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SUSTAINABILITY TO DRIVE GROWTH IN THE CONSTRUCTION MATERIALS INDUSTRY:  
Holcim Group at the forefront of the transition

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## Abstract

This report will focus on Holcim Group and has the aim of valuing the company at 31/12/2022. To achieve estimates as close as possible to future expectations, the forecasts mainly covered Holcim's 4 business segments: Cement, Aggregates, Ready-Mix Concrete and Solutions & Products. These were conducted by accounting for macroeconomic trends, such as Urbanization, Sustainability and Technology. Further analysis included a Discounted Cash-Flow approach, that led to an estimated target share price of CHF 61.13, yielding a potential upside of 30% to the shareholders. Holding a leadership position in the sustainable transition of the Construction Materials Industry, Holcim will exploit new growth opportunities. We therefore recommend a BUY position.

## Keywords

Environmental Sustainability, Cement Industry, M&A Strategy

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This report is part of the Holcim Group report (annexed), developed by Alvise Fabrizio and Lorenzo Cesarini and should be read as an integral part of it.

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# Introduction

The purpose of the Joint Report is to value Holcim Group at its fair market price. This was achieved through the use of a DCF model, and a detailed analysis of the business dynamics and of the macroeconomic environment. To get to the final recommendation of a BUY position of this Company, with a target price set a CHF 61.13, we firstly analysed Holcim's positioning in the industry, together with a focus on the external environment and the current market drivers. From this point, having a clear view of the context, the report will focus on the forecast of the revenues split between the 4 business units of the group and their respective market forces. Moreover, forecasts also include operating costs and an analysis of their impact on the marginality, cash flows and a comparison between industry competitors over operating metrics. Conclusively, we conducted a sensitivity analysis in order to see how the share price reacts to shocks in fundamentals.

Separating it from the joint report, the individual report carried out by Alvise Fabrizio focuses on the Company Overview, describing the business dynamics as well as the shareholder structure. It will then focus on the external environment, highlighting future growth opportunities for the Group and analysing the degree of competition.

# 1. The Firm



Holcim Group is a leading construction materials provider headquartered in Zug, Switzerland. The Group, born in 2016 from the merger of Lafarge and Holcim, operates globally and holds leading positions across four different segments: cement, aggregates, ready-mix concrete, and solutions & products. Holcim has developed numerous innovative and sustainable building solutions and aims to lead the global construction industry's sustainable transition.

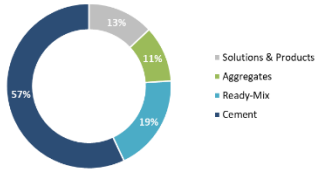


Figure 1: Sales Mix by Segment – Source: Holcim AR2022

## 1.1. Strategy 2025: Accelerating Green Growth

After achieving the financial targets for “Strategy 2022” one year in advance, Holcim has recently presented new financial and sustainable goals for 2025. The plan confirms the group’s ambition to become global leader in sustainable building solutions while achieving financial targets above average. Holcim believes that financial and sustainable targets are highly correlated and has accordingly structured its strategy under two main pillars: sustainability and portfolio transformation.

### 1.2.1. Sustainability at the core

Holcim Group is globally recognised as main leader in sustainability within its industry. Therefore, it is the first cement company that has net-zero targets for 2050 validated by the SBTi (Science Based Targets initiative) and received best-in-class ESG ratings from major providers as MSCI and Sustainalytics. Holcim is also part of CDP’s “A-list”, which includes the global leaders in the fight against climate change.

Holcim is the company that mostly improved its Kg CO<sub>2</sub>/ton of cementitious material from 1990 to 2020, reducing them by 40%. This allowed the firm to now have an advantage with the lowest ratio among its peers, 555 in 2020, and aims to reach the most ambitious target of the sector for 2030, with a total of 475Kg CO<sub>2</sub>/ton. In order to achieve this target, Holcim will need to reduce its emissions by 14%. However, the total footprint of Holcim is the largest in our sample, but this is mainly due to its large cement exposure.

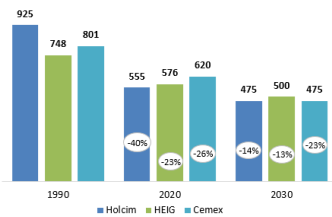


Figure 2: Kg of CO<sub>2</sub> Emissions per ton of cementitious material – Source: Own Analysis, Holcim AR2022

Total carbon footprint and intensity			
2021	HOLN	HEIG	CEMEX
Scope 1	119,3	68	38,4
Scope 2	7	7	3,7
Scope 3	30	21	10,7
<b>Total Carbon footprint (m tons)</b>	<b>156,3</b>	<b>96</b>	<b>52,8</b>
Revenues (in CHF bn)	26,8	19,4	13,4
Scope 1&2 - Carbon Intensity (m ton/CHF bn)	4,7	3,9	3,1
<b>Total Carbon Intensity (m ton/CHF bn)</b>	<b>5,8</b>	<b>4,9</b>	<b>3,9</b>
Exposure to Cement	60%	49%	42%

Table 1: Carbon Footprint and Intensity – Source: Own Analysis, Annual Reports

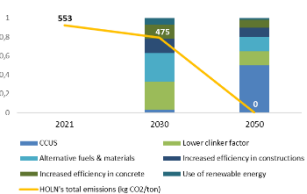


Figure 3: Roadmap to Carbon – Source: Own Analysis, Holcim AR2022

Holcim’s decarbonisation strategy covers the full supply-chain from the extraction of raw materials to the offering of a broad range of sustainable products. The targets for 2030 will be achieved through the reduction of clinker in cement, an increased use of alternative and renewable energy and improved efficiency in the design and construction of buildings that will decrease the amount of materials needed for the process. From 2030 onwards, the transition will be based on new technologies with the CCUS (Carbon capture, usage, and storage) accounting for 50% of the total decrease in emissions.

Holcim sees growing demand for CO<sub>2</sub> cutting products resulting in 80%<sup>1</sup> of its R&D and 65% of its patents dedicated to sustainable solutions. The main product lines already on the market are ECOPlanet and ECOPact, respectively the global range of green cement and concrete offered by the company. **EcoPact** is a range of green concrete that can cut 30% to 100% of CO<sub>2</sub> emissions

<sup>1</sup> Holcim Climate Report 2022

compared to normal concretes. The product is already present in 25 markets and the Group aims it to represent 25% of total ready-mix sales by 2025. Its sustainability feature is composed by low-emission materials and decarbonized operations.

**EcoPlanet**, recently launched in July 2021, is the first global range of green cement offering the possibility to cut from 30% to 100% of CO<sub>2</sub> emissions compared to standard cement. Its sustainable proposition is driven by Holcim's green formulation expertise, innovative low-emission raw materials and use of alternative fuels. The Group has recently launched **Susteno**, the first cement with 20% recycled construction materials inside. The target for 2030 is to double the number of recycled materials, from 53MT to 100MT, enhancing Susteno, which is expected to represent 1/3 of total cement sold in Switzerland in three years.

Sustainability will have an impact also on Holcim's leverage strategy. The sustainability-linked loan market grew by more than 300% in 2021, reaching a new record of \$186 bn, up 49% on 2020, and doubling the previous year by number. Commonly, players in this industry set as target KPIs two main objectives: 1) carbon emissions per ton of cementitious material, and 2) freshwater withdrawal per ton of cementitious material. Holcim holds a leading position in this area with around CHF 6.7 billion in sustainable financing agreements to date, being the first company in the building material industry to conduct this type of transaction, and expecting more in the future, Holcim will benefit from the low rates these SLB yield.

### 1.2.1. Portfolio Transformation

Holcim has started a deep portfolio transformation and plans to continue this strategy until 2025. The last years have shown a clear trend in terms of M&A, with important divestments from the cement segment to fuel bolt-on acquisitions in ready-mix, aggregates and solutions & products. Regarding the geography of these transactions, the acquisitions tend to be fully located in US and Europe, the most important markets for Holcim, while divestments mainly occur in developing economies like Latin America, Asia Pacific and Middle-East Africa. In 2021, Holcim completed 12 bolt-on acquisitions in the ready-mix and aggregates segments, and the acquisition of Firestone Building Products for a cash consideration of USD 3.4bn. The main result Holcim wants to achieve through organic and inorganic growth is to transform its sales mix with the enhancement of the segment Solutions & Products.

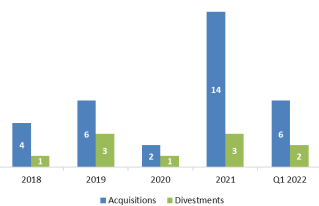


Figure 4: Holcim M&A Activity (2018-2022) – Source: MarketLine, Own Analysis

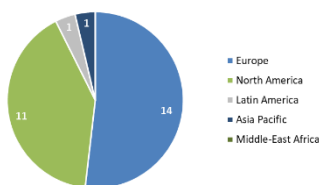


Figure 5: Holcim Acquisitions by Geography (2018-2022) – Source: MarketLine, Own Analysis

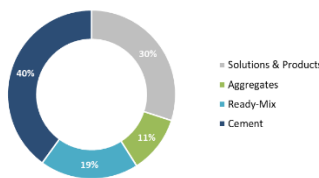


Figure 6: Target Sales Mix by 2025 – Source: Holcim AR 2021

### 1.2. M&A: a crucial growth driver

Holcim aims to achieve 10% ROIC, from 8% in 2021, as one of the main goals of Strategy 2025. We think that one of the main discriminants to reach this target will be a successful M&A activity. In support of our thesis, research from McKinsey<sup>2</sup> highlights how M&A deals are crucial for cement companies' success. Firstly, the historical track record of multiregional cement players, like Holcim, has been very poor in terms of value creation in the years considered from the study (2000-2015) leading to an average ROIC of the sector lower than the average cost of capital for cement companies. This seems mainly due to a tendency of overpaying deals by buying when general prices are at their peak.

Holcim has often divested at a significant premium compared to the median EV/EBITDA of similar transactions in the given year. For instance, the divestments of the Indonesian and Philippine business, respectively in 2019 and 2020, were valued at a premium with an EV/EBITDA of 16x

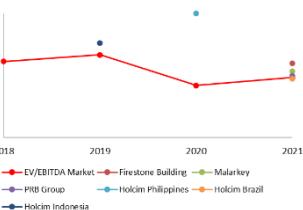


Figure 7: Holcim Transactions vs Market Median (in EV/EBITDA) – Source: MergerMarket, Own Analysis

<sup>2</sup> McKinsey - "The cement industry at a turning point: a path towards value creation" (2015)

and 21x. On the other hand, the recent important transactions in the Solutions & Products segment between 2021 and the beginning of 2022, like Firestone, Malarkey and PRB Group, had an average EV/EBITDA of 11.5x against an average of the market of 10.2x.

Holcim Main Transactions (2019-Q1 2022)							
Year	Company	Type	Region	Deal Value (in CHF mn)	EV/EBITDA	Segment	Status
2019	Holcim Indonesia	Divestment	Asia Pacific	911	16	RMX/Aggregates/Cement	Completed
2019	Holcim Malaysia	Divestment	Asia Pacific	387	-	Cement	Completed
2020	Holcim Philippines	Divestment	Asia Pacific	1695	21	Cement	Completed
2021	Firestone Building Materials	Acquisition	North America	3205	12,59	Solutions & Products	Completed
2022	Malarkey	Acquisition	North America	1.242	11,25	Solutions & Products	Completed
2022	PRB Group	Acquisition	Europe	385	10,5	Solutions & Products	Completed
2022	Holcim Brazil	Divestment	Latin America	943	10	RMX/Aggregates/Cement	Closing

The Group has recently announced, in February 2022, the acquisitions of Malarkey and PRB Group. While the first consolidates the new strong roofing position in North America, PRB could provide an interesting insight for the future plans of Holcim. Therefore, PRB is the third most important specialty products provider in France, and it's specialised in chemicals. The management of Holcim has an important expertise in the sector and this transaction could be the first step in the direction of expanding this product line. Therefore, after building an important roofing segment, Holcim may look in this highly profitable market for further acquisitions.

Overall, the Group has spent an impressive USD 5.13bn for acquisitions between 2021 and the first quarter of 2022. However, Holcim still holds an important firepower of CHF 5.2bn represented by its excess cash. Moreover, negotiations are ongoing for the possible divestments of Ambuja, the Indian subsidiary of Holcim, for CHF 6.7bn in cash. The closing of the deal would represent a huge opportunity for Holcim and confirm the Group's strategy to pursue an aggressive M&A activity in the following years.

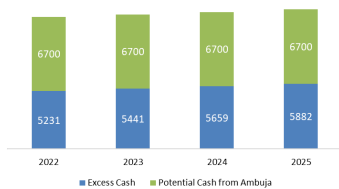


Figure 8: Excess Cash Evolution - Source: Own Analysis

### 1.3. Shareholders and Stock History

Holcim Group is listed on the SIX Swiss Exchange and on Euronext Paris. The stock is part of many indices like SMI (Swiss Market Index) or EuroSTOXX 600, among others. The main shareholder of Holcim is Thomas Schmidheiny, who owns 8% of the company, and reflects the family business nature of the Group. Institutional investors represent 63% of shareholders, with Blackrock (4.9%) and Dodge & Cox (3.7%) as main exponents of the category.

Holcim, as of December 2021, had a market capitalization of 28.6bn CHF, against 29.9bn CHF of December 2020, registering a yearly return of -4.3%. The main reason behind this declining trend needs to be reconducted to the charges against Lafarge for its operations in Syria. Moreover, we believe that the market hasn't already captured the value of the Group's portfolio transformation and it's undervaluing its new sustainable proposition.

Holcim's board has increased its annual cash dividend to 2.20 CHF, representing a dividend yield of 4.6% for the financial year 2021. The payout is scheduled to be paid out of the foreign capital reserves from tax capital contributions, which are not subject to Swiss taxes. This feature makes Holcim's dividend very attractive for investors. Therefore, Swiss investors normally pay 35% of taxes on their dividends, bringing the already lower average dividend yield of the SMI (2.73%) to a net dividend yield of 2.38%. This means that Holcim's investors can benefit from a net dividend yield which almost doubles the size of the average dividends received by other Swiss shareholders.

### 1.4. Company statistics & Peers

Holcim is one of the largest firms in the industry by market capitalization and it is more profitable than the median of our peer group both in terms of gross and EBIT margin. Regarding the capital structure of the firm, Holcim is less leveraged than its peers. Also in terms of valuation, Holcim

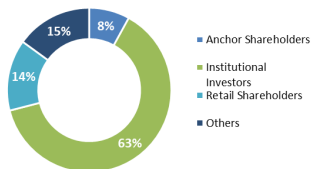


Figure 9: Shareholder Base by Category - Source: Holcim AR 2021

#### A tax-free dividend for Holcim's shareholders

seems to be undervalued compared to the general valuations of construction material companies as it has lower P/B and P/E ratios than the median of the sector. Overall, the Group seems to have an advantageous position within its industry in terms of size, profitability, leverage and valuation.

Company	Market Cap (USD, mn)	Company Statistics vs Peers				
		EBIT Margin	Gross Margin	LT Debt to Equity	P/B	P/E
<b>Holcim AG</b>	<b>30.076</b>	<b>16%</b>	<b>43,0%</b>	<b>51,5%</b>	<b>1,06</b>	<b>12,45</b>
HeidelbergCement AG	11.506	10%	61,4%	42,3%	0,71	6,68
Sika AG	43.814	15%	51,8%	76,8%	9,80	51,47
Vulcan Materials Co	22.896	18%	24,7%	60,1%	3,49	41,10
Cemex SAB de CV	6.659	12%	32,1%	83,6%	0,66	13,50
CRH PLC	30.949	12%	33,9%	55,9%	1,54	16,05
Martin Marietta Materials Inc	22.089	19%	24,9%	81,0%	3,38	39,14
CNBM	11.351	15%	23,9%	80,6%	0,63	4,05
<b>Industry Median</b>		<b>15%</b>	<b>33%</b>	<b>68%</b>	<b>1,30</b>	<b>14,78</b>

Table 3: Holcim Statistics vs Main Competitors – Source: MarketLine, Own Analysis

## 2. External Environment

### 2.1. Macroeconomic Outlook

Russian's invasion of Ukraine is causing great turmoil with the resulting uncertainties putting a strain on business and consumer confidence at a global level. Disruptions in trade are resulting in significant shortages of raw materials and commodities. As a result of this inflationary trend, the overall prices of construction materials rose by around 10-14% between January 2021 and 2022.<sup>3</sup> While the future for this market is very dependent on the duration of Ukraine war and the degree of sanctions, it is believed that the impact is likely to persist even when the conflict is over. The prospect of more COVID-19 breakouts in China, along with a larger downturn in global economy, provide adverse risks to pricing.

Moreover, energy and fuel prices are increasing, lowering demand and constraining production. As a result, the rise between April 2020 and March 2022 represents the largest 23-month increase in energy prices since the 1973 oil price hike. Similarly, Brent crude oil prices are expected to average \$100/bbl in 2022, an increase of 42 percent compared to 2021, before pulling down to \$92/bbl in 2023 as supply disruptions ease and production rises outside Russia.<sup>4</sup>

Despite the dangers associated with the ongoing war, and the resulting material cost and availability difficulties, the demand for building materials is expected to further grow. Moreover, companies that hold a strong pricing power may partially offset the impact of higher input costs and benefit from increasing demand.

### 2.2. Megatrends and Opportunities

The Global Construction Material Market size reached \$1,016 billion in 2021<sup>5</sup> and is expected to grow even further in the upcoming years. At the base of this growth, we can identify some megatrends that will act as drivers.

