended for the collection, storage or processing of waste, or the level of injunctive relief rates.

The applicable legal regulations in Poland, as well as those planned for implementation, impose an **obligation** on local governments **to limit the landfilling of municipal waste**. This means that a significant increase in demand for recycling services should take place in the next few years, which creates a market opportunity for Mo-BRUK to strengthen its competitive position. In addition, EU institutions are shaping a policy based on the concept of Circular Economy. The concepts of recycling and recovery in Circular Economy form the basis for achieving the "Zero waste in 2050 for Europe" objective in the EU.

Legal Barriers to Entry

The primary component of the investment process in Mo-BRUK's area of activity are land **development permits** which have to be obtained in the absence of local zoning plans. It takes between two and, more realistically, six months to obtain a development permit.

Another milestone in the waste treatment plant construction process are **environmental permits**. The environmental permit sets out the conditions for the planned investment, including waste limits. The procedure aimed at obtaining the environmental permit is carried out with the involvement of the society and environmental organizations — as a result, this stage often takes a long time due to protests. Moreover, opinion-issuing authorities take part in the procedure, i.e. the regional director of environmental protection, the state district sanitary inspector, the province marshal, director of the regional water management board of Polish Waters, which also affects the procedure's duration and degree of difficulty. The minimum time required to obtain it is 6 months, in practice – 18 months (this time may be extended in the case of protests).

Another required deed is the **building permit**. At this stage, it is necessary to carry out yet another environmental impact assessment. The minimum required time is 6 months, in practice – 12 months (this time may be extended in connection with reassessment of the environmental impact of the project).

If the investment in development and equipment is completed, an **occupancy permit** is required, which may take 2 months to obtain. The final element is the **integrated permit or sectoral permit.** The integrated permit is required, inter alia, for installations processing more than 10 tonnes of hazardous waste per day. It is a conglomeration of sectoral decisions such as the waste processing, collection and production permit, emissions permit or Water Law permit for water intake. It specifies the quantities and types of waste covered by the scope of the plant's activity, the quantity and manner of storage of waste, the waste processing technology, the quantity and type of substances used in the technological process or emission limits and emission measurement conditions. The integrated permit may be issued for an existing facility, so there is no possibility to carry out the construction process simultaneously with the procedure for issuance of an integrated permit. The time required to obtain an integrated permit is at least 6 months, in practice – 18 months.

Due to the long process of collecting permits, **an investment in a waste treatment facility can take 3–4 years to complete after a decision has been made to commence it**. This process may be extended as a result of protests by the residents of neighboring areas or by delays in the supply of appropriate technology.

It is also worth noting that the technology of Mo-BRUK plants is protected by **patents** set to expire over a 20-year period from 2016 (specifically in 2031, 2032, 2036, and 2037).

Earnings Outlook

Our financial outlook for Mo-BRUK assumes that, while the sales volume in the **Industrial and Medical Waste Incineration Segment** in the first half of 2020 fell by 44% y/y, the observed economic recovery in the second half of 2020 will translate into a 12% recovery y/y. In 2021 we expect the segmental sales volume to grow to 22,000 tonnes.

After a planned expansion of the Karsy facility, from mid-2022 the annual incineration capacity there will increase by 12,000 tonnes. Since the upgrades will require a three-month shutdown, we assume conservatively a decline in annual incineration volumes to 20,000t in 2022, followed by a rebound to 25,000t in 2023.

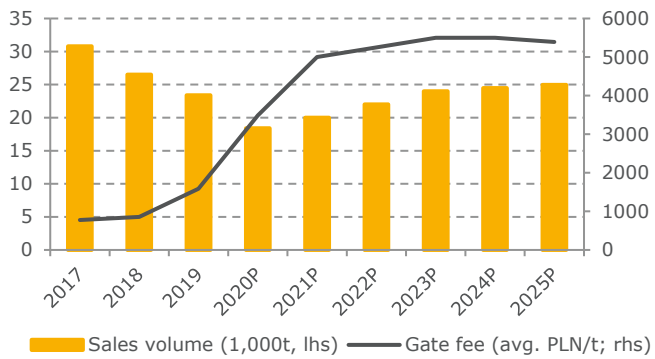
Thanks to the push to eliminate illegal dumping sites, from only about 10% in H1 2020, Mo-BRUK expects to increase the share of waste brought in from unauthorized landfills in total incinerator volumes to 50% in 2021 under contracts secured to date, with the price per tonne of burned waste predicted to go up from the current PLN 8,000.

For example, the Company has agreed to burn more than 2,000 tonnes of illegally dumped garbage for the Zgierz municipality by the end of 2020 at a price PLN 7,800/t, and in the Gorlice municipality Mo-BRUK has agreed to clear up 5,000t of waste for PLN 9,050/t by mid-November 2021, and dispose of the waste by the end of July 2022.

In the city of Mysłowice, a competitive dialog procedure has been launched to clear one of the biggest landfills in Poland, estimated to hold about 8,000 tonnes of waste, mainly liquid chemicals such as waste paint solvent. Mysłowice officials estimate that the cost of the clear-up could run as high as PLN 80-90m given the volume, and with only PLN 44m granted by the National Fund for Environmental Protection and Water Management the city has to come up with additional funding sources.

In the years following 2024, we are anticipating normalization of market conditions (perhaps through the emergence of new entities) in terms of prices for acceptance of waste for incineration.

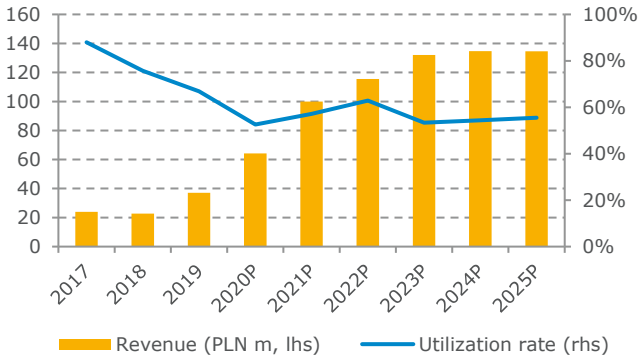
Sales volumes and gate fees in the Industrial and Medical Waste Incineration Segment of Mo-BRUK



Source: Mo-BRUK, P – mBank projection

On higher volumes, we expect continued growth in the revenues of the Incineration Segment in 2021 and 2023, driven by the increased capacity of the Karsy facility. We assume that Mo-BRUK will continue its current policy of accepting more calorific but also more profitable waste for incineration, as a result of which the use of nominal capacity will remain at the level of approx. 60% over the next few years. It is possible that the Company will carry out a successful acquisition in the incineration segment in 2021, thanks to which the sales volume would rapidly increase (however, we are not assuming this in the forecasts).

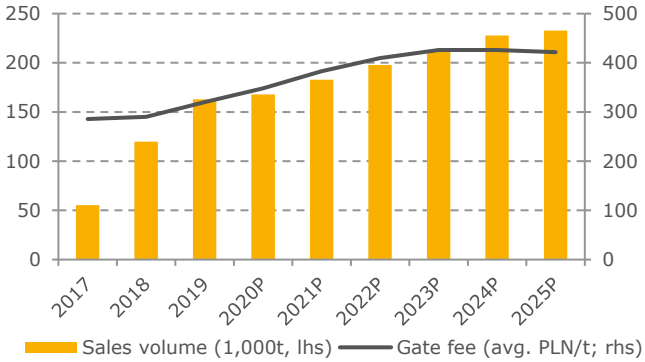
Sales revenues (lhs) and capacity utilization (rhs) in the Industrial and Medical Waste Incineration segment



Source: Mo-BRUK, P – mBank projection
Utilization rate calculated for capacity expected to be available per year

We assume that, in the **Inorganic Waste Solidification and Stabilization Segment,** Mo-BRUK will slightly improve the y/y sales volume in 2020 due to the currently high capacity utilization in the segment. In our opinion, granting of environmental permits in Niecew and Skarbimierz will translate into an increase in sales volumes in 2021 and subsequent years in connection with numerous planned acceptances of newly built municipal waste incineration plants. We assume that the increase in waste acceptance prices will take place between 2020 and 2022, at a rate of 7–10% annually, and that the prices will become normalized later on (due to likely emergence of new players). We assume that Mo-BRUK could increase its capacity in northern Poland, where new incineration plants are being built and there are no entities recycling the residues from the incineration process (however, our forecasts do not assume any acquisitions).

