



# Solid development despite headwinds

Roadshow Presentation

# Innovation and sustainability driving growth



## Covestro key investment highlights

1

Above GDP volume growth

driven by innovation and sustainability trends, also embodied by non-financial targets

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2

Leading and defensible global industry positions

as innovation and cost leader

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3

More than half of sales generated by resilient businesses

as global leader in highly attractive niches

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4

Positioned for profitable growth

through debottlenecking and world-scale investments as well as new €350m efficiency program

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Attractive growth fuels solid cash generation

with use of cash focused on shareholder value

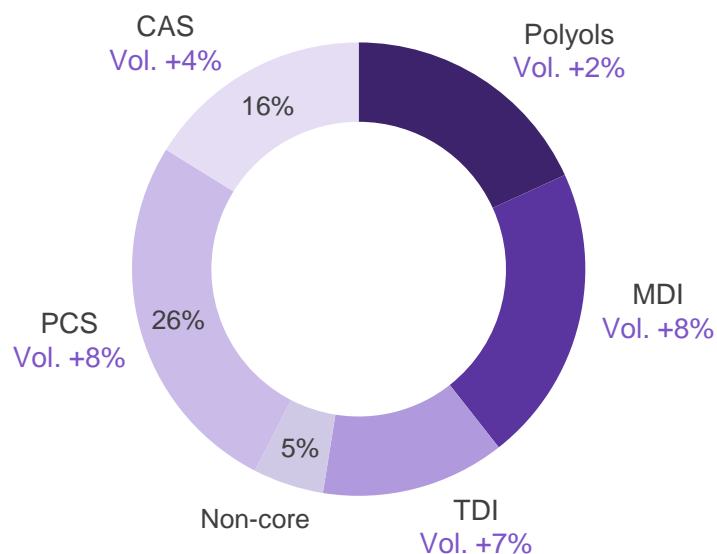
# Global leader in high-tech material solutions



## Covestro at a glance

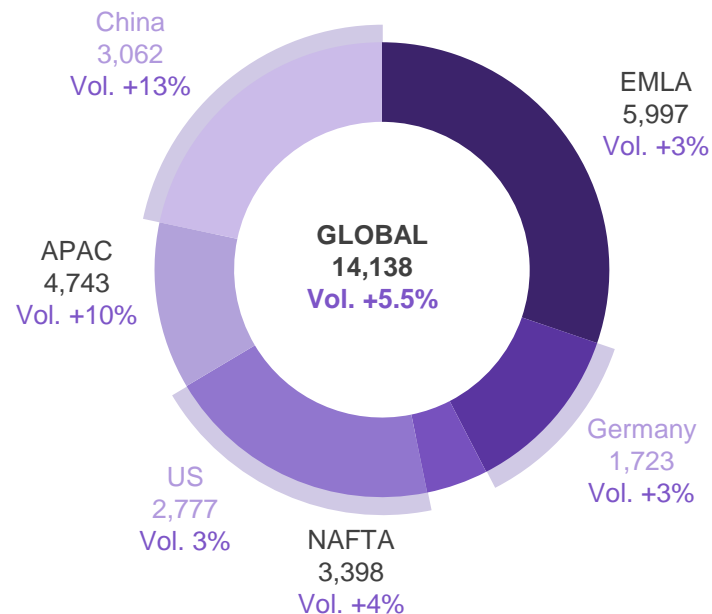
### Sales split by segments

% of 2017 Group sales  
Core volume growth, CAGR 2015-2017



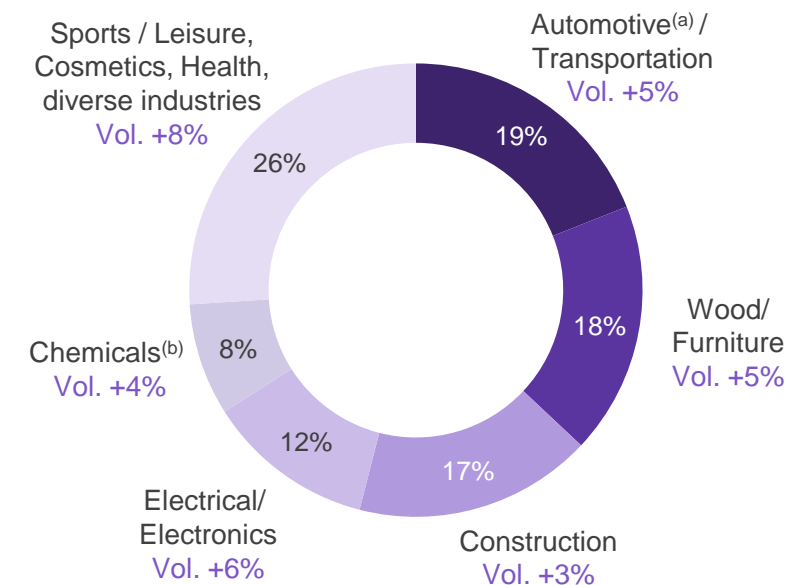
### Sales split by regions

2017 Group sales in € million  
Core volume growth in %, CAGR 2015-2017



### Sales split by end-markets

% of 2017 Group sales  
Core volume growth in %, CAGR 2015-2017



~5 million tons  
PUR and PCS nameplate capacity

Employees: ~16,000 FTEs  
Headquarters in Leverkusen, Germany

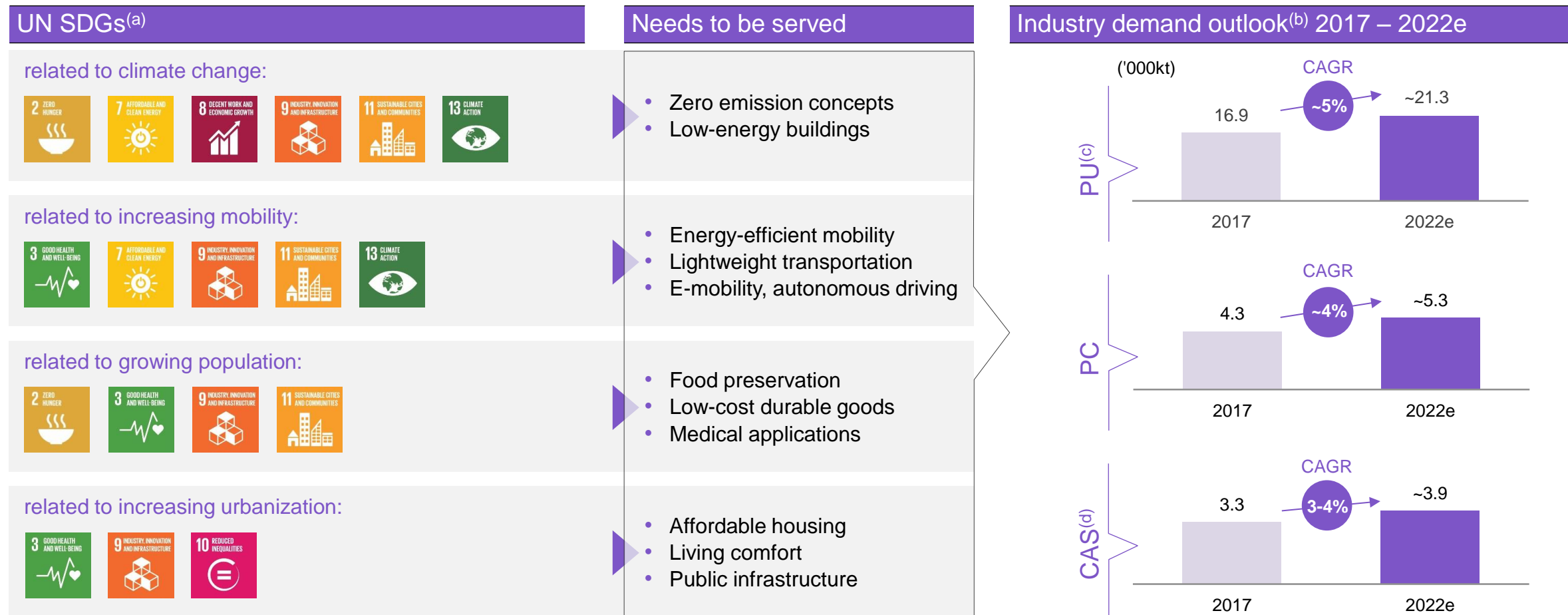
From €3.4bn EBITDA to €1.8bn FOCF  
High cash conversion

Notes: Based on Covestro Annual Report 2017; EMLA = Europe, Middle East, Africa, Latin America; NAFTA = USA, Canada, Mexico; APAC = Asia, Pacific  
Adjusted prior-year figures to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018  
(a) Automotive with core volume CAGR 2015-2017 of +7%, (b) Growth of core and non-core volumes