Firstly, as data show, the **global population** is increasing at a rapid pace, reaching 7.8 billion by 2021, up from 7 billion in 2010 and 6 billion in 1998, and is anticipated to reach 9.7 billion by 2050. Additionally, because of the high urbanization tendency, most of the people will live in metropolitan areas or megacities. With the latter being a new sort of urbanization, these have been dubbed the 21st century's urban phenomena. Moreover, as **living standards** are constantly

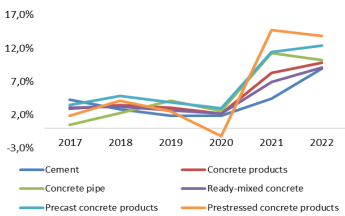


Figure 10: Changes in PPIs for Construction Materials - Source: AGC

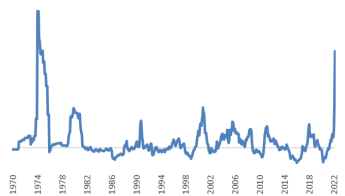


Figure 11: Historical Energy Price Growth - Source: World Bank

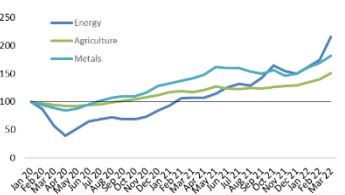


Figure 12: Commodity Prices - Source: World Bank

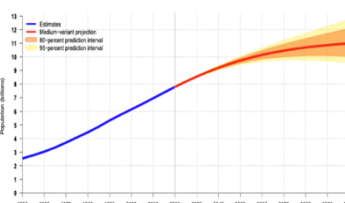


Figure 13: Future World Population - Source: World Bank

3 AGC - % change in PPI for construction (2017-2022).

4 World Bank Group. 2022. Commodity Markets Outlook: The Impact of the War in Ukraine on Commodity Markets,

5 MarkeLine- Construction Materials Industry Report

improving, the construction sector is likely to benefit from this, as people will require a good and sustainable infrastructure in the years to come.

The previous trends are projected to be a major driver of global energy consumption and greenhouse gas emissions over the next two decades. Currently, the building sector generates around 40% of annual global CO<sub>2</sub> emissions, while the cement production industry accounts for 8%.<sup>6</sup> Additionally, construction materials form the most important inflows into cities and emissions to the natural environment, and accounts for 90% of global material usage. Indeed, recycled materials account for less than a tenth of total use. As a result, urbanization leads to exploitation of generally non-renewable and limited natural resources. Additionally, it generates vast amounts of construction and demolition (C&D) waste that is disposed of in landfills, reinforcing the importance of an effective circular economy.

A required focus on **sustainability** and energy saving, new advancements in **technology**, materials, and practices have enabled and promoted overall efficiency. Technological breakthroughs have resulted in the development of a new generation of more resilient, lighter, and renewable construction materials, which have the potential to accelerate the shift to more eco-friendly practices.

### 2.3. Sustainability, Technologies and Innovations

The global green building materials system industry was estimated at \$199.9 billion in 2020, and is projected to grow at a CAGR of 9% from 2021-2026.<sup>7</sup> The residential sector is seeing an increase in green building construction as a consequence of a growth in the number of building laws and regulations demanding energy-efficient solutions, especially in Europe and the US. As a result, the market for environmentally friendly and energy-efficient materials for residential building is experiencing an important development.

With the goal of maximizing sustainability and efficiency, the construction industry is also leveraging new technologies and innovations. For instance, construction is an excellent candidate for 3D printing since most of the information required to build an object is generated during the building information modeling phase. Additionally, it enables the faster and more precise manufacture of complicated goods, as well as the reduction of labor expenses and waste. This trend represents a great opportunity for Holcim, as over three billion people are expected to need affordable housing by 2030, the Group can leverage its proprietary 3D printing ink produced by TectorPrint, which can reduce a building's footprint by up to 70%, as shown by its 3D-printing Mvule Gardens project consisting of a 52-unit residential housing complex in Africa<sup>8</sup>.

Another innovation that is gaining momentum in the construction market is Carbon Capture, Utilization and Storage (CCUS). It refers to a suite of technologies that can play an important and diverse role in meeting global energy and climate goals. CCUS involves the capture of CO<sub>2</sub> from the plants before it is released into the atmosphere. Then, the CO<sub>2</sub> is recycled into one of CCUS applications such as low-emission raw materials for green concrete, greenhouse gas for farming or as a source of methanol for aviation fuel. Currently managing more than 30 pilot projects globally, Holcim is leading the way in this sector and it is developing new CCUS next generation technologies in order to reach the scalable and cost-effective solutions to support its 2050 net

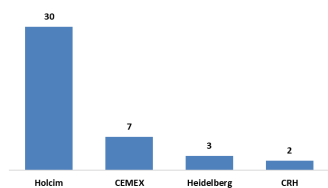


Figure 14: CCUS Pilot Projects per Company - Source: Holcim AR 2021, Own Analysis

6 Robbie M. Andrew, 2019. Global CO<sub>2</sub> emissions from cement production (1928-2018)

7 Research and Markets - Green Building Materials Market Report (2021)

8 Holcim Annual Report 2021

zero ambition. This number is very large compared to the number of pilots currently undertaken by its competitors: Heidelberg (3), CEMEX (7), and CRH (2), and highlights Holcim's R&D effort for these technologies. Overall, these ongoing CCUS projects could save Holcim approximately 4 million tons of CO2 per year.

## 2.4 Infrastructure Plans

Globally, there is widespread recognition of the critical need for considerable infrastructural investments. Upgraded or new infrastructure will be crucial for global populations' future access to clean drinking water, housing and commercial space, lighting, sanitation, and other vital resources. As a consequence, global infrastructure investments are expected to reach US\$3.9 trillion year, with emerging economies driving the need.

Another significant factor affecting the financial landscape is the global shift to a 'green' economy. The United Nations' Sustainable Development Goals (SDGs) are contributing in this shift, with infrastructure expressly mentioned as a mean of implementing and accomplishing other SDGs.

According to the Asian Development Bank (ADB), Asia would need around US\$1.7 trillion in infrastructure investment year through 2030 if it is to maintain its current development rate, eliminate poverty, and properly adapt to climate change.<sup>9</sup>

Following the same trend, in their plan to rise infrastructure investment from 1.8% of GDP to 2.3% of GDP until 2030, the US approved both the Bipartisan Infrastructure Deal (Infrastructure Investment and Jobs Act) and the Build-Back Better (BBB) Framework at the end of 2021. These new fiscal stimuli are expected to amount to \$550bn and \$1.6trn respectively. Additionally, accounting also for already budgeted funds, it is estimated that \$1745bn will be allocated to infrastructure programs over a 10-Year horizon.

With the same intent, the EU approved the Next Generation EU (NGEU) recovery package in May 2020. The NGEU represents a one-off augmentation of the EU's multi-year fiscal framework for 2021–27, funded by €750 bn of EU debt issuance to be repaid over 30 years via new tax receipts accruing to the EU budget. In Europe, however, the scale is smaller and the duration shorter: France's ratio will increase from 2.5% to 2.7% of GDP until 2027, Germany from 1.1% to 1.4%, Italy from 0.9% to 1.3% and Spain from 1% to 1.5%.<sup>10</sup>

## 2.5 Construction Materials Market

In 2021, the worldwide cement and concrete products market was estimated to be worth \$333.3 bn and is expected to further grow at a CAGR of around 6% until 2026.<sup>11</sup> The market accounted for 0.40% of worldwide GDP and 37.8% of the global mineral market consumption. Indeed, increased infrastructure expenditure, global economic growth, the construction of cheap housing, and a fast-rising urban population all contribute to drive this sector's growth.

Holcim holds a leading position in the industry in terms of number of plants, in particular regarding the number of cement grinding and aggregates plants, and also in terms of market size. Additionally, Holcim detains 8.3% of the global market share in the industry, while the overall top 5 competitors account for approximately 41% of the total market share. Moreover, new acquisitions and restricted competition, aided by collaboration among big cement makers to preserve their individual market shares and stability, will also contribute to future market

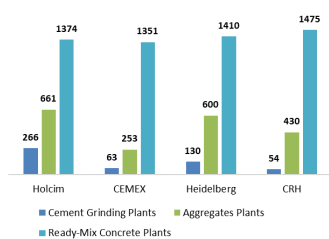


Figure 15: Total Plants per Competitors - Source: Holcim AR 2021, Others AR

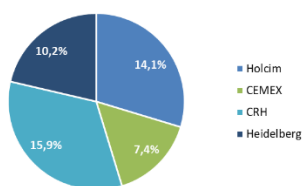


Figure 16: Holcim and Top 5 Competitors Market Share - Source: The Business Research Company

9 PWC – Global Infrastructure Trends

10 Allianz – Public Infrastructure Investment: Enough Back for the Buck? (2021)

11 The Business Research – Global Cement and Concrete Market (2021)

consolidation.

## 2.6 Roofing

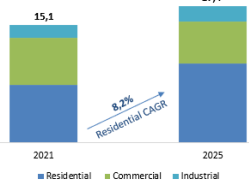


Figure 17: North American Roofing Market CAGR (2021-2025)- Source: Research and Markets

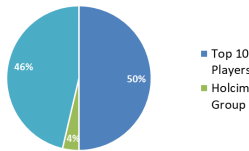


Figure 19: Holcim Global Market Share - Source: Research and Markets, Own Analysis

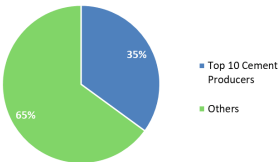


Figure 20: Cement Market Concentration - Source: Research and Markets, Own Analysis

With the acquisitions of Firestone and Malarkey, Holcim gained an important position in the North American roofing market. The market was valued at USD 15bn in 2021 and is expected to grow at a CAGR of 3.36%<sup>12</sup> until 2025. The main value drivers of the market are the residential segment, expected to grow at a CAGR of 8.2% until 2025, and the reroofing business, which accounts for 80% of the total demand. Firestone and Malarkey are complementary as the first holds important positions in the commercial segment while Malarkey is specialised in the residential business. Moreover, Firestone is experiencing double-digit growth in the profitable USD 50bn<sup>13</sup> global flat roofing market, which is expected to grow with a CAGR of 3.62% until 2026. The market is highly fragmented, with top 10 players' average revenues of USD 2.5bn, so there is a lot of space for new investments and acquisitions.

## 2.7 Competitive Analysis

### 2.7.1 Five Forces Analysis

#### Buyers power

The buyers that characterise this market vary among small businesses, large wholesalers, or construction companies. All these types of businesses serve different distribution channels depending on the end-user. While buyers are numerous, construction material producers are players with global operations, so the buyer's power is limited. Therefore, the top 10 global cement producers account for 35% of the total cement annual production. These statistics becomes even more relevant if we exclude the Asian market and players, arriving to approximately 55%. Moreover, cement and its derivatives travel for maximum 100km<sup>14</sup> from their construction sites. Thus, the transportation over this range is financially unsustainable making the competition develop at a local level. The high market concentration and the possibility to purchase these materials only from few players at a local level makes the buyers power moderate.

#### Supplier power

Raw materials and energy are the main costs for construction materials companies. Therefore, cement is the result of a process that sees as main inputs limestone and clay. Aggregates are mainly sand, crunched stone or gravel and concrete is a mixture of cement and aggregates. The main suppliers are large mining companies, that present a lot of the features mentioned before: high concentration of the market, local competition, and strong pricing power. In general, suppliers' power is high. However, Holcim has back ward integrated the mining process and is therefore able to fully manage its supply-chain and mitigate its exposure to raw material costs fluctuations. For this reason, it is possible to argue that the supplier power does not represent a dominant force for Holcim.

#### New entrants

The construction materials business holds very important barriers to entry as it requires important economies of scale, high start-up and fixed costs, and is characterised by low product differentiation. For instance, it is estimated that opening a cement plant would cost between

<sup>12</sup> Research and Markets – Roofing Market Research (2022)

<sup>13</sup> Daedal Research – Global Flat Roofing Market (2022)

<sup>14</sup> UN – “Eco-efficient cements: Potential economically viable solutions for a low-CO2 cement-based materials industry”

\$17,000-\$20,000<sup>15</sup> per ton in the US. Moreover, stringent laws on environmental requirements make almost impossible to open a brand-new cement plant, especially in developed markets. All these features make very difficult for a new player to enter in the market and gain a relevant share. Therefore, the market is characterised by few global giants that have been running their operations for decades and can leverage their expertise and extensive network of infrastructures built throughout the years.

### Threat of substitutes

Construction materials as cement or concrete are essentials for any type of building project worldwide. The production of concrete alone accounts for more than the double of the other main construction materials together. Potential substitutes could be more sustainable solutions as timber, pre-fab or new versions of the above mentioned materials. The demand for sustainable building solutions in developed markets is growing and resilience, recycling, and footprint of products are becoming increasingly important. For this reason, innovation is bringing new sustainable versions of traditional building materials. As already discussed, Holcim is leader in this type of product offering and is very well positioned to exploit this trend. Overall, the threat of substitutes for these products could be considered practically inexistent.

### Degree of rivalry

As we will analyse in the following chapter, the main construction materials players share similar traits in terms of infrastructures, strategies, and product offering. Moreover, the high cyclicity of the market, fixed costs, and costs of exit are all crucial factors that contribute to a high degree of rivalry.

## 2.7.2 Main Competitors and Competitive Analysis

We believe that the players who represent the most important competitors of Holcim are Heidelberg, Cemex and CRH.

**HeidelbergCement** is a German construction material provider that operates in Europe, North America, Asia Pacific and Middle East Africa. In 2021, it generated 18.7bn euros in revenues. The firm mainly operates in the cement and aggregates segments and can count of 1430 ready-mix concrete sites, more than 600 quarries and 134 cement plants across 50 countries. The firm is undertaking a portfolio transformation to focus on the markets where Heidelberg owns a larger market share.

**Cemex** is a Mexican cement company operating in the Americas, as main market, but with important positions also in Europe, Asia and Africa. The company has generated sales of USD 14.5bn and manages 63 cements and grinding plants, 1351 ready-mix plants, 253 quarries with operations in 96 countries. The company has also created its new sustainable concrete line called Vertua.

**CRH** is a global leader in the construction materials industry. The firm owns more than 3000 locations in 28 countries and its mainly focused in North America and Europe. The firm has produced USD 31bn revenues in 2021, experiencing a growth of 12% from 2020.

We believe that since the main players of the industry all present similar features, one of the main competitive advantages in this industry is how a firm can deal with the cyclicity of the sector, both in terms of margins and value creation. In general, all considered firms tend to have a stable

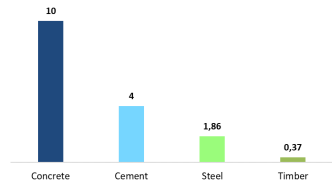


Figure 19: Production of Construction Materials (in mn tonnes) - Source: Own Analysis

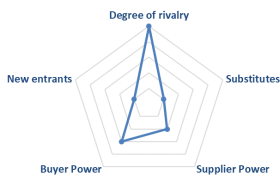


Figure 20: Five Forces Analysis Output - Source: Own Analysis, Marketline

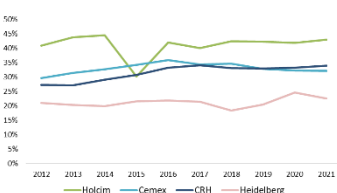
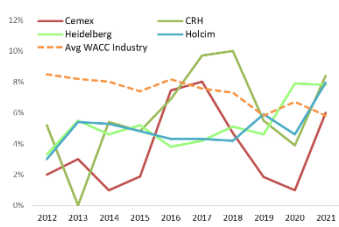


Figure 21: Gross Margin Trend Competitors - Source: Own Analysis, Refinitiv



**Figure 22: Value Creation Drivers Competitors - Source: Own Analysis, Refinitiv**

trend in terms of gross margin regardless of the general economic conditions, with Holcim having the highest margins in absolute terms. We think this is due to the fact that all the four comparable are very predominant players and hold an important pricing power. Moreover, they all back-integrated their mining operations, which allows them to directly manage their supply-chain and eventual spikes in material prices. On the other hand, ROIC is more volatile to general economic conditions. Historically, large cement companies struggled to create value as shown from the graph. However, Holcim's ROIC doesn't seem to have high correlation with the external environment but it's mainly due to company-specific features like M&A activities and new investments. We believe that, if managed properly, this can represent an important driver for Holcim's future growth.

**HOLCIM GROUP**

**COMPANY REPORT**

CONSTRUCTION MATERIALS

MAY 19, 2022

STUDENT: ALVISE FABRIZIO

44223@novasbe.pt

**Sustainability to drive growth in the construction materials industry**

*Holcim Group at the forefront of the transition*

- Following our estimates and valuation of Holcim, we recommend a **BUY** position with a target price of **CHF 61.13**, representing a potential premium of 30% over the current share price of CHF 46.86. The target is the result of the simple average of applying an **EV/EBITDA** of 7.5x to the forecasted 2022 EBITDA and our **DCF** analysis.
- The expansion of the Solutions & Products segment will drive growth in 2022. The year has started with the acquisitions of **Malarkey**, US roofing provider, and **PRB Group**, French leader in chemical solutions. The Q1 2022 was characterised by a strong contribution of the roofing segment with **17% Recurring EBIT margin**. Holcim has just started its portfolio transformation with the goal of improving margins, expand sustainable offering and focus on developed markets.
- Holcim showed great resilience against inflation in Q1 2022 thanks to a **strong pricing strategy**. We expect this trend to continue and new important acquisitions in the short-term. The Group has an incredible **firepower of CHF 5 bn**, that could be furtherly fuel by the divestments of Ambuja Cement, to pursue an **aggressive M&A activity**.

**Company description**

Holcim Group is a leading construction materials provider headquartered in Zug, Switzerland. The Group, born in 2016 from the merger of Lafarge and Holcim, operates globally and holds leading positions across four different segments: cement, aggregates, ready-mix concrete, and solutions & products.

