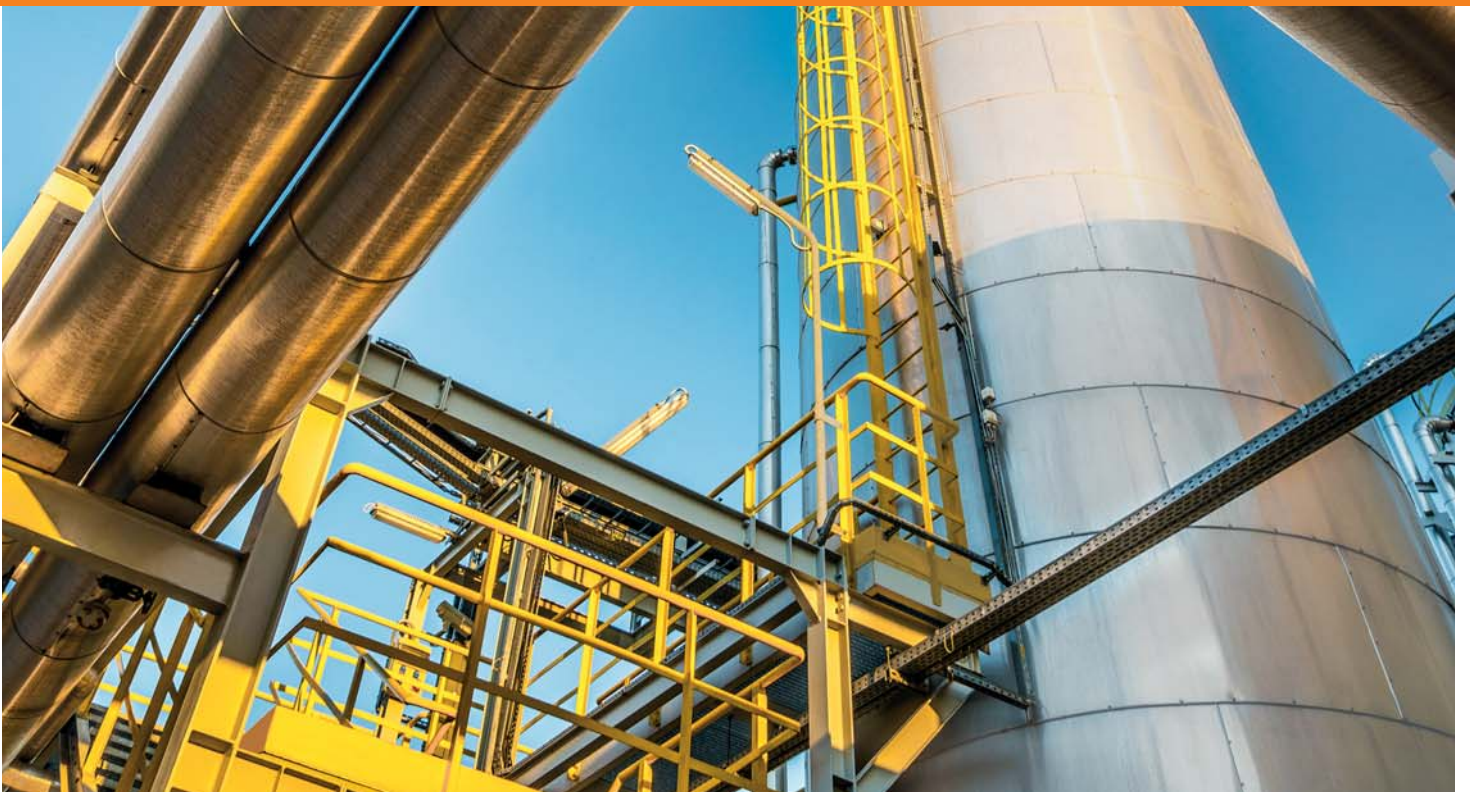




# Vision

**PCC Group**  
Annual Report 2016



# PCC at a glance

Key financials of the PCC Group per IFRS		2016	2015
<b>Consolidated statement of income</b>			
Sales	€ m	568.9	571.1
Gross profit	€ m	181.3	157.2
EBITDA*	€ m	76.4	50.8
EBIT*	€ m	48.2	26.9
EBT*	€ m	24.6	1.2
Net result	€ m	19.1	-2.0
<b>Consolidated balance sheet</b>			
Total assets	€ m	951.8	824.4
Non-current assets	€ m	724.3	592.2
Current assets	€ m	227.3	232.0
Equity	€ m	135.0	135.0
Non-current provisions and liabilities	€ m	590.4	477.0
Current provisions and liabilities	€ m	226.3	212.4
<b>Key group indicators</b>			
Equity ratio*	%	14.2	16.4
ROCE*	%	6.7	4.6
Gross cash flow	€ m	70.6	39.4
Capital expenditures	€ m	159.3	160.1
Employees at home and abroad (as of Dec. 31)		3,032	2,992
<b>Consolidated sales by segment</b>			
Polyols segment	€ m	126.0	136.2
Surfactants segment	€ m	101.5	101.1
Chlorine segment	€ m	71.8	58.3
Speciality Chemicals segment	€ m	161.9	161.7
Consumer Products segment	€ m	24.1	38.6
Energy segment	€ m	11.3	11.3
Logistics segment	€ m	65.5	56.8
Holding/Projects segment	€ m	6.9	7.0
Total sales	€ m	568.9	571.1
<b>Consolidated sales by region</b>			
Germany	€ m	116.0	122.0
Poland	€ m	224.3	225.3
Other EU Member States	€ m	121.1	121.3
Other Europe	€ m	30.8	39.2
USA	€ m	18.8	21.0
Asia	€ m	29.5	25.6
Other Regions	€ m	28.5	16.7
Total sales	€ m	568.9	571.1

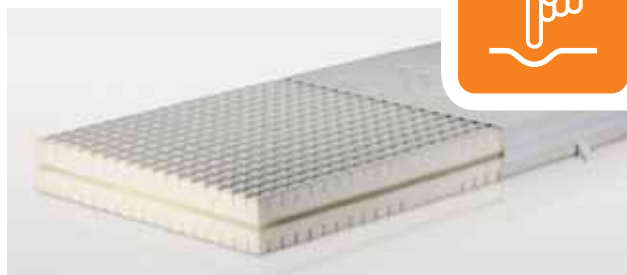
Rounding differences possible.

\* for explanations and definitions, see page 7.

# Vision

# The segments of the PCC Group

## Polyols



Polyols form the basis of polyurethane (PU) foam materials that serve a wide range of applications in many industries and sectors. Examples include our iPoltec® foam technology for the furniture and mattress industries and our PU foam systems – in both panel and spray form – for the effective thermal insulation of buildings.

Polyols segment	2016	2015
Total sales <sup>1</sup>	€ 126.0 m	€ 136.2 m
EBITDA <sup>2</sup>	€ 12.3 m	€ 13.8 m
Capital expenditures <sup>2</sup>	€ 13.1 m	€ 4.1 m
Employees	204	171

## Surfactants



Offering multiple effects in foaming, wetting, emulsifying and cleaning, surfactants are primary ingredients in many functional liquids and care products. In toothpastes and shampoos they generate the foaming and cleaning action, while in dishwashing detergents they serve to dislodge dirt and grease from hard surfaces.

Surfactants segment	2016	2015
Total sales <sup>1</sup>	€ 101.5 m	€ 101.1 m
EBITDA <sup>2</sup>	€ 10.2 m	€ 9.5 m
Capital expenditures <sup>2</sup>	€ 1.6 m	€ 2.4 m
Employees	260	259

## Chlorine



Chlorine is one of the most important feedstocks of the chemicals industry, and its downstream products are key ingredients in our everyday lives. They can be found, for example, in water treatment, in the petrochemicals industry and in food production. Since the end of 2016, ultra-pure monochloroacetic acid has also been part of our portfolio in this segment.

Chlorine segment	2016	2015
Total sales <sup>1</sup>	€ 71.8 m	€ 58.3 m
EBITDA <sup>2</sup>	€ 24.3 m	€ 8.2 m
Capital expenditures <sup>2</sup>	€ 14.4 m	€ 38.3 m
Employees	381	344

## Speciality Chemicals



This is our biggest-selling segment. Its products include phosphorus-based flame retardants, plasticisers and stabilisers, additives for hydraulic oils and admixtures such as superplasticisers to improve the flowability of fresh concrete. The biggest business in the segment is our traditional commodity trading unit.

Speciality Chemicals segment	2016	2015
Total sales <sup>1</sup>	€ 161.9 m	€ 161.7 m
EBITDA <sup>2</sup>	€ 5.7 m	€ 5.2 m
Capital expenditures <sup>2</sup>	€ 3.8 m	€ 1.4 m
Employees	353	363

## Consumer Products



Our range of fast-moving consumer goods includes household and industrial cleaners, laundry detergents and personal care products – including a portfolio distributed under Polish brandnames such as “ROKO” and “Roko Eco”. Likewise allocated to this segment is our matches and firelighters production unit.

Consumer Products segment	2016	2015
Total sales <sup>1</sup>	€24.1 m	€38.6 m
EBITDA <sup>2</sup>	€-2.4 m	€-0.1 m
Capital expenditures <sup>2</sup>	€0.9 m	€3.1 m
Employees	476	569

## Energy



We manage conventional power plants, primarily aligned to producing energy for our manufacturing activities, and build and operate small environment-friendly hydropower plants as renewable energy generating facilities with the focus on sites in the Republic of Macedonia and in Bosnia and Herzegovina.

Energy segment	2016	2015
Total sales <sup>1</sup>	€11.3 m	€11.3 m
EBITDA <sup>2</sup>	€9.8 m	€7.3 m
Capital expenditures <sup>2</sup>	€6.7 m	€3.4 m
Employees	183	179

## Logistics



With five wholly owned intermodal terminals, we are among the leading providers of container transport services in Poland. Our block train service routes run from Poland through Germany and on to the Netherlands and Belgium. Our tanker fleet specialises in the road haulage of liquid chemicals across Europe.

Logistics segment	2016	2015
Total sales <sup>1</sup>	€65.5 m	€56.8 m
EBITDA <sup>2</sup>	€5.6 m	€4.9 m
Capital expenditures <sup>2</sup>	€2.7 m	€31.2 m
Employees	410	367

## Holding/Projects



In this segment, we plan and develop future-aligned projects such as our ultra-modern and environment-friendly production plant for silicon metal currently under construction in Iceland. The holding company also provides corporate services to the Group entities in fields such as finance, R&D and IT.

Holding/Projects segment	2016	2015
Total sales <sup>1</sup>	€6.9 m	€7.0 m
EBITDA <sup>2</sup>	€10.9 m	€1.9 m
Capital expenditures <sup>2</sup>	€116.1 m	€76.3 m
Employees	765	740

Rounding differences possible.

1 Net external, 2 Including consolidation adjustments



In a word





Vision is essential to driving long-term investment projects to a successful conclusion. With it, we are able to identify opportunities which lead to new projects for us. This was the case, for example, when we formed two flourishing chemical companies – PCC Rokita SA and PCC Exol SA – which, thanks to many years of capital investment, now count among the most modern of their kind in Eastern Europe. In the Logistics division, too, we have opened up new growth prospects through the implementation of our investment strategy. The extensive experience gained from two decades in project management within the PCC Group has sharpened our visionary skills. And we are currently applying these in the construction of a production plant for silicon metal in Iceland, a facility destined to set new standards worldwide. Adopting this approach, we are able to continually develop for ourselves and our investors new opportunities for profitable growth and added enterprise value.

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# 01 Information for our investors

At €568.9 million, the PCC Group generated consolidated revenues in fiscal 2016 of roughly the same magnitude as in the previous year. Although we posted predominantly increased sales volumes, these were largely cancelled out by the decline in commodity prices. However, this negative effect was more than offset by positive benefits on the purchasing side. Hence gross profit rose to €181.3 million (previous year: €157.2 million), while EBITDA (earnings before interest and other financial items, taxes, depreciation and amortisation) rose to €76.4 million (previous year: €50.8 million) and EBT (earnings before taxes) to €24.6 million (previous year: €1.2 million).

Extending our chlorine value chain, PCC's new MCAA plant in Brzeg Dolny was completed at the end of 2016.

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# Development of selected Group indicators

Key financials of the PCC Group per IFRS		2016	2015	Absolute change	Relative change
<b>Sales</b>	<b>€ m</b>	<b>568.9</b>	<b>571.1</b>	<b>-2.1</b>	<b>-0.4 %</b>
Polyols segment	€ m	126.0	136.2	-10.2	-7.5 %
Surfactants segment	€ m	101.5	101.1	0.4	0.4 %
Chlorine segment	€ m	71.8	58.3	13.4	23.0 %
Speciality Chemicals segment	€ m	161.9	161.7	0.1	0.1 %
Consumer Products segment	€ m	24.1	38.6	-14.4	-37.4 %
Energy segment	€ m	11.3	11.3	0.0	0.1 %
Logistics segment	€ m	65.5	56.8	8.7	15.3 %
Holding/Projects segment	€ m	6.9	7.0	-0.2	-2.5 %
Gross profit	€ m	181.3	157.2	24.0	15.3 %
EBITDA <sup>1</sup>	€ m	76.4	50.8	25.6	50.5 %
EBIT <sup>2</sup>	€ m	48.2	26.9	21.4	79.5 %
EBT <sup>3</sup>	€ m	24.6	1.2	23.4	>100 %
Net result	€ m	19.1	-2.0	21.1	>100 %
Gross cash flow <sup>4</sup>	€ m	70.6	39.4	31.2	79.2 %
ROCE <sup>5</sup>	%	6.7	4.6	2.2 <sup>9</sup>	47.4 %
Net debt <sup>6</sup>	€ m	563.7	439.0	124.7	28.4 %
Net debt/EBITDA		7.4	8.6	1.3	14.7 %
<b>Group equity</b>	<b>€ m</b>	<b>135.0</b>	<b>135.0</b>	<b>0.0</b>	<b>-0.4 %</b>
Equity ratio <sup>7</sup>	%	14.2	16.4	-2.2 <sup>9</sup>	-13.4 %
Return on equity <sup>8</sup>	%	14.1	-1.5	15.6 <sup>9</sup>	>100 %
<b>Capital expenditures</b>	<b>€ m</b>	<b>159.3</b>	<b>160.1</b>	<b>-0.8</b>	<b>-0.5 %</b>
<b>Employees (Dec. 31)</b>		<b>3,032</b>	<b>2,992</b>	<b>40</b>	<b>1.3 %</b>
Germany		124	127	-3	-2.4 %
International		2,908	2,865	43	1.5 %

Rounding differences possible.

- 1 EBITDA (Earnings before Interest and other financial items, Taxes, Depreciation and Amortisation)
- 2 EBIT (Earnings before Interest and other financial items and Taxes) = Operating profit = EBITDA – Depreciation and amortisation
- 3 EBT (Earnings before Taxes) = EBIT – Interest and other financial items
- 4 Gross cash flow = Net result adjusted for non-cash income and expenses
- 5 ROCE (Return on Capital Employed) = EBIT / (Average equity + Average interest-bearing borrowings)
- 6 Net debt = Interest-bearing borrowings – Liquid funds – Other current securities
- 7 Equity ratio = Equity capital / Total assets
- 8 Return on equity = Net result for the year / Average equity
- 9 Change in percentage points

»» We succeeded in significantly increasing our earnings year on year, reflecting the increased focus of our affiliates on higher-quality products, combined with the benefits accruing from recently completed modernisation and expansion investments.«

**Waldemar Preussner**

Chairman of the Administrative Board of PCC SE

## Preface by the Chairman of the Administrative Board of PCC SE

*Dear Customers,  
Business Partners and Investors,  
Colleagues, Employees,  
Ladies and Gentlemen,*

I am delighted to present to you herewith the annual report of PCC SE for fiscal 2016. Within the PCC Group, we succeeded once again in increasing volume sales in most of our segments versus the previous year. However, Group revenues remained at the level of 2015 due primarily to persistently low commodity prices. Added to this was a weakening of the Polish zloty versus the euro. However, we were also able on the purchasing side to benefit from those same low commodity prices right through to the second half of the year. The trend only reversed towards the end of the year as crude oil prices started to rise again. We were able to substantially improve our earnings figure year on year. Aside from favourable purchasing prices, this was also due to the increased focus of our affiliate companies on higher-quality



products, combined with the benefits accruing from recently completed modernisation and expansion investments. We continued to drive forward our investment strategy in 2016, with capital expenditures at around €160 million matching the high prior-year level. We are committed to generating growth in the years to come while further building on our enterprise value.

### Gross profit increased by 15.3 %

Gross profit as of the end of the year under review was €181.3 million compared to €157.2 million in fiscal 2015. This corresponds to a rise of 15.3 %. Earnings before interest and other financial items, taxes, depreciation and amortisation (EBITDA) amounted to €76.4 million, an increase of €25.6 million or 50.5 % year on year. Consolidated earnings before taxes (EBT) improved by €23.4 million, reaching a total of €24.6 million in 2016.

At €568.9 million, sales were only marginally (€2.1 million or 0.4 %) below the prior-year figure. Within this total, the Chemicals division registered a decline in revenue of around €10 million overall, despite predominantly increased sales volumes. The reasons for this development include the low commodity price levels prevailing and also a significant decline in sales in the Consumer Products segment which

resulted from the loss of a previous major customer. By contrast, the Logistics division was able to increase sales by €8.7 million. Sales in the Energy division remained at the prior-year level. These developments notwithstanding, the Chemicals division remained by far the main revenue generator within the Group in 2016, posting total sales of €485.3 million and, once again, generating the major portion of earnings realised. Business performance within the segments Polyols, Surfactants, Chlorine, Speciality Chemicals and Consumer Products was mixed. Generally speaking, however, our strategic alignment towards higher-quality speciality products paid off. Moreover, we were able for the first time to profit for a full year in 2016 from the newly installed, energy-efficient chlor-alkali electrolysis process. The commissioning phase for the new plant for the production of ultra-pure monochloroacetic acid (MCAA), with which we have significantly extended our chlorine value chain, was completed at the end of 2016. Since that time, we have been regularly providing key customers with ultra-pure MCAA. 2017 will see us continue pursuing qualification with other customers with the prospect of successively increasing both production and sales volumes. The new plant also enables a degree of backward integration, with MCAA serving as a feedstock in the betaine production of our Surfactants segment.

The Logistics division of PCC was once again able to improve its performance versus the previous year, thanks inter alia to increased sales in the Intermodal Transport segment. The growing number of handling operations at the container terminals of PCC Intermodal S.A., all of which underwent expansion in the previous year, and the constantly increasing utilisation of the services offered by this affiliate from Rotterdam and Duisburg to Poland, were the major drivers of this development.

In the Energy division, our Conventional Energies business unit with the CHP power station of PCC Rokita SA and the heat and power utility PCC Energetyka Blachownia Sp. z o.o. continued to dominate financially. Within the Renewable Energies business unit, the number of small hydropower plants in operation in 2016 remained unchanged at five, with the start date for construction of a sixth power plant having been delayed beyond the turn of the year.

Within the Holding/Projects division, the focus in the reporting year was on construction of the silicon metal production plant of PCC BakkiSilicon hf in Iceland. Generally speaking, the building work has proceeded to schedule with completion envisaged at the end of 2017/start of 2018. Further progress was also made in 2016 in the construction of our dimethyl ether plant (DME) in Russia. This production facility, for which our Russian joint venture partner is to supply the methanol feedstock, is likewise due for completion by the end of 2017. The first earnings from these two new business activities are expected to flow in from 2018.

### Market capitalisation of PCC companies exceeds € 400 million

The market value of our affiliates successfully floated on the Warsaw Stock Exchange in recent years developed exceptionally well in 2016: In all, the market capitalisation of PCC Rokita SA, PCC Exol SA and PCC Intermodal S.A. as of December 31, 2016, amounted to around €405 million, representing an increase year on year of €52 million or 14.7%. PCC SE is the clear majority shareholder in respect of each of these portfolio companies. The market value of the share package held by us as of year-end was €338 million.

## Expectations for 2017

As in previous years, the strategy adopted by the PCC Group will continue to be aligned to sustainable investments and business development. Driving a continuous increase in our enterprise value will remain very much at the centre of our planning. As a growth-led investor, the holding company PCC SE intends to continue supporting its affiliates in the expansion and extension of their particular strengths over the long term – while also optimising and diversifying its investment portfolio along the way. The investments made in 2016 will, for the first time, make a full-year contribution to the Group earnings of fiscal 2017. The commissioning of further production lines, including in the Polyols segment, will also help generate growth. In some business units, however, initial and start-up losses are still expected. Moreover, the burden on earnings arising from depreciation, amortisation and interest will also rise. Overall, therefore, we anticipate that 2017 will produce a somewhat lower but still very much positive earnings result.

## A word of thanks

As is the case every year, I would like to extend my particular thanks to you, our employees. It is a constant source of pride and delight for me to witness your commitment, your motivation and your creativity as, together, you create the platform that gives PCC its future-aligned and profitable perspective. My Administrative Board colleagues, the Group management and I know that this promising outlook owes much to your immense dedication, on which we continue to depend as an essential basis for our business development.

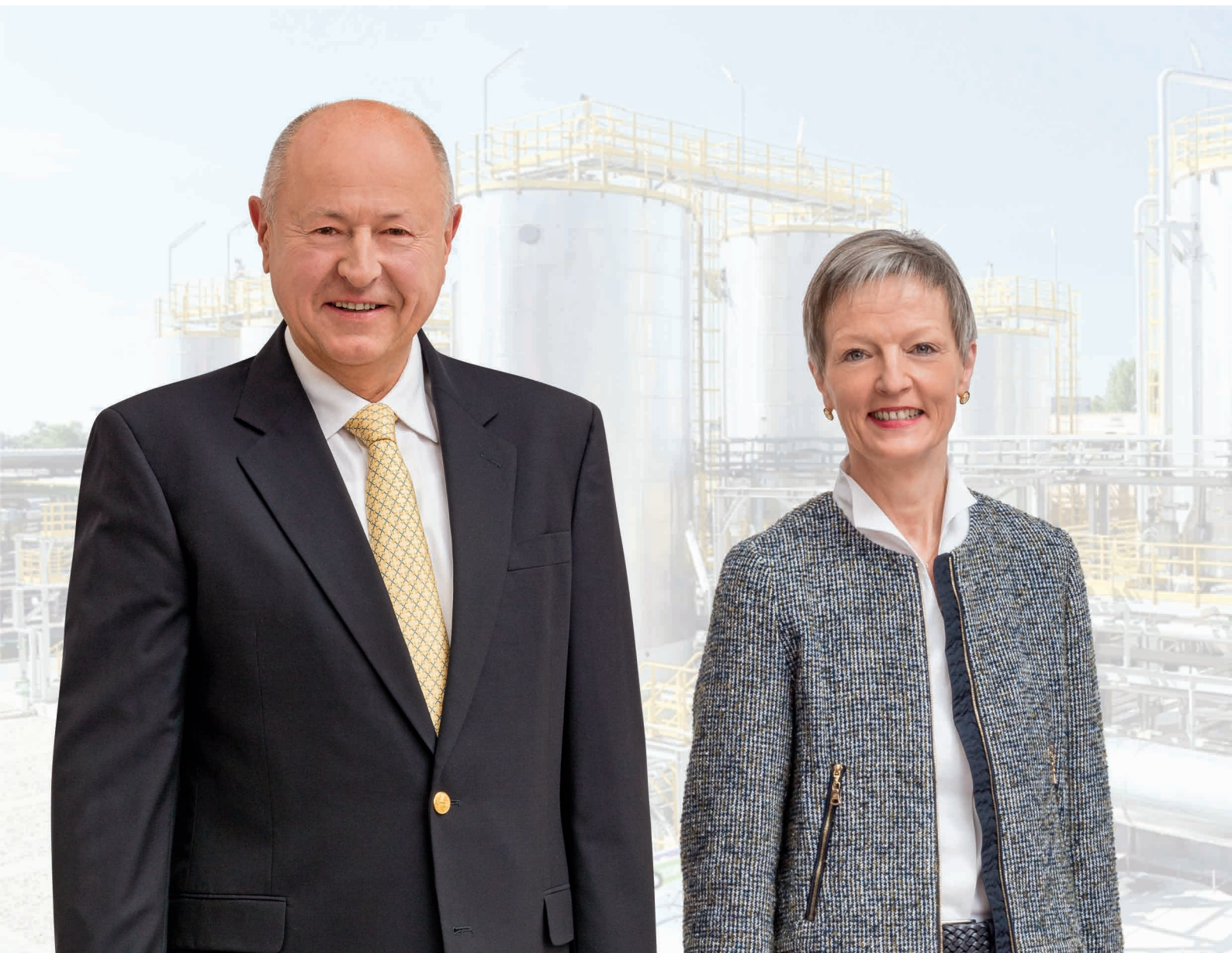
I must also extend my gratitude to you, our several thousand investors. As our financial backers, your confidence in and commitment to us are, of course, also essential to our success. By subscribing to our bonds, a large number of you have supported our progress over many years; indeed, many of you have accompanied us on our journey since our first bond issuance in 1998. The confidence you place in us means we bear a great responsibility, of which we are constantly conscious. Please be assured, therefore, that we will continue to dedicate our efforts to maintaining your faith in us as your partner.

I trust that PCC SE can look forward to enjoying your confidence and support as we look ahead towards our long-term business objectives aligned to the creation and accretion of enterprise value.

Duisburg, May 2017



Waldemar Preussner  
Chairman of Administrative Board of PCC SE



## Corporate bodies

Administrative board and  
managing directors of PCC SE

### Waldemar Preussner

**Chairman of the Administrative Board of PCC SE**

In 1993, Waldemar Preussner (58) established the company Petro Carbo Chem Rohstoffhandelsgesellschaft mbH (today: PCC Trade & Services GmbH) in response to market liberalisation in Eastern Europe. The company remains at the core of the PCC Group. 1998 saw the carve-out of the holding company PCC AG, and in 2007 its corporate form was changed to that of a European corporation. Waldemar Preussner is the sole shareholder of PCC SE and Chairman of its Administrative Board. He also holds a number of supervisory board mandates within the PCC Group.

### Ulrike Warnecke

**Managing Director of PCC SE**

Ulrike Warnecke (54) has held a number of directorships with PCC since the company was first established. As Managing Director of the holding company, PCC SE, she is primarily responsible for Finance, Human Resources and Public Relations. Her operational responsibilities extend to the segments Speciality Chemicals and Consumer Products. She is the Managing Director of our most important trading company, the founding entity PCC Trade & Services GmbH, and is a member inter alia of the supervisory board of PCC Consumer Products S.A.





The Administrative Board of PCC SE is made up of three members:

- Waldemar Preussner, Dipl.-Volkswirt (Chairman)
- Dr. rer. oec. (BY) Alfred Pelzer (Vice Chairman)
- Reinhard Quint

PCC SE is headed by its two Managing Directors:

- Ulrike Warnecke
- Dr. rer. oec. (BY) Alfred Pelzer

## Dr. rer. oec. (BY) Alfred Pelzer

### **Vice Chairman of the Administrative Board and Managing Director of PCC SE**

Dr. rer. oec. (BY) Alfred Pelzer (57) has been in managerial positions with PCC since 1995. In 2007, he was appointed Vice Chairman of the Administrative Board of PCC SE. He is also a Managing Director of PCC SE with primary responsibility for the operational areas of chemical production, logistics, sales and distribution. He holds a number of supervisory board mandates within the PCC Group, including at PCC Rokita SA, PCC Exol SA, PCC Synteza S.A. and PCC Intermodal S.A.

## Reinhard Quint

### **Member of the Administrative Board of PCC SE**

Reinhard Quint (74) began supporting PCC in an advisory, non-executive role in 2002. Since the transformation of the Group in 2007 into a European corporation (Societas Europaea, abbreviated: SE), he has been a member of the Administrative Board of PCC SE. He also holds the following mandate: he is a member of the Corporate Development Council of Duisburger Hafen AG. Prior to that he was for many years Chairman of ThyssenKrupp Services AG (known today as ThyssenKrupp Materials International GmbH).

# The Direktinvest unit of PCC SE

## Corporate bonds: an essential instrument in financing our growth since 1998

The Group parent and holding company PCC SE finances itself through a combination of equity funds and borrowings, whereby the issuance of corporate bonds (bearer debentures) constitutes an essential financing instrument. This allows us to react quickly to new market or investment opportunities, enabling us to flexibly finance business purchases as well as the organic growth of our Group without undue reliance on the banks. Hence, the issuance of bonds – primarily to a wide circle of private investors, but also to institutional investors – will remain a central component of our

financing strategy going forward. At the same time, we are endeavouring to expand our funding platform in tandem with this approach through specific project-related and loan-based financing packages, and also through partial flotations of individual Group entities.

Relatively small bearer debenture issuance volumes in amounts up to €40 million provide us with the flexibility necessary to cover our financing requirements. The distribution of our liabilities across a comparatively large number of small issuances also reduces the risk of sudden burdens impacting on our financial metrics; the result is a balanced process of fund inflows and repayment outflows. In keeping

## PCC. Direktinvest

### PCC SE bonds as of December 31, 2016

ISIN	Fixed coupon p.a.	Start of tenor	End of tenor	Listing	Nominal value in €k as of Dec. 31, 2016
DE000A13R7R4	4.00 %	Dec. 1, 2014	Jan. 1, 2017	Frankfurt	10,000
DE000A14KJRO	4.00 %	May 1, 2015	Jul. 1, 2017	Frankfurt	12,005
DE000A1R1AN5	7.25 %	Feb. 1, 2013	Oct. 1, 2017	Frankfurt	29,768
DE000A162AN1	3.50 %	Oct. 1, 2015	Dec. 1, 2017	Frankfurt	14,511
DE000A1TM979	7.00 %	Jul. 1, 2013	Apr. 1, 2018	Frankfurt	15,654
DE000A2AAVL7	3.50 %	May 1, 2016	Jul. 1, 2018	Frankfurt	8,908
DE000A1YCSY4	7.00 %	Dec. 1, 2013	Oct. 1, 2018	Frankfurt	19,996
DE000A13R5K3	6.50 %	Oct. 15, 2014	Jan. 1, 2019	Frankfurt	13,949
DE000A11QFD1	6.75 %	May 15, 2014	Apr. 1, 2019	Frankfurt	8,909
DE000A2AAY93	3.00 %	Oct. 17, 2016	Jul. 1, 2019	Frankfurt	4,118
DE000A13R7S2	6.25 %	Dec. 1, 2014	Oct. 1, 2019	Frankfurt	20,000
DE000A14KJ35	6.00 %	May 1, 2015	Apr. 1, 2020	Frankfurt	19,218
DE000A162AP6	5.00 %	Oct. 1, 2015	Oct. 1, 2020	Frankfurt	25,000
DE000A2AAY85	4.00 %	Oct. 17, 2016	Jul. 1, 2021	Frankfurt	13,227
DE000A13SH30	6.75 %	Dec. 1, 2014	Oct. 1, 2021	Frankfurt	19,890
DE000A14KJ43	6.50 %	May 1, 2015	Apr. 1, 2022	Frankfurt	16,181
DE000A162AQ4	6.00 %	Oct. 1, 2015	Oct. 1, 2022	Frankfurt	25,000

with our conservative business philosophy, we only create funds through our security emissions to the extent needed by PCC as a growth-led investor to promote the further development of the Group.

PCC is one of Germany's most experienced issuers of corporate securities: since the first issuance on October 1, 1998, PCC has – as of December 31, 2016 – issued 55 corporate bonds and one profit participation certificate. Of these instruments, we have redeemed 38 bonds as of the reporting date, with all the interest payments duly made and debt servicing requirements satisfied to schedule.

## PCC SE securities in circulation

As of December 31, 2016, there were a total of 17 bonds and one profit participation certificate in circulation, representing a combined nominal volume of around €287.3 million. Since the reporting date, the 4.00% bond ISIN DE000A13R7R4 with a placed volume of €10.0 million was redeemed on maturity as of January 1, 2017. On March 15, 2017, the issuance volume of the 3.00% bond ISIN DE000A2AAY93 was extended from €15 million to €25 million. The corporate bonds of PCC SE currently available for subscription can be found on the internet at [www.pcc-direktinvest.eu](http://www.pcc-direktinvest.eu).

## PCC. Direktinvest

### PCC SE profit participation certificate as of December 31, 2016<sup>1</sup>

ISIN	Fixed coupon p.a.	Start of tenor	End of tenor	Listing	Nominal value in €k as of Dec. 31, 2016
DE000A0MZC31	8.75 %	Oct. 1, 2007	Jan. 1, 2018	Frankfurt	10,997

## PCC. Direktinvest

### PCC SE bond maturities 2016

ISIN	Fixed coupon p.a.	Start of tenor	End of tenor	Listing	Redemption volume in €k
DE000A11P9V6	4.75 %	Apr. 1, 2014	Apr. 1, 2016	Frankfurt	7,311
DE000A1PGNR8	7.25 %	Jun. 1, 2012	Jul. 1, 2016	Frankfurt	13,078
DE000A1EWB67	6.50 %	Oct. 1, 2010	Oct. 1, 2016	–	338 <sup>2</sup>
DE000A1EWRT6	6.50 %	Feb. 15, 2011	Oct. 1, 2016	–	67 <sup>3</sup>
DE000A12T7C5	4.25 %	Oct. 1, 2014	Oct. 1, 2016	Frankfurt	9,177
DE000A1PGS32	7.25 %	Oct. 1, 2012	Dec. 1, 2016	Frankfurt	29,995

<sup>1</sup> PCC SE will redeem the PCC profit participation certificates of 2007 (ISIN DE000A0MZC31) with ordinary notice to December 31, 2017, in accordance with Section 5 of the Profit Participation Certificate Conditions, with payment of 100% of the nominal value.

<sup>2</sup> The redeemable bond ISIN DE000A1EWB67 was amortised from January 1, 2012 through to maturity on October 1, 2016 in regular quarterly instalments equating to 5% of the nominal value of the issue at 100% (€6.756 million).

<sup>3</sup> The redeemable bond ISIN DE000A1EWRT6 was amortised from January 1, 2012 through to maturity on October 1, 2016 in regular quarterly instalments equating to 5% of the nominal value of the issue at 100% (€1.345 million).

## Market capitalisation of PCC companies in Warsaw reaches €405 million

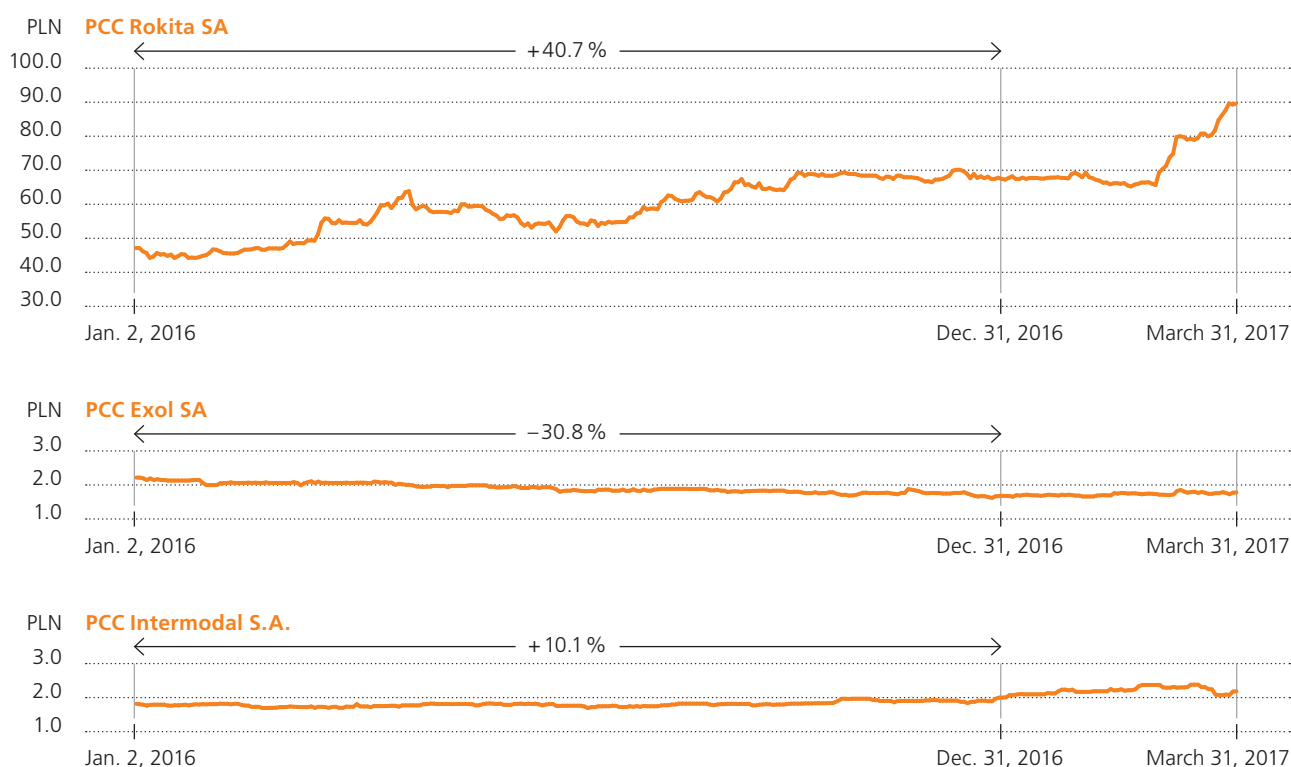
PCC has three Group companies listed on the Warsaw Stock Exchange (GPW): PCC Rokita SA, PCC Exol SA and PCC Intermodal S.A. The market value of these Group affiliates as of the reporting date, December 31, 2016, totalled €405 million, an increase of 14.6% year on year.

As the majority shareholder, PCC SE remains the strategic investor in respect of all these listed subsidiaries. A transparent market price, a strengthened equity base and the opportunity of also financing future investments through additional equity measures are the motivation behind PCC's flotation policy. Latterly, PCC SE successfully floated its biggest chemicals company, PCC Rokita SA, in June 2014. As of December 31, 2016, the closing price of PCC Rokita SA shares (PLPCCRK00076) was PLN 67.80, representing an increase of 40.7% year on year. At year end, its market capitalisation was the equivalent of €305 million. Its share value has continued to rise in the course of the current fiscal year, reaching a closing price of PLN 89.95 as of March 31, 2017. On April 6, the share price rose to a new high of PLN 94.30, almost tripling the original issue price of PLN 33.16.

In the case of surfactants manufacturer PCC Exol SA (PLPCCEX00010), successful development of its operating performance has not been reflected in the share price, due to the very small number of shares in free float. At PLN 1.62, the share price as of December 31, 2016 was 30.8% below the prior-year level. As a result, the market capitalisation value decreased to the equivalent of €63 million. PCC SE increased its investment in this company by purchasing a further share package of around 8.6% in 2016. This increased the share of capital owned by PCC SE to 88.64%, underlining its commitment to this segment.

The price of shares in PCC Intermodal S.A. (PLPCCIM00014) rose by 10.1% in the course of fiscal 2016. The stock closed at PLN 2.08 as of December 31, 2016. The market capitalisation of this company as per the reporting date amounted to the equivalent of €37 million. The closing price on March 31, 2017 was PLN 2.22. There were no changes in the shareholding of PCC SE in this company, which therefore remained at 69.5% throughout 2016.

### Price performance of PCC shares on the Warsaw stock exchange (GPW)



## Investor Relations at PCC SE – transparent financial information for our investors

We consistently publish relevant, current corporate and financial data relating to PCC in a prompt and transparent fashion. All such information can be found at any time on the internet under the Direktinvest section of [www.pcc.eu](http://www.pcc.eu) and also at [www.pcc-financialdata.eu](http://www.pcc-financialdata.eu). The certified consolidated financial statements of the PCC Group, which we publish each year in the form of an Annual Report, are also available for downloading in PDF form from an online archive. This contains all the annual reports since the first published for fiscal 2003, and also all the quarterly reports that have regularly appeared since 2001. The Direktinvest section on [www.pcc.eu](http://www.pcc.eu) also contains information relating to new security issuances and bonds currently in circulation.

## PCC Investors' Day – Group management in personal discussions with investors

Each year, PCC SE invites its financial backers to its traditional Investors' Day at the PCC Villa, the Group headquarters in Duisburg-Homberg. On this festive occasion, which traditionally takes place in early summer, we offer our investors

an opportunity to talk personally with our management on recent business performance, strategy and PCC's current and planned investment projects. Over the years, between 1,000 and 1,500 of our investors have regularly availed themselves of this chance to interact directly with the Chairman of the Administrative Board, Waldemar Preussner, and the Managing Directors, Ulrike Warnecke and Dr. Alfred Pelzer, and also with the decision-makers and product managers of the German Group companies.

## PCC Information Evenings – PCC road shows held in various cities across Germany

In addition, during the fourth quarter of each year, we invite investors and stakeholders to attend the PCC Information Evenings held in various cities across Germany. During these events, members of the senior management present PCC as a company group and PCC SE as a bond issuer, while also making themselves available for one-on-one discussions.



1 2



**1** The annual PCC Investors' Day at Group HQ, the PCC Villa in Duisburg-Homberg, provides some 1,000 to 1,500 investors with an opportunity for direct talks with Group management. **2** At our Information Evenings – like here in Hamburg – the management presents PCC SE as a bond issuer.

# Financial reporting at PCC SE in accordance with IFRS

PCC SE is the holding company of the PCC Group. The focus of its activities is on the sustainable investment management of its portfolio of majority and minority interests. One of our primary objectives in this regard is to create and continuously increase enterprise value.

The consolidated financial statements of the PCC Group are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted and endorsed by the European Union. The following condensed financial information relating to PCC SE has likewise been prepared in accordance

with IFRS. The IFRS financial statements of PCC SE differ from those prepared according to the German Commercial Code (HGB, aka German GAAP) primarily in the valuation of financial assets. Several investments of PCC SE are listed on stock exchanges for which there are regular market prices available. These form the basis for determining their fair value. In the case of investments for which there are no market prices publicly available, the valuation basis is provided either by recent transactions or valuation models. Changes in the valuation of investments are recognised per IFRS in equity under other comprehensive income.

## PCC SE statement of comprehensive income per IFRS

Figures in €k	2016	2015
Result from investments and affiliated companies <sup>1</sup>	13,902	21,718
Other operating income	4,589	7,325
Other operating expenses	12,575	16,428
Depreciation & amortisation	1,060	701
Interest result, net	-12,454	-11,687
Other financial income (+), expenses (-)	-1,629	-1,507
<b>Earnings before taxes (EBT)</b>	<b>-9,228</b>	<b>-1,279</b>
Taxes on income	-171	74
<b>Net result</b>	<b>-9,057</b>	<b>-1,353</b>
Fair value measurement of financial assets <sup>2</sup>	-31,546	84,666
Deferred taxes recognised in OCI	9,464	-25,400
<b>Total income and expenses recognised in equity</b>	<b>-22,082</b>	<b>59,266</b>
<b>Total comprehensive income</b>	<b>-31,139</b>	<b>57,913</b>

1 Result from investments and affiliated companies contains gains/losses from disposal of financial assets, dividends, changes in investments accounted for using the equity method, and impairments.

2 In accordance with IAS 39, all financial investments have been classified as available-for-sale (AFS). Of these in 2016, three stock-listed investments plus one participation have been measured as level 1 (based on market prices), all other investments as level 3 (based on valuation methods). Level 3 measures were used as no market prices and no recent comparable information on transactions were available.

PCC SE's net debt increased year on year from €227.0 million to €245.9 million. According to the IFRS statement reproduced here, its equity amounts to 44.5 %, representing a decrease year on year of 3.7 percentage points. The primary assets of PCC SE are non-current financial investments. The amount disclosed under investments accounted for using the equity method remained unchanged versus prior year.

The table on the following page shows the fair values of PCC's investment portfolio. In all, the investment portfolio of PCC SE comprising subsidiaries, associates, joint ventures and shareholdings had a fair value of €677.8 million as of December 31, 2016. Of this figure, €338.5 million (50.0 %) is accounted for by shares held by PCC SE in three stock-listed subsidiaries.

### PCC SE balance sheet per IFRS

Figures in €k	Dec. 31, 2016	Dec. 31, 2015	Jan. 1, 2015
<b>Non-current assets</b>	<b>758,666</b>	<b>792,258</b>	<b>689,191</b>
Intangible assets	406	251	106
Property, plant and equipment	11,076	7,651	6,940
Investment property	2,493	2,572	2,507
Investments accounted for using the equity method	37	37	6,123
Non-current financial investments	744,654	781,504	673,189
Other non-current financial assets	–	242	325
<b>Current assets</b>	<b>70,561</b>	<b>87,582</b>	<b>63,060</b>
Trade accounts receivable	6,128	6,839	14,496
Other receivables and other assets	6,477	15,856	30,487
Current financial investments	18,370	26,069	12,107
Cash and cash equivalents	39,587	38,818	5,970
<b>Total assets</b>	<b>829,227</b>	<b>879,840</b>	<b>752,251</b>
<b>Equity</b>	<b>368,882</b>	<b>424,340</b>	<b>364,894</b>
<b>Non-current provisions and liabilities</b>	<b>366,562</b>	<b>386,821</b>	<b>307,220</b>
Deferred tax liabilities	149,779	156,747	134,250
Non-current financial liabilities	216,784	230,074	172,970
<b>Current provisions and liabilities</b>	<b>93,783</b>	<b>68,680</b>	<b>80,137</b>
Other provisions	419	395	571
Trade accounts payable	1,579	978	1,732
Current financial liabilities	87,103	61,829	73,558
Other liabilities	4,681	5,478	4,276
<b>Total liabilities</b>	<b>829,227</b>	<b>879,840</b>	<b>752,251</b>

## Fair value of the investment portfolio of PCC SE

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
<b>Stock-listed investments<sup>1</sup></b>	<b>338,457</b>	<b>288,549</b>
PCC Rokita SA	256,868	188,881
PCC Exol SA	56,157	75,765
PCC Intermodal S.A.	25,432	23,902
<b>Stock-listed participations<sup>1</sup></b>	<b>9,367</b>	<b>–</b>
S.C. Oltchim S.A.	9,367	–
<b>Non-listed investments<sup>2</sup></b>	<b>329,962</b>	<b>433,068</b>
PCC BakkiSilicon hf	162,652	194,534
PCC MCAA Sp. z o.o.	60,435	61,602
PCC Trade & Services GmbH	27,460	35,322
PCC Consumer Products S.A.	23,096	62,079
PCC Synteza S.A.	15,209	19,949
PCC Silicium S.A.	8,334	–
distripark.com Sp. z o.o.	8,065	–
PCC Energetyka Blachownia Sp. z o.o.	4,864	2,506
PCC MORAVA-CHEM s.r.o.	3,365	5,751
PCC IT S.A.	2,228	–
distripark GmbH	50	–
PCC Chemax, Inc.	–	33,285
Other investments	14,204	18,041
<b>Total</b>	<b>677,786</b>	<b>721,617</b>

1 Relates exclusively to the specific shareholding held by PCC SE as of the reporting date, translated to euro as of that date if quoted in a foreign currency.

2 From 2016, adjusted for the values of investments from the date of initial transition to IFRS which, although still held within the PCC Group, are no longer shareholdings specifically held by PCC SE.



1

**1 2** Modern production facilities at the PCC Group's largest chemicals site in Brzeg Dolny. The Chemicals division is the main revenue generator of the Group. Companies within this division also dominate the investment portfolio of PCC SE which, as of December 31, 2016, had a fair value of €677.8 million.







## 02 The strategy of PCC



With the technology switch in our chlorine production facilities having been completed in spring 2015, the new membrane electrolysis system of PCC Rokita SA contributed to a full year of Group results for the first time in 2016.

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**23 Group strategy****26 The strategy of the Group divisions**

- 26 Chemicals division with its segments Polyols, Surfactants, Chlorine, Speciality Chemicals and Consumer Products
  - 26 Energy division
  - 27 Logistics division
  - 27 Holding/Projects division
- 

PCC is an internationally active, growth-led management and holding company. Its strategic objective is to constantly increase the enterprise value of its Group companies while also creating value from new sources. Hence, the focus of Group parent PCC SE and all the businesses of the PCC organisation is aligned to long-term, profitable and sustainable growth, to which end we are continually optimising our investment portfolio, primarily geared to the chemicals, logistics and energy sectors.

## Group strategy

We generate new growth opportunities within the PCC Group, firstly through capital expenditures in the modernisation and expansion of our production base. In this way we are able to strengthen the market positions of our companies, which – particularly within the Chemicals division – have already attained leadership in certain market segments. Secondly, we develop new, competence-related market segments, as is currently the case with the construction of a silicon metal production plant. We also leverage specific investments and acquisitions to initiate further growth, particularly in lucrative and less competitive sub-markets.

As a growth-aligned, predominantly long-term investor, PCC SE has, for more than two decades of successful portfolio management, formed an international conglomerate of businesses interconnected by internal synergies. The core objective of our Group strategy is to permanently increase the value of our portfolio companies. By doing this, we are able to further consolidate investor confidence as well as meet our responsibilities both towards the communities in which we operate and in respect of protection of the environment, so laying a solid foundation for further sustainable yet profitable growth.

Our Group is widely diversified in the chemicals, energy and logistics sectors and we are progressively expanding our business interests through ongoing investment activity. We are thus able to seize growth opportunities as markets continue to globalise, markets in which we are today – at the regional level – already among the leading suppliers with a range of products and applications. Our focus is on the modernisation and expansion of our capacities so that we may respond ever more effectively to the requirements and needs of our customers. Examples of this include the complete technology

switch of our chlor-alkali electrolysis capability in recent years to the modern, environmentally acceptable membrane process, and the expansion and modernisation of several container terminals in the Logistics segment.

In parallel to these endeavours, we consistently develop new business and product opportunities as soon as these become apparent. In doing so, we determine the potential profitability of such activities through conservative, risk-aware analyses and consistently align ourselves to the sustainable growth potential and the continuity of the cash flows expected. We only enter new areas of activity once we have a thorough understanding of the business and its risks. Such was the case with our Iceland project currently at the centre of our investment activity: After several years of planning, we began in the summer of 2015 to construct on the island one of the world’s most modern silicon metal production facilities, for which we intend to use the quartzite from our Polish quarry as a feedstock.

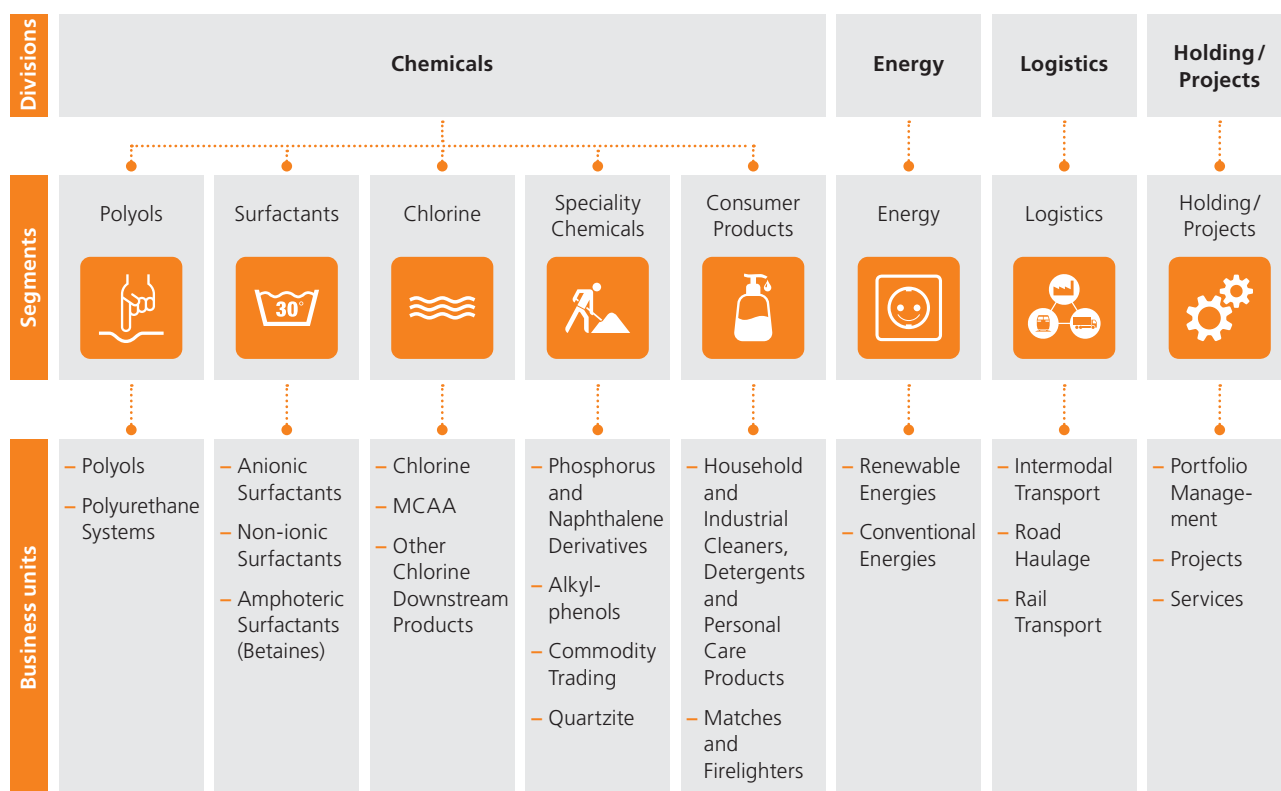
Further growth is also to be generated by specific acquisitions. Our priority here is on positioning ourselves in less competitive sub-markets and market niches. The majority of our locations are found in Europe and indeed several of our investment projects are clustered in the growing economies of Central, Eastern and South-East Europe. However, we have further extended the internationalisation of our activ-

ities through, among other things, investments in the USA, South-East Asia and West Africa. And now we are accelerating this process – for example through the expansion of the activities of our Polyols segment in Thailand. There we have taken a further step towards expansion in the rapidly growing Asian chemicals market by acquiring shares in our joint venture partner.

Conversely, PCC SE as the Group parent and holding company is also willing and able to divest operations where disposal offers attractive gains and the funds thus released can be invested in the expansion of other core activities. Hence, in 2015, the Group’s non-core telecommunications and data centre businesses were sold off, with the proceeds being used for other investment projects and debt redemption. PCC SE will also dispose of portfolio entities where these are unable to offer satisfactory returns or fail to exhibit attractive development potential.