# Higher global GDP expectation leads to higher industry growth



## Structural growth drivers



# Non-financial ambition supports growth strategy

## Covestro non-financial targets 2025



**1** Our R&D project portfolio is aligned with UN Sustainable Development Goals



**2** 100% of suppliers compliant with our sustainability requirements



**3** Reduce specific greenhouse gas emissions by 50% by 2025



**4** Ten million people in underserved markets benefit from our business solutions










**5** Getting the most out of carbon



# Product innovation as long-term growth driver

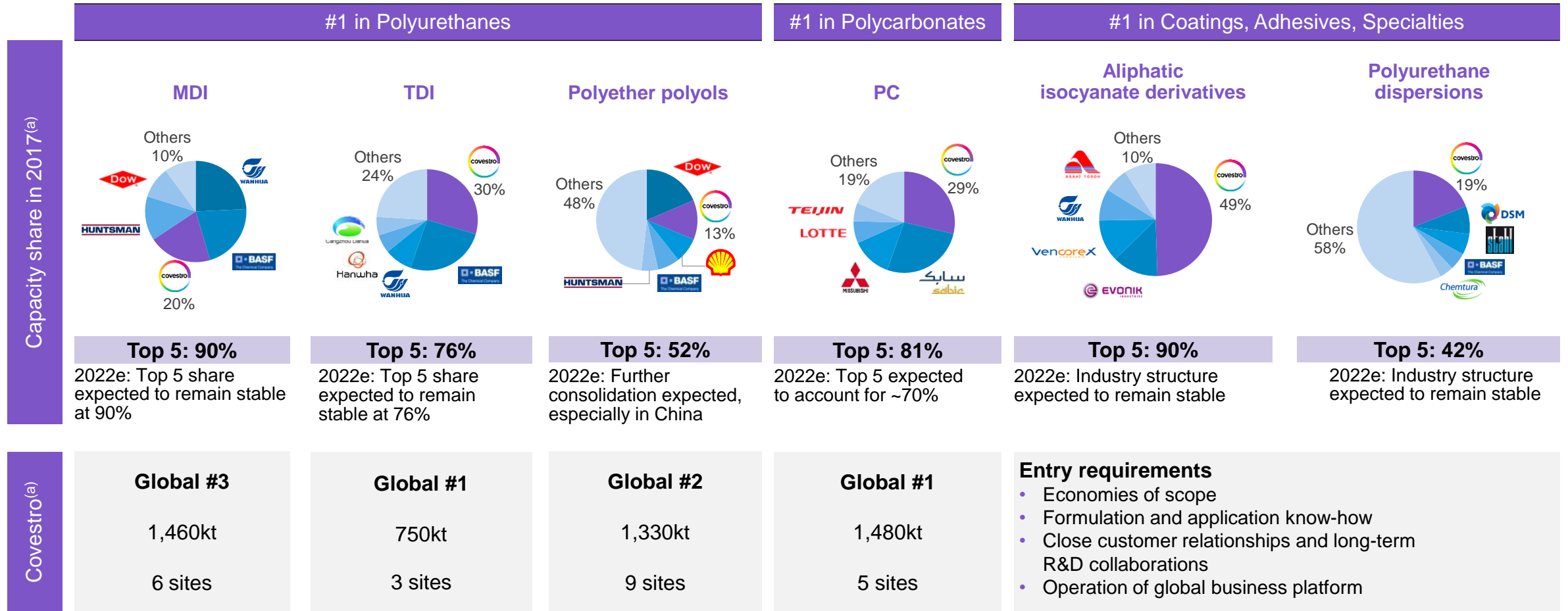


## Addressing ever-changing customer needs for new material solutions

Need		Overall market	Relevant market	2015-2017	Covestro solutions
More durable and economical wind power plants		Energy consumption CAGR: ~3%	Offshore wind energy CAGR: ~19%	Covestro CAGR: 29%	Novel materials for wind power plants: PU resins for rotor blades, PU-based coatings, elastomers for sea cables
Energy- and cost-efficient buildings		Construction CAGR: ~2%	Polyurethane insulation CAGR: ~5%	Covestro CAGR: 3%	Raw materials for PU foam (rigid and in spray form) enabling highly efficient insulation
Reduction of high energy consumption of lighting		Luminaire CAGR: ~3%	Luminaire LED CAGR: ~12%	Covestro CAGR: 122%	Polycarbonates in LED lenses, light guides, heat sinks
Eco-friendly produced furniture		Coating ind. furniture CAGR: ~3%	Water-based ind. furniture CAGR: ~5%	Covestro CAGR: 10%	New bio-based hardener for water-based wood coatings
Sustainable and functional fashion		Textile coating CAGR: ~6%	Relevant textile coating CAGR: ~11%	Covestro CAGR: 7%	Waterborne, solvent-free materials for functionalized textiles in diverse applications
More and better cooling devices		Refrigerators CAGR: ~3%	Refrigeration insulation foam CAGR: ~8%	Covestro CAGR: 12%	Raw materials for particularly effective insulating foams: 40% smaller pores allow up to 10% better insulation
Reduced weight and increased comfort		Global car production CAGR: ~3%	Relevant car applications CAGR: ~5%	Covestro CAGR: 7%	Attractive alternatives to conventional materials: polymers to replace glass and metal

# Global leader across its entire portfolio

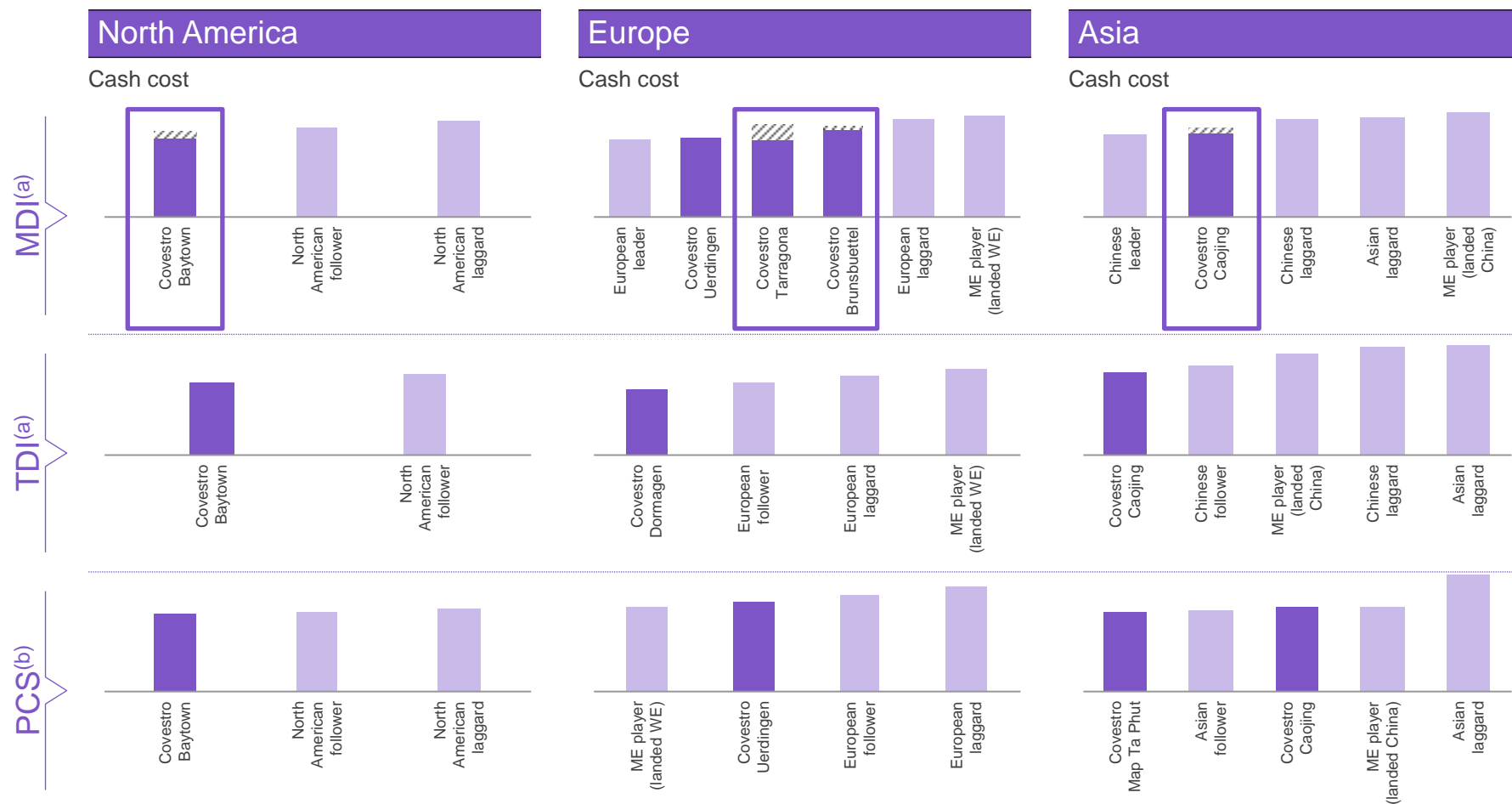
## Production capacities and world-wide industry positions



# Leading cost positions across business segments and regions



## Cash cost positions



## Highlights

- Covestro is one of the low-cost producers in MDI
- Capex for ongoing MDI expansion projects reflected by significant cash cost improvements
- MDI industry with relatively flat cost curves reflected by cash cost advantage of ~20% between the best and the average of least competitive 5 plants
- Covestro is the global cost leader in TDI and PCS
- Covestro cash cost advantage of ~50% in TDI and ~30% in PCS compared to the average of least competitive 5 plants

▨ Cash cost improvements based on investment projects

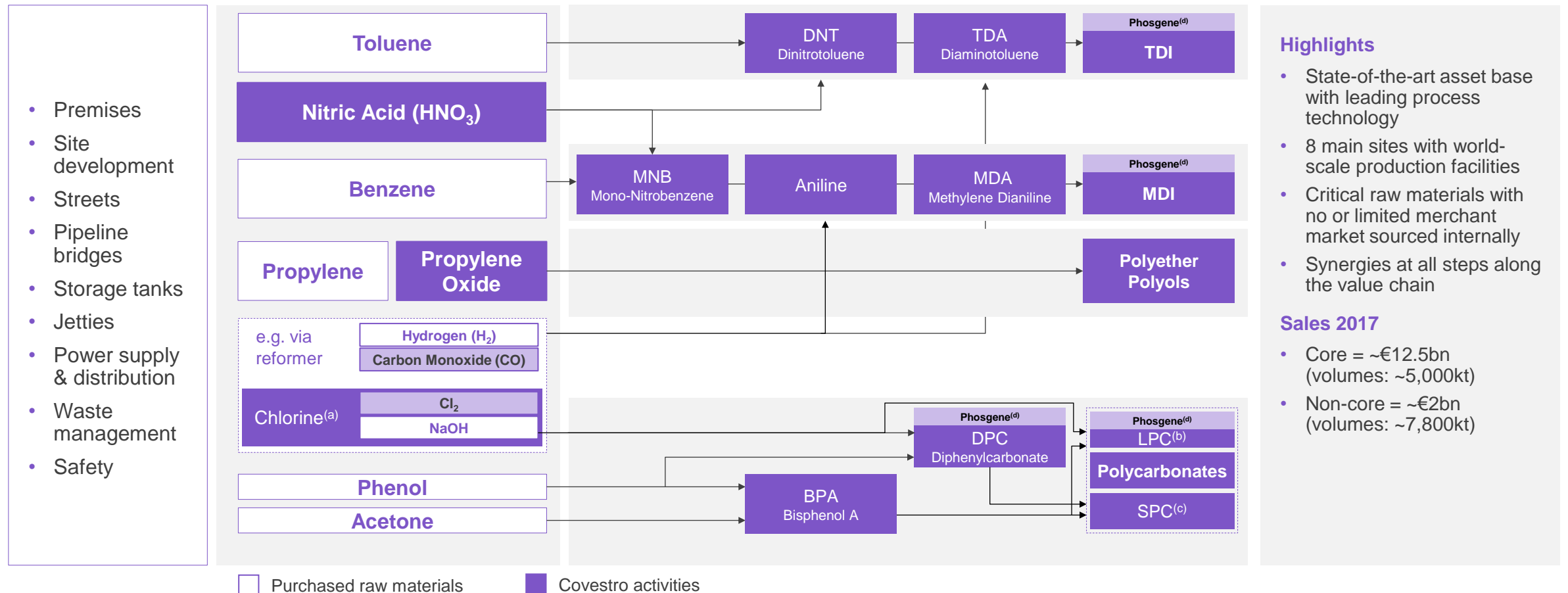


# Synergies in scale, process technology and chemical know-how



## One chemical backbone across all segments

### ► Infrastructure    ► Raw Materials    ► Core Units / Technology    ► Final product



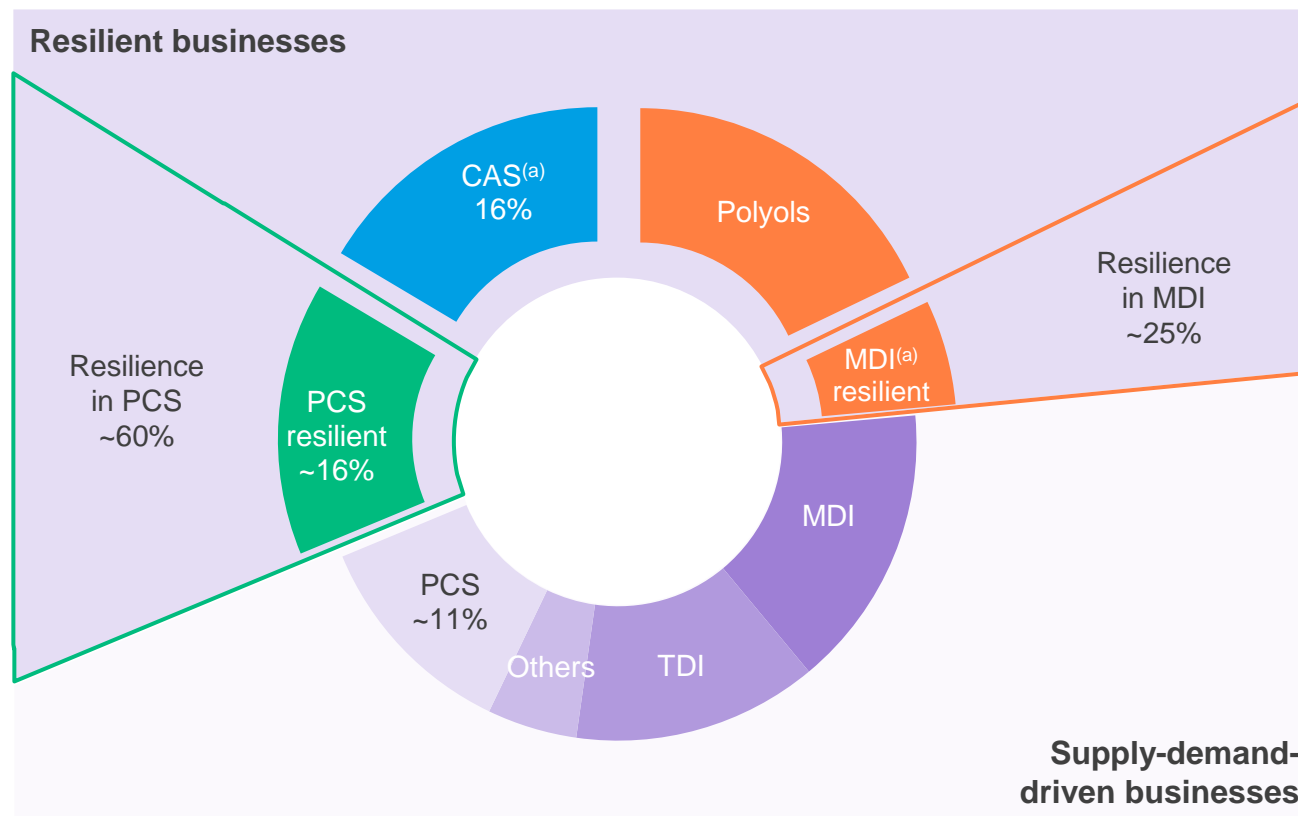
# Over 50% of sales generated with resilient businesses