**Recommendation: BUY**

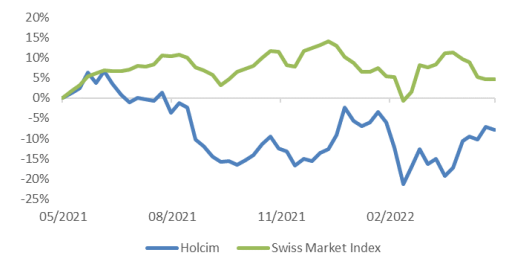
**Price Target FY2022: CHF 61.13**

**Price (as of 14-Jul-22) CHF 46.86**

Refinitiv: 19.05.2022

52-week range (CHF)	38.76 – 57.26
Market Cap (CHF b)	28.43
Outstanding Shares (mln)	615.9
Dividend Yield	4.69%

Source: Refinitiv



Source: Refinitiv

(Values in CHF millions)	2021	2022F	2023F
Revenues	26834	28027	29159
EBITDA	6357	6328	6582
EBITDA Margin	23.7%	22,6%	22.6%
Net Profit	2889	2655	2762
Operating Margin	10.77%	9.47%	9.47%
Net Debt/EBITDA	1.8	1.8	1.7
EV/EBITDA	6.51	6.54	6.28
ROIC	8.0%	6.9%	6.9%

Source: Holcim Group & own analysis

**THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY LORENZO CESARINI AND ALVISE FABRIZIO, MASTER IN FINANCE STUDENTS OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS. THE REPORT WAS SUPERVISED BY A NOVA SBE FACULTY MEMBER, ACTING IN A MERE ACADEMIC CAPACITY, WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL. (PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)**

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# 1. The firm

Holcim Group has the goal to drive the sustainable transition of the Construction Materials industry. The firm has developed numerous innovative and sustainable building solutions and developed its new Strategy on this crucial pillar.

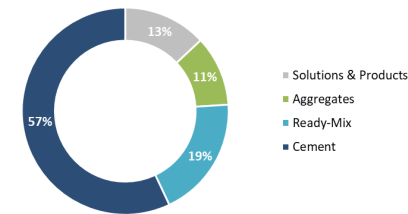


Figure 1: Sales Mix by Segment – Source: Holcim AR2022

## 1.1. Strategy 2025 Accelerating Green Growth

After achieving the financial targets for “Strategy 2022” one year in advance, Holcim has recently presented new financial and sustainable goals for 2025. The plan confirms the group’s ambition to become global leader in sustainable building solutions while achieving financial targets above average. Holcim believes that financial and sustainable targets are highly correlated and has accordingly structured its strategy under two main pillars: sustainability and portfolio transformation.

### 1.1.1. Sustainability at the core

Holcim Group is globally recognised as main leader in sustainability within its industry. Therefore, it is the first cement company that has net-zero targets for 2050 validated by the SBTi (Science Based Targets initiative) and received best-in-class ESG ratings from major providers as MSCI and Sustainalytics. Holcim is also part of CDP’s “A-list”, which includes the global leaders in the fight against climate change.

Holcim is the company that mostly improved its Kg CO<sub>2</sub>/ton of cementitious material from 1990 to 2020, reducing them by 40%. This allowed the firm to now have an advantage with the lowest ratio among its peers, 555 in 2020, and aims to reach the most ambitious target of the sector for 2030, with a total of 475Kg CO<sub>2</sub>/ton. In order to achieve this target, Holcim will need to reduce its emissions by 14%. However, the total footprint of Holcim is the largest in our sample, but this is mainly due to its large cement exposure.

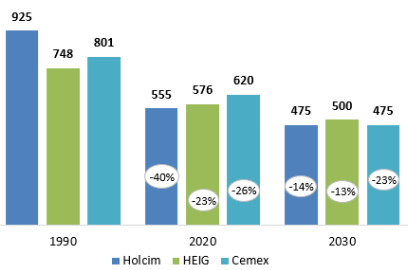
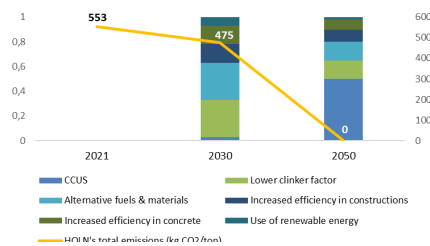


Figure 2: Kg of CO<sub>2</sub> Emissions per ton of cementitious material – Source: Own Analysis, Holcim AR2022

Total carbon footprint and intensity			
2021	HOLN	HEIG	CEMEX
Scope 1	119,3	68	38,4
Scope 2	7	7	3,7
Scope 3	30	21	10,7
<b>Total Carbon footprint (m tons)</b>	<b>156,3</b>	<b>96</b>	<b>52,8</b>
Revenues (in CHF bn)	26,8	19,4	13,4
Scope 1&2 - Carbon Intensity (m ton/CHF bn)	4,7	3,9	3,1
<b>Total Carbon Intensity (m ton/CHF bn)</b>	<b>5,8</b>	<b>4,9</b>	<b>3,9</b>
Exposure to Cement	60%	49%	42%

Table 1: Carbon Footprint and Intensity – Source: Own Analysis, Annual Reports

Holcim’s decarbonisation strategy covers the full supply-chain from the extraction of raw materials to the offering of a broad range of sustainable products. The targets for 2030 will be achieved through the reduction of clinker in cement, an



**Figure 3: Roadmap to Carbon – Source: Own Analysis, Holcim AR2022**

increased use of alternative and renewable energy and improved efficiency in the design and construction of buildings that will decrease the amount of materials needed for the process. From 2030 onwards, the transition will be based on new technologies with the CCUS (Carbon capture, usage, and storage) accounting for 50% of the total decrease in emissions.

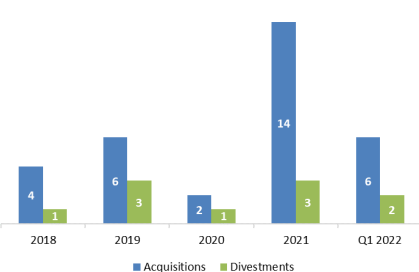
Holcim sees growing demand for CO<sub>2</sub> cutting products resulting in 80%<sup>1</sup> of its R&D and 65% of its patents dedicated to sustainable solutions. The main product lines already on the market are ECOPlanet and ECOPact, respectively the global range of green cement and concrete offered by the company. **EcoPact** is a range of green concrete that can cut 30% to 100% of CO<sub>2</sub> emissions compared to normal concretes. The product is already present in 25 markets and the Group aims it to represent 25% of total ready-mix sales by 2025. Its sustainability feature is composed by low-emission materials and decarbonized operations.

**EcoPlanet**, recently launched in July 2021, is the first global range of green cement offering the possibility to cut from 30% to 100% of CO<sub>2</sub> emissions compared to standard cement. Its sustainable proposition is driven by Holcim’s green formulation expertise, innovative low-emission raw materials and use of alternative fuels. The Group has recently launched **Susteno**, the first cement with 20% recycled construction materials inside. The target for 2030 is to double the number of recycled materials, from 53MT to 100MT, enhancing Susteno, which is expected to represent 1/3 of total cement sold in Switzerland in three years.

Sustainability will have an impact also on Holcim’s leverage strategy. The sustainability-linked loan market grew by more than 300% in 2021, reaching a new record of \$186 bn, up 49% on 2020, and doubling the previous year by number. Commonly, players in this industry set as target KPIs two main objectives: 1) carbon emissions per ton of cementitious material, and 2) freshwater withdrawal per ton of cementitious material. Holcim holds a leading position in this area with around CHF 6.7 billion in sustainable financing agreements to date, being the first company in the building material industry to conduct this type of transaction, and expecting more in the future, Holcim will benefit from the low rates these SLB yield.

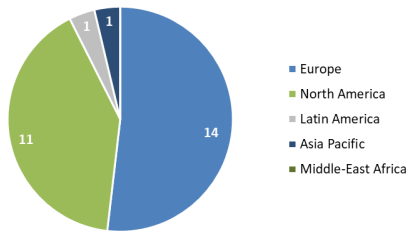
### 1.1.2. Portfolio Transformation

Holcim has started a deep portfolio transformation and plans to continue this strategy until 2025. The last years have shown a clear trend in terms of M&A, with important divestments from the cement segment to fuel bolt-on acquisitions in ready-mix, aggregates and solutions & products. Regarding the geography of these transactions, the acquisitions tend to be fully located in US and Europe, the



**Figure 4: Holcim M&A Activity (2018-2022) – Source: MarketLine, Own Analysis**

<sup>1</sup> Holcim Climate Report 2022



**Figure 5: Holcim Acquisitions by Geography (2018-2022) – Source: MarketLine, Own Analysis**

most important markets for Holcim, while divestments mainly occur in developing economies like Latin America, Asia Pacific and Middle-East Africa. In 2021, Holcim completed 12 bolt-on acquisitions in the ready-mix and aggregates segments, and the acquisition of Firestone Building Products for a cash consideration of USD 3.4bn. The main result Holcim wants to achieve through organic and inorganic growth is to transform its sales mix with the enhancement of the segment Solutions & Products.

### 1.2 M&A: a crucial growth driver

Holcim aims to achieve 10% ROIC, from 8% in 2021, as one of the main goals of Strategy 2025. We think that one of the main discriminants to reach this target will be a successful M&A activity. In support of our thesis, research from McKinsey<sup>2</sup> highlights how M&A deals are crucial for cement companies’ success. Firstly, the historical track record of multiregional cement players, like Holcim, has been very poor in terms of value creation in the years considered from the study (2000-2015) leading to an average ROIC of the sector lower than the average cost of capital for cement companies. This seems mainly due to a tendency of overpaying deals by buying when general prices are at their peak.

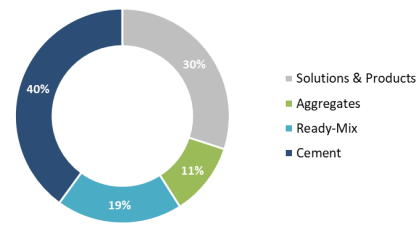
Holcim has often divested at a significant premium compared to the median EV/EBITDA of similar transactions in the given year. For instance, the divestments of the Indonesian and Philippine business, respectively in 2019 and 2020, were valued at a premium with an EV/EBITDA of 16x and 21x. On the other hand, the recent important transactions in the Solutions & Products segment between 2021 and the beginning of 2022, like Firestone, Malarkey and PRB Group, had an average EV/EBITDA of 11.5x against an average of the market of 10.2x.

Holcim Main Transactions (2019-Q1 2022)							
Year	Company	Type	Region	Deal Value (in CHF mn)	EV/EBITDA	Segment	Status
2019	Holcim Indonesia	Divestment	Asia Pacific	911	16	RMX/Aggregates/Cement	Completed
2019	Holcim Malaysia	Divestment	Asia Pacific	387	-	Cement	Completed
2020	Holcim Philippines	Divestment	Asia Pacific	1695	21	Cement	Completed
2021	Firestone Building Materials	Acquisition	North America	3205	12,59	Solutions & Products	Completed
2022	Malarkey	Acquisition	North America	1.242	11,25	Solutions & Products	Completed
2022	PRB Group	Acquisition	Europe	385	10,5	Solutions & Products	Completed
2022	Holcim Brazil	Divestment	Latin America	943	10	RMX/Aggregates/Cement	Closing

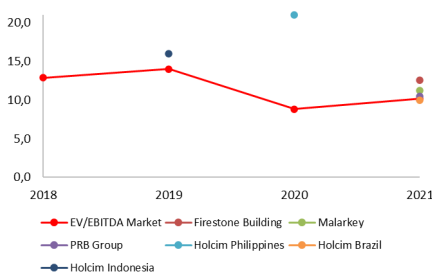
**Table 1: Holcim Main Deals – Source: MergerMarket, Annual Reports**

The Group has recently announced, in February 2022, the acquisitions of Malarkey and PRB Group. While the first consolidates the new strong roofing position in North America, PRB could provide an interesting insight for the future of Holcim. Therefore, PRB is the third most important specialty products provider in France, and it’s specialised in chemicals. The management of Holcim has an important expertise in the sector and this transaction could be the first step in the direction of

<sup>2</sup> McKinsey - “The cement industry at a turning point: a path towards value creation” (2015)



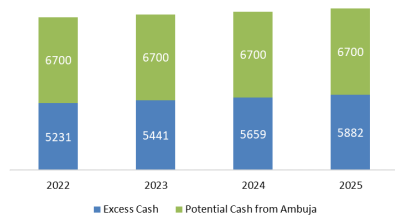
**Figure 6: Target Sales Mix by 2025 – Source: Holcim AR 2021**



**Figure 7: Holcim Transactions vs Market Median (in EV/EBITDA) – Source: MergerMarket, Own Analysis**

expanding this product line. Therefore, after building an important roofing segment, Holcim may look in this highly profitable market for further acquisitions.

Overall, the Group has spent an impressive USD 5.13bn for acquisitions between 2021 and the first quarter of 2022. However, Holcim still holds an important firepower of CHF 5.2bn represented by its excess cash. Moreover, negotiations are ongoing for the possible divestments of Ambuja, the Indian subsidiary of Holcim, for CHF 6.7bn in cash. The closing of the deal would represent a huge opportunity for Holcim and confirm the Group’s strategy to pursue an aggressive M&A activity in the following years



**Figure 8: Excess Cash Evolution - Source: Own Analysis**

### 1.3 Shareholders and Stock History

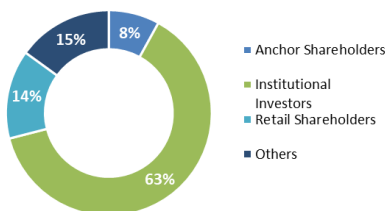
Holcim Group is listed on the SIX Swiss Exchange and on Euronext Paris. The stock is part of many indices like SMI (Swiss Market Index) or EuroSTOXX 600, among others. The main shareholder of Holcim is Thomas Schmidheiny, who owns 8% of the company, and reflects the family business nature of the Group. Institutional investors represent 63% of shareholders, with Blackrock (4.9%) and Dodge & Cox (3.7%) as main exponents of the category.

Holcim, as of December 2021, had a market capitalization of 28.6bn CHF, against 29.9bn CHF of December 2020, registering a yearly return of -4.3%. The main reason behind this declining trend needs to be reconducted to the charges against Lafarge for its operations in Syria. Moreover, we believe that the market hasn’t already captured the value of the Group’s portfolio transformation and it’s undervaluing its new sustainable proposition.

Holcim’s board has increased its annual cash dividend to 2.20 CHF, representing a dividend yield of 4.6% for the financial year 2021. The payout is scheduled to be paid out of the foreign capital reserves from tax capital contributions, which are not subject to Swiss taxes. This feature makes Holcim’s dividend very attractive for investors. Therefore, Swiss investors normally pay 35% of taxes on their dividends, bringing the already lower average dividend yield of the SMI (2.73%) to a net dividend yield of 2.38%. This means that Holcim’s investors can benefit from a net dividend yield which almost doubles the size of the average dividends received by other Swiss shareholders.

### 1.3 Company statistics & Peers

Holcim is one of the largest firms in the industry by market capitalization and it is more profitable than the median of our peer group both in terms of gross and EBIT margin. Regarding the capital structure of the firm, Holcim is less leveraged than



**Figure 9: Shareholder Base by Category - Source: Holcim AR 2021**

#### **A tax-free dividend for Holcim’s shareholders**

its peers. Also in terms of valuation, Holcim seems to be undervalued compared to the general valuations of construction material companies as it has lower P/B and P/E ratios than the median of the sector. Overall, the Group seems to have an advantageous position within its industry in terms of size, profitability, leverage and valuation.

Company	Market Cap (USD, mn)	Company Statistics vs Peers				P/B	P/E
		EBIT Margin	Gross Margin	LT Debt to Equity			
Holcim AG	30.076	16%	43,0%	51,5%	1,06	12,45	
HeidelbergCement AG	11.506	10%	61,4%	42,3%	0,71	6,68	
Sika AG	43.814	15%	51,8%	76,8%	9,80	51,47	
Vulcan Materials Co	22.896	18%	24,7%	60,1%	3,49	41,10	
Cemex SAB de CV	6.659	12%	32,1%	83,6%	0,66	13,50	
CRH PLC	30.949	12%	33,9%	55,9%	1,54	16,05	
Martin Marietta Materials Inc	22.089	19%	24,9%	81,0%	3,38	39,14	
CNBM	11.351	15%	23,9%	80,6%	0,63	4,05	
<b>Industry Median</b>		<b>15%</b>	<b>33%</b>	<b>68%</b>	<b>1,30</b>	<b>14,78</b>	

Table 3: Holcim Statistics vs Main Competitors – Source: MarketLine, Own Analysis

## 2. External Environment

### 2.1 Macroeconomic Outlook

Russian's invasion of Ukraine is causing great turmoil with the resulting uncertainties putting a strain on business and consumer confidence at a global level. Disruptions in trade are resulting in significant shortages of raw materials and commodities. As a result of this inflationary trend, the overall prices of construction materials rose by around 10-14% between January 2021 and 2022.<sup>3</sup> While the future for this market is very dependent on the duration of Ukraine war and the degree of sanctions, it is believed that the impact is likely to persist even when the conflict is over. The prospect of more COVID-19 breakouts in China, along with a larger downturn in global economy, provide adverse risks to pricing.