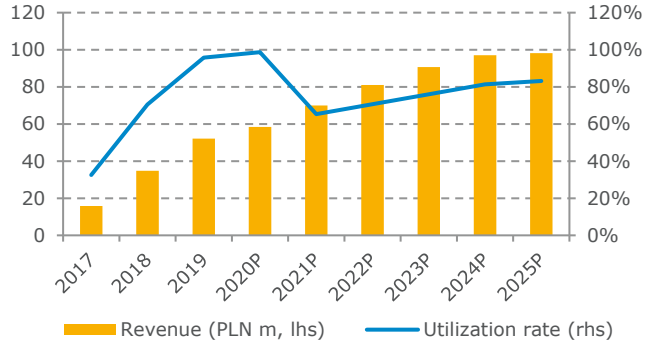
Sales volume (lhs) in the Inorganic Waste Solidification and Stabilization Segment and average prices (rhs) for waste acceptance



Source: Mo-BRUK, P – mBank projection

In the segment of Inorganic Waste Solidification and Stabilization, we assume practically the fastest rate of utilization of the spare capacity as a result of high demand for this type of services and virtual absence of competition in Poland. Thanks to its strong prospects the segment will probably be the least affected by the price normalization anticipated after 2024.

Sales revenues (lhs) and capacity utilization (rhs) in The Inorganic Waste Solidification And Stabilization Segment

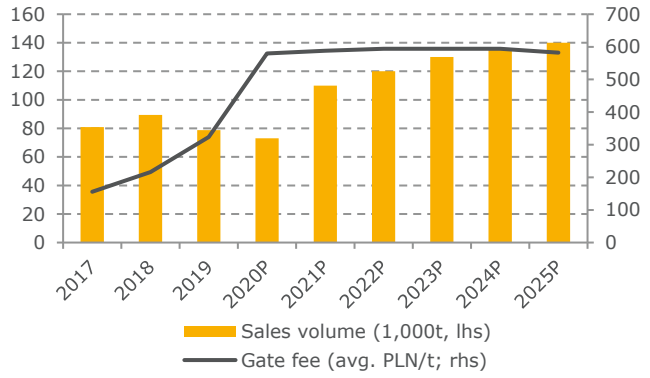


Source: Mo-BRUK, P – mBank projection
Utilization rate calculated for capacity expected to be available per year

In the **RDF segment**, we assume that following the poor sales volumes in the first half of 2020 (-44% y/y), the second half of 2020 will see a recovery of sales (+32% y/y in the second half of 2020) due to the anticipated increase in RDF sales to Germany and in Ukraine. Although demand for RDF is the biggest barrier for the development of the segment, acquisition of new customers from Ukraine and Germany by the Management Board of Mo-BRUK should translate into increased capacity utilization and sales in the future. Within the segment, we assume savings due to lower surcharge fees for RDF sales to customers and increased interest in low-CO_2 emission RDF from railway sleepers. In the following years, the demand for RDF should be positively affected by the increased interest of small PEC thermal power plants due to their modernization plans.

Mo-BRUK estimates that, with orders from Ukraine and Germany, the volume of waste received in 2021 will reach 110,000t, and grow to 140,000t by 2025.

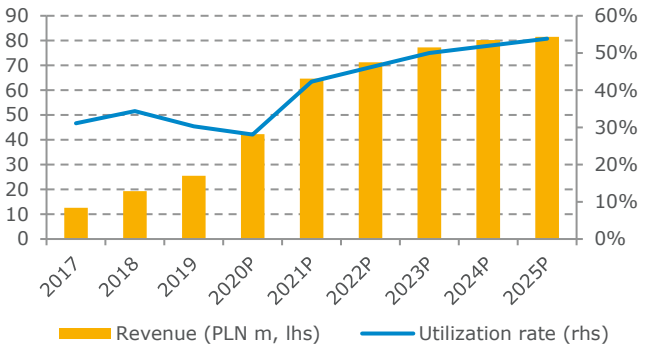
Sales volume (lhs) in the alternative fuel production segment and average prices (rhs) for waste acceptance



Source: Mo-BRUK, mBank forecasts

As part of the alternative fuel production segment, we assume a significant increase in sales in 2021 (+25% y/y) and a high single-digit y/y increase in subsequent years.

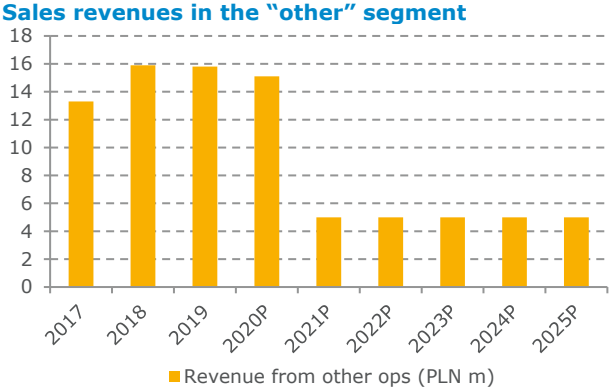
Sales revenues (lhs) and capacity utilization (rhs) in the RDF segment



Source: Mo-BRUK, P – mBank projection
Utilization rate calculated for capacity expected to be available per year

Within the "other" segment, we assume gradual elimination of low-margin activity. Our forecasts assume a divestment of the petrol station and diagnostics station in 2021.

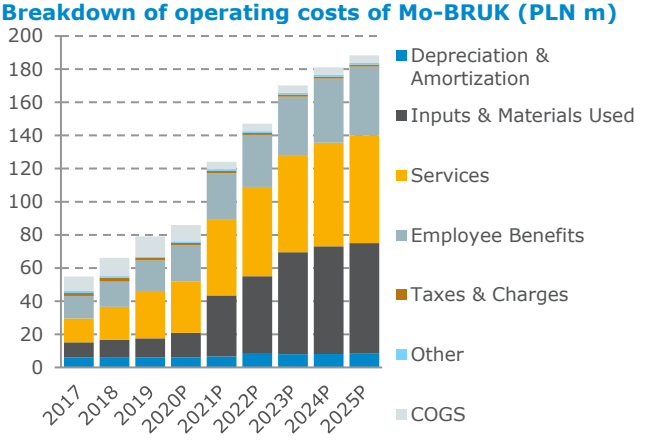
Sales revenues in the "other" segment



Source: Mo-BRUK, mBank forecasts

According to our forecasts, in the following years, the **costs of third-party services, employee benefits and consumption of raw materials and materials will remain dominant** for Mo-BRUK.

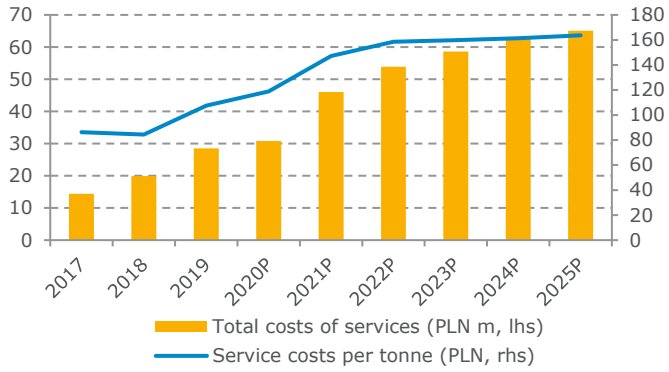
Breakdown of operating costs of Mo-BRUK (PLN m)



Source: Mo-BRUK, P – mBank projection

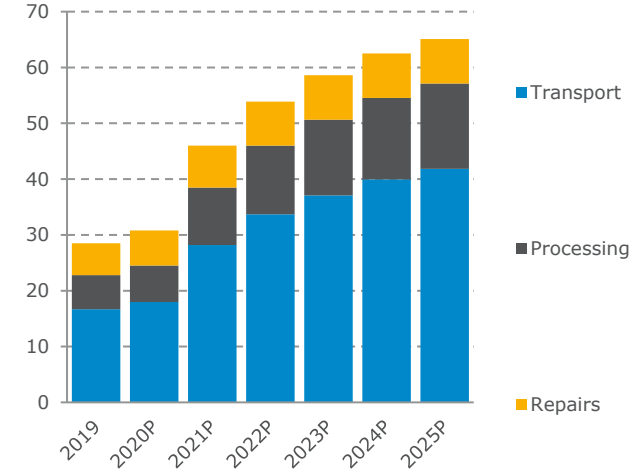
We assume that the **costs of third-party services** per tonne of accepted waste will increase in 2020, after which they will retain a slight upward trend in the following years due to the cost-driven inflation. In 2020, this cost category is inflated due to one-off costs of advisory services during the SPO process. Transport services and the costs of external processing are the primary drivers of the increase in costs.

