Aiming to realize our Vision of Kuraray:
"Specialty Chemical Company growing sustainably by incorporating new foundational platforms into its own technologies"

Completing the Acquisition of Calgon Carbon and Integrating Businesses

June 20, 2018

KURARAY CO., LTD.

Overview of Calgon Carbon Acquisition

The lead up to the acquisition

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September 21, 2017	We reached an agreement with Calgon Carbon to acquire all their shares and to make them a wholly owned subsidiary.
March 9, 2018 (U.S. time)	We completed the steps necessary to acquire Calgon Carbon.
April 1, 2018	We incorporated Calgon Carbon by establishing the new Calgon Carbon Division within the Functional Materials Company.

Opening Ceremony (June 7, 2018, U.S. time)



Overview of Acquired Business (Calgon Carbon)

Company	Calgon Carbon Corporation
Established	1942
Headquarters	Suburb of Pittsburgh, Pennsylvania, U.S.
CEO	Randall S. Dearth
Business Overview	Manufacture and sale of activated carbon, diatomaceous earth and water treatment equipment
Sales	$620mm (FY2017)
Number of Employees	1,268 (as of December 31, 2017)

How the Acquisition Fits into the Medium-Term Management Plan

Strengthened and expanded the carbon materials business based on key management strategies in the Medium-Term Management Plan

2016 "GS-STEP" | Next-gen growth model | Environmental contribution

◆Considered new axis for building future growth strategies
■Strengthened and expanded the carbon materials business
–Considered implementing specific initiatives, including Group strategies and M&A

2017 "GS-STEP" | Next-gen growth model | Environmental contribution

◆Accelerated the strengthening and expansion of the carbon materials business
■Accelerated the global expansion of the carbon materials business
–Absorbed Kuraray Chemical Co., Ltd. in January 2017
–Integrated said company into the Energy Materials Business Department and launched the Carbon Materials Division
–Decided to acquire Calgon Carbon

2018 PROUD 2020 | Expansion in new field | Environmental contribution

◆Continuing to strengthen and expand the carbon materials business
■Integrated Calgon Carbon with the Carbon Materials Division (PMI)
–Completed the acquisition of Calgon Carbon
–Generate synergy rapidly by integrating the businesses

Strategic Rationale of the Transaction

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Business expansion in key strategic areas, "aqua and environment" and "energy"