Moreover, energy and fuel prices are increasing, lowering demand and constraining production. As a result, the rise between April 2020 and March 2022 represents the largest 23-month increase in energy prices since the 1973 oil price hike. Similarly, Brent crude oil prices are expected to average \$100/bbl in 2022, an increase of 42 percent compared to 2021, before pulling down to \$92/bbl in 2023 as supply disruptions ease and production rises outside Russia.<sup>4</sup>

Despite the dangers associated with the ongoing war, and the resulting material cost and availability difficulties, the demand for building materials is expected to

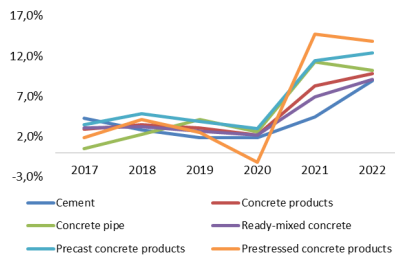


Figure 10: Changes in PPIs for Construction Materials - Source: AGC

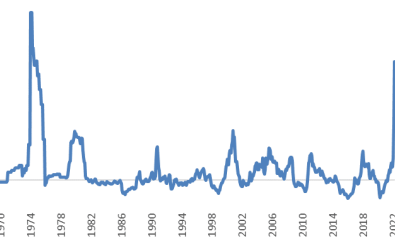


Figure 11: Historical Energy Price Growth - Source: World Bank

<sup>3</sup> AGC - % change in PPI for construction (2017-2022).

<sup>4</sup> World Bank Group. 2022. *Commodity Markets Outlook: The Impact of the War in Ukraine on Commodity Markets*,

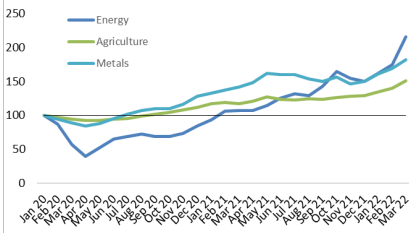


Figure 12: Commodity Prices - Source: World Bank

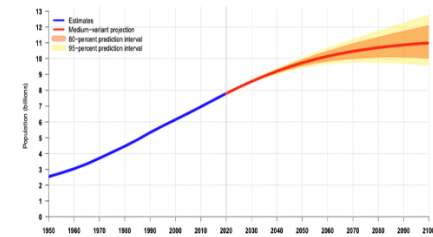


Figure 13: Future World Population - Source: World Bank

further grow. Moreover, companies that hold a strong pricing power may partially offset the impact of higher input costs and benefit from increasing demand.

## 2.2 Megatrends and Opportunities

The Global Construction Material Market size reached \$1,016 billion in 2021<sup>5</sup> and is expected to grow even further in the upcoming years. At the base of this growth, we can identify some megatrends that will act as drivers.

Firstly, as data show, the **global population** is increasing at a rapid pace, reaching 7.8 billion by 2021, up from 7 billion in 2010 and 6 billion in 1998, and is anticipated to reach 9.7 billion by 2050. Additionally, because of the high urbanization tendency, most of the people will live in metropolitan areas or megacities. With the latter being a new sort of urbanization, these have been dubbed the 21st century's urban phenomena. Moreover, as **living standards** are constantly improving, the construction sector is likely to benefit from this, as people will require a good and sustainable infrastructure in the years to come.

The previous trends are projected to be a major driver of global energy consumption and greenhouse gas emissions over the next two decades. Currently, the building sector generates around 40% of annual global CO2 emissions, while the cement production industry accounts for 8%.<sup>6</sup> Additionally, construction materials form the most important inflows into cities and emissions to the natural environment, and accounts for 90% of global material usage. Indeed, recycled materials account for less than a tenth of total use. As a result, urbanization leads to exploitation of generally non-renewable and limited natural resources. Additionally, it generates vast amounts of construction and demolition (C&D) waste that is disposed of in landfills, reinforcing the importance of an effective circular economy.

A required focus on **sustainability** and energy saving, new advancements in **technology**, materials, and practices have enabled and promoted overall efficiency. Technological breakthroughs have resulted in the development of a new generation of more resilient, lighter, and renewable construction materials, which have the potential to accelerate the shift to more eco-friendly practices.

<sup>5</sup> MarkeLine- Construction Materials Industry Report

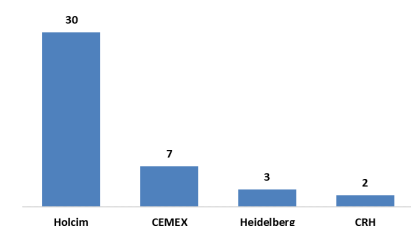
<sup>6</sup> Robbie M. Andrew, 2019. Global CO2 emissions from cement production (1928-2018)

### 2.3. Sustainability, Technologies and Innovations

The global green building materials system industry was estimated at \$199.9 billion in 2020, and is projected to grow at a CAGR of 9% from 2021-2026.<sup>7</sup> The residential sector is seeing an increase in green building construction as a consequence of a growth in the number of building laws and regulations demanding energy-efficient solutions, especially in Europe and the US. As a result, the market for environmentally friendly and energy-efficient materials for residential building is experiencing an important development.

With the goal of maximizing sustainability and efficiency, the construction industry is also leveraging new technologies and innovations. For instance, construction is an excellent candidate for 3D printing since most of the information required to build an object is generated during the building information modeling phase. Additionally, it enables the faster and more precise manufacture of complicated goods, as well as the reduction of labor expenses and waste. This trend represents a great opportunity for Holcim, as over three billion people are expected to need affordable housing by 2030, the Group can leverage its proprietary 3D printing ink produced by TectorPrint, which can reduce a building’s footprint by up to 70%, as shown by its 3D-printing Mvule Gardens project consisting of a 52-unit residential housing complex in Africa<sup>8</sup>.

Another innovation that its gaining momentum in the construction market is Carbon Capture, Utilization and Storage (CCUS). It refers to a suite of technologies that can play an important and diverse role in meeting global energy and climate goals. CCUS involves the capture of CO2 from the plants before it is released into the atmosphere. Then, the CO2 is recycled into one of CCUS applications such as low-emission raw materials for green concrete, greenhouse gas for farming or as a source of methanol for aviation fuel. Currently managing more than 30 pilot projects globally, Holcim is leading the way in this sector and it is developing new CCUS next generation technologies in order to reach the scalable and cost-effective solutions to support its 2050 net zero ambition. This number is very large compared to the number of pilots currently undertaken by its competitors: Heidelberg (3), CEMEX (7), and CRH (2), and highlights Holcim’s R&D effort for these technologies. Overall, these ongoing CCUS projects could save Holcim approximately 4 million tons of CO2 per year.



**Figure 14: CCUS Pilot Projects per Company - Source: Holcim AR 2021, Own Analysis**

<sup>7</sup> Research and Markets - Green Building Materials Market Report (2021)  
<sup>8</sup> Holcim Annual Report 2021

## 2.4 Infrastructure Plans

Globally, there is widespread recognition of the critical need for considerable infrastructural investments. Upgraded or new infrastructure will be crucial for global populations' future access to clean drinking water, housing and commercial space, lighting, sanitation, and other vital resources. As a consequence, global infrastructure investments are expected to reach US\$3.9 trillion year, with emerging economies driving the need.

Another significant factor affecting the financial landscape is the global shift to a 'green' economy. The United Nations' Sustainable Development Goals (SDGs) are contributing in this shift, with infrastructure expressly mentioned as a mean of implementing and accomplishing other SDGs.

According to the Asian Development Bank (ADB), Asia would need around US\$1.7 trillion in infrastructure investment year through 2030 if it is to maintain its current development rate, eliminate poverty, and properly adapt to climate change.<sup>9</sup>

Following the same trend, in their plan to rise infrastructure investment from 1.8% of GDP to 2.3% of GDP until 2030, the US approved both the Bipartisan Infrastructure Deal (Infrastructure Investment and Jobs Act) and the Build-Back Better (BBB) Framework at the end of 2021. These new fiscal stimuli are expected to amount to \$550bn and \$1.6trn respectively. Additionally, accounting also for already budgeted funds, it is estimated that \$1745bn will be allocated to infrastructure programs over a 10-Year horizon.

With the same intent, the EU approved the Next Generation EU (NGEU) recovery package in May 2020. The NGEU represents a one-off augmentation of the EU's multi-year fiscal framework for 2021–27, funded by €750 bn of EU debt issuance to be repaid over 30 years via new tax receipts accruing to the EU budget. In Europe, however, the scale is smaller and the duration shorter: France's ratio will increase from 2.5% to 2.7% of GDP until 2027, Germany from 1.1% to 1.4%, Italy from 0.9% to 1.3% and Spain from 1% to 1.5%.<sup>10</sup>

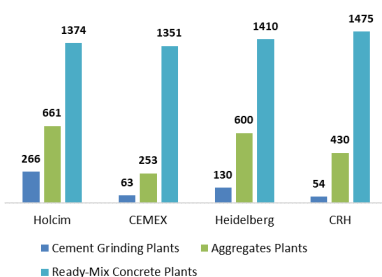


Figure 15: Total Plants per Competitors -  
Source: Holcim AR 2021, Others AR

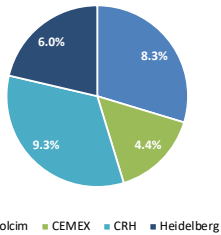
## 2.5 Construction Materials Market

In 2021, the worldwide cement and concrete products market was estimated to be worth \$333.3 bn and is expected to further grow at a CAGR of around 6% until 2026.<sup>11</sup> The market accounted for 0.40% of worldwide GDP and 37.8% of the global mineral market consumption. Indeed, increased infrastructure expenditure,

<sup>9</sup> PWC – Global Infrastructure Trends

<sup>10</sup> Allianz – Public Infrastructure Investment: Enough Back for the Buck? (2021)

<sup>11</sup> The Business Research – Global Cement and Concrete Market (2021)



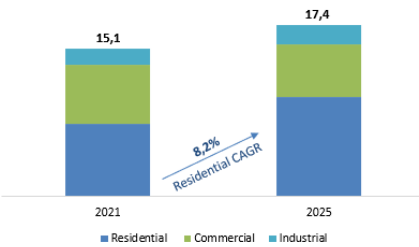
**Figure 16: Holcim and Top 3 Competitors Market Share - Source: The Business Research Company**

global economic growth, the construction of cheap housing, and a fast-rising urban population all contribute to drive this sector’s growth.

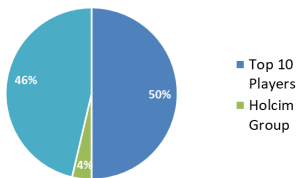
Holcim holds a leading position in the industry in terms of number of plants, in particular regarding the number of cement grinding and aggregates plants, and also in terms of market size. Additionally, Holcim detains 8.3% of the global market share in the industry, while the overall top 5 competitors account for approximately 41% of the total market share. Moreover, new acquisitions and restricted competition, aided by collaboration among big cement makers to preserve their individual market shares and stability, will also contribute to future market consolidation.

## 2.5 Roofing

With the acquisitions of Firestone and Malarkey, Holcim gained an important position in the North American roofing market. The market was valued at USD 15bn in 2021 and is expected to grow at a CAGR of 3.36%<sup>12</sup> until 2025. The main value drivers of the market are the residential segment, expected to grow at a CAGR of 8.2% until 2025, and the reroofing business, which accounts for 80% of the total demand. Firestone and Malarkey are complementary as the first holds important positions in the commercial segment while Malarkey is specialised in the residential business. Moreover, Firestone is experiencing double-digit growth in the profitable USD 50bn<sup>13</sup> global flat roofing market, which is expected to grow with a CAGR of 3.62% until 2026. The market is highly fragmented, with top 10 players’ average revenues of USD 2.5bn, so there is a lot of space for new investments and acquisitions.



**Figure 17: North American Roofing Market CAGR (2021-2025)- Source: Research and Markets**



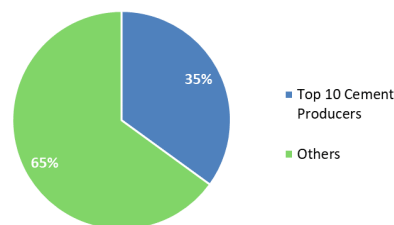
**Figure 19: Holcim Global Market Share - Source: Research and Markets, Own Analysis**

## 2.5 Competitive Analysis

### 2.5.1 Five Forces Analysis

#### Buyers power

The buyers that characterise this market vary among small businesses, large wholesalers, or construction companies. All these types of businesses serve different distribution channels depending on the end-user. While buyers are numerous, construction material producers are players with global operations, so the buyer’s power is limited. Therefore, the top 10 global cement producers account for 35% of the total cement annual production. These statistics becomes even more relevant if we exclude the Asian market and players, arriving to approximately 55%. Moreover, cement and its derivatives travel for maximum



**Figure 20: Cement Market Concentration - Source: Research and Markets, Own Analysis**

<sup>12</sup> Research and Markets – Roofing Market Research (2022)

<sup>13</sup> Daedal Research – Global Flat Roofing Market (2022)

100km<sup>14</sup> from their construction sites. Thus, the transportation over this range is financially unsustainable making the competition develop at a local level. The high market concentration and the possibility to purchase these materials only from few players at a local level makes the buyers power moderate.

**Supplier power**

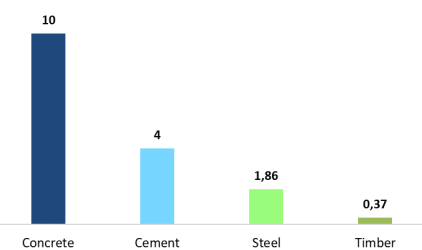
Raw materials and energy are the main costs for construction materials companies. Therefore, cement is the result of a process that sees as main inputs limestone and clay. Aggregates are mainly sand, crunched stone or gravel and concrete is a mixture of cement and aggregates. The main suppliers are large mining companies, that present a lot of the features mentioned before: high concentration of the market, local competition, and strong pricing power. In general, suppliers’ power is high. However, Holcim has back ward integrated the mining process and is therefore able to fully manage its supply-chain and mitigate its exposure to raw material costs fluctuations. For this reason, it is possible to argue that the supplier power does not represent a dominant force for Holcim.

**New entrants**

The construction materials business holds very important barriers to entry as it requires important economies of scale, high start-up and fixed costs, and is characterised by low product differentiation. For instance, it is estimated that opening a cement plant would cost between \$17.000-\$20.000<sup>15</sup> per ton in the US. Moreover, stringent laws on environmental requirements make almost impossible to open a brand-new cement plant, especially in developed markets. All these features make very difficult for a new player to enter in the market and gain a relevant share. Therefore, the market is characterised by few global giants that have been running their operations for decades and can leverage their expertise and extensive network of infrastructures built throughout the years.

**Threat of substitutes**

Construction materials as cement or concrete are essentials for any type of building project worldwide. The production of concrete alone accounts for more than the double of the other main construction materials together. Potential substitutes could be more sustainable solutions as timber, pre-fab or new versions of the above mentioned materials. The demand for sustainable building solutions in developed markets is growing and resilience, recycling, and footprint of products are becoming increasingly important. For this reason, innovation is bringing new



**Figure 19: Production of Construction Materials (in mn tonnes) - Source: Own Analysis**

<sup>14</sup> UN – “Eco-efficient cements: Potential economically viable solutions for a low-CO2 cement-based materials industry”

<sup>15</sup> Agico Cement - How Much Does It Cost To Start A Cement Plant?

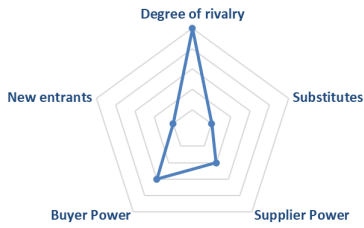


Figure 20: Five Forces Analysis Output - Source: Own Analysis, Marketline

sustainable versions of traditional building materials. As already discussed, Holcim is leader in this type of product offering and is very well positioned to exploit this trend. Overall, the threat of substitutes for these products could be considered practically inexistent.

**Degree of rivalry**

As we will analyse in the following chapter, the main construction materials players share similar traits in terms of infrastructures, strategies, and product offering. Moreover, the high cyclicalicity of the market, fixed costs, and costs of exit are all crucial factors that contribute to a high degree of rivalry.

**2.5.2 Main Competitors and Competitive Analysis**

We believe that the players who represent the most important competitors of Holcim are Heidelberg, Cemex and CRH.

**HeidelbergCement** is a German construction material provider that operates in Europe, North America, Asia Pacific and Middle East Africa. In 2021, it generated 18.7bn euros in revenues. The firm mainly operates in the cement and aggregates segments and can count of 1430 ready-mix concrete sites, more than 600 quarries and 134 cement plants across 50 countries. The firm is undertaking a portfolio transformation to focus on the markets where Heidelberg owns a larger market share.

**Cemex** is a Mexican cement company operating in the Americas, as main market, but with important positions also in Europe, Asia and Africa. The company has generated sales of USD 14.5bn and manages 63 cements and grinding plants, 1351 ready-mix plants, 253 quarries with operations in 96 countries. The company has also created its new sustainable concrete line called Vertua.

**CRH** is a global leader in the construction materials industry. The firm owns more than 3000 locations in 28 countries and its mainly focused in North America and Europe. The firm has produced USD 31bn revenues in 2021, experiencing a growth of 12% from 2020.

We believe that since the main players of the industry all present similar features, one of the main competitive advantages in this industry is how a firm can deal with the cyclicalicity of the sector, both in terms of margins and value creation. In general, all considered firms tend to have a stable trend in terms of gross margin regardless of the general economic conditions, with Holcim having the highest margins in absolute terms. We think this is due to the fact that all the four comparable are very predominant players and hold an important pricing power. Moreover, they all back-integrated their mining operations, which allows them to directly manage their

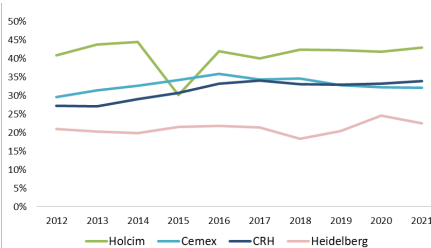
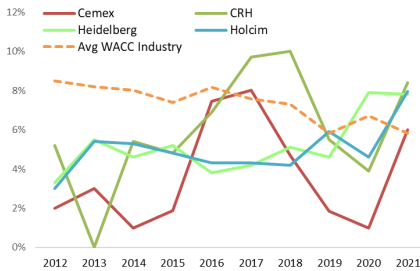


Figure 21: Gross Margin Trend Competitors - Source: Own Analysis, Refinitiv



**Figure 22: Value Creation Drivers Competitors** - Source: Own Analysis, Refinitiv

supply-chain and eventual spikes in material prices. On the other hand, ROIC is more volatile to general economic conditions. Historically, large cement companies struggled to create value as shown from the graph. However, Holcim’s ROIC doesn’t seem to have high correlation with the external environment but it’s mainly due to company-specific features like M&A activities and new investments. We believe that, if managed properly, this can represent an important driver for Holcim’s future growth.