In financing our investments, we rely on a combination of equity funds and borrowings, with the issuance of corporate bonds an essential component of our strategy. Back in 1998, PCC was one of the first German companies to embark upon the independent issuance of bearer debentures, thus establishing a sustainable instrument for bank-independent and flexible corporate financing. The funds thus attracted have since been used, in particular, to finance business acquisi-

**The divisions, segments and business units of the PCC Group**



tions and expansion and modernisation expenditures. The issuance of such bonds in relatively small volumes allows us to respond quickly to market changes and seize opportunities as they arise.

We are also continuously improving our internal enterprise processes, our performance culture and our flexibility. In order to pursue our strategic alignment, we have set clear sustainability objectives incorporating the economic, ecological and social aspects (see also the section on sustainability starting on page 28). Our holistic approach to sustainable development is consistently linked to quality and cost criteria. This helps ensure that we maintain a viable and durable balance between the needs and requirements of our various stakeholder groups while at the same time facilitating the ongoing development of new, value-adding activities.

Our more than 3,000 committed and competent employees remain our most important asset and the primary factor governing our success. We offer them scope for independent and profit-aligned initiatives, including opportunities to take on ownership responsibilities. We promote the flexibility of our people and encourage them to extend their expertise. We also support them in their ongoing personal development by providing effective preparation and professional training for new tasks. Similarly, we place great value on cultural and technical diversity in our personnel management

activities so that we may benefit from a broad process of mutual interaction, including the international exchange of knowledge and information, as a means to garnering greater success in the different markets in which we operate.

For us, therefore, management not only means defining consistently profitable targets, and then developing strategies and concepts in order to achieve them, but also motivating our employees to join with management in pursuing our common goals. And even though management may assume overall responsibility for the business of PCC, individual initiative and creativity on the part of our people is specifically encouraged to the fullest extent possible. Our employees are granted decision-making authority on the basis of “as much managerial supervision as necessary, as much individual responsibility as possible”. The principles underlying this approach are provided by our Basic Values and our Code of Ethics and Conduct which can be found at [www.pcc.eu](http://www.pcc.eu). Each employee of the PCC Group acknowledges these values and our code with their signature.



**1** The modernisation and expansion of our chemical production facilities again provided a focus for our investment activities in 2016. **2** Our people are our biggest asset, so developing our employees (here we see two at our Brzeg Dolny site) is of essential strategic importance.

# The strategy of the Group divisions

## Chemicals division with its segments Polyols, Surfactants, Chlorine, Speciality Chemicals and Consumer Products

Within our Chemicals division we pursue the strategic objective of further consolidating and, where possible, expanding our – in some cases – market-leading positions in Poland and elsewhere in Central and Eastern Europe. In this division, which is led by our biggest chemicals company, PCC Rokita SA headquartered in Brzeg Dolny (Poland), we focus our strategic investments on selected product groups within the segments Polyols, Surfactants, Chlorine and Speciality Chemicals. In the Polyols and Surfactants segments in particular, we are increasingly shifting our emphasis to the development of higher-quality speciality products, applications and system solutions. In the Polyols segment, we are – in addition to this – continuing to pursue a strategy of internationalisation. In December 2016, for example, PCC Rokita SA acquired 25% of the shares in the Thai chemicals company IRPC Polyol Company Ltd. (IRPC Polyol) domiciled in Bangkok, with which a joint venture had already been founded back in 2015 covering the sale and distribution of polyols and PUR systems.

In the Chlorine segment we were able to commission a new production plant for the manufacture of ultra-pure monochloroacetic acid (MCAA) in the fourth quarter of 2016. This extends our value chain in that the chlorine that we ourselves produce serves as a feedstock for the new plant. The facility also enables backward integration, as MCAA is used as a feedstock for the betaine production of our Surfactants segment. In the Speciality Chemicals segment a major investment focus lies in the Phosphorus and Naphthalene Derivatives business unit, with particular emphasis on the manufacture of flame retardants.

The priority in the chemicals production segments lies not only in international penetration but also in investment in our existing sites. Modernisation of current facilities aligned to the environmental and economic standards of the future is assigned as much importance as expansion work in the creation of new production facilities. As a case in point, the technology switch of our chlorine production system to the environmentally friendly membrane process, which we completed in 2015, has significantly increased our energy efficiency while at the same time making a major contribution to the performance of the Chlorine segment.

The original core business of PCC, namely trading with petrochemical and carbon-based commodities, is managed as part of the Speciality Chemicals segment. Beyond commodity trading, this operation is also responsible for supporting our production companies – on both the procurement and the sales and distribution sides – in those markets in which our trading companies have acquired expertise over more than two decades of business activity.

During the next few years, we plan to turn around the Consumer Products segment, also referred to as the “PCC Consumer Products” subgroup, with a view to returning it to success and driving its further expansion. The future growth of this subgroup is to be generated not just from the further development of the existing product portfolio but also from entry into new sales markets outside Poland.

## The Energy division

The focus of the Energy division is on the construction and operation of power generating facilities. The development, planning, implementation and also the selling-on of projects,



**1** We are constantly developing new products in the laboratories of our chemicals companies.

**2** The CHP power plant at our largest production site in Brzeg Dolny, Lower Silesia (Poland), was recently fitted out with modern dust-reducing electrostatic precipitators.

particularly in the Renewable Energies field, are also integral to our strategic approach. The project company acting on our behalf in such endeavours is our subsidiary PCC DEG Renewables GmbH, a joint venture with KfW subsidiary DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH, Cologne (Germany). We have so far commissioned one small hydropower plant in Central Bosnia and four in the Republic of Macedonia where the construction of a fifth power plant is also planned. This will take us a further step closer to our objective of operating a portfolio of power generating facilities that may eventually be sold en bloc to a strategic investor. The largest contribution to sales and earnings in this division is, however, made by the Conventional Energies business unit with the CHP power plant of PCC Rokita SA, which was further modernised in 2016, and the power and heat utility PCC Energetyka Blachownia Sp. z o.o.

### The Logistics division

Within the Logistics division, the focus of our growth ambition is on the expansion of the container terminals and the network of transport links operated by Group subsidiary PCC Intermodal S.A. We have considerable opportunities for growth in this market, based on our platform in Poland, and leveraging these is a core strategic objective of PCC. We successfully commissioned the first combined transport terminal in Central Poland at the end of September 2011. We now operate five wholly owned terminals, four of which were substantially expanded in recent years: in Brzeg Dolny, directly at our chemicals site there, in Kutno and Gliwice (both Poland), and also in Frankfurt (Oder) in Germany. We are likewise planning to build a sixth terminal near Gdynia, the site of the headquarters of PCC Intermodal S.A., in the next few years. PCC Intermodal S.A. offers container transport services within Poland and also between Poland and the major European ports of Rotterdam, Antwerp, Hamburg and Bremerhaven. At the beginning of 2016, we also opened a direct link between the industrial Ruhr district in Germany and Central Poland.

Through its road haulage arm, PCC Autochem Sp. z o.o., Brzeg Dolny, PCC is also active on the international market for hazardous goods haulage, as it is on the Russian rail transport market through its portfolio company ZAO PCC Rail, Moscow.

### The Holding/Projects division

In addition to our parent and holding company PCC SE, the Holding/Projects division also incorporates a number of entities including the IT unit, our research and development activities, and undertakings still at the start-up phase. One such is our project in Iceland, currently the main focus of investment of the entire Group. In the north of the island, we are building one of the world's most advanced and also most environmentally friendly production facilities for silicon metal, due for completion by 2018. A major objective of this project, which accounts for an investment volume of around US\$ 300 million (approximately €265 million), is to significantly extend our value chain, with the quartzite feedstock for the plant being taken from our Group-owned quarry in Zagórze (Poland). The construction of the plant began in June 2015 and has since been progressing according to both schedule and budget. The PCC project team has, since the fourth quarter of 2016, been concentrating not just on monitoring the building work being carried out by our turnkey contractor SMS group GmbH, but also on preparations for commissioning the plant.

In a further project under the management of the Holding/Projects segment, we are constructing – through a joint venture with a long-standing Russian partner – a plant for the production of dimethyl ether (DME). The corresponding building permit for our site in the Tula region, some 180 kilometres south of Moscow, was issued in June 2016. DME is predominantly used as an odourless and environmentally compatible aerosol propellant.



**3** In recent years, we have modernised and significantly expanded our terminals – here we see Kutno – operated by our Intermodal Transport business unit. **4** Ambitious future projects are planned and developed within the Holding/Projects segment so as not to overload our operating entities.



## 03 Sustainability at PCC



The safety of our employees, particularly in production, is our number-one priority – alongside protection of the environment.



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<b>29</b>	<b>The sustainability strategy of PCC</b>
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The PCC Group implements all investment projects using advanced, environmentally friendly and resource-efficient technologies, particularly in the Chemicals division. Climate protection is also promoted by our small hydropower plants, which require only a minimum intervention in nature, and our container logistics services, which offer an intelligent link between road and rail transportation. Plus: Our new silicon metal plant in Iceland satisfies the highest of environmental standards. Thus, responsibility and economic success go hand in hand.

## The sustainability strategy of PCC

Sustainability is a core component of our long-term strategy because, through it, we are more able to secure success going forward – by creating economic value-added while at the same time generating ecological and social benefits. The attainment of this primary objective is furthered by the involvement of PCC companies in sustainability programmes such as the UN Global Compact and the Responsible Care® initiative of the chemicals industry.

We firmly intend to secure our future viability as a going concern by increasing the existing enterprise value of the PCC Group while also creating value from new sources. The continuous optimisation of our investment portfolio, the core responsibility of the Group parent and holding company PCC SE, is aligned precisely to the purpose of economic sustainability, an objective that encompasses, in particular, responsible corporate management aligned to minimising business risk. However, this essential, economic component of sustainability goes in hand with other aspects: for example the protection of the environment and natural resources, or acceptance of responsibility towards society.

Our progress in this regard is evidenced, for example, by the recent history of our largest Group company, PCC Rokita SA, in Brzeg Dolny, Lower Silesia (Poland). As a result of significant investments in the modernisation and expansion of its production capacities, we have not only created a flourishing chemicals company, that company is also today an important factor in the region, for example as a major, multi-award-winning employer. PCC Rokita SA with its modern power plant also supplies large portions of Brzeg Dolny with environmentally friendly domestic heating energy. And as one of just 25 of the almost 500 companies listed on the Warsaw Stock Exchange, PCC Rokita SA was included in the

sustainability index “RESPECT” last year, so far the only entity of its kind from Central and Eastern Europe.

## Sustainable and fair business practices

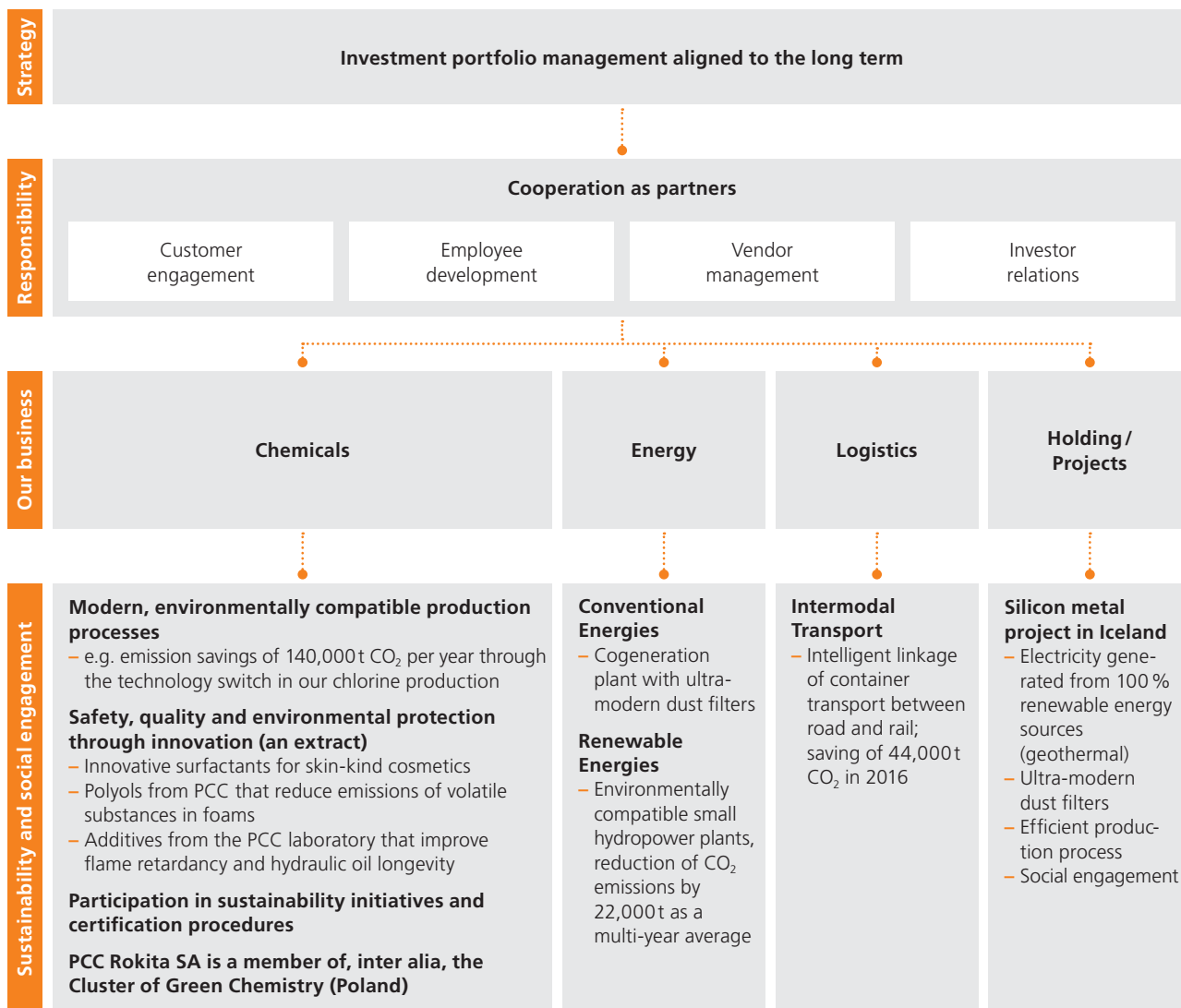
Within our Group-wide sustainability strategy, continuing investment portfolio management aligned to the long term serves as the starting point for all activities. The way in which this is implemented in practice is governed by our Basic Values including aspects such as customer engagement, honesty and willing cooperation. These values underpin the sustainable and fair business practices adopted by PCC in its dealings with our primary stakeholder groupings – our investors, employees, customers and business partners.

As one of the most experienced issuers of corporate bonds in Germany, we pride ourselves on being a reliable partner for our investors. In communications with our bond-holders and

the interested public, we place great value on transparency and conscientiousness. This has resulted in a relationship of trust building up over the years between ourselves and our financial backers of which we are proud and which also continues to inspire us.

The commitment and diligence of our employees are our most important assets. Within the PCC Group, therefore, we encourage the personal development of our people with all their ingenuity and diversity, thus creating an atmosphere that is beneficial to innovation. Through innovative products and applications and also continuous quality management, we are able to meet our product responsibilities with respect to our customers. And the relationship with our suppliers and business associates is also characterised by fairness; we are committed to standing by them as partners even in times of economic difficulty.

### Sustainability within the PCC Group



## Sustainability in the Group segments

Our Group strategy confirms our commitment to sustainability, and our fair business practices govern the way in which we consistently pursue the associated ambitions, with sustainability very much integral to the day-to-day business activities of each of our eight Group segments.

We implement all our investment projects through the use of advanced, environmentally friendly and thus energy-saving and cost-efficient technologies. One example of this approach is the complete switchover – concluded in 2015 – of our chlorine production to the environmentally compatible membrane electrolysis process. Among other things, this has reduced CO<sub>2</sub> emissions by 140,000 metric tons per year, with electricity costs also undergoing a substantial decrease. Then there is our silicon metal production plant in Iceland, which is due for commissioning in 2018. This will be one of the most advanced facilities of its kind worldwide, both from an economic point of view and also in respect of its environmental protection credentials. The energy supplied to the plant will come entirely from renewable energy sources such as, in particular, geothermal generating plant, while the installation of ultra-modern filters will reduce dust emissions from the facility down to negligibility.

The main pillar of our Logistics segment is provided by our intermodal container transport operation in which environmentally friendly rail transportation is efficiently combined with flexible road haulage, a link-up which in 2016 reduced

CO<sub>2</sub> emissions by over 44,000 metric tons compared to pure road transport. And in the Energy segment, our projects focus on power plant designed to harness regenerative energy sources, primarily through the construction and operation of small hydropower plants which, because of their minimal intervention in nature, can be regarded as particularly environmentally compatible. So far, we have connected five of these hydroelectric power generators to their respective grids, with the ensuing CO<sub>2</sub> savings amounting to over 22,000 metric tons per year.

We are also involved in social projects. PCC SE and its subsidiaries are patrons of several children's homes and are sponsors of local and regional sport and cultural events. We are the name sponsor of the PCC Stadium in Duisburg-Homberg close to our Group headquarters, and in Tanzania, PCC SE supports the Amani AIDS Orphans' Home in Mbigili (AOHM), sponsoring the construction of a house and also providing study scholarships. Employees of our chemicals sites in Poland regularly engage in social initiatives, and our US subsidiary PCC Chemax, Inc. has long been a sponsor of a charity for disabled children in Piedmont, South Carolina.

Taken together, all these initiatives aligned to sustainability in our industries enable us to generate growth within our Group in line with the vaulted values that make up our corporate ethos. On the following pages we offer more detail of how our Group segments pursue and achieve responsible, sustainable development. But first we would like to familiarise you with our risk management system.



**1** Facilities operated by PCC Rokita SA in Brzeg Dolny: In the Chemicals division in particular, we consistently pursue our investment projects with advanced, environmentally compatible technologies. **2** The Renewable Energies business unit operates a total of five small hydropower plants in South-East Europe (photo shows our Brajčino site in Macedonia).

# Risk management

The engine driving our sustainable growth is fuelled by our commitment to grasp market opportunities as they arise. However, this approach is not without its risks. Group risk management, that is to say the identification, collation and control of risks, is therefore an essential component of our sustainability strategy.

For a group of companies such as PCC aligned to both dynamic and sustainable growth, the complete elimination of risks of all kinds is not an option – this would inevitably lead to standstill and stagnation. Rather, our approach to the management of entrepreneurial and ecological or social risk focuses on earliest possible identification, categorisation according to threat and urgency, and the introduction of specific countermeasures in order to limit and mitigate any such exposure – that is to say actively control it rather than being controlled by it. Thus, risk management contributes to the continuous optimisation of our corporate control capability while also creating an innovation-friendly environment.

Adopting a multi-level approach, our Group Risk Management team assesses risk levels and optimisation possibilities, at the same time promoting entrepreneurship within the organisation. In this process, Risk Management assesses the opportunities and threats, gauges these against the short- and medium-term targets defined by the Administrative Board, and checks the resultant analyses for relevance, consistency and accuracy. Decisions are then made on this basis in relation to possible optimisation measures.

Risk assessment is ongoing, with the annual risk reports being supplemented as required by quarterly updates and interim notifications. This ensures that the Managing Directors and the Administrative Board remain informed of all major exposures. Risk Management is, moreover, tasked with in-

forming employees, motivating them and providing them with necessary further training in all aspects of relevance.

While conscious of the constant need to monitor and analyse business risks, PCC SE applies the same watching brief to all areas and activities that may give rise to impairment of the environment and the inefficient utilisation of resources. These areas include:

- Raw material consumption related to product manufactured
- Handling and transportation of hazardous substances
- Energy consumption and water usage
- Wastewater contamination
- Emission of air pollutants
- Waste for disposal
- Noise
- Hazardous sites and soil contamination
- Accidents and incidents
- Potential environmental aspects arising from planned activities

PCC also gives careful consideration to information or complaints from all stakeholders, particularly local residents. The local Group companies are responsible for conducting this dialogue with their immediate stakeholders, while Group-wide risk management is the responsibility of the holding company, PCC SE.



**1** Employees at PCC Rokita SA: For the small town of Brzeg Dolny in Lower Silesia (Poland), our plant is a major factor in the lives of the local population, for example as a major and multi-award-winning employer.

# Sustainability in the Chemicals division

The companies that make up the five PCC Chemicals segments are consistently increasing the efficiency of their production facilities, deploying ever more advanced and environmentally compatible technologies in the process. And their chemical innovations improve the quality of products that many people use every day. The Chemicals division not only secures its ongoing business success through such action but also makes a contribution to the conservation of resources and the protection of our climate and our natural environment. Beyond this, our companies also explicitly promote the social engagement of our employees.

As a rapidly growing chemicals producer, PCC is an integral part of a key industry of the 21st century. The diligence of the scientists and researchers in the chemicals industry and also the laboratories of PCC is being aligned more and more to developing new product concepts that are both economically efficient and environmentally friendly. The innovative chemical substances that we develop in our Chemicals segments ensure, for example, that hydraulic oils have to be changed less frequently and that homes can be effectively heat-insulated. They facilitate the manufacture of increasingly skin-kind cosmetics and the development of foams that are not only comfortable but also virtually emission-free as well as being extensively non-flammable. This is chemistry today: creative, innovative and committed to sustainability.

Hence, the Group companies of our Chemicals segments – Polyols, Surfactants, Chlorine, Speciality Chemicals and Consumer Products – pursue sustainability through new developments that help make everyday products longer-lasting, safer and more environmentally compatible. And we are proud to present to you a number of our latest innovations in this regard on page 36 et seq.

Our commitment to sustainability is also reflected in the way we manufacture our chemical products and devise our applications. Conscious of the scarcity of raw material resources, we are committed to constantly improving our consumption efficiency. In relation to surfactants production, for example, we are currently developing a sustainable system in the West African state of Ghana to secure supplies of palm kernel

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## –140,000 metric tons of CO<sub>2</sub>

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PCC Rokita SA has achieved this annual saving in emissions as a result of the complete technology switch in its chlorine production, completed in 2015, to environmentally compatible membrane technology.



2 3



**2** We have switched the entire chlor-alkali electrolysis process of PCC Rokita SA to environmentally compatible membrane technology (in the photo: electrolysis facility for concentrating caustic soda). **3** Through their innovation and creativity, our employees in the PCC laboratories contribute to making products more environmentally acceptable.

oil as an essential feedstock. And we protect our climate through increasingly effective emission avoidance. For example, the technology switch in chlorine production to the environmentally friendly membrane process, completed in 2015, enables us to reduce the CO<sub>2</sub> emissions produced by 140,000 metric tons per year. Our manufacturing systems satisfy the highest environmental standards and we often meet new regulations long before they actually come into force. For example, in switching over the technology of our chlorine production facilities, we satisfied the associated new EU regulations almost three years ahead of the deadline.

We maintain our awareness of the significance of sustainability within the Group through the participation of our chemicals companies in the global Responsible Care® initiative, which commits the chemicals industry to high sustainability standards. This is one of many programmes in which we are involved (you will find a selection of initiatives on page 35). Various awards, particularly for our large Polish production companies PCC Rokita SA and PCC Exol SA, inspire us to further sharpen our focus on the sustainability imperative (see page 38).

PCC Exol SA is a member of the Global Compact initiative of the United Nations, thus committing to compliance with universal principles of sustainable development. It also participates in the international Carbon Disclosure Project (CDP) as an active proponent in combating climate change. On the CDP scale, which ranges from D (Disclosure) to A (Leadership), PCC Exol SA achieved the second highest level of B (Management) in the latest general assessment. The average rating of all suppliers audited worldwide is at the D level, i.e. two places below. In 2014, PCC Exol SA became the first Polish company ever to implement the Good Manufacturing Practice (GMP) system in compliance with the guidelines issued by the European Federation for Cosmetic Ingredients (EFFCI). The certification confirms to cosmetics manufacturers worldwide that PCC Exol SA reliably maintains the

highest standards at each phase of production. Since 2015, PCC Exol SA has documented its progress along these lines in an annual sustainability report compliant with the requirements of the Global Reporting Initiative. In this, PCC Exol SA also commits to specific targets against which it will be measured in the future; for example, to reduce its CO<sub>2</sub> emissions by 15 % through to 2020 compared to the 2013 level.

PCC Rokita SA is also strengthening its environmental and social engagement, ensuring – as is the case with the entire Chemicals division – that all investment projects are realised with advanced, environmentally compatible and thus energy-saving and economically efficient technologies. For the inhabitants at its primary site in the town of Brzeg Dolny in Lower Silesia (Poland), PCC Rokita SA is of major importance as a multiple-award-winning employer. Also part of its local involvement, the company offers students supplementary practical chemistry lessons. Collaborations with universities involving the provision of scholarships and internships have also garnered various honours. And PCC Rokita SA is continuously developing new socially and environmentally aligned activities, including the collection of funds for a children's hospice.

Within the Consumer Products segment, PCC Consumer Products Kosmet Sp. z o.o. acquired GMP certification for cosmetics in 2016, and it is also a member of the pan-European initiative "Charter for Sustainable Cleaning" of the A.I.S.E. (International Association of Soaps, Detergents and Maintenance Products). With "Roko Eco", we have launched onto the market a product series based on sustainable raw materials, which also carries the recognised EU environmental mark "Ecolabel". And for our employees, it has become a tradition to take part each year around Christmas time in the national Polish fundraising campaign "Precious Parcels", the purpose of which is to enable needy families to get some joy out of the festive season.








1 2



**1** PCC Exol SA is certified according to the Good Manufacturing Practice standard of the European Federation for Cosmetic Ingredients (the photo shows modern sulphonation plant II in Brzeg Dolny). **2** Research and development at PCC is being aligned more and more to product concepts that offer both efficiency and environmental compatibility.

# Initiatives and certifications

The Chemicals companies of the PCC Group participate in a number of programmes, initiatives and certification procedures. Within the Group, these serve to sharpen awareness of the significance of sustainability. We benefit not only from interaction with “like-minded” companies, enabling us to benchmark our progress, but also from comparing our activities against those of our competitors. Through our engagement, we likewise contribute materially to promoting sustainable chemistry. This is also in our interests as a means to securing our own success going forward.

Initiative / Certification	Company	Initiative / Certification	Company
Membership of the global chemistry industry initiative Responsible Care®	 <ul style="list-style-type: none"> <li>– PCC Rokita SA</li> <li>– PCC Exol SA</li> <li>– PCC Synteza S.A.</li> <li>– PCC Consumer Products Kosmet Sp. z o.o.</li> </ul>	Inclusion in the Global Compact of the United Nations	 <ul style="list-style-type: none"> <li>– PCC Exol SA</li> </ul>
Certification according to the occupational health and safety management system assessment specification OHSAS 18001	 <ul style="list-style-type: none"> <li>– PCC Rokita SA</li> <li>– PCC Exol SA</li> </ul>	Certification of management systems to ISO 9001 and ISO 14001	 <ul style="list-style-type: none"> <li>– PCC Rokita SA</li> <li>– PCC Exol SA</li> <li>– PCC Consumer Products Kosmet Sp. z o.o.</li> </ul>
Certification in Good Manufacturing Practice (EFFCI)	 <ul style="list-style-type: none"> <li>– PCC Exol SA</li> </ul>	Certification in Good Manufacturing Practice – Cosmetics – to ISO 22716	 <ul style="list-style-type: none"> <li>– PCC Consumer Products Kosmet Sp. z o.o.</li> </ul>
Certified member of the Roundtable on Sustainable Palm Oil	 <ul style="list-style-type: none"> <li>– PCC Exol SA</li> </ul>	Participation in the Carbon Disclosure Project aligned to combating climate change	 <ul style="list-style-type: none"> <li>– PCC Exol SA</li> </ul>
Rating of the sustainability platform for CSR reporting, EcoVadis	 <ul style="list-style-type: none"> <li>– PCC Exol SA (Gold 2016)</li> <li>– PCC Rokita SA (Silver 2017)</li> <li>– PCC Consumer Products Kosmet (Gold 2017)</li> </ul>	Signatory of the “Diversity Charter” promoting employee diversity in companies and combating discrimination	 <ul style="list-style-type: none"> <li>– PCC Rokita SA</li> <li>– PCC Exol SA</li> </ul>
Membership of CEFIC & CESIO covering the safe usage of surfactants	 <ul style="list-style-type: none"> <li>– PCC Exol SA</li> </ul>	Inclusion in the “Green Chemistry Cluster” (Poland) aligned to promoting sustainable innovation	 <ul style="list-style-type: none"> <li>– PCC Rokita SA</li> </ul>
Product certifications through Ecocert according to the cosmetics standard COSMOS: Ecocert Cosmetics and Ecocert Cosmos	 <ul style="list-style-type: none"> <li>– PCC Exol SA</li> </ul>	Member of the initiative “Charter for Sustainable Cleaning” of the A.I.S.E.	 <ul style="list-style-type: none"> <li>– PCC Consumer Products Kosmet Sp. z o.o.</li> </ul>

# Innovation in the Chemicals division

While revealing new gaps in the market and opportunities for growth, innovation is also an important factor of sustainability. Innovation in chemistry also contributes to the solution of many pending problems, for example through the advent of new processes that better conserve natural resources and avoid emissions; or through the development of new additives or materials for the manufacture of even longer-lasting and safer products. In the following, we offer an overview of the latest innovations produced by the laboratories of the PCC Group.

## “Project of the Year 2016” competition

Since 2010, we have within the Chemicals division awarded annual accolades for the best innovations to come out of our laboratories. This promotes the creativity of our people as well as encouraging them to take a fresh look at market opportunities – because the awards are specifically conferred on commercially viable products, applications and processes. Over the last six years, the research projects submitted for assessment as part of this competition have together generated marginal income in the amount of PLN 200 million (around €47 million).

### First prize:

#### Speciality polyols for flexible foams

The project team of the Polyols business unit of PCC Rokita SA have developed new, speciality polyols with the aid of innovative antioxidation agents. This new group of premium polyols prevents yellowing phenomena, increases the thermal resistance of polyurethane foams and additionally reduces the emission of volatile organic compounds. Within Europe, PCC Rokita SA is the first producer to offer polyols of this kind for flexible foams.

### Second prize:

#### Roflex T70 for low flammability lubricants

In the Phosphorus Derivatives business unit of PCC Rokita SA, a team has developed the innovative additive Roflex T70, a flame-retardant plasticiser. The additive is being used in many industrial spheres, particularly where high demands are placed on avoiding flammability, for example as components of hydraulic fluids. Through the addition of Roflex T70, fluids set alight self-extinguish within just a few seconds once the source of ignition has been removed. The development of this environmentally compatible innovation took three years to complete.

### Third prize:

#### Rokolub PB-50 for long-life oils and hydraulic fluids

In the Polyols business unit, a team from PCC Rokita SA has developed the base oil Rokolub PB-50 as a lubricant formulation. The decision to pursue this development project was taken after a deep-going market analysis that revealed the need for a base oil of higher viscosity. The high degree of wear protection afforded by Rokolub PB-50 means that intervals between oil changes can be extended while guaranteeing very good protection of the lubricated equipment. It is used as a lubricant base oil for formulations of hydraulic fluids, in gear oils and as a compressor oil in cooling and refrigeration systems.



**1** The polyether polyols of PCC Rokita SA are base materials used in the manufacture of PU foams. Our innovative speciality polyols further improve foam functionality (the photo shows the material testing of a PU foam).

**2** With Roflex T70, PCC Rokita SA has developed an effective flame-retardant additive for hydraulic fluids.



## Rosulfan A: Skin-kind surfactant and already a multiple-award-winner

Rosulfan A, developed in the laboratories of PCC Exol SA, is an anionic surfactant that can be used as a primary ingredient in cosmetic cleaning products such as shampoos, bubble bath liquids and shower gels. It produces an excellent lather while at the same time ensuring a special, dermatologically gentle effect in body care products and cosmetics. It therefore reduces the risk of skin irritation and allergic reactions. For this development, PCC Exol SA has already received a number of awards (see page 39).

Rosulfan A is, however, just one of many new developments in the surfactants segment in which we are increasingly focusing on higher-grade speciality solutions. In the previous year, the company was honoured for the product Rokamina K30 B, an amphoteric surfactant which, among other things, is completely biodegradable and therefore particularly environmentally friendly.

## ROKAtend GL: An especially mild amino acid surfactant

One of the many other innovations at PCC Exol SA is ROKAtend GL, a new product for the cosmetics industry. As a mild surfactant with very good foaming properties, it reduces the skin-irritation effect of other surface active substances and, for example, combats drying of the skin. Thanks to strong adhesion to the protein surface, it ensures a long-lasting, pleasant and soft skin feel. With these properties and the gentle effect on the hair structure, coupled with outstanding cleansing properties, amino acid surfactants are also frequently used in the production of high-quality shampoos that render the hair soft and supple while imparting to it a glossy and healthy appearance. Because they are also biodegradable, amino acid surfactants are also environmentally friendly.

## EKOPRODUR PU foam systems: For effective thermal insulation in buildings

Staff at PCC Prodex Sp. z o.o. have developed a closed-cell polyurethane foam (PU foam) under the designation EKOPRODUR BF5032/E. This is used for the thermal insulation of buildings and comes in panel form offering a high degree of fire resistance. With this system, a gap in the Polish market has now been closed because the thermal resistance encompasses a wide range which cannot be offered by other materials used in the construction industry such as polystyrene.

A further innovation of PCC Prodex Sp. z o.o. is the PU spray system EKOPRODUR S0329W. With this, the insulating foam is applied not in the form of panels but as a sprayed-on layer. The special feature of the new development is that this foam can also be applied at low temperatures, making it ideal also for the pre-winter period.

In Poland, the PU insulating systems manufactured by PCC Prodex Sp. z o.o. and PC Therm Sp. z o.o., which are marketed there under the brand "Crossin Insulations", were selected by experts among the "Golden Seven of the Construction Industry 2016", an accolade for particularly innovative building trade products.

## Roflam B7L: Flame-retardant for the PU foam industry

Among the innovations of the Phosphorus Derivatives business unit of PCC Rokita SA is a new flame retardant under the name Roflam B7L formulated with the polyurethane industry particularly in mind. The products in the Roflam range are recommended as fire-protection solutions for construction applications, in the furniture and textile industries and also for various applications in the transport sector. Due to its chemical properties, Roflam B7L is particularly environmentally compatible, and the technology is patent-pending.



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**3** A number of innovative surfactants have come out of the research at PCC Exol SA, among them Rosulfan A, which imparts a particularly gentle effect in, for example, shampoos and bubble bath products. **4** An innovation from PCC Prodex Sp. z o.o. is the new PU spray foam EKOPRODUR S0329W for heat insulation applications in buildings.

# Awards and rankings

The effect of our many years of involvement and our investments in the modernisation and expansion of our Group companies is also evidenced by various awards and high ranking positions. Our two large chemicals companies, PCC Rokita SA and PCC Exol SA, have in particular garnered numerous honours in a wide range of different categories in recent years – including as fair employers, in recognition of their economic and innovative strengths, or for their sustainability performance. Here is a selection:

## PCC Rokita SA

### Chemicals Company of the Year – Diamond of the Polish Chemicals Industry 2016

In the competition for the title “Diamond of the Polish Chemicals Industry”, PCC Rokita SA garnered the title “Chemicals Company of the Year”. The patron of the award, conferred on November 21, 2016, was Jarosław Gowin, Deputy Prime Minister of Poland and Minister for Economic Affairs and Higher Education. The competition jury awarded the title to the company for its outstanding services and above-average contribution to the development of the Polish chemicals industry.

### PCC Rokita SA stock included in the RESPECT index

PCC Rokita SA has been included in the list of socially responsible companies quoted in the RESPECT index on the Warsaw Stock Exchange. It is the first stock exchange index of its kind in Central and Eastern Europe. It brings together companies that, through environmental protection, investment in personnel development and involvement in local communities, create the prerequisites for sustainable economic development. The Warsaw Stock Exchange announced the new composition of the RESPECT index in mid-December last year, having performed its tenth update. PCC Rokita SA

was incorporated into the index after an audit carried out by the management consultancy Deloitte. The first listing of the company in the RESPECT index occurred on December 19, 2016, making PCC Rokita SA one of just 25 corporations – out of almost 500 quoted on the Warsaw Stock Exchange – to be included in this select group.

### Major Pearl of the Polish Economy 2016

This annual award was once again conferred on the “PCC Rokita” subgroup by the editorial group of the magazine “Polish Market” and the Faculty of Decision Support and Analysis of the Warsaw School of Economics. The reasons cited were the consistent implementation of corporate policy and business strategy and the leading position of the company among the fastest-growing and most efficient in Poland. More than 2,000 companies had put their names forward to the organisers for the prize.

### Game-Changer of the Polish Economy 2016

The jury comprising editorial staff of the business magazine “Nowi Przemysł” (New Industry) and the internet portal wnp.pl elected the award-winners of the competition “Game-Changer of the Polish Economy” for the 17th time in 2016, and PCC Rokita SA was included as one of the “game-changers” for that year. It thus serves as a model



**1** “Diamond of the Polish Chemicals Industry” for PCC Rokita SA. **2** Wiesław Klimkowski (centre), CEO of PCC Rokita SA, receives the award certificate confirming the company as a “Game-Changer of the Polish Economy” – accompanied by, among others, Jerzy Kwieciński (right), Secretary of State in the Polish Ministry for Economic Development. **3** Document showing the listing of PCC Rokita SA in the RESPECT index of the Warsaw Stock Exchange.

modern company committed to values without which a healthy, dynamically growing economy with respect for the free market, competition, transparency, legal precepts and effective, conscientious management would not be possible.

### Employer of Tomorrow

This competition was organised by PARP, a Polish agency dedicated to the promotion of entrepreneurship. Its objective is to disseminate best practice in modes of cooperation between business and education and to recognise socially responsible companies that assign resources to the practical training of students. In the competition's third year in 2016, the jury selected seven companies as their "Employers of Tomorrow", one of which was PCC Rokita SA.

### Award for collaboration with Wrocław University of Science and Technology

PCC Rokita SA has been working with the Wrocław UST in Lower Silesia for five years now. There it supports the best students in the Chemistry and Electrical Engineering faculties with scholarships. The company offers paid internships and manages a scholarship programme for students of the Masters courses under the slogan "Write your dissertation with us". Through this collaboration, the company was awarded last year by the publishing group PTWP for "proven processes in business, education and science".

## PCC Exol SA

### Fair Company 2016

PCC Exol SA was awarded with the certificate "Uczciwy Przedsiębiorca 2016" (Fair Company 2016). The certificates issued by the ECC Group Sp. z o.o. (European Certification Centre) honours companies for their fairness, reliability and professionalism.

### Fourth place in leading Polish CSR ranking

In the tenth edition of the ranking for the most responsible companies in Poland, presented in May 2016 at the European

Economics Congress in Katowice, PCC Exol SA took fourth place among 71 companies audited in the category "Industrial and Chemical Production". With this, PCC Exol SA improved its position from the previous year by seven places. This is a widely respected ranking in Poland in the field of corporate social responsibility (CSR).

### Laurels of the Expert 2016/2017

For the innovation of a particularly skin-kind surfactant, Rosulfan A, PCC Exol SA was awarded by the Polish Union of Engineering Associations FSNT-NOT with the accolade "Laurels of the Expert 2016/2017" in the category Industrial Chemistry, and with the "Laurels for Innovation 2016". In addition, the product has also been included among those nominated for the 2017 award "Eco Inspiration – Responsible Treatment of Nature".

This is actually the second time that PCC Exol SA has received such a coveted accolade; in the previous year, it was awarded the "Laurels of the Expert" for the surfactant Rokamina K30 B.

## PCC Apakor Sp z o.o.

### Gazelle of the Economy 2016

For the third time in a row, our Group-owned apparatus engineering company, PCC Apakor Sp. z o.o., which is headquartered at our chemicals site in Brzeg Dolny, Lower Silesia (Poland), was awarded the coveted title "Gazelle of the Economy" (Gazela Biznesu) in 2016. Through this award, conferred by the Polish business newspaper "Puls Biznesu", PCC Apakor continues to be a member among the elite, most dynamically developing and fastest growing companies in Poland.



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4 Emilia Drzymała, Marketing and CSR Manager at PCC Exol SA, receives the "Laurels of the Expert 2016/2017" award for the innovation Rosulfan A. 5 "Fair Company 2016" certificate for PCC Exol SA. 6 Award ceremony for the "Gazelle of the Economy 2016" accolades: PCC Apakor Sp. z o.o. received the honour for the third time in a row.

## Sustainability in the Energy division

The conventional power plant at our chemicals site in Brzeg Dolny is equipped with advanced electrostatic filters for emission reduction. Our investments here make a considerable contribution to improving regional air quality. And PCC's small hydropower plants in South-East Europe are, thanks to their positive CO<sub>2</sub> emissions balance, registered as climate protection projects. Moreover, their construction only results in a relatively minor intervention in nature.

We are committed to sustainability in our conventional energy generation plants. We commissioned our co-generation plant EC-3, a modern CHP (combined heat and power) facility at our biggest production site, Brzeg Dolny in Poland's Lower Silesia region, in 2008. This not only supplies our chemicals production facilities, it also provides almost 80% of the households in the small town of Brzeg Dolny with heating energy. In many towns and cities in Poland, homes are still predominantly heated with coal. Thus, the pollutant emissions resulting from this alternative are extensively avoided in Brzeg Dolny.

In order to further improve the air quality in the locality, PCC Rokita SA began in 2015 to install state-of-the-art electrostatic precipitators as a means to reducing the dust emissions from its CHP plant. Although lower EU limits do not come into force until 2020 because of a national transition plan, PCC Rokita SA has, as a result of these investments, already cut its dust concentration from 50 to 20 milligrams per cubic metre, thus falling even further below the current limit of 100 mg/m<sup>3</sup>.

Within the Renewable Energies business unit we had installed five climate-protecting and environmentally friendly small hydropower plants by the end of 2016. Our initial pilot project, the small hydropower plant in Mujada, Central Bosnia, was connected to the grid in February 2009. Then,

in the Republic of Macedonia, we were able to commission small hydropower plants at four sites to date: Gradečka, Galičnik, Brajčino und Patiška. Back in 2013, the UN climate protection authority UNFCCC officially registered these facilities as climate-protection projects compliant with the requirements of the Kyoto Protocol. The high quality of our power plant projects was then recognised by the financing bank EBRD (European Bank for Reconstruction and Development) with a cash award amounting to a total of €830,000 to mark the successful commissioning of these facilities.

The five power plants now connected to their respective grids serve to save in total more than 22,000 metric tons of CO<sub>2</sub> emissions per year while at the same time producing together more than 22.5 million kWh (kilowatt-hours) of electricity as a multi-year annual average. This year, 2017, we are also planning to start construction of a further power plant in Macedonia, and we have three such facilities at the planning phase earmarked for Bosnia and Herzegovina.

Yet it is not just through the avoidance of climate-damaging emissions that these power plants offer an outstanding example of sustainable electricity generation. They also require no more than minimum intervention in nature. And with add-on community and environmental projects at the local level, we are also able to meet our social responsibility.

— 22,000  
metric tons of CO<sub>2</sub>

This multi-year average annual saving in CO<sub>2</sub> emissions results from the power generation activities of PCC's five small hydropower plants operating in South-East Europe.



1 Representing a relatively minor intervention in nature, small hydropower plants harness the power of natural water courses for electricity generation, as seen here in the Macedonian mountains.

# Sustainability in the Logistics division

With our logistics services, we offer a combination of efficient and environmentally compatible international container transport on road and rail. This intermodal form of haulage is exceptionally sustainable due to the utilisation of goods trains for the long-distance legs, producing just a third of the CO<sub>2</sub> emissions compared to pure road transport. And these environmental savings are rising year on year as the transport volumes handled by PCC Intermodal S.A. continue to increase.

PCC Intermodal S.A., the largest Group company of our Logistics division (or Logistics segment) is one of Poland's leading providers of intermodal container transport. Based on its own, ultra-modern container terminals in Kutno, Brzeg Dolny, Gliwice and Frankfurt (Oder) as well as another terminal in Kolbuszowa, PCC Intermodal S.A. operates a network of combined road and rail services along several international transport corridors that link Germany and the Benelux countries with Poland and other economic zones in Eastern Europe.

Transporting cargo of all kinds, its daily block train services offer customers of PCC Intermodal S.A. the flexibility of being able to book a container place as and when required. At our terminals, the containers are quickly loaded from our wagons onto trucks with the aid of heavy-duty gantry cranes or the more flexible reach-stackers. Road transport thus only comes into play for the "last mile", the final short distance to the destination – precisely that part of the journey for which the environmentally more sustainable rail form of transport is unsuitable. And this positive effect is growing with the dynamic expansion being experienced at PCC Intermodal S.A.: The number of containers handled by the company has increased from around 140,000 TEU (twenty foot standard containers) in 2014 and 175,000 TEU in 2015 to some 215,000 TEU in 2016.

The average distance travelled by rail amounted to 395 kilometres in the reporting year. By comparison, the respective distances of the door-to-door deliveries by truck averaged out at around just 80 kilometres. The total number of transport operations completed on rail in 2016 equated to a good 1,100,000 ton-kilometres (the equivalent of transferring one metric ton in weight over a distance of 1,100,000 kilometres). Transport on rail gave rise to CO<sub>2</sub> emissions of 22 grams per ton-kilometre, while road haulage resulted in almost triple that figure at 62 grams. These figures are recommended by the industry associations for calculating CO<sub>2</sub> emissions caused by goods transport. The use of rail by PCC Intermodal S.A. for its long-distance services thus gave rise to savings in 2016 of more than 44,000 metric tons of CO<sub>2</sub>.

Sustainability also plays a major role for the other Group companies in the Logistics segment. One example is our road haulage company PCC Autochem Sp. z o.o., a specialist in the transport of liquid chemicals – in particular hazardous substances – which also boasts its own tank cleaning facility. Within this business unit, sustainability is aligned in particular to safety and quality, as witnessed by the fact that PCC Autochem has become the first Polish transport company to gain ISO 90001 certification in the field of hazardous goods transport at the national and international level. In addition to its transport services, its cleaning facility has also been certified to SQAS (Safety and Quality Assessment System).



**2** PCC Intermodal S.A. is able to transfer containers between road and rail at five wholly owned terminals (in the photo: our Kutno site).

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**– 44,000**  
metric tons of CO<sub>2</sub>

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This reduction in emissions resulted in 2016 from the fact that PCC Intermodal S.A. uses goods trains instead of road transport for its long-distance container logistics.

# Sustainability in the Holding/Projects division

## Our silicon metal project in Iceland

The construction of an ultra-modern production plant for silicon metal in Iceland is sustainable in many respects: Once completed in 2018, the facility will operate on the basis of 100 % renewable energy. Emissions will be kept to a negligible minimum and the new jobs created are destined to seed an upturn in economic activity across the region. And the long-term business relationships with our financing and trading partners could also be regarded as an important facet of sustainability.

There is hardly a country better suited to the environmentally compatible operation of a silicon metal production plant than Iceland. In terms of sustainability, the project is of model character. We inaugurated the construction site in September 2015 in a ceremony attended by members of the Icelandic government and high-ranking representatives of trade and industry. Once completed around the end of 2017/beginning of 2018, the facility will be one of the most advanced of its kind, meeting the highest sustainability standards in all the essential aspects – environmental, social and economic. The project is sustainable in relation to all its stakeholders: from investors, employees and residents to the customers purchasing the product.

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# 100%

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**This is the share of renewable energies (geothermal) providing the electricity for the silicon metal plant in Iceland.**



**1** The construction site of our silicon metal plant in Iceland. Once completed, the buildings on various terraces will blend perfectly into the landscape.

The manufacture of silicon metal is, by its very nature, energy-intensive, which makes power a critical cost factor. Particularly because of its rich geothermal sources of energy, however, the island of Iceland is almost unique in the world in this regard. Here, power generation can be secured entirely from renewable sources, which means that the associated emissions are negligible. Not only is the electricity particularly clean, it is also inexpensive – with low cost guaranteed contractually over the long term in our particular case.

Our facility is also sustainable from the point of view of raw material procurement. This is because – in addition to the energy – we are producing the most important feedstock predominantly ourselves. This starting material, quartzite, comes from our Polish quarry. Although this is located 2,500 kilometres from Húsavík as the crow flies, the logistical chain involving the long land distances will be restricted to rail transport, with block trains bringing the bulk cargo to the port of Szczecin (Stettin). From the harbour in Húsavík, it will be transported by special vehicles of large carrying capacity over an especially constructed industrial road, taking the shortest route to the consuming facility nearby.

Highly efficient core components ensure the environmentally friendly operation of the production plant and avoidance of emissions. The discharge of fine dust will be minimised by a modern de-dusting system serving the entire production process. The complex is being built on a turnkey basis by plant constructor SMS group GmbH, Düsseldorf (Germany), a leading vendor in this field. Our joint objective is to make our plant one of the most efficient and advanced in the world. As part of this remit, the commitment to environmen-

tal protection and sustainability in the plant design has gone so far as to ensure that the buildings are arranged in order to blend to optimum effect within the landscape and are invisible, for example, from the town of Húsavík.

For the people of the region, our plant is creating new economic opportunities. This is a core aspect of sustainability in the social and societal sense. Around 100 direct jobs will be permanently created in the plant. In addition, our facility forms the nucleus of the new Bakki industrial park that is currently under development. It is an important motor driving the development of the region. Consequently, there is a mood of excited anticipation in and around Húsavík. Yet our involvement goes even further: An especially established subsidiary is currently constructing living accommodation for the plant employees and – for example as the sponsor of local youth sport – we are also becoming directly involved in the community environment.

The investment volume of around US\$ 300 million (approximately €265 million) means that the Iceland project is the largest single investment in the history of PCC SE. The undertaking only became possible after several years of amicable negotiations held with all stakeholders involved. This project is also characterised by sustainability in terms of the relationship of trust which has grown up with our financial backers, namely KfW IPEX-Bank of Frankfurt am Main (Germany), and our Icelandic investors including pension funds and a bank. The fact that Icelandic pension funds – with their inherent need to invest conservatively – are involved in this project confirms its sustainability, as does the support being provided by the German state.



2

**2 Construction work at the furnace building at the end of 2016. Preparations for cold commissioning are to begin in late summer 2017.**

»» Our project in Iceland is creating 100 new jobs and bringing about an upturn across the entire region. While these jobs are being created in our plant in the Iceland harbour town of Húsavík, the facility is also serving as a nucleus of a new industrial park.«

**Waldemar Preussner**

Chairman of the Administrative Board of PCC SE



## 04 Group segments



Employees at the PCC chemicals site in Brzeg Dolny. Together, the five segments of the Chemicals division are by far the most important sources of both sales and earnings at the PCC Group.



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<b>45</b>	<b>The segments of the PCC Group</b>
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48	Surfactants
50	Chlorine
52	Speciality Chemicals
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The eight Group segments of PCC continuously develop new products, applications and services for customers in a wide range of industries, sectors and markets. The portfolio of the five Chemicals segments range from polyols for comfortable foams through to surfactants and flame retardants. Our container logistics connect international destinations; in the Energy segment, we operate a number of advanced power plants; and in a major investment project, we are constructing a silicon metal production plant in Iceland.

## The segments of the PCC Group

Our corporate group is divided into eight segments: Polyols, Surfactants, Chlorine, Speciality Chemicals and Consumer Products together make up the Chemicals division. Added to these are the segments Energy, Logistics and Holding/Projects. Their activities are widely diversified yet, at the same time, interlinked by Group-wide synergies.

Taken together, the eight Group segments realised consolidated sales of €568.9 million in 2016. The largest share of revenues, 85.3%, was generated by the five Chemicals segments, as has consistently been the case in preceding years. Group EBITDA rose to a total of €76.4 million, with the Chlorine segment making the biggest contribution.

Established in 1993 as a commodity trading company, PCC is today a European corporation with a significant production base of its own. Thanks to substantial investments, we count among the leading suppliers of a number of chemical products in our traditional core markets, i.e. Poland and, to a degree, Central and Eastern Europe. We are also continuing to drive

the process of internationalisation, extending for example into Asia and developing new fields of business. We are constantly expanding our product portfolio into competence-related areas while utilising opportunities to increase both value added and synergy effects. Thus, the Energy segment supplies our chemicals works – as well as other consumers – with electricity; we use the chlorine we manufacture inter alia as a feedstock for the production of monochloroacetic acid (MCAA); and the quartzite extracted from our quarry is to be used in the future in our silicon metal production plant in Iceland. The following offers a detailed appraisal of the widely varied spectrum of our products, their many and diverse applications, and the markets in which we are active.

# Polyols

## For foams with a wide range of applications



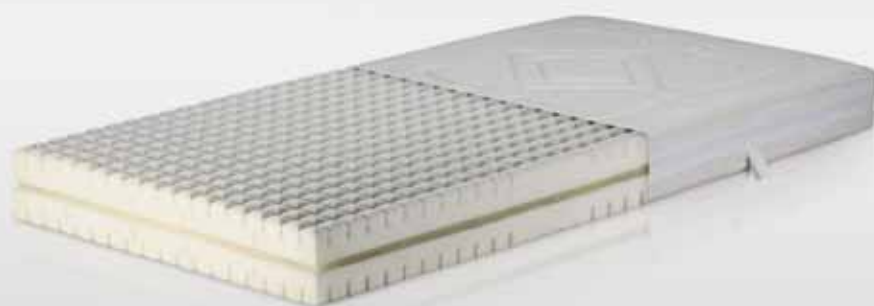
In the Polyols segment with the business units Polyols and Polyurethane Systems, we are further investing in the expansion of production capacity and increasing our international footprint, with our focus generally shifting towards higher-grade speciality products.

In this segment, the PCC Group generated net external sales in fiscal 2016 of € 126.0 million (previous year: € 136.2 million), with EBITDA coming in at € 12.3 million (previous year: € 13.8 million). The segment is dominated by the Polyols business unit of PCC Rokita SA, Eastern Europe's leading, and Poland's only, producer of polyether polyols. Posting a strong performance in the Polyols business unit, it contributed to ensuring that the segment maintained its successful track record. In 2016, PCC Rokita SA drove expansion in the high-growth Asian market through participation in a Thai polyols manufacturer. It also invested in the expansion of production capacities. Following completion of the commissioning phase of what is now the fifth production line for polyether polyols, total capacity is expected to reach around 106,000 metric tons per year by April/May 2017. In addition, the first plant for the manufacture of polyester polyols with

a capacity of around 14,000 metric tons per year is currently being commissioned, as a result of which the segment can look forward to both significantly broadening its product portfolio and further expanding its market position.