## Product portfolio overview

### Sales by segments

% of 2017 Group sales



### Highlights

- **CAS** business is resilient in sales and earnings due to characteristics of niche ingredient chemicals
- Resilient portion of **PCS** business is driven by high-end industry applications e.g. automotive, electrical, healthcare
- **Polyols** business is resilient in sales and earnings as demonstrated over the last decade
- Resilient portion of **MDI** business consists of special grades for downstream products that require formulation know-how and customer interaction along the value chain

# Stable margins driven by differentiated product portfolio



## CAS at a glance

2,700+

Products based primarily on 6 monomers

5,000+

Customers in 10+ high-end industries

3.7%

Core volume CAGR in 2015-2017

€2.3bn

Sales 2017<sup>(a)</sup>

€249m

FOCF 2017<sup>(a)</sup>



Ingredients for **surface coatings**



Ingredients for **adhesives and sealants**



Ingredients for **specialties**

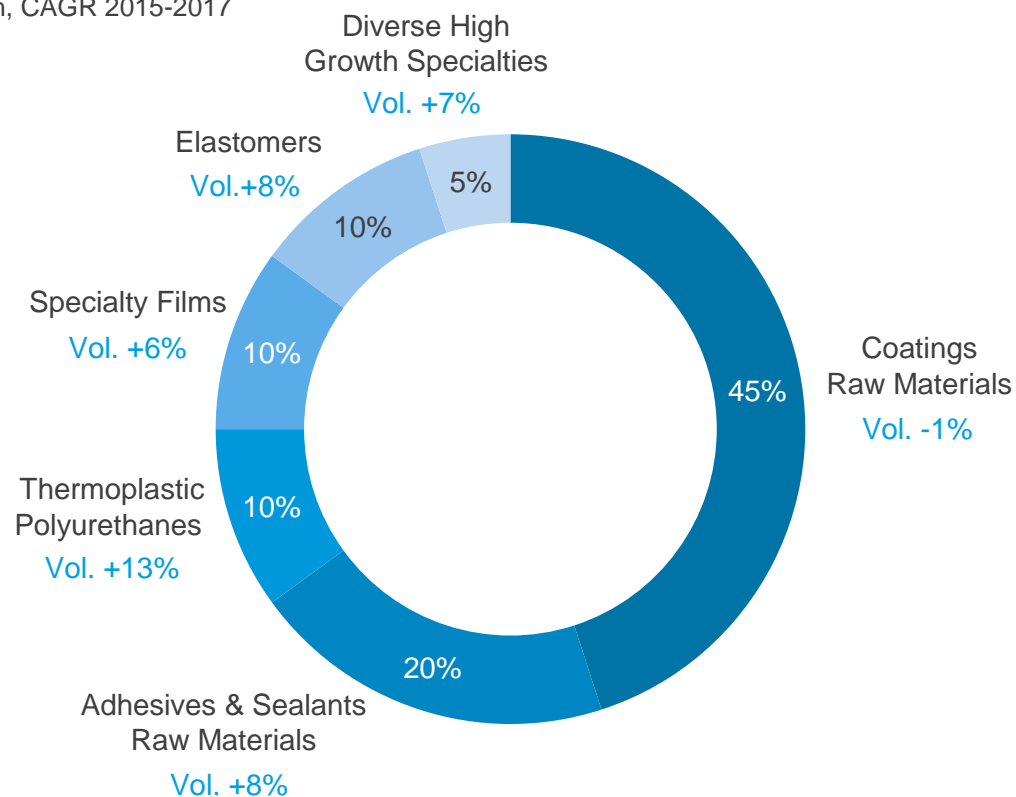
# CAS demonstrated solid underlying growth of ~4% p.a.



## High Growth Specialties businesses

### CAS sales split by businesses

Covestro sales share FY 2017<sup>(a)</sup>, rounded  
Core volume growth, CAGR 2015-2017



### Highlights

- Adjusted core volume growth of 3.7% CAGR in 2015-2017<sup>(a)</sup>
- Growth driven by all businesses except coatings raw materials
- High Growth Specialties businesses generate ~35% of sales: Thermoplastic Polyurethanes (TPU), Specialty Films and Elastomers
- Coatings raw materials businesses burdened by weak end markets like marine, oil and gas as well as refinishing

# Strategic focus on increasing resilience

## PCS at a glance



1,000

PC grades for  
broadest offering



### Mobility

e.g. exterior

#1

Producer and inventor  
of PC globally<sup>(a)</sup>

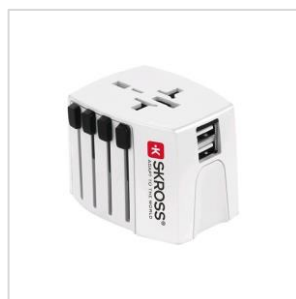


### Electronics

e.g. robot housing

7.6%

Core volume  
CAGR in 2015-2017



### Consumer electronics

e.g. adapter

€3.7bn

Sales  
2017



### Electrical

e.g. LED street  
lamp

€321m

FOCF  
2017



### Healthcare

e.g. drug delivery

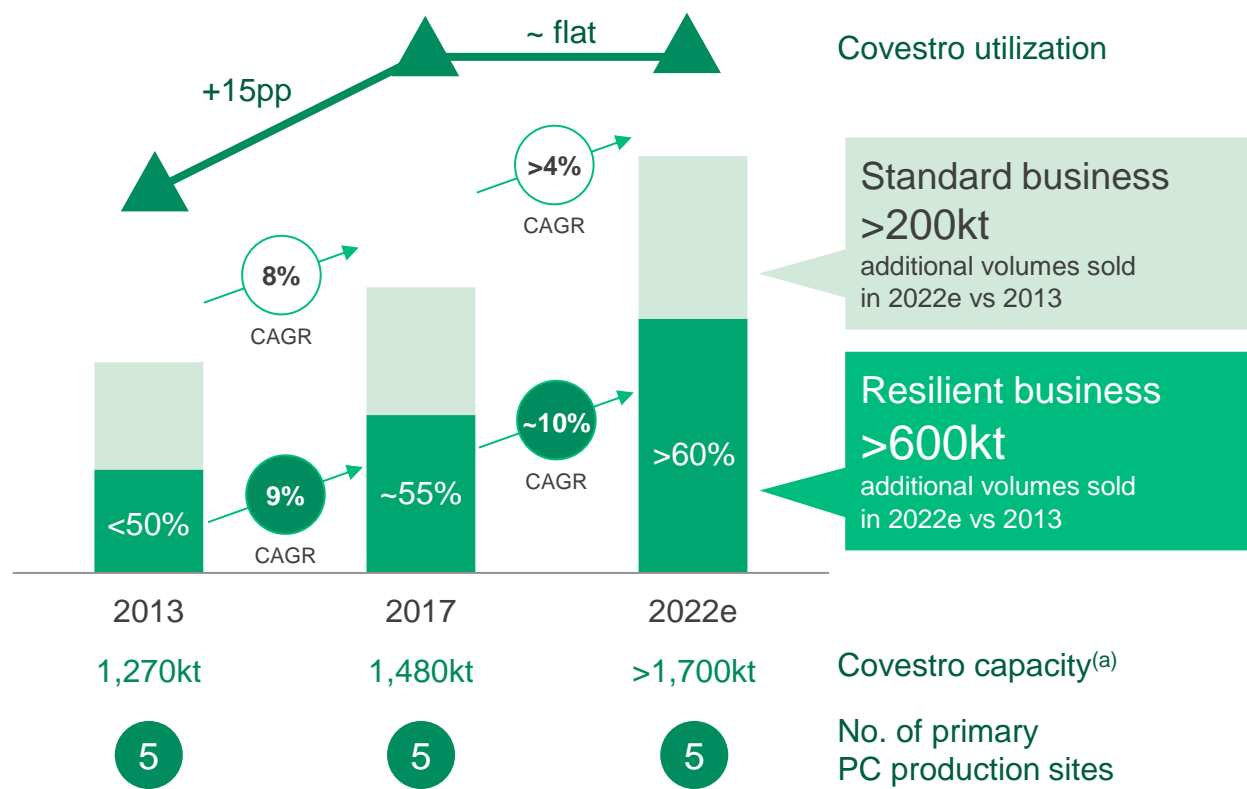
# Growing share of resilient business to 65% long term

## PCS product portfolio



### Development of resilient portion of PCS volumes

Covestro sales volumes in kt



### Covestro highlights

#### Product portfolio improvement

- Goal to increase resilient portion of PC volumes to 65% long term
- Capacity growth and increasing share of resilient business result in significantly higher volumes in differentiated, high-requirement applications
- Structural improvement of average contribution margin

#### Higher asset utilization

- Volume leverage through significant improvement of capacity utilization by ~15 percentage points
- Significantly higher output from unchanged number of primary production sites

# Almost half of sales in resilient businesses



## PUR at a glance

1,000

Polyols grades for differentiation



**Cold chain**  
e.g. refrigerator

#1

Producer and inventor of PU globally<sup>(a)</sup>



**Construction**  
e.g. metal panel

5.3%

Core volume CAGR in 2015-2017



**Cost leadership**  
e.g. process technology

€7.4bn

Sales 2017<sup>(b)</sup>



**Comfort**  
e.g. furniture upholstery

€1.1bn

FOCF 2017<sup>(b)</sup>



**Automotive**  
e.g. instrument panel



**Sustainability**  
e.g. CO<sub>2</sub>-based polyether polyols

# Polyether polyols demonstrate inherently stable margins

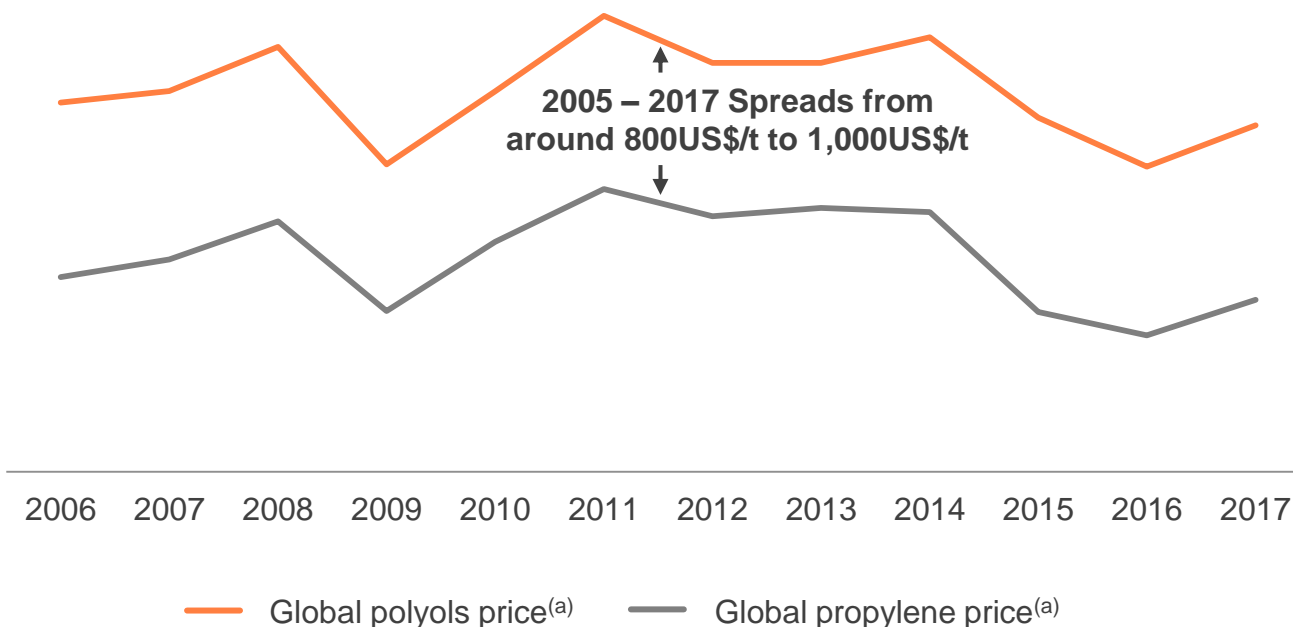
## PUR resilient business



### Spread development

### Highlights

- Resilient industry margins over the last decade reflective of overall Covestro polyether polyols profitability
- Single capacity addition with little influence on supply and demand dynamics
- Spreads not materially impacted by high volatility of propylene prices, particularly during the financial crisis
- Propylene oxide supply and demand dynamics create local pricing opportunities in the short term