Costs of third-party services (lhs) and their value per tonne of waste processed (rhs) by Mo-BRUK



Source: Mo-BRUK, P – mBank projection

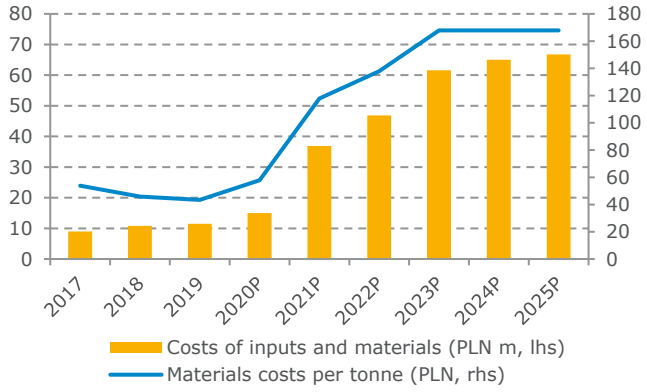
Cost components of third-party services at Mo-BRUK (PLN m)



Source: Mo-BRUK, P – mBank projection

In terms of **costs of raw materials and materials**, we expect that, after a significant increase in 2020, the costs per tonne will continue to rise through 2023, and after that shift downwards with the normalization of gate fees.

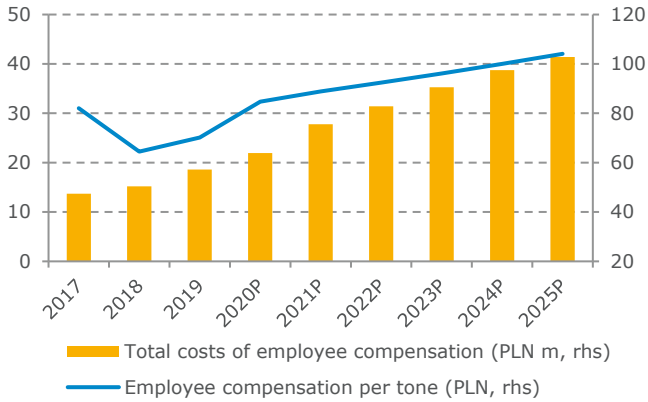
Costs of inputs and materials and their value per tonne of waste processed by Mo-BRUK



Source: Mo-BRUK, P – mBank projection

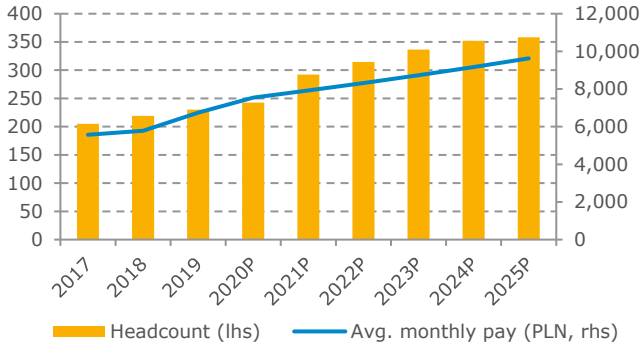
The cost category that we believe will record an increase per tonne of waste accepted will be **personnel costs**. According to our estimates, cost per employee increased by 17% y/y in 2019 and by 12% y/y in 2020. In the following years, we assume an increase in employment costs of 5% y/y due to lower salaries in the ABC Group compared to other industrial companies.

Costs of labor and their value per tonne of waste processed by Mo-BRUK



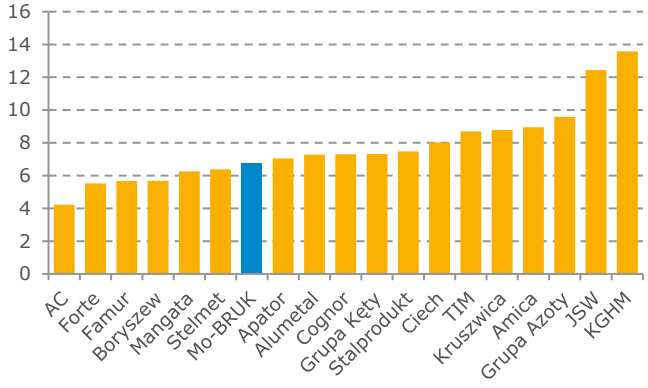
Source: Mo-BRUK, P – mBank projection

Employee headcount and average monthly pay at Mo-BRUK



Source: Mo-BRUK, P – mBank projection

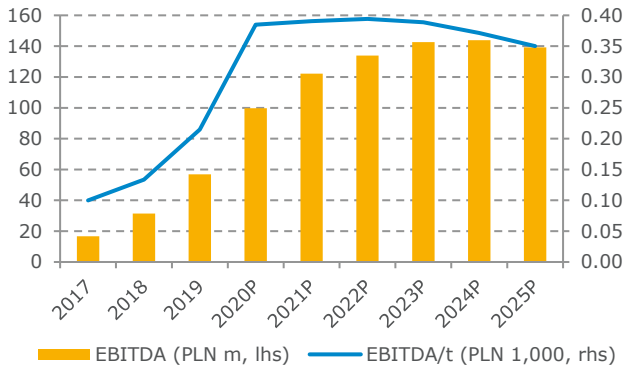
Average monthly cost per employee incurred by industrial companies Poland in 2019 (PLN 1,000)



Source: Mo-BRUK, mBank

As a result of an increase in sales volume and rising average prices for waste acceptance, we assume that **EBITDA and EBITDA per tonne will continue to grow until 2024**. After 2025, gate fees in the Polish market will most likely normalize with the emergence of more capacity developed by new players, and after potential changes in waste management regulations. Moreover, it is hard to make predictions at this point about the future financial capacity of local governments to continue tracking down and cleaning up illegal landfills, or about the funding policies of future governments. As a result of stabilization of market prices for waste acceptance, we assume a decrease in Mo-BRUK's EBITDA per tonne and long-term EBITDA margin stabilization at 36%.

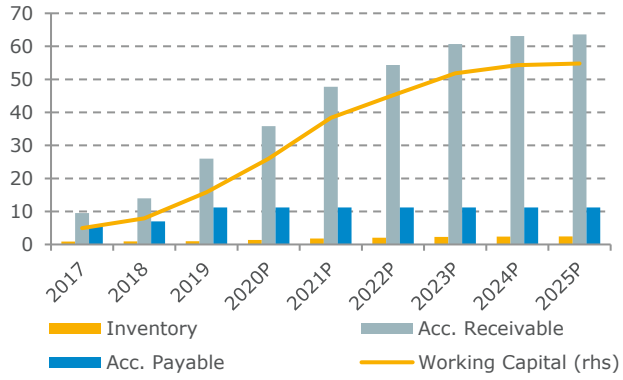
Historical results and 2020-2025 EBITDA projection for Mo-BRUK



Source: Mo-BRUK, P – mBank projection

The waste treatment activity carried out by Mo-BRUK **does not require a significant increase in the financing of working capital in the event of business scale expansion**. The Company gets paid on the spot or within a short time from receiving waste at its gates. As a result, Mo-BRUK retains the ability to pay dividend to its shareholders in the case of an increase in sales volumes. It is worth noting that other companies dealing with waste trading, such as Cognor, Drop, or Elemental Holding, pay immediately for the accepted waste, and after processing — they receive a fee from the customer after 60–90 days.

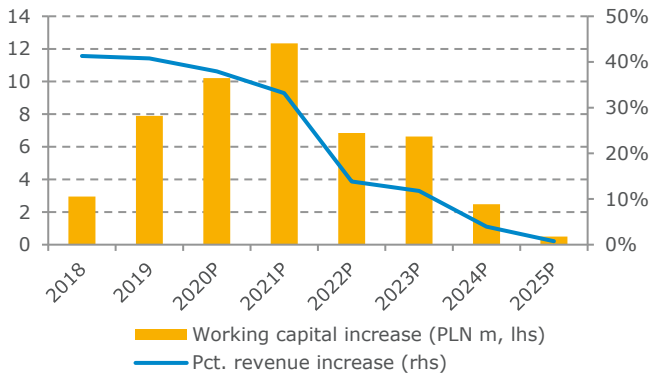
Inventories, trade receivables and liabilities (lhs) and working capital (rhs) of Mo-BRUK (PLN million)



Source: Mo-BRUK, P – mBank projection

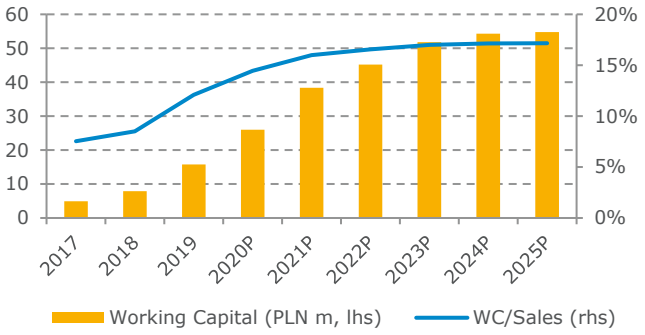
In the case of Mo-BRUK, an increase in revenues by 40% in 2019 translated into an increase in the exposure to working capital only in the amount of less than PLN 8 million. In 2017–2019, the value of exposure to working capital in the Mo-BRUK Group did not exceed 15% of the turnover.