We also invested in the further expansion of our Polyurethane Systems (PU Systems) business unit, which serves, in particular, customers in the construction industry. In the insulation systems business, we were able for the first time to book an order in the third quarter of 2016 for PU thermal insulation panels for the Bulgarian market. Previous to this, these had been sold exclusively in Poland and the Czech Republic. And at our production site in Essen, new machinery for the further processing of foam material was installed during the fourth quarter.

## Applications and markets



### Polyether polyols for flexible foam

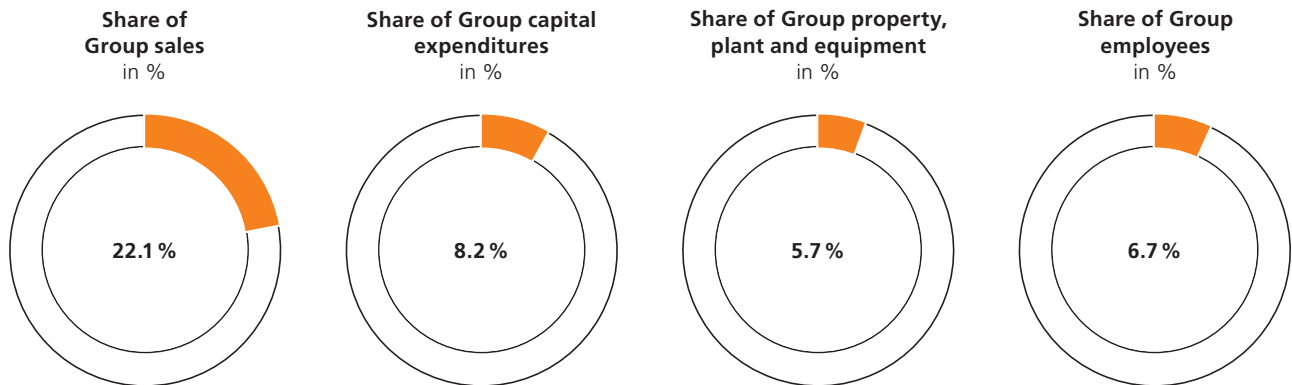
Polyols are essential feedstocks for polyurethane (PU) foam materials. They offer a wide range of applications in a number of industries, with the specific properties of the polyurethanes being determined by the polyols employed. Our polyether polyols are used for the manufacture of PU flexible foams

which form the basis of cold-cured mattresses (1) and upholstery with high rebound elasticity. With our speciality polyols in conjunction with our iPoltec® foam technology, our customers manufacture over 3 million mattress cores per year. Mattresses of iPoltec® foam are particularly comfortable and hard-wearing.

### Polyether polyols for rigid foam

Rigid foams manufactured from our polyether polyols are used in particular for insulation applications, for example in the refrigeration industry (2) and in the construction sector as spray foam coatings and foam sealants.

## Key facts and figures for the Polyols segment, 2016



Polyols segment Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	136.2	148.1	-11.9	-8.0%
Sales to other PCC segments	10.2	11.8	-1.6	-13.9%
Net external sales, consolidated	126.0	136.2	-10.2	-7.5%
EBITDA	12.3	13.8	-1.5	-10.7%
Property, plant and equipment	38.1	28.5	9.6	33.7%
Capital expenditure on intangible assets and property, plant and equipment	13.1	4.1	9.0	>100%
Number of employees (Dec. 31)	204	171	33	19.3%



### Polyether polyols for CASE applications

Our speciality polyols are used for the production of CASE applications, that is to say for coatings (3), adhesives, sealants and elastomers. PU elastomers from polyols are, for example, used as flexible textile fibres.

### Polyurethane systems

The applications of our PU systems range from thermal insulation to PU adhesives for the mining sector. For the construction industry we have, for example, developed a block system for thermal insulation panels. PCC Prodex Sp. z o.o. manufactures under the brand name "Crossin Insulations"

a PU roof spray foam system (4) in which the foam creates a continuous layer, free of seams and joints, with outstanding thermal efficiency values. In the automobile industry, our two-component foams are used, for example, in dashboards. We also manufacture polishing discs (5) for automobile lacquer finishing work.

# Surfactants

## Multifunctional agents for foaming, wetting, emulsifying and cleaning



PCC Exol SA is one of the most advanced producers of surfactants (surface-active agents) in Central and Eastern Europe and is the only manufacturer of these products in Poland. Its production capacity was further expanded in 2016 while its output was increasingly aligned to higher-grade products. The segment is divided into the business units Anionic Surfactants, Non-ionic Surfactants and Amphoteric Surfactants (Betaines).

In fiscal 2016, the Surfactants segment posted net external sales of €101.5 million, roughly matching the level of the previous year of €101.1 million. Its EBITDA was increased to €10.2 million (previous year: €9.5 million). As a result, PCC Exol SA – the biggest company in the segment – was able to exceed earnings expectations despite rising purchase prices for fatty alcohols, one of the most important feedstocks. This success was partly the result of rising sales of high-quality surfactants to which PCC Exol SA is increasingly aligning its production. The Group subsidiary manufactures over 300 of these multifunctional surface-active substances. Production capacity was further expanded in the year under review, for example through the commissioning of a betaine plant at our chemicals site in Brzeg Dolny, with an annual capacity of 10,000 metric tons. These amphoteric surfactants are excep-

tionally kind to the skin and are thus particularly suitable for the manufacture of personal care products. In all, PCC Exol SA boasts a production capacity today of 117,000 metric tons per year. In addition, the US American subsidiary of PCC Exol SA, namely PCC Chemax, Inc. of Piedmont (South Carolina), develops and manufactures a range of speciality surfactants.

In order to secure the long-term and sustainable provision of PCC Exol SA with renewable raw materials, we are establishing in Ghana, West Africa, a production base for palm kernel oil, an essential source of fatty alcohols. The Ghanaian affiliate of PCC SE, namely PCC Organic Oils Ltd., Accra, began manufacturing palm kernel oil in the fourth quarter of 2016. Initial samples have already been supplied to PCC Exol SA for test purposes.

## Applications and markets



1 2



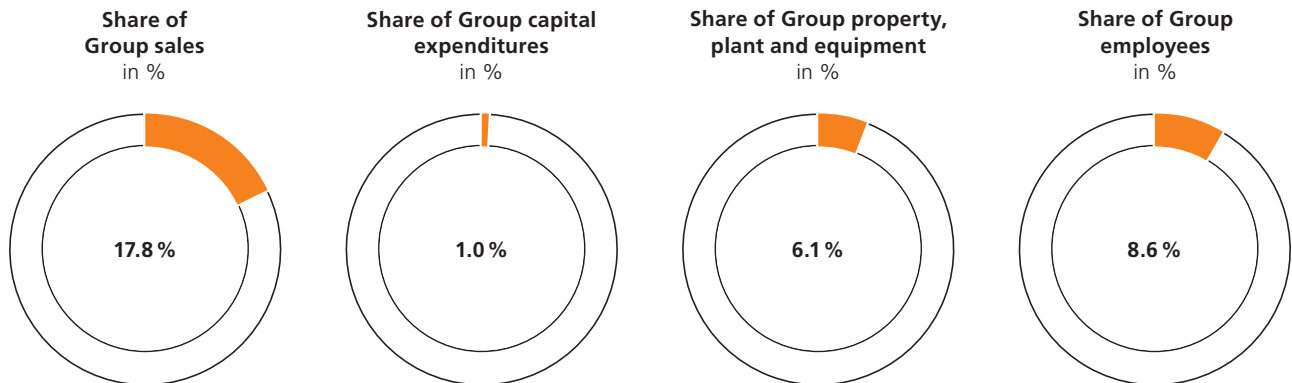
### Cleaning agents and personal care products

Surfactants – the photo shows ethoxylation plant II of PCC Exol SA in Plock for the manufacture of non-ionic surfactants (1) – reduce the surface tension of a liquid or the interfacial tension between, for example, a solid surface and a liquid. Their multifunctionality encompasses foaming,

wetting, emulsification and cleaning. Anionic and non-ionic surfactants and also betaines are basic components of laundry and home care detergents and also a number of personal care products such as shampoos or shower gels (2/3). Anionic surfactants and betaines, for example, enhance the dermatological compatibility of body care products. The anionic surfactant

Rosulfan A, an innovation from the laboratories of PCC Exol SA, thus reduces the risk of skin irritation or allergic reactions. And the amino acid surfactant ROKAtend GL – developed for particularly high-grade personal care products – reduces the skin irritating effect of other surface-active substances and counteracts the occurrence of, for example, skin dryness.

## Key facts and figures for the Surfactants segment, 2016



Surfactants segment Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	124.1	123.7	0.4	0.3 %
Sales to other PCC segments	22.6	22.6	0.0	0.0 %
Net external sales, consolidated	101.5	101.1	0.4	0.4 %
EBITDA	10.2	9.5	0.7	7.1 %
Property, plant and equipment	40.1	42.5	-2.3	-5.5 %
Capital expenditure on intangible assets and property, plant and equipment	1.6	2.4	-0.7	-31.2 %
Number of employees (Dec. 31)	260	259	1	0.4 %



Non-ionic surfactants are characterised by their high efficacy and are therefore used in cleaning products and laundry detergents.

Surfactants can be used to create a pearlescent effect and will also change the flow properties of liquids. Other surfactants ensure that any foaming effect does not get out of hand.



#### Textile industry

Surfactants are used in a wide range of textile-related processes: for the cleaning of fibres and fabrics, for spinning, bleaching, de-sizing, dyeing and also for softening fibres. In particular for cleaning operations, the foaming effect caused by surfactants is beneficial as this enables the water to better penetrate the fabric (4).



#### Other applications

In agrochemicals; for lubricants and functional fluids; as flux and wetting agents when soldering metal materials; in mining and oil production; and in paints, coatings and inks, plastics, cellulose and paper. The photo shows sulphonation plant II of PCC Exol SA in Brzeg Dolny for the manufacture of anionic surfactants (5).

# Chlorine

## Modern production processes and new value added



The Chlorine segment is dominated by the Chlorine business unit of PCC Rokita SA. The product portfolio of this segment was expanded in 2016 through the commissioning of a production plant for ultra-pure monochloroacetic acid (MCAA). Within this segment, we manage the business units Chlorine, MCAA and Other Chlorine Downstream Products.

The Chlorine segment was able to increase its net external sales in fiscal 2016 to €71.8 million (previous year: €58.3 million), representing a rise of 23.0 %. Its EBITDA was almost tripled to €24.3 million (previous year: €8.2 million). This positive development, which also exceeded our expectations, was due to the results of the Chlorine business unit of PCC Rokita SA which, among other things, was able to benefit from the high price level prevailing for the by-product arising from chlorine manufacture, namely sodium hydroxide or caustic soda. Added to this were cost advantages arising from higher efficiency in our new chlor-alkali electrolysis facility. In April 2015, we concluded a multi-year modernisation project marking the complete switch of our chlorine production to the environmentally friendly membrane process, as a result of which we have been able to significantly reduce our energy costs. At the same time,

CO<sub>2</sub> emissions have been reduced by 140,000 metric tons per year. And in the course of this switchover, we have also significantly expanded production capacity.

The second major investment project in the Chlorine segment, namely the construction of a production plant for ultra-pure monochloroacetic acid was concluded – after a number of delays – with the facility's commissioning at the end of the reporting year. Qualification procedures with key customers in the market were then successfully completed, leading to binding agreements for the regular supply of ultra-pure MCAA which have been in place since December 2016. The new MCAA business unit thus contributed for the first time a sales revenue figure towards the end of the fiscal year and is now in a position to generate new growth in the Chlorine segment.

## Applications and markets



### Chlorine for disinfection

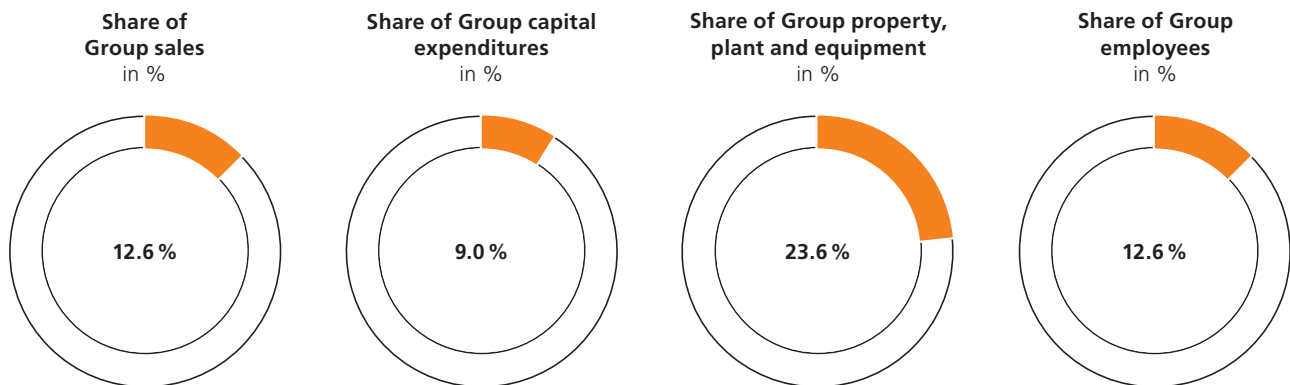
Chlorine is not only one of the most important and most-manufactured feedstocks in the chemicals industry, it is also essential to our everyday convenience and amenity, particularly in the form of its downstream products. Because of its disinfecting action, chlorine is, for example, essential for swimming pools (1), in order to protect bathers

from germs and bacteria. The Chlorine business unit of PCC Rokita SA also supplies liquid chlorine in pressure vessels for water treatment and the disinfection of drinking water (2).

Chlorine is also used within PCC Rokita SA: in the manufacture of propylene oxide (PO) for our polyols production and in the field of phosphorus deriv-

atives within the Speciality Chemicals segment where it is used to manufacture phosphorus trichloride and phosphorus oxychloride.

## Key facts and figures for the Chlorine segment, 2016



Chlorine segment Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	129.6	113.0	16.6	14.7 %
Sales to other PCC segments	57.8	54.6	3.2	5.8 %
Net external sales, consolidated	71.8	58.3	13.4	23.0 %
EBITDA	24.3	8.2	16.1	>100 %
Property, plant and equipment	156.2	161.7	-5.5	-3.4 %
Capital expenditure on intangible assets and property, plant and equipment	14.4	38.3	-23.9	-62.5 %
Number of employees (Dec. 31)	381	344	37	10.8 %

**Downstream products**

The Chlorine business unit of PCC Rokita SA also manufactures chlorobenzene, hydrochloric acid, sodium hydroxide (i.e. caustic soda, the aqueous solution of sodium hydroxide) and sodium hypochlorite. Caustic soda is used in the food industry as a degreasing agent and also as a rinsing aid for bottles (3) and apparatus.

**MCAA**

Monochloroacetic acid has a broad range of applications and is used in the food and beverage industry as well as for the manufacture of drugs, body care products, cosmetics, dyestuffs and plant protection products. The new production plant of PCC MCAA Sp. z o.o. substantially extends our chlorine value chain. It also provides us

with backward integration in the Surfactants segment where MCAA is used as a feedstock in the manufacture of betaines. The photo here shows the MCAA plant in Brzeg Dolny (4).

# Speciality Chemicals

Strongly diversified – from flame retardants to concrete plasticisers



Speciality Chemicals is the strongest segment of the PCC Group in revenue terms. It also possesses an exceptionally broad product portfolio comprising the business units Phosphorus and Naphthalene Derivatives, and Alkylphenols. Added to this are the Commodity Trading business unit and the Quartzite business unit operating out of our quarry in Poland.

Within the Speciality Chemicals segment, the PCC Group generated net external sales of €161.9 million in fiscal 2016, matching the €161.7 million realised in the previous year. EBITDA rose to €5.7 million (previous year: €5.2 million). The main revenue generator within this widely diversified segment remains our traditional commodity trading business led by PCC Trade & Services GmbH, Duisburg (Germany), which profited towards the end of 2016 from increasing sales volumes in the coke market.

Aside from the trading business, we also manage two business units related to chemical production in this segment: Phosphorus and Naphthalene Derivatives, and Alkylphenols. With its Phosphorus and Naphthalene Derivatives business unit, PCC Rokita SA is the biggest manufacturer of phospho-

rus-based flame retardants for polyurethane foams in Eastern Europe. It also supplies Central and Eastern Europe with naphthalene derivatives as concrete admixtures. This unit also closed the fiscal year under review with a positive result. And PCC Synteza S.A. in Kędzierzyn-Koźle (Poland) manufactures alkylphenols that are used, for example, as additives in hydraulic oils and lubricating greases.

The portfolio of the Speciality Chemicals segment is rounded off by PCC Silicium S.A., Zagórze (Poland), with its quartzite quarry. This portfolio company is of strategic importance for PCC as, from 2018, it will be regularly supplying quartzite to the silicon metal production plant currently under construction in Iceland. Thereafter, a significant improvement in the financial situation of PCC Silicium S.A. is expected.

## Applications and markets



1



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3

### Phosphorus derivatives

The product range of our phosphorus derivatives is based on the in-house production of phosphorus trichloride and phosphorus oxychloride and encompasses a portfolio of plastics additives such as plasticisers, flame retardants and stabilisers. The flame retarding stabiliser Roflex T70 serves as an additive that makes, for example, hydraulic fluids (1) resistant to ignition.

### Naphthalene derivatives

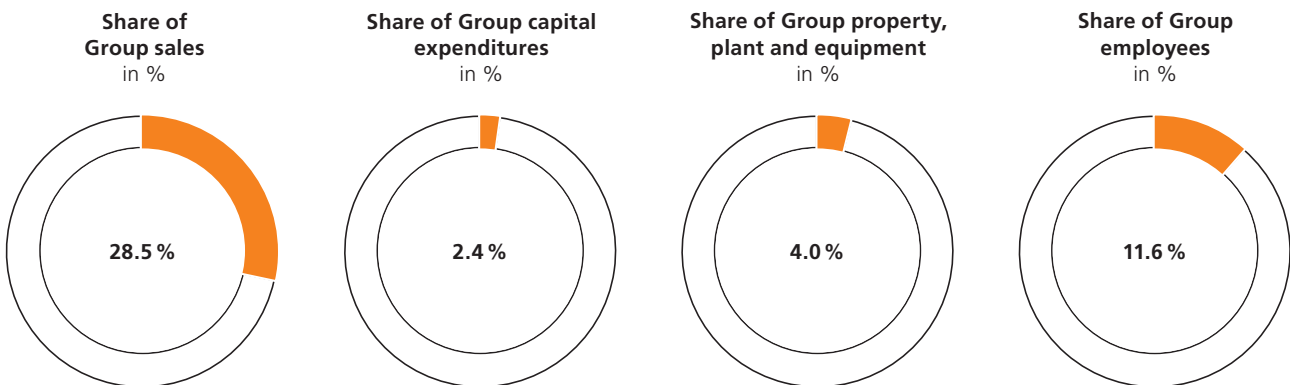
In the construction industry, our naphthalene derivatives are used in the manufacture of plasterboard and, as admixtures, improve, for example, the processing properties of fresh concrete (2). Used as superplasticisers, for example, they reduce the water requirement and increase the final strength of concrete. And naphthalene derivatives are likewise used in the plastics industry.

### Alkylphenols

Nonylphenol is employed in the manufacture of surfactants for industrial cleaning solutions, for filling ink jet printer cartridges (3), for the coating of paper and as a rubber additive. Dodecylphenol is used, for example, as an additive for hydraulic oils and lubricating greases. PCC Synteza S.A. also manufactures fuel additives.



## Key facts and figures for the Speciality Chemicals segment, 2016



Speciality Chemicals segment Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	180.0	183.1	-3.1	-1.7%
Sales to other PCC segments	18.1	21.4	-3.3	-15.4%
Net external sales, consolidated	161.9	161.7	0.1	0.1%
EBITDA	5.7	5.2	0.5	9.5%
Property, plant and equipment	26.8	27.3	-0.5	-1.8%
Capital expenditure on intangible assets and property, plant and equipment	3.8	1.4	2.4	>100%
Number of employees (Dec. 31)	353	363	-10	-2.8%

**Commodity trading**

Our biggest trading companies are PCC Trade & Services GmbH, the original founding company of the PCC Group, and the Czech portfolio company PCC Morava-Chem s.r.o. Through trading with carbon- and petroleum-based chemical commodities together with solid fuels, PCC has been able to lever-

age its successful position in the market for more than two decades now. In addition, the trading companies support our production companies in the purchase and marketing of chemical products manufactured within the Group. The photo shows our PCC site in Essen (4).

**Quartzite**

The Speciality Chemicals segment is rounded off by the quartzite quarry (5) and the associated processing plant in Zagórze, Poland. The quarry has seams of high-grade quartzite that has been earmarked as the feedstock for our silicon metal production plant in Iceland.

# Consumer Products

## “ROKO”, “Roko Eco” & Co. – the branded consumer goods produced by the PCC Group



The Chemicals division also includes a consumer products production arm under the umbrella of PCC Consumer Products S.A. The segment has two business units, one by the name of Household and Industrial Cleaners, Detergents and Personal Care Products and the other by the name of Matches and Firelighters.

Net external sales in this segment decreased in 2016 to €24.1 million (previous year: €38.6 million) with EBITDA coming in at €–2.4 million (previous year: €–0.1 million). The losses were largely attributable to PCC Consumer Products Kosmet Sp. z o.o. headquartered in Brzeg Dolny, the largest single company in the segment, the volume sales of which suffered due to, among other things, the loss of what was previously its biggest customer in Poland.

A milestone in the long-term turnaround was reached by PCC Consumer Products Kosmet Sp. z o.o. in the third quarter of 2016 with the award of its GMP certificate (Good Manufacturing Practice) in the cosmetics field, confirming its compliance with guidelines governing correct production processes and procedures. This is a prerequisite for expansion

of the consumer products business into the western markets, beyond those in Poland and Eastern Europe served to date. As a result of certification, negotiations have begun regarding toll manufacturing on behalf of a renowned brands manufacturer of laundry and home care products. 2016 also saw the portfolio company complete the expansion and refurbishment of its production facilities.

The PCC Consumer Products subgroup also includes the Belarusian company OOO PCC Consumer Products Navigator, Grodno, and the matches factory PCC Consumer Products Czechowice S.A., Czechowice-Dziedzice (Poland). Our consumer products activities are pooled under the umbrella of the holding company PCC Consumer Products S.A. headquartered in Brzeg Dolny.

## Applications and markets



### The consumer products of PCC

PCC Consumer Products Kosmet Sp. z o.o. produces household and industrial cleaners, laundry detergents and personal care products, supplying the following sectors and industries: cleaning companies, hotels and restaurants, the food industry, agriculture and public authorities. Our traditional core market in this field is Poland. We are, however,

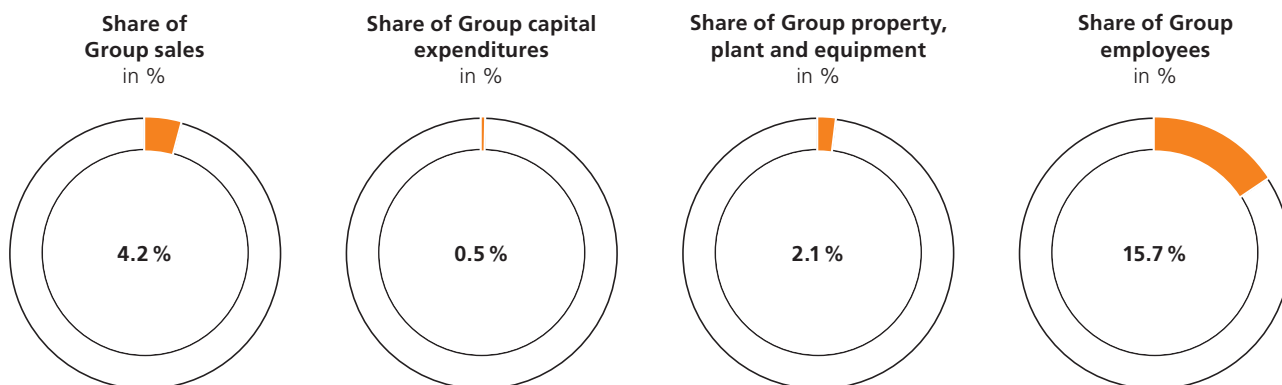
expanding into the consumer products markets of other countries, particularly elsewhere in Eastern Europe. The photos show production in Brzeg Dolny (1/2). A second production site is located in Grodno, Belarus, where OOO PCC Consumer Products Navigator manufactures cleaning products.



### Products with environmental labels

The product line “Roko Eco” (3) uses exclusively sustainable raw materials and the brand bears the widely recognised EU Ecolabel. This quality mark is awarded to products that, from raw material selection and manufacture through to packaging, shipment, distribution and sale, exert a reduced environmental impact than comparable offerings.

## Key facts and figures for the Consumer Products segment, 2016



Consumer Products Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	24.3	38.7	-14.4	-37.2 %
Sales to other PCC segments	0.1	0.1	0.0	35.9 %
Net external sales, consolidated	24.1	38.6	-14.4	-37.4 %
EBITDA	-2.4	-0.1	-2.3	> -100 %
Property, plant and equipment	14.2	15.1	-0.9	-5.9 %
Capital expenditure on intangible assets and property, plant and equipment	0.9	3.1	-2.2	-72.2 %
Number of employees (Dec. 31)	476	569	-93	-16.3 %



4

**Own brand ROKO**

Under its own brand "ROKO" (4), PCC Consumer Products Kosmet Sp. z o.o. manufactures and markets cleaning products for industrial applications. These include, in particular, liquid cleaners for industrial and commercial cleaning of windows, various universal cleaners, dishwashing products and degreasing liquids.



5 6

**Private labels (5)**

As a leading private label manufacturer in Poland, PCC Consumer Products Kosmet Sp. z o.o. manufactures products such as household cleaners, laundry detergents and cosmetics under the own brands of renowned discounters and retail chains.

**Matches and firelighters**

The product range of PCC Consumer Products Czechowice S.A. includes not only classic safety matches but also barbecue and household firelighters (6). The products can also be individually designed e.g. for use as advertising giveaways. Their production exclusively involves timber from sustainable FSC®-certified forestry operations.

# Energy

## Efficient, clean, modern: Our power plants

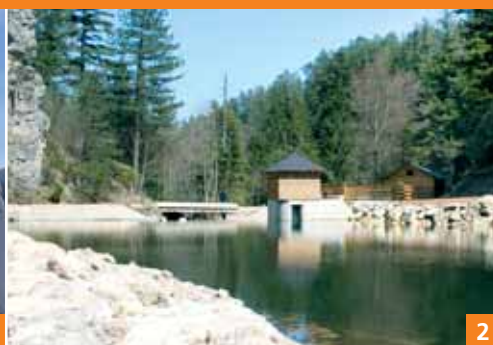


The Conventional Energies business unit is primarily concerned with the supply of electricity to our major chemicals facilities in Poland. The Renewable Energies business unit undertakes the project planning and operation of small hydropower plants in South-East Europe. So far we have connected five of these environmentally compatible facilities to their respective grids.

In fiscal 2016, the Energy segment generated net external sales of €11.3 million, matching the level of the previous year, with EBITDA rising to €9.8 million (previous year: €7.3 million). Above all, the Conventional Energies business unit exceeded our expectations in this regard. The main source of revenue in the Energy segment is PCC Energetyka Blachownia Sp. z o.o., Kędzierzyn-Koźle (Poland), which is active in the supply of power and heat. In addition to this, we also manage the energy unit of PCC Rokita SA with its CHP plant under the Conventional Energies business unit. This modern power unit provides electricity and process steam to the facilities at our biggest production site in Lower Silesia's Brzeg Dolny. It also supplies 80% of the households in this small town with efficient heat.

In the Renewable Energies business unit, we operate a number of small hydropower plants. So far we have connected a total of five of these power generators to their respective grids: four in the Republic of Macedonia and one in Bosnia and Herzegovina. The start of construction of a fifth small hydropower plant in Macedonia, originally planned for 2016, was delayed due to remaining site issues and is now scheduled for 2017. In all, our power stations generate around 22.5 million kWh of electricity per year over a multi-year average, while at the same time reducing CO<sub>2</sub> emissions by over 22,000 metric tons. This unit is led by the company PCC DEG Renewables GmbH, Duisburg (Germany), a joint venture that we run together with the KfW subsidiary DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH, Cologne (Germany).

## The power plants of PCC



### EC-3 cogeneration plant (1)

This modern combined heat and power (CHP) plant has been providing electricity to, in particular, our chemical production facilities in Brzeg Dolny since 2008.

Location: Site of PCC Rokita SA in Brzeg Dolny (Poland)  
Completion: November 2008  
Capacity: 70 megawatts thermal, 15 megawatts electric

### Mujada small hydropower plant (2)

This power generating facility in Central Bosnia was connected to its grid in 2009 as a pilot project. It provides electricity to around 1,600 households.

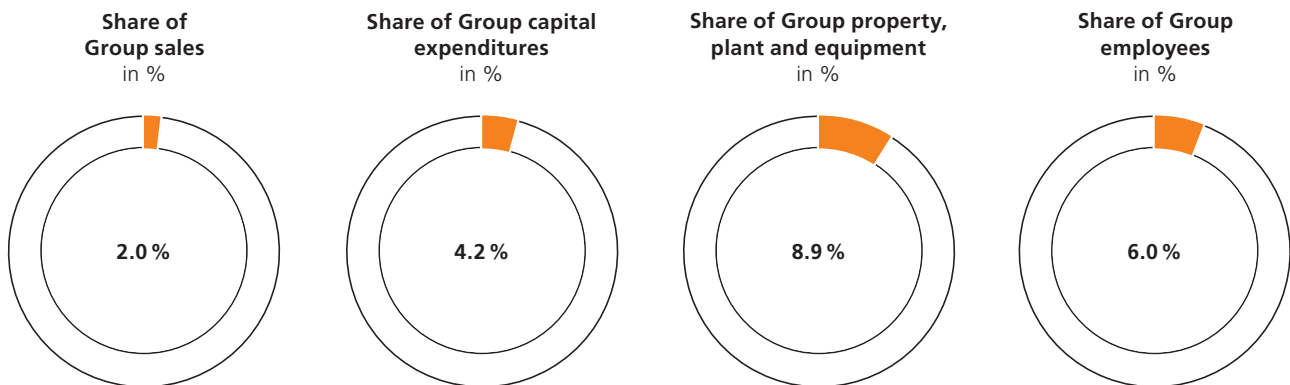
Location: Mujada (Bosnia and Herzegovina)  
Completion: February 2009  
CO<sub>2</sub> reduction: Approx. 7,200 metric tons (multi-year average)  
Capacity: 1.15 megawatts electric  
Production: Approx. 6.6 million kWh/year (average)

### Brajčino small hydropower plant (3)

Commissioned in October 2014, this power plant supplies around 1,200 households with electricity.

Location: Brajčino (Republic of Macedonia)  
Completion: October 2014  
CO<sub>2</sub> reduction: Approx. 4,700 metric tons (multi-year average)  
Capacity: 1.44 megawatts electric  
Production: Approx. 5.0 million kWh/year (average)

## Key facts and figures for the Energy segment, 2016



Energy segment Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	30.6	28.4	2.2	7.7 %
Sales to other PCC segments	19.3	17.1	2.2	12.8 %
Net external sales, consolidated	11.3	11.3	0.0	0.1 %
EBITDA	9.8	7.3	2.4	33.1 %
Property, plant and equipment	58.8	56.4	2.4	4.3 %
Capital expenditure on intangible assets and property, plant and equipment	6.7	3.4	3.3	96.3 %
Number of employees (Dec. 31)	183	179	4	2.2 %



4

**Galičnik small hydropower plant (4)**

As one of three power plants that we commissioned in 2014, this one supplies electricity to around 1,000 households.

Location: Galičnik (Republic of Macedonia)  
 Completion: October 2014  
 CO<sub>2</sub> reduction: Approx. 3,900 metric tons (multi-year average)  
 Capacity: 1.15 megawatts electric  
 Production: Approx. 4.1 million kWh/year (average)



5

**Gradečka small hydropower plant (5)**

This small hydropower plant, our first in the Republic of Macedonia, supplies electricity to around 900 households.

Location: Gradečka (Republic of Macedonia)  
 Completion: August 2013  
 CO<sub>2</sub> reduction: Approx. 3,500 metric tons (multi-year average)  
 Capacity: 0.87 megawatts electric  
 Production: Approx. 3.8 million kWh/year (average)



6

**Patiška small hydropower plant (6)**

This power plant has been supplying around 800 households with environmentally friendly electricity since December 2014.

Location: Patiška (Republic of Macedonia)  
 Completion: December 2014  
 CO<sub>2</sub> reduction: Approx. 2,900 metric tons (multi-year average)  
 Capacity: 0.65 megawatts electric  
 Production: Approx. 3.1 million kWh/year (average)

# Logistics

Safe, reliable and flexible on road and rail



The main revenue and earnings generator of the Logistics segment is PCC Intermodal S.A. headquartered in Gdynia. This portfolio company counts among Poland's leading providers of combined road and rail cargo transport services and operates five container terminals. We have significantly expanded and modernised four of these in recent years, and a sixth is now at the planning stage.

The Logistics segment increased net external sales in fiscal 2016 to €65.5 million (previous year: €56.8 million) and its EBITDA to €5.6 million (previous year: €4.9 million). Overall, PCC Intermodal S.A. benefited from the increasing number of terminal handling operations. The modernisation and expansion investments of recent years at the container terminals in Kutno, Gliwice, Brzeg Dolny and Frankfurt (Oder) have thus paid off. Our own Polish terminals in particular count among the most modern in the country. We link Germany and the Benelux countries to Poland and the countries of Eastern Europe with regular container block train services supported by these terminal facilities. The route from Rotterdam and Duisburg towards Poland enjoyed a high operating rate in the year under review and we expect a further increase in 2017. In addition, there appears to be a revival in

the local economy in the Frankfurt (Oder) area, opening up new growth potential for our services.

The Logistics segment also includes two other business units: in the Railway Transport business unit, we manage our Russian Group subsidiary ZAO PCC Rail, Moscow. This offers wide-gauge rail transport of, in particular, construction materials, metals and coal in Russia and the neighbouring CIS states. Its fleet currently numbers around 600 wagons.

And PCC Autochem Sp. z o.o. is active in the Road Haulage business unit. The company specialises in the transportation of hazardous liquid chemicals and travels throughout Europe from its hub in Brzeg Dolny with a fleet of around 110 road tankers.

## The terminals of PCC Intermodal S.A.



### Kutno terminal (1)

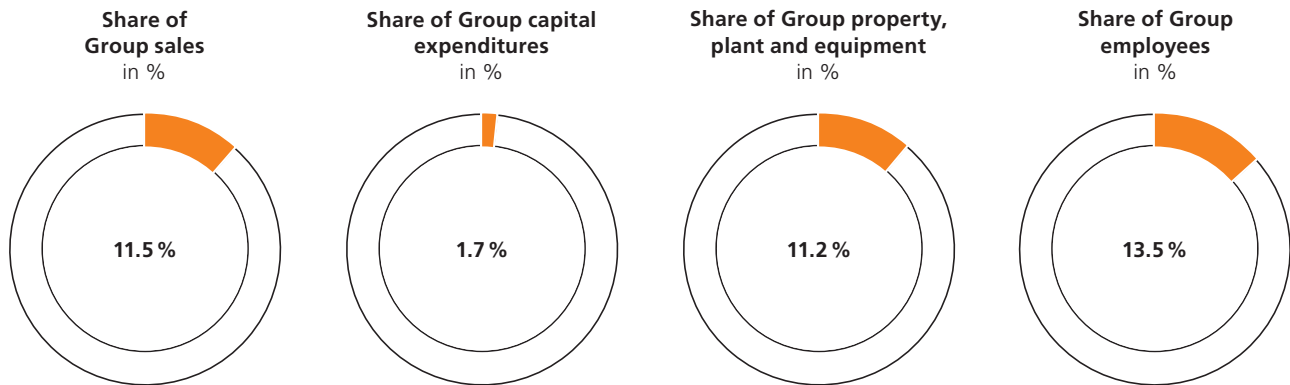
The PCC terminal in Kutno counts among Poland's most advanced combined transport facilities. It enables fast and efficient transfer of cargo loads, whether travelling east to west or north to south – from the Baltic Sea ports of Gdańsk and Gdynia to the Adriatic ports of Koper and Trieste. Its annual handling capacity was expanded in 2015 by a total of 150 %

to 250,000 TEU (twenty-foot standard containers). PCC Intermodal S.A. commissioned the terminal in 2011 as the first modern logistics and container handling hub in Central Poland. It was the first investment project of PCC Intermodal S.A. of such magnitude. Completion of all the expansion phases including installation of two gantry cranes was completed in July 2015.

### Gliwice terminal (2)

The PCC terminal in Gliwice handles cargoes from Upper Silesia. The location is favourable as two trans-European transport corridors intersect nearby. In 2015, the operational area was significantly increased by an expansion project to 50,000 m<sup>2</sup>, with two gantry cranes also being installed. Handling capacity today is something in excess of 150,000 TEU per year.

## Key facts and figures for the Logistics segment, 2016



Logistics segment Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	76.7	66.8	9.9	14.8 %
Sales to other PCC segments	11.2	10.0	1.2	12.0 %
Net external sales, consolidated	65.5	56.8	8.7	15.3 %
EBITDA	5.6	4.9	0.7	15.3 %
Property, plant and equipment	74.0	76.4	-2.4	-3.2 %
Capital expenditure on intangible assets and property, plant and equipment	2.7	31.2	-28.5	-91.2 %
Number of employees (Dec. 31)	410	367	43	11.7 %



3



4



5

**PCC terminal Brzeg Dolny (3)**

This terminal borders directly onto the site of PCC Rokita SA in Brzeg Dolny and serves the cargo flows in the Lower Silesia region. As a result of the expansion completed in 2015, annual handling capacity has been more than doubled, from around 50,000 TEU to around 110,000 TEU. The storage capacity has also been increased as has the fleet of handling machines.

**PCC terminal Frankfurt (Oder) (4)**

This terminal is located at the German-Polish border and handles in particular cargo flows in the Berlin/Brandenburg region. PCC Intermodal S.A. has been the operator of this combined transport terminal since 2012. A gantry crane was added in 2014. Today, its annual handling capacity amounts to more than 100,000 TEU.

**PCC terminal Kolbuszowa (5)**

This is a high-performance terminal handling cargos coming to and heading from South-East Poland. Kolbuszowa has an operating area of 8,000 m<sup>2</sup>, with an annual handling capacity of around 16,000 TEU. There are several major cities within a radius of 100 to 150 kilometres around the terminal.

# Holding/Projects

## Future-aligned projects and important corporate services



This segment develops, in particular, future-aligned projects and, through its project management activities, reduces the workload on the operating units. Examples include projects for the construction of a silicon metal production plant in Iceland and for the production of dimethyl ether in Russia.

Within this segment, the PCC Group generated net external sales for fiscal 2016 in the amount of €6.9 million (previous year: €7.0 million), and an EBITDA figure of €10.9 million (previous year: €1.9 million). The profits of the holding company PCC SE dissipated as expected in the course of the year due, among other things, to the development costs of its two major projects. Under the management of the biggest project company of PCC SE, namely PCC BakkiSilicon hf, Húsavík (Iceland), we are currently erecting one of the world's most advanced production facilities for silicon metal. Commissioning is scheduled for 2018. In a further project of the segment, we together with a long-standing Russian partner are pursuing the construction of a production plant for dimethyl ether (DME). In 2016, we were able to prepare the construction site for this project and will commence construction work in April 2017. Completion is planned for the end of 2017.

In the fourth quarter of 2016, PCC SE also acquired a participating interest by way of a capital increase in the company distripark.com Sp. z o.o., Brzeg Dolny, which had previously been a wholly owned subsidiary of PCC Rokita SA. Through the internet platform of this new affiliate, products of the PCC Group and also, in future, products of third-party suppliers are to be directly marketed to small-scale customers (B2B). These activities are also to be expanded in the current 2017 fiscal year to the German market via the platform distripark.de.

Beyond this involvement, companies and entities of the Holding/Projects segment mainly provide corporate services for Group companies such as in the fields of finance, research and development, and information technology.

## The projects of the Holding/Projects segment



### Portfolio Management and Projects business units

PCC SE's active investment portfolio management operations are conducted from the Group headquarters in Duisburg (Germany) (1). These include, in particular, the development of business investments with our focus on both the acquisition of new companies and on the further development of existing activities.

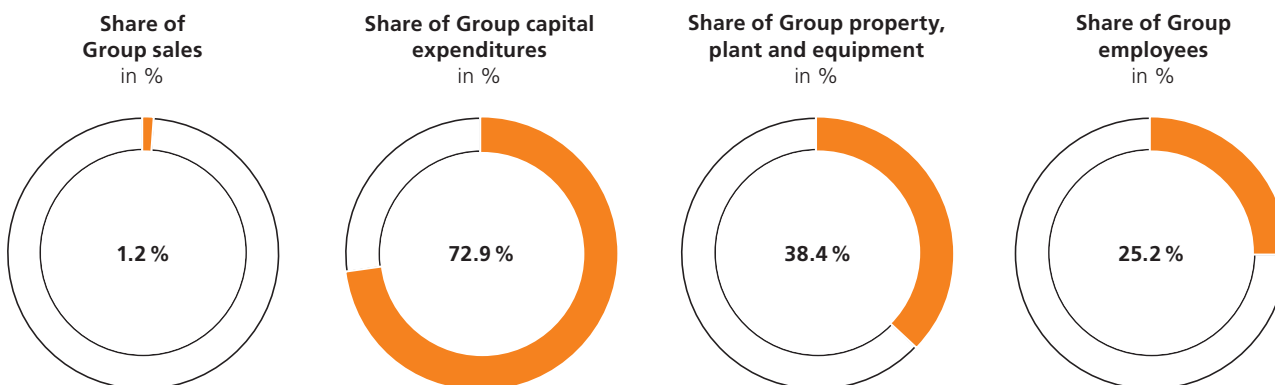
In the Projects business unit, we pool projects in the planning and construction phases before allocating them to our operating Group segments. Thus, we take the workload associated with project start-up from the segments while at the same time utilising the experience of our project team acquired from more than two decades in the project planning of new areas of business.

### Silicon metal project in Iceland (2)

Our biggest project to date involves the construction of a silicon metal production plant in Iceland. The facility is expected to be completed by the end of 2017/beginning of 2018. Its annual capacity during the first phase of development will be around 32,000 metric tons of silicon metal. A majority of this has already been earmarked for industrial customers in Germany.



**Key facts and figures for the Holding/Projects segment, 2016**



<b>Holding/Projects segment</b> Figures in €m	2016	2015	Absolute change	Relative change
Total sales of the segment	43.4	40.7	2.7	6.7 %
Sales to other PCC segments	36.5	33.6	2.9	8.6 %
Net external sales, consolidated	6.9	7.0	-0.2	-2.5 %
EBITDA	10.9	1.9	8.9	>100 %
Property, plant and equipment	254.1	134.8	119.3	88.5 %
Capital expenditure on intangible assets and property, plant and equipment	116.1	76.3	39.8	52.2 %
Number of employees (Dec. 31)	765	740	25	3.4 %



As one of the world's most advanced and environmentally compatible plants of its kind, it will be powered exclusively with energy from renewable sources (geothermal). For more details, please refer to the Sustainability section starting on page 42 and the Investments section starting on page 72.

**DME project in Russia (3/4)**

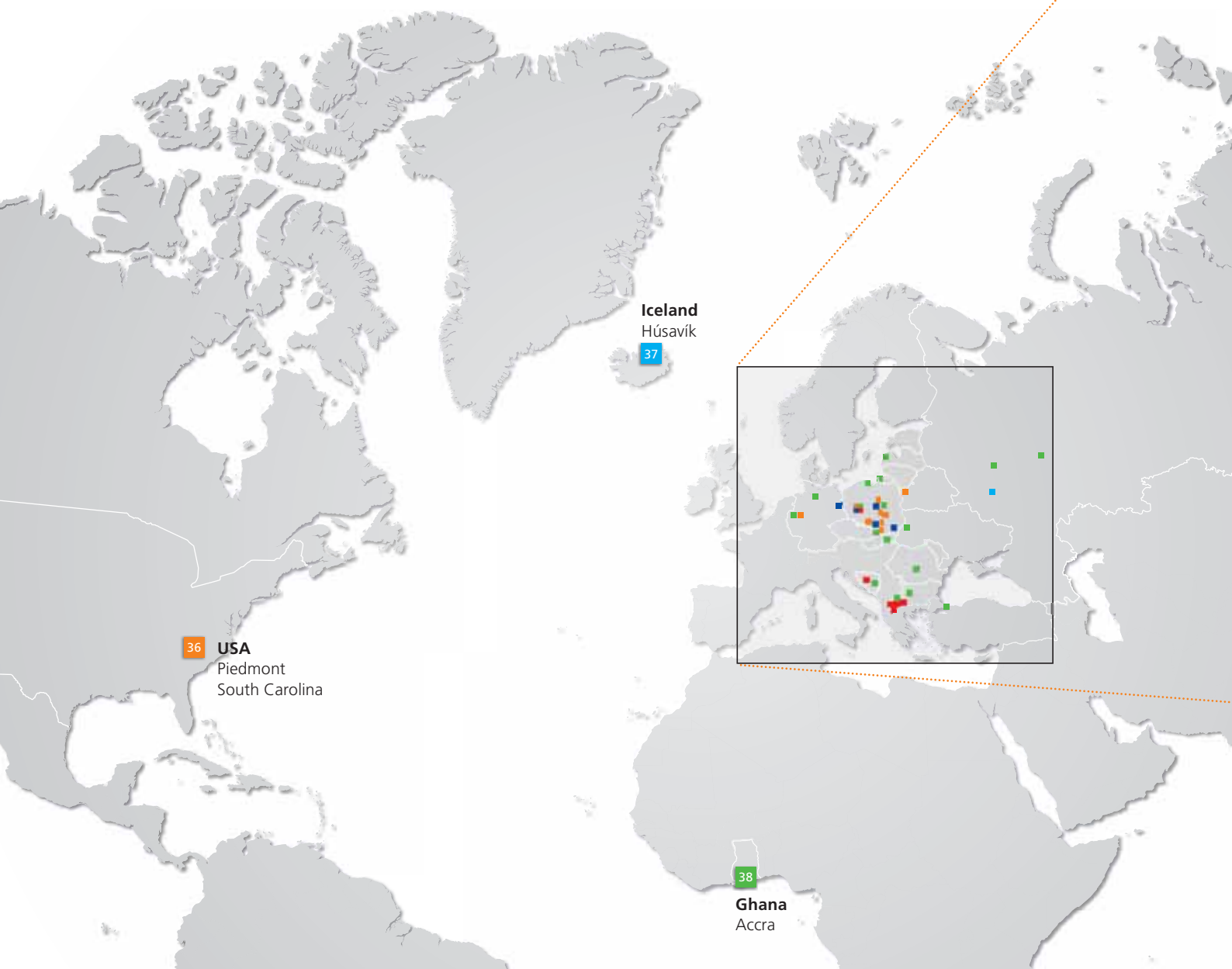
A further project which we are pursuing in a joint venture with a long-standing Russian partner is the construction of a plant for the production of dimethyl ether (DME) of aerosol quality. The site of the facility is in the Tula region, some 180 kilometres south of Moscow. Completion of the plant is scheduled for the end of 2017. Its annual capac-

ity will be around 20,000 metric tons. Aerosol-grade DME is used as a propellant in the cosmetics industry, for example in hairspray, and also in the manufacture of structural polyurethane foam.

# PCC Group sites

## 3,032 employees – 39 sites – 17 countries

The PCC Group companies operate at 39 sites in 17 countries (status as of December 31, 2016). Most of our more than 3,000 employees are active within Europe. However, the PCC Group is also represented in America, Asia and Africa.



**36 USA**  
Piedmont  
South Carolina

**Iceland**  
Húsavík  
**37**

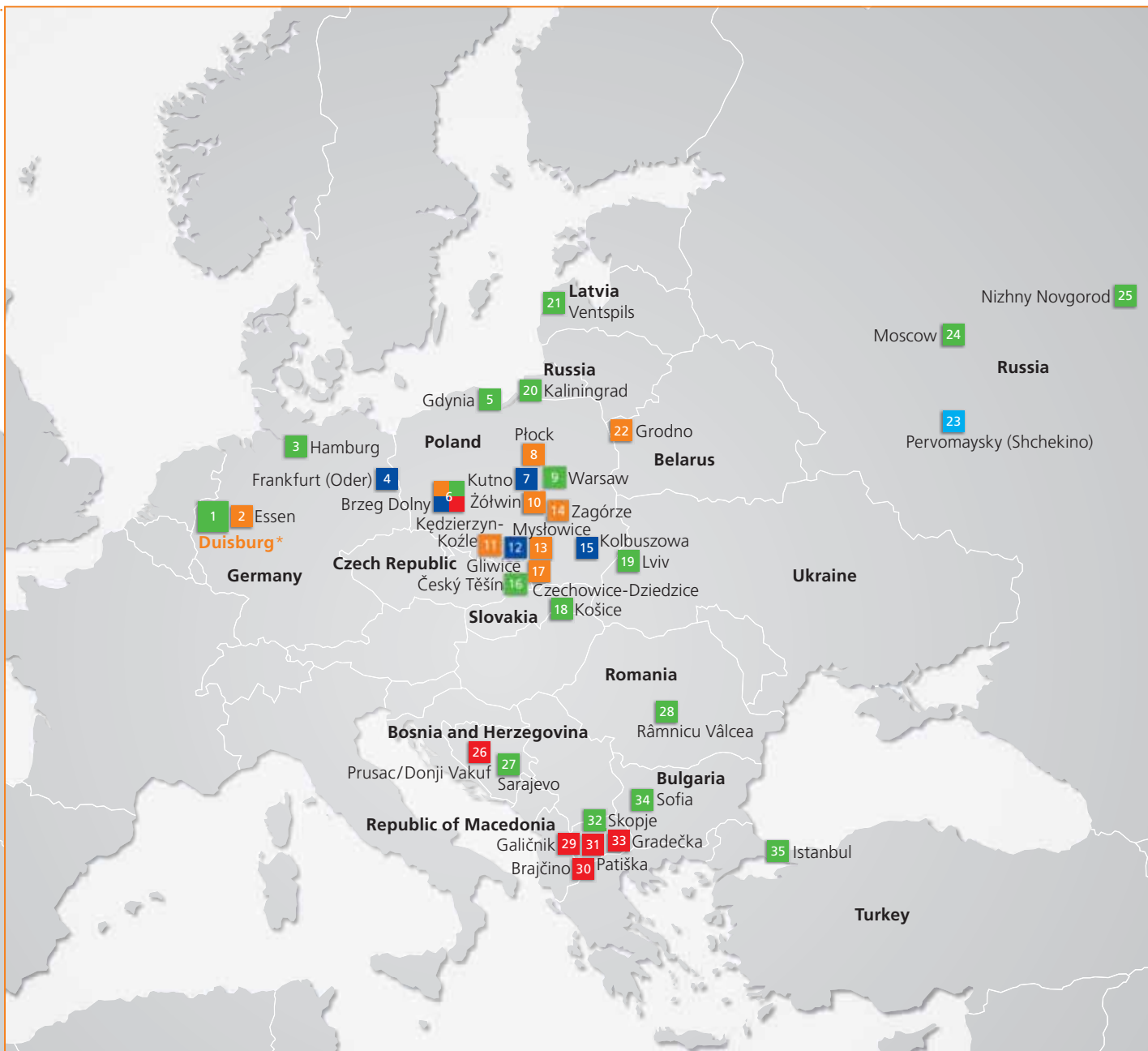
**38 Ghana**  
Accra

### Chemicals production sites

- |                                 |   |
|---------------------------------|---|
| <b>2</b> Essen (DE)             | <b>14</b> Zagórze (PL)                  |
| <b>6</b> Brzeg Dolny (PL)       | <b>17</b> Czechowice-Dziedzice (PL)     |
| <b>8</b> Płock (PL)             | <b>22</b> Grodno (BY)                   |
| <b>10</b> Żółwin (PL)           | <b>36</b> Piedmont, South Carolina (US) |
| <b>11</b> Kędzierzyn-Koźle (PL) |   |
| <b>13</b> Mysłowice (PL)        |   |

### Power plants

- |                                   |
|-----------------------------------|
| <b>6</b> Brzeg Dolny (PL)         |
| <b>26</b> Prusac/Donji Vakuf (BA) |
| <b>29</b> Galičnik (MK)           |
| <b>30</b> Brajčino (MK)           |
| <b>31</b> Patiška (MK)            |
| <b>33</b> Gradečka (MK)           |



\* Group headquarters

### Container terminals

- 4 Frankfurt (Oder) (DE)
- 6 Brzeg Dolny (PL)
- 7 Kutno (PL)
- 12 Gliwice (PL)
- 15 Kolbuszowa (PL)

### Projects

- 23 Pervomaysky (Shchekino) (RU)
- 37 Húsavík (IS)

### Trading/Sales and distribution/Administration

All the sites indicated in green are trading companies, sales, distribution and administration units or regional offices.

# The structure of the PCC Group

The PCC Group comprises some 75 companies and affiliates in Germany and abroad. The main fully consolidated entities of the individual segments are shown on this double page (status as of December 31, 2016). A detailed list of the various shareholdings can be found under Note 42 to the consolidated financial statements at the back of this report.