# Resilient portion of MDI business accounts for ~25% of sales



## PUR resilient business

### Resilient MDI applications<sup>(a)</sup>

Resilient share of MDI volumes has ~20% higher gross margin (2006-2017 average)

#### **Joint sales of polyols and MDI**

e.g. CASE<sup>(b)</sup>, automotive, construction, appliance

#### **Specialty or downstream products**

e.g. selected MDI grades (pre-polymers, blends, monomeric)

#### **Formulations as market access requirement**

e.g. automotive, appliances

#### **Strong interaction with customers along value chain**

joint projects for e.g. window frames, wind mills

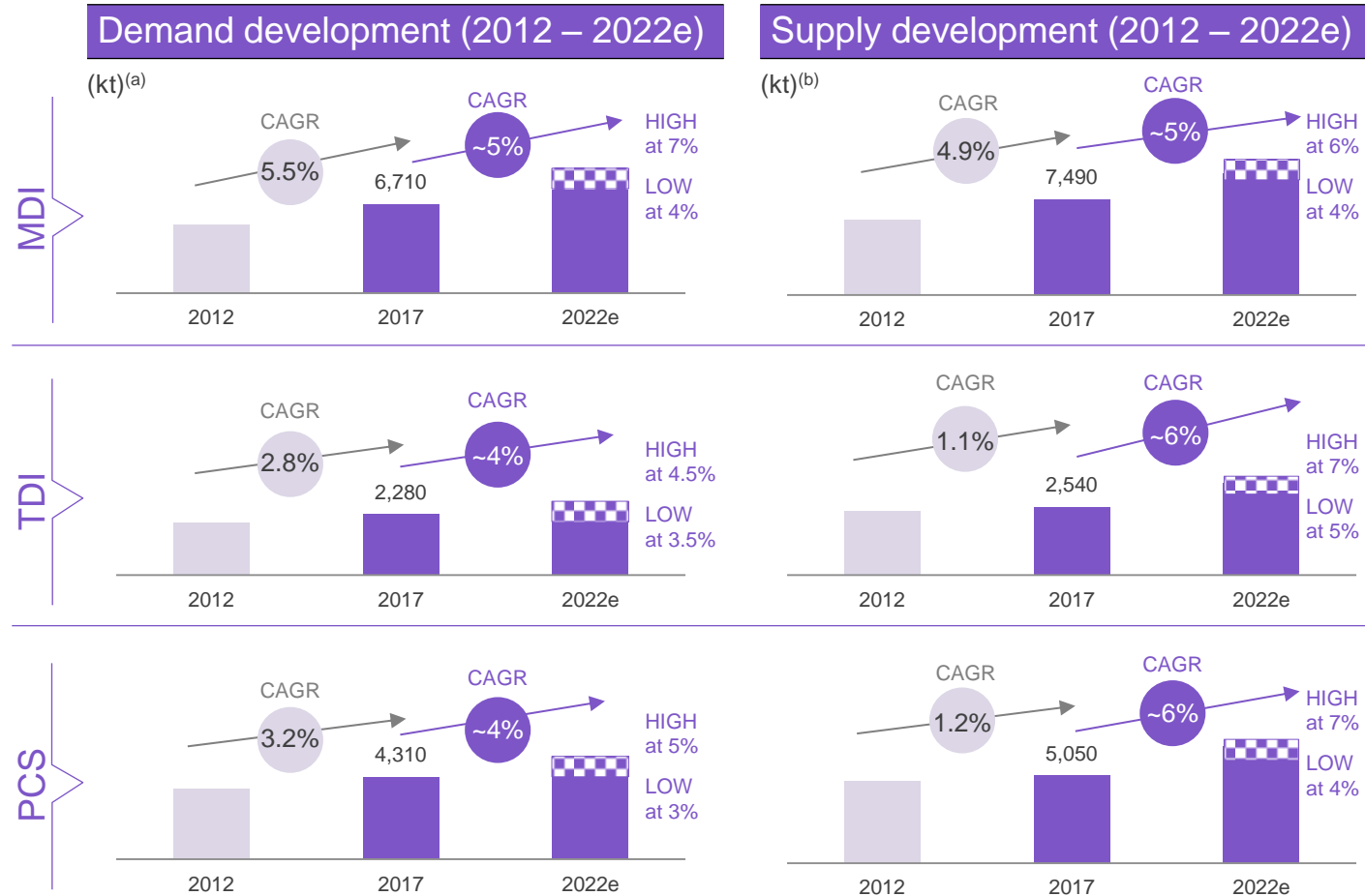
### Large-scale innovation

- Focus on three large-scale innovation hubs in Pittsburgh, Leverkusen and Shanghai
  - Formulation know-how and tailor-made systems
  - Full scope of application development
  - Cost-efficient business structures
- Centralized systems hubs in Europe and North America benefit from economies of scale and cost-efficient feed from world-scale MDI and polyether polyols assets
- Systems business in Middle East and APAC handled by local system houses

# Above GDP growth supports solid industry margin outlook



## Historical industry development and outlook



### Industry highlights

- Budgeted demand growth of ~5% may be conservative given strong demand trends
- Structurally sound demand for the foreseeable future, driven by solid GDP growth and substitution trend
- Major additions expected until 2022e: BASF, Covestro, Dow/Sadara, SLIC, Wanhua

- Industry expected to move to a balanced situation and margins expected to normalize by end of 2018e
- Major additions expected until 2022e: BASF, Dow/Sadara, Wanhua
- Possible industry consolidation in APAC

- Electric mobility and autonomous driving could accelerate demand growth above base case
- Capacity additions of new entrants announced for end of forecasting period with high uncertainties
- Major additions expected until 2022e: Covestro, Heng Yuan, Lotte, Luxi, Zhetie Dafeng, SABIC-Sinopec, Wanhua, ZPC

Notes: (a) Assumes global GDP CAGR 2017–2022e of ~3%  
 (b) Based on historical and announced future nameplate capacities  
 Source: Covestro estimates

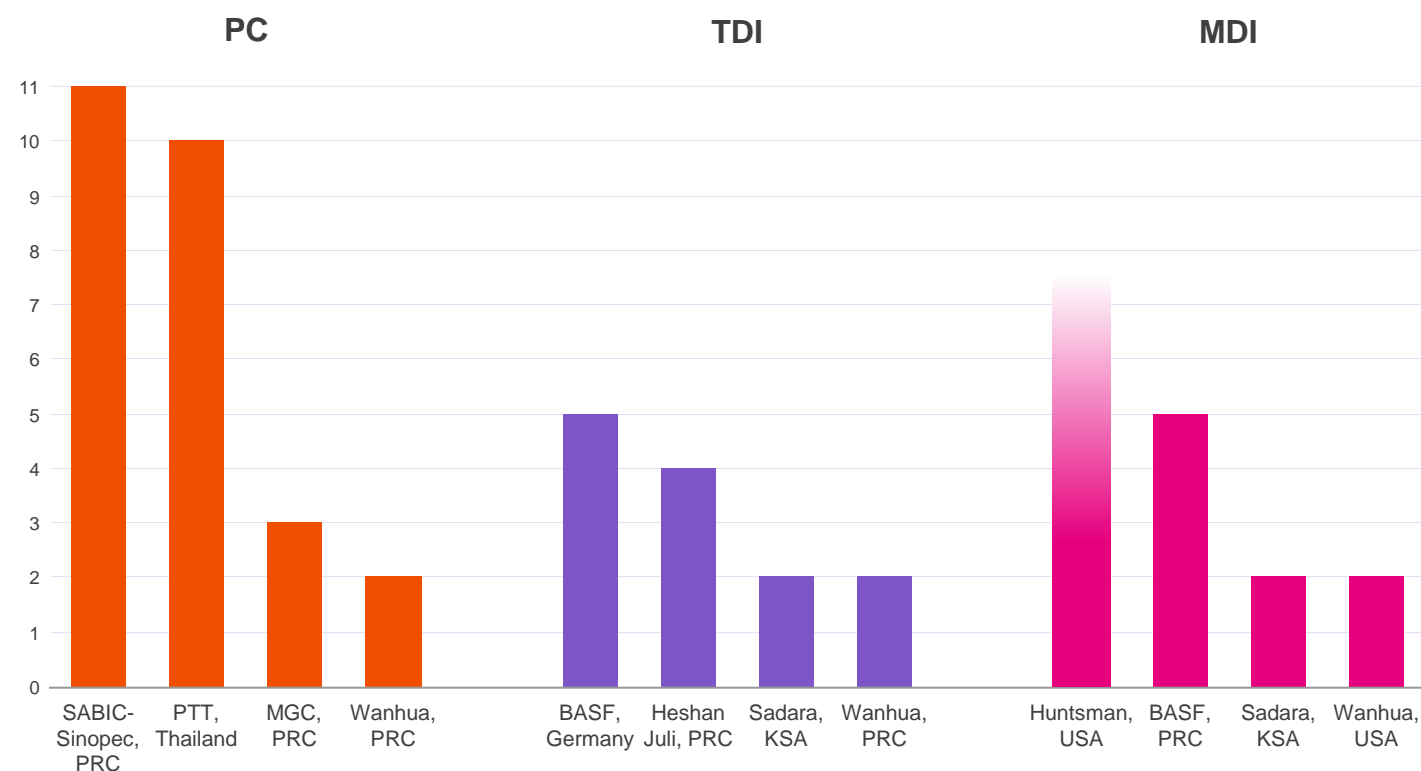
# Industry constantly witnesses delays and cancellations



## Examples of supply delays

### Delays between initially announced start-up date and actual production start

in number of years



### Highlights

- Long lead time for investments of up to a decade in PC, TDI and MDI makes delays the norm
- No off-the-shelf but individual plant designs prolong planning and construction process
- Highly sophisticated chemical processes requires long ramp-up times
- Long investment cycles increase chance of cancellations