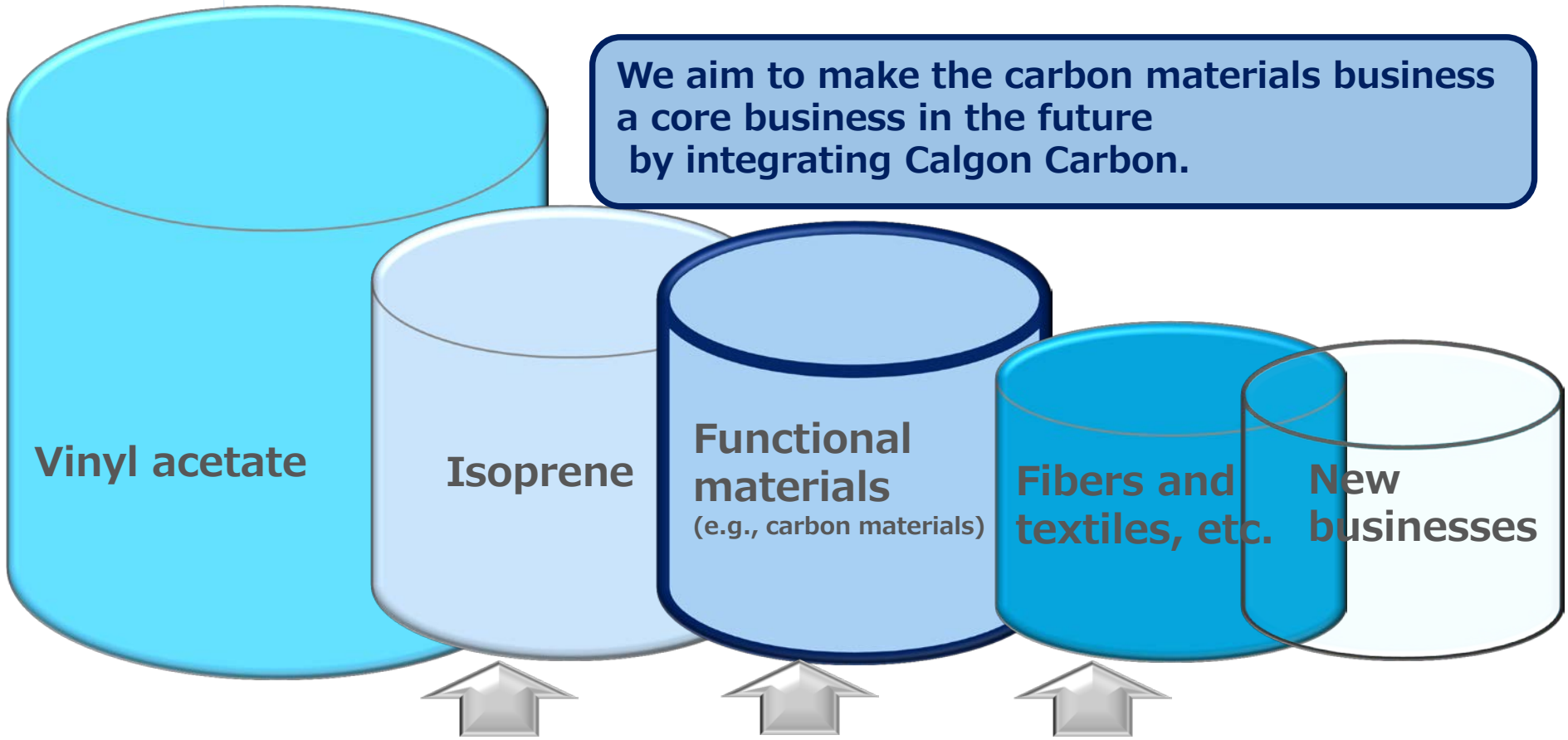
Key Strategic Initiatives after Closing

- Business expansion by leveraging Calgon Carbon's strong global platform
- Accelerating technological innovations by combining R&D expertise
- Cost reductions by optimizing manufacturing systems

Early realization of expected synergies

Our Kuraray Vision 2026 Portfolio

Building a Stable Business Portfolio
Developing the Next Business Pillar to Succeed Vinyl Acetate



Monomer development: Achieve greater functionalities by employing polymerization and processing technologies

About Calgon Carbon

Calgon Carbon Outline

Calgon Carbon is…

- The world's largest producer of granular activated carbon
- The most diversified provider of high quality activated carbon, filtration media, and services including equipment and carbon reactivation
- Clearly focused on high-end market segments with strong share positions
- A market leader in technical service and application development to support share positions and to capitalize on emerging contaminant treatment
- A company with 20 manufacturing and innovation facilities in 7 countries and global sales teams represented in 13 countries



RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY





History of Calgon Carbon















1942 Pittsburgh Coke and Chemical Company Inc. pioneers the development of coal-based granular activated carbon for use in military protection

1960 The Activated Carbon Division of Pittsburgh Coke and Chemical pioneers the use of granular activated carbon in drinking water treatment

1965 Pittsburgh Activated Carbon Company (formerly Pittsburgh Coke and Chemical) is acquired by Calgon Corporation

1991 Calgon Carbon is listed on the New York Stock Exchange (NYSE)

1996 Calgon Carbon enters the UV Disinfection market and the Carbon Cloth market through acquisitions

2004 Calgon Carbon expands capabilities in activated carbon with the acquisition of Barnebey Sutcliffe

2010 Calgon Carbon purchases Hyde Marine and gains technology in UV-based ballast water treatment systems

2016 Calgon Carbon acquires the wood activated carbon and filtration aid businesses of CECA

2018 Calgon Carbon is acquired by Kuraray Co., Ltd.

How Our Products Help Our Customers and Society

















Product Portfolio 1

Premium Activated Carbon and Filtration Media Products Address High-End Market Needs















Product Portfolio	Geography	Primary Applications
• Bituminous coal-based activated carbon – Granular, powder, extruded	• Americas • Europe • Asia	• Drinking water • Wastewater • Environmental air • Industrial • Food & beverage
• Wood-based activated carbon - mostly powdered	• Europe • Asia	• Food & beverage • Industrial • Pharmaceutical
• Coconut-based activated carbon	• Americas • Europe • Asia	• Food & beverage • Industrial • Pharmaceutical
• Diatomaceous earth filtration media (DE)	• Europe • Asia	• Food & beverage • Industrial
• Perlite filtration media	• Europe	• Beverage • Industrial • Fillers
• Carbon cloth	• Europe • Americas	• Medical • Defense • Industrial
• Granular activated carbon reactivation	• North America • Europe • Asia	• Drinking water • Wastewater • Industrial • Food