Polyols segment	Surfactants segment	Chlorine segment	Speciality chemicals segment	
 Polyols business unit of PCC Rokita SA Brzeg Dolny (Poland) (84.16%)	 PCC Exol SA Brzeg Dolny (Poland) (88.64%)	 Chlorine business unit of PCC Rokita SA Brzeg Dolny (Poland) (84.16%)	 Phosphorus and Naphthalene Derivatives business unit of PCC Rokita SA Brzeg Dolny (Poland) (84.16%)	<b>Commodity Trading business unit</b>  PCC Trade & Services GmbH Duisburg (Germany) (100%)
 PCC Prodex Sp. z o.o. Brzeg Dolny (Poland) (84.16%)	 PCC Chemax, Inc. Piedmont, SC (USA) (88.64%)	 MCAA SE Brzeg Dolny (Poland) (100%)	 PCC Synteza S.A. Kędzierzyn-Koźle (Poland) (100%)	<b>NOVOBALT terminal</b> ZAO Novobalt Terminal Kaliningrad (Russia) (100%)
 PCC Prodex GmbH Essen (Germany) (84.16%)	 PCC Exol Kimya Sanayi ve Ticaret Limited Şirketi Istanbul (Turkey) (88.64%)	 PCC MCAA Sp. z o.o. Brzeg Dolny (Poland) (97.30%)	 PCC Silicium S.A. Zagórze (Poland) (99.99%)	 PCC MORAVA-CHEM s.r.o. Český Těšín (Czech Republic) (100%)
 PCC PU Sp. z o.o. Brzeg Dolny (Poland) (84.16%)				<b>EURO URETHANE</b> S.C. EURO Urethane S.R.L. Râmnicu Vâlcea (Romania) (58.72%)
 PCC Therm Sp. z o.o. Brzeg Dolny (Poland) (84.16%)				
 PCC Energia EOOD Sofia (Bulgaria) (100%)				



PCC SE, holding company of the PCC Group, Duisburg (Germany)

Consumer Products segment	Energy segment	Logistics segment	Holding / Projects segment
<p>PCC Consumer Products S.A. Brzeg Dolny (Poland) (100%)</p>	<p>Energy business unit of PCC Rokita SA, Brzeg Dolny (Poland) (84.16%)</p>	<p>PCC Intermodal S.A. Gdynia (Poland) (69.52%)</p>	<p>Headquarters business unit of PCC Rokita SA Brzeg Dolny (Poland) (84.16%)</p>
<p>PCC Consumer Products Kosmet Sp. z o.o. Brzeg Dolny (Poland) (100%)</p>	<p>PCC Energetyka Blachownia Sp. z o.o., Kędzierzyn-Koźle (Poland) (84.46%)</p>	<p>PCC Intermodal GmbH Duisburg (Germany) (69.52%)</p>	<p>PCC IT S.A. Brzeg Dolny (Poland) (100%)</p>
<p>Kosmet Sp. z o.o. Brzeg Dolny (Poland) (100%)</p>	<p>PCC DEG Renewables GmbH Duisburg (Germany) (60%)</p>	<p>PCC Autochem Sp. z o.o. Brzeg Dolny (Poland) (84.16%)</p>	<p>PCC Apakor Sp. z o.o. Brzeg Dolny (Poland) (83.81%)</p>
<p>OOO PCC Consumer Products Navigator (formerly: OOO NPK Navigator) Grodno (Belarus) (100%)</p>	<p>GRID BH d.o.o. Sarajevo (Bosnia and Herzegovina) (51.37%)</p>	<p>ZAO PCC Rail Moscow (Russia) (100%)</p>	<p>Ekologistyka Sp. z o.o. Brzeg Dolny (Poland) (84.16%)</p>
<p>OOO PCC Consumer Products Moscow (Russia) (100%)</p>	<p>PCC HYDRO DOOEL Skopje (Republic of Macedonia) (60%)</p>		<p>OOO DME Aerosol * Pervomaysky (Russia) (50%)</p>
<p>OOO PCC Consumer Products Izvorsko Sofia (Bulgaria) (60%)</p>	<p>NOVI Energii OOD Sofia (Bulgaria) (36%)</p>		<p>distripark.com Sp. z o.o. Brzeg Dolny (Poland) (91.92%)</p>
<p>PCC Consumer Products Czechowice S.A. Czechowice-Dziedzice (Poland) (99.74%)</p>	<p>PCC NEW HYDRO DOOEL Skopje (Macedonia) (60%)</p>		
<p>PCC Packaging Sp. z o.o. Brzeg Dolny (Poland) (84.16%)</p>	<p>PCC Energy Trading GmbH Duisburg (Germany) (100%)</p>		<p>LabMatic Sp. z o.o. Brzeg Dolny (Poland) (83.94%)</p>
			<p>distripark GmbH (since January 2017; formerly PCC Energy Trading GmbH) Essen (Germany) (100%)</p>

\* Joint venture consolidated using the equity method



## 05 Investments



The new production plant for MCAA (monochloroacetic acid) was commissioned at the end of 2016. Completion of this investment project marks a significant extension to our chlorine value chain.

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<b>67</b>	<b>PCC investments</b>
<b>68</b>	<b>Investments in the Chemicals division</b>
68	Chlorine segment
69	Polyols segment
70	Surfactants segment
70	Speciality Chemicals segment
71	Consumer Products segment
<b>71</b>	<b>Investments in the Energy division</b>
71	Modernisation of the CHP plant in Brzeg Dolny
<b>71</b>	<b>Investments in the Logistics division</b>
71	Investments in container terminal fleets
<b>72</b>	<b>Investments in the Holding / Projects division</b>
72	Construction of a silicon metal production plant in Iceland
77	Construction of a production plant for dimethyl ether in Russia

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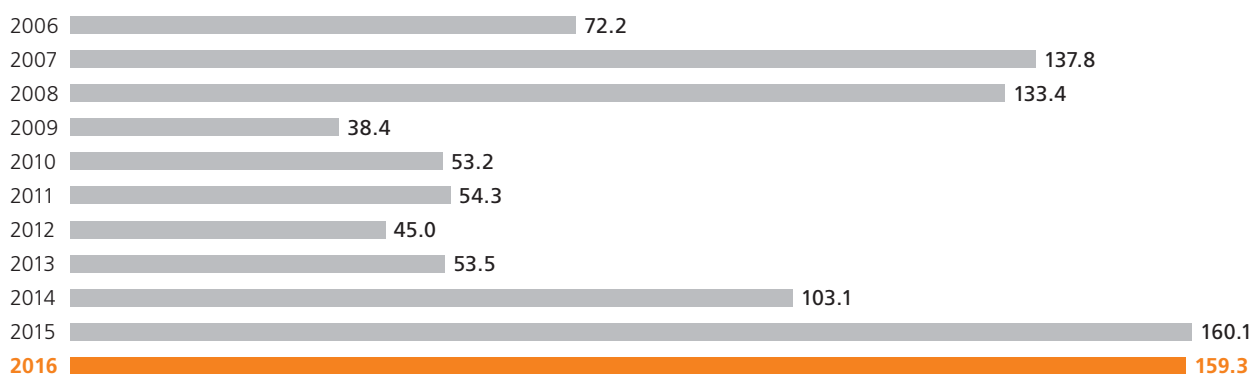
Through our investments, we open up new opportunities and prospects for the PCC Group, thus creating the basis for long-term, profitable growth. The vision that is required for this is evidenced with each new investment success that we register. In fiscal 2016, for example, the expansion and modernisation projects of previous years, particularly in the Chlorine segment and at the container terminals of the Logistics division, made a significant contribution to earnings. The current focus lies on our silicon metal project in Iceland.

## PCC investments

Fiscal 2016 saw a continuation of our long-term investment offensive. Across the Group, our capital expenditures totalled € 159.3 million, thus almost matching the high prior-year level of € 160.1 million. The majority of this volume (97.6 %) was used to purchase property, plant and equipment, particularly for our Iceland project, to date the biggest individual investment in the history of PCC.

At the same time, we again succeeded in 2016 in significantly advancing or, indeed, bringing to a successful conclusion a number of long-term investment projects. In the Chlorine segment, for example, we were able to conclude construction work on a production plant for MCAA (monochloroacetic acid) at our largest chemicals site located in Brzeg Dolny in the Lower Silesia region of Poland. Through the commissioning of this facility, we have significantly extended our value chain. At the same time, construction of our silicon metal production plant in Iceland continued apace, within budget and to plan. We expect completion to be at the end of 2017 as scheduled, with commissioning due at the beginning of 2018.

In our Chemicals division particularly, we continue to target the modernisation and expansion of our production facilities and the establishment of new production lines. A particular focus last year in this regard was our Polyols segment. Here, PCC Rokita SA invested in the expansion of its production capacities. It also bought into a Thai chemicals company in order to intensify expansion in Asia. Further investment projects were undertaken in the Polyurethane Systems business unit of this segment, particularly by PCC Prodex Sp. z o.o. which commissioned a new production plant for prepolymers, and by our German subsidiary, PCC Prodex GmbH, with the installation of new production machines in Essen (Germany).

**Capital expenditures of the PCC Group in € m**

Within the Chlorine segment, completion of the MCAA plant was accompanied by further increases in capacity elsewhere, while the Surfactants segment saw its product portfolio undergo further development. Following the comprehensive expansion in capital expenditures in the Logistics segment in recent years, we further invested in the fleet of vehicles serving our container terminals. In the Energy segment, we completed the modernisation of our power plant in Brzeg Dolny.

And in the Holding/Projects segment, we are pursuing not only our Iceland project but also, following receipt of a building permit in 2016, the realisation of the DME project in Russia. There we intend to erect a facility by the end of 2017 for the production of aerosol-grade dimethyl ether (DME). The following offers a more detailed description of the investment projects completed in or continued through 2016.

## Investments in the Chemicals division

### Chlorine segment

#### Commissioning of a production plant for ultra-pure monochloroacetic acid

The Polish project company PCC MCAA Sp. z o.o., Brzeg Dolny, was able to commission its new production plant for ultra-pure monochloroacetic acid (MCAA) at the end of 2016 after a number of delays. MCAA has a wide range of applications in a number of sectors. The substance is used primarily in the food and beverage industry, but also for the manufacture of medicines, body care products, cosmetics, dyestuffs and plant protection products.

Since completion of the commissioning work in December 2016, the plant on the site of our largest chemicals company, PCC Rokita SA, has extended the chlorine value chain and will contribute over the long term to increasing profitability in the Chlorine segment. This is because the chlorine we ourselves produce is used as a feedstock for MCAA production. In addition, the plant also facilitates backward integration within the Surfactants segment as MCAA is also an input for the betaine production of this segment.

We have already been regularly supplying key customers with ultra-pure MCAA since the end of 2016, and qualification with other customers has been steadily proceeding since the beginning of 2017. Both production and sales volumes are thus expected to successively increase. The planned annual capacity lies in the region of 42,000 metric tons.

#### Process optimisation and capacity expansion in chlorine production

The commissioning of our new chlor-alkali electrolysis facility was completed in July 2015, marking the conclusion of our full-scale technology switch to the environmentally friendly membrane process. In taking this step, we have both significantly extended the capacity of our production facilities and met future environmental regulations ahead of the relevant deadlines. Power consumption has decreased substantially and CO<sub>2</sub> emissions have been reduced by 140,000 metric tons per year. In 2016, this modernisation and expansion investment made its first – and a significant – full-year contribution to annual earnings. Ancillary process optimisation activities were also carried out through the year and into 2017. Through these improvements, PCC Rokita SA has increased





**1** The new MCAA plant in Brzeg Dolny: Ultra-pure monochloroacetic acid (MCAA) is used, among other things, in the food and beverage industries. **2** As a result of the new production facility for polyester polyols (the photo shows its tank farm), PCC Rokita SA can look forward to expanding its already strong position in the polyols market.

the total annual capacities of its chlorine production plant by an additional 10 % to 148,000 metric tons of chlorine and 167,000 metric tons of caustic soda. Moreover, two further electrolyzers are due to be installed in 2017 in order to prevent the occurrence of production shortfalls, for example during maintenance work, and also to further reduce electricity consumption and the associated CO<sub>2</sub> emissions.

#### Expansion of propylene oxide plant underway

Still within the Chlorine segment, PCC Rokita SA invested in further expanding the capacity of its propylene oxide plant in the year under review. Propylene oxide (PO) is required for the manufacture of polyols. Combined with existing feedstock purchase agreements with long-standing partners, our own PO production therefore makes a substantial contribution to securing our raw material base for future growth in the Polyols segment. The expansion work is to be completed by October 2017, raising the annual capacity of the facility by a further 10 % to 50,000 metric tons. This follows an investment project in 2015 which saw the rated output of the PO plant increase by around 25 %.

### Polyols segment

#### Expansion investments in the Polyols business unit

In order to meet further increasing demand and continue the focus on higher-grade polyols, PCC Rokita SA undertook the construction of a fifth production line for polyether polyols in 2016. The completion of the commissioning phase is scheduled for the end of April 2017. Total annual capacity across all five production lines will then rise to around 106,000 metric tons. Through this investment, PCC Rokita SA intends to further extend its position as a leading manufacturer of poly-

ether polyols in Eastern Europe, building on the experience gained within the chemicals company from more than 40 years of polyol production. 1976 saw the first of the current four production lines commissioned. Over the last ten years particularly, there has been rapid development and diversification in the range of applications requiring polyols. Today they are used as much by furniture and mattress manufacturers as they are in the construction industry. PCC Rokita SA is currently Poland's only manufacturer of polyether polyols.

In order to expand its product portfolio, PCC PU Sp. z o.o., Brzeg Dolny, a subsidiary of PCC Rokita SA, is also erecting a production plant for polyester polyols within the Polyols segment. These polyols are used in a number of applications including the production of insulation and elastomers. The plant is likewise expected to be commissioned in April 2017 with annual capacity planned at around 14,000 metric tons.

#### PCC Rokita SA acquires shares in Thai chemicals producer

We again strengthened our international orientation in 2016 in the Polyols segment, with PCC Rokita SA acquiring, in December, 25 % of the shares in the Thai polyols and polyurethane producer IRPC Polyol Company Ltd. (IRPC Polyol) headquartered in Bangkok. Its parent company is the Thai petrochemicals concern IRPC Public Co. Ltd. The joint venture IRPC PCC formed by the two partner companies at the beginning of 2015 combines their respective expertise in the sale and distribution of polyols and PU systems. The partial takeover of the joint venture partner represents the next expansion phase for PCC Rokita SA in the rapidly growing chemicals market of Asia. The provisional purchase price for the 25 % stake is around 82.5 million baht (approx. €2.2 million). PCC Rokita SA has also committed to purchasing another

25 % of the shares in IRPC Polyol within three years from the original purchase agreement coming into force, or to sell the acquired stake to the majority owner IRPC Public Co. Ltd. in the event that purchase of further shares is no longer attractive.

#### **PCC Prodex Sp. z o.o. commissions production plant for prepolymers**

Around the middle of 2016, PCC Prodex Sp. z o.o. commissioned on the Brzeg Dolny factory site of PCC Rokita SA a new production plant for prepolymers, a group of resins used in a variety of industrial segments including construction, the automotive industry and furniture production. Their multiple applications include adhesives, floors for sports facilities and flexible polyurethane foams such as those used in mattresses, ergonomic pillows with a memory function and other innovative products.

With an annual capacity of 7,500 metric tons, the new plant is one of the three largest of its kind in Poland. This investment significantly boosts the dynamic development of the company's product portfolio based on isocyanates, thus also enabling the development of new markets and more specialised applications. In addition, the production process of this modern facility can be conducted under fully automatic control, resulting in high-precision quality assurance.

#### **PCC Prodex GmbH invests in new production machinery**

Towards the end of 2016, PCC Prodex GmbH installed a number of new production machines for the further processing line at our site in Essen. As a result, the product portfolio, which previously mainly comprised speciality PU foams for applications in niche segments of the automotive industry, has now been extended to include ready-to-use products such as polishing discs.

## Surfactants segment

### **Expansion investments in surfactant production**

PCC Exol SA continued with the modernisation and expansion of its surfactant manufacturing capability through 2016. This also included the commissioning of a betaine production plant in Brzeg Dolny with an annual capacity of 10,000 metric tons. Renowned for their skin tolerance, these amphoteric surfactants are used in the manufacture of personal care products.

In all, PCC Exol SA has an annual capacity of 117,000 metric tons of surfactants divided between five facilities at two sites: Brzeg Dolny has two sulphonation plants, one ethoxylation plant and the new betaine production facility, while a second ethoxylation plant is located at another PCC site in Plock, Poland. PCC Exol SA also has a further production plant for speciality surfactants operated by its US subsidiary, PCC Chemax, Inc. in Piedmont (South Carolina).

## Speciality Chemicals segment

### **Investments in the processing plant of our quartzite quarry**

In preparation for the supply of our silicon metal plant in Iceland with higher-grade quartzite, PCC Silicium S.A. began at the end of 2016 to implement an investment programme for this purpose. By mid 2017, two new facilities are to be constructed: a plant in which the rock is washed and another in the form of an optical sorter using LED technology in order to select suitable quartzite pieces for silicon metal production.

Construction of the facilities began at the end of February 2017. Commissioning is envisaged for July/August 2017, after which the first supplies to Iceland are to take place. The quartzite will be required there by the end of the year when commencement of commissioning is planned.



**1** Tank farm of the new prepolymer plant of PCC Prodex Sp. z o.o. With an annual capacity of 7,500 metric tons, this counts among the three largest of its kind in Poland. **2** In 2016, PCC Exol SA commissioned a betaine production plant with an annual capacity of 10,000 metric tons.

## Consumer Products segment

### Completion of the expansion and conversion work in consumer goods production

PCC Consumer Products Kosmet Sp. z o.o., Brzeg Dolny, was able to complete the expansion and conversion work on its production facilities in the first quarter of 2016. There,

the company manufactures household cleaners, laundry detergents and cosmetics. In 2016, PCC Consumer Products Kosmet Sp. z o.o. also acquired certification to ISO 22716 and was able to complete the process for GMP certification. GMP stands for “Good Manufacturing Practice”, representing the guidelines governing the processes and procedures used in the production of cosmetics.

## Investments in the Energy division

### Modernisation of the combined heat and power generation plant in Brzeg Dolny

The combined heat and power (CHP) plant of PCC Rokita SA at our chemicals production site in Brzeg Dolny not only supplies our own chemical production facilities with electricity and process steam but also provides district heating to a large portion of the households within the town of Brzeg Dolny. Managed under the Conventional Energies business unit, the facility features modern cogeneration technology. In 2016, PCC Rokita SA continued its modernisation and up-

grade of the CHP plant with installation of a second electrostatic precipitator. The first of the two filters was installed during an initial upgrade phase back in 2015. As a result, dust emissions have been substantially reduced and already lay below new EU limit values not due to come into force in Poland until 2020. Commissioning of the second filter is due to start at the end of April 2017, with dust emissions set to undergo a further significant reduction. Aimed at reducing electricity generation costs going forward, a back-pressure turbine has also recently been installed and is likewise scheduled to be commissioned ready for operation by May 2017.

## Investments in the Logistics division

### Investments in container terminal fleets

In 2014 and 2015, PCC Intermodal S.A. embarked on an ambitious investment programme in order to modernise and significantly expand its terminals in Frankfurt (Oder), Brzeg Dolny, Gliwice and Kutno. These capital expenditures produced their first full-year returns in 2016, contributing significantly to growth in the Intermodal Transport business unit. In the last fiscal year, this PCC Group subsidiary focused its investments on the vehicle fleets operating in the contain-

er terminals. Reach-stackers – for the flexible loading and unloading of container trains – and container trailers were among the more significant purchases made.

In addition, there is a major project in the pipeline involving the catchment area around the Bay of Gdańsk. There, a 60-hectare cargo handling centre is to be constructed with an annual capacity of over 1 million TEU (twenty-foot standard containers).



**3** The power plant of PCC Rokita SA, a modern CHP cogeneration facility, was further upgraded in 2015 and 2016 with the installation of electrostatic precipitators. **4** The vehicle fleets at the container terminals of PCC Intermodal S.A. were further extended in 2016 through the purchase of a number of new reach-stackers.

# Investments in the Holding/Projects division

## Construction of a silicon metal production plant in Iceland

The construction of an ultra-modern and environmentally compatible silicon metal production plant in Iceland continued to make good progress in the year under review, with the work proceeding in line with the budget and time schedule. Consequently, the construction work, which began in

June 2015 after several years of preparations, should be completed by the end of 2017 as planned. Once the commissioning phase has been concluded, we expect production to start up at the beginning of 2018. The annual capacity of the facility with its two smelting furnaces will initially amount to at least 32,000 metric tons of silicon metal. Through the possible installation of two further furnaces and process optimisations, the capacity may, in future, actually increase to

## A vision in the making – milestones of our Iceland project



PCC quartzite quarry in Poland



Office of PCC BakkiSilicon in Húsavík

### 2009

#### Source of quartzite secured as the feedstock base

PCC SE takes over the company known today as PCC Silicium S.A. in Zagórze (Poland), operator of a quartzite quarry. Long before the start of the project, this secures the intra-Group supply of the key feedstock, quartzite, necessary for the future silicon metal production plant in Iceland.

### 2010

#### Project team formed

The decision to analyse the silicon metal project is taken in 2010. The preparations start with feasibility studies by the experienced project team of the holding company PCC SE in Duisburg (Germany). An extensive international search for the optimum site for the plant then begins.

### 2012

#### Establishment of PCC BakkiSilicon hf

The site chosen is in Iceland. Ideally located between the sales markets of Europe and the USA, the country also offers, in particular, inexpensive renewable energy supplies from geothermal and hydraulic sources. May of this year sees the establishment of the project company PCC BakkiSilicon hf in Húsavík in the north of the island.

around 80,000 metric tons per year – at significantly lower capital and operating costs – enabling it to better utilise the already created industrial infrastructure surrounding it. The immediate owner of the new plant is Icelandic project company PCC BakkiSilicon hf, the head offices of which are located at the production site close to the town of Húsavík.

Generally, the plant in the north of the island is expected to set new international standards in relation to efficiency, sustainability and innovation. The site itself is centrally located between the European and American customer markets; the ice-free port of Húsavík is to be connected by a dedicated road to the new industrial area. As the manufacture of silicon metal is energy-intensive, the long-term availability of inexpensive and, to the maximum extent possible, sustainable

electricity was essential. Here, Iceland is ideal – our plant will be supplied entirely with electricity from renewable sources, in particular geothermal generating plant. Just 25 kilometres from Húsavík, in the Thestareykir region can be found an extensive geothermal resource with potential of a total of 350 megawatts (MW) in new electricity generating capacity. At the moment, a 90 MW power plant is being built there. As we expect to initially require 58 MW for operation of our silicon metal plant, electricity supplies can be regarded as completely secure. Moreover, the relatively favourable terms and conditions of purchase are guaranteed over 15 years and come with an extension option.

A further benefit of our project lies in the integrated supply chain available for it. This is because we will be supplying



The port of Húsavík



Computer image



## 2013

### State sponsorship from the Icelandic government

In March, the Icelandic parliament passes, among other things, a law specifically governing our project. It includes financial arrangements for measures in order to improve the infrastructure in and around the port of Húsavík and link-up with the new Bakki industrial park.

### Contract for the construction of the plant

In October, PCC BakkiSilicon hf concludes a contract with one of the leading plant constructors in this field, SMS group GmbH, Düsseldorf (Germany), for the turnkey erection of the silicon metal production plant.

### Quarry successfully audited

In the fourth quarter, following comprehensive geological investigations, the quarry in Poland is given a so-called JORC certificate confirming that the quartzite extracted is of sufficient quality and quantity in order to be able to supply the silicon metal plant for at least 15 years.

part of the output from the quartzite quarry operated by our Group subsidiary PCC Silicium S.A. in Zagórze (Poland) as the feedstock for further processing in Iceland, thus significantly extending our internal value chain. The production plant will require around 90,000 metric tons of quartzite per year, a quantity that has been contractually guaranteed at the required quality grade for at least ten years.

The end product, silicon metal, has in addition already been largely taken up by customers in German industry, thus reducing our vulnerability to the volatility of the commodity spot markets. Long-term supply agreements have already been signed with three major corporations. Important users of the end product are the chemicals and electrical industries which are demanding increasingly higher-grade silicon metal products. The aluminium industry also uses silicon metal as an alloyant.

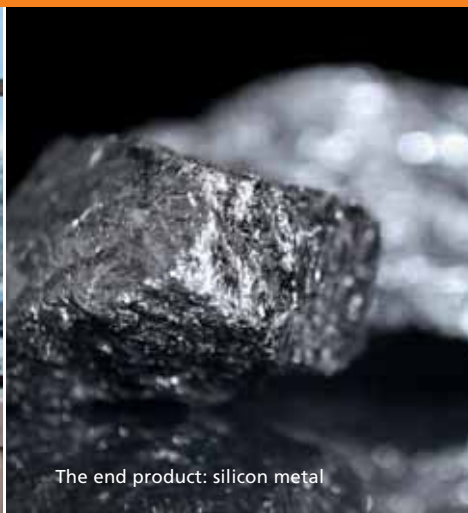
The plant is being completed on a turnkey basis by constructor SMS group GmbH, Düsseldorf, one of the world's leading contractors in this field. As a result, both the use of the very latest technologies in silicon metal production and also advanced filter systems is ensured.

The investment volume of around US\$ 300 million (approximately €265 million) makes the Iceland project the biggest individual investment in the history of PCC SE. The investment has been made possible by several years of amicable negotiations between all parties concerned. The basis was provided firstly by the security of raw material supplies resulting from extraction, in certified quality and quantity, of the quartzite starting stock in the PCC-owned quarry; secondly, the contracts with major customers in Germany were concluded well before start of construction of the plant. As

## A vision in the making – milestones of our Iceland project



Dr. Peter Wenzel, Chairman of the Supervisory Board of PCC BakkiSilicon hf, and Hörður Arnarson, CEO of Landsvirkjun, at the signing of the contract



The end product: silicon metal



Site inspection performed by KfW

### 2014

#### Power supplies contractually agreed

In March, PCC BakkiSilicon hf concludes a power purchase agreement (PPA) with the biggest of Iceland's energy utilities, Landsvirkjun. In the first operational phase, the plant will be supplied from 2018 with 58 MW of electricity. Landsvirkjun is developing a virgin geothermal area in the vicinity of Húsavík in order to meet all the energy requirements of the new industrial park.

#### Support from the German government

In September, the Inter-Ministerial Committee of the German Government issues a UFK guarantee. This provisional cover note is provided in order to support raw material projects abroad that are regarded as particularly beneficial and/or of significant national importance. Our silicon metal project will secure supplies of an essential raw material to German industry, with around 90% of our output going to German customers.

### 2015

#### Finance secured

In June 2015, the funding of our Iceland project in its entirety is secured with the so-called financial closing. The investment volume totalling around US\$ 300 million will largely be covered by a loan from KfW IPEX-Bank which PCC BakkiSilicon hf also receives in June 2015. Around a quarter of the financing package is being provided by Icelandic investors; the corresponding agreement was concluded with the Icelandic company Bakkastakkur slhf.

a result of these, we were able to obtain a cover note from the German government's Inter-Ministerial Committee in the form of a UFK export credit guarantee. This was a precondition for securing the financing package from KfW IPEX-Bank of Frankfurt, which is covering a major part of the capital expenditure with a loan. This guarantee was granted because the project was deemed particularly beneficial to Germany's commodity sourcing interests: With its investment in Iceland, PCC is contributing to securing raw material supplies to German industry. A guarantee of this kind is extremely rare. In the past 60 years, it has only been granted to a round dozen companies. This again underlines the importance of our silicon metal project.

### Project progress since the start of 2016

In spring 2016, work completed included erection of the side walls of the first main building, namely the over 120 metre long and 30 metre wide coal storage facility. After completion of the steel structure, the complete roof was also fitted. In September, this building was finished at the uppermost terrace of the site. At the same time, work began in the second quarter on erecting the first of the two electric arc furnaces. After the foundation of concrete had been laid, the slewing ring was installed and work began on the steel structure of the furnace house.

Development of the industrial park, the nucleus of which is provided by our plant, has also been progressing to schedule. By autumn 2016, work had begun on lining the tunnel



Official site inauguration by PCC Administrative Board Chairman Waldemar Preussner (second from right)



Aerial view of the large construction site in the summer



Installation of the furnace vessel floor for the silicon metal smelting plant

## 2016

### Start of plant construction

Following preparation of Bakki industrial park near Húsavík, construction of the plant commences at the end of June. In September, the large construction site is officially inaugurated by PCC Administrative Board Chairman Waldemar Preussner accompanied by representatives of the Icelandic government and the province of Norðurþing. Around the middle of the year, the electricity grid operator Landsnet commences construction of the high-tension power transmission line.

### Management team in place

Right from the beginning, the construction work has been carried out both to schedule and within budget. In spring, the detailed planning of the plant is concluded and the first foundations are laid. After that, erection of the 3,600 m<sup>2</sup> coal storage facility begins. At the same time, an experienced management team is hired for the future running of the plant, with further recruitment also being initiated.

### Start of erection of the electric arc furnaces

In summer, work begins on installing the first of two electric arc furnaces for the silicon metal smelter. The laying of the foundations is followed by installation of the slewing ring. The steel construction for the coal storage facility is completed. Also around the middle of the year, Landsnet begins work on laying the power line with installation of the foundations for the electricity masts.

that will link our plant with the port of Húsavík. A final phase of blasting work at the end of August enabled the north portal of the tunnel to be driven through; this marks an end of all the blasting work for this project. Following objections filed by a local environmental organisation against the construction of a high-tension transmission line for supplying the power to our site, the environmental commission responsible merely cited formal errors in a number of construction permits. These were corrected, as a result of which provision of the HT line and construction of the geothermal power generating plant continued to schedule, as did the main body of works. Construction of the building shells and installation of the plant components continued to progress to schedule during the winter and spring of 2017 – including work on the main electric switchgear installation, on the cooling water station and on various storage facilities. By February, work on the furnace house had seen the steel structure rise to the

fourth level at a height of 22.9 metres, heading for a final roof ridge height of 37.50 m.

Aside from supervising the construction work being carried out by the turnkey contractor SMS, the PCC project team in Duisburg and Húsavík turned its focus at the end of 2016 towards preparations for commissioning the plant. In order to be able to provide future employees at the site with attractive living accommodation, PCC SE also decided to invest in the construction of homes in the vicinity. The first 22 duplex houses, built on a very beautiful plot provided by the local council, will be ready for occupation by late summer 2017. In the meantime, the local management is complete and in place in the form of a team offering extensive experience from the start-up and operation of similar facilities. We are also being supported by international experts with specific know-how in the production of silicon metal.

## A vision in the making – milestones of our Iceland project



First of two furnace shells completed

### 2016

#### First furnace shell completed

At the beginning of November, the steel shell of the first furnace is lifted into the furnace building. This first furnace shell is then completed by the middle of the month. The structural steelwork has, by this time, reached the second of four levels at a total height of 10.9 metres, and will, by December, be completed at this height. Almost immediately, installation of the second furnace commences.

At the same time, the grid operator Landsnet starts work on constructing the transformer station at the end of the high-tension power transmission line in the new Bakki industrial park, the site of our plant.





## Construction of a production plant for dimethyl ether in Russia

Together with our long-standing Russian partner, the chemicals company JSC Shchekinoazot, we are planning the construction of a plant for the manufacture of aerosol-grade dimethyl ether (DME). The objective is to develop the Eastern European market. DME is used primarily in the cosmetics industry as a propellant in, for example, hairsprays, and also for the manufacture of structural polyurethane foam.

The project company responsible, OOO DME Aerosol, headquartered in the Russian town of Pervomaysky, is a 50/50 joint venture between PCC SE and JSC Shchekinoazot. The facility with a planned annual capacity of 20,000 metric tons is being built on the site of our joint venture partner, approximately 180 kilometres south of Moscow in the Tula region.

The modern methanol plant already in existence there ensures a secure feedstock base for the new DME production operation.

The corresponding building permit was issued at the end of June 2016. Site clearance and preparations began in July 2016 and, at the end of the frost period in March 2017, this work was completed with the foundations being laid immediately after. At the same time as the earthworks in 2016, the manufacture of the main apparatus by a German supplier also began. Completion of the detailed engineering is expected in May 2017, while commissioning of the finished plant is scheduled for the end of 2017.



**1** Construction work on the silicon metal plant continued unabated even during the winter of 2016/2017, with in particular several cranes working on the central furnace house (centre of photo).



06

## Group management report



Employees in the laboratories of PCC Rokita SA, the largest company of the PCC Group: We are constantly expanding our, in part, market-leading positions through the ongoing development of new and innovative products.

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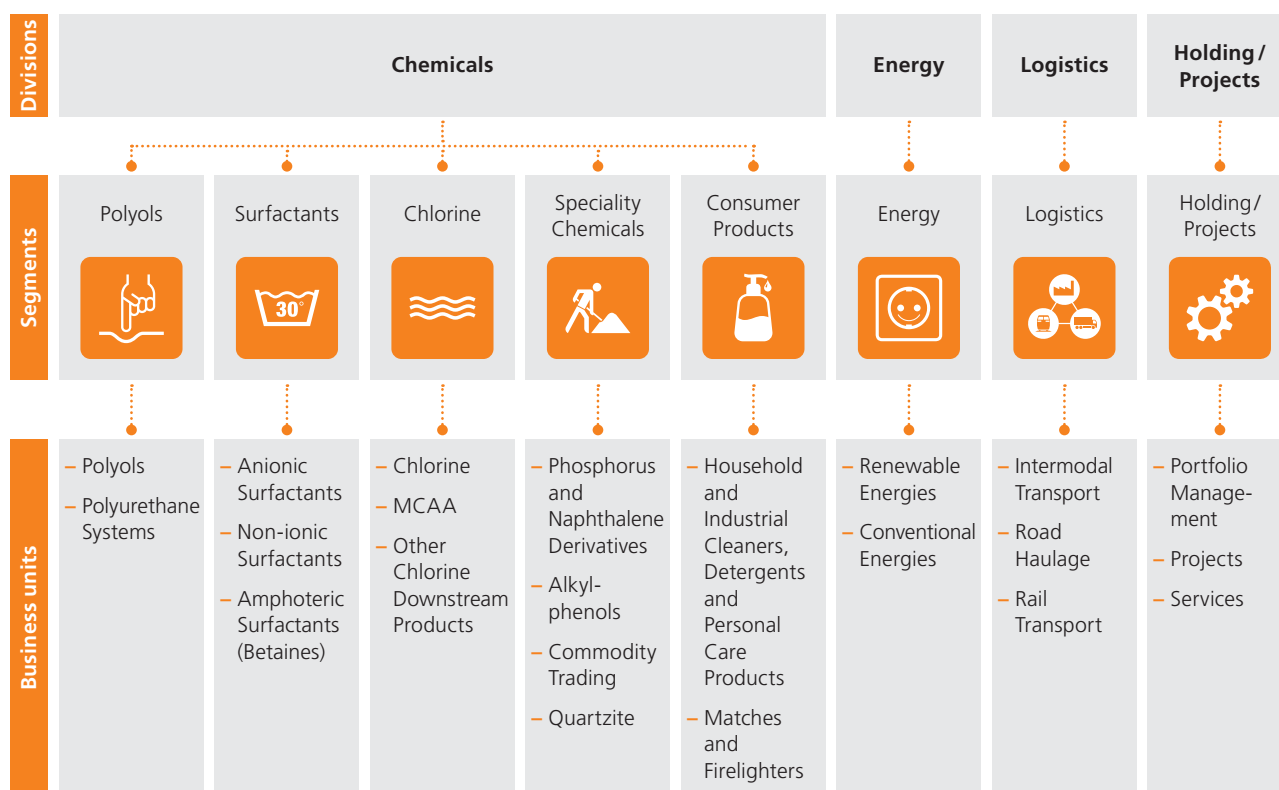
## Organisation of the PCC Group

The PCC Group operates in 17 countries at 39 sites, employing more than 3,000 people. Our investment portfolio is divided into eight segments. The seven segments Polyols, Surfactants, Chlorine, Speciality Chemicals, Consumer Products, Energy and Logistics carry the operational responsibility.

Our international companies and entities control 19 business units allocated to these segments. The eighth segment, Holding/Projects, comprising our parent and holding company PCC SE together with other companies and entities, is primarily responsible for providing corporate services in the fields of finance, business development, information technology,

environmental protection, site infrastructure management, research & development and engineering & technology. Also managed under this segment are PCC BakkiSilicon hf (silicon metal project in Iceland), OOO DME Aerosol (dimethyl ether project in Russia) and a number of smaller project companies.

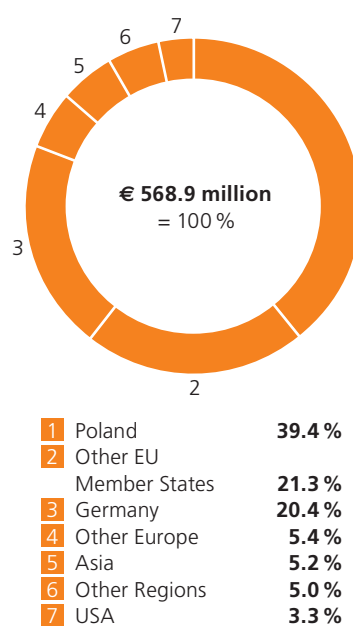
## The divisions, segments and business units of the PCC Group



The Group strategy of PCC is aligned to sustainable business investments and operational development with the aim, in particular, of generating further enterprise value. As a growth-led investor predominantly aligned to the long term, the holding company PCC SE supports its portfolio of businesses in their entrepreneurial development and in the expansion of their various specific strengths. The existing investment portfolio is subject to a regime of proactive management and continual optimisation. Group policy encompasses both ongoing scrutiny of further projects and acquisitions with the objective of competence-related diversification into new market segments, and engagement in other non-core activities that we develop only to a certain degree of market maturity and then offer for sale. Overall, this approach is intended to create the basis for further sustainable growth going forward.

For the purpose of our financial communication, we pool our business activities within seven regions: Germany, Poland, Other EU Member States, Other Europe, USA, Asia and Other Regions. In fiscal 2016, we generated 20.4 % (previous year: 21.4 %) of our sales with customers in Germany, with 39.4 % attributable to customers in Poland (previous year: 39.5 %). Including PCC SE, the consolidated financial statements of the PCC Group for 2016 cover a scope of 44 fully consolidated entities. There is also one joint venture accounted for using the equity method.

Sales by region 2016 in %



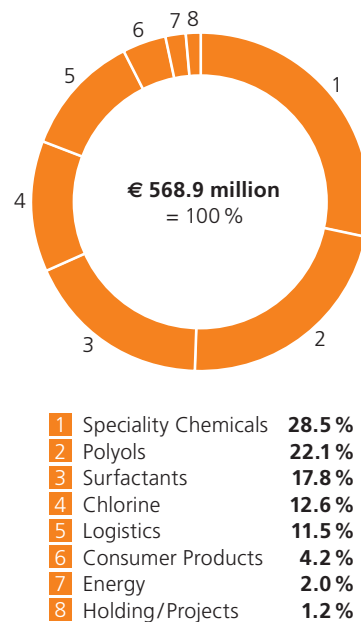
# Core business activities

Consolidated sales in fiscal 2016 amounted to €568.9 million, roughly matching the level of the previous year (€571.1 million). However, this revenue total was well below our expectations. The main cause of this lay in persistently low price levels for commodities resulting from the drastic decline in the price of crude oil in the previous year. The trend only began reversing towards the end of 2016. Because of this situation, the Chemicals division registered a decline in sales of €10.7 million in 2016, despite a substantial increase in volumes sold year on year. Nevertheless, the division remained the main contributor to Group revenues with a share of 85.3% (previous year: 86.9%).

The Logistics segment generated around 11.5% of consolidated sales (previous year: 9.9%). The segment posted an increase in revenues of 15.4% to €65.5 million, essentially attributable to another substantial year-on-year improvement in performance by PCC Intermodal S.A., Gdynia (Poland). Sales of the Energy segment remained at the prior-year level with a total of €11.3 million. In the Holding/Projects segment, however, revenue decreased from €7.0 million to €6.9 million.

Business performance in the individual Group segments was once again very mixed, as indicated in the following graph.

Sales by segment 2016 in %



# Business performance by segment

## Polyols

The Polyols segment is divided into the business units Polyols and Polyurethane Systems, with products for, among other things, the mattress, furniture and automotive industries, and also for the construction sector. This segment includes the corresponding subsegment of PCC Rokita SA, Brzeg Dolny (Poland), i.e. its Polyols business unit, and also the two project companies PCC PU Sp. z o.o. and PCC Therm Sp. z o.o., the respective business units of which were still being established in 2016. Both companies are likewise headquartered in Brzeg Dolny and are wholly owned subsidiaries of PCC Rokita SA. Also managed under the Polyols segment are the PU system providers PCC Prodex Sp. z o.o., Brzeg Dolny, and PCC Prodex GmbH, Essen, together with the Bulgarian company PCC Energia EOOD, Sofia. At the end of the fiscal year, the Polyols segment had 204 employees (previous year: 171).

Sales generated by the Polyols segment in fiscal 2016 amounted to €126.0 million (previous year: €136.2 million). Although this meant its share of total Group sales decreased slightly to 22.1% (previous year: 23.9%), due primarily to the persistently low level of commodity prices, the Polyols business was also able to benefit on the purchasing side from the same favourable terms and conditions. As a result, the segment once again made an appreciably positive contribution to Group earnings in 2016. We intend to drive additional diversification and expansion in the product portfolio of the Polyols business unit as we go forward, with the share of higher-grade speciality polyols continuing to increase. Geographic expansion is also to be further pursued, particularly in the still dynamically growing Asian market. Here, PCC Rokita SA was able to pass another important milestone in its pursuit of expansion in its production footprint outside Poland with the acquisition at the end of 2016 of a minority shareholding in a Thai polyols producer. Since the previous

year, a joint venture agreement has existed with the parent company of this manufacturing company covering the sale and distribution of polyols and polyurethane systems on the Asian market, and this was able to register its first marketing successes in 2016.

The Polyurethane Systems business unit was (and will continue to be) further strengthened by investments both in Poland and in Germany. In 2016, such activities included the acquisition of additional production machinery for the Essen site (PCC Prodex GmbH). The distribution of rigid foams of Polish provenance to the DACH region, and also the Benelux countries was also further intensified.

## Surfactants

The Surfactants segment comprises the business units Anionic Surfactants, Non-ionic Surfactants and Amphoteric Surfactants (Betaines). Their respective products are used in the manufacture of e.g. laundry and home care detergents, household cleaners, cosmetics and body care products, and also paints, inks and coatings. Organised under this segment are the companies PCC Exol SA, Brzeg Dolny, its Turkish distributor in Istanbul and PCC Chemax, Inc., Piedmont (South Carolina, USA). Sales of the segment in 2016 amounted to €101.5 million, thus remaining at the level of the previous year (€101.1 million). Its share of the consolidated sales generated by the PCC Group likewise held stable at 17.8% (previous year: 17.7%). The number of employees also remained virtually unchanged with 260 as of the end of 2016 (previous year: 259).

Overall, the Surfactants segment was able to once again improve on its year-on-year performance, although here, too, sales remained below our expectations due to the low commodity price levels prevailing. However, the price decreases were, in certain cases, even more noticeable on the purchasing side, at least until the middle of the year. Moreover, the increasing share of higher-grade products in the portfolio of PCC Exol SA also had a positive effect on margin development. Although purchase prices underwent a disproportionate increase towards the end of the year, PCC Exol SA was nevertheless able to end fiscal 2016 very much in profit with earnings above expectations.

The US American subsidiary of PCC Exol SA, namely PCC Chemax, Inc., also contributed a positive earnings result, although this was again – as in the previous year – below expectations. This latter development was essentially due to the substantial decline in sales of chemicals for the oilfield industry, the previous main customer sector of PCC Chemax, Inc. The gap that this has created has not been completely filled with products for other applications. However, work on the development of such products continued in 2016 with due intensity. The collaboration with PCC Exol SA (including for the sale of PCC Exol products on the American

market) was also further expanded. Similar to the situation in the Polyols segment, the PCC Group is likewise pursuing a strategy of increasing internationalisation in the Surfactants segment, particularly in the Asian market. Hence, also in this area of our business, collaborations and production projects in, among other places, Malaysia, are being investigated.

## Chlorine

The Chlorine segment is divided into three business units: Chlorine, MCAA (monochloroacetic acid) and Other Downstream Chlorine Products, the latter serving primarily as a feedstock provider to other manufacturing business units within the Group. Allocated to the Chlorine segment is the corresponding Chlorine business unit of PCC Rokita SA, plus MCAA SE, likewise located in Brzeg Dolny, and PCC MCAA Sp. z o.o., again at the same site. Sales of the segment increased year on year by 23.0% to €71.8 million. The share of consolidated sales rose as a consequence from 10.2% to 12.6%. At the end of the year under review, the segment had 381 employees (previous year: 344).

On the earnings side, too, the prior-year figures and our expectations for 2016 were significantly exceeded. This positive development was attributable to the fact that the new chlor-alkali electrolysis facility of PCC Rokita SA had, for the first time, been operating for a full year, combined with lower electricity prices. Moreover, the selling prices for the by-product caustic soda (sodium hydroxide) which occurs during chlorine production were at a relatively high level in 2016, with temporary production interruptions at a local competitor additionally boosting the situation. As a consequence, the Chlorine business unit of PCC Rokita SA closed fiscal 2016 with very much a positive earnings result, and actually became the main earnings generator of all the business units of the PCC Group.

At the end of 2016, the new production facility for MCAA was also commissioned after a number of delays, which means that a major milestone in extending the chlorine value chain of the PCC Group had been reached. Seen over the long term, this plant will significantly increase the earning power of the Chlorine segment.

## Speciality Chemicals

The Speciality Chemicals segment comprises the business units Phosphorus and Naphthalene Derivatives, Alkylphenols, and Commodity Trading. Since 2013, it has also included the Quartzite business unit. Allocated to this segment is thus the corresponding subsegment of PCC Rokita SA, that is to say its Phosphorus and Naphthalene Derivatives business unit, together with the following companies: PCC Synteza S.A., Kędzierzyn-Koźle (Poland), PCC Trade & Services GmbH, Duisburg, PCC Morava-Chem s.r.o., Český Těšín (Czech Republic), ZAO Novobalt Terminal, Kaliningrad (Rus-

sia), PCC Silicium S.A., Zagórze (Poland), and also S.C. Euro-Urethane S.R.L., Râmnicu Vâlcea (Romania). In all, the Speciality Chemicals segment generated sales of €161.9 million in the fiscal year under review, matching the prior-year level of €161.7 million. The segment thus remained the biggest revenue generator in the Group. The number of people employed there decreased in 2016 from 363 to 353.

The two trading companies, PCC Trade & Services GmbH and PCC Morava-Chem s.r.o., again made positive contributions to earnings in 2016. The performance of PCC Morava-Chem s.r.o. remained within our expectations, while the sales and earnings generated by PCC Trade & Services GmbH fell substantially short of the levels anticipated. The main causes for this are the low commodity price levels prevailing as a result of the decline in the price for crude oil. Although the gross margin of this portfolio company remained flat year on year, gross profit decreased in absolute terms, which meant that, with overheads remaining roughly the same, net earnings generated by PCC Trade & Services GmbH were lower than expected. However, commodity prices began to rise again towards the end of the year. There was also an appreciable revival in the coke trading business: As a result of supply problems in respect of Australian coking coal and the current situation on the Chinese coal and coke market, coking coal prices underwent a disproportionate increase. In view of this development, many coke consumers also expected to see similar price increases in coke during the fourth quarter and opted to quickly contract the maximum volumes possible. This led to PCC Trade & Services GmbH profiting from increased sales both during that period and into 2017, with the upsurge being further boosted by the positive growth data coming out of the steel industry.

The alkylphenols manufacturer PCC Synteza S.A., and also the Phosphorus and Naphthalene Derivatives business unit of PCC Rokita SA, were able to profit from the low commodity price levels of 2016, once again posting positive annual earnings within our expectations. This gratifying trend likewise continued through into the new year and is being further strengthened by, among other things, the expansion of alternative production lines at PCC Synteza S.A. in collaboration with PCC Rokita SA.

By contrast, PCC Silicium S.A. ended fiscal 2016 with another loss, as had been expected. In particular, the previous standard business of this portfolio company, namely the sale of aggregates for the construction of road and railway infrastructure, has been running up an ever-larger deficit. Consequently, the company redoubled its efforts in 2016 on the marketing of those materials not required for the silicon metal project of PCC BakkiSilicon hf, Húsavík (Iceland), for alternative areas of application, with initial sample supplies going to, among others, manufacturers of refractory materials. Sales to the ferrosilicon industry were once again intensified. Again in 2016, however, the topmost priority

was preparation for the development of the already defined quartzite grades required for the manufacture of silicon metal. The funding for the investments required for this is being provided by PCC SE.

The Speciality Chemicals segment also includes the affiliate S.C. Euro-Urethane S.R.L., the future of which still depends heavily on the further development of our second Romanian investment, S.C. Oltchim S.A., Râmnicu Vâlcea (PCC shareholding: 32.34%), this also being a shareholder of S.C. Euro-Urethane S.R.L. The assets of S.C. Oltchim S.A. were put into administered insolvency under Romanian law in January 2013, with a restructuring plan being passed in April 2015 as part of the procedural framework. The company was granted a period of at least 36 months from that date to implement the plan. In the meantime, this timeframe has been extended by a further 12 months. The debt level of the company was also cut back in 2015, as a result of which S.C. Oltchim S.A. was able to end that fiscal year with a positive result. The shares of S.C. Oltchim S.A. have since returned to trading on the Bucharest Stock Exchange (BVB). In addition, the company resumed production of polyols and oxo alcohols in 2015. Based on the figures published for 2016, earnings in the year under review are expected to be positive, as was the case in the previous year. In the meantime, another privatisation process has been opened in which PCC Rokita SA is also involved. Initially, this required the submission of binding bids by March 31, 2017. However, this period has now been extended to June 26, 2017. It is questionable as to whether the process, which was initiated by the previous Romanian government, will this time actually be taken through to fruition and – if it is – whether a non-Romanian company would ultimately be accepted as the purchaser. Based on current reports in the Romanian media, there appear to be significant doubts in this regard, with further developments difficult to predict. The share price of S.C. Oltchim S.A. underwent little major change in the course of the year. As of the reporting date, it stood at RON 0.3820 which, compared to the previous year, represents a change of –2.5%. The value of the share package held by PCC SE thus amounted to around €9.4 million (previous year: €9.6 million).

## Consumer Products

The Consumer Products segment is divided into two business units, one being Household and Industrial Cleaners, Detergents and Personal Care Products, and the other being Matches and Firelighters. It is managed by the lead company PCC Consumer Products S.A., Brzeg Dolny (Poland). This segment experienced a drastic decline in sales in the year under review: After generating €38.6 million in the previous year, the revenues achieved in 2016 were just €24.1 million, representing a decrease of 37.4%. The share in consolidated sales thus fell to 4.2% (previous year: 6.8%). At the end of fiscal 2016, the segment employed 476 people (previous year: 569).

The development of the Consumer Products segment was again dominated in 2016 by PCC Consumer Products Kosmet Sp. z o.o., Brzeg Dolny, which manufactures household cleaners, laundry detergents and cosmetics. During the first quarter of 2016, this portfolio company was able to complete expansion and refurbishment of its production facilities. It also successfully completed the GMP approval procedure in the course of the year (GMP stands for Good Manufacturing Practice, that is to say the guidelines governing quality assurance in the production processes and environment within which medicines, cosmetics, food products and feedstuffs are manufactured). This approval represents an important prerequisite for the long-term expansion of PCC Consumer Products Kosmet Sp. z o.o. into the markets of Western Europe. In 2016, however, this portfolio company experienced another collapse in both sales and earnings. The main cause for this was the fact that in the previous year its – until then – biggest customer had embarked on its own production operations, the consequence of which was that sales to this customer steadily further declined in the course of 2016. As a result, PCC Consumer Products Kosmet Sp. z o.o. had to reduce its production activities to one shift and implement redundancies. Although the company was also able to gain new customers in the course of the year, the increasing losses attributable to the previous key account were far too great to offset. However, PCC still envisages a recovery in its consumer products activities over the long term. The development of the business in Western Europe, a greater focus on own brands and stabilisation in the private label segment should, in the coming years, lead to renewed growth at PCC Consumer Products Kosmet Sp. z o.o. For this reason, PCC SE has decided to strengthen the equity of this portfolio company via its intermediate holding company, PCC Consumer Products S.A., with implementation of a capital increase at the beginning of 2017 of around €7.3 million (PLN 32 million). This should cover the liquidity requirements for the planned realignment of the business and also for the losses expected during the first half of 2017.

The other affiliates of the PCC Consumer Products subgroup located in Belarus and Russia, and also the matches factory PCC Consumer Products Czechowice S.A., Czechowice-Dziedzice (Poland), remained of subordinate relevance in fiscal 2016.

## Energy

The Energy segment (also referred to as the Energy division) encompasses the two business units Renewable Energies and Conventional Energies. Under Conventional Energies, we control the Energy business unit of PCC Rokita SA and also the company PCC Energetyka Blachownia Sp. z o.o., Kędzierzyn-Koźle (Poland). Within the Renewable Energies business unit, we control PCC DEG Renewables GmbH, Duisburg (Germany), including its subsidiaries located in Bosnia and Herzegovina, the Republic of Macedonia and Bulgaria. PCC Energy Trading GmbH, Duisburg (Germany),

which remains consolidated within the Energy segment, had not pursued any active business from 2012 through to the end of 2016. In the year under review, the active portfolio companies of this segment generated sales amounting to €11.3 million, matching the level of the previous year. The number of employees in the segment as of year-end amounted to 183 (previous year: 179).

The main sales and earnings generator of this segment remained the Conventional Energies business unit with the heat and power utility PCC Energetyka Blachownia Sp. z o.o. and the Energy business unit of PCC Rokita SA. The latter is responsible, among other things, for our on-site CHP plant providing the power we need in Brzeg Dolny.

The number of small hydropower plants within the Renewable Energies business unit remained at five through to the end of 2016. One of these is in Bosnia and Herzegovina, while the four others are in the Republic of Macedonia. The construction of a fifth power plant in Macedonia planned for 2016 was again delayed to beyond the turn of the year and is now scheduled for 2017. The other three sites earmarked in Bosnia and Herzegovina, are, however, still awaiting a number of permits and approvals, with still no conclusion to this lengthy process in sight. We currently expect the permits and approvals to be issued in 2017. The sale of the two national portfolios being pursued by PCC SE together with its joint venture partner DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH, Cologne (Germany), is also proving difficult due to the lack of scale in the respective countries. Nevertheless, the power plants currently in service are now producing relatively stable cash flows. The negotiations embarked upon in 2016 in tandem with PCC DEG Renewables GmbH relating to a restructuring of existing loans in order to achieve more favourable terms and conditions have, in the meantime, progressed well. At the same time further potential power plant sites have been (and will continue to be) investigated. All these measures are intended to make the portfolios in Bosnia and Herzegovina and the Republic of Macedonia more attractive to potential investors. We also have a number of options relating to investments in hydroelectric and wind power projects in Bulgaria that are currently “on hold” because both the political and the economic prerequisites for implementation are considered to be unfavourable, with further developments difficult to predict. For the reasons indicated, the costs incurred at local level in respect of these investments were reduced to an absolute minimum in 2014. In 2016, moreover, PCC SE decided to develop – via its Bulgarian affiliate PCC Energia EOOD, Sofia – the marketing of the thermal insulation panels manufactured by PCC Rokita subsidiary PCC Therm Sp. z o.o., Brzeg Dolny, on the Bulgarian market. As a result of this, PCC Therm Sp. z o.o. was reallocated to the Polyols segment in 2016.