### 3. Revenues Breakdown and Forecast

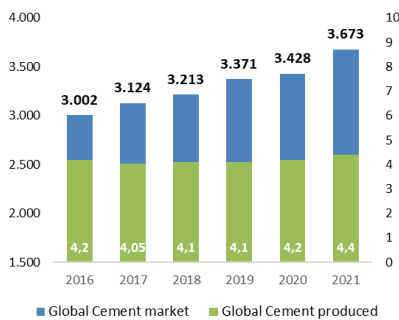
The revenues breakdown and forecast have been performed following the four different segments of Holcim: Cements, Aggregates, Ready-Mix Concrete, and Solutions & Products. Moreover, it’s important to divide the segments by geography as Holcim is performing a portfolio transformation that follows a clear geographical pattern. The forecast is divided in two phases, the first period is until 2025, when the targets of the new strategy should be accomplished, and a second period, until 2031, in which we expect Holcim to consolidate its new market positions gained after the portfolio transformation

#### 3.1 Cement

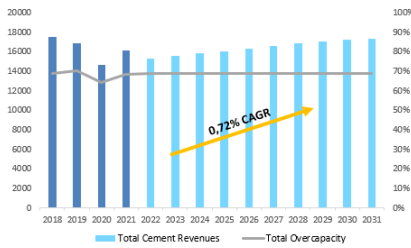
##### 3.1.1 Description and 2021 Performance

This segment comprises the production and selling of bag and bulk cement. The first is generally preferred in emerging markets while industrialized countries are mainly bulk consumers. The main clients of this segment are large B2B players like construction companies or building products manufacturers. Cement revenues increased by 10% to 16bn CHF in 2021, representing 60% of Holcim’s revenues in the given year. However, it’s important to note that this growth is mainly due to the poor performance of 2020 and that revenues from the segment are still below pre-pandemic levels.

We noticed that the market growth is mainly driven by increase in prices while the tons of cement sold worldwide follow a slower trend. For this reason, we calculated the total market both in terms of CHF bn and million tons, which respectively had a CAGR of 4% and 1%, and used different growth rates for the forecast period, GDP growth and urbanisation trends. Moreover, Holcim, as other main competitors, operates between 70-80% of full capacity depending on the geographical area. This is major problem for global cement producers that we believe Holcim won’t be able to overcome in the following years. Therefore, it is



**Figure 23: Cement Market Growth (CHF mn vs mn tonnes)** - Source: Own Analysis, Statista



**Figure 24: Cement Revenues Growth and Overcapacity - Source: Own Analysis**

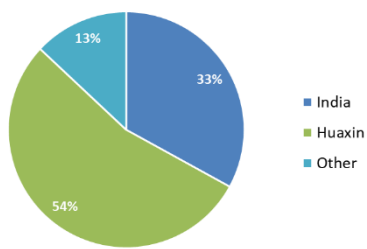
estimated that current global capacity can already fulfil cement’s need for the next 20 years<sup>16</sup>. For our forecast, we estimated the total cement capacity of Holcim, as well as the operating capacity, to remain constant during the forecast period. This would allow us to find Holcim’s market share in terms of million tons of cement sold and calculate its revenues from the segment. Due to lack of new investments from the Group and more divestments occurred in the first quarter of 2022, the segment experiences a reduction of capacity in 2022. Therefore, we expect the revenues from cement to decrease in 2022 and follow a CAGR of 0.72% during the forecast period.

### 3.1.2 Forecast - Cement

**North America.** The North American cement market was valued at 15.2bn CHF<sup>17</sup> in 2021 and Holcim holds a leading position with a market share of 19.7%. We expect this market share to decrease gradually as a result of lack of new investments in the segment to grow the total production capacity, that today stands at 32 mn tonnes.

**Europe.** Europe cement market was valued at 16.6bn CHF. In 2022, Holcim has divested its cement business in North Ireland and announced the willingness to sell its operations in Russia due to the Ukrainian War. These two sites accounted for 10,5 mn tn of cement capacity, accounting for 14% of the total capacity of the Group in the region. The impact on the total revenues from the region would be a decrease of 14% in 2022, followed by a steady annual growth rate of approximately 1.3% until 2031.

**Asia-Pacific.** The cement business in Asia-Pacific was valued at 287bn CHF in 2021. Holcim has a total capacity of 210 mn tonnes in the region, but 54% of this total is to be attributed to the joint venture with the Chinese company Huaxin, whose performance is accounted in the region results. Although Asia-Pacific represents the largest source of revenues for the cement segment with 4.5bn CHF generated in 2021, the Group represents only 1.6% of the total market. As in other geographies, we don’t expect new investments within this segment. However, there are recent rumours, albeit not confirmed by the Group, of a possible divestment of Ambuja, the Indian cement subsidiary of Holcim. This would represent a huge change for the Group’s presence in the Asian cement market as the Indian’s business represents 33% of the total region capacity.



**Figure 25: Asian Cement Capacity - Source: Holcim AR 2022**

**Latin America & Middle-East Africa.** The cement markets of LatAm and Middle-East Africa have similar sizes, respectively 8.3 and 8.9bn CHF in 2021, and Holcim

<sup>16</sup> Emir Azirgundel, World Cement Association – “The greatest problem”  
<sup>17</sup> Marketline – Global Construction Material Report (2021)

has a large share of both industries, 27.5% and 26%. Holcim has signed an agreement to divest its business in Brazil, which includes 5 cement plants and 25% of total grinding capacity in the region. For this reason, we expect a decline of 24% in total sales as a result of lower capacity and tonnes of cement sold in the region. Regarding the African region, Holcim has completed divestments in the Indian Ocean, Zambia and Malawi in the cement segment. We assume Holcim will keep its current capacity and revenues to remain relatively flat during the forecast period.

### 3.2 Aggregates

#### 3.2.1 Description and 2021 Performance

Aggregates are rock fragments obtained from fluvial deposits, such as natural sand and gravel, or from hard rock formations, such as granite. The extracted elements are subsequently crushed, shaped, and screened to create the final goods. The processed aggregates may be blended with cementitious materials to make ready-mix concrete or with bitumen to make asphalt.

The Global market size for Aggregates was estimated at CHF 306.1 bn in 2021, and is expected to grow even further at a CAGR of 4.95% until 2025, reaching CHF 389.8 bn. <sup>18</sup>

While Holcim’s Revenues for this segment increased by 8.7% in 2021, it is worth noting again that sales are below 2019 pre-pandemic levels. Nevertheless, it accounts for 15.2% of Total Sales and is expected to grow to 16% in 2025, mainly fuelled by bolt-on acquisitions in mature markets.

Following recent trends, interest rates are expected to remain low in upcoming years, further boosting demand new houses, infrastructure, and renovations, but also demand for these materials. We therefore expect growth to remain stable until 2030 at a CAGR of 3.08%. We found it important to divide the Aggregates Market into geographical regions, as the extent of the growth in the region may differ based on different drivers.

#### 3.2.2 Forecast - Aggregates

**North America.** The North American Aggregates market amounted to CHF 35.9bn in 2021 and is expected to stably grow at a CAGR of 4.00% until 2025 and 2.44% until 2030. Holcim sales of Aggregates amounted to CHF 1.4 bn in 2021, representing a 4.0% regional market share. Holcim’s growth strategy was supported by 2 bolt-on acquisitions in 2021. Following this trend, we expect the

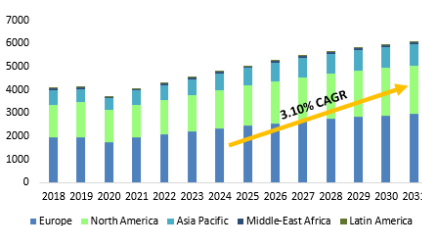


Figure 26: Aggregates Revenues Growth - Source: Own Estimates

Group to keep this growth-through-acquisition strategy in future years, in order to increase revenues in the sector and keep up its market share in a growing market.

**Europe.** In Europe the Aggregates Market amounted to CHF 34.0 bn in 2021, and is expected to stably grow at a CAGR of 4.83% until 2025 and 2.50% until 2030. Total sales of Aggregates were recorded for CHF 1.9 bn in 2021, reflecting a 5.7% market share. Likewise North America, being Europe a mature market, Holcim's expansion strategy involves bolt-on acquisitions, as seen through the 5 acquisitions carried out in 2021. Therefore, we expect Holcim to match the increase in market size through new acquisitions to maintain its current share.

**Asia-Pacific.** The Asian-pacific Aggregates market was valued at CHF 206.0 bn in 2021, and is expected to grow at a CAGR of 4.77% until 2025 and 2.71% until 2030. Holcim's sales in this region accounted for CHF 0.6 bn in 2021, consisting of a 0.3% market share. We believe that organic growth in the region and Holcim's strategy to expand capacity within operating plants, the Group will be able to maintain its current market share in the region.

**Middle-east Africa.** In the Middle-East and Africa the Aggregates market amounted to CHF 19.5 bn in 2021, and is expected to experience a substantial growth at a CAGR of 8.36% until 2025 and 7.70% until 2030. Holcim's sales of Aggregates in the region amounted to CHF 45 mln, representing a 0.2% market share. Differently from the other regions, Holcim's sales in this region are more dependent on major infrastructure construction projects. This is due to the fact that the infrastructure and transportation lines in the region do not favour ordinary operativity. For this reason, the region focused on improving its environmental footprint, by investing in the infrastructure of key plants to reduce emissions including those in Nigeria, Algeria, Egypt and Kenya. Therefore, we expect the Group's market share to remain stable at 0.2%.

**Latin America.** In Latin America the Aggregates market reached CHF 10.8 bn in 2021, while we expect it to grow at a CAGR of 5.34% until 2025 and 2.55% until 2030. Sales of Aggregates in the region accounted for CHF 36 mn in 2021, and a market share of 0.3%. Similarly to Middle East and Africa, Holcim's operations rely mainly on infrastructure construction projects. The Group is therefore focusing on expanding operations in Mexico, Colombia and Ecuador, rather than acquiring new businesses. Moreover, Holcim divestures in Brazil also include 6 Aggregates plants, reducing the Groups' capacity in the region. For this reason, we expect Holcim's market share to decrease to 0.2% and remain stable at that level.

### 3.3 Ready-Mix Concrete

#### 3.3.1 Description and 2021 Performance

Concrete is composed of aggregates (80%), cement (12%), and water. By adding certain additives, the properties of the concrete may be modified to fit the desired use. Apart from water, no other substance on the planet is as commonly utilized as concrete. As a matter of fact, it is used in all major construction projects, whether they are tunnels or bridges, office buildings or schools. Ready-mix concrete is often brought to the construction site by ready-mix trucks and poured into forms on-site.

The Global market size for this Ready-Mix Concrete was estimated at CHF 750.4 bn in 2021, with annual growth prospects at a CAGR of 8.2% until 2028.<sup>19</sup> As of 2021, the Group’s revenues for Ready-Mix stand at CHF 5,167 bn, with an annual growth of 12.1%, with sales totalling 46.5 million cube meters. However, sales are still below pre-pandemic levels, as they reached CHF 5,481 bn and CHF 5,290 bn in 2018 and 2019 respectively. Nevertheless, Sales are expected to surpass pre-pandemic levels within 2 years. Holcim’s portion of revenues deriving from this segment is equal to 19.3% in 2021. This is expected to gradually decrease down to 17,2% in 2025 and 16.0% in 2030, as a result of the company’s strategy to strengthen the Aggregates and Solutions & Products segments.

Moreover, we estimated Sales to increase of around 3% annually, mainly fuelled by bolt-on acquisitions in Europe and North America, while slowed down by divestures in Asia and Latin America. As we can see from their track-record, in 2021 Holcim completed 3 acquisitions in North America, 4 in Europe and 1 divestment in Asia-Pacific. To be able to more precisely forecast sales, we divided the segment by regions and estimated the number of ready-mix concrete plants based on the historical track record and M&A activity of Holcim, this would also allow us to better reflect the company’s growth strategy.

#### 3.3.2 Forecast – Ready-Mix Concrete

**North America.** Holcim’s operations in the ready-mix segment in 2021 accounted for CHF 1,546 mln revenues and 10.4 million cube meters of concrete sold. In the same year, the number of operating plants was 261, averaging a CHF 5.9 mn of sales per plant. Similarly with the other segments, Holcim’s growth strategy was supported by 3 bolt-on acquisitions in 2021 and we expect the Group to keep up this acquisition strategy up in future years, therefore increasing the number of plants to 295 in 2025 and 318 in 2030, and sales to CHF 1,682.2 mln and CHF

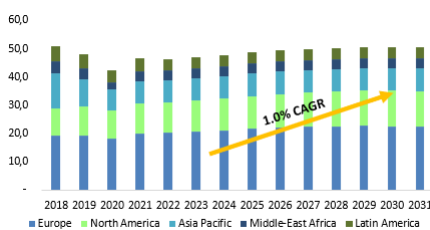


Figure 27: M³ of Ready-Mix Sold per Geography - Source: Own Estimates

<sup>19</sup> Fortune Business Insight – Ready-Mix Concrete Market Forecast (2021-2028)

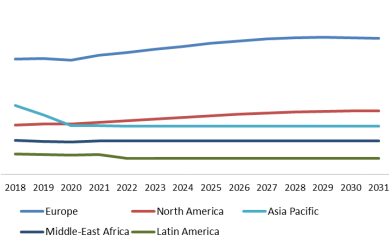
1,816.3 mln respectively. Moreover, we expect the Group’s investments levels in terms of number of plants to gradually decrease by 0.5% from 2026 onwards.

**Europe.** Holcim’s revenues for European operations in the ready-mix segment in 2021 accounted for CHF 2,123 mln and totalled 20 million cube meters of concrete. In the same year, the number of operating plants was 598, averaging a CHF 3.6 mn of sales per plant. As part of its acquisition strategy, Holcim’s completed 4 bolt-on acquisitions in 2021. Notable bolt-ons include Edile Commerciale and Cemex Rhone Alpes, both suppliers of ready-mix concrete, and located in two of Europe’s largest metropolitan areas, Milan, Italy, and Lyon, France. Moreover, we expect the Group to keep up this acquisition strategy up in future years, therefore increasing the number of plants to 657 in 2025 and 685 in 2030, and sales to CHF 2,289.5 mln and 2,390.3 CHF bn respectively. Additionally, we expect the Group’s investments levels in terms of number of plants to gradually decrease by 0.5% from 2026 onwards, reflecting the concentration of the growth strategy investments in the first years.

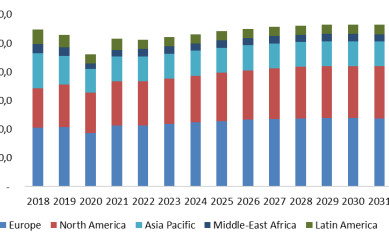
**Asia-Pacific.** Holcim’s revenues for Asian-Pacific operations in the ready-mix segment in 2021 accounted for CHF 877 mln and totalled 7.9 million cube meters of concrete. In the same year, the number of operating plants was 244, averaging a CHF 3.6 mn of sales per plant. Differently from the trend in Europe and North America, Holcim’s strategy for the segment in Asia is to expand capacity within operating plants, rather than investing in new ones. As a matter of fact, the Group has been divesting over the years in the region as can be seen in the Philippines and Malaysia. Following their strategy, we expect the number of plants to decrease to 241 in 2025 constant thereafter, and sales to CHF 866 mln. Moreover, we expect the Group’s divestment levels in terms of number of plants to remain constant until 2025, the end of divesture period, reflecting the company’s strategy to focus on current operations capacity in the region.

**Middle-east Africa.** Holcim’s Middle-East & African operations in the ready-mix segment in 2021 accounted for CHF 225 mln revenues and 3.5 million cube meters of concrete sold. In the same year, the number of operating plants was 169, averaging a CHF 1.3mn of sales per plant. Differently from the other regions, Holcim’s sales in this region are more dependent on major infrastructure construction projects. For this reason, the region focused on improving its environmental footprint rather than on its M&A activity. We expect the Group to keep the number of plants stable at 169 onwards, and sales at CHF 0.3 bn.

**Latin America.** Holcim’s Latin American operations in the ready-mix segment in 2021 reached CHF 396 mln revenues and 4.7 million cube meters of concrete sold. In the same year, the number of operating plants was 102, averaging a CHF 3.9



**Figure 28: Ready-Mix plants per Geography**  
-- Source: Holcim AR 2021, Own estimates



**Figure 29: Ready-Mix Revenues per Geography**  
-- Source: Holcim AR 2021, Own estimates

mn of sales per plant. Similarly to Middle East and Africa, Holcim's operations rely mainly on infrastructure construction projects. The Group is therefore focusing on expanding operations in Mexico, Colombia and Ecuador, rather than acquiring new businesses. Additionally, Holcim divestures in Brazil also include 19 Ready-mix plants, reducing the Groups' capacity in the region. For this reason, we expect the number of plants to decrease at 83 and remain stable thereafter, and sales at CHF 0.3 bn in 2025 and 2030.