# Cumulative EBITDA volume leverage of >€1bn in next 5 years



## Core volume growth contribution to EBITDA

Core Volume Growth

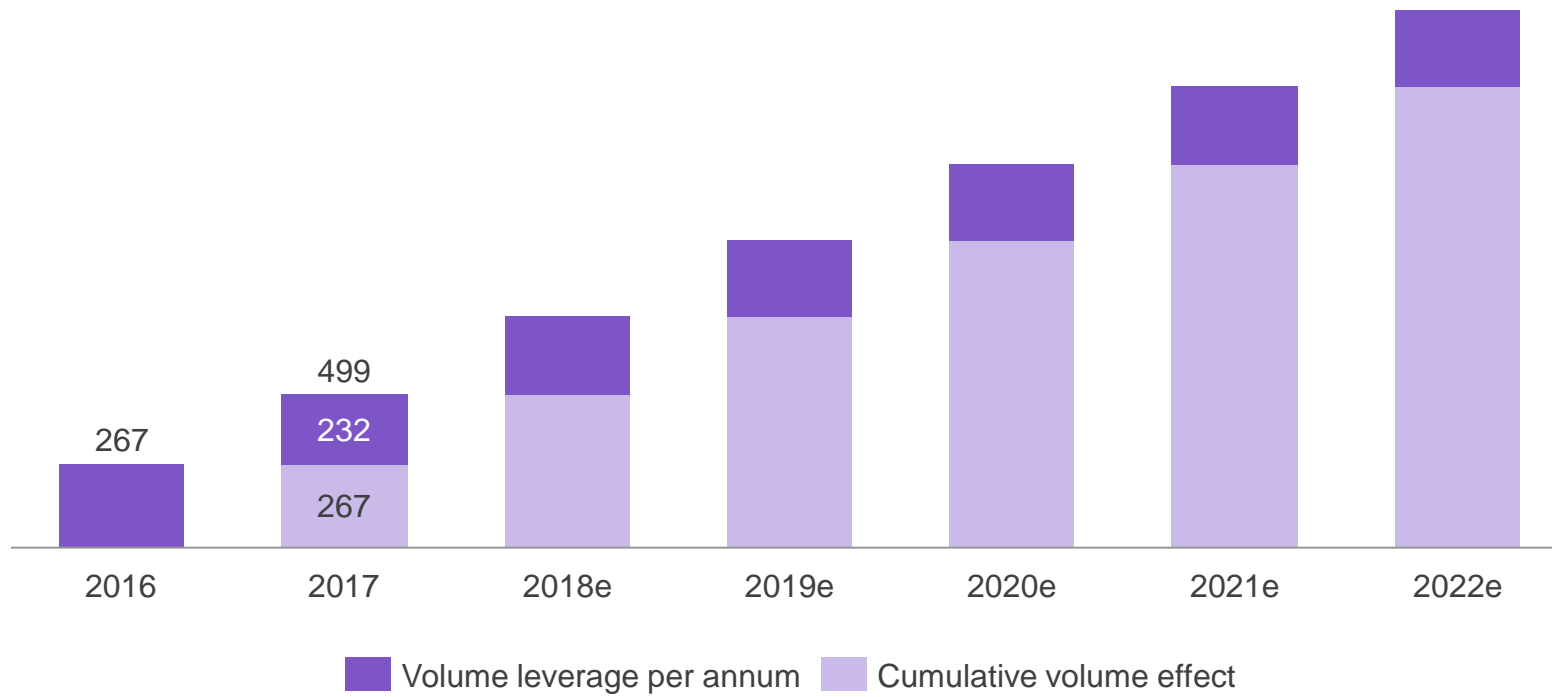
+7.5%

+3.4%

CAGR

~4%

EBITDA in € million



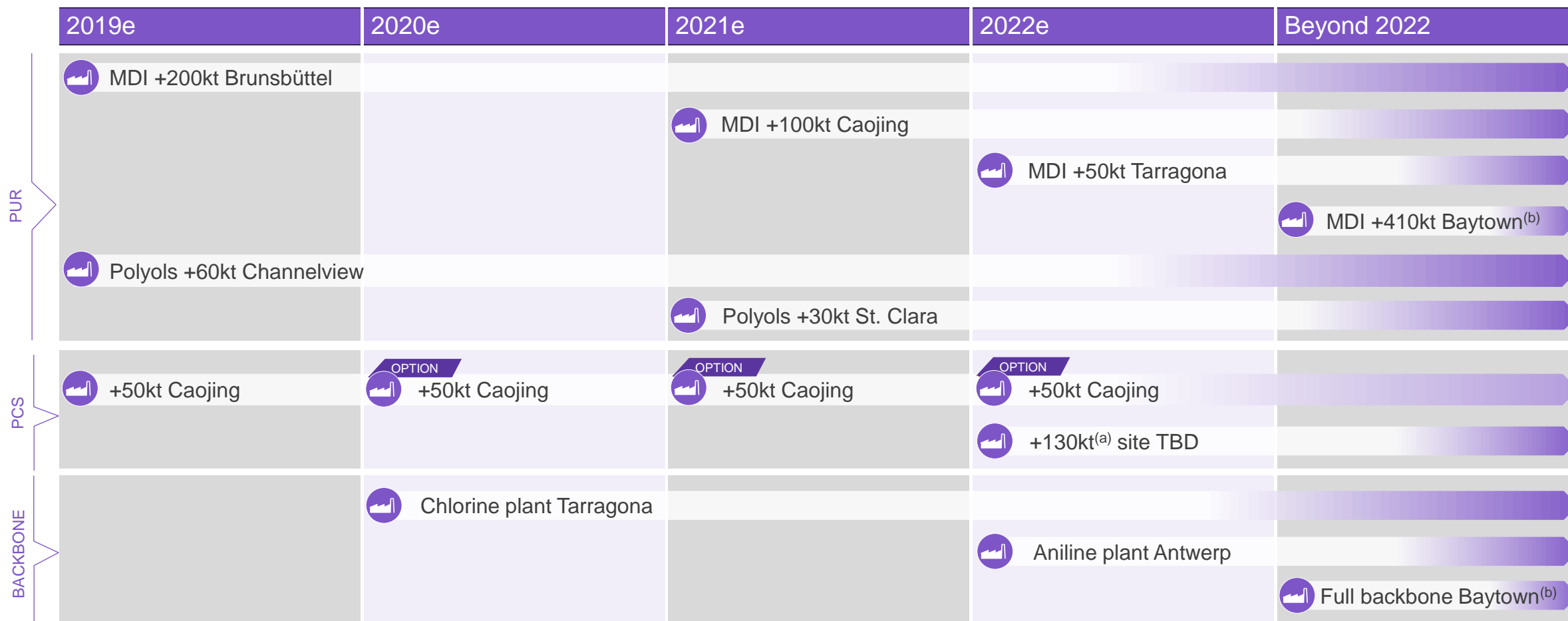
### Highlights

- ~4% average core volume growth expected in next 5 years
- Expected €200-300m EBITDA contribution per year until 2022e, based on a normalized volume leverage
- In sum, more than €1bn of additional EBITDA expected in the next 5 years to stem from volume leverage only

# Growth through debottlenecking projects and world-scale plant



## Covestro planned capacity additions



# Positioning for growth with new capacity additions



## Investment highlights of long-term MDI capex program

- Attractive MDI industry with above GDP growth requires new world-scale capacities
- Satisfy global demand and accompany industry growth with MDI projects in Brunsbüttel, Caojing, Tarragona, Antwerp and Baytown
- Increase Covestro global MDI nameplate capacity of 1,470kt by 2018e to 2,230kt by 2024e
- Extend leadership positions in the industry to become global #2 and US #1 by 2024e<sup>(a)</sup>
- Improve cash cost position worldwide for long-term competitiveness by investing in full chemical chain including precursors and operating world-scale units on existing sites
- Deliver attractive returns with mid-term debottlenecking and world-scale investment into long-running assets

### Highlights of new US world-scale plant

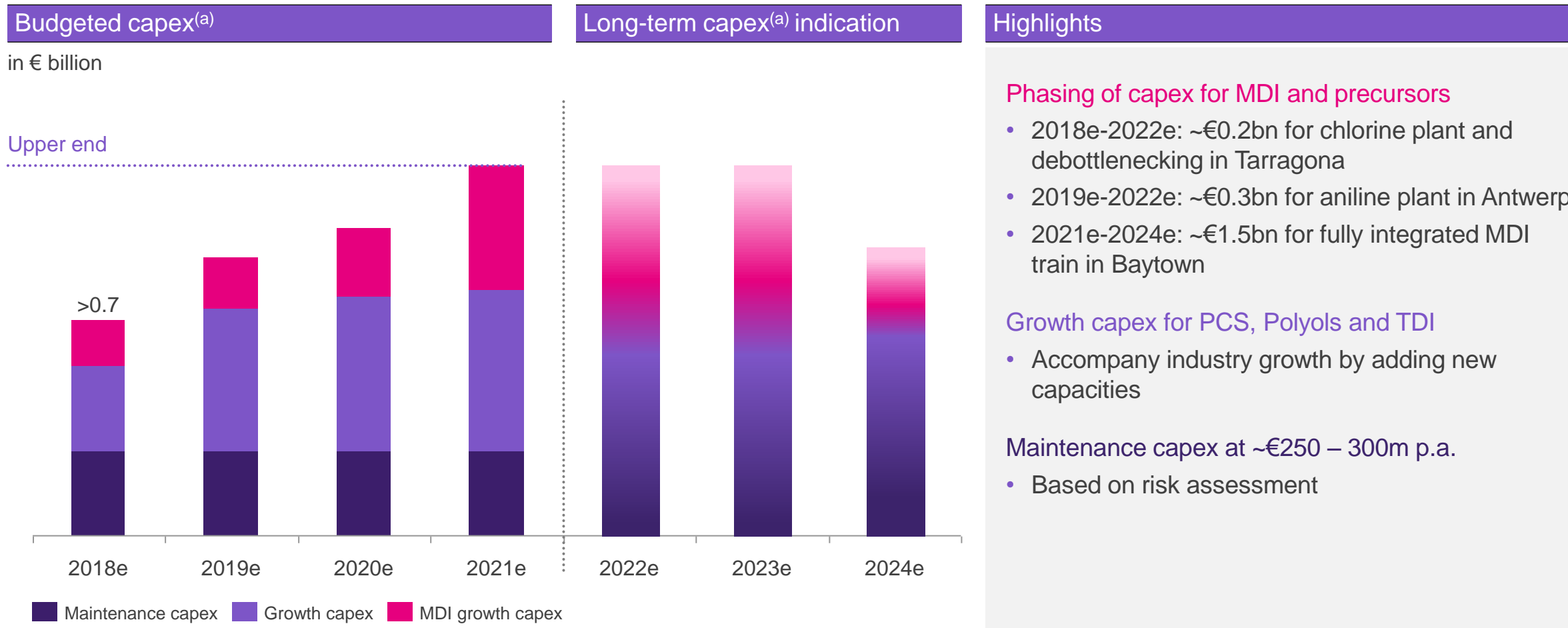
- Investment of around €1.5bn in new, highly efficient world-scale 500kt MDI plant on existing site
- Investment includes complete chemical backbone
- New plant to expand US capacity from currently 330kt p.a. to 740kt p.a. by 2024e
- Replacement of 90kt sub-scale plant, in operation since 1974, to extend leading cash cost position in NAFTA