## Logistics

The Logistics segment (also known as the Logistics division) is divided into three business units: Intermodal Transport, Road Haulage and Rail Transport. Assigned to this segment we have the Polish company PCC Intermodal S.A. and its German subsidiary PCC Intermodal GmbH, Duisburg, accompanied by PCC Autochem Sp. z o.o., Brzeg Dolny, and ZAO PCC Rail, Moscow (Russia). In 2016, the Logistics segment succeeded in generating sales of €65.5 million, an increase of 15.3 % compared to the prior-year figure of €56.8 million. The number of people employed at the segment as of year-end was 410 (previous year: 367).

The Logistics segment was once again dominated in 2016 by PCC Intermodal S.A., the portfolio of which includes regular combined transportation services both within Poland and also on international routes starting at locations such as Rotterdam (Netherlands) and Hamburg or Duisburg in Germany. In the course of the expansion of the Polish ports of Gdańsk and Gdynia, the less lucrative inner-Polish services gained disproportionately in importance in 2016, while the port of Hamburg and thus the corridor from Hamburg via Frankfurt (Oder) to Poland were significantly less utilised. Further growth was registered on the corridors from Rotterdam and Duisburg towards Poland in 2016, with the trend also expected to continue in 2017. The increasing number of container handling operations at the terminals of this portfolio company in Kutno, Brzeg Dolny and Gliwice, which were expanded in the previous year, also had a positive effect on the development of this business unit. At the EBITDA level, PCC Intermodal S.A. was therefore able to significantly improve on its performance from the previous year, although not meeting our expectations due, among other things, to the aforementioned negative developments along the Hamburg-Poland corridor. Rising depreciation charges and the also increasing interest burden also meant that this portfolio company was unable to exceed the break-even point in 2016. Nevertheless, PCC Intermodal S.A. succeeded in reaching an agreement with a Polish bank covering the refinancing of investments in the handling terminals mentioned, enabling the loans provided in the past by PCC SE for these projects to be extensively repaid in the course of the year.

The sales and earnings of the tanker haulage company PCC Autochem Sp. z o.o. remained below our expectations in 2016. The reasons for this included loss of several major customers (due among other things to pricing) and problems in hiring a sufficient number of drivers with the necessary qualifications, a situation which is becoming increasingly difficult in Poland since the introduction of the minimum wage in Germany. As a result, the existing tanker fleet could not always be fully utilised. The situation was exacerbated by negative foreign exchange effects resulting from lease contracts concluded in euro. PCC Autochem Sp. z o.o. was therefore unable to avoid posting a small loss in 2016. Improved con-

ditions for qualified drivers, changes in the sales strategy and the further expansion of the tanker cleaning business should result in this portfolio company returning to growth and generating improved earnings in 2017.

The business performance of the Russian wagon operator ZAO PCC Rail exhibited a positive trend compared to the previous year due to rising wagon tariffs. The increase in the tariffs was due in particular to the fact that Russian Railways – which still has by far the biggest wagon fleet in the country – did not extend the operating licence for around 13 % of what are known as gondola wagons. This meant the supply of available wagons was substantially reduced, with corresponding effects on prices. Further tariff increases are expected in 2017. As a result, the cash flows of ZAO PCC Rail stabilised in 2016. Another reason for this was the leasing at the end of 2015 of 550 of the approx. 600 wagons owned by ZAO PCC Rail to a subsidiary of Russian Rail. The remaining wagons continued to be used for a long-term customer. As a result, employee numbers were again significantly reduced in 2016, with office space also decreasing. The resultant cost savings were, however, largely nullified by the upward pressure on wages caused as a consequence of the incipient recovery of the Russian economy. Nevertheless, ZAO PCC Rail was able in the year under review to repay at least a part of the loan granted by PCC SE for the investments in the wagon fleet and, by the end of the first quarter of 2017, had made redemption payments amounting to €0.6 million. In addition, this portfolio company was able to benefit from the recovery of the Russian rouble in 2016 and, due to the valuation of the euro loans received from PCC SE as of each reporting date, was able to post positive gains from exchange rate differences. Given that the privatisation of the Russian railway transport market has, in the meantime, reversed and many smaller wagon suppliers are being taken over by the larger operators, PCC SE is considering the sale of the wagon fleet of ZAO PCC Rail in the longer term. However, this will require a continuation in the recovery of the Russian economy, as a consequence of which both the wagon tariffs and also the prices for wagons should further increase. Under such conditions, disposal of these assets should constitute a promising option, particularly as rail transport in Russia is always likely to remain the most important form of freight conveyance over the long term.

## Holding/Projects

Aside from the Group holding company PCC SE, the Holding/Projects segment (also known as the Holding/Projects division) includes the following portfolio companies: PCC IT S.A., PCC Apakor Sp. z o.o., LabMatic Sp. z o.o. und Ekologistyka Sp. z o.o., each headquartered in Brzeg Dolny. The activities of all the affiliates mentioned, supplemented by the Headquarters business unit of PCC Rokita SA, are essentially aligned to providing intercompany and Group-internal services, and have been managed under the Holding/Projects

segment since 2013. Since 2015, the company *distripark.com Sp. z o.o.*, Brzeg Dolny, has also been consolidated under this segment. Using the internet platform of this affiliate, products of the PCC Group and also, in future, those of third party suppliers, are to be marketed to small-scale customers (B2B). PCC SE intends to also extend these activities from 2017 via *distripark GmbH* (previously *PCC Energy Trading GmbH*, renamed in January 2017), Essen (Germany), to the German market.

In addition, the two project companies of PCC SE, namely *PCC BakkiSilicon hf* in Iceland and the Russian joint venture *OOO DME Aerosol, Pervomaysky*, have been managed under the Holding/Projects segment since the previous year. The latter affiliate is consolidated using the equity method. Because of the apparent, albeit slow, recovery of the Russian economy, in conjunction with the increase in investment activity – particularly in the region around Tula in which the planned production plant for dimethyl ether (DME) is to be constructed in harness with a long-standing Russian partner – said project was taken further forward in 2016. The building approval was granted by the Russian authorities in June 2016. Clearance and preparatory work on the site then commenced, with the major plant components also being ordered. Completion of the facility, for which our Russian partner will be supplying the methanol feedstock, is expected towards the end of 2017.

Completion of the silicon metal plant of *PCC BakkiSilicon hf* is likewise envisaged for the end of 2017/beginning of 2018. Start of production at this facility with a capacity of 32,000 metric tons is planned for the beginning of 2018. So far, the construction work has largely progressed to plan within the framework of the turnkey agreement. Since 2017, PCC SE has also been investing in the construction of homes for the future employees of *PCC BakkiSilicon hf* via the company *PCC Seaview Residences ehf, Húsavík*, established in 2016. This company has also been consolidated within the Holding/Projects segment since 2016.

Earnings before interest and other financial items, taxes, depreciation and amortisation (EBITDA) of this segment amounted to € 11.3 million in the year under review. Segment income is made up primarily of the gains generated from the trading of “White Certificates” which *PCC Rokita SA* receives from the Polish government on achievement of certain energy efficiency targets. These transactions are conducted via the Headquarters business unit of *PCC Rokita SA*, which is why they are registered under the Holding/Projects segment. The number of people employed by the segment as of the end of 2016 was 765 (previous year: 740).

# Business development and financial performance

## Development of selected Group indicators

Key financials of the PCC Group per IFRS		2016	2015	Absolute change	Relative change
<b>Sales</b>	<b>€ m</b>	<b>568.9</b>	<b>571.1</b>	<b>-2.1</b>	<b>-0.4 %</b>
Polyols segment	€ m	126.0	136.2	-10.2	-7.5 %
Surfactants segment	€ m	101.5	101.1	0.4	0.4 %
Chlorine segment	€ m	71.8	58.3	13.4	23.0 %
Speciality Chemicals segment	€ m	161.9	161.7	0.1	0.1 %
Consumer Products segment	€ m	24.1	38.6	-14.4	-37.4 %
Energy segment	€ m	11.3	11.3	0.0	0.1 %
Logistics segment	€ m	65.5	56.8	8.7	15.3 %
Holding/Projects segment	€ m	6.9	7.0	-0.2	-2.5 %
Gross profit	€ m	181.3	157.2	24.0	15.3 %
EBITDA <sup>1</sup>	€ m	76.4	50.8	25.6	50.5 %
EBIT <sup>2</sup>	€ m	48.2	26.9	21.4	79.5 %
EBT <sup>3</sup>	€ m	24.6	1.2	23.4	>100 %
Net result	€ m	19.1	-2.0	21.1	>100 %
Gross cash flow <sup>4</sup>	€ m	70.6	39.4	31.2	79.2 %
ROCE <sup>5</sup>	%	6.7	4.6	2.2 <sup>9</sup>	47.4 %
Net debt <sup>6</sup>	€ m	563.7	439.0	124.7	28.4 %
Net debt/EBITDA		7.4	8.6	1.3	14.7 %
<b>Group equity</b>	<b>€ m</b>	<b>135.0</b>	<b>135.0</b>	<b>0.0</b>	<b>-0.4 %</b>
Equity ratio <sup>7</sup>	%	14.2	16.4	-2.2 <sup>9</sup>	-13.4 %
Return on equity <sup>8</sup>	%	14.1	-1.5	15.6 <sup>9</sup>	>100 %
<b>Capital expenditures</b>	<b>€ m</b>	<b>159.3</b>	<b>160.1</b>	<b>-0.8</b>	<b>-0.5 %</b>
<b>Employees (Dec. 31)</b>		<b>3,032</b>	<b>2,992</b>	<b>40</b>	<b>1.3 %</b>
Germany		124	127	-3	-2.4 %
International		2,908	2,865	43	1.5 %

Rounding differences possible.

1 EBITDA (Earnings before Interest and other financial items, Taxes, Depreciation and Amortisation)

2 EBIT (Earnings before Interest and other financial items and Taxes) = Operating profit = EBITDA – Depreciation and amortisation

3 EBT (Earnings before Taxes) = EBIT – Interest and other financial items

4 Gross cash flow = Net result adjusted for non-cash income and expenses

5 ROCE (Return on Capital Employed) = EBIT / (Average equity + Average interest-bearing borrowings)

6 Net debt = Interest-bearing borrowings – Liquid funds – Other current securities

7 Equity ratio = Equity capital / Total assets

8 Return on equity = Net result for the year / Average equity

9 Change in percentage points

## Earnings position

Overall, the PCC Group finished fiscal 2016 with earnings before interest and other financial items, taxes, depreciation and amortisation (EBITDA) of €76.4 million, exceeding the prior-year figure of €50.8 million by €25.6 million or 50.5%. At €568.9 million, PCC Group sales in 2016 were only marginally (€2.1 million or 0.4%) below the level of the previous year. Despite predominantly posting increased volume sales, the Chemicals division experienced a decline in revenues overall of €10.7 million. The causes of this development included the low level of commodity prices prevailing and the collapse in sales suffered by the Consumer Products segment. By contrast, the Logistics division registered an increase in sales of €8.7 million. This latter improvement essentially resulted from the better performance of PCC Intermodal S.A. The impact on revenue resulting from changes in the scope of consolidation was negligible at less than 0.1% of consolidated sales.

Given that the euro is not the functional currency of most PCC companies, the foreign exchange rates at which sales and earnings are translated exert an influence on the consolidated statement of income. If parities had remained unchanged versus the previous year, sales of the PCC Group would have amounted to €587.1 million, representing an increase of €18.2 million or 3.2%. Essentially, it was the depreciation of the Polish zloty that burdened revenue.

Gross profit generated by the PCC Group increased by around €24.0 million or 15.3% to €181.3 million in 2016 (previous year: €157.2 million). Gross margin was thus 31.9% (previous year: 27.5%). The strategy of concentrating more on higher-quality products and speciality chemicals in selected business units supported this development. Added to this, the purchase prices paid for raw materials and feedstocks remained low, at least until the middle of 2016. Within the Chlorine segment, earnings were also boosted by the fact that, for the first time, the substantially more energy-efficient chlor-alkali electrolysis facility was in operation for a full year. Another strong increase in the number of terminal handling operations in the Intermodal Transport business unit of the Logistics segment had a similar effect.

Personnel expenses rose year on year by 5.5% from €57.3 million to €60.5 million. The number of employees grew by 1.3% from 2,992 to 3,032 – due in particular to increased headcount in the segments Polyols, Chlorine and Logistics. However, there were personnel reductions in the Consumer Products segment. In regional terms, 42 of the new jobs were created in Poland, while the number of employees in Germany decreased by 3.

At €22.7 million, other operating income was around €10.0 million above the corresponding prior-year figure of €12.8 million. The increase is essentially the result of income

from the trading of so-called “White Certificates”, which PCC Rokita SA was awarded for achieving certain energy efficiency targets as a result of the technology switch at its chlor-alkali electrolysis facility.

Research on new products and on the further development of existing customer solutions is a permanent undertaking within the segments of the Chemicals division. These activities are also driven by cross-company project teams. In the year under review, the PCC Group recognised expenditures for research and development (R&D) of €3.3 million (previous year: €2.3 million).

Capital expenditures in 2016 totalled €159.3 million, matching the level of €160.1 million of the previous year. By far the biggest portion of this total is attributable to the Holding/Projects segment and, in particular, construction of our silicon metal plant in Iceland. Also worthy of mention are ongoing replacement and expansion investments, together with various smaller projects, including in the segments Polyols, Surfactants and Chlorine, and in the Intermodal Transport business unit. Added to this were initial investments in the joint venture OOO DME Aerosol, which is consolidated using the equity method, in respect of the dimethyl ether project in Russia.

The first wave of earnings from the DME venture and the silicon metal project is expected in 2018. The investments completed in 2016 in the segments Polyols, Surfactants and Chlorine, and in the Intermodal Transport business unit will, however, already make positive full-year contributions to sales, gross profit and the earnings of the PCC Group from 2017. At the same time, however, they also mean an increase in depreciation/amortisation and in the negative net interest result shown on the consolidated statement of income. In the balance sheet at year-end 2016, this effect was already largely apparent in the increase in non-current assets and, on the liabilities side, in the increase in non-current financial liabilities. In the year under review, depreciation and amortisation charges rose by 17.9% from €23.9 million to €28.2 million.

Interest and similar expenses arising from both bond and bank liabilities increased in the reporting year by 13.8% from €22.0 million to €25.0 million. PCC SE and also other Group companies were able to finance their activities at better interest rates and conditions than in the previous year. However, financial liabilities continued to rise with our ongoing investment and capital expenditure activities. Interest attributable to qualifying assets under construction in investment projects is capitalised during the construction period.

Income and losses arising from foreign exchange differences are recognised as gains/losses on currency translation under financial result. In fiscal 2016, these produced a net effect of €0.1 million (previous year: €–3.6 million).

Compared to 2015, earnings before taxes (EBT) increased by €23.4 million from €1.2 million to €24.6 million.

The consolidated net result of the PCC Group improved from €10.1 million to €13.4 million.

## Net assets

At the end of the year under review, total assets amounted to €951.8 million, thus exceeding the prior-year figure by €127.4 million or 15.5%. Of these, intangible assets rose by €7.7 million to €32.9 million. There was a substantially greater increase in property, plant and equipment. Due in particular to the already described investment programme of the PCC Group, the rise under this heading was €119.7 million to €662.3 million, representing a plus of 22.1%. By far the largest portion of the associated capital expenditures went into the construction of our silicon metal plant in Iceland. In addition, replacement and expansion investments included work on the manufacturing site of PCC Rokita SA in Brzeg Dolny (segments Polyols, Surfactants, Chlorine and Energy) and on the container terminals in Poland. The rise in financial assets by €0.4 million to €12.5 million was minor by comparison and relates to an equivalent increase in shares held in affiliated and portfolio companies.

The position of the investments consolidated using the equity method remained at zero. The joint venture OOO DME Aerosol, which is responsible for the development and construction of a dimethyl ether plant, has nil assets on the balance sheet due to the usual losses incurred by project undertakings at this stage exceeding the book values of the company. Together with our joint-venture partner, PCC SE is funding a share of 30% of the overall investment volume, with the remaining 70% being financed by a Russian bank.

Current assets decreased by €4.7 million to €227.3 million. Of these, inventories amounted to €45.6 million, roughly matching the €45.7 million of 2015. Trade accounts receivable increased year on year by €2.5 million to €67.5 million, due essentially to the rise in raw material price levels that occurred towards the end of the year. By contrast, other receivables and other assets decreased by €10.4 million to €30.0 million. This was mainly due to a decline in other assets and resulted from the reduction in a purchase price claim arising from the sale of shares in a listed affiliate to an international investment fund.

The balance of cash and cash equivalents was €84.0 million, an increase of €3.6 million compared to the level of December 31, 2015.

## Financial position

At €135.0 million, PCC Group equity remained unchanged year on year. Revenue reserves/other reserves increased by €1.8 million to €100.4 million. Minority interests increased by €2.9 million to €44.0 million. Other comprehensive income decreased by €4.8 million from €-9.6 million to €-14.4 million, due primarily to foreign currency translation differences recognised under this heading declining by €4.3 million from €-17.0 million to €-21.3 million. The fair value of financial assets and the remeasurement of defined-benefit pension obligations resulted in no material change compared to the previous year. The equity ratio decreased from 16.4% to 14.2% due to balance sheet expansion.

Non-current investments are financed with non-current borrowings. Non-current provisions and liabilities rose in 2016 by €113.4 million to €590.4 million. Within this figure, deferred tax liabilities remained roughly flat at €10.6 million versus the prior-year figure of €10.9 million. Non-current financial liabilities rose by €113.6 million to €533.5 million, due primarily to the debt financing of capital expenditure projects. Other liabilities include deferred income, which increased by €4.4 million to €40.0 million essentially as a result of subsidies for the individual investment projects indicated above.

Of the bonds previously in existence, PCC SE redeemed in full on maturity a total of four in the course of 2016. These were as follows: bond ISIN DE000A11P9V6 in the amount of €7.3 million on April 1; bond ISIN DE000A1PGNR8 in the amount of €13.1 million on July 1; bond ISIN DE000A12T7C5 in the amount of €9.2 million on October 1; and bond ISIN DE000A1PGS32 in the amount of €30.0 million on December 1. Together with the quarterly repayments in respect of the two redemption bonds ISIN DE000A1EWB67 and ISIN DE000A1EWRT6 in an aggregate amount of €1.6 million, total repayments in 2016 amounted to €61.2 million. The aforementioned redemption bonds matured on October 1, 2016. At the same time, three new bonds were issued as of May 1 and October 17, with different tenors and maturities and with coupons ranging between 3.0% and 4.0% p.a. The nominal issue volume placed by the end of the year totalled €59.0 million. These funds were used for further investments in existing portfolio companies and ongoing projects, and also, in part, for the refinancing of the liabilities due in 2016. Aside from PCC SE, whose bonds are denominated in euro, other Group companies also issue bonds. Those of PCC Rokita SA, PCC Exol SA and PCC Autochem Sp. z o.o. in Poland, denominated in zloty, had a value of €50.0 million (PLN 223.1 million) as of year-end 2016.

Current provisions and liabilities increased by €13.9 million to €226.3 million. This rise was primarily due to current financial liabilities and essentially resulted from the reclassification of the profit participation certificate of PCC SE in the amount of €11.1 million from non-current to current liabilities as a

result of its termination as of December 31, 2017. There was also an increase in current bond liabilities of €4.6 million to €72.5 million as of the reporting date. By contrast, other liabilities fell by €1.3 million to €36.9 million. Trade accounts payable remained roughly flat at €62.4 million compared to €63.6 million for the previous year.

Provisions for pensions and similar obligations plus other provisions decreased by €1.1 million to €16.0 million (previous year: €17.2 million). Net debt of the PCC Group rose in fiscal 2016 from €439.0 million to €563.7 million. In particular, non-current financial liabilities increased due to the high level of capital expenditures implemented. The relatively minor increase in cash and cash equivalents only had a marginal countervailing effect. Due to the significant increase in earnings before interest and other financial items, taxes, depre-

ciation and amortisation (EBITDA) compared to the previous year, the Net debt/EBITDA ratio improved from 8.6 to 7.4 in 2016, despite the rise in net debt. With capital expenditures set to remain high in 2017 and 2018, we currently anticipate that we will only achieve our medium-term objective of improving this value to below 5.0 after fiscal 2018.

Overall, the company management regards developments in our net assets, financial position and results of operations in fiscal 2016 as positive, due particularly to the substantial increase in earning power. Although expectations indicated in the prior-year reports were not fulfilled in all businesses and areas, some business units nevertheless ended fiscal 2016 better than anticipated. Moreover, further major milestones were reached in 2016 aligned to the long-term improvement in our earnings position and further increasing our enterprise value.

### Net debt

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
Cash and cash equivalents	83,969	80,398
Interest-bearing liabilities	647,637	519,374
<b>Net debt</b>	<b>563,668</b>	<b>438,976</b>

## PCC SE – Condensed report per HGB (German Commercial Code)

By way of supplement to the report relating to the PCC Group, we hereby submit in the following an appraisal of the performance and development of PCC SE. PCC SE is the parent company of the PCC Group and is domiciled in Duisburg (Germany). At the core of the business activities undertaken by PCC SE is a commitment to the long-term engagement in and development of its portfolio business investments. One of our primary objectives in this regard is to create and continuously increase enterprise value. As a growth-led investor with a predominantly long-term view, PCC SE supports its affiliates and portfolio companies in their development and in the expansion of their respective strengths. Aside from the active management of our investment portfolio, our main tasks include the strategic management and control of our affiliated companies at home and abroad. A further focus lies on cross-group financing activities and market observation and advisory services with the purpose

of further extending our group of companies aligned to competence-related diversification. We focus in particular on positioning ourselves in less competitive submarkets and market niches. We concentrate our investments primarily in the higher-growth regions of Eastern and South-East Europe, and also more recently in Asia.

The annual financial statements of PCC SE are prepared in accordance with the German Commercial Code (HGB, the German GAAP). The consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted and endorsed within the European Union (EU). This results in differences in the measurement and recognition principles applied, relating primarily to intangible assets, provisions, financial instruments, leasing transactions and deferred taxes.

As in previous years, the costs incurred by PCC SE in performing its holding company function are – with the exception of financing costs and the legal and consultancy costs arising in relation to planned new projects, acquisitions or divestments – allocated within the framework of a licence fee agreement by means of a revenue-based formula to the companies included in the consolidation scope. Exempted from this rule are affiliates which, in 2016, did not generate any appreciable external sales or which have not yet adopted the PCC logo in their company style. Also exempted are affiliates of which the business operations were discontinued and which are now merely being wound down.

### Business development and financial performance of PCC SE

Revenues of PCC SE increased in fiscal 2016 by €1.5 million from €2.9 million to €4.4 million. At around €3.0 million, the allocated costs/licence fees included in this figure remained at roughly the same level as in the previous year (€2.9 million). The aforementioned increase therefore resulted primarily from application of the amended version of Section 277 HGB brought about by the Accounting Directive Implementation Act (BilRUG), as a result of which revenues from the renting of property in Essen and Lippstadt and the

company aeroplane, and also the recharging of costs, had to be reclassified from other operating income to sales revenue. The total of other operating income therefore decreased by a similar amount versus the prior year. Moreover, proceeds from personnel leasing in the amount of €0.4 million were also recorded for the first time as sales revenue. The latter related to PCC BakkiSilicon hf. The reclassified sales revenues were offset by expenses for purchased services, personnel and travel expenses, and legal and consultancy expenses.

Thus, other operating income underwent a significant decline in 2016 of €18.7 million from €21.7 million to €3.0 million. This is primarily attributable to the fact that, in contrast to the previous year, there was no income from investment disposals (previous year: €5.5 million) nor any appreciable income from write-ups on financial assets. In the previous year, the write-ups in respect of the investments in S.C. Oltchim S.A. and PCC Synteza S.A. totalled €12.3 million. In addition, the aforementioned reclassification in compliance with the BilRUG also led to a reduction in other operating income. Accumulated gains from foreign exchange differences amounted to €2.3 million (previous year: €2.0 million). The corresponding losses from foreign exchange differences amounted to €3.8 million (previous year: €2.9 million).

#### Condensed statement of income of PCC SE according to the HGB (German Commercial Code)

Figures in €k	2016	2015
Sales revenue	4,371	2,917
Other operating income	2,997	21,736
Purchased goods and services	-781	-
Personnel expenses	-5,131	-4,942
Depreciation of property, plant and equipment and amortisation of intangible assets	-950	-603
Other operating expenses	-10,753	-15,128
Income from investments	19,348	16,605
Other interest and similar income	6,160	6,645
Write-downs of financial assets	-5,873	-418
Interest and similar expenses	-18,614	-18,332
Taxes on income	179	-61
<b>Earnings before taxes</b>	<b>-9,048</b>	<b>8,420</b>
Other taxes	-29	-32
<b>Net loss (previous year: Net income)</b>	<b>-9,077</b>	<b>8,388</b>

On the cost side, personnel expenses increased by €0.2 million to €5.1 million. By contrast, other operating expenses decreased by €4.3 million from €15.1 million to €10.8 million, despite the aforementioned increase in losses arising from foreign exchange differences. This decrease is primarily due to substantially lower allocations to allowances for individual value adjustments, which amounted to €0.1 million (previous year: €2.8 million). Expenses incurred in relation to our bonds decreased by €1.0 million from €2.4 million to €1.4 million due to a substantial reduction in television advertising. Legal and consultancy expenses fell by €0.5 million to €2.7 million. In the previous year this figure was inflated by, among other things, a performance-related payment pertaining to the conclusion of the sale of the telecommunication and data centre activities of PCC SE. The impact on earnings of the sale of the old company aeroplane was negligible.

Overall, expenses for fiscal 2016 exceeded revenues and other income, so that earnings before interest and other financial items, taxes, depreciation and amortisation (EBITDA) reflected a loss of €−9.3 million. In the previous year, by contrast, a positive EBITDA figure was generated in the amount of €4.6 million. Depreciation and amortisation increased by €0.4 million to around €1.0 million, this rise being largely attributable to the newly purchased company aeroplane.

Income from investments increased compared to the previous year by €2.7 million from €16.6 million to €19.3 million and was again mainly attributable to PCC Rokita SA. In addition, PCC Exol SA, PCC Energetyka Blachownia Sp. z o.o. and PCC IT S.A. also contributed to the investment income earned.

As in the previous year, interest income was generated primarily from our affiliated companies. The total decreased by €0.4 million to €6.2 million compared to €6.6 million in the previous year, even though loans to affiliated companies as of the reporting date had risen from €58.8 million to €64.8 million. At the same time, however, receivables from affiliated companies decreased from €22.9 million to €13.4 million. This is due, among other things, to reclassification of the loans granted to the Group companies PCC Consumer Products S.A. and PCC MCAA Sp. z o.o. to non-current assets due to changes in tenor.

Write-downs on financial assets in 2016 amounted to €5.9 million (previous year: €0.4 million). These relate primarily to an adjustment to the carrying value of PCC Consumer Products S.A. as of the reporting date.

Interest expense rose by €0.3 million to €18.6 million, although bond liabilities as of the reporting date, at €276.3 million, were slightly below the corresponding prior-year figure of €278.6 million. However, the major part of the redemptions made in 2016 occurred during the second half of the year, with €30 million being repaid as of December 1.

In view of these developments, making a loss in fiscal 2016 was unavoidable. Earnings before taxes (EBT) amounted to €−9.2 million (previous year: €8.4 million). Taking into account income tax and other taxes, this gave rise to a net loss for the year of €−9.1 million. In the previous year, by contrast, we generated net earnings in the amount of €8.4 million.

This net loss for the year and the payout to the shareholder of PCC SE made in 2016 from the net income in 2015 led to a corresponding decline in equity in our balance sheet. Moreover, the reclassification of the profit participation certificate, due to be redeemed as of December 31, 2017, to liabilities in the amount of €11.1 million led to a further decrease in equity. Seen overall, equity decreased by €21.4 million from €70.0 million to €48.6 million. At the same time, liabilities increased by €22.9 million from €286.5 million to €309.4 million. Aside from the aforementioned reclassification of the profit participation certificate, the main reason for this lies in the increase of €10.0 million in liabilities to affiliated companies to €10.3 million. With bond liabilities remaining virtually unchanged, the developments indicated resulted in a balance sheet total of €358.4 million, roughly matching that of the previous year (€357.2 million). As a consequence, the equity ratio declined from 19.6% to 13.6%.



**Condensed balance sheet of PCC SE per HGB (German Commercial Code)**

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
Intangible assets	406	251
Property, plant and equipment	14,260	10,927
Financial assets	273,598	258,770
Receivables and other assets	30,110	48,188
Securities	–	–
Cash on hand and credit balances at banks	39,587	38,818
Prepaid expenses	171	130
Deferred tax assets	315	136
<b>Assets</b>	<b>358,447</b>	<b>357,220</b>
Equity	48,574	69,976
Provisions	445	721
Bond liabilities	275,834	276,592
Bank liabilities	2,031	2,169
Trade accounts payable	345	388
Liabilities to affiliated companies	10,272	262
Other liabilities	9,871	7,111
Profit participation certificate	11,076	–
<b>Equity and liabilities</b>	<b>358,447</b>	<b>357,220</b>

Bond liabilities remained virtually unchanged at €275.8 million (previous year: €276.6 million). In addition, similar to the previous year, around €2.0 million in bond liabilities was once again disclosed under other liabilities. In the course of 2016, a total of four bonds were fully redeemed on maturity. In addition, quarterly repayments were made in the amount of €1.6 million for the two redeemable bonds which matured on October 1, 2016. The total repayment volume thus amounted to €61.2 million.

At the same time, three new bonds with coupons varying between 3.0 % and 4.0 % p.a. and different tenors and maturities ranging from July 1, 2018 to July 1, 2021 were issued as of May 1 and October 17, 2016. The funds received as a result of these new issuances were used for further investments in existing portfolio companies and ongoing projects, and also for the partial refinancing of liabilities due in 2016.

On the assets side of the balance sheet, non-current assets increased from €269.9 million to €288.3 million, due partially to the rise in property, plant and equipment from €10.9 million to €14.3 million as a result of the acquisition of a new company aeroplane. In addition, shareholdings in affiliated companies rose from €189.2 million to €196.5 million; loans to affiliated companies also increased. The latter was due to the aforementioned reclassification of current receivables as non-current loans, with the total rising from

€58.8 million to €64.8 million. As a result of this, receivables from affiliated companies decreased. Overall, receivables and other current assets decreased by €18.1 million from €48.2 million to €30.1 million. As of the reporting date, credit balances at banks amounted to €39.6 million, slightly above the prior-year level (€38.8 million).

The decrease in receivables and other assets is also, incidentally, a major cause for the improvement in cash flow from operating activities at PCC SE from €17.1 million to €23.6 million.

# Opportunities for and risks to future development

Our increasing focus on higher-grade products and our planned diversification with respect to our sales markets will, in the view of the management, be the primary source of opportunity for the future growth of the PCC Group. Added to this are further modernisation and expansion investments through which our market position in the individual segments is to be further extended.

Aside from the general economic risks that prevail, there also exist political risks, such as the Russia-Ukraine conflict, which lie outside our control. Aside the special situation in which ZAO PCC Rail finds itself, the impact on the operating business of our portfolio companies from this conflict remains negligible. The situation could change, however, if the EU were to extend its economic sanctions against Russia, or Russia were to impose corresponding export restrictions or other sanctions that specifically affect the business of a PCC company. At the time of preparation of this management report, however, such eventualities appear to be unlikely.

Other indirect factors that can affect the performance of our portfolio companies and thus their dividend payouts to PCC SE include price change and default risks. The latter should be eliminated as far as possible through the conclusion of commercial credit insurance policies by our portfolio companies. Price change risks are minimised through the conclusion of back-to-back transactions, through price formulae and/or through the use of price-hedging instruments.

In addition, both PCC SE and the operationally active companies are exposed to the risk of changes in interest rates and foreign exchange parities. However, these can be at

least partially eliminated by hedging transactions. Overall, the foreign exchange rate and foreign currency risk encountered in the PCC Group should be significantly reduced once the euro has been introduced into Poland as its official currency.

Our affiliates in the Chemicals division are, in particular, also exposed to the risk of rising environmental protection costs in the wake of increasingly stringent waste, effluent and other pan-European environmental regulations. Investment requirements possibly resulting from these could, in the future, have a negative effect on the earnings position of this division and thus also on the dividend flows from the affiliates concerned to PCC SE. The same applies to possible additional charges arising in connection with the EU regulation REACH (European legislation on the registration, evaluation, authorisation and restriction of chemicals) which came into force on June 1, 2007. The utilisation of further potential for savings may, however, compensate to some extent for any additional costs incurred.

In our financial planning, we anticipate further regular liquidity inflows arising in the future from the issuance of corporate bonds. However, increasing obstacles within the SME bonds market could possibly lead to at least temporary liquidity bottlenecks. This risk is to be countered over the long term through the acquisition of alternative financing sources, including at the institutional level. However, a prerequisite for this latter avenue is that we achieve a significant reduction in our indebtedness, something that we will be increasingly endeavouring to do in the coming years. We are also working continuously on partially replacing the liquidity loans granted to subsidiaries by bank loans.

# Internal control system and risk management in relation to the group accounting process

The consolidated financial statements of PCC SE as of December 31, 2016 have been prepared in accordance with the provisions of the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB) and the interpretations of the International Financial Reporting Standards Interpretations Committee (IFRS IC) as applicable on the closing date and as adopted in the European Union (EU), and in supplementary compliance with the statutory disclosure requirements specified in Section 315a (1) HGB (German Commercial Code).

The consolidated financial statements are prepared within the PCC Group in a multi-stage process using standardised IDL consolidation software. The pre-consolidated financial statements of individual subsidiaries, duly audited by their own auditors, are incorporated by PCC SE within the consolidated financial statements. Responsibility for advice and support with respect to the consolidation system, for the consolidation chart of accounts standardised across the Group, and for implementation of the consolidation adjustments, lies with PCC SE. The companies incorporated within the consolidated financial statements are required to abide by standard

accounting and financial reporting guidelines. These also specify the recognition and valuation principles to be applied in compliance with the provisions of IFRS.

All the companies included in the consolidated financial statements are provided with a binding, uniform calendar of due dates for the preparation of their financial statements and completion of the associated audits. Automated and manual checks and controls are integrated at every stage of the process. Procedural rules ensure that all business transactions and the preparation of the annual financial statements are recorded, processed and documented in full, promptly, accurately and with correct period allocation. Before the final submission to PCC SE, a quality-assuring review process is performed within the subsidiaries of the PCC Group by their own governing bodies or with direct involvement of their management. This internal procedure concludes with a formal written confirmation of the system's effectiveness together with a signed release of the financial statements of the individual companies and related information for incorporation in the consolidated financial statements.

# Internal control system and risk management in relation to the ongoing control of affiliates

PCC SE controls its affiliates on the basis of a rolling three-year planning regime with the budget for the current fiscal year being reviewed twice annually. Any necessary adjustments are documented in Forecast I or Forecast II, as the case may be. However, the original budget remains the point of reference for the ongoing monthly reporting of the individual companies. The binding submission dates for budget planning, Forecast I and Forecast II, and also the individual monthly reports are communicated and agreed for the following 12 months at the end of each fiscal year on the basis of a Group-wide reporting calendar.

The current performance of the individual affiliates is the subject of regular review meetings. These are attended not only by members of the Group financial control and performance management team but also by members of the associated departments of the individual affiliates/business units and also the senior management of PCC SE together with the management or business unit director of each individual entity. The Managing Directors and the members of the Administrative Board of PCC SE also perform supervisory

board duties at various affiliates. Both within these oversight bodies and in the aforementioned review meetings, any deviations from budget at the affiliates/business units are discussed and countermeasures considered. The implementation of the latter lies is the responsibility of the local management in each case.

In addition, PCC SE aided by a treasury information platform available throughout the organisation continuously reviews the development of the liquidity situation within the Group. Aside from weekly cash flow reports, the Group Controlling department also prepares a six-month liquidity plan – updated at the beginning of each month – on the basis of the data and information submitted. Liquidity planning at PCC SE is undertaken by senior management with a 24-month horizon in respect of loan financing. The information is then made available to the Administrative Board. Fluctuations in liquidity and temporary cash requirements in the individual entities and segments can thus be quickly identified and then resolved within the Group.

# Events after the balance sheet date

Bond ISIN DE000A13R7R4 with a placed volume of €10.0 million was redeemed in full on maturity as of January 1, 2017. It was issued on December 1, 2014, offering a coupon of 4.0 % p.a.

In order to partially refinance the bonds falling due in the future and for further investments in existing portfolio companies and new projects, bond ISIN DE000A2AAY93 issued on October 17, 2016, was increased by €10.0 million to a total of €25.0 million in March 2017. The bond offers a coupon of 3.0 % p.a. and matures on July 1, 2018.

The subsidiary PCC Energy Trading GmbH was renamed distripark GmbH effective as from January 2017. The purpose of the company was also duly changed. The company is developing the online sale and distribution of PCC products in Germany.

The agreement signed in December 2016 by PCC Rokita SA for the purchase of a 25 % stake in IRPC Polyol Company Ltd. headquartered in Bangkok, Thailand, came into force in January 2017. The parent of this company is the Thai petrochem-

icals concern IRPC Public Co. Ltd. The two companies are already connected by a joint venture, IRPC PCC, established at the beginning of 2015 for the sale of polyols and PU systems. The provisional purchase price for the 25 % shareholding lies in the region of 82.5 million baht (around €2.2 million). The final price will be determined on the basis of the audited financial statements of IRPC Polyol for fiscal 2016. PCC Rokita SA has also committed to acquiring a further 25 % of the shares in IRPC Polyol within three years from the purchase agreement coming into force, or to sell the shareholding acquired to the majority shareholder IRPC Public Co. Ltd. in the event that it does not take up the stock option.

In February 2017, ZAO Novobalt Terminal changed its name to AO Novobalt Terminal.

The joint venture Elpis Sp. z o.o., Brzeg Dolny, established by PCC Rokita SA and PCC Exol SA, signed a collaboration agreement with PETRONAS Chemicals Group, Malaysia, in February 2017. The objective of the alliance is to examine the possibility of an investment in a joint production site in the Malaysian town of Kertih in the province of Terengganu.

# Outlook for 2017

The focus of the PCC Group in fiscal 2017 will once again be on its predominantly long-term strategy of portfolio company investment and development. The core activities and competitiveness of the Group will also continue to be further enhanced through capital expenditures going forward. Green-field projects such as the silicon metal production plant in Iceland and the DME plant in Russia are expected to contribute to the growth of the Group in the years to come. The strategy of proactive investment portfolio management accompanied by ongoing portfolio optimisation measures is likewise to be continued. The long-term objective remains to steadily increase our enterprise value.

In view of the positive business development of, in particular, PCC Rokita SA and also the majority of the other affiliated companies of PCC SE in 2016, dividend payments to PCC SE are expected to be significantly higher in 2017 than in the previous year. By far the greatest contribution will again be made by PCC Rokita SA. Gains from the disposal of portfolio companies or other “one-offs” have not been taken into account in this forecast and are also not currently expected for fiscal 2017.

The current budget for 2017 to 2019, prepared for the operating businesses of the Group companies and affiliates in the fourth quarter of 2016, provides for an increase in sales revenue in 2017 of around 10 % to 15 %. At the group level, it is anticipated that earnings before interest and other financial items, taxes, depreciation and amortisation (EBITDA) will be slightly below the level of 2016 after adjusting for exceptional items resulting from the sale of “White Certificates”. The segments Polyols and Surfactants anticipate continuing the trend indicated by their solid prior-year financials. Earnings improvements are also expected for the Speciality Chemicals segment and the Intermodal Transport business unit. Based on the expected improvement in the economic situation at PCC Consumer Products Kosmet Sp. z o.o., the Consumer Products segment should at least achieve the turnaround to a positive EBITDA in 2017. Because of the start-up losses anticipated in respect of the MCAA plant, the Chlorine segment, on the other hand, is expected to post a significantly weaker although still clearly positive earnings figure. Positive one-off effects are not expected in 2017. Further increasing burdens arising from depreciation, amortisation and interest will therefore mean that Group earnings before taxes (EBT) for 2017 will be below the level of the previous year. The corporate management anticipates a positive balance in the single-digit million range. Seen from the current standpoint, significant increases in earnings will – subject to positive or at least stable economic developments in the coming years –

only start flowing from 2018. By that time, both the new MCAA plant and also the new production lines in the Polyols segment, due to be commissioned in the spring of 2017, will, for the first time, be producing over a full year, with other positive factors also coming into play. Increasing earnings should also be forthcoming in the Intermodal Transport business unit as a result, for example, of further increasing terminal handling volumes and the expected growth along the Rotterdam-Duisburg-Poland corridor. Then, from 2018, the first revenues will also begin flowing from the silicon metal project of PCC BakkiSilicon hf and from the DME project. Positive effects on the earnings development of PCC SE are anticipated in the following years in the form of increasing annual dividend payments. At the same time, the net debt of both PCC SE and of the PCC Group will increase, at least temporarily, due in particular to the implementation of the silicon metal project. However, the medium-term objective of the PCC Group remains to improve its Net debt/EBITDA ratio to less than 5.0.

The main revenue and earnings generator in fiscal 2017 will again be the Chemicals division, followed at some significant distance by the Logistics division. We anticipate that the operating rate within the Chemicals division will largely be comparable with that maintained in 2016. Sales volumes should further increase due, among other things, to the commissioning of additional production lines in the Polyols segment. Increased sales and earnings versus the previous year are expected in almost all segments. Increasing prices and the migration towards higher-grade speciality products – particularly in the Polyols and Surfactants segments – underlie this forecast. Our trading business with chemical commodities should experience an improvement in sales accompanied by a steady earnings contribution as raw material prices swing back up. Based on the corporate budget for 2017, the Consumer Products segment is, as already mentioned, expected to achieve the turnaround in its business fortunes.

The Logistics segment is expected to register an increase in sales in fiscal 2017 of around 30 %, emanating largely from the Intermodal Transport business. Based on the existing order situation and expectations for a continuation in robust economic growth in Europe, business should once again exceed the level of the previous year. The outlook for the tanker haulage business is similar. Due to the recovery in the Russian economy, the rail wagon operator ZAO PCC Rail is very much expected to generate a positive earnings result after 2017. However, this will require a certain degree of stability in the Russian currency.

The Energy segment will continue to be essentially characterised by project development in the course of 2017, which means it will again be of only minor importance in terms of Group revenues and consolidated earnings.

Beyond that, we will continue to energetically pursue our strategy of proactive investment portfolio management and ongoing portfolio optimisation both in 2017 and in the en-

suing years. As part of this approach, activities that are not regarded as part of our core business will be gradually divested, with sustainable growth and a continuous improvement in our enterprise value remaining the key criteria guiding our corporate decision-making.

Duisburg, April 18, 2017

PCC SE



Ulrike Warnecke  
Managing Director



Dr. rer. oec. (BY) Alfred Pelzer  
Managing Director



# 07

## Consolidated financial statements

PCC Group assets increased in fiscal 2016 by 15.5 % to €951.8 million. This was due to another high level of capital expenditures which, at €159.3 million, matched the previous year. Property, plant and equipment increased by 22.1 % to €662.3 million. A large proportion relates to our Iceland project. Expenditures in the Chemicals division were also high with, for example, investment in the new MCAA plant of the Chlorine segment.

New production plant for ultra-pure monochloroacetic acid at the PCC Chemicals site in Brzeg Dolny (Poland).

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# Auditor's opinion

We have audited the consolidated financial statements prepared by PCC SE, Duisburg, – comprising a consolidated statement of financial position, consolidated statement of profit or loss and other comprehensive income for the period, consolidated statement of changes in equity, consolidated statement of cash flows and notes to the consolidated financial statements – and the group management report for the financial year from January 01 to December 31, 2016. The preparation of the consolidated financial statements and the group management report in accordance with IFRS, as adopted by the EU, and with the additional requirements of the German commercial law pursuant to section 315a paragraph 1 HGB are the responsibility of the parent company's management. Our responsibility is to express an opinion on the consolidated financial statements and the group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with section 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the consolidated financial statements in accordance with the applicable financial reporting framework and in the group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements and the group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements of PCC SE, Duisburg, for the financial year from January 01 to December 31, 2016 comply with IFRS, as adopted by the EU, and the additional requirements of the German commercial law pursuant to section 315a paragraph 1 HGB and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. The group management report is consistent with the consolidated financial statements, complies with the legal requirements, as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Düsseldorf, May 16, 2017

Warth & Klein Grant Thornton AG  
Wirtschaftsprüfungsgesellschaft

Ulrich Diersch	Achim Krichel
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

# Consolidated statement of income

Figures in €k	(Note)	2016	2015
<b>Sales revenue</b>	(6)	<b>568,943</b>	<b>571,063</b>
Change in inventory of finished products and work in progress		1,172	695
Other internal costs capitalised	(7)	8,802	4,808
Purchased goods and services	(8)	397,664	419,317
Personnel expenses	(9)	60,526	57,345
Other operating income	(10)	22,745	12,766
Other operating expenses	(11)	67,051	61,883
Income from investments accounted for using the equity method	(12)	–	–
<b>Earnings before interest and other financial items, taxes, depreciation and amortisation (EBITDA)</b>	(38)	<b>76,422</b>	<b>50,787</b>
Depreciation and amortisation	(13)	28,202	23,920
<b>Operating profit from continuing operations (EBIT)</b>	(38)	<b>48,219</b>	<b>26,867</b>
Other interest and similar income	(14)	1,684	746
Interest and similar expenses	(14)	25,013	21,984
Currency translation differences	(15)	94	–3,647
Other financial income		–	–
Other financial expenses		376	766
<b>Earnings before taxes from continuing operations (EBT)</b>	(17)	<b>24,609</b>	<b>1,216</b>
Taxes on income	(16)	5,526	3,214
<b>Net result for the year</b>		<b>19,082</b>	<b>–1,998</b>
Net result attributable to Group		11,507	–6,076
Net result attributable to minority interests		7,575	4,078

# Consolidated statement of comprehensive income

Figures in € k	2016	2015
<b>Net result for the year</b>	<b>19,082</b>	<b>-1,998</b>
<b>Income and expenses recognised in equity for future recycling through profit or loss</b>	<b>-5,593</b>	<b>12,144</b>
Exchange differences on translation of foreign operations	-5,151	5,445
Fair value measurement of financial assets	-277	9,595
Fair value measurement of cash flow hedges	-294	-3
Deferred taxes on items for future recycling through profit or loss	130	-2,893
<b>Income and expenses recognised in equity not for future recycling through profit or loss</b>	<b>-69</b>	<b>-9</b>
Remeasurement of defined benefit pension plans	-65	-7
Other changes not for future recycling through profit or loss	-15	-14
Deferred taxes on items not for future recycling through profit or loss	10	12
<b>Total income and expenses recognised in equity</b>	<b>-5,662</b>	<b>12,135</b>
<b>Total comprehensive income</b>	<b>13,420</b>	<b>10,137</b>
Share of comprehensive income attributable to Group	6,737	5,536
Share of comprehensive income attributable to minority interests	6,683	4,601

Note: Figures for the previous year have been restated. The amount under the now deleted separate line item "Attributable to minority interests" has been redistributed to respective sub-items.

# Consolidated balance sheet

Assets in €k	(Note)	Dec. 31, 2016	Dec. 31, 2015	Jan. 1, 2015
<b>Non-current assets</b>		<b>724,312</b>	<b>592,224</b>	<b>455,446</b>
Intangible assets	(19)	32,914	25,258	25,406
Property, plant and equipment	(20)	662,347	542,657	414,360
Investment property	(21)	3,483	3,670	2,649
Investments accounted for using the equity method	(12)	–	–	7,047
Non-current financial investments	(22)	12,513	12,119	2,210
Other non-current financial assets		8,629	4,771	657
Income tax receivables		–	26	40
Deferred tax assets	(32)	4,425	3,723	3,077
<b>Current assets</b>		<b>227,325</b>	<b>231,985</b>	<b>227,154</b>
Inventories	(23)	45,607	45,720	53,304
Trade accounts receivable	(24)	67,503	64,972	69,598
Other receivables and other assets	(25)	30,023	40,442	57,544
Income tax receivables		222	453	602
Cash and cash equivalents		83,969	80,398	46,107
<b>Assets held for sale</b>		<b>152</b>	<b>197</b>	<b>–</b>
Assets held for sale	(20)	152	197	–
<b>Total assets</b>		<b>951,789</b>	<b>824,406</b>	<b>682,600</b>

Equity and liabilities in € k	(Note)	Dec. 31, 2016	Dec. 31, 2015	Jan. 1, 2015
<b>Equity</b>	(26)	<b>135,049</b>	135,047	133,486
Subscribed capital		5,000	5,000	5,000
Capital reserve		56	56	56
Revenue reserves/Other reserves		100,424	98,586	108,197
Other equity items/OCI		-14,401	-9,631	-21,243
Minority interests	(27)	43,970	41,036	41,476
<b>Non-current provisions and liabilities</b>		<b>590,428</b>	476,992	331,750
Provisions for pensions and similar obligations	(28)	516	423	434
Other provisions	(29)	5,571	7,043	7,022
Deferred tax liabilities	(32)	10,619	10,949	7,437
Financial liabilities	(30)	533,512	419,872	291,323
Other liabilities	(31)	40,210	38,705	25,533
<b>Current provisions and liabilities</b>		<b>226,311</b>	212,367	217,364
Provisions for pensions and similar obligations	(28)	67	63	68
Other provisions	(29)	9,888	9,657	9,394
Current tax liabilities		3,550	1,873	1,407
Trade accounts payable		62,414	63,596	64,864
Financial liabilities	(30)	113,542	99,017	100,769
Other liabilities	(31)	36,851	38,162	40,861
<b>Total equity and liabilities</b>		<b>951,789</b>	824,406	682,600

# Consolidated statement of cash flows

Figures in €k	2016	2015
<b>Net result for the year</b>	<b>19,082</b>	<b>-1,998</b>
Depreciation and amortisation	28,202	23,920
Write-downs of financial investments	286	126
Income (-), expense (+) from income tax	5,526	3,214
Income (-), expense (+) from interest	23,329	21,238
Change in provisions for pensions and other provisions	-1,144	267
Interest received	225	196
Income taxes paid	-3,172	-2,919
Increase (+), decrease (-) in value adjustments for receivables and other assets	1,169	1,380
Gains (-), losses (+) from disposal of property, plant and equipment	-408	-178
Write-ups of intangible assets and property, plant and equipment	-76	-31
Other non-cash gains (-), expenses (+)	-2,438	-5,819
<b>Gross cash flow</b>	<b>70,583</b>	<b>39,396</b>
Increase (-), decrease (+) in inventories	113	7,584
Increase (-), decrease (+) in trade accounts receivable	-3,313	4,626
Increase (-), decrease (+) in accounts receivable from affiliated companies	614	344
Increase (-), decrease (+) in other assets	695	16,077
Increase (+), decrease (-) in trade accounts payable	-1,162	-1,269
Increase (+), decrease (-) in accounts payable to affiliated companies	183	228
Increase (+), decrease (-) in other liabilities	1,337	14,223
<b>Cash flow from operating activities</b>	<b>69,050</b>	<b>81,209</b>
Proceeds from disposal of intangible assets	15	120
Proceeds from disposal of property, plant and equipment	12,627	3,367
Proceeds from disposal of investment property	-	155
Proceeds from disposal of investments accounted for using the equity method	10	11,180
Proceeds from disposal of consolidated subsidiaries and other business units	-	2,925
Capital expenditures on intangible assets	-3,576	-2,921
Capital expenditures on property, plant and equipment	-158,772	-158,899
Capital expenditures on investments accounted for using the equity method	-	-671
Capital expenditures on non-current financial investments	-170	-
Capital expenditures on other non-current financial assets	-3,386	-54
Capital expenditures on the acquisition of consolidated subsidiaries and other business units	-1	-117
<b>Cash flow from investing activities</b>	<b>-153,254</b>	<b>-144,915</b>

CONTINUED

Figures in € k	2016	2015
Dividends paid to shareholder and owner	-1,250	-1,350
Dividends paid to minority interests	-3,530	-2,908
Outflows from redemption of mezzanine capital notes	-	-300
Inflows from issuance of bonds	89,236	180,464
Outflows from redemption of bonds	-68,743	-80,103
Inflows from banks	154,114	43,701
Outflows to banks	-54,220	-16,650
Inflows in respect of finance lease liabilities	-	5,280
Outflows in respect of finance lease liabilities	-2,616	-3,681
Inflows in respect of financial liabilities to affiliated companies	518	9,701
Outflows in respect of financial liabilities to affiliated companies	-990	-9,911
Interest paid	-24,201	-25,141
<b>Cash flow from financing activities</b>	<b>88,318</b>	<b>99,102</b>
Changes in cash and cash equivalents due to cash transactions	4,114	35,396
Changes in cash and cash equivalents due to foreign exchange rates	-581	-1,192
Changes in cash and cash equivalents due to changes in consolidation scope	38	87
Cash and cash equivalents at the beginning of the period	80,398	46,107
<b>Cash and cash equivalents at the end of the period</b> (36)	<b>83,969</b>	<b>80,398</b>

# Consolidated statement of changes in equity

Figures in €k	Subscribed capital	Capital reserve	Revenue reserves/ Other reserves	Other equity items/OCI	Equity attributable to Group	Minority interests	Total Group equity
<b>Jan. 1, 2015</b>	<b>5,000</b>	<b>56</b>	<b>108,197</b>	<b>-21,243</b>	<b>92,010</b>	<b>41,476</b>	<b>133,486</b>
Dividends paid	–	–	-1,350	–	-1,350	-2,908	-4,258
Changes in consolidation scope and other consolidation effects	–	–	-2,185	–	-2,185	-2,133	-4,318
Net result for the year	–	–	-6,076	–	-6,076	4,078	-1,998
Other comprehensive income	–	–	–	11,612	11,612	523	12,135
– Currency translation differences	–	–	–	4,918	4,918	527	5,445
– Remeasurement of defined benefit pension plans	–	–	–	-3	-3	-4	-7
– Fair value measurement of financial assets	–	–	–	9,595	9,595	–	9,595
– Fair value measurement of cash flow hedges	–	–	–	-3	-3	–	-3
– Other changes not for future recycling through profit or loss	–	–	–	-14	-14	–	-14
– Deferred taxes recognised in OCI	–	–	–	-2,882	-2,882	–	-2,882
<b>Dec. 31, 2015</b>	<b>5,000</b>	<b>56</b>	<b>98,586</b>	<b>-9,632</b>	<b>94,010</b>	<b>41,036</b>	<b>135,047</b>



Figures in € k	Subscribed capital	Capital reserve	Revenue reserves/ Other reserves	Other equity items/OCI	Equity attributable to Group	Minority interests	Total Group equity
<b>Jan. 1, 2016</b>	5,000	56	98,586	-9,632	94,010	41,036	135,047
Dividends paid	-	-	-1,250	-	-1,250	-3,530	-4,780
Changes in consolidation scope and other consolidation effects	-	-	-8,419	-	-8,419	-219	-8,638
Net result for the year	-	-	11,507	-	11,507	7,575	19,082
Other comprehensive income	-	-	-	-4,770	-4,770	-892	-5,662
- Currency translation differences	-	-	-	-4,294	-4,294	-857	-5,151
- Remeasurement of defined benefit pension plans	-	-	-	-56	-56	-8	-65
- Fair value measurement of financial assets	-	-	-	-277	-277	-	-277
- Fair value measurement of cash flow hedges	-	-	-	-268	-268	-26	-294
- Other changes not for future recycling through profit or loss	-	-	-	-15	-15	-	-15
- Deferred taxes recognised in OCI	-	-	-	140	140	-	140
<b>Dec. 31, 2016</b>	5,000	56	100,424	-14,401	91,079	43,970	135,049

# Notes to the consolidated financial statements

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# Summary of the main accounting and valuation principles

## (1) General disclosures

PCC Societas Europaea (PCC SE) is a non-listed corporation under European law headquartered in Duisburg and the parent company of the PCC Group. Its address is Moerser Str. 149, 47198 Duisburg, Germany. PCC SE is entered in the Commercial Register of Duisburg District Court under HRB 19088.