## 3.4 Solutions & Products

### 3.4.1 Description and 2021 Performance

The Solutions & Products segment offers dry-mortars, application-specific solutions, and contracting services. It is the growth segment of the company and "Strategy 2025" target it to account for 30% of total revenues in 2025. We believe that this target is going to be pursued through a very active M&A activity and organic growth. The relevant geographies for this segment are mainly developed markets, North America and Europe, that are therefore the locations where Holcim has focused its acquisitions in 2021 and Q1 2022. The segment produced 3.7bn CHF in revenues for FY 2021, from 1.8bn CHF in 2020, and represented 13% of the total revenues of the Group. This huge growth needs to be reconducted to the acquisition of Firestone Building, a leading roofing company from the US, that contributed for 1.3bn CHF in revenues during 2021. Since the segment it's going to be fuel by new acquisitions and it's mostly concentrated in Europe and US, we decided to perform the forecast dividing by three main product lines: dry-mix mortars, pre-cast concrete and roofing. The segment is expected to experience double-digit CAGR of 10% until 2031.

### 3.4.2 Forecast – Solutions & Products

**Dry-mix mortars.** The dry-mix mortar business was already present in Holcim's operations before the recent acquisitions, and offers solutions for masonry, plastering, flooring, waterproofing, repair, construction chemicals and 3D construction printing.

The business represented 60% of the total segment revenues until the acquisition of Firestone, that introduced the roofing business. The global dry-mortar market was valued at 33.4bn CHF in 2021 and it is expected to grow at a CAGR of 5.5%<sup>20</sup> until 2030. Holcim has already announced the acquisition of PRB group, French leader in specialty solutions products, which is expected to contribute to the

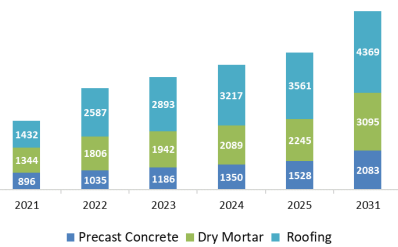
<sup>20</sup> Global Market Insights: Dry Mix Mortar Market (2021)

segment's revenue for 352mn CHF in 2022 and PTB, a Belgian firm operating in the same business. These acquisitions will increase the market share of the Group by 1% to a total of 5.2% in 2023 and we assumed a constant growth in market share of 0,1% until 2025 to account for positive synergies and potential new acquisitions in such a fragmented market that has a lot of potential for consolidation.

**Precast Concrete.** The precast concrete is used for commercial, infrastructure and residential constructions. It offers great flexibility and has technology and sustainability as main benefits. The precast concrete product line accounted for 40% of the Solutions & Products segment before the introduction of the roofing business. The global market was valued at 86,7 bn CHF in 2021 and has an expected CAGR of 5.3%<sup>21</sup> until 2030. Holcim represents 1% of the market and, as for mortar product line, we expect an organic growth of 0.1% in the market share until 2025.

**Roofing.** Holcim became a full roofing provider in 2021 after the acquisition of Firestone Building Material. The Group has also closed the acquisition of Malarkey, another US roofing provider, to further consolidate the position in the market. Both acquisitions are mainly focused on the US market, so we divided this product line between US and rest of the world.

The US roofing market was valued at 14.3bn CHF in 2021 and it is expected to grow at CAGR of 3.4%<sup>22</sup> until 2030. With the acquisition of Malarkey and Firestone, Holcim holds 17.4% of the market. Considering the M&A track-record of the firm, successful synergies and potential new acquisitions we assumed a yearly increase in market share by 1,1% until 2030. Thanks to the integration with Holcim, Firestone is leveraging the Group's network to launch its service in Latin America and Europe. Currently, only 10% of Firestone's revenues are not attributed to the US. The global roofing market (ex-North America) was valued at 98bn CHF in 2021, with a CAGR of 4.3% until 2030. We believe that a yearly increase in market share of 0.05% could reflect the scaling of Firestone operations abroad and potential acquisition in the roofing sector, especially in Europe. The roofing segment is the business from which we expect higher growth with a CAGR of 11.8% until 2031.



**Figure 30: Solutions & Products Sales per Sub-Segment - Source: Holcim AR 2021, Own estimates**

### 3.5 Costs Breakdown

<sup>21</sup> GrandViewResearch: Precast Concrete Global Market (2021)  
<sup>22</sup> Research and Markets: North American Roofing Market (2021)

When looking into Holcim’s cost breakdown, one can notice that the Cost of Goods Sold reached around 49.8% of the total Revenues in 2021. As we can see, Material Expenses are the major cost drivers as they account for 21.6% of sales. Moreover, other drivers that are further expected to put pressure on costs are Electricity Expenses and Fuel Expenses.

As mentioned previously, the global prices of cement and materials rose by around 10% between January 2021 and 2022, with further pressure being put on the energy and fuel prices due to the conflict between Russia and Ukraine and inflation. Overall, we estimate the above-mentioned drivers to be the Group’s main variable costs which will impact Holcim’s future strategic decisions. As a matter of fact, Holcim’s strategy in this sense has been that of successfully offsetting the growth in input costs by increasing the prices for its product, which, nevertheless, are met by an ever-increasing demand driven by economic growth and urbanization in each territory. For these reasons, we expect Material, Electricity and Fuel costs to increase at the same rate as total Sales and therefore keep their marginalities around the current level. With regards to Personnel, Maintenance and Other Expenses, these are deemed fixed and expected to grow as a % of Total Sales, as they are related to the overall business and the Group does not expect any particular changes in the composition. This is also reflected in Q1 2022 results, where the overall Net sales consistently increased throughout all regions mainly driven by an increase in volume orders and the Group’s strong pricing ability to contain cost inflation. Moreover, as further proof, Europe and North America’s Recurring EBIT increased by 31.3% and 229.1%. At the base of this growth, we find again strong pricing especially in Europe, and a market growth USA and Canada West, highly impacted by the newly acquired Solutions & Products business.

As we mentioned before in Chapter 1.4, Holcim outperforms its peers in most of the profitability metrics. Noticeably, through its pricing power, the Group is able to maintain a Gross Margin a lot higher than the industry median (50% and 33%, respectively). SG&A expenses are highly dependent on the Total Sales and are therefore expected to increase following the same trend. These expenses are relatively higher than competitors’, putting pressure on the EBITDA Margin; which, nevertheless, still remains at 22.7%, exactly +4.0% higher than the industry median. Looking at the EBIT Margin, Holcim is still able to maintain a 3% advantage over the median (11.9%), this is gap expected to decrease as we expect EBIT Margins to slightly retract due to new investments and the deriving burden of depreciation. Overall, Holcim was the only company in the panel able to reach a double-digit Profit Margin (10%), maintaining a leading position among its peers.

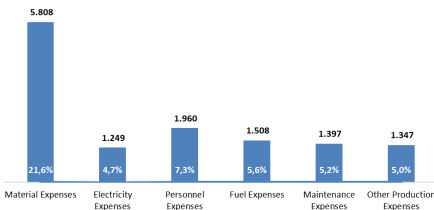


Figure 31: Costs Breakdown and as percentage of Sales - Source: Holcim AR 2021, Own estimates

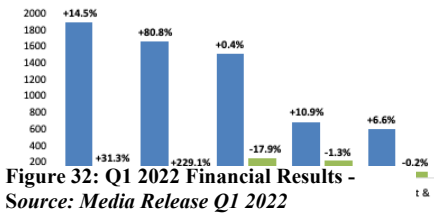


Figure 32: Q1 2022 Financial Results - Source: Media Release Q1 2022

### 3.7 Capital Structure

In 2021, Holcim had a relatively low debt-to-equity (D/E) ratio of around 0.4, which is half the industry’s average of 0.8. Moreover, Holcim’s capital structure is expected to further strengthen in coming years. As we can see from the EBIT/Financial Expenses forecasted ratio, measuring operating performance against the interest payments, operating profits will be able to more than cover for interests.

Overall, Holcim has been decreasing its financial debt levels between 2018 and 2020 from CHF 15,451 to 12,330, respectively. In 2021 debt levels went almost back to pre-pandemic levels, reaching CHF 14,661. This is reflected in the company’s performance in the sustainability-linked loan market. As a matter of fact, Holcim holds around CHF 6.7 billion in sustainable financing agreements to date, representing a sustainable financing ratio stands at 30%, which is expected to grow at 40% in 2025. Additionally, Holcim issued 3 SLBs with a FV of CHF 850, 325 and 100 million, with maturities in 2031, 2026 and 2032 at a cost of debt of 0.5%, 0.35% and 0.9%. We therefore expect the future interest rate to drop to around 2.6% in 2025 from 3.9% in 2021, mainly due to a higher degree of sustainable financing favored by a lower cost of debt.

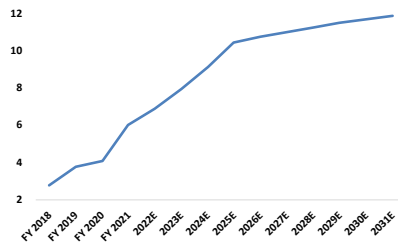


Figure 33: EBIT Coverage Ratio Forecast - Source: Own Estimates

## 4. Valuation

### 4.1 Working Capital Management

To better understand Holcim's Working Capital Management and, by extension, its liquidity and operational performance, we sectioned the Cash Conversion Cycle by analyzing the Days of Inventory Outstanding ("DIO"), the Days of Sales Outstanding ("DSO"), and the Accounts Payable Turnover Days ("APTD").

In 2017, Holcim’s Cash Conversion Cycle required on average 25 days in order to convert its inventory into cash. However, this number has been decreasing over the last years, reaching negative values both in 2020 and 2021. A negative value suggests that the company requires less time to sell its inventory and receive cash than it does to pay their inventory suppliers, who are, in a way, financing part of the operations. Overall, the industry’s average CCC ranges between 48.3 and 34.9, extremely higher than Holcim’s below-zero levels, highlighting the Group’s efficiency in managing its cash-flows also compared to its competitors.

When considering the DIO, although close to the industry average of 64 days, we can see that Holcim holds its inventory slightly more than its peers before selling it

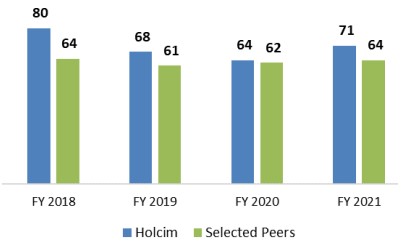


Figure 35: Days Inventory Outstanding - Source: Own Analysis

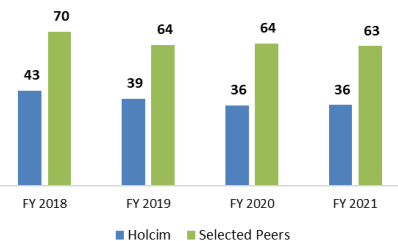
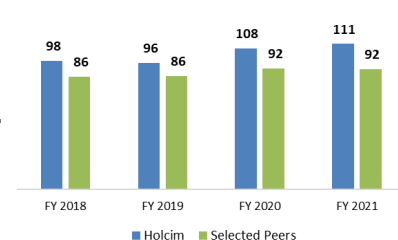
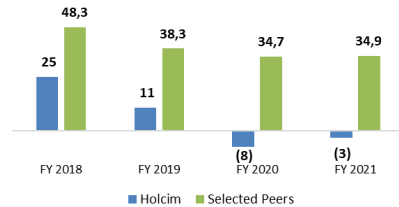


Figure 36: Days Sales Outstanding - Source: Own Analysis



(71 days). Consequently, the Group may be slightly more vulnerable to increased pressure on liquidity, resulting in a potential demand for external sources. Nevertheless, this result is sustainable and not indicative of mismanagement.

Figure 37: Account Payables Turnover - Source: Own Analysis



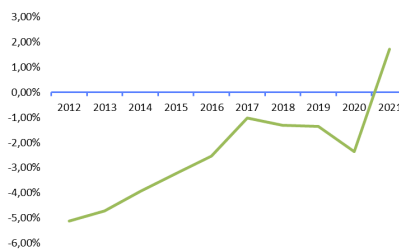
Moving to the DSO, which shows the average number of days that it takes a company to collect payment for a sale, we notice that Holcim outperforms its peers, as it only takes 36 days compared to the industry average of 63. This result highlights Holcim’s efficiency in collecting money from its clients.

With an average APTD of 111 days against 92 of its peers, Holcim is once again more efficient than its competitors when it comes to repaying its suppliers, as it repays on a timelier basis.

Figure 38: Cash Conversion Cycle - Source: Own Analysis

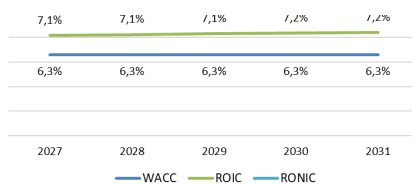
Overall, Holcim is a lot more efficient than many of its peers when it comes to managing the working capital, allowing it to better manage its liquidity and enhancing efficiency. We expect Holcim to keep its efficiency in managing the working capital also in future years, reason why we decided to use the average DIO, DSO and APTD as the basis for the forecast of some Net Working Capital figures, namely the Inventories, Trade Receivables and Trade Payables.<sup>23</sup>

## 4.2 Value Creation Drivers



As already mentioned in the competitive analysis, large international construction materials companies struggle to create value resulting in an average WACC of the industry higher than its ROIC during the last 10 years. However, the ROIC-to-WACC spread decreased consistently throughout the analyzed period and reached break-even in 2021.

Figure 39: Holcim ROIC to WACC Spread (2012-2021) - Source: Own Analysis



Holcim’s growth rate stabilized in a range between 1.8% and 1.45% during the last years of the forecast period. RONIC and ROIC follow similar trends, with the first reaching a pick of approximately 10% in 2025 due to a forecasted successful portfolio transformation and intensive investments to expand operations in Solutions & Products. RONIC will then decrease until 2031 to a value of 8.9% because we believe Holcim will slightly slow down new investments in the high-growth segment once it reaches the Strategy 2025 targets. On the other hand, ROIC grows consistently with less fluctuations due to a constant contribution of past investments that will consistently contribute to the organic growth of the Group. Lastly, it is important to highlight that the perpetual ROIC of the firm (7.19%) is higher than the expected WACC of Holcim (6.3%), suggesting that the firm will have the ability to create value in perpetuity through new investments.

Figure 40: Holcim Value Creation Drivers, RONIC, ROIC and WACC (2027-2031) - Source: Own Analysis

23 Data Source: Refinitiv

### 4.3 DCF

In order to perform the valuation of our target firm Holcim, we chose the Discounted Cash-Flow method. This approach discounts the cash flow to the firm with its appropriate WACC, which assumed a constant capital structure with D/E of approximately 40%.

#### 4.3.1 Beta estimation

The beta unlevered of Holcim was calculated by performing the rolling beta method both on Holcim and a sample of comparable companies against the Euro Stoxx 600. As most of Holcim’s shareholders are Swiss, we selected the prices of the Euro Stoxx 600 denominated in CHF. For the same reason, we selected the prices of the 10Y Swiss government bond as proxy for the risk-free to extract the excess returns of the sample group. The results of the regression were then de-levered for each company-specific capital structure to finally find a median beta unlevered of the construction materials industry. The beta unlevered of the industry results to be 0.82, which confirms the company-specific result of 0.84, and was selected as proxy of the beta unlevered of our target firm. The final step to find the beta equity of Holcim was to re-lever the industry beta with the company’s capital structure resulting in a value of 1.11.

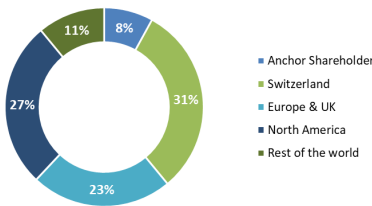


Figure 41: Shareholders Base by Geography - Source: Holcim AR 2021

#### 4.3.2 WACC, PGR & TV

Since Holcim’s cash flows are denominated in CHF, the WACC needs to follow the same currency. The cost of debt was calculated as the YTM of a Plain Vanilla Fixed Coupon (0.5%) corporate bond, adjusted for 1-year PD of 0.14 % and a recovery rate of 58.61%<sup>24</sup>, coherently with Holcim’s rating (BBB from S&P Ratings). The bond, denominated in CHF, has a maturity of 10 years and a total issued amount of CHF 185mn. This resulted in a cost of debt of 2.06%, which is slightly lower than our sample of competitors median (2.62%).

Holcim’s cost of equity was calculated with the CAPM. Firstly, we selected the 10Y Swiss Government Bond, which has a current yield of 0.985%<sup>25</sup>, as proxy of the risk-free. Thus, we selected a MRP of 6.5%<sup>26</sup> from a research of EY Swiss Valuation Services focused on the Swiss market. The CAPM formula returned a cost of equity of 8.2% that we believe accurately reflects the company-specific features and current market conditions.

<sup>24</sup> S&P Global – “Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study”

<sup>25</sup> Refinitiv

<sup>26</sup> EY Valuation Services – “Market Essentials-Switzerland” (Feb, 2022)

Finally, we derived the capital structure of the company with E/EV of 71%, D/EV of 29%, and a statutory tax rate of 24%. These calculations result in a WACC of 6.3% which we believe it's a good representation of the cost of capital of Holcim. Moreover, we cross-checked this value with the current WACC of European Building Materials firms. The average WACC for comparable firms in the region is expected to be 6.12%<sup>27</sup>, further confirming the validity of our assumptions.

The perpetual growth rate of the firm was calculated by calculating the ROIC, RONIC and reinvestment rate over the forecast period. This process returned a PGR of 1.45% from the product between a RONIC of 8.91% and reinvestment rate of 16.31%, which are the values as of 2031 when cash flows reached their maturity. The PGR is crucial as it determines the terminal value, which is the largest component of the overall enterprise value. In our valuation, it accounts for 66% of the total EV and has a value of CHF 34.4bn.