Increase in working capital (lhs) in relation to sales growth dynamics (rhs) at Mo-BRUK



Source: Mo-BRUK, P – mBank projection

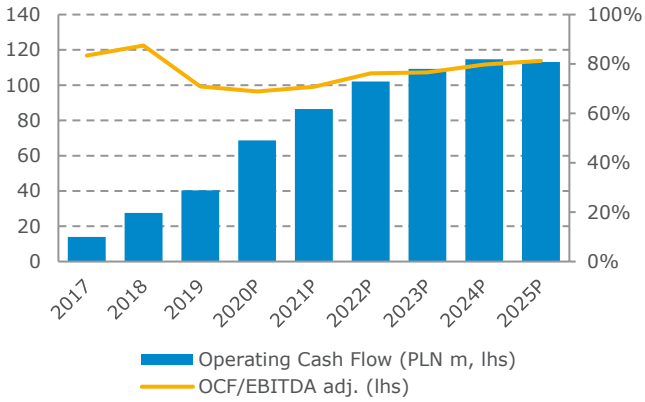
Investment in working capital and its value as a pct. of sales at Mo-BRUK



Source: Mo-BRUK, P – mBank projection

Relatively low required exposure to working capital makes Mo-BRUK's business model very effective in terms of the stream of cash generated. In 2017–2019, the Mo-BRUK Group generated slightly more than **80% of cash flows from operating activities in relation to EBITDA** adjusted for one-off events.

Operating cash flow in PLN m (lhs) and as a ratio of adjusted EBITDA (%; rhs)



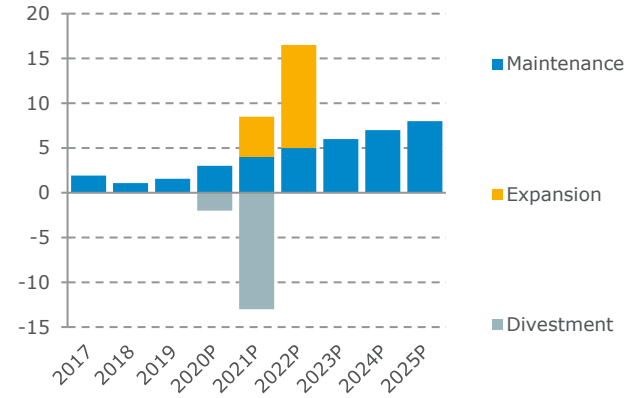
Source: Mo-BRUK, P – mBank projection

Most of the investments (for approx. PLN 200 million) were incurred by Mo-BRUK until 2014, which means that currently, Mo-BRUK's **maintenance expenses** amount to approx. **PLN 2 million per year**. It is possible that in 2021, Mo-BRUK will decide to carry out **two acquisitions (PLN 60+40 million)** in order to increase its presence in northern Poland, where new municipal waste incineration plants are planned and where the growing stream of waste for incineration can be taken advantage of. Additionally, the above-mentioned acquisitions may necessitate **investment expenditure on expansion and modernization of the acquired machinery, amounting to PLN 35 million** (for two years). However, we do not assume in our forecasts that these investments will take place due to insufficient knowledge of the potential subjects of acquisitions.

In our CAPEX forecast, we assume investments in generators for energy production in Karsy and Jedlicze between 2020 and 2022. One generator costs approx. PLN 1.5 million and the commissioning is possible at the end of 2022. The generators will produce energy for the plants where waste incineration is carried out (a decrease in annual energy costs of PLN 1.5 million per plant). In addition, we expect Mo-BRUK to spend PLN 3m in 2021 on capacity expansion in Niecew, followed by upgrades at the facility in Karsy at a cost of PLN 10m in 2022. At the same time, we predict that the Company will sell its petrol station and diagnostics shop for PLN 3m next year, and that it will

receive payments from the buyer of the Zabrze metal recycling plant in the amount of PLN 2m in 2020 and PLN 10m in 2021.

CAPEX and divestment projection for Mo-BRUK (PLN m)

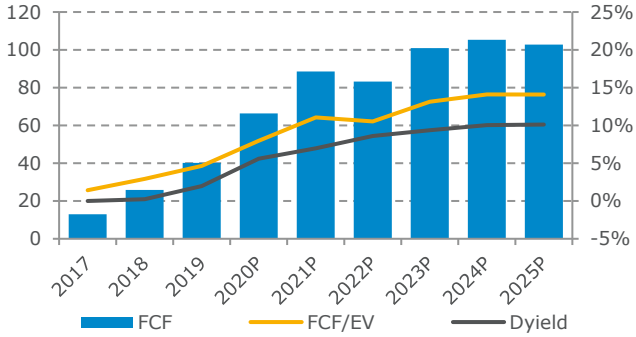


Source: Mo-BRUK, P – mBank projection

Assuming that there are no acquisitions in the 2021–2022 period, Mo-BRUK is able to generate **free cash flow at the level of PLN 70–80 million per year (approximately 11% FCF/EV).**

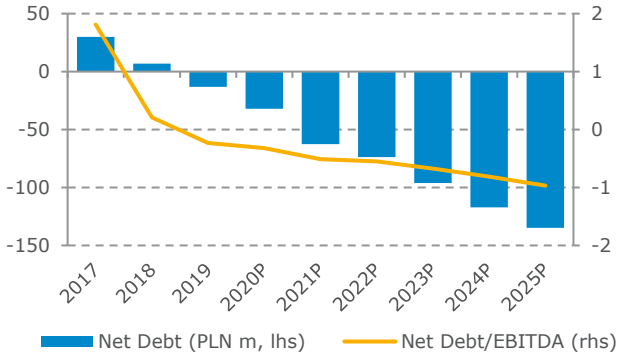
If Mo-BRUK decides to carry out the acquisition, FCF in 2021 will be negative (approx. PLN -40 million), but **it will not result in a significant increase in debt** (we assume that the net debt to EBITDA will not exceed 1.0x in 2021), **nor will it have any major impact on the dividend policy** (we assume payment of dividend in 2021 at 80% of profit for 2020, which would result in DPS similar to that in 2020).

Free cash flow in PLN m (lhs) and as a ratio of enterprise value (%; rhs) and dividend yields of Mo-BRUK



Source: Mo-BRUK, P – mBank projection

Projection of annual net debt in millions of zlotys (lhs) and as a multiple of EBITDA (rhs)



Source: Mo-BRUK, P – mBank projection

Dividend Policy

Mo-BRUK's dividend policy assumes **allocation of 50% to 100% of net profit to dividend**, provided that net debt to EBITDA is maintained at a level not higher than 2.5x.

The Company paid out PLN 9.7m in 2019 (PLN 2.71 DPS), PLN 12.3m in March 2020 (PLN 3.51 DPS) and PLN 36.0m in June 2020 (PLN 10.25 DPS).

Additionally, in 2018 and 2019, the Company made payments from profit to shareholders in the form of buyback of own shares in the amount of PLN 2.0 million and PLN 7.5 million in 2018 and 2019, respectively.

Foreign Expansion

In 2019, the **share of the Mo-BRUK Group's export sales** amounted to **7.5%** (acceptance of waste from foreign customers). The Management Board does not rule out an increase in trading with foreign customers, especially with customers in Central and Eastern Europe. To this end, it is planning to sell the aforementioned RDF to Ukraine (10 thousand tonnes from September 2020 and an option for additional 20 thousand tonnes in the future) and Germany (10 thousand tonnes from December 2020). At present, the Company is waiting for a permit from the Chief Sanitary Inspectorate and the Ukrainian Ministry of Ecology for cross-border shipment of waste in the form of alternative fuels (it is the first such request among Polish RDF producers).

In addition, Mo-BRUK announced an increase in import of waste from EU Member States within the scope of solidification services from Italy (11 thousand tonnes), from Greece (1.5 thousand tonnes), Germany (6.7 thousand tonnes) or Slovenia (0.3 thousand tonnes). Soon, Mo-BRUK is also planning to import waste for alternative fuel production from Lithuania (3 thousand tonnes).

The Group also does not rule out **acquisitions in Central and Eastern European countries**. The targets of opportunistic acquisitions may be entities with revenues of PLN 15–50 million and EBITDA of PLN 5–15 million, with a business profile identical to Mo-BRUK's segments.

Incentive Plan

Mo-BRUK has adopted an incentive plan relying on exceeding a specified threshold of average annual EBITDA growth rate per share (adjusted for one-off events with value of more than PLN 0.5 million), with debt lower than 2.5x EBITDA for the years 2020/2019, 2021/2020 and 2022/2021.