The consolidated financial statements of PCC SE as of December 31, 2016 have been prepared in accordance with the provisions of the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB) and the interpretations of the International Financial Reporting Standards Interpretations Committee (IFRS IC) as applicable on the closing date and as adopted in the European Union (EU), and in supplementary compliance with the statutory disclosure requirements specified in Section 315a (1) HGB (German Commercial Code).

Assets, liabilities and all other balance sheet items are recognised and measured in accordance with those IFRS applicable and mandatory as of December 31, 2016.

The closing date for the consolidated financial statements is December 31, 2016, which is also the closing date for the annual financial statements of PCC SE. The Group's financial year corresponds to the calendar year.

The annual and subgroup financial statements of the subsidiaries incorporated in the consolidated financial statements are also prepared to this closing date.

The financial statements of PCC SE and the consolidated subsidiaries are prepared in accordance with uniform accounting and valuation principles.

The consolidated financial statements have been stated in euro. The reporting currency is the euro. Unless otherwise indicated, all amounts are disclosed in thousand euros (€ k), with the consequence that rounding differences are possible.

Individual items on the balance sheet and the statement of income of the PCC Group have been combined to improve representation clarity. These items are explained in the notes. The consolidated statement of income is structured in accordance with the nature of expense method.

The PCC Group presents current and non-current assets and also current and non-current liabilities as separate classification groups in the balance sheet in accordance with IAS 1.60, with further subdivision according to their respective useful lives/maturities/tenors being additionally provided where appropriate in these notes to the consolidated financial statements as of December 31, 2016.

The Managing Directors of PCC SE finalised these financial statements in their meeting of April 19, 2017, whereupon they were presented to the Administrative Board for examination and approval, and then released for publication.

## (2) Changes in accounting policy; standards and interpretations for which application is not yet mandatory

### Mandatory standards and interpretations applied for the first time

The following standards and interpretations, or changes

thereto were applied for the first time as mandatory in preparation of the consolidated financial statements as of December 31, 2016.

Standard / Interpretation	Mandatory first-time application according to IASB as of	Mandatory first-time application in the EU as of
Amendments to IAS 19 "Employee Benefits": Employee Contributions	July 1, 2014	February 1, 2015
Annual Improvement Project Cycle 2010–2012	July 1, 2014	February 1, 2015
Amendments to IAS 1 "Presentation of Financial Statements": Disclosure Initiative	January 1, 2016	January 1, 2016
Amendments to IAS 16 "Property, Plant and Equipment" and IAS 38 "Intangible Assets": Clarification of Acceptable Methods of Depreciation and Amortisation	January 1, 2016	January 1, 2016
Amendments to IAS 16 "Property, Plant and Equipment" and IAS 41 "Agriculture": Bearer Plants	January 1, 2016	January 1, 2016
Amendments to IAS 27 "Separate Financial Statements": Equity Method in Separate Financial Statements	January 1, 2016	January 1, 2016
Amendments to IFRS 10 "Consolidated Financial Statements", IFRS 12 "Disclosure of Interests in Other Entities" and IAS 28 "Investments in Associates and Joint Ventures": Investment Entities – Applying the Consolidation Exception	January 1, 2016	January 1, 2016
Amendments to IFRS 11 "Joint Arrangements": Accounting for Acquisitions of Interests in Joint Operations	January 1, 2016	January 1, 2016
Annual Improvement Project Cycle 2012–2014	January 1, 2016	January 1, 2016

### IAS1 "Presentation of Financial Statements" – Disclosure Initiative

In December 2014, the IASB published amendments to IAS 1 "Presentation of Financial Statements" – Disclosure Initiative. The changes essentially encompass clarifications regarding assessment of the materiality of notes to the financial statements, explanations regarding the aggregation and disaggregation of items in the balance sheet and in the statement of comprehensive income, the structure of notes to the financial statements and the presentation of important accounting policies. Clarification is provided to the effect that notes to financial statements are only necessary if they are material to the company. This also expressly applies

where a standard demands certain minimum disclosures. The amendments are applicable to annual financial periods starting on or after January 1, 2016. Adoption by the European Union (EU) was announced on December 19, 2015. The PCC Group opted against early adoption. For the sake of continuity, the PCC Group has reported for fiscal 2016 in the same way as for the previous year. In line with the materiality aspect, certain notes to the financial statements are omitted in exceptional cases.

There has been no major impact on the consolidated financial statements of PCCSE arising from other standards applied for the first time.

### Standards and interpretations for which application is not yet mandatory

The IASB has published standards and interpretations and/or amendments thereto listed in the following which are not

yet mandatory as of fiscal 2016. Some of these standards and interpretations have not yet come into force and/or have not yet been endorsed or adopted by the EU, and have therefore not been applied by the PCC Group.

Standard/Interpretation	Mandatory first-time application according to IASB as of	Mandatory first-time application in the EU as of
IFRS 15 "Revenue from Contracts with Customers"	January 1, 2018	January 1, 2018
IFRS 15 "Revenue from Contracts with Customers": Clarifications	January 1, 2018	Not yet known
IFRS 9 "Financial Instruments"	January 1, 2018	January 1, 2018
Amendments to IAS 7 "Statement of Cash Flows": Disclosure Initiative	January 1, 2017	Not yet known
Amendments to IAS 12 "Income Taxes": Recognition of Deferred Tax Assets for Unrealised Losses	January 1, 2017	Not yet known
Amendments to IAS 28 "Investments in Associates and Joint Ventures" and IFRS 10 "Consolidated Financial Statements": Sale or Contribution of Assets between an Investor and its Associate or Joint Venture	Postponed indefinitely	Not yet known
Amendments to IAS 40 "Investment Property": Transfers of Investment Property	January 1, 2018	Not yet known
Amendments to IFRS 2 "Share-Based Payment": Classification and Measurement of Share-Based Payment Transactions	January 1, 2018	Not yet known
Amendments to IFRS 4 "Insurance Contracts": Application of IFRS 9 "Financial Instruments" in conjunction with IFRS 4 "Insurance Contracts"	January 1, 2018	Not yet known
IFRS 14 "Regulatory Deferral Accounts"	January 1, 2016	Not endorsed by the EU
IFRS 16 "Leases"	January 1, 2019	Not yet known
IFRIC 22 "Foreign Currency Transactions and Advance Consideration"	January 1, 2018	Not yet known
Annual Improvement Project Cycle 2014–2016	January 1, 2017/ January 1, 2018	Not yet known

The PCC Group is currently determining the extent to which new, not yet mandatory standards and interpretations will influence the consolidated financial statements. Unless otherwise indicated below, the current expectation is that the standards and interpretations listed above that are not yet mandatory will not have a material impact on the consolidated financial statements.

#### IFRS 15 "Revenue from Contracts with Customers"

In May 2014, the IASB published the new standard IFRS 15 "Revenue from Contracts with Customers". The purpose of this new standard relating to revenue realisation is to bring together the many regulations contained in the various standards and interpretations that have existed to date. At the same time, uniform basic principles are defined which are applicable to all industries and for all kinds of sales transaction. The questions as to how much and at what date or across what period revenue is to be recognised as realised are answered with the aid of a five-step model.

- Step 1: Identify the contract(s) with a customer
- Step 2: Identify the performance obligations in the contract
- Step 3: Determine the transaction price
- Step 4: Allocate the transaction price to the performance obligations in the contract
- Step 5: Recognise revenue when (or as) the entity satisfies a performance obligation

The standard also contains a number of other regulations covering questions of detail and also an extension to the notes required. The new standard is mandatory as of fiscal years beginning on or after January 1, 2018. First-time application must be retrospective. However, various simplification options are granted; earlier application is permissible. In April 2016, clarifications to IFRS 15 were published which relate particularly to identification of separate performance obligations, the distinction between principal and agent, and the recognition of royalty revenue from licences. These clarifications still have to be endorsed and adopted by the EU. The PCC Group will apply the standard from January 1, 2018.

There will be no retrospective application. Reclassification effects relating to the prior period will be recognised as an accumulated sum in equity. The PCC Group further expects expansion to the notes to the financial statements arising from the first-time application of the standard. A Group-wide accounting transition project has been put in train which will examine the further effects in the course of fiscal 2017. Aside from the business transactions affected, the focus will also be on the IT process and implementation within the IT structure. The first training events for employees from Group companies relating to this standard were held in fiscal 2016.

#### **IFRS 16 “Leases”**

In January 2016, the IASB published the new standard IFRS 16 “Leases”. IFRS 16 establishes principles for the recognition and measurement, disclosure and notes required in respect of leases. The objective is to ensure that lessees and lessors are provided with relevant information with respect to the effects of leasing transactions. At the same time, the previous accounting model according to IAS 17, in which leases were classified as operating or financial, was discarded in favour of a uniform lease accounting concept in keeping with the concept of control. For the lessee, the standard provides for a single accounting model. In the case of the lessee, it means that all assets and liabilities arising from a lease agreement must be disclosed in the balance sheet where the term exceeds 12 months, or where the asset concerned is not classed as minor (option). For accounting purposes, the lessor continues to distinguish between finance or rental lease agreements (finance or operating leases). Application of IFRS 16 “Leases” becomes mandatory as of fiscal years starting on or after January 1, 2019. Application in advance of this date is allowed provided that IFRS 15 “Revenue from Contracts with Customers” is already being applied in full in advance of its mandatory date. The lessee must apply IFRS 16 either in full and retrospectively, taking into account earlier reporting periods, or must recognise the cumulative adjustment effect as of the date of first-time application as an equity entry at the start of the fiscal year in which the standard is first applied. The EU has yet to adopt the standard. The PCC Group is not planning early application of the standard and will disclose the cumulative adjustment effect of any re-statements in equity as of January 1, 2019.

#### **IFRS 9 “Financial Instruments”**

IFRS 9 “Financial Instruments” contains regulations for the classification and measurement of financial instruments, for accounting for hedge relationships and for the recognition of impairment losses in respect of financial instruments. The IASB published the final version of the standard on July 24, 2014 in the course of completing the various phases of its comprehensive project in relation to financial instruments. As a result, the previous accounting methods applied to financial instruments as specified under IAS 39 “Financial Instruments: Recognition and Measurement” can be entirely

replaced by the accounting methods described in IFRS 9. The now published version of IFRS 9 supersedes all previous versions. The central requirements of the final IFRS 9 standard can be summarised as follows:

- The requirements of IFRS 9 relating to scope of application, recognition and derecognition remain largely unchanged compared to the preceding standard IAS 39.
- However, the provisions of IFRS 9 introduce a new classification model for financial assets that is absent from IAS 39.
- The subsequent measurement of financial assets is to be aligned in future to three categories with different value criteria and a different method of value change recognition. Categorisation is performed as a function both of the contractual cash flows emanating from the instrument and of the business model in which the instrument is held. Essentially, these are therefore mandatory categories. In addition, however, the company or entity also has a number of options available to it.
- By contrast, the existing requirements in respect of financial liabilities were extensively adopted in IFRS 9. The only significant change relates to financial liabilities in the fair value option. Fair value fluctuations in these liabilities due to changes of a company’s own risk of default are to be recognised under other comprehensive income.
- IFRS 9 provides for three stages which, in future, will determine both the level of loss to be recognised and the treatment of interest income. Accordingly, losses already expected on receipt are to be recognised on the basis of the present value of a 12-month expected credit loss (Stage 1). If there is a significant deterioration in credit quality, the risk provision needs to be increased to the level of the expected losses over the entire remaining life of the financial instrument (Stage 2). On receipt of an objective indication of impairment, interest revenue is calculated on the net carrying amount – i.e. it is reduced for expected credit losses (Stage 3).
- In addition to extensive transitional provisions, IFRS 9 also specifies comprehensive disclosure regulations in respect of both the transition and current application. Changes compared to IFRS 7 “Financial Instruments: Disclosures” relate particularly to the impairment requirements.

Due to the new regulations governing impairment losses, it is anticipated that losses expected in some cases will, in future, be expensed at an earlier stage. This effect cannot yet be reliably determined as of the reporting date.

The final version of IFRS 9 will be mandatorily effective for periods beginning on or after January 1, 2018; earlier application is permitted. The PCC Group will not apply this stand-

ard prior to that date. A final decision on the exercise of options in the transition period and also effects in relation to changes in the allocation of the valuation categories of financial instruments has not yet been taken. The PCC Group anticipates that the future application of IFRS 9 will not materially impact on the presentation of the financial assets

and financial liabilities of the Group. It is expected that the amendments included in IFRS 7 in conjunction with IFRS 9 will require expansion and adjustment in the notes to the financial statements. However, it will only be possible to provide a reliable assessment of the effects of applying IFRS 9 after a detailed analysis has been carried out.

### (3) Scope of consolidation

The basis for consolidation of the entities incorporated in the consolidated financial statements was provided by the annual financial statements (or commercial balance sheets II according to IFRS) of the companies concerned as of December 31, 2016.

Included in the consolidated financial statements of December 31, 2016 are the financial statements of the parent company PCC SE and of those subsidiaries over which the parent company exercises control.

Subsidiaries not responsible for material business operations and regarded individually and in aggregate as being immaterial in terms of portraying a true and fair view of the net assets, financial position, results of operations and cash flows of the Group have been omitted from the consolidation process and are therefore not reflected in the consolidated financial statements.

For a detailed schedule of shareholdings in accordance with Section 313 (2) HGB (German Commercial Code), please refer to Note (42).

Fully consolidated subsidiaries	Germany	Abroad
Jan. 1, 2015	5	37
– Additions	–	2
– Disposals/Mergers	–	1
Jan. 1, 2016	5	38
– Additions	–	1
– Disposals/Mergers	–	1
<b>Consolidated subsidiaries as of Dec. 31, 2016</b>	<b>5</b>	<b>38</b>

There was an addition to the scope of consolidation in fiscal 2016 in the form of PCC Seaview Residences ehf, Húsavík (Iceland), which is allocated to the Holding/Projects segment. The entity was established in the course of the year under review and is responsible for the development, construction and operation of real estate properties at the site of the future silicon metal production plant. The first units are due for completion in autumn 2017 and will serve primarily as homes for local employees. These activities do not fall under the scope of IFRS 3.

Tensis Sp. z o.o., Brzeg Dolny (Poland), was merged in the year under review with PCC Exol SA, Brzeg Dolny.

Liquidation processes were initiated in respect of PCC Prodex Bel, Smilavichy (Belarus), and PCC Exol Philippines, Batangas (Philippines). Once these have been successfully completed, these entities will be removed from the commercial register.

In the case of S.C. Oltchim S.A., Râmnicu Vâlcea (Romania), which is listed in the schedule of shareholdings under Note (42), PCC SE has no codetermination rights whatsoever that would enable it to exert a significant influence over the company.



## (4) Consolidation methods

The consolidated financial statements of the PCC Group contain all the material German and international subsidiaries over which PCC SE is able to exercise control. Subsidiaries are fully consolidated from the time of acquisition. The time of acquisition is defined as the time at which the parent company acquires control over these Group entities. Subsidiaries remain included in the consolidated financial statements until they are no longer under the control of the parent company.

All intercompany receivables and payables and intra-Group income and expenses are eliminated on consolidation. Intercompany results are, where material, also eliminated.

The acquisition of subsidiaries is accounted for using the purchase method. The consideration transferred in the course of a business combination is measured at fair value. This is determined from the total of the fair values of the assets transferred at the time of acquisition less the liabilities assumed from the previous owners of the acquired entity and the equity instruments issued by the Group in exchange for control of the acquired entity. Transaction costs associated with business combinations are expensed against income on incurrence.

The purchase price is distributed between the acquired assets and liabilities on first-time consolidation. Any positive difference between the purchase price and the amount allocated is recorded as goodwill. Goodwill thus arises as the

surplus represented by the total of the consideration transferred plus the amount of all non-controlling shares in the acquired company and the fair value of the equity share previously held by the acquirer in the acquired entity (where applicable) above the balance of the fair values of the acquired identifiable assets and liabilities assumed on the date of acquisition. In the event that a negative difference is identified, and remains confirmed after a second assessment, this is immediately recognised as income. Any goodwill recognised is subjected to an impairment test at least once a year. For further details, please see Note (19).

Participating interests in associated companies and joint arrangements, i.e. those entities accounted for using the equity method, are recognised at cost in the consolidated balance sheet. In the following periods, the annual net profit or loss realised is proportionally allocated in accordance with the equity value approach. The dividends received in the reporting year are then deducted from the equity value. The differences that may arise on first-time consolidation are taken into account in the equity approach. At each balance sheet date, the Group investigates whether there are indications that an impairment loss needs to be recognised with respect to the shares in an associated company or a joint venture. In this case, the difference between the carrying amount and the expected net realisable value is recognised as an impairment loss under income from investments accounted for using the equity method in the consolidated statement of income.

## (5) Explanatory notes to the accounting and valuation principles

### Property, plant and equipment

Property, plant and equipment are recognised at cost less accumulated scheduled depreciation and accumulated impairment charges, in accordance with IAS 16. The revaluation method is not applied. Costs for repairs and maintenance of

property, plant and equipment are immediately expensed. Regular maintenance of major plant or the replacement of major components is capitalised where additional future benefits are anticipated. The scheduled straight-line depreciation amounts are based on the following useful lives:

in years	2016	2015
Buildings and structures	5–80	5–80
Plant and machinery	3–29	3–30
Other facilities, factory and office equipment	1–28	1–29

An item of property, plant and equipment is derecognised either on disposal or when the further use of the asset is no longer expected to generate any economic benefit. The gains or losses arising from the derecognition of the asset are determined as the difference between the net proceeds

and the book value/carrying amount of the asset, and recognised through profit or loss in the period in which the asset is derecognised. Value write-ups arising from impairment reversals are recognised in other operating income.

The residual values, useful lives and depreciation methods are regularly reviewed and, where required, adapted at the end of each fiscal year.

### Investment property

Investment property, i.e. real estate held for the purpose of generating rental income or value increase, is capitalised at cost. Value write-ups are recognised under other operating income, write-downs/impairments are recognised under depreciation.

Assets in this category are accounted for using the acquisition cost model and subjected to scheduled depreciation over a useful life ranging between 14 and 31 years.

### Intangible assets

Acquired intangible assets are recognised at cost less accumulated amortisation and accumulated impairment charges. Where the prerequisites for capitalisation of internally generated intangible assets are satisfied, such assets are duly recognised. Intangible assets capitalised are generally amortised using the straight-line method over their estimated useful lives ranging between 2 and 25 years, and relate essentially to concessions for the operation of technical facilities. The intangible assets capitalised within the Group – other than goodwill – have limited useful lives.

Research and development expenses are accounted for in accordance with IAS 38 "Intangible Assets". Research costs are expensed on incurrance. Development expenses may be capitalised under certain circumstances (see IAS 38.57), depending on the possible outcome of the associated development activities. Development expenses of a project qualify for capitalisation where the Group can prove that the project is both technically feasible, resulting in the generating of internal benefits, or allowing the sale of an asset, and that both the intention and the funds exist to complete said asset and to utilise or sell it. Assessment of this possible outcome necessitates material assumptions by the management involved. Moreover, the Group must verify that the expenditures to be allocated to the intangible asset during its development can be reliably calculated.

### Inventories

Raw materials and supplies and also finished products and work in progress are recognised at cost. Capitalisation of the cost of borrowings in accordance with IAS 23 does not take place in the case of inventories as the prerequisites for this are not met. The acquisition or manufacturing cost of raw materials and supplies is essentially determined using the first in, first out method (FIFO). In isolated, negligible cases, however, the weighted average method may be used instead. Inventories are subjected to a valuation adjustment as of the closing date where the net realisable value is less than the carrying value.

### Borrowing costs

Directly attributable borrowing costs incurred as part of the acquisition, construction or manufacture of a qualifying asset are capitalised as part of the cost of acquisition, construction or manufacture. They remain capitalised until the asset is ready for its envisaged use, with the relevant interest rate being duly applied. All other borrowing costs are expensed in the period in which they are incurred.

### Financial instruments (IAS 39)

Financial instruments take the form of financial assets and financial liabilities. They are disclosed in the consolidated balance sheet where PCC SE or a subsidiary is a contractual party to the associated transaction. Financial assets are derecognised once the contractual rights to payments from the financial assets expire or the financial assets are transferred to another party together with all material risks and opportunities. Financial liabilities are derecognised once the contractual obligations are settled, cancelled or have expired. Regular-way purchases and sales of financial assets are recognised as of the settlement date, that is to say the date on which the Group commits to the purchase or sale of the asset.

Within the PCC Group, financial assets are classified in accordance with the following categories: (a) "At fair value through profit or loss"; (b) "Loans and receivables"; or (c) "Available for sale". Classification depends on the nature of the assets and their purpose. The management determines the classification of financial assets on first-time recognition.

Financial assets that do not belong to the category "At fair value through profit or loss" are initially recognised at their fair value plus transaction costs. Financial assets which belong to the category "At fair value through profit or loss" are initially recognised at their fair value, while the associated transaction costs are immediately expensed.

#### a) Financial assets recognised at fair value through profit or loss

Financial assets recognised at fair value through profit or loss are those held for trading or which have been designated as belonging to this category on first-time recognition. A financial asset is assigned to this category if it has essentially been acquired with a view to short-term resale. Derivatives likewise belong to this category where they are not qualified as hedges. Financial assets measured at fair value through profit or loss are recognised at their fair value. Any gain or loss arising from such measurement is added or deducted from income.

#### b) Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable cash flows that are not quoted on an active market. Financial assets assigned to this category are recognised in the balance sheet under "Trade accounts receivable", "Other receivables and other

assets" and "Cash and cash equivalents". Loans and receivables are subsequently stated at amortised cost using the effective interest method. If there are objective indications of impairment, they are subjected to individual value adjustments. The assessment of the value adjustment requirement is based on experience with respect to the solvency of the customer, the age structure of the asset, days overdue, any existing insurance policies, and customer-specific risks.

#### c) Financial assets available for sale

Financial assets available for sale are non-derivative financial assets which do not fall into any of the other categories described. They are measured at fair value. The fair values are essentially determined on the basis of market prices or quotations. Participating interests of which the fair value cannot be reliably determined are measured at cost and written down on impairment. In the case of such participating interests, the cost of acquisition represents the best estimate of the fair value. Assets that fall under this heading include shares in subsidiaries, associates and joint ventures which, for reasons of materiality, are not fully consolidated or are included in the consolidated financial statements using the equity method. There are generally no plans to sell these participating interests to any significant degree.

Changes in the book values/carrying amounts of monetary financial instruments denominated in a foreign currency within the category of financial assets available for sale are recognised through profit or loss where such changes result from fluctuations in foreign exchange rates. Other changes in the book value/carrying amount of financial assets available for sale are recognised under other comprehensive income. Interest gains arising from application of the effective interest method in respect of securities in the category "Available for sale" are recognised through profit or loss. Dividends payable on equity instruments available for sale are taken to income once the Group becomes legally entitled to payment.

If financial assets classified as available for sale are sold or become impaired, the cumulative changes in fair value recognised in equity are recycled through profit and loss.

Financial liabilities are categorised either at fair value through profit or loss or as other financial liabilities. The rules governing initial recognition and measurement and the treatment of transaction costs are similar to those applicable to financial assets. With financial liabilities recognised at fair value through profit or loss, gains and losses arising from subsequent measurement in the following periods are taken to income. Other financial liabilities are measured in subsequent periods at amortised cost in accordance with the effective interest method.

Financial assets and liabilities are only offset and disclosed as a net amount in the balance sheet where there is a legal

entitlement to do so and the intention is to settle on a net basis or to discharge the associated liability simultaneously with realisation of the associated asset.

Derivative financial instruments are initially recognised at fair value as of conclusion of the associated contract. Subsequent measurement is likewise at fair value as of the respective reporting date. The method for recognising gains and losses depends on whether the derivative financial instrument is designated as a hedge and, if so, on the nature of the hedged item. The PCC Group designates certain derivative financial instruments either as a) a fair value hedge of a recognised asset, a liability or an unrecognised firm commitment (fair value hedge), b) a hedge against the risks of fluctuating cash flows (cash flow hedge) associated with a recognised asset or a recognised liability or an expected future transaction with a high probability of occurrence, or c) as a hedge of a net investment in a foreign business operation (net investment hedge). In the reporting year and also in the previous year, the PCC Group only had cash flow hedges to account for.

On conclusion of a transaction, the Group documents the hedge relationship between the hedging instrument and the main transaction, the purpose of the associated risk management and also the underlying strategy with respect to hedging transactions. Estimates are also documented both at the beginning of the hedging relationship and thereafter as to whether the derivatives used in the hedging relationship extensively compensate for changes in the fair value or the cash flows of the underlying transactions.

The effective portion of changes in the fair value of derivatives designated as cash flow hedges is recognised under other comprehensive income, with the ineffective portion being recognised directly through profit and loss. Amounts accrued under equity are recycled to profit or loss in the period in which the hedged underlying affects income.

In the event that a hedging transaction expires, is sold or no longer fulfils the criteria for recognition as a hedge, the gain or loss accumulated in equity remains in equity and is only recycled to profit or loss once the originally hedged, future transaction takes place. If the future transaction is no longer expected to occur, the cumulative gains or losses in equity are immediately recycled to profit or loss.

#### Trade accounts receivable

Trade accounts receivable are recognised at amortised cost. In the event of value adjustments, these are recognised directly in the receivable concerned. Value adjustments are allocated to receivables from insolvent debtors and also receivables that are more than 365 days overdue. Receivables denominated in foreign currency are converted as of the closing date at the applicable euro exchange rate, with any translation differences being recognised through profit or loss.

**Cash and cash equivalents**

Cash and cash equivalents encompass cash balances and cheques, credit balances at banks with a term of up to three months from the date of acquisition, and also highly liquid financial assets available at short notice. These items are recognised at amortised cost.

**Trade accounts payable; overdrafts**

Trade accounts payable, overdraft liabilities and other liabilities are recognised at their repayable or settlement amount.

**Provisions**

Provisions are created where a past event has given rise to an obligation towards third parties that is likely to lead in the future to an outflow of funds, and where the amount involved can be reliably estimated.

**Taxes on income**

The PCC Group accounts for deferred taxes in accordance with IAS 12 where differences exist between the carrying amount and the tax base of an asset. Deferred tax liabilities are essentially recognised on all taxable temporary differences, while deferred tax assets are only recognised where it is probable that taxable profits will be available to enable their realisation. The carrying value of deferred income tax assets is examined on each closing date and reduced to the extent that it is no longer probable that sufficient income will be available against which the deferred tax asset can be at least partially realised. Deferred income tax assets not recognised in an earlier period are reassessed at each closing date and recognised to the extent that it currently appears probable that future taxable profits will allow realisation of the deferred tax asset.

Deferred tax liabilities and deferred tax assets are netted where there is a right to do so and where they involve the same tax authority.

Current taxes are calculated on the basis of the taxable income of the company for the reporting period. The tax rates applied for each company are those applicable as of the closing date.

**Leases (IAS 17)**

Concluded lease contracts are treated as either finance leases or operating leases. Where all material opportunities and risks are transferred to the Group as the lessee, the Group is also assigned economic ownership. In the case of contracts that qualify as operating leases, the current lease instalments are immediately expensed. Assets held as finance leases are either capitalised at the present value of the minimum lease payments or the fair value of the leased item at the inception of the lease, whichever is the lower. In the event that change of ownership to the lessee at the end of the contractual period is not sufficiently ensured, these assets are either written down over the term of the lease or over their useful life,

whichever period is shorter. A lease liability is also recognised in the corresponding amount. The periodic lease payments have to be divided into repayment and interest components. The repayment component reduces the liability, while the interest component is recognised as an interest expense.

**Revenue recognition (IAS 18)**

The company recognises revenue where the selling process has been completed and the risks and opportunities associated with ownership have been transferred to the purchaser. The Group essentially recognises its sales revenue with the sale of its products and services.

**Government grants and assistance (IAS 20)**

Government grants and assistance are recognised in the consolidated financial statements of the PCC Group as deferred income on the liabilities side, provided that there is reasonable assurance that the entity will comply with any conditions attached to the grant or assistance, and that the grant or assistance will be received. The release of this deferred income is effected through profit and loss under other operating income over the full period of depreciation assigned to the asset created.

**Exploration for and evaluation of mineral resources (IFRS 6)**

Expenditures on viable exploration drilling operations and also for non-productive drilling operations are capitalised. The expenditures are recognised through to exploitation as assets in course of construction. Once production begins on a positive find, the asset is reclassified to plant and machinery. The capitalised expenses are amortised over the maximum period of production as determined by expert appraisal. If annual investigation of the resources should result in a change in this lifetime estimate, the depreciation period is adjusted accordingly. In the event of the find being determined as unviable in subsequent periods, the asset is written off by way of an unscheduled impairment.

**Foreign currency translation**

The consolidated financial statements have been prepared in euro, the functional currency of the parent company.

Each company within the Group determines its own functional currency. The items contained in the financial statements of the company concerned are measured using this functional currency. Foreign currency transactions are initially translated into the functional currency at the spot rate applicable on the transaction date.

Monetary assets and liabilities in a foreign currency are translated into the functional currency on each closing date using the spot rate applicable as of that date. All foreign exchange differences are recognised through profit or loss with the exception of translation differences arising from foreign currency loans where these are recognised as hedges of a net in-

vestment in a foreign operation. These are recognised directly in equity until the net investment is sold, and only on derecognition are they recycled through profit or loss. Deferred taxes arising from the translation differences of these foreign currency loans are likewise recognised directly in equity.

For entities for which the euro is not the functional currency, non-monetary items that are measured at historical cost in a foreign currency are translated at the rate prevailing on the date of the transaction. Non-monetary items measured at their fair value in a foreign currency are translated at the rate applicable at the time of ascertaining the fair value.

All assets and liabilities resulting from the acquisition of a foreign operation are recognised as assets and liabilities of

that foreign operation and translated at the spot rate prevailing on the closing date.

For entities for which the euro is not the functional currency, the assets and liabilities of foreign operations are translated into euro as of the closing date. Income and expenses are translated at the weighted average rate for the fiscal year. The translation differences arising from this are recognised as a separate item in equity. The accumulated amount recognised for a foreign operation in equity is recycled through profit or loss on disposal of that foreign operation.

The exchange rates of the currencies of importance to the consolidated financial statements are indicated in the following table:

Currency exchange rate for 1 €	Closing rate		Average rate	
	Dec. 31, 2016	Dec. 31, 2015	2016	2015
Bosnian convertible mark (BAM)	1.9558	1.9558	1.9558	1.9558
Bulgarian lev (BGN)	1.9558	1.9558	1.9558	1.9558
Belarusian ruble (BYN/BYR)	2.05	20,304.29	2.20	17,505.36
Czech koruna (CZK)	27.0210	27.0230	27.0343	27.2792
Icelandic króna (ISK)	119.1300	141.3200	133.5905	146.2958
Macedonian denar (MKD)	61.4812	61.5947	61.5950	61.6098
Polish zloty (PLN)	4.4103	4.2639	4.3632	4.1841
Romanian leu (RON)	4.5390	4.5240	4.4904	4.4454
Russian ruble (RUB)	64.3000	80.6736	74.1446	68.0720
Turkish lira (TRY)	3.7072	3.1765	3.3433	3.0255
US dollar (USD)	1.0541	1.0887	1.1069	1.1095

### Use of assumptions and estimates

Preparation of the consolidated financial statements as of December 31, 2016 in compliance with IFRS requires certain estimates and assumptions to be made by the management that influence the amount recognised as assets, liabilities, contingent receivables and contingent liabilities as of the reporting date, and also the income and expenses generated during the fiscal year. The main areas of application for assumptions, estimates and the exercise of discretionary scope are encountered in determining the useful lives of non-current assets, the recognition and measurement of other provisions and pension provisions, and also income tax. It is also necessary when determining goodwill impairment to assess

the value-in-use of the cash-generating unit to which the goodwill is assigned. Calculation of the value-in-use requires an estimate of future cash flows from the cash-generating unit and also a suitable discount rate for determining the present value of those future cash flows. Estimates are based on empirical values and other assumptions considered appropriate under the given circumstances. They are continuously reviewed and may deviate from the actual values and figures that come to light. The book values/carrying amounts of items affected by estimates can be found in the following Notes and also in the balance sheet. Discretionary decisions which are not based on estimates occur, for example, in relation to the categorisation of lease contracts.

# Notes to the individual items of the consolidated statement of income

## (6) Sales revenue

Sales in fiscal 2016 amounted to €568.9 million (previous year: €571.1 million). Of this, €503.5 million (previous year: €514.3 million) was generated from the sale of goods and products, while €65.5 million (previous year: €56.8 million) came from the sale of services, and in particular trans-

port services. Despite increasing sales volume, the low and in some cases further decreasing selling prices achieved resulted in a change of -0.4 %, leaving the figure more or less flat versus the previous year.

## (7) Other internal costs capitalised

The total of other internal costs capitalised essentially derives from manufacturing costs in respect of work or assets capitalised, with material intercompany profits eliminated. The

total for this item increased in the year under review from €4.8 million to €8.8 million.

## (8) Purchased goods and services

Figures in €k	2016	2015
Cost of raw materials, supplies and merchandise	325,284	351,907
Cost of external services	55,313	50,135
Transport and warehouse costs	17,067	17,275
<b>Total purchased goods and services</b>	<b>397,664</b>	<b>419,317</b>

The cost of purchased goods and services decreased compared to the previous year by €21.7 million or 5.2 % to €397.7 million. The main reason for this was the reduction in purchase prices for raw materials across 2016, attributable to the low price of crude oil. There was a slight increase in

raw material prices from the fourth quarter of the reporting year. The increase in expenditures for purchased services arose in the Intermodal Transport business unit due in particular to the substantial increase in the number of containers handled.

## (9) Personnel expenses

Figures in €k	2016	2015
Wages and salaries	50,680	48,217
Social security contributions	9,747	9,073
Pension costs	99	55
<b>Total personnel expenses</b>	<b>60,526</b>	<b>57,345</b>

Compared to the previous year, personnel expenses increased by €3.2 million to €60.5 million. This rise is attributable in the first instance to increases in headcount arising from capacity expansion measures, particularly in the segments Chlorine, Polyols and Logistics. Following commissioning of the new production facility in the Consumer Products

segment and the associated increase in efficiency, role duplications were eliminated and the number of employees reduced by 93. At the end of fiscal 2016, headcount amounted to 3,032 for the Group as a whole, an increase of 1.3 % above the prior-year figure of 2,992.

	Dec. 31, 2016	Dec. 31, 2015
Salaried employees	1,423	1,337
Waged employees	1,609	1,655
<b>Total employees at year-end</b>	<b>3,032</b>	<b>2,992</b>

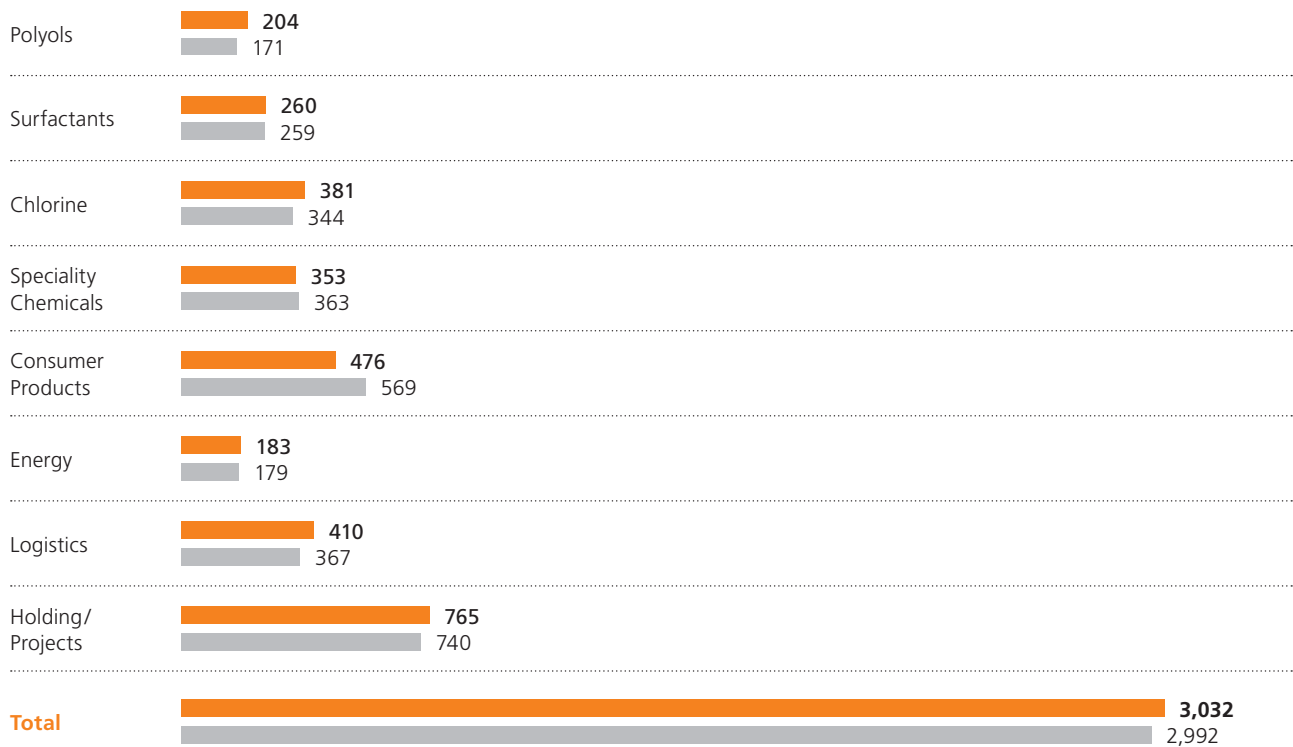
The average total headcount in 2016 at the companies of the PCC Group was 3,001 employees, which is 73 or 2.5 % more than in the previous year.

The following table indicates the distribution of employees between the Group segments as of the closing date. The corporate service functions are allocated to the Holding/Pro-

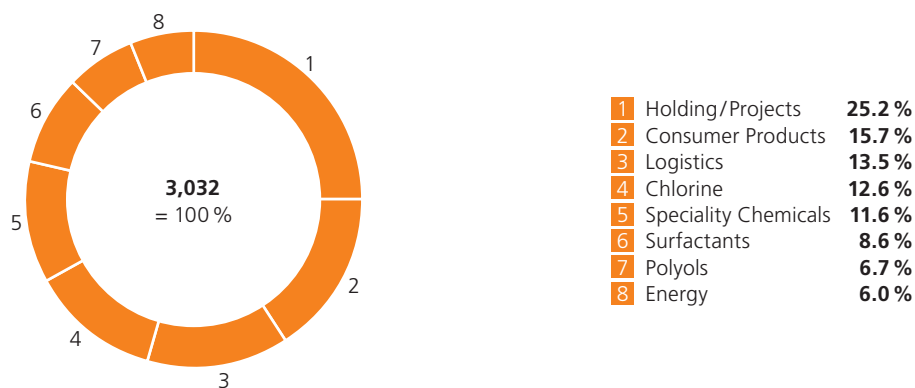
jects segment. The investment project of PCC BakkiSilicon hf, Húsavík (Iceland), is also assigned to this segment.

**Employees by segment as of December 31**

■ 2016 ■ 2015

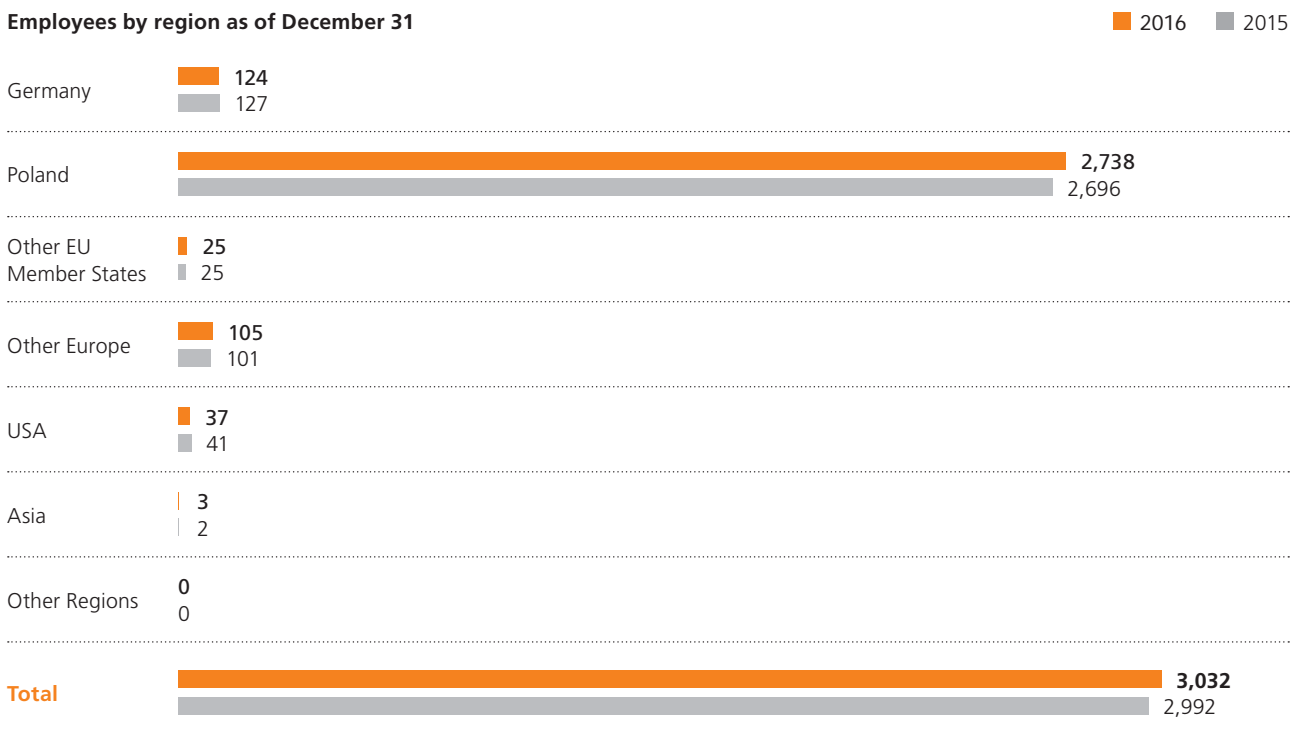


**Employees by segment as of December 31, 2016 in %**

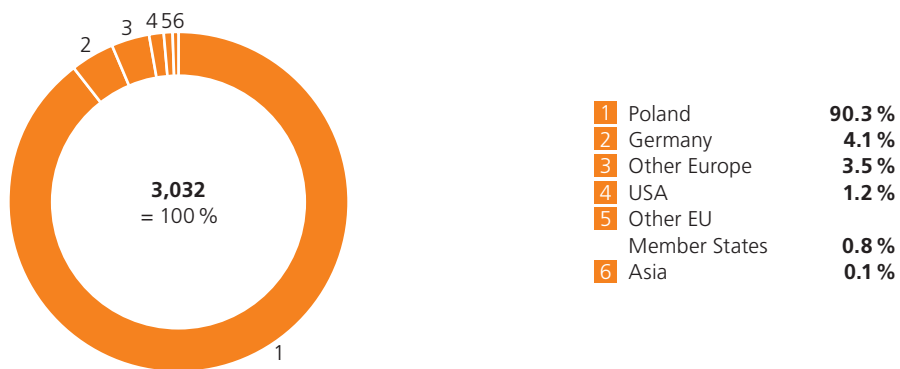




The geographic distribution of employees as of the closing date was as follows:



**Employees by region as of December 31, 2016 in %**



## (10) Other operating income

Figures in €k	2016	2015
Income from the sale of energy efficiency certificates	9,520	–
Income from the reversal of value adjustments on accounts receivable	2,026	1,545
Income from release of other provisions	2,005	117
Insurance reimbursements	1,831	563
Income on disposal of property, plant and equipment	692	988
Rental and similar income	573	538
Income from costs recharged	168	173
Income on disposal of financial assets	100	4,372
Sundry other operating income	5,830	4,469
<b>Total other operating income</b>	<b>22,745</b>	<b>12,766</b>

Other operating income increased in the year under review by €10.0 million from €12.8 million to €22.7 million.

The rise is primarily attributable to income from the sale of energy efficiency certificates in the amount of €9.5 million. These certificates are granted on application free of charge for a particularly energy-efficient investment. All such certificates are not necessary in order to cover our own energy levels, and were therefore traded in the year under review.

Income from the release of other provisions increased from €0.1 million to €2.0 million, while income from insurance reimbursements rose from €0.6 million to €1.8 million.

Income on disposal of financial assets, which contains income from the first-time consolidation of consolidated entities and other business units, decreased from €4.4 million to €0.1 million. In the previous year, two entities in non-core businesses within the PCC Group were divested in the form of 3S S.A. and 3Services Factory S.A.

## (11) Other operating expenses

Figures in €k	2016	2015
Freight expenses	14,984	10,736
Maintenance and repair expenses	9,802	7,694
Other taxes	5,556	5,158
Legal, consultancy and auditing expenses	5,159	5,539
General business expenses	4,531	2,856
Travel and hospitality expenses	3,693	3,308
Rent and similar expenses	3,245	3,009
Insurance premiums	3,206	3,110
Non-wage personnel expenses	2,531	2,330
Marketing, selling and distribution expenses	2,409	3,517
Increase in value adjustments on receivables	1,051	2,577
Losses on disposal of property, plant and equipment	160	810
Sundry other operating expenses	10,723	11,237
<b>Total other operating expenses</b>	<b>67,051</b>	<b>61,883</b>

In fiscal 2016, other operating expenses increased by 8.4 % from €61.9 million to €67.1 million.

At €15.0 million, freight expenses represented the largest individual item. It increased by €4.2 million year on year, due primarily to increased sales volumes at the units in the Chemicals segments.

Other taxes include all tax expenses other than income taxes. The domestic and foreign taxes on income, and also deferred taxes, are separately disclosed in the tax result and explained under Note (16). At €5.6 million, the figure for the year under review is €0.4 million above the prior-year amount of €5.2 million.

Maintenance and repair expenses increased by €2.1 million from €7.7 million in the previous year to €9.8 million in the year under review. Essentially, these expenses are incurred by the asset-intensive businesses of the Chemicals segments.

Expenses for legal, consultancy, and auditing services decreased year on year by €0.4 million from €5.5 million to €5.2 million.

Research and development expenses of €3.3 million were recognised in the year under review (previous year: €2.3 million).

## (12) Income from investments accounted for using the equity method

Because of losses allocated to OOO DME Aerosol, Pervomaysky (Russia), which exceed the equity value recognised, the equity method has been deferred in the case of this entity. The losses are to be carried in a subledger and will be initially offset against future income before any positive share of earnings is recognised in the consolidated statement of income. As of December 31, 2016, the accumulated losses amounted to €0.1 million (previous year: €0.3 million). This

means that, in the year under review, profits amounting to €0.2 million have not been recognised.

Aside from the aforementioned company, there is a further joint venture within the PCC Group in the form of IRPC-PCC Co. Ltd., Bangkok (Thailand). However, this has not been included in the consolidated financial statements due to lack of materiality.

Figures in €k	2016	2015
<b>Equity value as of Jan. 1</b>	–	7,047
Changes in consolidation scope	–	–5,917
Dividends received	–	–1,130
Proportionate net profit/loss	222	–102
Adjustments for negative value	–	102
Release of negative carry-forward	–222	–
Other changes	–	–
<b>Equity value as of Dec. 31</b>	–	–

Figures in €k	OOO DME Aerosol	
	2016	2015
<b>Income statement</b>		
Revenues	–	–
EBITDA	–28	–12
EBT	471	–227
Net result	449	–204
<b>Balance sheet</b>		
Non-current assets	3,844	758
Current assets	692	166
Non-current liabilities	3,740	1,343
Current liabilities	844	–

## (13) Depreciation and amortisation

The depreciation of property, plant and equipment increased due to the continuation of the extensive capital expenditure programme of the PCC Group that has been put in train in recent years. In fiscal 2016, amortisation of intangible assets and depreciation of property, plant and equipment amounted to €28.2 million, 17.9% more than in the previous year. A significant portion of the increase is due to both the extended and modernised container terminals in the Logistics segment, which have now been in operation for a whole year, and to the complete switch of the chlor-alkali electrolysis system to environmentally compatible membrane technology in 2015, which was likewise fully operational for the entire fiscal year in 2016. The commissioning of the MCAA plant at the end of the fiscal year likewise contributed to this rise.

Amortisation of non-current intangible assets relates to industrial property rights and similar rights. There were no impairments or write-ups of goodwill either in fiscal 2016 or the previous year. For further information in relation to goodwill, please refer to Note (19).

Figures in €k	2016	2015
Amortisation of intangible assets	1,265	1,070
Depreciation of property, plant and equipment	26,937	22,849
<b>Total depreciation and amortisation</b>	<b>28,202</b>	<b>23,920</b>

In fiscal 2016, total impairment losses with respect to intangible assets and property, plant and equipment amounted to €1.3 million (previous year: €0.8 million). These largely relate to impairments in capitalised expenses of partial investments in the Surfactants segment which were ultimately not implemented and in the Consumer Products segment concerning plant components which, in the course of the latest investment programme, had to be adapted due to changing and more extensive customer demands.

## (14) Interest result

The balance of interest income and interest expenses showed a decrease of 9.8 % from €–21.2 million in the previous year

to €–23.3 million in the year under review. The breakdown of the individual items for 2016 reads as follows:

Figures in €k	2016	2015
<b>Interest and similar income</b>	<b>1,684</b>	<b>746</b>
Interest income from deposits	91	108
Interest income on bank balances	736	531
Interest income from discounting of non-current provisions	–	–
Interest income from discounting of non-current receivables	211	–
Derivative financial instruments	279	–
Interest income on intercompany loans	366	107
<b>Interest and similar expenses</b>	<b>25,013</b>	<b>21,984</b>
Interest payable on bonds	17,535	15,023
Interest payable on profit participation certificates	962	962
Interest payable on loans	5,645	4,422
Interest expense from discounting of non-current provisions	466	325
Interest expense from discounting of non-current receivables	–	916
Interest expense component of finance lease payments	302	306
Derivative financial instruments	82	–
Interest expenses on intercompany loans received	21	30
<b>Interest result</b>	<b>–23,329</b>	<b>–21,238</b>

As in the previous year, the largest individual item was interest payable on bonds, which increased by €2.5 million or 16.7 % to €17.5 million. This was the result of an increase in bond liabilities of €29.7 million to €392.8 million. Nevertheless, both the parent company of the PCC Group and also the Polish subsidiaries were again able to benefit from a generally low level of interest rates when pursuing new issuances on the bonds market. Several companies of the PCC Group issued bonds to finance investments and for the refinancing of liabilities falling due. Note (30) provides a detailed breakdown of bond liabilities and their tenors.

Interest attributable to investment projects that represent qualifying assets is capitalised during the construction phase in accordance with IAS 23. In the year under review, total interest expenses amounting to €8.9 million (previous year: €8.6 million) were recognised on the assets side. The capitalisation rate was 6.7 % (previous year: 7.0 %).

The weighted interest rate across all interest-bearing liabilities in fiscal 2016 was 5.4 %, a decrease of 0.1 percentage points compared to the rate prevailing in the previous year.

## (15) Currency translation result

Figures in €k	2016	2015
Foreign exchange rate gains	14,617	16,024
Foreign exchange rate losses	14,523	19,671
<b>Currency translation result</b>	<b>94</b>	<b>-3,647</b>

Gains and losses from currency translation are recognised under financial result. Both income and expenses from this source decreased compared to the previous year. The bal-

ance resulted in a positive effect on earnings in the amount of €0.1 million (previous year: negative effect of €-3.6 million).

