



# The Global Market for Carbon Black to 2025

## TABLE OF CONTENTS

<b>1 EXECUTIVE SUMMARY.....</b>	<b>12</b>
• 1.1 The current market.....	12
• 1.2 Innovation in the carbon black market.....	13
• 1.3 Increased capacities 2016-2018.....	14
• 1.4 Reduced capacities 2016-2018.....	15
• 1.5 Capacity expansion in the near future.....	16
• 1.6 Environmental initiatives in China.....	16
• 1.7 Market threat from other materials.....	16
○ 1.7.1 Competition from precipitated silica in the tire industry.....	16
○ 1.7.2 Competition from nanomaterials.....	17
• 1.8 Automotive tires the dominant end user market.....	19
• 1.9 Key market trends 2016 to 2017.....	19
○ 1.9.1 Specialty carbon black.....	19
○ 1.9.2 Recovered carbon black (rCB).....	20
• 1.10 Global market size and revenues, 2014 to 2025.....	21
<b>2 RESEARCH METHODOLOGY.....</b>	<b>23</b>
• 2.1 Scope of the report.....	23
○ 2.1.1 Objective of the report.....	23
○ 2.1.2 Methodology.....	23
<b>3 INTRODUCTION.....</b>	<b>24</b>
• 3.1 Carbon black.....	24
○ 3.1.1 Properties.....	25
▪ 3.1.1.1 Particle size distribution.....	25
▪ 3.1.1.2 Structure-Aggregate size.....	26
▪ 3.1.1.3 Surface chemistry.....	27



## The Global Market for Carbon Black to 2025

- 3.1.1.4 Agglomerates..... 27
- 3.1.1.5 Colour properties..... 28
- 3.1.1.6 Porosity..... 29
- 3.1.1.7 Physical form..... 29
- 3.2 Manufacturing processes..... 30
  - 3.2.1 Furnace Black Process..... 30
  - 3.2.2 Channel Black Process..... 31
  - 3.2.3 Acetylene Black Process..... 32
  - 3.2.4 Lamp Black Process..... 33
  - 3.2.5 Thermal black process..... 34
  - 3.2.6 Other processes..... 35
    - 3.2.6.1 Gas black..... 35
    - 3.2.6.2 Pyrolysis..... 35

## 4 THE CARBON BLACK INDUSTRY..... 36

- 4.1 The market in 2017..... 36
- 4.2 Specialty carbon black..... 37
  - 4.2.1.1 Global market size for specialty CB..... 38
- 4.3 Markets for carbon black..... 40
  - 4.3.1 Traditional markets..... 40
  - 4.3.2 Growth markets..... 40
  - 4.3.3 Green carbon black..... 40
  - 4.3.4 Pricing..... 40
    - 4.3.4.1 Feedstock..... 40
    - 4.3.4.2 Commercial carbon black..... 41
- 4.4 MARKET SUPPLY CHAIN..... 42



## The Global Market for Carbon Black to 2025

• 4.5 MARKET DRIVERS.....	43
• 4.6 MARKET CHALLENGES.....	44
• 4.7 CARBON BLACK MARKET, BY APPLICATIONS.....	45
○ 4.7.1 Tires and automotive.....	48
▪ 4.7.1.1 Competition from precipitated silica.....	50
○ 4.7.2 Non-Tire Rubber (Industrial rubber).....	54
○ 4.7.3 Specialty Carbon Black.....	56
▪ 4.7.3.1 Plastics.....	58
▪ 4.7.3.2 Paints and coatings.....	59
▪ 4.7.3.3 Printing inks and toners.....	60
▪ 4.7.3.4 Other.....	61
▪ 4.7.3.4.1 Conductive additives.....	62
▪ 4.7.3.4.2 Batteries and EDLCs.....	62
▪ 4.7.3.4.3 Insulation.....	63
▪ 4.7.3.4.4 Adhesives.....	63
• 4.8 REGIONAL MARKETS.....	63
○ 4.8.1 Carbon black exports.....	63
○ 4.8.2 Carbon black imports.....	64
○ 4.8.3 Demand.....	64
▪ 4.8.3.1 Asia-Pacific.....	68
▪ 4.8.3.1.1 China.....	70
▪ 4.8.3.1.2 Japan.....	71
▪ 4.8.3.1.3 India.....	72
▪ 4.8.3.2 Western Europe.....	72
▪ 4.8.3.3 North America.....	73
▪ 4.8.3.4 Rest of the world.....	74



## The Global Market for Carbon Black to 2025

<b>5 CARBON BLACK MARKET BUSINESS TRENDS 2016 TO 2017...</b>	<b>76</b>
<b>6 COMPETITIVE ANALYSIS.....</b>	<b>77</b>
• 6.1 Key players.....	77
• 6.2 Market share analysis.....	77
<b>7 CARBON BLACK PRODUCER PROFILES.....</b>	<b>79-97 (37 company profiles)</b>

### **TABLES**

• Table 1 Carbon black capacity increases 2016-2018.....	14
• Table 2 Carbon black capacity by company 2016.....	14
• Table 3 Carbon black capacity decreases 2016-2018.....	15
• Table 4: Applications of graphene and carbon nanotubes in rubber and tires.....	17
• Table 5 Global carbon black forecast.....	21
• Table 6 Commercially available carbon black grades.....	24
• Table 7 Properties of carbon black and influence on performance.....	25
• Table 8 Carbon black compounds.....	30
• Table 9 Furnace black process.....	30
• Table 10 Channel black process-method, advantages and disadvantages.....	31
• Table 11 Acetylene black process-method, advantages and disadvantages.....	32
• Table 12 Lamp black process-method, advantages and disadvantages.....	33
• Table 13 Thermal black process-method, advantages and disadvantages.....	34
• Table 14 Specialty carbon black market volume, 2015-2025.....	38
• Table 15 Pricing of carbon black.....	41
• Table 16 Carbon black prices.....	41
• Table 17 Market supply chain for carbon black.....	42
• Table 18 Market drivers for the carbon black industry.....	44
• Table 19 Demand for carbon black, by market, 2014-2025, million metric tons.....	46