- Double the amount of annual remuneration for the management board – if the average EBITDA per share growth amounts to 25%-35% and if cumulative EBITDA for the last three years is at least PLN 250 million.
- Three times the amount of annual remuneration for the management board – if the average EBITDA per share growth amounts to 35%-45% and if cumulative EBITDA for the last three years is at least PLN 300 million.
- Four times the amount of annual remuneration for the management board – if the average EBITDA per share growth amounts to more than 45% and if cumulative EBITDA for the last three years is at least PLN 350 million.

The condition for being granted a bonus is holding the function of a Member of the Management Board throughout the entire analyzed period. Payment will take place after the audit of the report for 2022.

Risks

Growth of the Informal Waste Sector

The growing volume of waste received for treatment by Mo-BRUK, and the rise in gate fees observed in recent years, is a result among others of attempts to clamp down on the informal waste sector. Due to the growing problem of illegal landfills, state services have taken a number of remedial measures in recent years, among others by tightening the rules of waste storage, increasing the landfilling fees and intensifying the prosecution of those who engage in illegal practices. However, should the regulator decide, for social reasons (e.g. an increase in the cost of municipal waste collection from residents), to extend the storage periods or reduce landfilling fees, a deterioration of market conditions for companies such as Mo-BRUK should be taken into account.

Loosening of Entry Barriers For New Players

When observing the growing rates for waste collection and the potential growth of the waste market in the future, the regulator may decide to relax the regulations regarding the requirements for new entities wishing to enter the market. Currently, the investment process may take 3–4 years due to complex and long-term regulations. Facilitating entry into the market for new entities may increase competition with regard to the collection of waste and may have negative impact on prices.

Community Protests

In the history of Mo-BRUK, protests of local communities, which consider the activity of the plants to be harmful and adversely affecting their comfort of life, take place once every few months. Acts of vandalism, including arson, have also occurred. It cannot be ruled out that community protests will intensify in the future, which may hinder the operation of plants. Additionally, Mo-BRUK's activity can become the target of attacks by journalists, local social activists or politicians.

Decrease in Prices Of Energy Commodities, Including Coal

Decreases in prices of energy raw materials and coal on global markets may have negative impact on quotations of RDF, which is a coal substitute. A decrease in demand for coal may also have negative impact on the sales volumes of RDF. It may lead to a situation where Mo-BRUK will have to subsidize RDF sales to its customers to an even greater extent.

Increase in Transport Costs

In 2019, transport costs accounted for slightly more than 20% of total costs and were one of the dominant expenses related to Mo-BRUK's operations. A further increase in transport costs cannot be ruled out in the future. If that is the case, it will have negative impact on the profitability of the conducted activity.

Pressure on Payroll Costs

In 2019, payroll costs accounted for 23% of total costs and were the most prominent cost category for Mo-BRUK. An increase in payroll costs cannot be ruled out in the future, which may have negative impact on Mo-BRUK's profitability.

Salaries in Mo-BRUK are rather low compared to industrial companies. Compared to companies operating in the region, Mo-BRUK on average pays more for an employee than Mangata or the Famur Group, while the average amount paid for an employee in the region is higher for Alumetal, Cognor, the Kęty Group or Stalprodukt. Currently, none of Mo-BRUK employees is employed under an employment contract for minimum remuneration.

Risk of COVID-19 Infections Among Employees

Some of Mo-BRUK's waste treatment facilities are situated in regions where the Polish Ministry of Health has temporarily introduced the so-called "red zones" and where sanitary restrictions have been tightened due to the increased number of recorded COVID-19 infections (for example, at the plant in Niecew). In the future, it cannot be ruled out that Mo-BRUK employees will become infected with COVID-19 and, as a result, Mo-BRUK will be forced to reorganize the working time or temporarily suspend acceptance of waste. In order to minimize COVID-19 risk, at the turn of Q1 2020 and Q2 2020, Mo-BRUK introduced a 5-shift work cycle so that employees from different shifts have minimal contact with each other.

Risk of Decrease In Turnover For Mo-BRUK's Suppliers

In the waste incineration and alternative fuel production segment, Mo-BRUK accepts hazardous substances from industrial producers; an economic downturn may lead to a decrease in throughput volumes similar to that observed in Q2 2020. Mo-BRUK's customers include manufacturers of paints, automotive parts or chemical products.

Risk Associated With Loss of Buyers

The main buyers of alternative fuels from Mo-BRUK are cement plants, which procure RDF produced during waste processing. Problems connected with lack of timely deliveries or low quality of the supplied RDF may constitute a basis for termination of agreements by the buyers. In the future, one also cannot rule out loss of competitiveness as a result of increased competition, which will have negative impact on the financial results. It is worth noting, however, that cement plants in Poland, being energy-intensive producers, use RDF for combustion more than any other industry branches.

Risk Associated With Changes In Legal Regulations

Mo-BRUK operates in a highly regulated sector and needs to continuously keep track of changes in Polish and European legislation. In case of inconsistencies between national provisions and EU regulations or unclear wording in the regulations, there is a risk of discrepancies in their interpretation between Mo-BRUK, administrative authorities and trade partners. Any changes in regulations may have direct significant impact on Mo-BRUK's core business, leading to a significant deterioration of conditions for conducting activity and of financial results.

In October 2020, the Polish Climate Ministry announced a new initiative to help municipal authorities to improve and balance the costs of waste management. The main objectives of the planned legislation include the following:

- Waive until 2021 the application of the 50% recycling target to total municipal waste streams in favor of its continued application to four separated waste fractions.
- Revise the target municipal waste recycling rates for 2025, 2030, and 2035.
- Direct municipalities to focus their reuse-and-recycle efforts on separately collected waste streams.
- Remove the 30% cap on municipal waste streams that can be sent for incineration.
- Push back deadlines on the submission of 2017-2019 waste management reports by voivodeships and regions.

Under the amended rules, Poland's goals with respect to the recycling of municipal waste will most likely be delayed. It is worth noting that, relative to a total domestic incineration capacity of approximately 1 million tonnes, Poland generates about 12mmt of waste streams a year, of which about 6mmt is combustible material. This means that only about 16% of combustible municipal waste can be burnt here every year, and even if the 30% combustion cap were to be kept in force the national capacity would have to grow to twice the current size to reach this limit. For this reason, we do not see the proposed changes in waste management legislation as affecting Mo-BRUK in any negative way.

Risk Associated With Wałbrzych Landfill

Mo-BRUK has carried out landfilling activities in Wałbrzych for many years, which is viewed negatively by the local authorities and residents. The Company closed the landfill in March 2019, but its local waste recycling facility is still in use.

In 2016, the Dolnośląskie Province Marshal imposed an increased fee on Mo-BRUK, in the amount of PLN 6 million, for landfilling of waste in 2013. The Company appealed and in September 2016 the Local Government Appeals Board in Wrocław repealed the decision and sent it back for a review. In November the Marshal imposed the same fee in the same amount. Mo-BRUK appealed again and in March 2017 the appeals board again dismissed the Marshal's decision and reduced the fee to PLN 807, which the Company subsequently paid in full.

In June 2020, the Dolnośląskie Province Marshal issued another decision to impose an increased landfilling fee for 2015, amounting to PLN 17.6 million (the amount does not include interest). Mo-BRUK appealed in July and in October the fine was repealed and sent for review, saying that the Marshal incorrectly categorized part of the wastes and the landfilling charge should therefore be recalculated. The recalculation should result in a reduction in the fine from PLN 17.6m to approximately PLN+ 3m (ex. interest).

The alleged reason why the additional charges can be imposed is that Mo-BRUK in 2015 had not obtained a decision approving instructions on landfill management. Mo-BRUK filed a request to obtain the decision by the appointed deadline in January but in November the Marshal refused to approve the instructions saying that Mo-BRUK did not have landfill building and usage permits. The refusal was confirmed by the Minister of the Environment, the Voivodeship Administrative Court, and the Chief Administrative Court. At the moment Mo-BRUK is party to a court case over whether it was or was not in possession of said building and usage permits. If it wins, the Company could request renewal of the former proceedings to repeal the refusal by the Marshal to approve the instructions.

In the future, due to the complexity and length of proceedings it cannot be ruled out that the Marshal of the Dolnośląskie Voivodeship might issue decisions on additional landfilling charges affecting the landfill in Wałbrzych.