- Solve customer's most demanding purification and separation problems
- Integrated offering of activated carbon, equipment, reactivation and field support
- Applications expertise in municipal, industrial, and food & beverage end markets
- Customer stickiness enabled by product quality, service and technical support

Product Portfolio 2

Innovative Equipment Addresses High-End Market Needs

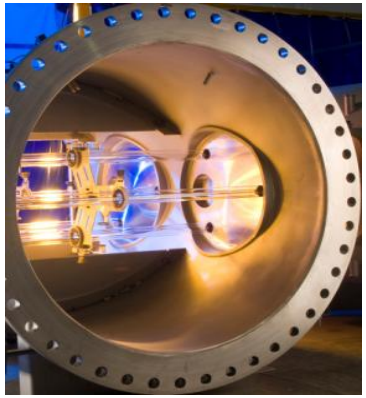
Carbon Adsorption Systems





Ultraviolet Technology





Ballast Water Treatment



Ion Exchange Systems



Global Locations



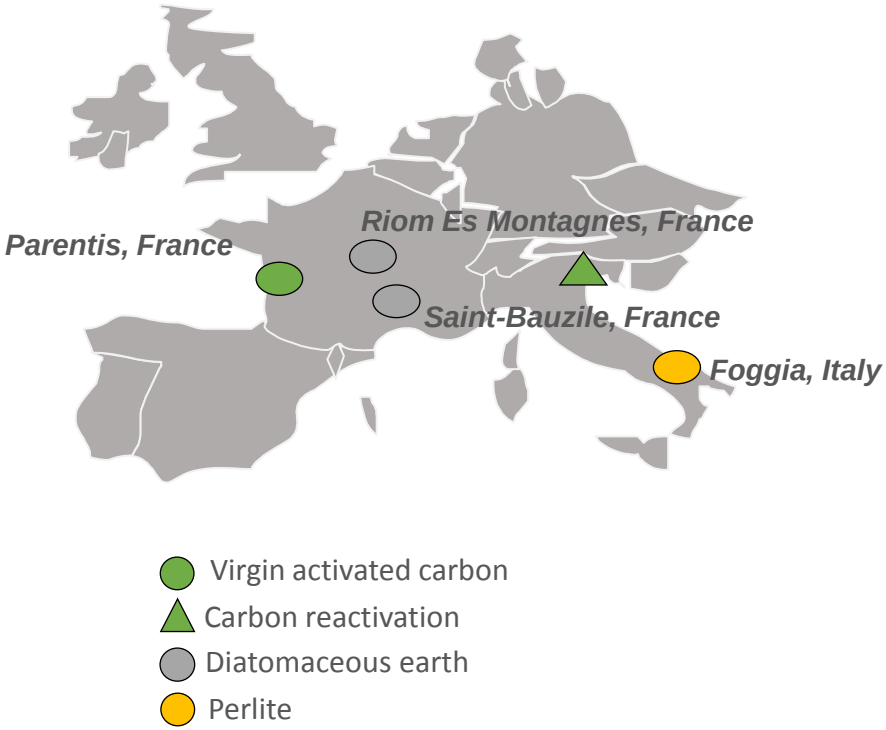
New Business: CECA Acquisition

Acquisition of Wood Activated Carbon and Filter Aid Business

Business Description

- Manufacturing / commercial capabilities
  - Virgin wood-based activated carbon
  - Carbon reactivation services
  - Diatomaceous earth (DE) and perlite filtration media
- Strong end market customer relationships
  - Beverage, food, industrial, pharmaceutical
  - 40% of customer base uses both carbon and filtration media products
- Stable financial performance
- Solid market positions in EMEA region
- ~ 300 employees

Operating Locations



Advantages in being in the Kuraray Group

- Complementary business offerings
- Resources and support from a large international company
- Commitment to R&D, market solutions, and application development
- Together we are undoubtedly the largest activated carbon company worldwide
- Focus on growth through innovation
- Commitment to sustainability and solving water and air quality issues globally

Vision for Combined Businesses



Kuraray Activated Carbon Materials	Calgon Carbon	Kuraray Activated Carbon Materials

•Manufacturer and marketer of coconut shell and high performance coal activated carbon
•Sales primarily in Japan and Asia
•Strength in specialty solutions and high end areas
  •Water purification
  •Air purifiers
  •Capacitors
	•Manufacturer of coal-based and wood based AC
	•Key player in filter aids in Europe (diatomaceous earth and perlites)
	•The most comprehensive activated carbon product portfolio
	•Leader in AC reactivation
	•Strong global presence
		•Comprehensive activated carbon manufacturer with coal, coconut, and wood based AC
		•Global player contributing to solving environmental issues
		•Clear technology leader with world-class R&D capabilities to support global customers and future products