## (16) Taxes on income/Tax expense

Figures in €k	2016	2015
Current taxes on income, Germany	903	756
Current taxes on income, abroad	5,048	2,884
<b>Current income tax expenses</b>	<b>5,951</b>	<b>3,640</b>
Deferred tax income (-)/expense (+)	-424	-427
<b>Total taxes on income</b>	<b>5,526</b>	<b>3,214</b>
Other taxes incl. VAT and other excise duties	5,556	5,158
<b>Total tax expenses</b>	<b>11,083</b>	<b>8,371</b>

Taxes on income include the income taxes paid or owed in the individual countries, and also deferred taxes recognised through profit or loss. Taxes on income are comprised of municipal trade and corporate income tax, the solidarity surcharge payable in Germany and the corresponding foreign taxes on income.

Other taxes include property taxes, wealth taxes and other comparable tax classes, and amounted to €5.6 million (previous year: €5.2 million). These are allocated to other operating expenses.

The effective tax rate of the PCC Group has moved from 264.3 % to 22.5 %. The differences between the income tax rate of 30 % applicable in Germany for 2016, in respect of

which there were no change versus the prior year, and the effective tax rate are indicated in the following reconciliation statement:

Figures in €k	2016	2015
<b>Earnings before taxes (EBT)</b>	<b>24,609</b>	<b>1,216</b>
Anticipated income tax burden at parent company	7,383	365
Effects of changes on income tax rates	–	–
Foreign tax rate differentials	4,801	1,935
Results from investments accounted for using the equity method	–	–
Non-taxable income	–14,835	–20,838
Non-deductible expenses	15,427	24,321
Deduction of losses for which deferred taxes have been provided	–5,069	–2,962
Deduction of losses for which deferred taxes have not been provided	–	–310
Non-period-related taxes	–45	0
Result in special economic zones	–26,542	–14,657
Permanent differences	78	23,847
Other effects	24,328	–8,486
<b>Effective income tax</b>	<b>5,526</b>	<b>3,214</b>

Individual Group companies have tax losses that can be carried forward. The following indicates the timeframes in which these tax loss carry-forwards can be used and from which deferred tax assets are created.

Compared to the previous year, the amount has decreased by €3.1 million or 22.3 %. Tax loss carry-forwards from which no deferred tax assets have been created amount to €108.1 million (previous year: €94.4 million).

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
Usable within:		
1 year	1,527	66
2 years	–	2,645
3 years	2	834
4 years	44	806
5 years and thereafter	9,139	9,024
Carried forward without restriction	–	407
<b>Total usable tax losses carried forward</b>	<b>10,712</b>	<b>13,781</b>

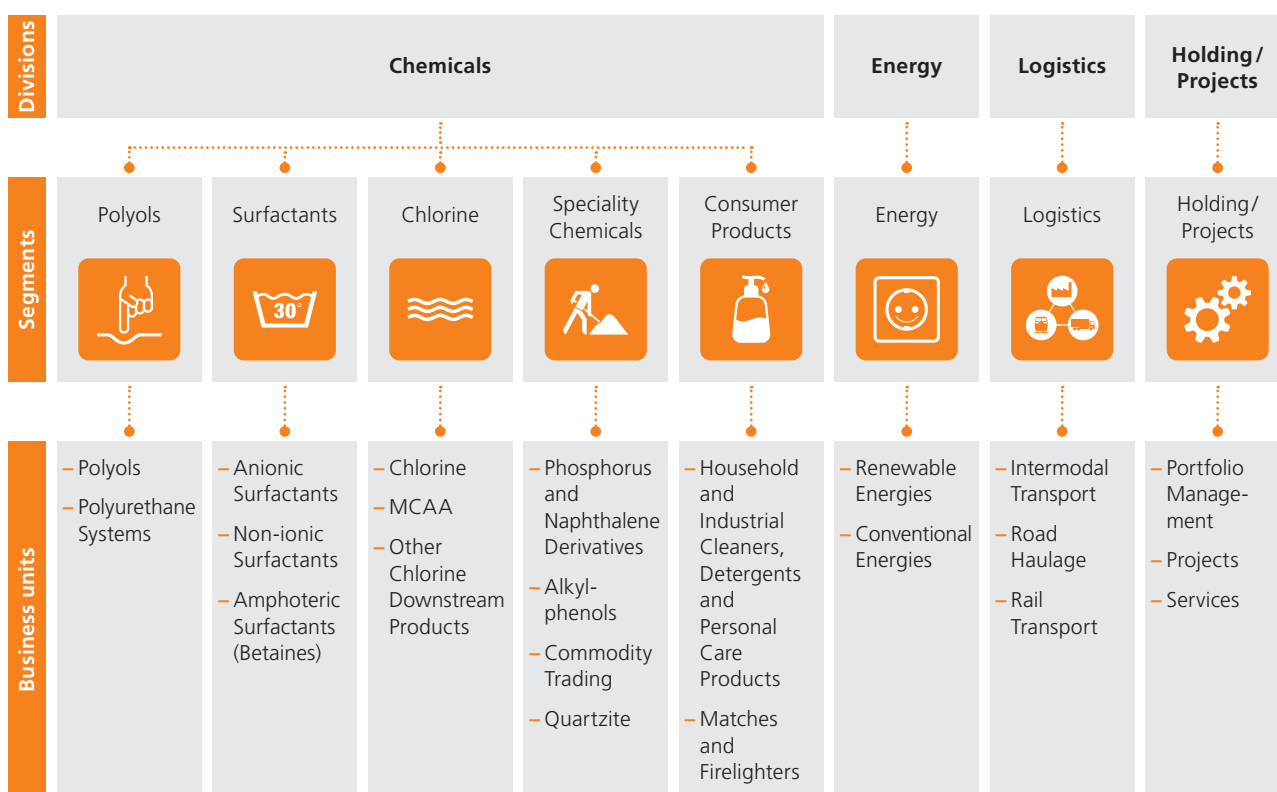
# Segment report

## (17) Business segment report

The PCC Group is currently active with over 3,000 employees at 39 sites in 17 countries. The investment portfolio of PCC SE is divided into eight segments. The seven segments Polyols, Surfactants, Chlorine, Speciality Chemicals, Consumer Products, Energy and Logistics are assigned full operational responsibility. Allocated to these segments are 19 business units that are managed by the international companies and

entities of PCC. The eighth segment, Holding/Projects, includes not only the holding company PCC SE but also other companies and entities, and is primarily responsible for providing corporate services in the fields of finance, business development, information technology, environmental protection, site infrastructure management, research & development and engineering & technology.

### The divisions, segments and business units of the PCC Group



The assignment of the Group's businesses to the seven operational segments assists in the leverage of synergy effects and sharpens the profile of the individual operations. The adoption of this structure underscores the PCC Group's commitment to its strategy of active investment portfolio management and ongoing portfolio optimisation. The management of the portfolio assets and affiliates together with examination of further acquisitions for the purpose of competence-related diversification into new market segments remains at the heart of Group policy. The underlying objective over the long term is to build a basis for sustainable growth and to continuously increase enterprise value.

The Polyols segment is divided into the business units Polyols and Polyurethane Systems. These offer PU foam materials for

a wide range of applications – from the PCC foam technology iPoltec® for high-comfort mattresses to PU foam systems for effective building insulation.

Pooled under the Surfactants segment are the business units Anionic Surfactants, Non-ionic Surfactants and Amphoteric Surfactants (Betaines). Because of their multiple effects in foaming, wetting, emulsifying and cleaning, surfactants are essential ingredients in many products. In toothpastes they generate the cleaning effect and foaming action, while in dishwashing products they ensure that dirt and grease are effectively dislodged from hard surfaces.

Chlorine marks the starting point in the value chain of many other products in the Chemicals division. For many people,



it is also essential for everyday living: in swimming baths, for example, it serves as a disinfectant protecting bathers from germs. Produced nowadays by an environmentally compatible process, chlorine and downstream chlorine products manufactured by PCC are also used in water treatment and the petrochemical industry.

The Speciality Chemicals segment is PCC's biggest in terms of revenue. Its products extend from phosphorus-based flame retardants, plasticisers and stabilisers, to additives for hydraulic fluids and superplasticisers that facilitate the laying of fresh concrete. The Commodity Trading operation of the PCC Group is also currently allocated to this segment.

The Consumer Products segment encompasses the business unit Household & Industrial Cleaners, Detergents and Personal Care Products – with its own Polish brands such as "ROKO" and "Roko Eco" – and, as its second business unit, Matches and Firelighters.

Within the Energy segment, the main sales generator is the Conventional Energies business unit. This encompasses a co-generating plant in Poland for supplying our own production facilities, and a regional Polish combined heat, power and steam utility. The focus of the second business unit in this segment, Renewable Energies, is on the development, construction and operation of, in particular, small hydropower plants. In the Republic of Macedonia, we have so far commissioned four of these environmentally friendly electricity generators, with one in Bosnia and Herzegovina also now on stream.

The Logistics segment comprises the three business units Intermodal Transport, Road Haulage and Rail Transport. PCC is one of the leading providers of container transport services in Poland. The logistics network extends from Eastern Europe to the Benelux countries, and the Group entities also operate several wholly owned terminals. Operating throughout Europe, the tanker fleet of PCC specialises in the road transport of liquid chemicals. And in Russia, PCC maintains a fleet of wide-gauge railway wagons.

The Holding/Projects segment provides corporate and inter-divisional services to the Group companies in fields such as finance, information technology, research & development, and maintenance & infrastructure servicing. The Holding/Projects segment also manages projects in the development phase such as the advanced silicon metal production plant under construction in Iceland or the planned production plant for dimethyl ether in Russia.

The valuation principles for the Group's segment report are based on the valuation principles used in preparation of the consolidated financial statements per IFRS. Group-internal transactions are essentially performed in accordance with the same arm-length principles as those involving third parties. According to IFRS 8, operating segments are defined

on the basis of the internal reporting regime as components of an entity whose operating results are reviewed regularly by the entity's chief operating officer. This review process entails making decisions about resources to be allocated to the segment and assessing its performance on the basis of discrete financial information. Information reported to the main decision-makers for the purpose of the allocation of resources to the operating segments of the Group, and also assessment of their financial performance, relates to the types of products manufactured or services provided.

Sales in fiscal 2016 totalled €568.9 million, 0.4 % below the figure of €571.1 million generated in the previous year. The reason for this was primarily the low price level of almost all commodities and raw materials worldwide. Sales of the Polyols segment decreased by 7.5 % to €126.0 million. The Surfactants segment was able to keep its revenues constant with a slight increase of 0.4 %. The biggest rise was recorded by the Chlorine segment. Here, sales improved by €13.4 million to €71.8 million. Revenues at Speciality Chemicals remained flat year on year. The biggest absolute decline in sales occurred in the Consumer Products segment with a decrease of €14.4 million. The causes for this lay in market-related restructurings and an intensification of competitive pressures.

The Logistics segment achieved an increase in sales of 15.3 % from €56.8 million to €65.5 million due to a further improvement in the operating rate of the container terminals commissioned in the previous year.

At €11.3 million, sales of the Energy segment were flat year on year.

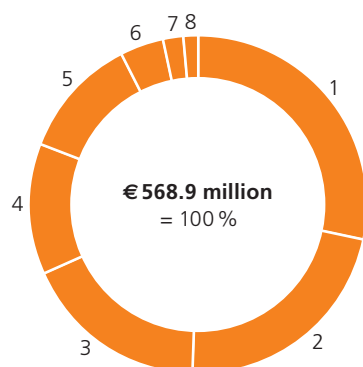
In terms of the total output of the Group in fiscal 2016, the Chemicals division accounted for sales of €485.3 million (previous year: €496.0 million) generated by its five segments Polyols, Surfactants, Chlorine, Speciality Chemicals and Consumer Products. This represents a virtually unchanged and still high proportion of consolidated sales amounting to 85.3 % (previous year: 86.9 %). Sales of the Logistics segment now represent a slightly higher share of 11.5 % of total revenues (previous year: 9.9 %). The proportion accounted for by the Energy segment was unchanged at 2.0 % in the year under review. Revenues of the Holding segment remained virtually flat at €6.9 million (previous year: €7.0 million), representing 1.2 % of total output generated.

Figures in € k	2016	2015
<b>EBITDA</b>	<b>76,422</b>	50,787
Depreciation and amortisation	28,202	23,920
Financial result	-23,611	-25,651
<b>EBT</b>	<b>24,609</b>	1,216

## Business segment report

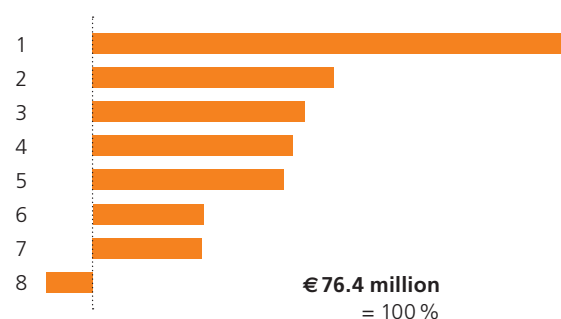
Figures in €k	Polyols		Surfactants		Chlorine		Speciality Chemicals	
	2016	2015	2016	2015	2016	2015	2016	2015
Sales per segment (total)	136,186	148,056	124,116	123,694	129,564	112,970	179,979	183,128
Sales with other PCC segments	10,179	11,826	22,596	22,591	57,773	54,620	18,100	21,391
<b>Net external sales</b>	<b>126,007</b>	<b>136,229</b>	<b>101,520</b>	<b>101,102</b>	<b>71,791</b>	<b>58,350</b>	<b>161,879</b>	<b>161,737</b>
Contribution to total revenue	22.1 %	23.9 %	17.8 %	17.7 %	12.6 %	10.2 %	28.5 %	28.3 %
EBITDA	12,328	13,806	10,231	9,549	24,282	8,159	5,693	5,198
EBITDA margin	9.8 %	10.1 %	10.1 %	9.4 %	33.8 %	14.0 %	3.5 %	3.2 %
EBIT	10,889	12,460	7,445	7,294	16,692	3,018	2,295	1,584
EBIT margin	8.6 %	9.1 %	7.3 %	7.2 %	23.3 %	5.2 %	1.4 %	1.0 %
Intangible assets	1,085	291	1,775	1,808	17,549	9,802	1,740	1,888
Property, plant and equipment	38,078	28,472	40,147	42,496	156,217	161,685	26,767	27,259
Financial liabilities	18,900	7,968	41,246	43,768	89,046	84,211	23,795	20,030
Capital expenditures on intangible assets and property, plant and equipment	13,077	4,063	1,638	2,379	14,362	38,267	3,792	1,360
Depreciation and amortisation	1,436	1,343	2,786	2,256	7,525	5,046	3,387	3,595
Capital employed (average)	30,172	26,705	66,934	66,526	184,101	154,432	55,665	56,816
ROCE	36.1 %	46.7 %	11.1 %	11.0 %	9.1 %	2.0 %	4.1 %	2.8 %
Income from investments accounted for using the equity method	—	—	—	—	—	—	—	—
Employees at Dec. 31	204	171	260	259	381	344	353	363
Employees (annual average)	194	165	258	255	357	306	355	371

## Sales by segment 2016 in %



1	Speciality Chemicals	28.5 %
2	Polyols	22.1 %
3	Surfactants	17.8 %
4	Chlorine	12.6 %
5	Logistics	11.5 %
6	Consumer Products	4.2 %
7	Energy	2.0 %
8	Holding/Projects	1.2 %

## EBITDA by segment 2016 in %

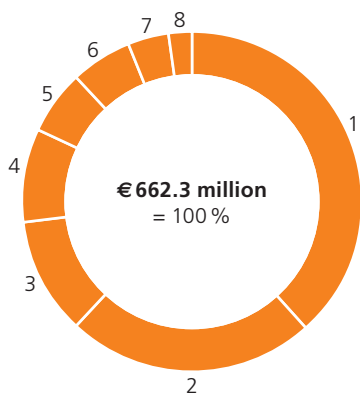


1	Chlorine	31.8 %
2	Polyols	16.1 %
3	Holding/Projects	14.2 %
4	Surfactants	13.4 %
5	Energy	12.8 %
6	Speciality Chemicals	7.4 %
7	Logistics	7.3 %
8	Consumer Products	-3.1 %

Consumer Products		Energy		Logistics		Holding/Projects		Consolidation		PCC Group	
2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
24,274	38,676	30,552	28,363	76,664	66,755	43,399	40,666	-1	-1	744,734	742,309
139	102	19,275	17,094	11,196	9,994	36,533	33,626	-	-	175,791	171,246
<b>24,135</b>	<b>38,574</b>	<b>11,277</b>	<b>11,270</b>	<b>65,468</b>	<b>56,761</b>	<b>6,866</b>	<b>7,040</b>	-	-	<b>568,943</b>	<b>571,063</b>
4.2%	6.8%	2.0%	2.0%	11.5%	9.9%	1.2%	1.2%	-	-	100.0%	100.0%
-2,361	-70	9,753	7,326	5,612	4,868	11,341	2,680	-458	-731	76,422	50,787
-9.8%	-0.2%	86.5%	65.0%	8.6%	8.6%	165.2%	38.1%	-	-	13.4%	8.9%
-4,002	-877	7,055	4,298	1,558	1,714	6,376	-1,779	-89	-845	48,219	26,867
-16.6%	-2.3%	62.6%	38.1%	2.4%	3.0%	92.9%	-25.3%	-	-	8.5%	4.7%
16	34	2,624	2,837	201	182	1,488	1,472	6,438	6,943	32,914	25,258
14,216	15,112	58,823	56,422	73,999	76,442	257,839	144,464	-3,740	-9,695	662,347	542,657
15,435	13,947	38,265	35,829	48,661	50,593	493,232	374,510	-121,527	-111,968	647,054	518,889
860	3,091	6,681	3,404	2,740	31,231	116,295	75,366	-170	949	159,273	160,111
1,641	807	2,683	2,998	4,047	3,142	4,931	4,401	-234	333	28,202	23,920
13,743	15,111	77,153	75,367	65,072	55,548	928,027	795,249	-702,313	-655,503	718,554	590,251
-29.1%	-5.8%	9.1%	5.7%	2.4%	3.1%	0.7%	-0.2%	-	-	6.7%	4.6%
-	-	-	-	-	-	-222	-102	222	102	-	-
476	569	183	179	410	367	765	740	-	-	3,032	2,992
505	576	181	179	391	352	759	724	-	-	3,001	2,928

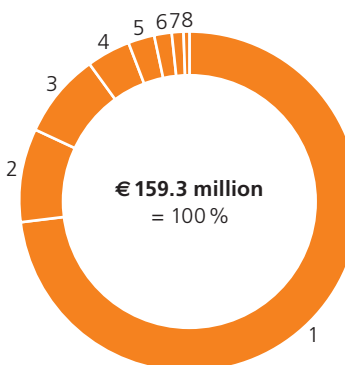
1 Consolidation effects on sales revenues are disclosed in the row "Sales with other PCC segments"

Property, plant and equipment by segment 2016 in %



1	Holding/Projects	38.4%
2	Chlorine	23.6%
3	Logistics	11.2%
4	Energy	8.9%
5	Surfactants	6.1%
6	Polyols	5.7%
7	Speciality Chemicals	4.0%
8	Consumer Products	2.1%

Capital expenditures by segment 2016 in %



1	Holding/Projects	72.9%
2	Chlorine	9.0%
3	Polyols	8.2%
4	Energy	4.2%
5	Speciality Chemicals	2.4%
6	Logistics	1.7%
7	Surfactants	1.0%
8	Consumer Products	0.5%

## (18) Regional segment report

Figures in €k	Germany		Poland		Other EU Member States	
	2016	2015	2016	2015	2016	2015
<b>Customer location</b>						
Net external sales	115,998	121,998	224,270	225,311	121,109	121,285
Contribution to total revenue	20.4 %	21.4 %	39.4 %	39.5 %	21.3 %	21.2 %
<b>Company location</b>						
Net external sales	97,700	90,708	425,419	432,077	22,502	23,842
Contribution to total revenue	17.2 %	15.9 %	74.8 %	75.7 %	4.0 %	4.2 %
EBITDA	-5,602	-1,486	80,320	52,026	231	-747
EBITDA margin	-5.7 %	-1.6 %	18.9 %	12.0 %	1.0 %	-3.1 %
EBIT	-7,071	-2,572	55,163	31,506	199	-910
EBIT margin	-7.2 %	-2.8 %	13.0 %	7.3 %	0.9 %	-3.8 %
Intangible assets	940	968	22,126	13,972	123	130
Property, plant and equipment	13,046	9,894	427,769	432,336	3,719	3,518
Investment property	2,493	2,572	990	1,098	-	-
Financial liabilities	313,928	298,725	244,873	232,826	6,435	6,747
Capital expenditures on intangible assets and property, plant and equipment	7,498	2,141	48,142	87,819	227	35
Depreciation and amortisation	1,469	1,086	25,021	20,301	32	163
Income from investments accounted for using the equity method	-	-	-	-	-	-
Employees at Dec. 31	124	127	2,738	2,696	25	25
Employees (annual average)	125	126	2,707	2,626	25	25

For the purpose of regular internal and external reporting, the business of the PCC Group is divided into seven regions (Germany, Poland, Other EU Member States, Other Europe, USA, Asia and Other Regions). In fiscal 2016, the Group generated 20.4 % of sales with customers in Germany (previous year: 21.4 %), while 39.4 % was accounted for by customers in Poland (previous year: 39.5 %).

The PCC Group generated a total of 81.1 % of its sales with customers in the member states of the European Union (previous year: 82.1 %), the majority share being taken by Poland and Germany.

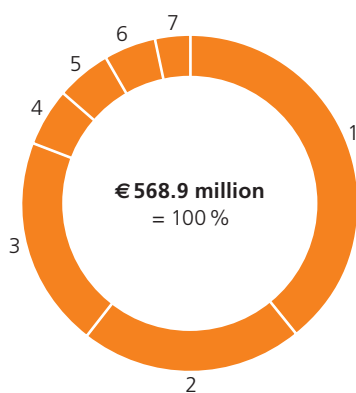
Based on company location, Poland accounted for net external sales of €425.4 million (previous year: €432.1 million), corresponding to around 74.8 % of the Group total (pre-

vious year: 75.7 %). Based on customer location, the figure for Poland was €224.3 million (previous year: €225.3 million) or around 39.4 % (previous year: 39.5 %). The sales figure in Germany decreased from €122.0 million to €116.0 million by customer location, while there was an increase in revenues from €90.7 million to €97.7 million by location of company.

Capital expenditures totalled €159.3 million (previous year: €160.1 million). Much of this was allocated to the Other Europe region, primarily as a result of the construction of the silicon metal production plant in Iceland. Capital expenditures in Poland amounted to €48.1 million (previous year: €87.8 million) and were dominated by investment projects in the Chlorine and Polyols segments, primarily involving the construction of an MCAA plant and expansion of production capacities in the Polyurethane Systems business unit.

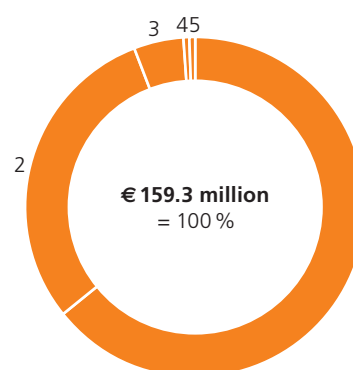
Other Europe		USA		Asia		Other Regions		Consolidation		PCC Group	
2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
30,757	39,225	18,816	20,952	29,470	25,615	28,524	16,678	–	–	568,943	571,063
5.4%	6.9%	3.3%	3.7%	5.2%	4.5%	5.0%	2.9%	–	–	100.0%	100.0%
3,907	4,237	19,344	20,199	70	–	–	–	–	–	568,943	571,063
0.7%	0.7%	3.4%	3.5%	0.0%	–	–	–	–	–	100.0%	100.0%
1,401	1,045	520	656	10	24	–	–	–458	–731	76,422	50,787
35.9%	24.7%	2.7%	3.2%	14.8%	–	–	–	–	–	13.4%	8.9%
–271	–716	280	382	9	22	–	–	–89	–845	48,219	26,867
–6.9%	–16.9%	1.4%	1.9%	12.3%	–	–	–	–	–	8.5%	4.7%
2,237	2,218	1,051	1,026	–	–	–	–	6,438	6,943	32,914	25,258
217,578	102,663	3,972	3,938	3	4	–	–	–3,740	–9,695	662,347	542,657
–	–	–	–	–	–	–	–	–	–	3,483	3,670
201,580	90,746	1,765	1,811	–	–	–	–	–121,527	–111,968	647,054	518,889
103,431	69,134	143	31	1	2	–	–	–170	949	159,273	160,111
1,673	1,761	240	274	2	2	–	–	–234	333	28,202	23,920
–222	–102	–	–	–	–	–	–	222	102	–	–
105	101	37	41	3	2	0	0	–	–	3,032	2,992
102	109	38	41	3	2	0	0	–	–	3,001	2,928

Sales by region 2016 in %



- 1 Poland 39.4%
- 2 Other EU Member States 21.3%
- 3 Germany 20.4%
- 4 Other Europe 5.4%
- 5 Asia 5.2%
- 6 Other Regions 5.0%
- 7 USA 3.3%

Capital expenditures by region 2016 in %



- 1 Other Europe 64.9%
- 2 Poland 30.1%
- 3 Germany 4.7%
- 4 USA 0.1%
- 5 Other EU Member States 0.1%
- 6 Asia 0.0%
- 7 Other Regions 0.0%

# Notes to the individual items of the consolidated balance sheet

## (19) Intangible assets

Figures in €k	Industrial property rights and similar rights	Goodwill	Internally generated intangible assets	Advance payments	Total
<b>Historical cost</b>					
Jan. 1, 2016	20,562	8,902	–	1,248	30,712
Changes in consolidation scope	–	–	–	–	–
Additions	805	–	–	3,983	4,787
Disposals	1,352	–	–	17	1,370
Reclassifications	–12	–	8,554	–3,546	4,996
Currency translation differences	–466	61	–	–41	–446
<b>Dec. 31, 2016</b>	<b>19,536</b>	<b>8,963</b>	<b>8,554</b>	<b>1,627</b>	<b>38,680</b>
<b>Amortisation</b>					
Jan. 1, 2016	4,449	853	–	152	5,454
Changes in consolidation scope	–	–	–	–	–
Additions	1,186	–	9	32	1,228
Disposals	1,350	–	–	5	1,355
Write-downs	13	–	–	25	38
Reversal of write-downs	–	–	–	–	–
Reclassifications	–188	–	188	–	–
Currency translation differences	379	28	0	–6	401
<b>Dec. 31, 2016</b>	<b>4,488</b>	<b>881</b>	<b>198</b>	<b>199</b>	<b>5,766</b>
<b>Net book value on Dec. 31, 2016</b>	<b>15,048</b>	<b>8,082</b>	<b>8,356</b>	<b>1,428</b>	<b>32,914</b>

Intangible assets comprise industrial property rights, licences and similar rights, goodwill, internally generated and developed intangible assets and advance payments for such assets.

The net book values for this class of assets increased from €25.3 million to €32.9 million in 2016. The change is primarily due to the commissioning of the MCAA plant and the associated processes, and the reclassification of advance payments to relevant balance sheet items which include intangible assets.

Impairment losses were recognised in the amount of €38.0k (previous year: €0), these write-downs being divided between the segments Surfactants (€19.7k), Speciality Chemicals (€4.9k) and Holding/Projects (€13.4k).

As of the reporting date, there were restricted rights of disposal on intangible assets in the amount of €3.5 million (previous year: €2.9 million). Exploration and production activities are carried out by one subsidiary. As of the reporting date, the associated net book value contained in the total for intangible assets amounted to €0.4 million (previous year: €0.4 million). No exploration activities occurred in the year under review. This undertaking is immaterial for the PCC Group, hence there is no separate reconciliation statement in this regard.

Figures in €k	Industrial property rights and similar rights	Goodwill	Internally generated intangible assets	Advance payments	Total
<b>Historical cost</b>					
Jan. 1, 2015	20,817	8,711	–	1,547	31,075
Changes in consolidation scope	–57	–	–	–	–57
Additions	2,988	–	–	–67	2,921
Disposals	3,485	–	–	–	3,485
Reclassifications	252	–	–	–236	16
Currency translation differences	48	191	–	4	243
<b>Dec. 31, 2015</b>	<b>20,562</b>	<b>8,902</b>	<b>–</b>	<b>1,248</b>	<b>30,712</b>
<b>Amortisation</b>					
Jan. 1, 2015	4,783	765	–	121	5,669
Changes in consolidation scope	–38	–	–	–	–38
Additions	1,039	–	–	31	1,070
Disposals	1,344	–	–	–	1,344
Write-downs	–	–	–	–	–
Reversal of write-downs	–	–	–	–	–
Reclassifications	–	–	–	–	–
Currency translation differences	10	88	–	–	97
<b>Dec. 31, 2015</b>	<b>4,449</b>	<b>853</b>	<b>–</b>	<b>152</b>	<b>5,454</b>
<b>Net book value on Dec. 31, 2015</b>	<b>16,113</b>	<b>8,049</b>	<b>–</b>	<b>1,095</b>	<b>25,258</b>

A debit differential that cannot be allocated to other assets on the first-time consolidation of subsidiaries is recognised in the consolidated balance sheet as goodwill. This goodwill does not undergo scheduled amortisation; instead, it is subjected at least once a year to an impairment test in accordance with IFRS 3.

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
PCC Silicium S. A.	2,615	2,615
PCC Intermodal S. A.	2,593	2,593
PCC Rokita subgroup	1,330	1,330
PCC Chemax, Inc.	1,029	997
PCC Exol SA	515	515
<b>Goodwill</b>	<b>8,082</b>	<b>8,049</b>

The above chart shows all the goodwill recognised within the Group as of December 31, 2016. It also includes the goodwill assumed from the individual financial statements of the US company PCC Chemax, Inc., Piedmont (South Carolina). There were no additions/write-ups nor write-downs either

in the year under review or in the previous year. The change in goodwill at PCC Chemax, Inc. results from a foreign exchange effect, as it is listed in the cash-generating currency of the company, that is to say US dollars.

The annual impairment tests were carried out in each case in the fourth quarter of the fiscal year and were based on management-approved budgets for the three subsequent years. Using a perpetuity growth model, a terminal value was determined on the basis of the last budget year. The achievable amount was ascertained on the basis of value-in-use. As in the previous year, the growth rate assumed was 1.0%. The planning assumptions derive from empirical values and estimates of the various business managements, taking into account centrally defined global positions such as exchange rates, estimates of economic development, market growth or commodity prices, for which purpose external sources were also consulted. The local tax rates assumed were, once again, 19.0% in the case of the Polish cash-generating units, and 35.0% in the case of the US cash-generating unit. The tax rates remained unchanged versus the previous year. The assumed weighted average cost of capital (WACC) was 5.7% (previous year: 6.0%). Even taking into account a change in the WACC of 10%, there would be no impairment write-down requirement.

## (20) Property, plant and equipment

Figures in €k	Land and buildings	Plant and machinery	Factory and office equipment	Advance payments and construction in progress	Total
<b>Historical cost</b>					
Jan. 1, 2016	131,788	280,333	131,795	186,851	730,766
Changes in consolidation scope	–	–	–	–	–
Additions	57	2,537	15,960	154,230	172,784
Disposals	511	13,744	15,047	365	29,668
Reclassifications	31,636	52,420	8,733	–97,771	–4,982
Reclassification as available for sale	–	–294	–	–	–294
Currency translation differences	–3,202	–5,947	–3,946	–598	–13,693
<b>Dec. 31, 2016</b>	<b>159,767</b>	<b>315,306</b>	<b>137,495</b>	<b>242,346</b>	<b>854,914</b>
<b>Depreciation</b>					
Jan. 1, 2016	22,912	115,993	48,543	661	188,109
Changes in consolidation scope	–	–	–	–	–
Additions	3,941	15,647	5,995	–	25,582
Disposals	344	13,248	3,694	287	17,573
Impairment write-downs	82	82	87	962	1,213
Reversal of write-downs	–	–53	–4	–2	–59
Reclassifications	9	–	–5	–	5
Reclassification as available for sale	–	–142	–	–	–142
Currency translation differences	–506	–2,543	–1,489	–30	–4,568
<b>Dec. 31, 2016</b>	<b>26,094</b>	<b>115,737</b>	<b>49,433</b>	<b>1,303</b>	<b>192,567</b>
<b>Net book value on Dec. 31, 2016</b>	<b>133,673</b>	<b>199,569</b>	<b>88,062</b>	<b>241,043</b>	<b>662,347</b>

The value of our property, plant and equipment increased year on year from €542.7 million to €662.3 million, attributable to the major investment programmes implemented by the PCC Group. The construction of a silicon metal plant in Iceland and also the construction of a production plant for ultra-pure monochloroacetic acid (MCAA), completed at the end of 2016, were the largest single items in the year under review.

Additions to property, plant and equipment in fiscal 2016 amounted to €172.8 million (previous year: €158.9 million). These investments were predominantly attributable to the Holding/Projects segment in the amount of €133.9 million (previous year: €75.4 million) within which the Iceland project is being managed, with a further €14.4 million (previous year: €38.3 million) accounted for by the Chlorine segment in which the MCAA plant is managed.

Depreciation of property, plant and equipment in the year under review amounted to €25.6 million (previous year: €21.7 million). The increase year on year is primarily due to the completion of current investment projects.

In fiscal 2016, unscheduled depreciation and write-downs of property, plant and equipment amounted to €1.2 million (previous year: €0.8 million). This mainly involved impairments of capitalised expenses relating to partial investments ultimately not pursued in the Surfactants segment, and of plant components in the Consumer Products segment which, in the course of the latest investment round, had to be modified due to changing and more extensive customer requirements.



Figures in €k	Land and buildings	Plant and machinery	Factory and office equipment	Advance payments and construction in progress	Total
<b>Historical cost</b>					
Jan. 1, 2015	103,700	236,365	117,478	132,339	589,882
Changes in consolidation scope	-2,533	-3,045	-119	-65	-5,762
Additions	-79	2,795	566	155,617	158,899
Disposals	343	9,320	516	771	10,950
Reclassifications	31,132	54,350	14,245	-101,745	-2,018
Currency translation differences	-88	-813	141	1,476	716
<b>Dec. 31, 2015</b>	<b>131,788</b>	<b>280,333</b>	<b>131,795</b>	<b>186,851</b>	<b>730,766</b>
<b>Depreciation</b>					
Jan. 1, 2015	21,075	109,997	43,855	595	175,521
Changes in consolidation scope	-229	-551	-54	-	-835
Additions	2,781	13,604	5,338	-	21,724
Disposals	222	7,021	439	79	7,761
Impairment write-downs	22	383	273	144	822
Reversal of write-downs	-31	-	-	-	-31
Reclassifications	-433	122	-389	-	-701
Currency translation differences	-50	-541	-41	1	-631
<b>Dec. 31, 2015</b>	<b>22,912</b>	<b>115,993</b>	<b>48,543</b>	<b>661</b>	<b>188,109</b>
<b>Net book value on Dec. 31, 2015</b>	<b>108,876</b>	<b>164,340</b>	<b>83,252</b>	<b>186,190</b>	<b>542,657</b>

As of year-end 2016, there were restrictions on rights of disposal of individual tangible fixed assets in the amount of €407.8 million (previous year: €287.8 million). In addition, these assets serve as collateral security for liabilities. Investment obligations in the form of already contractually agreed but not yet completed capital expenditures as of December 31, 2016, amounted to €73.4 million (previous year: €151.7 million). The year under review also saw €0.6 million (previous year: €0.2 million) in income from insurance claims attributable to property, plant and equipment.

In the case of the Russian subsidiary ZAO Novobalt Terminal, Kaliningrad, managed under the Speciality Chemicals segment, conveyor belts previously used were replaced in the fourth quarter of 2016 by new equipment. With sales contracts already having been concluded, it is intended to sell off these assets in the first half of 2017. The book value of these conveyor belts amounting to €0.2 million was reclassified in the balance sheet to "Assets available for sale". There are no liabilities directly attributable to these assets.

## (21) Investment property

In fiscal 2016, the net book value of investment property was €3.5 million (previous year: €3.7 million). There were no impairment losses recognised in the year under review, nor were there any additions (previous year: €0). Assets brought back into in-company usage are classified as disposals and

amounted to 0 in fiscal 2016 (previous year: €0.2 million). Overall, income of €0.4 million was generated with investment property in the year under review (previous year: €0.4 million). The expenses under the same heading amounted to €0.3 million (previous year: €0.4 million).

Figures in €k	2016	2015
<b>Historical cost</b>		
Jan. 1	4,687	2,843
Changes in consolidation scope	–	–
Additions	–	–
Disposals	–	176
Reclassifications	–14	2,002
Currency translation differences	–62	18
<b>Dec. 31</b>	<b>4,611</b>	<b>4,687</b>
<b>Depreciation</b>		
Jan. 1	1,017	194
Changes in consolidation scope	–	–
Additions	142	143
Disposals	–	21
Reclassifications	–5	701
Currency translation differences	–26	1
<b>Dec. 31</b>	<b>1,128</b>	<b>1,017</b>
<b>Net book value</b>	<b>3,483</b>	<b>3,670</b>

## (22) Non-current financial assets

Classified under non-current financial assets are shares in affiliated companies which, due to materiality reasons, are not consolidated, investments in other entities and also financial investment securities. The carrying amount in-

creased by €0.4 million from €12.1 million to €12.5 million. The adjustment in the fair value of shares held in S.C. Oltchim S.A. amounted in 2016 to €–0.3 million (previous year: €9.6 million).

## (23) Inventories

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
Raw materials and supplies	14,209	15,109
Work in progress	9,224	9,761
Finished products	7,990	7,273
Merchandise	8,778	8,818
Goods in transit	2,248	2,700
Advance payments	3,157	2,060
<b>Total inventories</b>	<b>45,607</b>	<b>45,720</b>

Inventories remained virtually flat year on year. As of the closing date, the change was from €45.7 million to €45.6 million. Due to increasing marketability in fiscal 2016, there was €0.4 million in write-ups on previously impaired inventories,

while in the previous year the figure was just €25k. Impairment losses in fiscal 2016 amounted to €0.6 million (previous year: €0.9 million).

## (24) Trade accounts receivable

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
Trade accounts receivable	71,542	70,589
Individual value adjustments	-4,039	-5,618
<b>Total trade accounts receivable</b>	<b>67,503</b>	<b>64,972</b>

Trade accounts receivable as of December 31, 2016 all have a remaining term of up to one year in their full amount. They increased by €2.5 million or 3.9% year on year. Compared to the previous year, write-ups on value adjustments decreased

from €3.1 million to €0.7 million. In all, value adjustments on trade accounts receivable within the Group amounted to €4.0 million, representing a decrease of €1.6 million compared to the previous year.

Figures in €k	2016	2015
<b>Value adjustments per Jan. 1</b>	<b>-5,618</b>	<b>-4,238</b>
Changes in consolidation scope	-	-
Additions of write-downs	-734	-3,078
Reversals of write-downs	2,049	1,531
Disposals	160	210
Currency translation differences	104	-42
Other effects	-	-
<b>Value adjustments per Dec. 31</b>	<b>-4,039</b>	<b>-5,618</b>

The maturity structure of non-impaired trade accounts receivable is indicated in the following table. Around 91 % of

receivables within the Group were neither impaired nor overdue as of December 31, 2016 (previous year: 88 %).

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
<b>Not value-adjusted and not overdue</b>	<b>61,351</b>	57,256
<b>Not value-adjusted and overdue</b>	<b>6,152</b>	7,716
up to 30 days	5,385	6,176
30 to 60 days	257	634
60 to 90 days	73	209
90 to 120 days	87	239
more than 120 days	350	457
<b>Trade accounts receivable</b>	<b>67,503</b>	64,972

Individual companies within the PCC Group use factoring as a receivables financing instrument. The volume of all receivables

sold as of the balance sheet date amounted to €16.0 million (previous year: €14.2 million).

## (25) Other receivables and other assets

Figures in €k	Dec. 31, 2016		Dec. 31, 2015	
	Non-current	Current	Non-current	Current
Accounts receivable from affiliated companies	–	404	–	1,406
Accounts receivable from associated companies	–	10,566	–	–
Accounts receivable from enterprises in which participating interests are held	–	–	–	9,657
Security deposits paid	–	650	–	122
Reimbursement claims for VAT and other duties	–	5,481	–	7,030
Receivables from employees	–	26	–	28
Positive fair values on derivative financial instruments	–	1	–	–
Prepaid expenses and deferred charges	–	5,356	–	4,466
Loans to affiliated companies	–	50	–	517
Other securities	–	–	–	487
Sundry other assets	–	7,488	–	16,728
<b>Other receivables and other assets</b>	<b>–</b>	<b>30,023</b>	<b>–</b>	<b>40,442</b>

Accounts receivable from affiliated companies as of December 31, 2016 all have a remaining term of up to one year in their full amount. They comprise accounts receivable from affiliated, non-consolidated companies. Further information is also provided in the section on related parties, see Note (37). These are largely loan receivables from project companies. Receivables from enterprises in which participating interests are held relate to loan receivables from an entity over which

the PCC Group is unable to exercise control. The change and also the residual amount in respect of sundry other assets relates primarily to a residual purchase price claim against an international investment fund arising from the sale of shares in PCC Exol SA. The PCC Exol SA shares sold serve as security collateral for these claims. There were no impairments of other assets or other receivables from affiliated companies. In the previous year, there were likewise no such impairment losses.

## (26) Equity

The subscribed capital of PCC SE remained unchanged year on year. It amounts to €5.0 million and is fully paid up. It is divided into 5 million individual share certificates with a

par value of €1 per share. The items included under revenue reserves/other reserves as of December 31, 2016 are as follows:

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
Revenue reserves, retained earnings, valuation reserves and debit differentials set off against revenue reserves	67,282	83,026
IFRS transition reserve	21,635	21,635
Share of net result attributable to Group	11,507	-6,076
<b>Total revenue reserves/other reserves</b>	<b>100,424</b>	<b>98,586</b>

The changes in equity are indicated in the statement of changes in equity included in the consolidated financial statements. Revenue reserves/other reserves comprise unappropriated earnings achieved in the reporting period by the subsidiaries included in the consolidated financial statements. The share of the net results from the previous year attributable to the Group in the amount of €5.5 million is disclosed in the revenue reserves as retained earnings. In fiscal 2016, PCC SE retained earnings were used to pay the

shareholder of PCC SE an amount of €1.25 million (previous year: €1.35 million). This corresponds to a dividend per share amounting to €0.25 (previous year: €0.27). Recognised under other comprehensive income are differences arising from foreign currency translation. In the year under review, these decreased other comprehensive income by €4.3 million to a total of €-21.3 million (previous year: €-17.0 million). Gains and losses recognised directly in equity without affecting income are shown in the following:

Figures in €k	Currency translation differences	Remeasurement of defined benefit pension plans	Fair value of financial assets	Fair value of cash flow hedges	Other changes	Total
Jan. 1, 2016	-16,974	-114	6,872	627	-43	-9,631
Changes	-4,294	-56	-277	-268	-15	-4,909
Reclassifications	-	-	-	-	-	-
Deferred taxes	-	10	83	47	-	140
<b>Dec. 31, 2016</b>	<b>-21,268</b>	<b>-160</b>	<b>6,678</b>	<b>406</b>	<b>-58</b>	<b>-14,401</b>

Figures in €k	Currency translation differences	Remeasurement of defined benefit pension plans	Fair value of financial assets	Fair value of cash flow hedges	Other changes	Total
Jan. 1, 2015	-21,892	-123	170	631	-29	-21,243
Changes	3,929	-3	9,595	-3	-14	13,504
Reclassifications	989	-	-	-	-	989
Deferred taxes	-	12	-2,893	-1	-	-2,882
<b>Dec. 31, 2015</b>	<b>-16,974</b>	<b>-114</b>	<b>6,872</b>	<b>627</b>	<b>-43</b>	<b>-9,631</b>

## (27) Minority interests

German and international minority shareholders hold non-controlling interests in various entities of the PCC Group. The share of minority interests in Group equity as of December 31, 2016 was €44.0 million, which is an increase of around €2.9 million versus year-end 2015. Subsidiaries with material minority interests are active in various segments of the PCC Group. For details of company names, location of company head offices and share of capital in respect of sub-

sidiaries with material minority interests, please consult the schedule of shareholdings provided under Note (42) drawn up in accordance with Section 313 (2) HGB (German Commercial Code).

There are no material restrictions imposed that go beyond the usual regulations under company law and contractual regulations.

Figures in €k	PCC Rokita subgroup		PCC Intermodal S.A.		PCC DEG Renewables GmbH	
	2016	2015	2016	2015	2016	2015
<b>Balance sheet data</b>						
Minority interests	25,548	22,434	6,194	6,443	8,918	7,940
Minority interests in %	15.84	15.84	30.48	30.48	40.00	40.00
Dividends paid to minority interests	3,282	2,738	–	–	–	–
Non-current assets	247,395	235,475	61,371	64,461	20,749	19,315
Current assets	81,571	66,262	12,401	10,939	1,626	697
Non-current liabilities	91,372	88,018	42,033	44,587	–	–
Current liabilities	75,740	71,718	12,071	10,329	79	162
<b>Statement of income</b>						
Net result attributable to minority interests	7,131	3,275	–41	262	296	199
Sales	252,838	250,749	61,843	51,580	–	–
Net result	45,003	20,661	–135	861	740	498
Comprehensive income	44,948	20,642	–138	861	740	498

## (28) Provisions for pensions and similar obligations

Most of the employees of the Polish subsidiaries of the PCC Group are covered by one-time payment benefits from defined benefit pension plans as an add-on to the statutory pension scheme. Defined benefit pension plans are, as a rule, aligned to service time and remuneration. Payments made from defined benefit pension plans are generally granted on attainment of pensionable age or on invalidity or death. Defined contribution plans exist primarily in the form of the statutory pension insurance scheme in Germany and those schemes also applicable to foreign subsidiaries. In the case of employees of the German subsidiaries and the holding company, contributions can also be made to other defined contribution pension schemes in addition to the statutory pension scheme. Typical risk factors for defined benefit obligations are increasing life expectancies, changes in nominal interest rates and increases in inflation and salaries. The present value of the defined benefit obligation arising from a

pension plan is determined on the basis of the best-possible estimate of the mortality of the recipient employees both during the employment relationship and after its termination. An increase in the life expectancy of the recipient employees and a decrease in bond interest rates both lead to an increase in the plan liability. In addition, the present value of the defined benefit obligation arising from a pension plan is determined on the basis of the future salaries of the recipient employees. Increases in salary paid to the recipient employees again lead to an increase in the plan liability. Defined benefit plans are internally financed.

At December 31, 2016, provisions for pensions and similar obligations amounted to €0.6 million, representing an increase of €0.1 million over the prior-year figure of €0.5 million. Of this, €0.5 million was classified as non-current provisions with a term of more than one year.

Figures in €k	2016	2015
<b>Opening balance of pension obligations as of Jan. 1</b>	<b>486</b>	<b>503</b>
Current service cost	37	33
Past service cost	55	–
Payments made	–49	–53
Interest expense	9	10
Actuarial gains/losses from changes in demographic assumptions	12	9
Actuarial gains/losses from changes in financial assumptions	22	–17
Actuarial gains/losses from experience adjustments	33	–
Changes in consolidation scope	–	–1
Currency translation differences	–22	1
Other effects	–	–
<b>Closing balance of pension obligations as of Dec. 31</b>	<b>583</b>	<b>486</b>

In total, 2,648 employees of the PCC Group companies have defined benefit pension plans (previous year: 2,569). Of this figure, around 73 % are male and 27 % are female. The average age at year-end 2016 was 40.1 years (previous year: 40.7 years). As in the previous year, a uniform discount rate of 2.3 % has been applied in calculating pension obligations.

The range adopted for the income trend was 2.0 % to 4.0 % (previous year: 1.5 % to 4.5 %). The Polish mortality table for 2014 published by the Central Office for Statistics, which serves as the basis for pension calculations, anticipates a life expectancy of 75.6 years (previous year: 76.1 years).

Changes in the key actuarial parameters would have the following effects on the amounts shown in respect of pension obligations:

Figures in €k	Increase by 0.25 %-points		Decrease by 0.25 %-points	
	2016	2015	2016	2015
Change in underlying discounting rate	-8	-4	21	23
Change in salary trend	21	23	-8	-4
Change in turnover rate	-8	-5	19	20

The above sensitivity analysis may not be representative for the actual change in the defined benefit obligation, as it can be regarded as improbable that deviations from the assumptions made would occur in isolation.

Included in the expense for fiscal 2016 is €4.5 million representing employer contributions to the statutory pension

scheme (previous year: €4.4 million). In addition to the contributions to the statutory pension scheme, expenses for defined contribution pension plans in the amount of €0.1 million are also included in the result for the current period (previous year: €0.1 million).

Figures in €k	2016	2015
Expenses for defined benefit pension plans	37	33
Expenses for defined contribution pension plans	87	87
<b>Total pension expenses recognised in result</b>	<b>124</b>	<b>120</b>



## (29) Other provisions

Figures in €k	Dec. 31, 2016		Dec. 31, 2015	
	Non-current	Current	Non-current	Current
Accruals for personnel expenses	–	5,931	–	4,836
Provisions for year-end accounting and audit expenses	–	367	–	387
Provisions for obligations to customers	–	1,790	–	1,893
Provisions for litigation risks	–	–	–	267
Sundry other provisions	5,571	1,799	7,043	2,274
<b>Total other provisions</b>	<b>5,571</b>	<b>9,888</b>	<b>7,043</b>	<b>9,657</b>

Compared to the previous year, other provisions decreased by €1.2 million to €15.5 million. Accruals for personnel expenses rose by €1.1 million, while provisions for obligations to customers decreased by €0.1 million. These latter essentially comprise rebates and compensation claims. Accruals for personnel expenses essentially relate to claims for bonus and holiday payments. Sundry other non-current and current provisions include a re-cultivation obligation of a subsidiary

of the PCC Rokita subgroup in the amount of €5.3 million as of December 31, 2016 (previous year: €7.3 million). This is a multi-year obligation arising from local regulations which will remain in place until 2026.

The following table shows the development in other provisions for fiscal 2016. Other changes include foreign exchange effects and changes in the consolidation scope.

Figures in €k	Jan. 1, 2016	Additions	Utilised	Released	Discounted	Other changes	Dec. 31, 2016
Accruals for personnel expenses	4,836	5,578	2,814	1,538	–	–131	5,931
Provisions for year-end accounting and audit expenses	387	286	290	22	–	6	367
Provisions for obligations to customers	1,893	1,789	1,830	–	–	–63	1,790
Provisions for litigation risks	266	–	266	–	–	–	–
Sundry other provisions	9,317	1,588	1,585	2,007	365	–309	7,370
<b>Total other provisions</b>	<b>16,700</b>	<b>9,241</b>	<b>6,785</b>	<b>3,566</b>	<b>365</b>	<b>–497</b>	<b>15,458</b>

### (30) Financial liabilities

The financial liabilities of the PCC Group are comprised of non-current and current liabilities arising from bonds, amounts owed to banks, finance leases, amounts owed to affiliated companies and amounts payable on profit partici-

pation certificates. The maturity structure of the financial liabilities of the PCC Group as of December 31 of the reporting year and the previous year are shown in the table below.

Figures in €k	Remaining term up to 1 yr	Remaining term 1 to 5 yrs	Remaining term more than 5 yrs	Dec. 31, 2016
Profit participation certificates	11,076	–	–	11,076
Bond liabilities	72,466	199,059	121,268	392,793
Bank liabilities	26,518	164,113	41,459	232,090
Finance lease liabilities	3,459	7,592	21	11,072
Financial liabilities with respect to affiliated companies	23	–	–	23
<b>Total financial liabilities</b>	<b>113,542</b>	<b>370,764</b>	<b>162,748</b>	<b>647,054</b>

Figures in €k	Remaining term up to 1 yr	Remaining term 1 to 5 yrs	Remaining term more than 5 yrs	Dec. 31, 2015
Profit participation certificates	–	11,076	–	11,076
Bond liabilities	67,822	189,291	106,023	363,135
Bank liabilities	27,914	56,950	50,109	134,973
Finance lease liabilities	2,794	6,417	5	9,217
Financial liabilities with respect to affiliated companies	487	–	–	487
<b>Total financial liabilities</b>	<b>99,017</b>	<b>263,735</b>	<b>156,137</b>	<b>518,889</b>

The relevant factors when presenting the maturities of contractual cash flows from financial liabilities are interest payments and redemption of principal, and other payments in respect of derivative financial instruments. The following table shows non-discounted future cash flows. Derivatives are included on the basis of their net cash flows where they have

negative fair values and thus represent liabilities. Derivatives with positive fair values are assets and are therefore not taken into account. Trade accounts payable are essentially non-interest-bearing and due within one year. The carrying amount of trade accounts payable therefore corresponds to the total of the future cash flows.

Figures in €k	Remaining term up to 1 yr	Remaining term 1 to 5 yrs	Remaining term more than 5 yrs	Dec. 31, 2016
Profit participation certificates	12,045	–	–	12,045
Bond liabilities	86,981	243,902	123,487	454,371
Bank liabilities	31,168	134,204	86,437	251,808
Finance lease liabilities	3,605	8,454	140	12,198
Financial liabilities to affiliated companies	25	–	–	25
<b>Cash outflows from financial liabilities</b>	<b>133,824</b>	<b>386,560</b>	<b>210,064</b>	<b>730,448</b>

The profit participation certificates as of December 31, 2016 were exclusively issued by PCC SE and remain unchanged year on year with a total of € 11.1 million. Premiums received ("agio") amounting to € 80k (previous year: € 80k) in excess of the nominal value of the participatory rights arising from the issuance of the profit participation certificates are likewise disclosed under this heading. The total contains – in the amount of the repayment obligation – capital increases arising from the issuance of a subordinate profit participation certificate of PCC SE. The profit participation certificate was issued in October 2007 with a volume of up to € 20.0 million in certificate denominations of € 1,000 subject to a minimum investment of € 5,000. Returns take the form of a basic coupon of 8.75 % p.a. on the profit participation certificate value plus an additional coupon amounting to between 0.5 % and 2.0 % p.a., depending on consolidated earnings for the year. Where losses have been incurred during the term of the profit participation certificate programme, participation in such losses occurs as of the date of redemption.