Validity of Permits

Mo-BRUK's operations require obtaining appropriate permits. Operation of individual waste recovery plants and alternative fuel production plants requires permits from province Marshals and district Governors of given locations. Currently, Mo-BRUK has all basic permits necessary for its ongoing operations, with the proviso that in May 2020, the Minister of Climate issued a decision to revoke without a compensation the decision of the Dolnośląskie Province Governor of 27 July 2007, granting an integrated permit for operating the system in Wałbrzych (i.e. the Landfill and the Waste Recycling Plant at the same time). The decision of the Minister is the result of proceedings pending since October 2015, during which the Provincial Administrative Court in Warsaw repealed the decision of the Minister of the Environment concerning withdrawal of the integrated permit for the said system. The Group filed a request for suspension of the enforceability of the Minister of Climate's decision and a complaint with the Provincial Administrative Court in Warsaw. In August 2020, the Provincial Administrative Court in Warsaw suspended execution of the decision of the Minister of Climate on withdrawal of the integrated permit. The landfill no longer operates, and thus the decision to withdraw the integrated permit may affect the continuation of the Waste Recycling Plant's operations. Lack of appropriate and valid permits would be tantamount to the necessity to cease operations and the risk of administrative penalties being imposed on Mo-BRUK.

Risk Associated with Permits for Exports of Waste

In February 2020, in response to a question about the possibility of introducing a ban on import of waste, the Ministry of Climate stated that "Poland cannot prohibit import of waste intended for recovery and included on the so-called green list of waste (e.g. scrap, paper) to Poland. Import/export of such waste takes place within the EU on the basis of free movement of goods and a possible ban would have to apply to the EU as a whole. This means that Poland also would not be able to export waste abroad. Blocking waste transport would be contrary to the EU law and the established judicial decisions of the CJEU. At the same time, the Ministry pointed out that in 2018, "a complete ban was introduced on import of all types of waste intended for treatment as well as municipal waste and waste resulting from municipal waste processing, excluding waste collected selectively for recycling".

Waste trading between countries, including RDF, is strictly monitored by environmental authorities. These authorities issue notifications for waste export in a process that takes 4–6 months. In the future, there may be problems with extending the notification process, which may, for example, prevent the export of RDF to customers outside Poland. The situation is similar for waste imported from other countries for solidification and stabilization.

Legal Risk

Mo-BRUK faces legal challenges as part of its normal business activities. At the moment, among others, the Company is fighting a lawsuit challenging liquidated damages filed in 2018 by a former building contractor called Biuro Projektów i Realizacji Inwestycji Separator Sp. z o.o., who is seeking PLN 3.5m plus interest in compenzation. Another major pending case, filed in 2018, was brought by Mo-BRUK itself as it seeks liquidated damages of PLN 4.3m plus interest from Mostostal Kraków S.A. under a construction contract

Risk Associated with Inspections by Public Administration Authorities

In the course of its activities, Mo-BRUK is subject to continuous inspections by public administration authorities, in particular Provincial Inspectorates of Environmental Protection. If any irregularities are found, an administrative penalty may be imposed on Mo-BRUK, and in the case of serious irregularities, a decision may be taken to suspend the activity. The Management Board estimates that the probability of occurrence of the above risk is low and the possible financial and operational consequences are limited.

Valuation

We used discounted cash flow analysis and relative valuation to assess the per-share value of Mo-BRUK. The value obtained from the DCF model is PLN 363.18, and the relative valuation mode yielded PLN 365.81 per share.

(PLN)	weight	price
Relative Valuation	50%	365.81
DCF Analysis	50%	363.18
	avg. price	364.50
	9M target price	**387.49**

Additional Assumptions

Revenue Projection (PLN m)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
Incineration	23.9	22.7	37.1	64.2	100.0	115.5	132.0	134.6	134.6
Solidification and Stabilization	15.8	34.8	52.1	58.4	70.0	81.0	90.7	97.0	98.2
RDF	12.6	19.3	25.5	42.3	64.7	71.3	77.2	80.2	81.5
Other	13.3	15.9	15.8	15.1	5.0	5.0	5.0	5.0	5.0
Total	**65.6**	**92.7**	**130.5**	**180.0**	**239.7**	**272.8**	**304.9**	**316.9**	**319.3**

Volume Projection (1,000t)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
Incineration	30.8	26.5	23.4	18.4	20.0	22.0	24.0	24.5	25.0
Solidification and Stabilization	55.3	119.9	162.8	167.8	182.8	197.8	212.8	227.8	232.8
RDF	80.9	89.4	78.8	73.0	110.0	120.0	130.0	135.0	140.0
Total	**167.0**	**235.8**	**265.0**	**259.2**	**312.8**	**339.8**	**366.8**	**387.3**	**397.8**

Avg. Annual Price Projection (PLN 1,000/t)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
Incineration	0.776	0.857	1.585	3.489	5.000	5.250	5.500	5.500	5.390
Solidification and Stabilization	0.286	0.290	0.320	0.348	0.383	0.410	0.426	0.426	0.422
RDF	0.156	0.216	0.324	0.579	0.588	0.594	0.594	0.594	0.582
Total	**0.393**	**0.393**	**0.492**	**0.694**	**0.766**	**0.803**	**0.831**	**0.818**	**0.803**

CUR Projection (%)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
Incineration	88%	76%	67%	53%	57%	63%	53%	54%	55%
Solidification and Stabilization	33%	71%	96%	99%	65%	71%	76%	81%	83%
RDF	31%	34%	30%	28%	42%	46%	50%	52%	54%
Total	**36%**	**51%**	**57%**	**48%**	**58%**	**64%**	**69%**	**72%**	**74%**

Source: mBank

CAPEX Projection (PLN m)	2020P	2021P	2022P	2023P	2024P	2025P
Maintenance	3	4	5	6	7	8
Equity Investment	0	0	0	0	0	0
Expansion	0	5	12	0	0	0
Divestment	-2	-13	0	0	0	0
Total	**1**	**-5**	**17**	**6**	**7**	**8**

Source: mBank

DCF Valuation

Assumptions

- Risk-free rate: 3.5% (Polish 10Y Treasury bond yield).
  Future cash flow is discounted as of the end of 2020.
- Net debt is as at year-end 2019.
- The final valuation is net of dividends paid in the first half of 2020.
- Beta = 1.0, the same as used in in the past in our valuation model for the Polish WEEE recycler, Elemental Holding.

DCF Model

(PLN m)	2020P	2021P	2022P	2023P	2024P	2025P	2026P	2027P	2028P	2029P	+
Revenue	180.0	239.7	272.8	304.9	316.9	319.3	318.8	318.2	327.1	336.3	345.6
change	37.9%	33.2%	13.8%	11.8%	3.9%	0.8%	-0.1%	-0.2%	2.8%	2.8%	2.8%
EBITDA	99.7	122.2	133.9	142.6	143.8	139.2	131.3	123.0	124.0	124.9	125.5
EBITDA margin	55.4%	51.0%	49.1%	46.8%	45.4%	43.6%	41.2%	38.7%	37.9%	37.1%	36.3%
D&A expenses	6.0	6.6	8.2	8.0	8.1	8.3	8.2	8.0	7.9	7.8	7.9
EBIT	93.8	115.5	125.8	134.7	135.8	131.0	123.1	115.0	116.1	117.1	117.6
EBIT margin	52.1%	48.2%	46.1%	44.2%	42.8%	41.0%	38.6%	36.1%	35.5%	34.8%	34.0%
Tax on EBIT	18.2	22.5	24.5	26.2	26.5	25.5	24.0	22.4	22.6	22.8	22.9
NOPLAT	75.6	93.1	101.3	108.4	109.3	105.4	99.1	92.6	93.5	94.3	94.6
CAPEX	-1.0	4.5	-16.5	-6.0	-7.0	-8.0	-8.2	-8.3	-8.5	-8.7	-8.8
Working capital	-14.2	-15.6	-9.8	-9.5	-5.1	-2.9	-2.3	-2.3	-4.4	-4.4	-3.0
FCF	66.3	88.5	83.2	100.9	105.3	102.8	96.9	90.0	88.5	89.0	90.8
WACC	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
discount factor	1.0	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.4
PV FCF	66.3	81.6	70.7	79.0	76.0	68.3	59.4	50.9	46.1	42.7	40.2
WACC	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
Cost of debt	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
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	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Effective tax rate	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%
Net debt / EV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
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	2.0%
Terminal value	1,396.6
Present value of terminal value	670.2
Present value of FCF in the forecast period	640.9
Enterprise value	1,311.1
Net debt	-13.1
2020 dividend payout	-48.4
Minority interests	0.0
Equity value	1,275.8
Shares outstanding (millions)	3.5
Equity value per share (PLN)	363.2
9M cost of equity	6.3%
Target price (PLN)	**386.1**
EV/EBITDA ('21) at target price	10.6
P/E ('21) at target price	14.6
TV/EV	51.1%

Sensitivity Analysis

	FCF growth in perpetuity				
	0.0%	1.0%	2.0%	3.0%	4.0%
WACC +1.0 p.p.	304.1	319.1	338.2	363.1	446.1
WACC +0.5 p.p.	320.3	337.9	360.4	390.6	496.0
WACC	338.4	359.1	**386.1**	423.0	559.9
WACC -0.5 p.p.	358.7	383.2	416.0	461.8	645.0
WACC -1.0 p.p.	381.7	411.1	451.2	509.1	763.8

Relative Valuation

We compared the earnings multiples of Mo-BRUK with those of a group of comparable companies operating in the business of waste management and recycling of non-ferrous metals.