# Investment into organic growth to deliver attractive returns



## Covestro Group capex<sup>(a)</sup> development 2018e–2024e

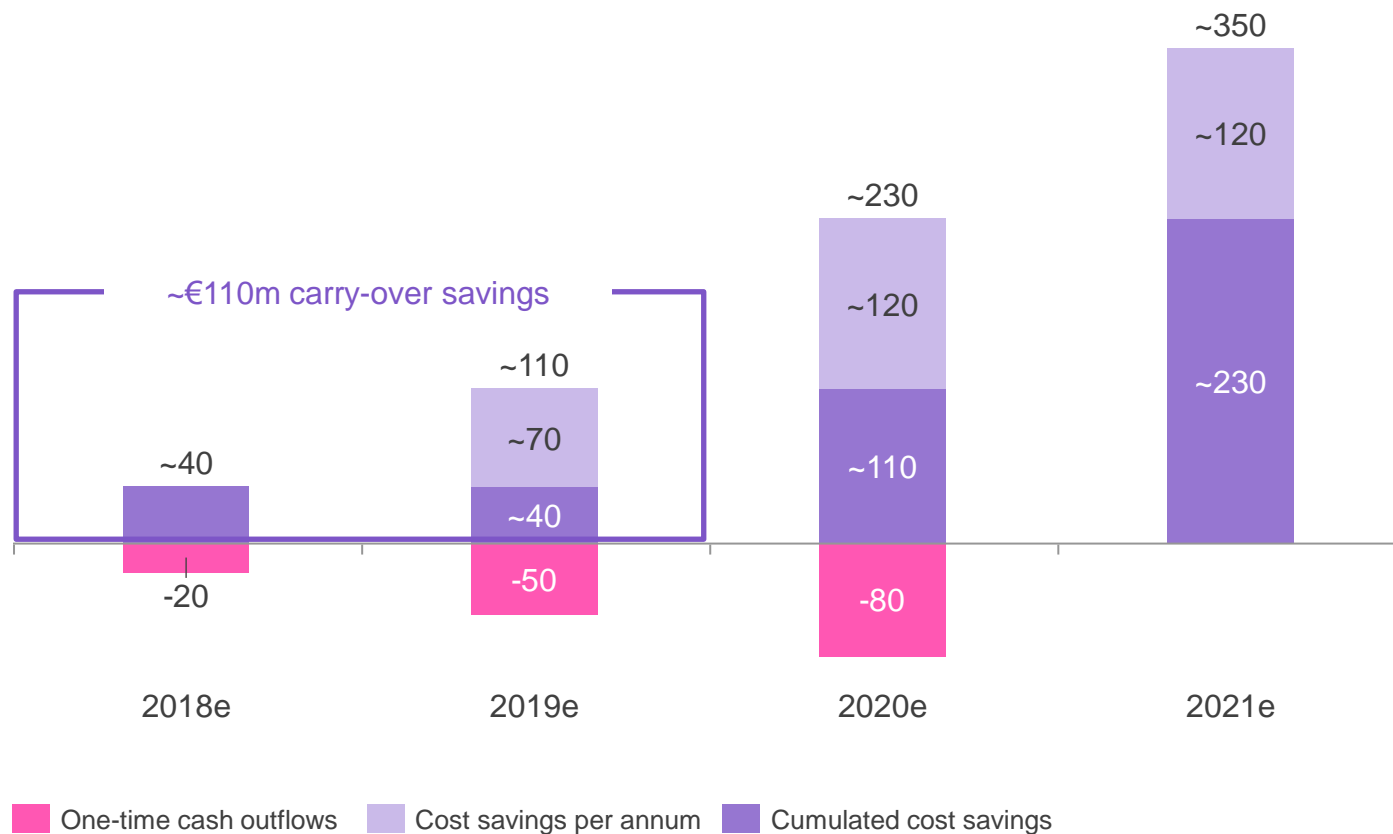


# Continued efficiency focus: “Perspective” complements “PEP”



## Expected cumulated savings and one-time cash outflows

in € million



### Highlights

- Cumulated savings of around €350m planned until end of 2021e
- Implemented “PEP” program expected to deliver carry-over savings of ~€110m by 2019e
- New “Perspective” program expected to deliver additional savings of ~€240m by 2021e
- Reduction of ~900 FTEs globally, to be carried out by way of socially acceptable solutions

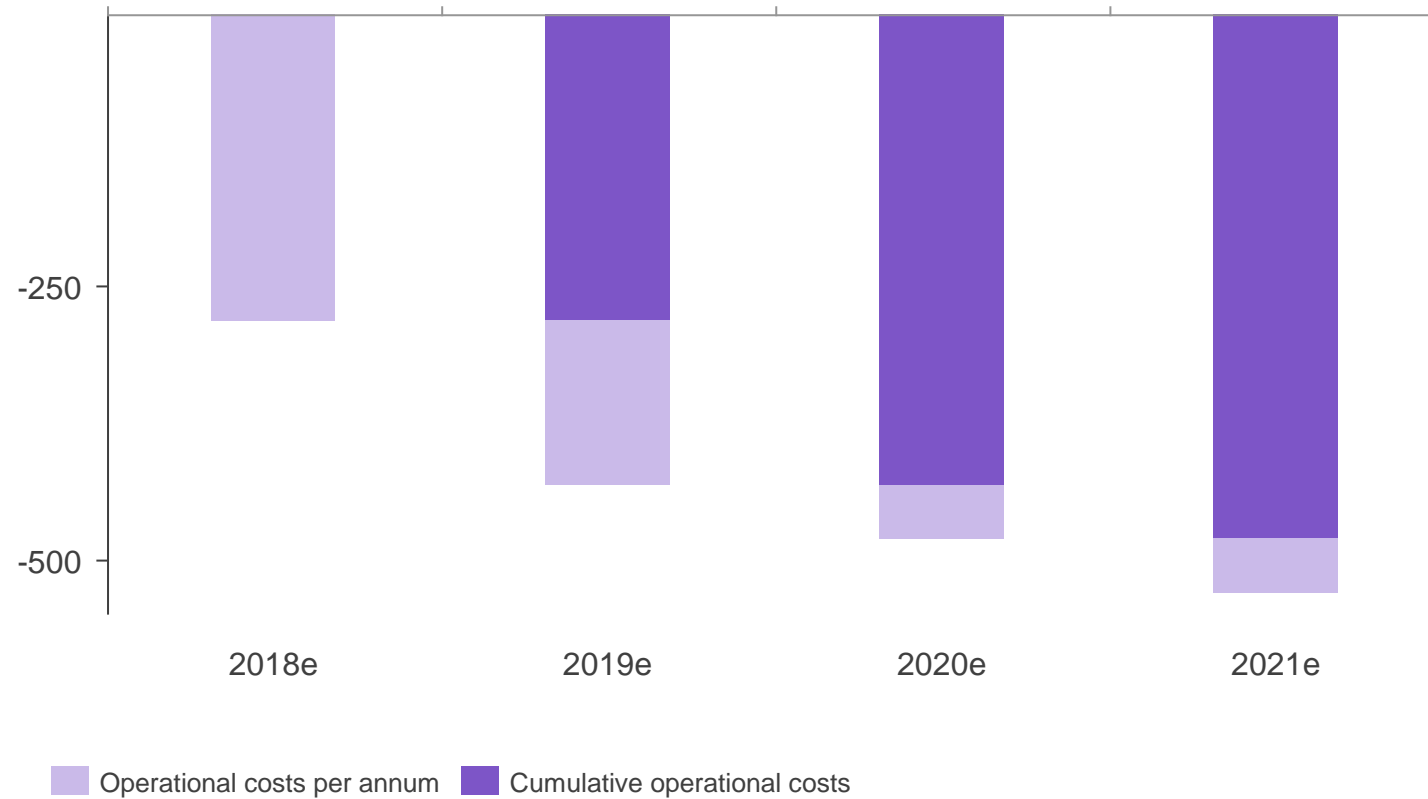


# Counterbalancing capex-driven cost increases



## Cumulative additional operational costs, net of savings from efficiency programs

in € million

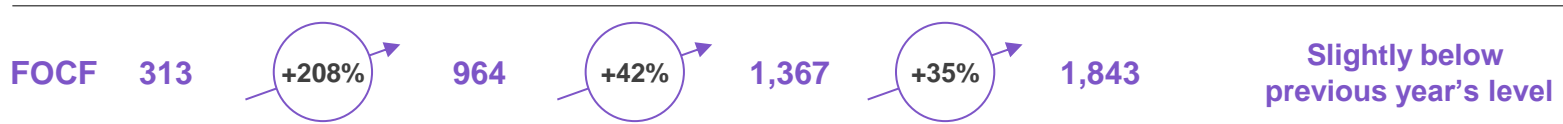


### Highlights

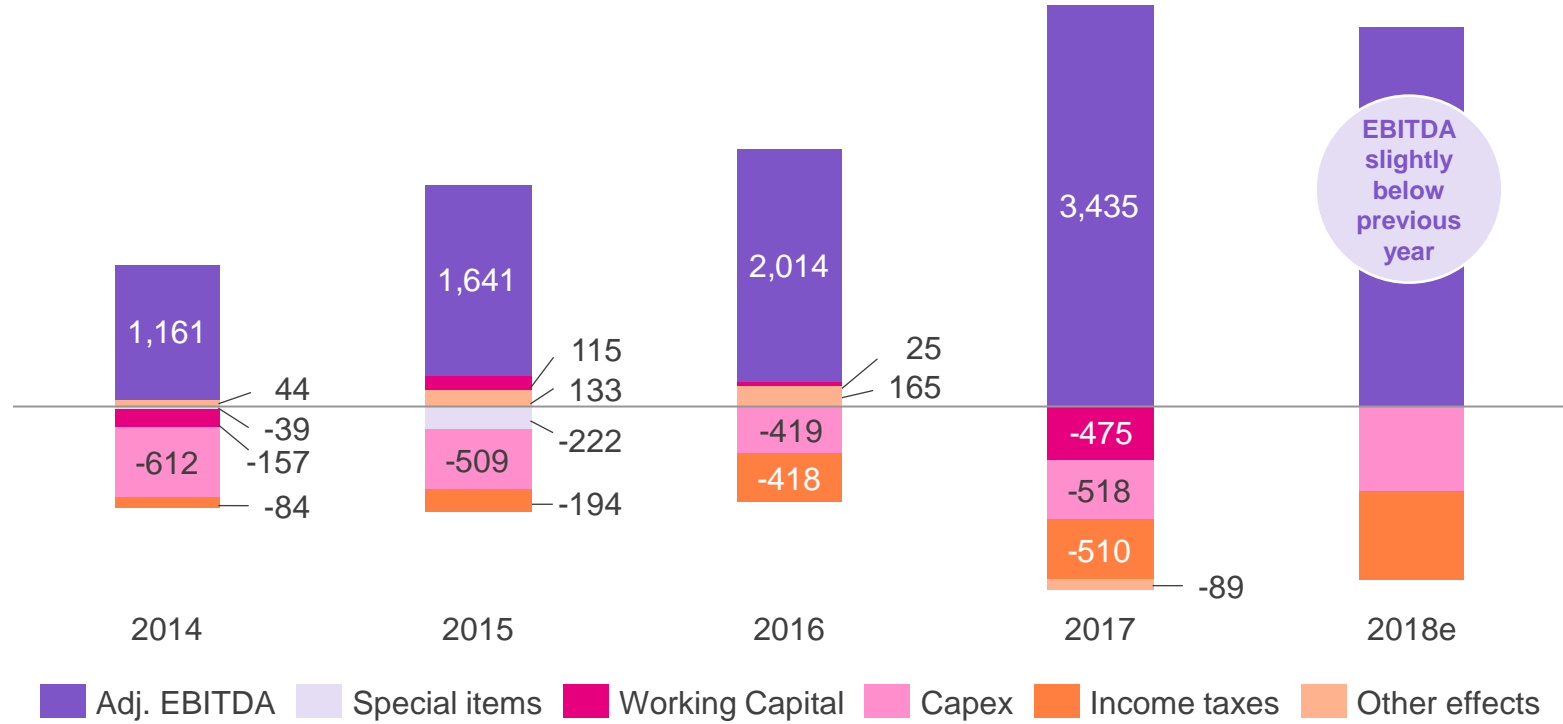
- Long-term growth strategy triggers higher operational costs mainly in production and technology (e.g. engineering expertise)
- Additionally, inflation-related costs have to be counterbalanced (e.g. salary increases)
- Savings from “Perspective” to limit annual additional operational cost increases
- Illustration of net effect shown in “Other items” of the Covestro EBITDA bridge, excluding one-time items