The term of the profit participation certificate programme is essentially indeterminate. PCC SE has exercised its right of redemption and has terminated all profit participation certificates with due notice to December 31, 2017. The notice of termination was published in the German "Handelsblatt" business newspaper. The profit participation certificate total is reported as of year-end December 31, 2016 in the consolidated balance sheet as a current financial liability.

Bank liabilities increased year on year from € 135.0 million to € 232.1 million. This is the result of the predominantly debt-financed capital expenditure programme of the PCC Group. The spread of the financial liabilities between the individual segments is indicated in the segment report.

Secured credit lines within the PCC Group not utilised as of December 31, 2016 amounted to € 24.7 million (previous year: € 6.8 million).

Figures in €k	Dec. 31, 2016		Dec. 31, 2015	
	Non-current	Current	Non-current	Current
Profit participation certificates	–	11,076	11,076	–
Bond liabilities	320,327	72,466	295,314	67,822
Bank liabilities	205,573	26,518	107,059	27,914
Finance lease liabilities	7,613	3,459	6,423	2,794
Financial liabilities to affiliated companies	–	23	–	487
<b>Total financial liabilities</b>	<b>533,512</b>	<b>113,542</b>	<b>419,872</b>	<b>99,017</b>

The bank loans and also the finance leases disclosed under financial liabilities were secured in 2016 in their entirety by mortgages or similar liens, by the assignment of claims, by chattel mortgages on property, plant and equipment, or by other assignments. Overall, collateral securities granted increased from € 136.8 million to € 299.2 million as of the end of fiscal 2016, thus following a trend similar to that of financial liabilities in general.

Bond liabilities result from the issuance of bonds by PCC SE and the foreign subsidiaries PCC Rokita SA, PCC Exol SA and PCC Autochem Sp. z o.o. The non-public bond issued by PCC BakkiSilicon hf is a financing instrument of the joint shareholder for the project to construct a silicon metal production plant. The bonds of PCC Consumer Products Kosmet Sp. z o.o. and of OOO PCC Consumer Products Navigator disclosed in the previous year were redeemed by the respective issuing companies at the end of the reporting year.

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
	Mortgages and similar liens	225,487
Assignment of claims on assets	69,973	56,269
Chattel mortgages	1,591	2,179
Other assignments	2,141	2,748
<b>Liabilities secured</b>	<b>299,192</b>	<b>136,823</b>

Bonds from the PCC Group are issued in euro, Polish zloty and US dollar. The public bonds in euro (EUR) carry coupons between 3.0 % and 7.25 % p.a., while those in zloty (PLN) carry coupons ranging from 5.0 % to 6.8 % p.a.

The bonds issued and their relevant data are shown in the following table. The bonds issued in zloty with a volume totaling PLN 223.1 million (previous year: PLN 126.2 million) had a translated value as of the 2016 closing date of €50.0 million (previous year: €29.6 million).

Figures in €k	Issue currency	Coupon	Issue volume	Dec. 31, 2016	Dec. 31, 2015
<b>Issued by PCC SE</b>					
DE000A1R1AN5	EUR	7.250 %	30,000	29,768	29,768
DE000A162AQ4	EUR	6.000 %	25,000	25,000	12,813
DE000A162AP6	EUR	5.000 %	25,000	25,000	8,002
DE000A13R7S2	EUR	6.250 %	20,000	20,000	20,000
DE000A1YCSY4	EUR	7.000 %	20,000	19,996	19,996
DE000A13SH30	EUR	6.750 %	20,000	19,890	20,000
DE000A14KJ35	EUR	6.000 %	40,000	19,218	19,278
DE000A14KJ43	EUR	6.500 %	35,000	16,181	16,261
DE000A1TM979	EUR	7.000 %	20,000	15,654	15,654
DE000A162AN1	EUR	3.500 %	15,000	14,011	8,886
DE000A13R5K3	EUR	6.500 %	20,000	13,949	13,949
DE000A2AAY85	EUR	4.000 %	25,000	13,227	–
DE000A14KJRO	EUR	4.000 %	20,000	12,005	12,005
DE000A13R7R4	EUR	4.000 %	10,000	10,000	10,000
DE000A11QFD1	EUR	6.750 %	20,000	8,909	8,909
DE000A2AAVL7	EUR	3.500 %	15,000	8,908	–
DE000A2AAAY93	EUR	3.000 %	15,000	4,118	–
DE000A1PGS32	EUR	7.250 %	30,000	–	29,995
DE000A1PGNR8	EUR	7.250 %	20,000	–	12,968
DE000A12T7C5	EUR	4.250 %	10,000	–	9,177
DE000A11P9V6	EUR	4.750 %	10,000	–	7,311
DE000A1EWB67	EUR	6.500 %	10,000	–	1,351
DE000A1EWRT6	EUR	6.500 %	3,000	–	269
<b>Issued by PCC BakkiSilicon hf</b>					
Private placement without ISIN	USD	8.500 %	62,000	66,952	56,949
<b>Issued by PCC Exol SA</b>					
PLPCCEX00036	PLN	5.500 %	20,000	4,474	–
PLPCCEX00044	PLN	5.500 %	25,000	5,588	–
<b>Issued by PCC Rokita SA</b>					
PLPCCRK00043	PLN	7.500 %	25,000	–	5,852
PLPCCRK00050	PLN	6.800 %	25,000	5,656	5,824
PLPCCRK00092	PLN	5.500 %	25,000	5,608	5,781
PLPCCRK00068	PLN	5.500 %	22,000	4,944	5,095
PLPCCRK00100	PLN	5.000 %	20,000	4,484	4,625
PLPCCRK00118	PLN	5.000 %	25,000	5,592	–
PLPCCRK00134	PLN	5.000 %	25,000	5,586	–
PLPCCRK00126	PLN	5.000 %	20,000	4,472	–
PLPCCRK00159	PLN	5.000 %	13,772	3,078	–
<b>Issued by PCC Consumer Products Kosmet S.A.</b>					
PLPCCPK00013	PLN	6.800 %	4,164	–	848
PLPCCPK00021	PLN	6.000 %	3,000	–	704
<b>Issued by OOO PCC Consumer Products Navigator</b>					
Private placement without ISIN	EUR	10.400 %	468	–	322
<b>Issued by PCC Autochem Sp. z o.o.</b>					
PLPCCTH00011	PLN	6.800 %	2,319	526	544
<b>Total bond liabilities</b>				<b>392,793</b>	<b>363,135</b>

### (31) Other liabilities

Figures in €k	Dec. 31, 2016		Dec. 31, 2015	
	Non-current	Current	Non-current	Current
Deferred income	40,008	1,735	35,637	1,060
Income tax and similar taxes payable	–	813	–	831
Advance payments received	–	327	–	202
Social security contributions payable	–	1,866	–	2,065
Interest payment obligations	–	5,753	–	5,315
VAT, customs, excise and other duties payable	–	2,674	–	1,224
Accounts payable to employees	–	2,282	–	2,177
Accounts payable to affiliated companies	–	1,213	–	1,030
Liabilities arising from investments	121	9,166	46	7,028
Accounts payable to enterprises in which participations are held	–	–	–	–
Sundry other liabilities	82	11,022	3,022	17,231
<b>Total other liabilities</b>	<b>40,210</b>	<b>36,851</b>	<b>38,705</b>	<b>38,162</b>

Other liabilities rose by €0.2 million from €76.9 million to €77.1 million. In particular, there was an increase in non-current deferred income compared to the previous year from €35.6 million to €40.0 million. Essentially, this was the result of grants received for the current investment project of PCC BakkiSilicon hf. In the 2016 reporting year, a total of €1.3 million was released through profit or loss from deferred income at subsidiaries (previous year: €0.6 million).

Current sundry other liabilities decreased year on year by €6.2 million from €17.2 million to €11.0 million. Liabilities arising from interest payment obligations relate primarily to interest on bonds falling due at the start of the following quarter.

### (32) Deferred taxes

Deferred taxes are recognised on temporary differences between the carrying amounts of assets, liabilities and accruals in the balance sheet and their tax base. For German affiliates, the tax rate applied is 30 %, as was the case in the previous year. For international companies, the relevant national tax rates continued to be applied unchanged:

in %	2016	2015
Belarus	18.0	18.0
Bosnia and Herzegovina	10.0	10.0
Bulgaria	10.0	10.0
Czech Republic	19.0	19.0
Germany	30.0	30.0
Iceland	20.0	20.0
Poland	19.0	19.0
Republic of Macedonia	10.0	10.0
Romania	16.0	16.0
Russia	20.0	20.0
Turkey	20.0	20.0
USA	34.0	34.0

The distribution of deferred taxes among the various items on the balance sheet is shown in the following table. Within the PCC Group, deferred tax assets and liabilities are offset and disclosed as netted balances where they relate to the same tax jurisdiction and where there is an enforceable right

to the offsetting of tax liabilities and tax receivables. For fiscal 2016, deferred tax assets amounted to €4.4 million (previous year: €3.7 million) and deferred tax liabilities amounted to €10.6 million (previous year: €10.9 million).

Figures in €k	Deferred tax assets		Deferred tax liabilities	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Intangible assets	12	8	288	149
Property, plant and equipment	540	543	10,950	10,826
Financial assets	143	140	–	–
Inventories	227	100	–	–
Receivables	385	205	74	93
Securities	–	–	0	–
Other assets	1	–	31	193
Pension provisions	93	81	–	–
Accruals	–	–	111	–
Other provisions	888	772	–	3
Liabilities	267	531	48	101
Other liabilities	1,141	187	8	24
Unused tax losses	2,105	2,689	–	40
Sundry deferred taxes	3,219	2,454	84	–244
Amounts netted	–4,595	–3,988	–974	–236
<b>Total deferred taxes</b>	<b>4,425</b>	<b>3,723</b>	<b>10,619</b>	<b>10,949</b>

The table above shows the un-netted deferred taxes. Deferred taxes arising from consolidation adjustments amounted to around €1.0k in 2016 (previous year: €25.8k), and relate primarily to eliminated intercompany profits. Sundry deferred taxes include future tax benefits arising from activities in a special economic zone.

The deferred tax assets on unused tax losses carried forward decreased in the year under review by a total of €0.5 million. They were essentially set off against profits generated.

### (33) Additional disclosures relating to financial instruments

As an internationally active corporation, the PCC Group is exposed to financial risks in the course of its ordinary business operations. A major objective of the corporate policy is to generally restrict market, default and liquidity risks, both in order to secure enterprise value over the long term and also maintain the Group's earning power and thus extensively cushion the impact of fluctuations in cash flow and earnings.

The Group holding company and the individual subsidiaries cooperate in the management of interest rate and currency risks, and also default risks. Each individual operating unit is responsible for managing its own commodity price risks, while liquidity control is the responsibility of the holding company.

#### Market risks

**Currency risks:** Changes in exchange rates can lead to losses in the value of financial instruments and also to disadvantageous changes in future income streams from planned transactions. Currency risks in respect of financial instruments result from the translation of financial receivables, loans, securities, cash sums and financial liabilities into the functional currency of the various companies as of the reporting date. Specifically, currency risks arise both on the purchase side through the procurement of commodities and raw materials, and on the selling side as a result of the sale of end products. A potential change in the Polish zloty of 10 % would affect the equity and annual net earnings of the Group to the tune of € 1.0 million (previous year: € 2.4 million). A change in the exchange rate of the US dollar of likewise 10 % would have an impact on these items of € 1.6 million (previous year: € 1.8 million).

**Interest rate risks:** These risks arise as a result of potential changes in the market interest rate, causing fluctuations in the fair value of financial instruments bearing a fixed interest rate, and fluctuations in interest payments in the case of financial instruments bearing floating interest rates. A potential change in interest rates of 100 basis points would affect the equity and annual net earnings of the Group to the tune of € 3.8 million (previous year: € 3.8 million).

**Commodity price risks:** These risks result from market price changes in relation to commodity purchases and sales, and also the purchase of electricity and gas. The general risk situation of the PCC Group is greatly affected by the availability and also the price-dependency of relevant raw materials, input products and intermediate products. Within this context, the dependency of important commodity prices on foreign exchange rates and, in particular, the oil price, is especially relevant. Price volatilities are hedged, for example, through the agreement of price escalator clauses with suppliers and customers. Moreover, commodity price risks are restricted by internationally aligned sourcing activities. Backward integra-

tion along the value chain or along the various production stages encountered in the segments of the Chemicals division provides for an additional, high degree of independence in the procurement of raw materials and commodities, thus reducing risk to an acceptable level. The commodity trading business in the Speciality Chemicals segment is exposed to major price fluctuations that can occur from time to time.

#### Default or credit risks

Default or credit risks arise when contractual partners are unable to meet their contractual obligations. Credit limits are granted based on the continuous monitoring of the creditworthiness of major debtors. Because of the international activity and the diversified customer structure of the PCC Group, there are no major regional or segment-specific clusters of default risks. In selecting short-term capital investments, various safeguarding criteria are taken into account (e.g. ratings, capital guarantee or protection afforded by deposit protection funds). Given the selection criteria applied and our regime of constantly monitoring our capital investments, the PCC Group does not envisage any unidentified default risk occurring in this domain. The financial asset amounts shown in the balance sheet essentially represent the maximum default risk.

Such risks are regularly monitored and analysed within the framework of a receivables and credit management regime and also by a Working Capital Management unit with responsibility at both the operational and Group levels. In all, receivables from customers are secured for an amount of € 42.6 million (previous year: € 44.8 million). Financial assets that are neither overdue nor impaired are categorised as collectable in line with the creditworthiness of the debtor.

#### Liquidity risks

Liquidity risks result from income stream fluctuations. Current liquidity is monitored and controlled by a treasury reporting system implemented across the Group based on an IT-supported solution ("Treasury Information Platform"). In medium- and long-term liquidity planning, liquidity risks are identified and managed at their inception on the basis of simulations of various scenarios.

The possibility of increasing obstacles within the SME bonds market could possibly, at least temporarily, lead to liquidity bottlenecks. This risk is to be countered over the long term through the acquisition of alternative financing sources at the institutional level. Work is also ongoing on using bank loans to partially replace the liquidity loans granted to the affiliated companies.

One subsidiary uses forward contracts to hedge transactions in foreign currencies. The nominal value of these contracts

as of the balance sheet date was €190.5k (previous year: €46.7k). The fair value was recognised as an asset in the amount of €0.1k (previous year: liability of €0k).

Within the PCC Group, interest rate swaps are used in order to hedge interest rates and their long-term development. As of year-end, the nominal value of existing derivatives amounted to €36.1 million (previous year: €0), with a fair value of €0.3 million recognised as an asset as of the reporting date (previous year: €0).

A derivative is also used as a combined hedging instrument covering both interest rate and currency risks. The nominal value as of the reporting date was €2.2 million (previous year: €0), with the fair value recognised as an asset in the amount of €0.1 million (previous year: €0).

### Financial instruments by class and category

In the case of trade accounts receivable, receivables from affiliated companies and from enterprises in which participations are held, other financial assets, cash and cash equivalents, and trade accounts payable and other financial liabilities, the carrying amount approximates to the fair value, provided these instruments are short-term/current in nature. Assets that are not quoted on an active market and for which the fair value cannot therefore be reliably determined, are measured at cost.

Figures in €k	Carrying amounts Dec. 31, 2016	Categories					Fair Value
		FAHFT	AfS	LaR	FLaC	FLHFT	
<b>Financial assets</b>							
Non-current financial investments	12,513	329	12,184	–	–	–	9,696
Other non-current financial assets	8,629	–	–	8,629	–	–	8,629
Trade accounts receivable	67,503	–	–	67,503	–	–	67,503
Receivables from affiliated companies	404	–	–	404	–	–	404
Receivables from associated companies	10,566	–	–	10,566	–	–	10,566
Other financial assets	701	1	–	700	–	–	701
Cash and cash equivalents	83,969	–	–	83,969	–	–	83,969
<b>Financial liabilities</b>							
Bond liabilities	392,793	–	–	–	392,793	–	395,661
Profit participation certificates	11,076	–	–	–	11,076	–	11,076
Bank liabilities	232,090	–	–	–	232,090	–	233,897
Finance lease liabilities	11,072	–	–	–	–	–	11,072
Other financial liabilities	1,541	1	–	–	1,540	–	1,541
Trade accounts payable	62,414	–	–	–	62,414	–	62,414

FAHFT = Financial assets held for trading; AfS = Available for sale; LaR = Loans and receivables; FLaC = Financial liabilities measured at amortised cost; FLHFT = Financial liabilities held for trading



Figures in €k	Carrying amounts Dec. 31, 2015	Categories					Fair Value
		FAHfT	AfS	LaR	FLaC	FLHfT	
<b>Financial assets</b>							
Non-current financial investments	12,119	–	12,119	–	–	–	9,643
Other non-current financial assets	4,771	–	–	4,771	–	–	4,771
Trade accounts receivable	64,972	–	–	64,972	–	–	64,972
Receivables from affiliated companies	1,406	–	–	1,406	–	–	1,406
Receivables from enterprises in which participating interests are held	9,657	–	–	9,657	–	–	9,657
Other financial assets	1,127	122	–	1,005	–	–	1,127
Cash and cash equivalents	80,398	–	–	80,398	–	–	80,398
<b>Financial liabilities</b>							
Bond liabilities	363,135	–	–	–	363,135	–	362,870
Profit participation certificates	11,076	–	–	–	11,076	–	11,076
Bank liabilities	134,973	–	–	–	134,973	–	134,973
Finance lease liabilities	9,217	–	–	–	–	–	9,217
Other financial liabilities	1,232	0	–	–	1,232	–	1,232
Trade accounts payable	63,596	–	–	–	63,596	–	63,596

FAHfT = Financial assets held for trading; AfS = Available for sale; LaR = Loans and receivables; FLaC = Financial liabilities measured at amortised cost; FLHfT = Financial liabilities held for trading

Individual liabilities arising from bonds issued by subsidiaries contain sales commission and are recognised in accordance with the effective interest method. The fair value indicated in this section corresponds to the market quotations.

Figures in €k	2016	2015
Loans and receivables (LaR)	–1,640	–1,426
Available for sale (AfS)	–164	–94
Financial instruments held for trading (FAHfT, FLHfT)	–200	–9
Financial liabilities carried at amortised cost (FLaC)	–33,456	–25,667

The net gains and net losses from financial instruments comprise valuation results, the carrying amounts of premiums and discounts, the recognition and reversal of expenses arising from impairments, currency translation results, and interest, dividends and all other effects on income arising

from financial instruments. Under the heading “Financial instruments valued at fair value through profit and loss”, only those results appear pertaining to such instruments that have not been designated as hedging instruments in a hedging arrangement to IAS 39. Net gains and net losses on financial assets held for sale contain results arising from depreciation and amortisation, write-ups, interest, dividends and reclassifications of valuation effects from equity through profit and loss on the sale of securities or investments.

Financial assets and liabilities measured at fair value are indicated in the following table. These relate to shares that are valued on the basis of stock market prices (Level 1) and to derivatives. The fair value of derivative financial instruments is dependent on the development of the underlying market factors. The relevant fair values are determined and monitored at regular intervals. The fair value determined for all derivative financial instruments is the price that would be paid on the sale of the asset or on transfer of a liability in a standard arm’s length transaction made on the valuation date between independent market participants.

Figures in €k	Level 1	Level 2	Level 3	Dec. 31, 2016
<b>Financial assets</b>				
Available for sale	9,367	–	–	9,367
Financial instruments held for trading	–	330	–	330
<b>Financial liabilities</b>				
Financial instruments held for trading	–	1	–	1

Figures in €k	Level 1	Level 2	Level 3	Dec. 31, 2015
<b>Financial assets</b>				
Available for sale	9,748	–	–	9,748
Financial instruments held for trading	–	–	–	–
<b>Financial liabilities</b>				
Financial instruments held for trading	–	0	–	0

### Derivative financial instruments

The subsidiaries of the PCC Group use derivative financial instruments in order to hedge both interest rate and currency risks. The methods and assumptions underlying the valuation of the derivative financial instruments used can be summarised as follows: Currency transactions and

swaps are measured individually by their forward rate or forward price as of the balance sheet date. The forward rates or prices are based as far as possible on market quotations, taking into account forward premiums and discounts where appropriate.

Figures in €k	Dec. 31, 2016		Dec. 31, 2015	
	Nominal value	Fair value	Nominal value	Fair value
Forward exchange contracts	191	0	47	0
Interest rate swaps	38,365	329	–	–
<b>Derivative financial instruments</b>	<b>38,556</b>	<b>329</b>	<b>47</b>	<b>0</b>

### Cash flow hedges

A Polish subsidiary has taken out a loan in euro in order to hedge against future revenues in a foreign currency. The valuation adjustments as of the respective reporting dates during the term of this loan are recognised in other comprehensive income. Cash flows from this cash flow hedge are due

in 2021. The fair value amounts to €0.4 million (previous year: €0.6 million). In the period under review, a change in value of €0.3 million (previous year: €2.2k) was recognised in other comprehensive income.

## (34) Leases

Figures in €k	2016	2015
<b>Historical cost</b>		
Jan. 1	17,011	15,472
Changes in consolidation scope	–	–266
Additions	8,898	3,560
Disposals	2	1,776
Currency translation differences	–531	20
<b>Dec. 31</b>	<b>25,376</b>	<b>17,011</b>
<b>Amortisation</b>		
Jan. 1	3,789	3,790
Changes in consolidation scope	–	–43
Additions	614	1,125
Disposals	1	1,051
Currency translation differences	–107	–32
<b>Dec. 31</b>	<b>4,295</b>	<b>3,789</b>
<b>Net book value</b>	<b>21,080</b>	<b>13,222</b>

Included in property, plant and equipment are assets which are regarded as economic goods owned on the basis of finance leases. Some finance lease agreements contain pur-

chase options. In 2016, as in the previous year, there were no material future minimum lease payments arising from sub-leasing agreements to offset lease liabilities.

Figures in €k	Remaining term up to 1 yr	Remaining term 1 to 5 yrs	Remaining term more than 5 yrs	Dec. 31, 2016
Minimum finance lease payments	3,746	8,379	22	12,147
Discount	286	787	1	1,075
Present value	3,459	7,592	21	11,072

Figures in €k	Remaining term up to 1 yr	Remaining term 1 to 5 yrs	Remaining term more than 5 yrs	Dec. 31, 2015
Minimum finance lease payments	3,022	7,268	5	10,295
Discount	227	851	–	1,078
Present value	2,794	6,417	5	9,217

In addition to the finance lease commitments, the PCC Group is also a lessee with respect to operating lease agreements. The associated commitment arising from minimum

lease payments amounts to €19.5 million (previous year: €17.8 million). A corresponding maturity profile is provided in Note (35).

### (35) Contingent liabilities and other financial commitments

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
Contingent liabilities arising from warranty agreements	–	–
Contingent liabilities arising from sureties and debt guarantees	46	302
Other contingent liabilities	–	–
<b>Total contingent liabilities</b>	<b>46</b>	<b>302</b>

The liabilities arising from sureties and debt guarantees and also the other contingent liabilities are attributable to Polish subsidiaries. These are guarantees granted either to non-consolidated companies or to third parties. They relate to leases and obligations to government bodies. The PCC Group's current estimates indicate that no claims will be made against any such sureties or debt guarantees.

As of December 31, 2016, there were certain commitments arising from operating leases and other financial obligations. In particular, commitments arising from investment agreements decreased significantly.

There were no other major financial commitments in 2016 to entities not included in the consolidated financial statements.

Figures in €k	Remaining term up to 1 yr	Remaining term 1 to 5 yrs	Remaining term more than 5 yrs	Dec. 31, 2016
Operating lease commitments	4,963	3,258	11,275	19,495
Investment commitments for intangible assets	1,553	–	–	1,553
Investment commitments for property, plant and equipment	71,823	–	–	71,823
Other commitments (incl. pending transactions)	180	–	–	180
<b>Total financial commitments</b>	<b>78,518</b>	<b>3,258</b>	<b>11,275</b>	<b>93,051</b>

Figures in €k	Remaining term up to 1 yr	Remaining term 1 to 5 yrs	Remaining term more than 5 yrs	Dec. 31, 2015
Operating lease commitments	3,768	2,876	11,224	17,868
Investment commitments for intangible assets	–	–	–	–
Investment commitments for property, plant and equipment	91,021	60,719	–	151,740
Other commitments (incl. pending transactions)	345	–	–	345
<b>Total financial commitments</b>	<b>95,134</b>	<b>63,595</b>	<b>11,224</b>	<b>169,953</b>

### (36) Statement of cash flows and capital structure management

#### Statement of cash flows

The statement of cash flows shows the changes in cash and cash equivalents that took place in the year under review and is drawn up in accordance with IAS 7. The cash flows are

broken down according to the headings "Cash flow from operating activities", "Cash flow from investing activities" and "Cash flow from financing activities". Interest received

and taxes paid on income are recognised as cash flow from operating activities. Interest paid is disclosed under cash flow from financing activities.

Dividends paid are a component of the financing activities category. Dividends paid within the Group from income attributable to the previous year are eliminated. Dividend payments to the shareholder of PCC SE and also dividend payments to co-shareholders at subsidiaries are reflected in the cash flow from financing activities and are shown separately.

The financial funds equate to the total of cash and cash equivalents (cash in hand, credit balances at banks, and cheques) shown in the balance sheet. In the event of changes in the scope of consolidation arising from the purchase or sale of entities (loss of control), the purchase price paid or received, less the financial funds acquired or sold, is recognised under cash flow from investing activities. In the event that the acquisition or disposal of shares in a subsidiary takes place without a change in status, such transactions are disclosed as financing activities. The conclusion of a finance lease agreement essentially constitutes a non-cash transaction. From fiscal 2016, payments made for investments in property, plant and equipment will be netted in the statement of cash flows against amounts received in respect of finance lease liabilities.

Cash and cash equivalents disclosed in the balance sheet include an amount of €30.4 million (previous year: €32.5 million) in funds not freely available. These are almost entirely attributable to finance provided for the investment project in Iceland.

### Capital structure management

The purpose of capital structure management is to remain financially flexible so that the business portfolio can be effectively further developed and strategic options can be seized. The object of the financial policy of the Group is to secure its liquidity and solvency, limit financial risks and optimise capital costs. The control metric adopted in this regard is the Net debt/EBITDA ratio. In reflecting the relationship between net financial liabilities including current and non-current pension provisions, current and non-current financial liabilities, cash and cash equivalents and also current marketable securities, as well as the EBITDA figure, this constitutes a dynamic indicator of indebtedness.

With a net debt of €563.7 million (previous year: €439.0 million) and a disclosed EBITDA figure of €76.4 million (previous year: €50.8 million), the Net debt/EBITDA ratio for the year under review is 7.4 (previous year: 8.6), representing an improvement of almost 1.3 points.

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
– Cash and cash equivalents	83,969	80,398
– Current securities	–	–
+ Provisions for pensions	583	486
+ Profit participation certificates	11,076	11,076
+ Bond liabilities	392,793	363,135
+ Bank liabilities	232,090	134,973
+ Finance lease liabilities	11,072	9,217
+ Financial liabilities to affiliated companies	23	487
<b>Net financial liabilities</b>	<b>563,668</b>	<b>438,976</b>

Because of financing agreements, individual subsidiaries are subject to external minimum capital requirements reflected in standard financial covenants. These include requirements relating to minimum equity ratios and also maximum levels of indebtedness. The need to comply with these financial

covenants is also taken into account in preparing the annual budget for the following year. According to the information supplied for the purpose of preparing the consolidated financial statements, the existing minimum capital requirements have been adhered to.

# Other disclosures

## (37) Related party disclosures

Balances and business transactions between PCC SE and incorporated subsidiaries regarded as related parties are eliminated as part of the consolidation process and have not been included in these notes and disclosures. Details regarding the business transactions between the PCC Group and other related parties are indicated in the following.

Other receivables and other assets include a claim against the sole shareholder of PCC SE in the amount of €799.9k (previous year: €474.8k). This receivable is short-term in nature and, as in the previous year, carries an interest rate of 6.0% p.a. As of the balance sheet date, December 31, 2016, the PCC Group has claims against affiliated entities not included in the consolidated financial statements for reasons of immateriality amounting to a total of €3.0 million (previous year: €1.5 million). These relate to loans, trade accounts receivable and current loan receivables. The Group-internal financing arrangements carry interest rates ranging between 3.0% p.a. and 10.0% p.a.

For compensation to Board members, please refer to the notes under the section Corporate Bodies (39). For compensation of the Administrative Board, again please refer to the notes under Corporate Bodies (39).

Essentially, sales made to related parties, or purchases from related parties, are transacted at prevailing market prices. Open positions as of the end of the fiscal year are not secured, are non-interest-bearing and will be settled in cash. There are no guarantees covering receivables from related parties or payables to related parties. Following the initiation of a winding-up procedure in respect of OOO PCC Pro-dex Bel, Smilavichy (Belarus), all unsettled claims have been completely written off. The amount involved is €0.4 million (previous year: €0).

Claims against the affiliated company OOO DME Aerosol amounted to €1.8 million as of the balance sheet date (previous year: €0.6 million) and relate to loan receivables. As in the previous year, these receivables bear an interest rate of 10.0% p.a. The loans were granted for the development and construction of a dimethyl ether plant on the production site of the joint venture partner. In all, the joint venture company has been granted loans by PCC SE in the amount of €3.5 million which can be drawn down as the project proceeds through various defined milestones.

Figures in €k	2016	2015
<b>Sales with related parties</b>		
Non-consolidated entities	1,712	2,466
Joint ventures	–	–
Associated companies	–	–
<b>Receivables from related parties</b>		
Non-consolidated entities	2,977	1,468
Joint ventures	1,770	649
Associated companies	10,566	–
<b>Liabilities to related parties</b>		
Non-consolidated entities	1,236	487
Joint ventures	–	–
Associated companies	–	–

### (38) Alternative performance measures

The consolidated financial statements and the management report of the PCC Group are prepared in accordance with currently applicable accounting standards. In addition to the disclosures and key financial metrics required by these standards, the PCC Group uses and publishes alternative performance measures (APMs). These are not subject to the regulations of the accounting standards. The PCC Group determines and uses APMs in order to facilitate comparability of such performance measures over time and within the international business environment. These performance measures are used both in the assessment of external third parties and also internally for the management and control of business units.

Determination of these performance measures is by addition, subtraction, multiplication or division of individual or several items in the consolidated balance sheet and the consolidated statement of income. The APMs are applied unchanged versus the previous period.

The PCC Group determines the following alternative performance measures:

- EBIT
- EBITDA
- Net debt
- Return on capital employed (ROCE)
- Capital employed
- Gross profit
- Gross margin

EBIT (Earnings before Interest and other financial items and Taxes) serves as a measure of operating profit without taking into account differing international taxation systems and differing financing structures. The PCC Group ascertains its figures as follows:

Figures in €k	2016	2015
Earnings before taxes (EBT)	24,609	1,216
+/- Interest and other financial items	-23,611	-25,651
<b>= EBIT</b>	<b>48,219</b>	<b>26,867</b>

EBITDA (Earnings before Interest and other financial items, Taxes, Depreciation and Amortisation) provides an adjusted view of operating profit before financial items, free of

differing depreciation and amortisation methods and irrespective of variations in assessment. It is determined within the PCC Group as follows:

Figures in €k	2016	2015
EBIT	48,219	26,867
+/- Depreciation and amortisation	28,202	23,920
<b>= EBITDA</b>	<b>76,422</b>	<b>50,787</b>

The EBIT margin and the EBITDA margin are relative metrics used by the PCC Group for internal management and control of its segments and for international comparison. The margins are calculated by determining the ratio of EBITDA or EBIT to sales revenues.

For usage and calculation of the net debt figure and also the relative metric in the form of the Net debt/EBITDA ratio,

please refer to Note (36) and the explanations concerning capital structure management contained therein.

Return on capital employed (ROCE) reflects the ratio of EBIT to average capital employed. EBIT is profit or loss (operating result) before financial items (before financial result) and taxes. Capital employed is calculated from the carrying values of equity and debt capital used by the PCC Group.

Figures in €k	Dec. 31, 2016	Dec. 31, 2015
+ Equity	135,049	135,047
+ Current financial liabilities	113,542	99,017
+ Non-current financial liabilities	533,512	419,872
+ Provisions for pensions and similar obligations	583	485
<b>= Capital employed</b>	<b>782,686</b>	<b>654,421</b>
Average capital employed	718,554	590,251

Figures in €k	2016	2015
Sales	568,943	571,063
+ Change in inventory of finished products and work in progress	1,172	695
+ Other internal costs capitalised	8,802	4,808
– Purchased goods and services	397,664	419,317
<b>= Gross profit</b>	<b>181,253</b>	<b>157,249</b>

Gross margin refers to gross profit as a ratio of sales.

### (39) Corporate bodies

The corporate bodies of PCC SE are as follows:

#### Managing Directors:

- Ulrike Warnecke, Finance and Human Resources, Organisation and Public Relations, Trading and Consumer Products
- Dr. rer. oec. (BY) Alfred Pelzer, Chemicals Production, Logistics and Sales

The Managing Directors received remunerations totalling €617k in fiscal 2016 (previous year: €464k), recorded in full as short-term employee benefits.

#### Administrative Board:

- Dipl. Volkswirt Waldemar Preussner, Chairman of the Administrative Board
- Dr. rer. oec. (BY) Alfred Pelzer, Vice Chairman of the Administrative Board, Managing Director of PCC SE
- Reinhard Quint, Member of the Administrative Board, Member of the Corporate Development Council of Duisburger Hafen AG, Duisburg, Germany

The Administrative Board received emoluments amounting to €145k in fiscal 2016 (previous year: €132k), recorded in full as short-term employee benefits.

#### Annual General Meeting:

The Annual General Meeting of PCC SE took place on July 13, 2016. The consolidated financial statements and the Group management report for 2015 were both approved, as were the actions of the Managing Directors and the Administrative Board of PCC SE. Further, Warth & Klein Grant Thornton AG, Düsseldorf, was reappointed as auditor for fiscal 2016.



## (40) Events after the balance sheet date

Bond ISIN DE000A13R7R4 with a placed volume of €10.0 million was redeemed in full on maturity as of January 1, 2017. It was issued by PCC SE on December 1, 2014, offering a coupon of 4.0 % p.a.

The subsidiary PCC Energy Trading GmbH was renamed distripark GmbH effective as from January 2017. The purpose of the company was also duly changed. The company is developing the online sale and distribution of PCC products in Germany.

The agreement signed in December 2016 by PCC Rokita SA for the purchase of a 25 % stake in IRPC Polyol Company Ltd. headquartered in Bangkok, Thailand, came into force in January 2017. The parent of this company is the Thai petrochemicals concern IRPC Public Co. Ltd. The two companies are already connected by a joint venture, IRPC PCC, established at the beginning of 2015 for the sale of polyols and PU systems. The provisional purchase price for the 25 % shareholding lies in the region of 82.5 million baht (around €2.2 million). The final price will be determined on the basis of the audited financial statements of IRPC Polyol for fiscal 2016. PCC Roki-

ta SA has also committed to acquiring a further 25 % of the shares in IRPC Polyol within three years from the purchase agreement coming into force, or to sell the shareholding acquired to the majority shareholder IRPC Public Co. Ltd. in the event that it does not take up the stock option.

In February 2017, ZAO Novobalt Terminal changed its name to AO Novobalt Terminal.

The joint venture Elpis Sp. z o.o., Brzeg Dolny, established by PCC Rokita SA and PCC Exol SA, signed a collaboration agreement with PETRONAS Chemicals Group, Malaysia, in February 2017. The objective of the alliance is to examine the possibility of an investment in a joint production site in the Malaysian town of Kertih in the province of Terengganu.

In order to partially refinance the bonds falling due in the future and for further investments in existing portfolio companies and new projects, bond ISIN DE000A2AAY93 issued by PCC SE on October 17, 2016, was increased by €10.0 million to a total of €25.0 million in March 2017. The bond offers a coupon of 3.0 % p.a. and matures on July 1, 2018.

## (41) Miscellaneous

The PCC Group and the individual German companies were audited by Warth & Klein Grant Thornton AG, Düsseldorf, and their respective financial statements were given an unqualified opinion. The fee for audit services in respect of these companies and the Group amounted to €175.0k

(previous year: €133.0k). The fee for other services performed in the course of fiscal 2016 was €6.2k (previous year: €140.0k). Charges for tax consultancy services amounted to €0 (previous year: €20.0k).

## (42) Schedule of shareholdings in accordance with Section 313 (2) HGB

Name and head office of company	Segment	Currency	Exchange rate as of Dec. 31, 2016 1 euro =	PCC SE participating interest in %		2016	2015
				Direct	Indirect		
<b>Parent company</b>							
PCC SE, Duisburg	Holding/Projects	EUR	1.0000	–	–	–	–
<b>Fully consolidated subsidiaries</b>							
distripark.com Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	48.98	42.94	91.92	84.16
Ekologistyka Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	–	84.16	84.16	84.16
GRID BH d.o.o., Sarajevo	Energy	BAM	1.9558	–	51.37	51.37	51.37
Kosmet Sp. z o.o., Brzeg Dolny	Consumer Products	PLN	4.4103	–	100.00	100.00	100.00
LabMatic Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	–	83.94	83.94	83.94
MCAA SE, Brzeg Dolny	Chlorine	PLN	4.4103	100.00	–	100.00	100.00
Novi Energii OOD, Sofia	Energy	BGN	1.9558	–	36.00	36.00	36.00
OOO PCC Consumer Products, Moscow	Consumer Products	RUB	64.3000	–	100.00	100.00	100.00
OOO PCC Consumer Products Navigator, Grodno	Consumer Products	BYN	2.0450	–	100.00	100.00	100.00
PCC Apakor Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	–	83.81	83.81	83.81
PCC Autochem Sp. z o.o., Brzeg Dolny	Logistics	PLN	4.4103	–	84.16	84.16	84.16
PCC BakkiSilicon hf., Húsavík	Holding/Projects	USD	1.0541	86.50	–	86.50	86.50
PCC Chemax, Inc., Piedmont, SC	Surfactants	USD	1.0541	–	88.64	88.64	80.04
PCC Consumer Products Czechowice S.A., Czechowice-Dziedzice	Consumer Products	PLN	4.4103	–	99.74	99.74	99.74
PCC Consumer Products Kosmet Sp. z o.o., Brzeg Dolny	Consumer Products	PLN	4.4103	–	100.00	100.00	100.00
PCC Consumer Products S.A., Brzeg Dolny	Consumer Products	PLN	4.4103	100.00	–	100.00	100.00
PCC DEG Renewables GmbH, Duisburg	Energy	EUR	1.0000	60.00	–	60.00	60.00
PCC Energetyka Blachownia Sp. z o.o., Kędzierzyn-Koźle	Energy	PLN	4.4103	84.46	–	84.46	84.46
PCC Energia EOOD, Sofia	Polyols	BGN	1.9558	100.00	–	100.00	100.00
PCC Energy Trading GmbH, Essen	Energy	EUR	1.0000	100.00	–	100.00	100.00
PCC EXOL Kimya Sanayi ve Ticaret Limited Şirketi, Istanbul	Surfactants	TRY	3.7072	–	88.64	88.64	80.04
PCC EXOL SA, Brzeg Dolny	Surfactants	PLN	4.4103	88.64	–	88.64	80.04
PCC HYDRO DOOEL Skopje, Skopje	Energy	MKD	61.4812	–	60.00	60.00	60.00
PCC Intermodal GmbH, Duisburg	Logistics	EUR	1.0000	–	69.52	69.52	69.52
PCC Intermodal S.A., Gdynia	Logistics	PLN	4.4103	69.52	–	69.52	69.52
PCC IT S.A., Brzeg Dolny	Holding/Projects	PLN	4.4103	100.00	–	100.00	100.00
PCC Izvorsko EOOD, Sofia	Energy	BGN	1.9558	–	60.00	60.00	60.00
PCC MCAA Sp. z o.o., Brzeg Dolny	Chlorine	PLN	4.4103	–	97.30	97.30	100.00
PCC MORAVA-CHEM s.r.o., Český Těšín	Speciality Chemicals	CZK	27.0210	98.00	2.00	100.00	100.00
PCC NEW HYDRO DOOEL Skopje, Skopje	Energy	MKD	61.4812	–	60.00	60.00	60.00
PCC Packaging Sp. z o.o., Brzeg Dolny	Consumer Products	PLN	4.4103	–	84.16	84.16	84.16
PCC Prodex GmbH, Essen	Polyols	EUR	1.0000	–	84.16	84.16	84.16
PCC Prodex Sp. z o.o., Brzeg Dolny	Polyols	PLN	4.4103	–	84.16	84.16	84.16
PCC PU Sp. z o.o., Brzeg Dolny	Polyols	PLN	4.4103	–	84.16	84.16	84.16
PCC Rokita SA, Brzeg Dolny	Polyols, Chlorine, Speciality Chemicals, Energy, Holding	PLN	4.4103	84.16	–	84.16	84.16
PCC Seaview Residences ehf., Húsavík	Holding/Projects	ISK	119.1300	100.00	–	100.00	–
PCC Silicium S.A., Zagorze	Speciality Chemicals	PLN	4.4103	99.99	–	99.99	99.99
PCC Synteza S.A., Kędzierzyn-Koźle	Speciality Chemicals	PLN	4.4103	100.00	–	100.00	100.00
PCC Therm Sp. z o.o., Brzeg Dolny	Polyols	PLN	4.4103	–	84.16	84.16	84.16
PCC Trade & Services GmbH, Duisburg	Speciality Chemicals	EUR	1.0000	100.00	–	100.00	100.00
S.C. Euro-Urethane S.R.L., Râmnicu Vâlcea	Speciality Chemicals	RON	4.5390	58.72	–	58.72	58.72
ZAO NOVOBALT Terminal, Kaliningrad	Speciality Chemicals	RUB	64.3000	–	100.00	100.00	100.00
ZAO PCC Rail, Moscow	Logistics	RUB	64.3000	100.00	–	100.00	100.00

Name and head office of company	Segment	Currency	Exchange rate as of Dec. 31, 2016 1 euro =	PCC SE participating interest in %		2016	2015	Equity in local currency ('000)	Net result in local currency ('000)
				Direct	Indirect				
<b>Joint ventures consolidated using the equity method</b>									
OOO DME Aerosol, Pervomaysky	Holding/Projects	RUB	64.3000	50.00	-	50.00	50.00	-3,081.5	30,755.7
<b>Subsidiaries not consolidated due to immateriality</b>									
BiznesPark Rokita Sp. z o.o. i.L., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	1,271.8	-118.5
Chemia-Profex Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	54.1	31.3
Chemia-Serwis Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	34.3	2.5
ChemiPark Technologiczny Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	4,924.8	196.9
Chemi-Plan S.A., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	39.2	-13.2
CWB Partner Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	84.0	8.9
Elpis Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	86.40	86.40	-	-335.8	-133.4
Fate Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	-	-2.6	-7.6
Gaia Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	-	-2.7	-7.7
GEKON S.A. i.L., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	unknown	unknown
Hebe Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	-	-1.4	-6.4
LabAnalytika Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	-106.0	261.2
Locochem Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	84.16	57.4	7.4
New Better Industry Sp. z o.o., Brzeg Dolny	Chlorine	PLN	4.4103	-	84.16	84.16	84.16	-0.2	-7.1
Pack4Chem Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	84.16	84.16	-	141.9	-8.1
PCC ABC Sp. z o.o., Brzeg Dolny	Polyols	PLN	4.4103	-	84.16	84.16	84.16	10.8	-7.2
PCC Envolt Sp. z o.o., Brzeg Dolny	Energy	PLN	4.4103	100.00	-	100.00	100.00	119.1	-94.5
PCC Exol Philippines Inc. i.L., Batangas	Surfactants	PHP	52.2680	-	88.64	88.64	80.04	-277.0	-517.7
PCC Organic Oils Ghana Ltd., Accra	Speciality Chemicals	GHS	4.4367	100.00	-	100.00	100.00	-6,813.7	-3,169.0
PCC Power Sp. z o.o., Brzeg Dolny	Energy	PLN	4.4103	100.00	-	100.00	100.00	-137.0	-27.5
PCC Slovakia s.r.o., Košice	Speciality Chemicals	EUR	1.0000	-	100.00	100.00	100.00	63.8	-6.6
TEC artec valves GmbH & Co. KG i.L., Oranienburg	Holding/Projects	EUR	1.0000	68.85	-	68.85	68.85	unknown	unknown
Technochem Sp. z o.o., Brzeg Dolny	Holding/Projects	PLN	4.4103	-	72.21	72.21	72.21	-1.9	-3.8
TzOW Petro Carbo Chem, Lviv	Speciality Chemicals	UAH	28.4226	92.32	-	92.32	92.32	6,741.0	41.1
ZAO Exol, Nizhny Novgorod	Surfactants	RUB	64.3000	100.00	-	100.00	100.00	-1,488.5	-1,498.5
<b>Associated companies not consolidated using the equity method due to immateriality</b>									
Brama Pomorza Sp. z o.o., Gdańsk	Holding/Projects	PLN	4.4103	7.41	-	7.41	7.41	-744.0	-484.5
S.C. Olchim S.A., Râmnicu Vâlcea	Holding/Projects	RON	4.5390	32.34	-	32.34	32.34	26,053*	-373,672*
<b>Joint ventures not consolidated using the equity method due to immateriality</b>									
IRPC-PCC Co. Ltd, Bangkok	Polyols	THB	37.7260	-	42.08	42.08	42.08	22,043.8	12,043.8
SOO PCC Prodex Bel i.L., Smilavichy	Polyols	BYN	2.0450	-	42.92	42.92	42.92	-6,462.0	-1,046.0
<b>Participating interests in other companies</b>									
TRANSGAZ S.A., Rybnik	Holding/Projects	PLN	4.4103	9.64	-	9.64	9.64	unknown	unknown

\* according to published information

Duisburg, April 18, 2017

PCC SE

A handwritten signature in blue ink, appearing to read 'U. Warnecke'.

Ulrike Warnecke  
Managing Director

A handwritten signature in blue ink, appearing to read 'A. Pelzer'.

Dr. rer. oec. (BY) Alfred Pelzer  
Managing Director



# Glossary

## Additives

Additives and admixtures are substances which, incorporated in formulations in very small quantities, optimise the properties and performance profile of products such as concrete, paints and plastics and/or facilitate their manufacture and processing.

## Betaines

Amphoteric surfactants used in cosmetic products such as hair shampoos to optimise the skin compatibility of the anionic surfactants responsible for the cleaning effect of such products.

## Chlor-alkali electrolysis

Electrochemical process in which the base chemicals chlorine, caustic soda (sodium hydroxide) and hydrogen are generated.

## CHP

Combined Heat and Power – used in reference to power plants designed to supply both electrical and thermal energy in a process known as “cogeneration”. More fuel-efficient due to utilisation of otherwise wasted heat. Produces less CO<sub>2</sub> (greenhouse gas) per unit energy output, therefore regarded as more climate-friendly.

## Climate-protection project

In keeping with the provisions of the Kyoto Protocol, a climate-protection project contributes to the reduction of greenhouse gases. Through adoption of a “clean development mechanism”, participating developing countries are also to be assisted not only in reducing their emissions but also generally in their pursuit of a sustainable mode of development. The small hydropower plant projects being implemented by PCC in the Balkans constitute an example of this kind of assistance.

## CSR

Abbreviation for Corporate Social Responsibility, referring to the self-regulatory, responsible attitude of businesses towards all stakeholders and the social and ecological environment.

## DME

Abbreviation for dimethyl ether; DME is a colourless, non-toxic, slightly narcotic and highly flammable gas which, in its high-purity aerosol quality grade, is used primarily as a propellant in, for example, hair sprays. DME is also employed in the manufacture of structural  $\uparrow$ PU foams.

## EBIT

Abbreviation for Earnings Before Interest and other financial items and Taxes;  $\uparrow$ EBITDA less depreciation and amortisation.

## EBITDA

Abbreviation for Earnings Before Interest and other financial items, Taxes, Depreciation and Amortisation.

## EBT

Abbreviation for Earnings Before Taxes;  $\uparrow$ EBIT less interest and other financial items.

## Ethoxylation

Process for the manufacture of non-ionic  $\uparrow$ surfactants (ethoxylates; surface-active substances), which are major constituents of, in particular, detergents and cleaning products.

## FSC®

Abbreviation for Forest Stewardship Council; an independent, non-profit, non-governmental organisation which is represented in 80 countries. The mission of the FSC® is to promote the environmentally sound, socially responsible and economically viable management of forests.

## Global Compact of the United Nations

The UN Global Compact is the world’s largest initiative in the field of Corporate Social Responsibility ( $\uparrow$ CSR). It is a principle-based framework for businesses, stating ten principles in the areas of human rights, labour, the environment and anti-corruption.

## Hydroxyl groups

Functional groups of alcohols and phenols.

## Intermodal transport

Combined transport (CT) involving the conveyance of goods, primarily in containers, which are transferred one or more times between different modes of carriage such as train, truck and ship.

## IPO

Abbreviation for Initial Public Offering, which relates to the first-time placement of a company’s shares on an organised capital market.

## Isocyanates

Highly reactive chemical esters of isocyanic acid. Compounds that contain two isocyanate groups are termed diisocyanates, and these react with polyols to create polyurethanes ( $\uparrow$ PU foams).

**MCAA**

Abbreviation for monochloroacetic acid, a product used primarily in the food and beverage industry, with further applications in the manufacture of medicines, personal care products, cosmetics, dyestuffs, and plant protection products.

**Membrane process**

Modern process in †chlor-alkali electrolysis used in the manufacture of chlorine. The membrane process is more energy-efficient than, for example, the amalgam process, and functions without the use of mercury.

**Mezzanine capital**

General term covering forms of finance which, due to their legal and economic make-up, represent a mix of equity and debt capital.

**MW (megawatt)**

Unit of measurement for electric power:

1 megawatt =  $10^3$  kilowatts

1 gigawatt =  $10^6$  kilowatts

1 terawatt =  $10^9$  kilowatts

**Phosphorus derivatives**

Substances manufactured from phosphorus, such as flame retardants and plasticisers.

**PU foams**

PU is the abbreviation for polyurethane (also abbreviated PUR), of which polyols are a major constituent.

**REACH**

European regulation governing the registration, evaluation, authorisation and restriction of chemicals.

**Renewable energy**

Also known as regenerative energy; term given to energy from sustainable sources such as solar energy, biomass, hydroelectric power and wind power.

**Responsible Care®**

Global initiative of the chemicals industry aimed at continuously improving sustainability in terms of environmental protection, health and safety.

**ROCE**

Return On Capital Employed;  $\uparrow\text{EBIT} \div [\text{Average equity} + \text{Average interest-bearing borrowings incl. pension provisions}]$ .

**SE**

Latin abbreviation: Societas Europaea; English: European Company.

**Segment**

Introduced on January 1, 2013 as a basic management unit of PCC (conversion to segment structure as a refinement of the former divisional structure). The Group is divided into eight segments: Polyols, Surfactants, Chlorine, Speciality Chemicals, Consumer Products, Energy, Logistics, and Holding/Projects.

**Sulphonation**

Process for the manufacture of anionic †surfactants (sulphonates; surface-active substances) which, because of their dermatological compatibility, are widely used in cosmetics and laundry/home care detergents.

**Surfactants**

Surface-active substances; ingredients in cosmetics, detergents, cleaning and cleansing products (†Ethoxylation, †Sulphonation).

**TEU**

Abbreviation for Twenty-foot Equivalent Unit – unit of measurement for ISO standard containers; 1 TEU corresponds to a 20 foot ISO container.

**Value chain**

The sequential set of primary and support activities in a production process that an enterprise performs to turn inputs, e.g. raw materials, into value-added outputs, e.g. finished products, for its external customers.

# Credits

## Published by

PCC SE  
Moerser Str. 149  
47198 Duisburg  
Germany

## Contact

Public Relations  
Phone +49 (0)2066 2019-35  
Fax +49 (0)2066 2019-72  
pr@pcc.eu  
www.pcc.eu

## Conception and editing

Susanne Biskamp, PCC SE

## Design and production

Kaiserberg Kommunikation, Duisburg (Germany)

## English translation

Paul Knighton, Cambridge (UK)

## Photos (i. a.)

- Ulli Steinmetz Fotodesign, Düsseldorf (Germany)
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- Sebastian Borowski, Wrocław (Poland)
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- Pétur Jónasson, Húsavík (Iceland)

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PCC SE  
Duisburg, May 2017

This Annual Report is available in its original German version and as an English translation.

Both versions can be downloaded from [www.pcc.eu](http://www.pcc.eu).

This report is printed on FSC®-certified natural paper.





## Forward-looking statements

This Annual Report contains forward-looking statements which are based on the current estimates and assumptions made by the management with respect to future developments. The accuracy of such statements is subject to risks and uncertainties that lie outside the control and forecasting capability of PCC SE. Examples include changes in the market environment and underlying economic conditions, the behaviour of other market participants, the success with which new acquisitions can be integrated, the realisation of anticipated synergy effects, and the actions of governmental agencies. Should such factors of uncertainty or imponderables come into play, or if the assumptions upon which these statements are based prove to be incorrect, the ensuing events could differ materially from those explicitly indicated, implied in or inferred from these statements. PCC SE neither plans nor undertakes to update any forward-looking statements in respect of developments or events occurring in the future.

## Technical discrepancies

For technical reasons (e.g. arising from the conversion of electronic formats), differences may occur between the information provided in this Annual Report and that contained in the accounting documents submitted for publication in the Federal gazette (Bundesanzeiger). In such cases, the version appearing in the Federal gazette is authoritative.

# PCC on the internet

**[www.pcc.eu](http://www.pcc.eu)**

**[www.pcc-financialdata.eu](http://www.pcc-financialdata.eu)**

## **PCC. Direktinvest**

[www.pcc-direktinvest.eu](http://www.pcc-direktinvest.eu)

## **Chemicals**

[www.products.pcc.eu](http://www.products.pcc.eu)

[www.crossin.pcc.eu](http://www.crossin.pcc.eu)

[www.chemproducts.com](http://www.chemproducts.com)

[www.pcc.rokita.pl](http://www.pcc.rokita.pl)

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## **Energy**

[www.pcc-hydro-mk.com](http://www.pcc-hydro-mk.com)

[www.zebloch.pl](http://www.zebloch.pl)

## **Logistics**

[www.pcc-intermodal.pl](http://www.pcc-intermodal.pl)

[www.pcc-autochem.eu](http://www.pcc-autochem.eu)

[www.pcc.ru](http://www.pcc.ru)

## **Holding / Projects**

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