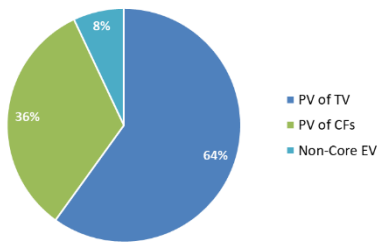


Figure 42: EV Composition - Source: Own Estimates

### 4.3.3 Intrinsic Valuation Output

The DCF method results in a forecasted EV of CHF 49bn as of the end of December 2022. After adding the value of Non-Core EV, which is mainly composed by the current market value of Holcim's JV, and subtracting Net Debt and NCI, we derived an equity value of CHF 38.9bn. Holcim currently has 615.9mn of shares outstanding, resulting in a forecasted share price of CHF 61.8. This represents a potential upside of 30.71% over the current share price of CHF 46.86 (as of 19/05/2022), with an annualised return of 67%.

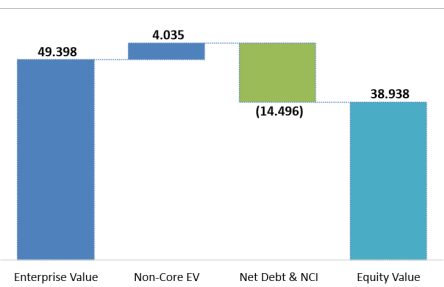


Figure 43: Equity Bridge - Source: Own Estimates

## 4.4 Relative Valuation

In order to further validate the DCF analysis with current market prices, we performed a trading multiples valuation. We selected a group of comparable companies in the construction materials industry based on business units, market capitalization and geographies. The purpose of this screening was to identify multiples that could appropriately reflect Holcim's risks, opportunities and growth prospects. Considering the type of industry and firm, which strongly reflects the characteristics of value companies, P/E multiples resulted in not meaningful results. We therefore focused our analysis on three main dimensions: **EV/Sales**, **EV/EBITDA**, and **EV/EBIT**.

The results of the multiple valuation range between share price of CHF 48.9 and CHF 59. Moreover, it is important to emphasize the focus on the EV/EBITDA multiple, which is the most representative multiple for the cement industry as it normalizes any difference in capital structure and capital expenditures accounting.

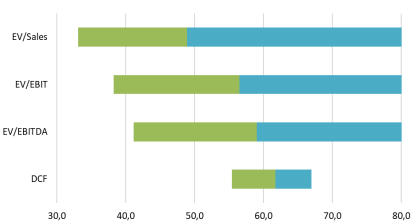


Figure 44: Football Field Analysis - Source: Own Estimates

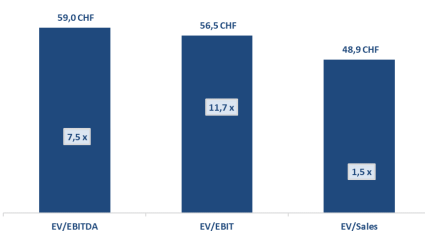


Figure 45: Multiple Valuation - Source: Own Estimates

<sup>27</sup> Damodaran Online - "Current European WACC" (2022)

Therefore, an industry EV/EBITDA of 7.5x, against a firm-specific multiple of 6.5x, suggests an implied share price of CHF 59 and that Holcim is undervalued compared to its peers.

### 4.5 Sensitivity Analysis

In order to assess the validity of the model and estimate how different factors could affect Holcim’s target price, we performed a sensitivity analysis on the most important elements of the DCF. We believe that the inputs that mostly rely on our assumptions, and that thus show the higher degree of uncertainty, are the unlevered beta of the firm, the MRP and the perpetual growth rate.

Firstly, we performed a sensitivity analysis on the cost of equity depending on the beta and MRP. Regarding the intervals chosen for the analysis, the range of the unlevered beta ( $\pm 0.12$ ) was derived by the standard deviation of the peer group beta’s distribution. On the other hand, the MRP range ( $\pm 1\%$ ) was selected by considering the highest and lowest MRP’s values of the last two years for the Swiss market. As expected, the cost of equity increases consistently with higher raw betas and MRP. With the selected intervals, the cost of equity varies between 5.5% and 11%.

Regarding the sensitivity analysis on the WACC, the above-mentioned distribution of results was used to derive the intervals of the cost of equity ( $\pm 1.4\%$ ) while the range of the cost of debt ( $\pm 1\%$ ) was selected by considering lowest and highest cost of debt for companies with the same rating. This analysis resulted in a WACC that can vary between 5% and 7.4%. It is important to note that the perpetual ROIC is higher than the WACC for almost any result of the sensitivity analysis, which highlights that Holcim would be able to create value even in case of the worsening of general market conditions.

		WACC					
		Cost of Equity					
Cost of debt		6,7%	7%	<b>8,22%</b>	8,9%	9,5%	
	1,00%	5,0%	5,5%	6,1%	6,6%	7,0%	
	2%	5,1%	5,6%	6,2%	6,7%	7,1%	
	<b>2,00%</b>	5,2%	5,8%	<b>6,3%</b>	6,8%	7,2%	
	2,5%	5,3%	5,9%	6,4%	6,9%	7,3%	
	3,00%	5,4%	6,0%	6,5%	7,0%	7,4%	

Table 4: Sensitivity Analysis on WACC - Source: Own Estimates

Finally, we performed the sensitivity analysis of the target share price to the WACC and the perpetual growth rate. Intervals for both inputs were calculated from the statistical distribution of respective sensitivity analysis. The results of the analysis show that the target price of Holcim is higher of the current share price for any

considered value of the WACC and PGR. Therefore, the lowest target price of the analysis is CHF 54.3, that would still represent a consistent upside.

Share Price Sensitivity Analysis								
Growth Rate	WACC							
	5,51%	5,90%	6,10%	6,30%	6,6%	6,82%	6,99%	
1,21%	75,5	67,3	63,7	60,4	55,1	52,8	50,5	
1,33%	77,5	68,9	65,2	61,7	56,3	53,8	51,5	
1,39%	78,6	69,8	65,9	62,4	56,9	54,4	52,0	
<b>1,45%</b>	<b>79,7</b>	<b>70,7</b>	<b>66,7</b>	<b>63,1</b>	<b>57,5</b>	<b>55,0</b>	<b>52,6</b>	
1,55%	81,4	72,1	68,0	64,3	58,5	55,9	53,4	
1,59%	82,3	72,8	68,7	64,9	59,0	56,3	53,8	
1,64%	83,3	73,6	69,4	65,5	59,5	56,8	54,3	

Table 5: Sensitivity Analysis on Share Price - Source: Own Estimates

### 4.6 Risks and Scenario Analysis

Holcim’s main operational risks are represented by: i) failing to implement a successful pricing strategy to offset the current increasing inflation, which drives materials, energy and fuel prices, ii) possible contraction of the overall demand in crucial geographies, and iii) failing to achieve expected growth in Solutions & Products. In order to assess the potential impact of these events on the overall valuation, we developed a blue and grey sky scenario analysis.

The blue-sky scenario assumes a boost in market demand and further expansion in the Solutions & Products segment. This would increase the revenues’ CAGR to 3.9% and the segment’s EBIT contribution, resulting in a higher EBIT margin of 15% for the forecast period. On the other hand, the grey-sky scenario sees energy and fuel prices offsetting the benefits of Holcim’s pricing strategy and lowering the Group’s margins. Moreover, it assumes inflation to slow the global construction materials demand and consequently decrease the Sales’ CAGR to 1.5%.

Furthermore, Holcim Group will still face a strong reputational risk due to Lafarge’s operations in Syria prior to the merger. Although this risk does not directly impact the operating performance of the firm, it can lead to strong share price negative fluctuations in case of unfavorable news on the Lafarge’s trial. For instance, when the French Court of Cassation overruled the decision of not charging Lafarge for crimes against humanity at the beginning of September 2021, Holcim’s share price dropped by 14% from CHF 52 to CHF 44 in only two weeks. Lafarge just lost his latest appeal on the 18<sup>th</sup> of May 18<sup>th</sup>, 2022, causing a daily drop in share price of 2.5%.

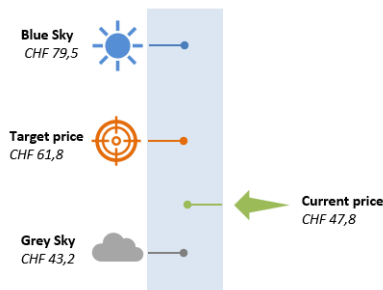


Figure 46: Blue-Grey Sky Scenario Analysis - Source: Own Estimates

<sup>28</sup> Reuters

## 4.6 Investment Recommendation

Currently trading at CHF 46.86 (as of 19 May, 2022), our target price of CHF 61.3 represents a potential upside of 30% and an annual return of 58%. The target price was calculated by computing the simple average of a multiple valuation with EV/EBITDA of 7.5x and our DCF. Moreover, we excluded the annual dividend from the calculation of the total return because it was already paid on the 9<sup>th</sup> of May and won't be paid again before the end of 2022, date of the valuation. We therefore recommend a BUY position.

# 4. Appendix

## 4.1. Income Statement

Forecasted Consolidated Income Statement					Projected									
	FY 2018	FY 2019	FY 2020	FY 2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
<b>Core Business</b>														
<b>Total Sales</b>	<b>27.466</b>	<b>26.722</b>	<b>23.142</b>	<b>26.834</b>	<b>28.027</b>	<b>29.155</b>	<b>30.322</b>	<b>31.518</b>	<b>32.360</b>	<b>33.190</b>	<b>33.964</b>	<b>34.677</b>	<b>35.325</b>	<b>35.906</b>
% Δ in Sales		-2,7%	-13,4%	16,0%	4,4%	4,0%	3,9%	2,7%	2,6%	2,3%	2,1%	1,9%	1,6%	1,6%
Cement	17.506	16.902	14.642	16.088	15.274	15.545	15.805	16.070	16.336	16.608	16.841	17.033	17.182	17.285
% Sales	63,7%	63,3%	63,3%	60,0%	54,5%	53,3%	52,1%	51,0%	50,5%	50,0%	49,6%	49,1%	48,6%	48,1%
Aggregates	4.092	4.124	3.713	4.036	4.273	4.525	4.787	5.028	5.252	5.461	5.652	5.822	5.969	6.090
% Sales	14,9%	15,4%	16,0%	15,0%	15,2%	15,5%	15,8%	16,0%	16,2%	16,5%	16,6%	16,8%	16,9%	17,0%
Ready-mix Concrete	5.481	5.290	4.610	5.167	5.125	5.220	5.317	5.417	5.503	5.570	5.618	5.645	5.652	5.638
% Sales	20,0%	19,8%	19,9%	19,3%	18,3%	17,9%	17,5%	17,2%	17,0%	16,8%	16,5%	16,3%	16,0%	15,7%
Solutions & Products	2.400	2.248	1.893	3.672	5.428	6.021	6.655	7.333	7.661	8.005	8.364	8.740	9.134	9.547
% Sales	8,7%	8,4%	8,2%	13,7%	19,4%	20,7%	21,9%	23,3%	23,7%	24,1%	24,6%	25,2%	25,9%	26,6%
Corporate Eliminations	-2.013	-1.842	-1.716	-2.129	-2.072	-2.156	-2.242	-2.330	-2.393	-2.454	-2.511	-2.564	-2.612	-2.655
<b>COGS</b>	<b>(14.043)</b>	<b>(13.392)</b>	<b>(11.372)</b>	<b>(13.375)</b>	<b>(13.970)</b>	<b>(14.532)</b>	<b>(15.114)</b>	<b>(15.710)</b>	<b>(16.129)</b>	<b>(16.543)</b>	<b>(16.929)</b>	<b>(17.284)</b>	<b>(17.607)</b>	<b>(17.897)</b>
as % of Sales	51,1%	50,1%	49,1%	49,8%	49,8%	49,8%	49,8%	49,8%	49,8%	49,8%	49,8%	49,8%	49,8%	49,8%
Material Expenses	(5.726)	(5.569)	(4.689)	(5.808)	(6.066)	(6.310)	(6.563)	(6.822)	(7.004)	(7.184)	(7.351)	(7.506)	(7.646)	(7.772)
% Sales	20,8%	20,8%	20,3%	21,6%	21,6%	21,6%	21,6%	21,6%	21,6%	21,6%	21,6%	21,6%	21,6%	21,6%
Electricity Expenses	(1.349)	(1.218)	(1.035)	(1.249)	(1.305)	(1.357)	(1.411)	(1.467)	(1.506)	(1.545)	(1.581)	(1.614)	(1.644)	(1.671)
% Sales	4,9%	4,6%	4,5%	4,7%	4,7%	4,7%	4,7%	4,7%	4,7%	4,7%	4,7%	4,7%	4,7%	4,7%
Personnel Expenses	(2.191)	(2.128)	(1.806)	(1.960)	(2.047)	(2.129)	(2.215)	(2.302)	(2.364)	(2.424)	(2.481)	(2.533)	(2.580)	(2.623)
% Sales	8,0%	8,0%	7,8%	7,3%	7,3%	7,3%	7,3%	7,3%	7,3%	7,3%	7,3%	7,3%	7,3%	7,3%
Fuel Expenses	(1.745)	(1.510)	(1.092)	(1.508)	(1.575)	(1.638)	(1.704)	(1.771)	(1.819)	(1.865)	(1.909)	(1.949)	(1.985)	(2.018)
% Sales	6,4%	5,7%	4,7%	5,6%	5,6%	5,6%	5,6%	5,6%	5,6%	5,6%	5,6%	5,6%	5,6%	5,6%
Maintenance Expenses	(1.575)	(1.538)	(1.267)	(1.397)	(1.459)	(1.518)	(1.579)	(1.641)	(1.685)	(1.728)	(1.768)	(1.805)	(1.839)	(1.869)
% Sales	5,7%	5,8%	5,5%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%
Other Production Expenses	(1.557)	(1.317)	(1.197)	(1.347)	(1.407)	(1.463)	(1.522)	(1.582)	(1.624)	(1.666)	(1.705)	(1.741)	(1.773)	(1.802)
% Sales	5,7%	4,9%	5,2%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%
Change in Inventory	100	(112)	(286)	(106)	(111)	(115)	(120)	(125)	(128)	(131)	(134)	(137)	(140)	(142)
% Sales	-0,4%	0,4%	1,2%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%
<b>Gross Profit</b>	<b>13.423</b>	<b>13.330</b>	<b>11.770</b>	<b>13.459</b>	<b>14.057</b>	<b>14.623</b>	<b>15.209</b>	<b>15.808</b>	<b>16.231</b>	<b>16.647</b>	<b>17.035</b>	<b>17.393</b>	<b>17.718</b>	<b>18.009</b>
Gross Margin	48,9%	49,9%	50,9%	50,2%	50,2%	50,2%	50,2%	50,2%	50,2%	50,2%	50,2%	50,2%	50,2%	50,2%
SG&A	(8.365)	(7.457)	(6.307)	(7.102)	(7.730)	(8.041)	(8.363)	(8.693)	(8.925)	(9.154)	(9.367)	(9.564)	(9.743)	(9.903)
as % of Sales	30,5%	27,9%	27,3%	26,5%	27,6%	27,6%	27,6%	27,6%	27,6%	27,6%	27,6%	27,6%	27,6%	27,6%
<b>EBITDA</b>	<b>5.058</b>	<b>5.873</b>	<b>5.463</b>	<b>6.357</b>	<b>6.328</b>	<b>6.582</b>	<b>6.846</b>	<b>7.116</b>	<b>7.306</b>	<b>7.493</b>	<b>7.668</b>	<b>7.829</b>	<b>7.975</b>	<b>8.106</b>
EBITDA margin %	18,4%	22,0%	23,6%	23,7%	22,6%	22,6%	22,6%	22,6%	22,6%	22,6%	22,6%	22,6%	22,6%	22,6%
Depreciation, Amortization and Impairment	(2.248)	(2.590)	(2.538)	(2.431)	(2.739)	(2.850)	(2.964)	(3.081)	(3.163)	(3.244)	(3.320)	(3.389)	(3.453)	(3.509)
Depreciation	(2.045)	(2.338)	(2.178)	(2.161)	(2.226)	(2.316)	(2.408)	(2.503)	(2.570)	(2.636)	(2.698)	(2.754)	(2.806)	(2.852)
as % of PPE	7,3%	8,6%	9,0%	8,8%	8,7%	8,7%	8,7%	8,7%	8,7%	8,7%	8,7%	8,7%	8,7%	8,7%
Amortization & Impairments	(203)	(252)	(360)	(270)	(513)	(534)	(555)	(577)	(593)	(608)	(622)	(635)	(647)	(657)
as % of Intangible Assets	25,1%	39,1%	67,5%	18,7%	37,6%	37,6%	37,6%	37,6%	37,6%	37,6%	37,6%	37,6%	37,6%	37,6%
<b>Operating Profit before taxes (EBIT)</b>	<b>2.810</b>	<b>3.283</b>	<b>2.925</b>	<b>3.926</b>	<b>3.588</b>	<b>3.733</b>	<b>3.882</b>	<b>4.035</b>	<b>4.143</b>	<b>4.249</b>	<b>4.348</b>	<b>4.440</b>	<b>4.523</b>	<b>4.597</b>
EBIT margin %	10,2%	12,3%	12,6%	14,6%	12,8%	12,8%	12,8%	12,8%	12,8%	12,8%	12,8%	12,8%	12,8%	12,8%
Taxes	(778)	(798)	(770)	(1.037)	(933)	(970)	(1.009)	(1.049)	(1.077)	(1.105)	(1.131)	(1.154)	(1.176)	(1.195)
<b>Core Operating Result After Taxes (NOPLAT)</b>	<b>2.032</b>	<b>2.485</b>	<b>2.155</b>	<b>2.889</b>	<b>2.655</b>	<b>2.762</b>	<b>2.873</b>	<b>2.986</b>	<b>3.066</b>	<b>3.145</b>	<b>3.218</b>	<b>3.285</b>	<b>3.347</b>	<b>3.402</b>
<b>Non-Core Business</b>														
Other non-operating income (expense)	(73)	185	(45)	(195)	(195)	(195)	(195)	(195)	(195)	(195)	(195)	(195)	(195)	(195)
Profit (loss) of joint ventures	524	560	463	467	467	467	467	467	467	467	467	467	467	467
<b>Non-Operating Result Before Taxes</b>	<b>451</b>	<b>745</b>	<b>418</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>
Taxes	(126)	(179)	(109)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)
OCI	(1.575)	(753)	(3.275)	692	(1.228)	(1.228)	(1.228)	(1.228)	(1.228)	(1.228)	(1.228)	(1.228)	(1.228)	(1.228)
<b>Non-Core Operating Result After Taxes</b>	<b>(1.250)</b>	<b>(187)</b>	<b>(2.966)</b>	<b>893</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>	<b>(1.026)</b>
<b>Net Financial Income</b>														
Finance Income	140	158	101	96	94	98	102	106	109	111	114	116	119	120
as % of excess cash	12,3%	5,6%	2,5%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%
Finance Expenses	(1.025)	(870)	(723)	(652)	(521)	(471)	(427)	(387)	(387)	(387)	(387)	(387)	(387)	(387)
as % of Debt	6,4%	6,1%	5,3%	3,9%	3,6%	3,2%	2,9%	2,6%	2,6%	2,6%	2,6%	2,6%	2,6%	2,6%
Tax Shield	248	171	162	145	111	97	84	73	72	72	71	70	70	69
<b>Net Financial Result</b>	<b>(637)</b>	<b>(541)</b>	<b>(460)</b>	<b>(411)</b>	<b>(316)</b>	<b>(276)</b>	<b>(240)</b>	<b>(208)</b>	<b>(206)</b>	<b>(204)</b>	<b>(202)</b>	<b>(200)</b>	<b>(198)</b>	<b>(197)</b>
<b>Total Comprehensive Income</b>	<b>145</b>	<b>1.757</b>	<b>(1.271)</b>	<b>3.371</b>	<b>1.313</b>	<b>1.459</b>	<b>1.606</b>	<b>1.752</b>	<b>1.834</b>	<b>1.914</b>	<b>1.990</b>	<b>2.059</b>	<b>2.122</b>	<b>2.178</b>