## The Global Market for Carbon Black to 2025

- Table 20 Global carbon black production and capacity, forecast to 2025..... 47
- Table 21: Market drivers for CB in the tire industry..... 50
- Table 22 Global market for carbon black in tires (Million metric tons), 2014 to 2025..... 54
- Table 23 Carbon black non-tire applications..... 55
- Table 24 Global market for carbon black in non-tire rubber (Million metric tons), 2014 to 2025.... 56
- Table 25 Global demand for specialty carbon black 2014-2016 by market, million metric tons..... 58
- Table 26 Properties of Carbon Black utilized in EDLCs..... 62
- Table 27 Principal carbon black suppliers, by region..... 67
- Table 28 Asia-Pacific market for carbon black 2014 to 2025 (Metric tons)..... 69
- Table 29 Main carbon black producers in China and production capacities..... 69
- Table 30 Demand for carbon black by industry in Japan (Metric tons)..... 70
- Table 31 Main carbon black producers in India and production capacities..... 71
- Table 32 Western Europe market demand for carbon black 2014 to 2025 (Metric tons)..... 73
- Table 33 North American demand for carbon black 2014 to 2025 (Metric tons)..... 74
- Table 34 Rest of the world market demand for carbon black 2014 to 2025 (Metric tons)..... 75
- Table 35: Carbon black market business trends 2016-2018..... 76
- Table 36: Carbon black market share, by leading producers..... 77

### **FIGURES**

- Figure 1 Global Carbon Black Market 2016, End User Markets..... 12
- Figure 2 Carbon black capacity by company..... 15
- Figure 3: Antistatic graphene tire..... 17
- Figure 4 Global carbon black market for tires, 2016..... 19
- Figure 5 Global market for specialty carbon black, by end user demand..... 20
- Figure 6 Global market for carbon black (metric tons), 2014 to 2025..... 22
- Figure 7 Electron microscope image of carbon black..... 25
- Figure 8 Different shades of black, depending on the surface of Carbon Black..... 26
- Figure 9 Structure- Aggregate Size/Shape Distribution..... 27



## The Global Market for Carbon Black to 2025

- Figure 10 Surface Chemistry – Surface Functionality Distribution..... 27
- Figure 11: Sequence of structure development of Carbon Black..... 28
- Figure 12 Carbon Black pigment in Acrylonitrile butadiene styrene (ABS) polymer..... 29
- Figure 13 Furnace black Process..... 31
- Figure 14 Channel Black Process..... 32
- Figure 15 Lampblack Process..... 34
- Figure 16 Thermal black process..... 35
- Figure 17 Global market for carbon black in 2016, by end user market..... 36
- Figure 18 Applications of specialty carbon black..... 37
- Figure 19 Specialty carbon black market volume, 2015-2025..... 39
- Figure 20 Global carbon black market by application in 2016 (million Metric tons)..... 45
- Figure 21 Demand for carbon black, by market, 2014-2025, million metric tons..... 46
- Figure 22 Global carbon black production and capacity, forecast to 2025..... 48
- Figure 23 Break-down of raw materials (by weight) used in a tire..... 49
- Figure 24 Precipitated silica in car tires..... 51
- Figure 25 Passenger car and light truck replacement tire market 2016-2017 (million units)..... 52
- Figure 26 Commercial vehicle replacement tire market 2016-2017 (million units)..... 52
- Figure 27 Global Market for Carbon Black in tires, by type 2016..... 53
- Figure 28 Global market for carbon black in tires (Million metric tons), 2014 to 2025..... 54
- Figure 29 Global market for carbon black in non-tire rubber (Million metric tons), 2014 to 2025... 56
- Figure 30 Global Market for specialty carbon black, by type 2016..... 57
- Figure 31 Global demand for specialty carbon black 2014-2016 by market, million metric tons.... 58
- Figure 32 Global market for carbon black in plastics (Million metric tons), 2014 to 2025..... 59
- Figure 33 Global market for carbon black in paints and coatings (Million metric tons), 2014 to 2025..... 60
- Figure 34 Global market for carbon black in printing inks and toners (Million metric tons), 2014 to 2025..... 61
- Figure 35 Leading carbon black exports by country (Metric tons)..... 63



## The Global Market for Carbon Black to 2025

- Figure 36 Leading carbon black imports by country (Metric tons)..... 64
- Figure 37 Demand for carbon black by regional market 2016..... 65
- Figure 38 Demand for carbon black by regional market 2014-2025, metric tons..... 66
- Figure 39 CB capacity by region 2006-2018..... 67
- Figure 40 Asia-Pacific market for carbon black 2014 to 2025 (Metric tons)..... 68
- Figure 41 China market for carbon black 2014 to 2025 (Metric tons)..... 70
- Figure 42 India market for carbon black 2014 to 2025 (Metric tons)..... 72
- Figure 43 Western Europe market demand for carbon black 2014 to 2025 (Metric tons)..... 72
- Figure 44 North American demand for carbon black 2014 to 2025 (Metric tons)..... 74
- Figure 45 Rest of the world market demand for carbon black 2014 to 2025 (Metric tons)..... 75
- Figure 46 Main global rubber carbon black producers market share by capacity..... 78