Advanced Disposal Services offers non-hazardous solid waste collection, disposal, and recycling services to customers in the United States.

Alumetal makes secondary-aluminum alloys for automotive engine applications. The company is based in Poland with customers across Western Europe.

Ambipar Participacoes e Empreendimentos is a global waste management company offering collection, recycling, treatment, transport, and other environmental solutions.

Asahi Holdings is a collector and recycler of precious metals recovered from electronics, jewelry, and dental materials.

Befesa is the largest European recycler of zinc-containing residues with operations in Europe, Turkey, and China.

Biffa is a UK company offering collection, treatment, and recycling of municipal and industrial wastes.

Bingo Industries is an Australian company providing waste management and recycling services.

Charah Solutions provides waste management services. The Company offers coal ash management, recycling, environmental remediation, outage maintenance, and compliance services. Charah Solutions serves clients in the United States.

China Resources and Environment operates in the solid waste recycling industry. The Company collects, recycles, processes, and sells reusable electronics, metals, rubbers, plastics, chemicals, and other products and materials around the world.

Cleanaway Waste Management provides waste management services. The Company offers recycling, bathroom hygiene, liquid and hazardous waste, and waste water management services. The company serves industrial, hospitality, mining, retail, and governmental sectors in Australia.

Cognor produces secondary steel using the electric arc furnace technology. The company is based in Poland.

Commercial Metals Company manufactures, recycles, and sells metal products in the United States.

Daiseki provides waste disposal services and oil sludge treatment. The Japanese company also sells processing and lubricating oil for industrial use.

GFL Environment is a diversified environmental services company in North America. Its solid waste management business line includes the collection, transportation, transfer, recycling and disposal of non-hazardous solid waste for municipal, residential, and commercial and industrial customers. Its liquid waste management business line, it collects, processes, recycles and/or disposes a range of liquid wastes from commercial and industrial customers.

Insun ENT specializes in waste management and recycling. The Korean company collects waste materials such as aggregate from construction sites, and recycles them.

Lassila & Tikanoja offers waste management and recycling services, property and plant maintenance, and industrial cleaning services, as well as hazardous waste management, damage repair, and sewer services. L&T sells its services to cities, municipalities, industries, businesses, and private persons in Finland.

Renewi is a Benelux waste management company with services ranging from RDF production to recycling.

Schnitzer Steel Industries is a US steel manufacturing and scrap metal recycling company which supplies ferrous scrap to steel producers.

Seche Environment offers waste management services. The Company transports, sorts, incinerates, and disposes of household waste, and collects, processes, and disposes of hazardous industrial waste.

Sims Metal is a leading Chinese metals and electronics recycling company with a global presence.

Tervita Corporation provides waste management and environmental services. The Company offers bioremediation, oil field waste disposal, metal recycling, and flood recovery services. Tervita serves customers in Canada.

US Ecology provides solid waste collection and management services. The Company offers solid waste treatment, waste management, thermal recycling, metal recovery, and industrial cleaning and maintenance services. US Ecology serves customers in the United States.

Waste Management is a North American waste management company offering collection, recycling, and treatment services and operates landfill gas-to-energy production.

Wolverine Energy and Infrastructure provides diversified energy and environmental infrastructure construction services. The Company offers water management, waste disposal, and recycling facilities, as well as oil field, heavy equipment, construction, transportation, and trailer rentals services. Wolverine Energy and Infrastructure serves customers in Canada.

Multiples Comparison

	Country	P/E			EV/EBITDA		
		2020E	2021E	2022E	2020E	2021E	2022E
ADVANCED DISPOSAL SERVICES I	USA	-	-	-	-	-	-
ALUMETAL SA	Poland	17.4	14.6	11.8	10.0	8.5	7.1
AMBIPAR PARTICIPACOES E EMPR	UK	-	28.0	19.9	12.2	8.9	7.5
ASAHI HOLDINGS INC	Japan	15.6	9.5	9.2	-	10.4	10.5
BEFESA	Germany	39.6	27.1	20.4	18.4	14.0	11.5
BIFFA PLC	UK	10.9	-	17.3	7.2	9.3	7.1
CHINA AGRI-INDUSTRIES HLDGS	Australia	33.2	41.3	25.2	14.3	14.8	11.2
CHARAH SOLUTIONS INC	USA	-	8.4	-	-	-	-
CHINA RESOURCE AND ENVIRO-A	China	16.9	14.5	12.4	-	-	-
CLEANAWAY WASTE MANAGEMENT L	Australia	-	30.9	26.4	-	11.3	10.3
COGNOR	Poland	10.5	7.2	5.8	4.3	3.4	2.8
COMMERCIAL METALS CO	USA	9.9	13.0	13.9	5.5	6.4	6.3
DAISEKI CO LTD	Japan	20.8	23.6	20.5	10.6	-	-
GFL ENVIRONMENTAL INC-SUB VT	Canada	-	-	-	-	12.7	11.5
INSUN ENT CO LTD	South Korea	13.8	11.6	9.3	10.4	7.8	6.0
LASSILA & TIKANOJA OYJ	Finland	20.0	16.7	15.4	7.9	7.3	6.9
RENEWI PLC	UK	11.0	23.1	11.0	4.8	5.6	4.9
SCHNITZER STEEL INDS INC-A	USA	74.2	26.0	22.1	12.9	-	-
SECHE ENVIRONNEMENT	France	24.3	16.4	12.6	6.0	5.4	4.7
SIMS METAL MANAGEMENT LTD	USA	-	-	24.1	-	10.0	7.6
TERVITA CORP	Canada	-	-	-	5.8	5.7	4.7
US ECOLOGY INC	USA	-	-	-	11.5	10.1	9.0
WASTE MANAGEMENT INC	USA	29.3	25.4	22.9	14.5	12.7	11.9
WOLVERINE ENERGY & INFRASTRU	Canada	-	-	-	6.8	7.9	6.4
Minimum		9.9	7.2	5.8	4.3	3.4	2.8
Maximum		74.2	41.3	26.4	18.4	14.8	11.9
Median		**17.4**	**16.7**	**16.3**	**10.0**	**8.9**	**7.1**
Mo-BRUK		11.5	9.3	8.5	8.3	6.6	5.9
premium / discount		-34.0%	-44.4%	-47.7%	-16.6%	-25.9%	-16.4%
Implied Valuation							
Median		17.4	16.7	16.3	10.0	8.9	7.1
Discount		0%	0%	0%	0%	0%	0%
Multiple weight			50%			50%	
Year weight		33%	33%	33%	33%	33%	33%
Equity value (PLN m)		**365.81**					