## 4.2. Balance Sheet

Reformulated Balance Sheet					Projected									
	FY 2018	FY 2019	FY 2020	FY 2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
<b>Operating Assets (Core)</b>														
Operating Cash	1.373	1.336	1.157	1.342	1.401	1.458	1.516	1.576	1.618	1.660	1.698	1.734	1.766	1.795
as % of Sales	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%
Trade Receivables	3.229	2.871	2.305	2.677	2.973	3.093	3.217	3.344	3.433	3.521	3.603	3.679	3.748	3.809
in DSO	43	39	36	36	38,72	38,72	38,72	38,72	38,72	38,72	38,72	38,72	38,72	38,72
Other Current Assets	1.276	1.175	1.017	1.178	1.249	1.299	1.351	1.405	1.442	1.479	1.514	1.545	1.574	1.600
as % of Sales	4,6%	4,4%	4,4%	4,4%	4,5%	4,5%	4,5%	4,5%	4,5%	4,5%	4,5%	4,5%	4,5%	4,5%
Inventories	3.081	2.494	1.983	2.608	2.707	2.815	2.928	3.044	3.125	3.205	3.280	3.349	3.411	3.467
in DIO	80	68	64	71	70,72	70,72	70,72	70,72	70,72	70,72	70,72	70,72	70,72	70,72
<b>Total Current Operating Assets</b>	<b>8.959</b>	<b>7.876</b>	<b>6.462</b>	<b>7.805</b>	<b>8.331</b>	<b>8.666</b>	<b>9.013</b>	<b>9.368</b>	<b>9.618</b>	<b>9.865</b>	<b>10.095</b>	<b>10.307</b>	<b>10.500</b>	<b>10.672</b>
<b>Property, Plant &amp; Equipment</b>														
Property, Plant & Equipment	27.890	27.189	24.220	24.441	25.528	26.555	27.618	28.707	29.474	30.230	30.935	31.584	32.175	32.704
as % of Sales	101,5%	101,7%	104,7%	91,1%	91,1%	91,1%	91,1%	91,1%	91,1%	91,1%	91,1%	91,1%	91,1%	91,1%
Intangible Assets	810	644	533	1.446	1.365	1.420	1.477	1.535	1.576	1.616	1.654	1.689	1.720	1.749
Intangibles Turnover	3390,9%	4149,4%	4341,8%	1855,7%	2053,5%	2053,5%	2053,5%	2053,5%	2053,5%	2053,5%	2053,5%	2053,5%	2053,5%	2053,5%
Goodwill	14.045	13.039	12.413	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954
Constant Amount	14.045	13.039	12.413	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954	13.954
Other long-term receivables	513	527	470	472	535	556	578	601	617	633	648	661	674	685
as % of Sales	1,9%	2,0%	2,0%	1,8%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%
<b>Total Non Current Operating Assets</b>	<b>46.391</b>	<b>44.736</b>	<b>41.109</b>	<b>44.027</b>	<b>41.381</b>	<b>42.485</b>	<b>43.627</b>	<b>44.797</b>	<b>45.621</b>	<b>46.434</b>	<b>47.191</b>	<b>47.888</b>	<b>48.523</b>	<b>49.092</b>
<b>Trade payables</b>														
Trade payables	(3.770)	(3.535)	(3.351)	(4.059)	(3.948)	(4.107)	(4.272)	(4.440)	(4.559)	(4.676)	(4.785)	(4.885)	(4.977)	(5.058)
in APTD	98	96	108	111	103	103	103	103	103	103	103	103	103	103
Provisions	(1.985)	(1.954)	(1.712)	(2.120)	(2.091)	(2.175)	(2.262)	(2.351)	(2.414)	(2.476)	(2.534)	(2.587)	(2.635)	(2.678)
as % of Sales	7,2%	7,3%	7,4%	7,9%	7,5%	7,5%	7,5%	7,5%	7,5%	7,5%	7,5%	7,5%	7,5%	7,5%
Short term	(443)	(376)	(323)	(413)	(417)	(434)	(451)	(469)	(482)	(494)	(506)	(516)	(526)	(535)
as % of Sales	1,6%	1,4%	1,4%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%
Long term	(1.542)	(1.578)	(1.389)	(1.707)	(1.783)	(1.855)	(1.929)	(2.005)	(2.059)	(2.111)	(2.161)	(2.206)	(2.247)	(2.284)
as % of Sales	5,6%	5,9%	6,0%	6,4%	6,4%	6,4%	6,4%	6,4%	6,4%	6,4%	6,4%	6,4%	6,4%	6,4%
Other Current payables	(2.825)	(2.871)	(2.440)	(2.882)	(2.965)	(3.084)	(3.208)	(3.334)	(3.423)	(3.511)	(3.593)	(3.668)	(3.737)	(3.798)
as % of Sales	10,3%	10,7%	10,5%	10,7%	10,6%	10,6%	10,6%	10,6%	10,6%	10,6%	10,6%	10,6%	10,6%	10,6%
Long term income tax payables	(449)	(385)	(348)	(389)	(393)	(393)	(393)	(393)	(393)	(393)	(393)	(393)	(393)	(393)
<b>Total Operating Liabilities</b>	<b>(9.029)</b>	<b>(8.745)</b>	<b>(7.851)</b>	<b>(9.450)</b>	<b>(9.397)</b>	<b>(9.759)</b>	<b>(10.134)</b>	<b>(10.518)</b>	<b>(10.789)</b>	<b>(11.055)</b>	<b>(11.304)</b>	<b>(11.533)</b>	<b>(11.741)</b>	<b>(11.928)</b>
<b>Total Core Invested Capital</b>	<b>43.188</b>	<b>40.530</b>	<b>36.247</b>	<b>38.668</b>	<b>40.315</b>	<b>41.391</b>	<b>42.506</b>	<b>43.647</b>	<b>44.451</b>	<b>45.244</b>	<b>45.982</b>	<b>46.663</b>	<b>47.281</b>	<b>47.836</b>
<b>Non-Core Business</b>														
Investments in associates and joint ventures	3.133	3.337	3.473	3.714	4.671	4.671	4.671	4.671	4.671	4.671	4.671	4.671	4.671	4.671
Assets held for sale (net)	684	1.098	114	104	104	104	104	104	104	104	104	104	104	104
Constant Amount	684	1.098	114	104	104	104	104	104	104	104	104	104	104	104
Deferred Tax Assets & Pension	1.022	794	770	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606
Constant Amount	1.022	794	770	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606	1.606
Other receivables and marketable securities	583	502	493	507	507	507	507	507	507	507	507	507	507	507
Constant Amount	583	502	493	507	507	507	507	507	507	507	507	507	507	507
Long-term Equity Investments	196	187	143	250	250	250	250	250	250	250	250	250	250	250
Constant Amount	196	187	143	250	250	250	250	250	250	250	250	250	250	250
<b>Total Non-Core Assets</b>	<b>5.618</b>	<b>5.918</b>	<b>4.993</b>	<b>6.181</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>	<b>7.138</b>
<b>Derivatives (net)</b>														
Derivatives (net)	(44)	(90)	81	(48)	(48)	(48)	(48)	(48)	(48)	(48)	(48)	(48)	(48)	(48)
Constant Amount	-44	-90	81	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48	-48
Deferred tax liabilities	(2.259)	(2.090)	(1.885)	(2.320)	(2.320)	(2.320)	(2.320)	(2.320)	(2.320)	(2.320)	(2.320)	(2.320)	(2.320)	(2.320)
Constant Amount	-2.259	-2.090	-1.885	-2.320	-2.320	-2.320	-2.320	-2.320	-2.320	-2.320	-2.320	-2.320	-2.320	-2.320
Defined Benefit Obligations	(1.603)	(1.413)	(1.091)	(735)	(735)	(735)	(735)	(735)	(735)	(735)	(735)	(735)	(735)	(735)
Constant Amount	-1.603	-1.413	-1.091	-735	-735	-735	-735	-735	-735	-735	-735	-735	-735	-735
<b>Total Non-Core Liabilities</b>	<b>(3.906)</b>	<b>(3.593)</b>	<b>(2.895)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>	<b>(3.103)</b>
<b>Total Non-Core Invested Capital</b>	<b>1.712</b>	<b>2.325</b>	<b>2.098</b>	<b>3.078</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>	<b>4.035</b>
<b>Financial Assets</b>														
Excess cash	1.142	2.812	4.033	5.340	5.231	5.441	5.659	5.882	6.040	6.195	6.339	6.472	6.593	6.702
as % of Sales	4,2%	10,5%	17,4%	19,9%	18,7%	18,7%	18,7%	18,7%	18,7%	18,7%	18,7%	18,7%	18,7%	18,7%
Financial Debt	(15.451)	(12.508)	(12.330)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)
Constant Amount	(15.451)	(12.508)	(12.330)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)	(14.661)
Long term debt	(12.879)	(11.101)	(10.687)	(13.010)	(13.010)	(13.010)	(13.010)	(13.010)	(13.010)	(13.010)	(13.010)	(13.010)	(13.010)	(13.010)
Short term debt	(2.572)	(1.407)	(1.643)	(1.651)	(1.651)	(1.651)	(1.651)	(1.651)	(1.651)	(1.651)	(1.651)	(1.651)	(1.651)	(1.651)
Lease Liabilities	(166)	(1.465)	(1.336)	(1.545)	(1.545)	(1.545)	(1.545)	(1.545)	(1.545)	(1.545)	(1.545)	(1.545)	(1.545)	(1.545)
Other financial liabilities	(371)	(195)	(89)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)
Constant Amount	(371)	(195)	(89)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)	(406)
<b>Net financial Assets</b>	<b>(14.846)</b>	<b>(11.356)</b>	<b>(9.722)</b>	<b>(11.272)</b>	<b>(11.381)</b>	<b>(11.171)</b>	<b>(10.953)</b>	<b>(10.730)</b>	<b>(10.572)</b>	<b>(10.417)</b>	<b>(10.273)</b>	<b>(10.140)</b>	<b>(10.019)</b>	<b>(9.910)</b>
<b>Equity attributable to Shareholders</b>														
Equity attributable to Shareholders	26.925	28.566	26.071	27.686	29.855	31.020	32.226	33.462	34.332	35.190	35.990	36.726	37.396	37.997
NCI	3.128	2.933	2.553	2.788	3.115	3.236	3.362	3.491	3.582	3.671	3.755	3.831	3.901	3.964
NCI %	10,4%	9,3%	8,9%	9,1%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%
<b>Equity</b>	<b>30.053</b>	<b>31.499</b>	<b>28.624</b>	<b>30.474</b>	<b>32.969</b>	<b>34.256</b>	<b>35.588</b>	<b>36.953</b>	<b>37.914</b>	<b>38.862</b>	<b>39.745</b>	<b>40.558</b>	<b>41.298</b>	<b>41.961</b>

### 4.3. Cash Flow Statement

Forecasted Free Cash Flow Map	FY 2018	FY 2019	FY 2020	FY 2021	Projected										
					2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	
<b>Operating Free Cash Flow</b>															
EBIT		3,283	2,925	3,926	3,588	3,733	3,882	4,035	4,143	4,249	4,348	4,440	4,523	4,597	
Notional Taxes		(788)	(761)	(1,021)	(933)	(970)	(1,009)	(1,049)	(1,077)	(1,105)	(1,131)	(1,154)	(1,176)	(1,195)	
Adj Taxes		(10)	(10)	(16)											
<b>NOPLAT</b>		<b>2,485</b>	<b>2,155</b>	<b>2,889</b>	<b>2,655</b>	<b>2,762</b>	<b>2,873</b>	<b>2,986</b>	<b>3,066</b>	<b>3,145</b>	<b>3,218</b>	<b>3,285</b>	<b>3,347</b>	<b>3,402</b>	
Depreciation, Amortization & Impairment		2,590	2,538	2,431	2,739	2,850	2,964	3,081	3,163	3,244	3,320	3,389	3,453	3,509	
<b>Gross FCF</b>		<b>5,075</b>	<b>4,693</b>	<b>5,320</b>	<b>5,395</b>	<b>5,612</b>	<b>5,836</b>	<b>6,067</b>	<b>6,229</b>	<b>6,388</b>	<b>6,537</b>	<b>6,675</b>	<b>6,799</b>	<b>6,911</b>	
- Capex		(1,637)	791	(2,382)	(3,313)	(3,343)	(3,472)	(3,593)	(3,337)	(3,392)	(3,402)	(3,403)	(3,396)	(3,381)	
- Change in NWC		827	746	(109)	(549)	(40)	(42)	(43)	(30)	(28)	(25)	(23)	(21)		
- delta intangibles		920	377	(2,724)	(432)	(589)	(612)	(635)	(634)	(648)	(660)	(670)	(678)	(686)	
- change in non current operating assets		(14)	57	(2)	(63)	(22)	(22)	(23)	(16)	(16)	(15)	(14)	(12)	(11)	
+ change in non current operating liabilities		(28)	(226)	359	80	72	74	76	54	53	49	45	41	37	
<b>Unlevered Operating Free Cash Flow</b>		<b>5,143</b>	<b>6,438</b>	<b>469</b>	<b>1,118</b>	<b>1,690</b>	<b>1,763</b>	<b>1,849</b>	<b>2,265</b>	<b>2,355</b>	<b>2,482</b>	<b>2,608</b>	<b>2,731</b>	<b>2,849</b>	
<b>Non-Operating Free Cash Flow</b>															
<b>Non-Operating result before taxes</b>		<b>745</b>	<b>418</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	<b>272</b>	
Taxes		(179)	(109)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	(71)	
OCI		(753)	(3,275)	692	(1,228)	(1,228)	(1,228)	(1,228)	(1,228)	(1,228)	(1,228)	(1,228)	(1,228)	(1,228)	
<b>Non-Operating result</b>		<b>(187)</b>	<b>(2,966)</b>	<b>893</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	
-Change in non operating assets		(300)	925	(1,188)	(957)	-	-	-	-	-	-	-	-	-	
+Change non operating liabilities		(313)	(698)	208	-	-	-	-	-	-	-	-	-	-	
<b>Unlevered Non Operating Free Cash Flow</b>		<b>(800)</b>	<b>(2,739)</b>	<b>(87)</b>	<b>(1,984)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	<b>(1,026)</b>	
<b>Total Unlevered FCF</b>		<b>4,343</b>	<b>3,699</b>	<b>382</b>	<b>(866)</b>	<b>664</b>	<b>736</b>	<b>823</b>	<b>1,239</b>	<b>1,329</b>	<b>1,456</b>	<b>1,581</b>	<b>1,704</b>	<b>1,823</b>	
<b>Financing Free Cash Flow</b>															
Tax Shield		171	162	145	111	97	84	73	72	72	71	70	70	69	
<b>Levered FCF</b>		<b>4,514</b>	<b>3,861</b>	<b>526</b>	<b>(755)</b>	<b>761</b>	<b>821</b>	<b>896</b>	<b>1,311</b>	<b>1,400</b>	<b>1,527</b>	<b>1,652</b>	<b>1,774</b>	<b>1,892</b>	
Financial Result Before Taxes		(712)	(622)	(556)	(426)	(373)	(325)	(281)	(278)	(275)	(273)	(270)	(268)	(266)	
+ Financial Asset (net)		(3,490)	(1,634)	1,550	109	(210)	(218)	(223)	(157)	(155)	(144)	(133)	(121)	(108)	
+ Equity transactions		(311)	(1,604)	(1,521)	1,182	(173)	(274)	(387)	(872)	(967)	(1,107)	(1,245)	(1,382)	(1,515)	
<b>Financing Free Cash Flow</b>		<b>(4,342)</b>	<b>(3,698)</b>	<b>(383)</b>	<b>976</b>	<b>(659)</b>	<b>(732)</b>	<b>(818)</b>	<b>(1,235)</b>	<b>(1,326)</b>	<b>(1,453)</b>	<b>(1,579)</b>	<b>(1,702)</b>	<b>(1,821)</b>	

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<b>Buy</b>	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
<b>Hold</b>	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
<b>Sell</b>	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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