# Updated FOCF target for FY 2018

## Development of FOCF components



in € million



### Highlights

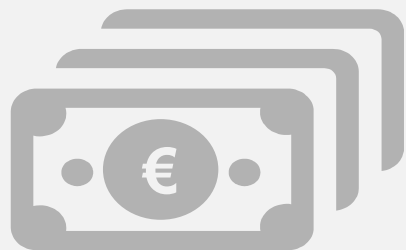
- Sustainably high EBITDA to FOCF conversion rate
- Working capital to sales ratio in the target range of 15-17%, with limited expected impact on FY 2018e
- Capex above €700m up Y/Y in order to secure production reliability
- Cash tax rate expected slightly below estimated P&L tax rate of 25-27% for FY 2018e

# Decisions based on best value for shareholders



## Use of free cash

### Dividend policy



- Progressive dividend policy: increase or keep at least stable
- FY 2017 dividend of €2.20 per share, 63% above prior year
- Total payout amount of €436m in Q2 2018 for FY 2017

### Return to shareholders



- Share buyback for up to €1.5bn<sup>(a)</sup> in execution, with completion targeted by mid 2019
- Since Q4 2017, ~14m shares bought back for a total amount of €1.1bn<sup>(b)</sup>
- Policy to return excess cash either as share buyback or special dividend

### Portfolio



- Disciplined and focused approach
- Acquisitions with focus on high margin and differentiated business areas
- Ongoing portfolio optimization including evaluation of potential disposals



# Financial Highlights

Q3 2018

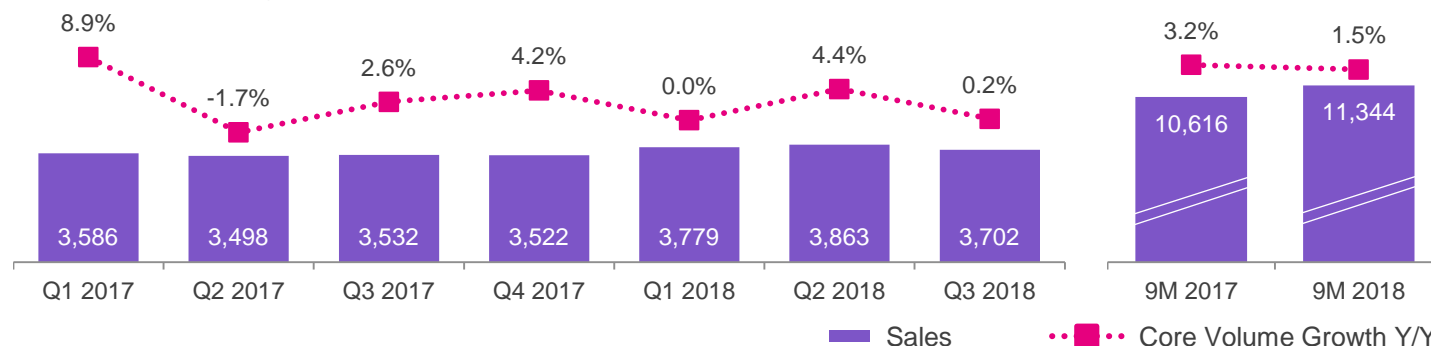
# Covestro – solid results despite headwinds

## Group results – Q3 2018 Highlights



### Sales and Core Volume Growth

in € million / changes Y/Y

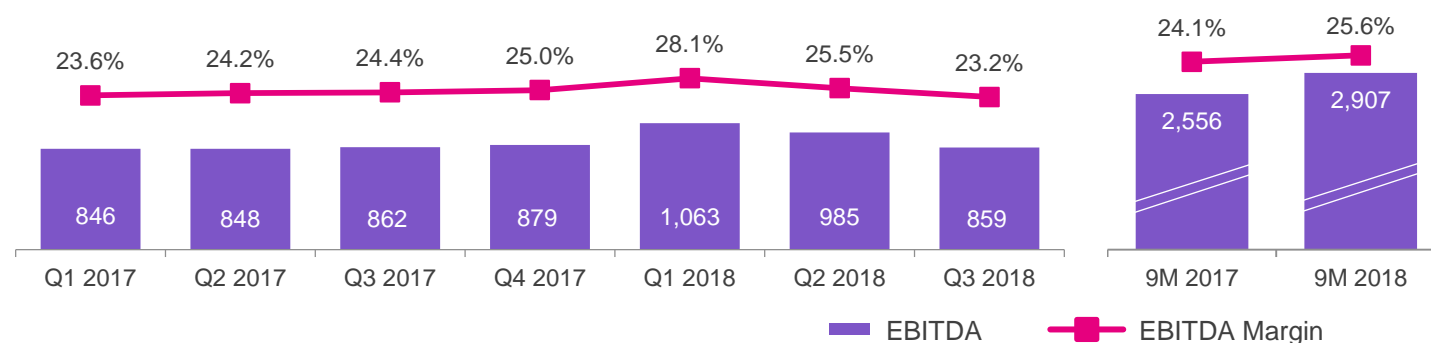


### Highlights

- Stable core volumes in Q3 2018 due to constrained product availability
- Sales in Q3 2018 increased by +4.8% Y/Y driven by price (+3.1%) and volume (+3.0%)

### EBITDA and Margin

in € million / margin in percent



### Highlights

- Stable EBITDA in Q3 2018 despite negative pricing delta in PUR
- EBITDA margin on continuously high level, excluding one-time items and TDI fly-up contribution at c.19% vs. c.21% in Q3 2017

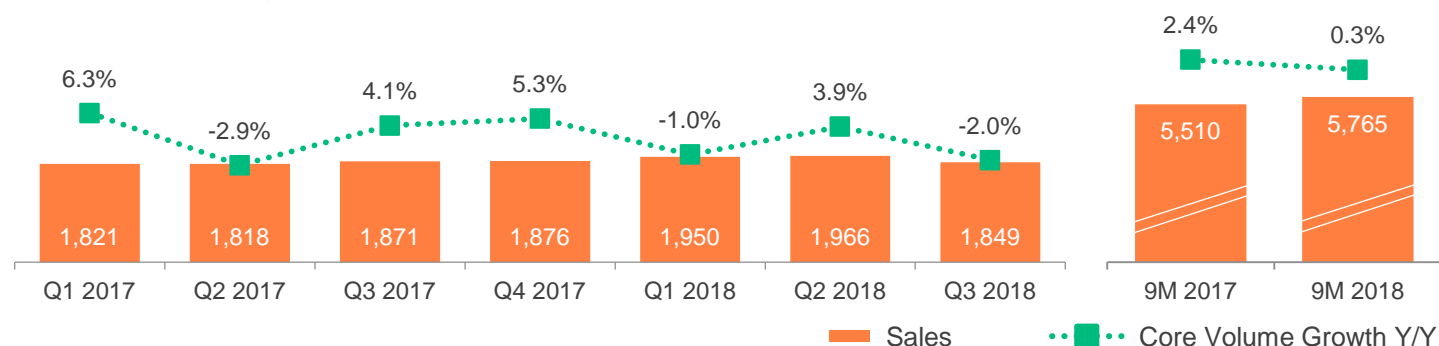
# Polyurethanes – normalizing earnings

## PUR segment results – Q3 2018 Highlights



### Sales and Core Volume Growth

in € million / changes Y/Y

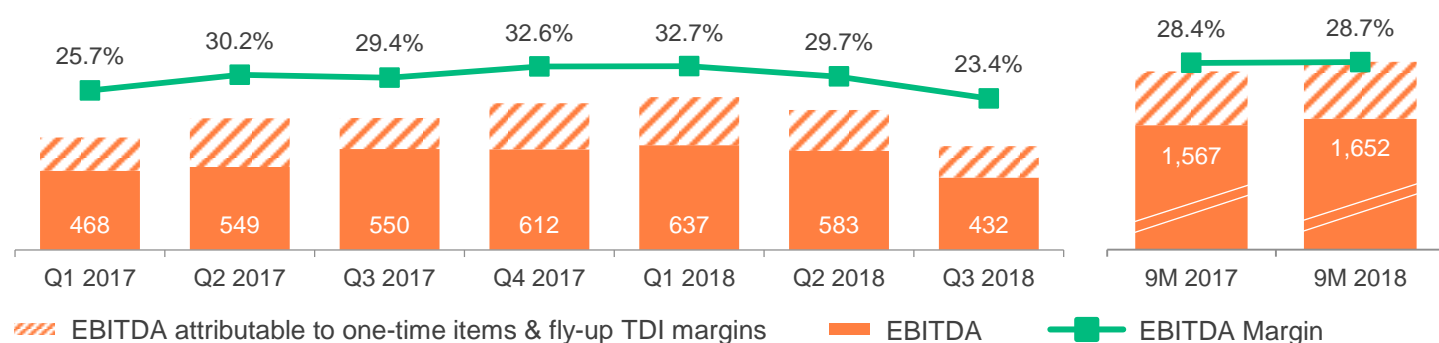


### Highlights

- Decline in core volumes by -2.0% Y/Y, driven by constrained product availability in Polyols and MDI
- Slight sales decrease by -1.2% Y/Y driven by price (-0.5%) and FX impact (-0.8%)
- Stable sales volume (+0.1%) Y/Y

### EBITDA and Margin

in € million / margin in percent



### Highlights

- EBITDA decreased by -21.5% Y/Y due to negative pricing delta and outage-related expenses
- Underlying EBITDA margin excluding TDI fly-up contribution at c.16% vs. c.22% in Q3 2017

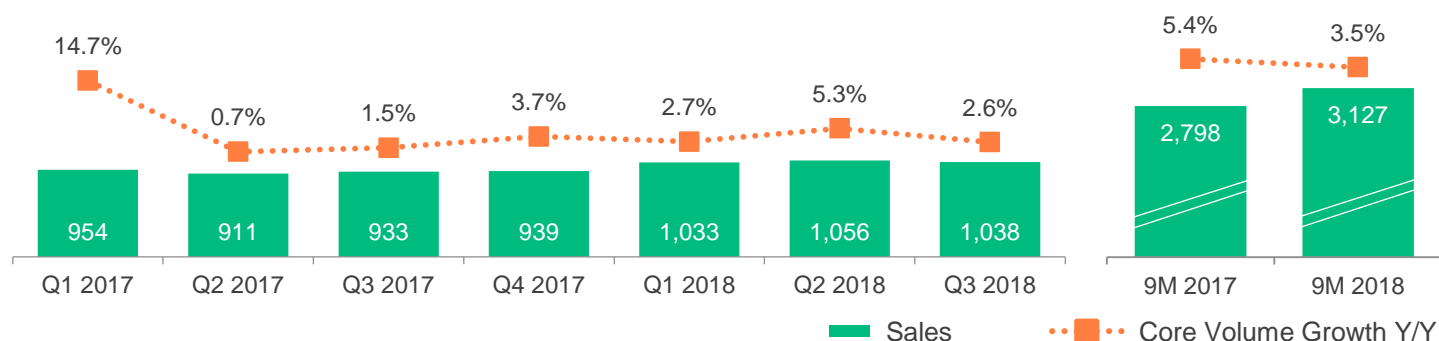
# Polycarbonates – driven by price, volume and product mix