Earnings History and Future Projections

(PLN m)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
Revenue	65.6	92.7	130.6	180.0	239.7	272.8	304.9	316.9	319.3
change	-	41.2%	40.9%	37.9%	33.2%	13.8%	11.8%	3.9%	0.8%
Incineration	23.9	22.7	37.1	64.2	100.0	115.5	132.0	134.6	134.6
Solidification and Stabilization	15.8	34.8	52.1	58.4	70.0	81.0	90.7	97.0	98.2
RDF	12.6	19.3	25.5	42.3	64.7	71.3	77.2	80.2	81.5
Other	13.3	15.9	15.8	15.1	5.0	5.0	5.0	5.0	5.0
COGS	9.0	10.8	11.5	15.0	36.9	46.8	61.6	65.0	66.8
D&A expenses	6.1	5.9	6.1	6.0	6.6	8.2	8.0	8.1	8.3
Inputs and materials	9.0	10.8	11.5	15.0	36.9	46.8	61.6	65.0	66.8
Services	14.4	19.9	28.5	30.8	46.0	53.9	58.6	62.5	65.1
Employee benefits	13.7	15.2	18.6	22.0	27.8	31.4	35.3	38.7	41.4
Taxes and fees	1.7	2.4	1.3	1.4	1.3	1.2	1.2	1.2	1.2
Other costs	1.3	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1
Cost of goods and materials sold	8.6	11.0	12.2	9.8	4.5	4.5	4.5	4.5	4.5
Change in inventory	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other operating gains/losses	-0.3	0.0	-1.2	-0.3	0.0	0.0	0.0	0.0	0.0
EBIT	10.4	26.6	50.2	93.8	115.5	125.8	134.7	135.8	131.0
change	-	155.4%	88.9%	86.9%	23.2%	8.8%	7.1%	0.8%	-3.5%
EBIT margin	15.9%	28.7%	38.4%	52.1%	48.2%	46.1%	44.2%	42.8%	41.0%
Net financing gains/losses	-1.9	-1.2	-0.6	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1
One-offs/Adjustments	-0.1	1.0	-0.7	0.0	0.0	0.0	0.0	0.0	0.0
Pre-tax income	8.5	25.3	49.6	93.5	115.4	125.6	134.6	135.7	130.9
Tax	1.6	4.8	9.5	18.2	22.5	24.5	26.2	26.5	25.5
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit	6.9	20.5	40.1	75.3	92.9	101.1	108.3	109.2	105.4
change	-	197.8%	95.4%	87.7%	23.4%	8.9%	7.1%	0.8%	-3.5%
margin	10.5%	22.1%	30.7%	41.8%	38.7%	37.1%	35.5%	34.5%	33.0%
Net profit (adjusted)	7.0	19.7	40.6	75.3	92.9	101.1	108.3	109.2	105.4
D&A expenses	6.1	5.9	6.1	6.0	6.6	8.2	8.0	8.1	8.3
EBITDA	16.5	32.4	56.3	99.7	122.2	133.9	142.6	143.8	139.2
change	-	96.0%	73.4%	77.3%	22.5%	9.6%	6.5%	0.9%	-3.2%
EBITDA margin	25.2%	35.0%	43.1%	55.4%	51.0%	49.1%	46.8%	45.4%	43.6%
EBITDA (adjusted)	16.7	31.5	56.9	99.7	122.2	133.9	142.6	143.8	139.2
Shares outstanding at eop (millions)	3.6	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.5
EPS	1.9	5.7	11.2	21.4	26.4	28.8	30.8	31.1	30.0
CEPS	3.6	7.4	12.9	23.1	28.3	31.1	33.1	33.4	32.3
ROAE	7.6%	18.8%	30.3%	47.3%	48.4%	46.3%	44.0%	40.7%	36.8%
ROAA	4.2%	12.0%	21.1%	35.7%	38.8%	38.7%	37.8%	35.6%	32.7%

Balance Sheet

(PLN m)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
ASSETS	162.2	171.0	189.8	210.8	239.0	261.5	286.5	306.7	322.3
Fixed assets	147.9	140.1	134.2	127.9	114.4	120.3	115.9	112.4	109.8
Intangible assets	0.7	0.6	0.6	0.6	0.5	0.7	0.8	0.8	0.9
Property, plant and equipment	145.3	138.4	132.5	126.2	112.7	118.4	114.0	110.5	107.7
Equity value	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Noncurrent receivables	1.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Noncurrent investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Noncurrent prepayments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current assets	14.3	30.9	55.6	82.9	124.7	141.2	170.6	194.2	212.5
Inventory	0.9	0.9	1.0	1.4	1.8	2.1	2.3	2.4	2.4
Current receivables	9.5	14.0	26.0	35.8	47.7	54.3	60.7	63.1	63.6
Trade debtors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash	2.7	14.8	27.4	42.9	71.5	80.7	102.9	123.9	141.6
Current prepayments	1.3	1.1	1.2	2.7	3.7	4.2	4.7	4.8	4.9

(PLN m)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
EQUITY & LIABILITIES	162.2	171.0	189.8	210.8	239.0	261.5	286.5	306.7	322.3
Equity	90.8	109.3	132.2	159.1	191.7	218.6	246.0	268.6	286.5
Share capital	36.1	36.1	35.7	35.7	35.7	35.7	35.7	35.7	35.7
Supplementary capital	34.9	39.8	43.1	43.1	43.1	43.1	43.1	43.1	43.1
Retained earnings	12.9	12.9	12.9	4.6	19.7	38.2	58.5	80.1	102.0
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-current liabilities	22.9	12.9	5.6	4.1	4.1	4.1	4.1	4.1	4.1
Debt	22.9	12.9	5.6	4.1	4.1	4.1	4.1	4.1	4.1
Current liabilities	15.2	15.7	19.9	17.9	15.9	13.9	13.9	13.9	13.9
Trade payables	5.4	7.0	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Debt	9.7	8.7	8.7	6.7	4.7	2.7	2.7	2.7	2.7
Provisions for liabilities	3.6	5.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Other	29.7	27.3	24.9	22.5	20.1	17.7	15.3	12.9	10.5
Debt	32.7	21.6	14.3	10.8	8.8	6.8	6.8	6.8	6.8
Net debt	30.0	6.8	-13.1	-32.1	-62.6	-73.8	-96.1	-117.1	-134.8
Net Debt / Equity	33.0%	6.2%	-9.9%	-20.2%	-32.7%	-33.8%	-39.1%	-43.6%	-47.0%
Net Debt/ EBITDA	1.8	0.2	-0.2	-0.3	-0.5	-0.6	-0.7	-0.8	-1.0
BVPS	25.4	30.6	37.0	45.3	54.6	62.2	70.0	76.4	81.6

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Cash Flow

(PLN m)	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
Cash flow from operating activities	13.9	27.5	40.3	68.7	86.4	102.1	109.3	114.7	113.2
Net profit	6.9	20.5	40.1	75.3	92.9	101.1	108.3	109.2	105.4
D&A expenses	6.1	5.9	6.1	6.0	6.6	8.2	8.0	8.1	8.3
Working capital	-0.2	0.2	-5.6	-14.2	-15.6	-9.8	-9.5	-5.1	-2.9
Other	1.1	0.9	-0.2	1.7	2.6	2.5	2.5	2.5	2.5
Cash flow from investing activities	-1.9	-1.1	-1.0	-1.0	4.5	-16.5	-6.0	-7.0	-8.0
CAPEX	-1.9	-1.1	-1.6	-1.0	4.5	-16.5	-6.0	-7.0	-8.0
Equity investments	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing activities	-12.6	-14.3	-26.7	-52.2	-62.4	-76.4	-81.0	-86.7	-87.5
Debt	-10.8	-11.0	-8.8	-3.5	-2.0	-2.0	0.0	0.0	0.0
Dividends/Buyback	0.0	-2.0	-17.2	-48.4	-60.2	-74.3	-80.9	-86.7	-87.4
Other	-1.8	-1.3	-0.7	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1
Change in cash	-0.6	12.1	12.6	15.5	28.5	9.2	22.3	21.0	17.7
Cash at eop	2.7	14.8	27.4	42.9	71.5	80.7	102.9	123.9	141.6
DPS (PLN)	0.00	0.56	4.82	13.77	17.14	21.15	23.03	24.67	24.87
FCF	12.9	25.8	40.2	66.3	88.5	83.2	100.9	105.3	102.8
CAPEX/Sales	-2.9%	-1.2%	-1.2%	-0.6%	1.9%	-6.0%	-2.0%	-2.2%	-2.5%

Trading Multiples*

	2017	2018	2019	2020P	2021P	2022P	2023P	2024P	2025P
P/E	127.6	42.8	21.9	11.5	9.3	8.5	8.0	7.9	8.2
P/E (adj.)	125.5	44.5	21.6	11.5	9.3	8.5	8.0	7.9	8.2
P/CE	67.4	33.3	19.0	10.6	8.7	7.9	7.4	7.4	7.6
P/B	9.7	8.0	6.6	5.4	4.5	4.0	3.5	3.2	3.0
P/S	13.4	9.5	6.7	4.8	3.6	3.2	2.8	2.7	2.7
FCF/EV	1.4%	2.9%	4.6%	8.0%	11.0%	10.5%	13.1%	14.1%	14.1%
EV/EBITDA	54.9	27.3	15.4	8.3	6.6	5.9	5.4	5.2	5.2
EV/EBITDA (adj.)	54.5	28.1	15.2	8.3	6.6	5.9	5.4	5.2	5.2
EV/EBIT	87.4	33.3	17.3	8.9	6.9	6.3	5.7	5.5	5.6
EV/S	13.9	9.6	6.6	4.6	3.3	2.9	2.5	2.4	2.3
EV/EBITDA (adj.)	83%	87%	71%	69%	71%	76%	77%	80%	81%
Dividend Yield	0.0%	0.2%	2.0%	5.6%	7.0%	8.6%	9.4%	10.0%	10.1%
Price (PLN)	246.00	246.00	246.00	246.00	246.00	246.00	246.00	246.00	246.00
Shares at eop (millions)	3.6	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.5
MC (PLN m)	878.9	878.9	878.9	864.2	864.2	864.2	864.2	864.2	864.2
Minority interest (PLN m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EV (PLN m)	908.9	885.7	865.8	832.1	801.5	790.3	768.1	747.1	729.4

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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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%
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