## PCS segment results – Q3 2018 Highlights

### Sales and Core Volume Growth

in € million / changes Y/Y

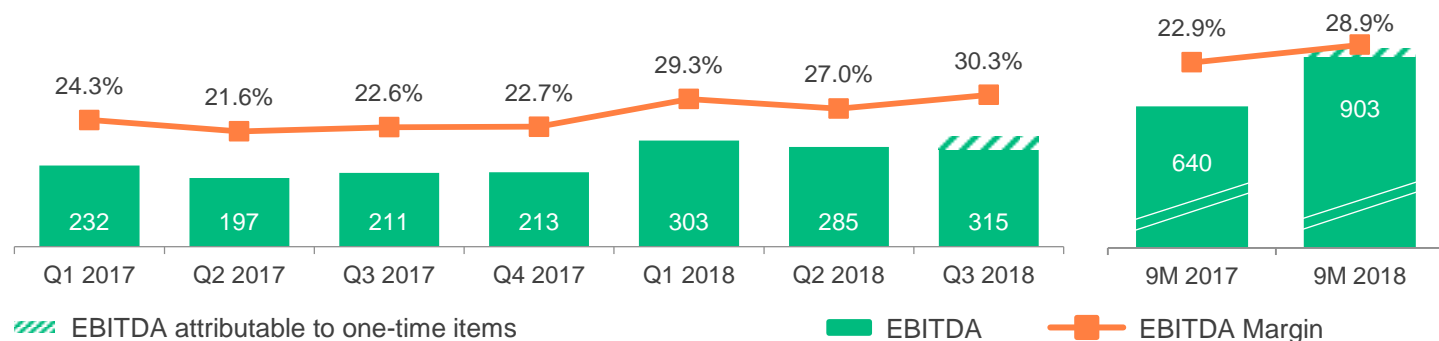


### Highlights

- Solid core volume growth of +2.6% Y/Y driven by APAC and EMLA
- Sales increased by +11.3% Y/Y driven by price (+9.6%) and volume (+5.1%)
- Negative portfolio (-2.8%) and FX (-0.6%) impact Y/Y

### EBITDA and Margin

in € million / margin in percent



### Highlights

- EBITDA increased by +49.3% Y/Y due to positive pricing delta and volume leverage
- One-time item of €36m: book gain from disposal of US sheets business
- Underlying EBITDA margin excluding one-time items expanded to c.27% vs. c.23% in Q3 2017

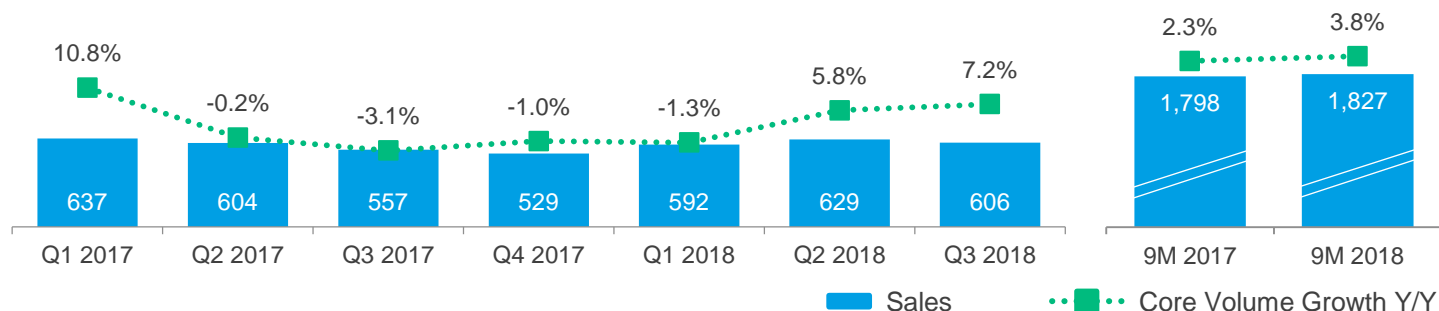
# Coatings, Adhesives, Specialties – strong growth



## CAS segment results – Q3 2018 Highlights

### Sales and Core Volume Growth

in € million / changes Y/Y

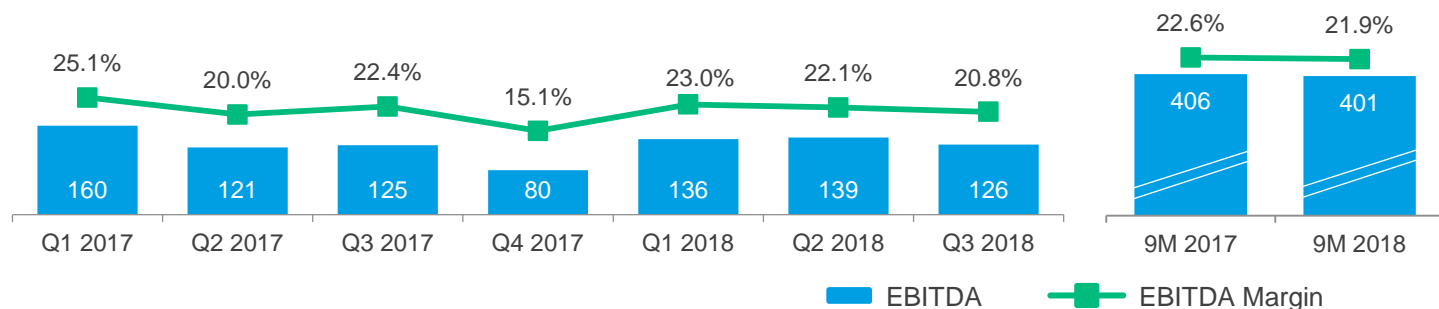


### Highlights

- Strong core volume growth of +7.2% Y/Y with all regions contributing
- Sales increased by +8.8% Y/Y driven by volume (+9.7%) and price (-0.5%)
- Negative FX (-0.4%) impact Y/Y

### EBITDA and Margin

in € million / margin in percent



### Highlights

- Slight EBITDA increase of +0.8% Y/Y mainly due to positive volume leverage
- EBITDA margin decline to 20.8% due to cost increases



# Strong volume leverage, small negative pricing delta



## Q3 2018 – EBITDA bridge

in € million



### Highlights

#### Strong positive volume leverage

- Broad-based in all three segments
- EBITDA volume leverage<sup>(a)</sup> at 63%

#### Slightly declining cash margin

- Selling prices decreased more than raw material prices in PUR
- Positive pricing delta in PCS

#### Other items

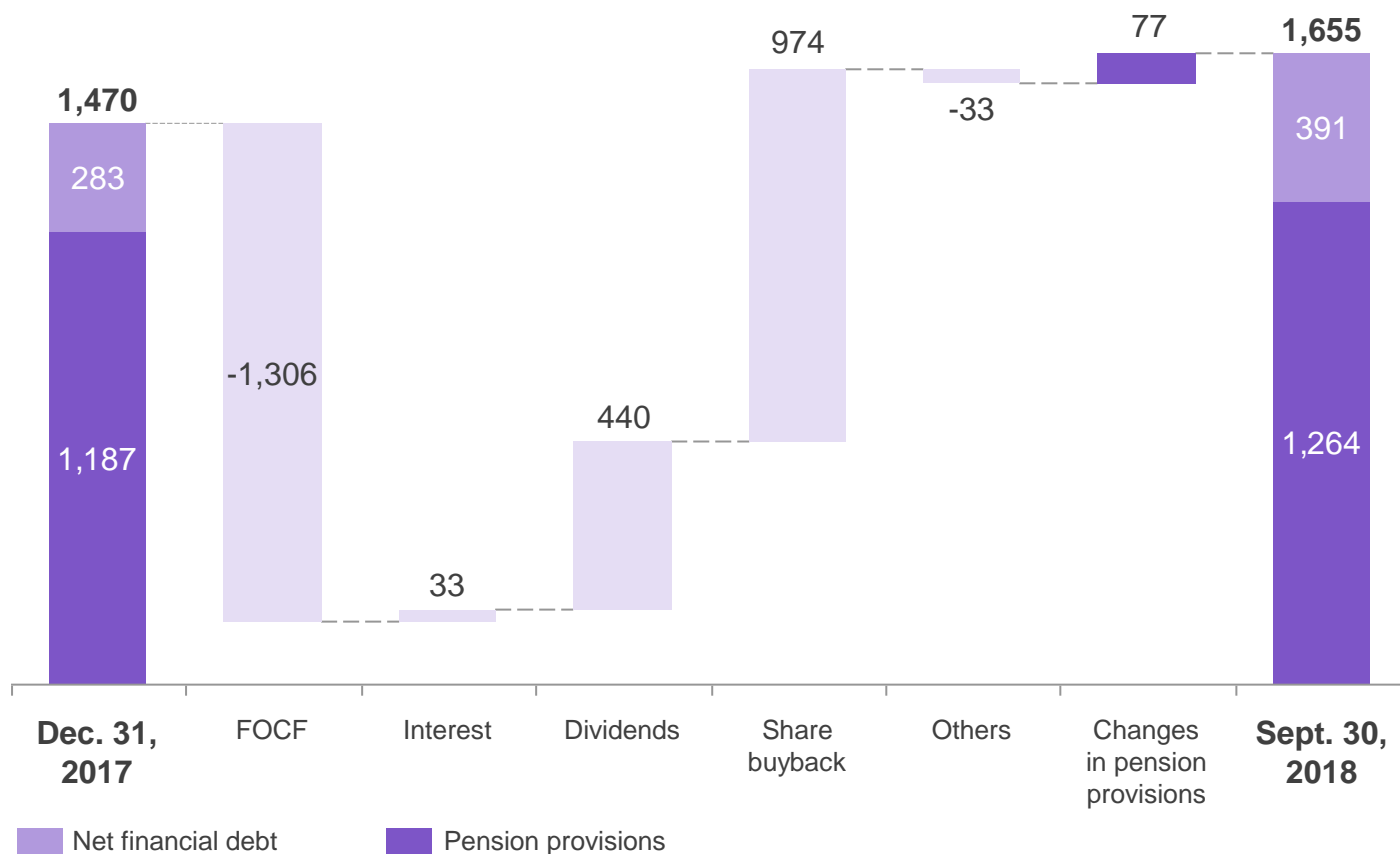
- One-time item of €36m: book gain from disposal of US polycarbonates sheets business
- Higher maintenance and logistics costs as well as outage-related expenses

# More than €1.4bn cash returned to shareholders

September 30<sup>th</sup> 2018 – Total net debt



in € million



## Highlights

- Total net debt to EBITDA ratio<sup>(a)</sup> unchanged at 0.4x end of Q3 2018 vs. end of 2017
- Slight increase of net financial debt by €108m mainly due to share buyback and dividend payout
- €1.5bn share buyback program: ~14m shares bought back for a total amount of €1.1bn by end of Q3 2018
- Pension provisions increased by €77m mainly due to negative return on plan assets
- Equity ratio further improved to 51%

# Updated FY 2018 guidance

Increasingly challenging economic conditions



	FY 2017	Updated guidance FY 2018
<b>Core Volume Growth</b>	+3.4%	Low-single-digit percentage increase Y/Y (Previously: Low- to mid-single-digit percentage increase Y/Y)
<b>FOCF</b>	€1,843m	Slightly below previous year's level (Previously: >€2bn)
<b>ROCE</b>	33.4%	Slightly below previous year's level (Previously: Around previous year's level)
<b>Additional financial expectations</b>	FY 2017	Updated guidance FY 2018
<b>EBITDA FY</b>	€3,435m	Slightly below previous year's level (Previously: Above previous year's level)
<b>D&amp;A</b>	€627m	€620-640m
<b>Financial result</b>	€-150m	€-100 to -120m
<b>P&amp;L (effective) tax rate</b>	24.1%	25–27%
<b>Capex</b>	€518m	Above €700m (Previously: €650-700m)

# Upcoming IR events



Find more information on [investor.covestro.com](https://investor.covestro.com)

## Broker conferences

- November 28, 2018 Exane BNP Paribas, SRI Forum, Paris
- November 29, 2018 Société Générale, The Premium Review, Paris
- December 4, 2018 Credit Suisse, Chemicals and Agriculture Conference, London
- December 4, 2018 Berenberg, European Conference, London
- December 5, 2018 Bank of America Merrill Lynch, Global Agriculture and Chemicals Conference, London
- January 14-15, 2019 Commerzbank, German Investment Seminar, New York
- January 21, 2019 Kepler Cheuvreux, German Corporate Conference, Frankfurt
- February 5, 2019 HSBC, ESG Conference, Frankfurt

## Reporting dates

- February 25, 2019 Annual Report 2018
- April 29, 2019 Q1 2019 Interim Statement
- July 24, 2019 Half-Year Financial Report 2019

## Highlights

- April 12, 2019 Annual General Meeting, Bonn



# Disclaimer

This presentation may contain forward-looking statements based on current assumptions and forecasts made by Covestro AG.

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