The Business Integration with Calgon Carbon

History of the Carbon Materials Business

1965	Began manufacture and sale of activated carbon as Chugoku Sangyo Co., Ltd.
1973	Renamed Kuraray Chemical Co., Ltd.
1975	Cenapro Chemical Corp. established in the Philippines for the intensive production of activated carbon
1976	Started designing, producing and selling activated carbon-related equipment
1996	Opened Tsurumi Research and Development Center
2004	Kuraray Chemical (Ningxia) Environmental Industry Co., Ltd. established in China for the manufacture of activated carbon
2012	Established Bio Hard Carbon Co., Ltd., a joint-venture company for the manufacture of LiB hard carbon anode materials
2016	Kuraray Co., Ltd. absorbed Bio Hard Carbon Co., Ltd. and started LiB-related operations
2017	Kuraray Co., Ltd. absorbed Kuraray Chemical Co., Ltd. and launched the Carbon Materials Division

Our Corporate Vision

Provide Solutions to Environmental Issues Globally

kuraray

- **Coconut shell-based and high-performance coal-based AC**
- **Sales primary in Japan and Asia**
- **Strengths in specialty solutions**

  Solutions in high-end areas, such as water purifiers, air purifiers, capacitors, absorption of evaporated gasoline, and nitrogen generator

CalgonCarbon
A Kuraray Company

- **Coal-based and wood-based AC**
- **Sales primary in North America and Europe**
- **Strengths in total solutions**

  Large-scale solutions in a wide-range of areas, such as advanced water purification, odor/mercury removal, food & beverage purification, industrial wastewater, and regeneration system

- **As a general activated carbon manufacturer, we will stably expand revenue by helping solve customers' problems**
- **We will create and capture markets in tandem with the rise in environmental awareness among emerging countries**
- **We will spur innovation by bringing together our technologies and ability to develop applications**

Strengths of Both Companies in Each Field

【Water】

Water purifiers
Food processing
Water filtration facilities,
Water treatment

kuraray	Strength lies in providing many solutions through the supply of various filtration materials for household water purifiers that meet the specific needs of the Japanese market
CalgonCarbon A Kuraray Company	Strength lies in providing the solution of supplying safe drinking water through the stable supply of high-quality activated carbon to water treatment plants in each of its countries of operation as well as in further raising the added value of food products and beverages

【Air】

Automobiles (canisters)
Protective applications (masks, etc.)
Air purifiers
Gas treatment

kuraray	The Company is improving the quality of life for consumers through products that prevent the evaporation of gasoline into the atmosphere as well as activated carbon for deodorizing and purifying air indoors.
CalgonCarbon A Kuraray Company	The company offers exceptional technologies for protecting people's health that meet governmental regulations (for mercury and poisonous gas) in each of its countries of operation

【Energy】

Electronic material applications
Carbon molecular sieve
Activated carbon reactivation

kuraray	The Company is meeting the world's need for energy conservation through its carbon molecular sieves for use in capacitors and nitrogen separating equipment.
CalgonCarbon A Kuraray Company	The company is helping protect the environment through the systematic reuse of resources (supplying regeneration systems and equipment).

Main Applications for Activated Carbon (ability to meet high-end demands)

Application	kuraray	CalgonCarbon A Kuraray Company	Measures going forward
Electronic materials	◎	△	Promote joint development and use Calgon Carbon's sales network to expand U.S. and European sales.
Carbon molecular sieves (CMS)	◎	△	Use Calgon Carbon's sales network to expand U.S. and European sales.
Protective masks	◎	◎	Expand sales of Kuraray's coconut shell charcoal (for organic gas) using Calgon Carbon's sales network, and expand sales of Calgon Carbon's special impregnated carbon (for multiple gases) using Kuraray's sales network.
Automobiles	○	△	Promote joint development (for main chambers of canisters). Combine Kuraray's foundation and evaluation technologies with Calgon Carbon materials and development products.
Air purifiers	◎	○	Use Calgon Carbon's sales network to expand U.S. and European sales.
Water purifiers	◎	○	Promote joint development. Manufacture products and expand sales in the consumer market (North America) by integrating Kuraray's and Calgon Carbon's technologies.
Food processing	△	◎	Expand sales of Calgon Carbon products in Japan and Asia (general-use coal and wood products).
Environmental protection (water filtration facilities, water treatment, gas treatment)	△	◎	Expand cost-competitive Calgon Carbon products in Japan and Asia.

Post-acquisition business strategy: Make use of global business base

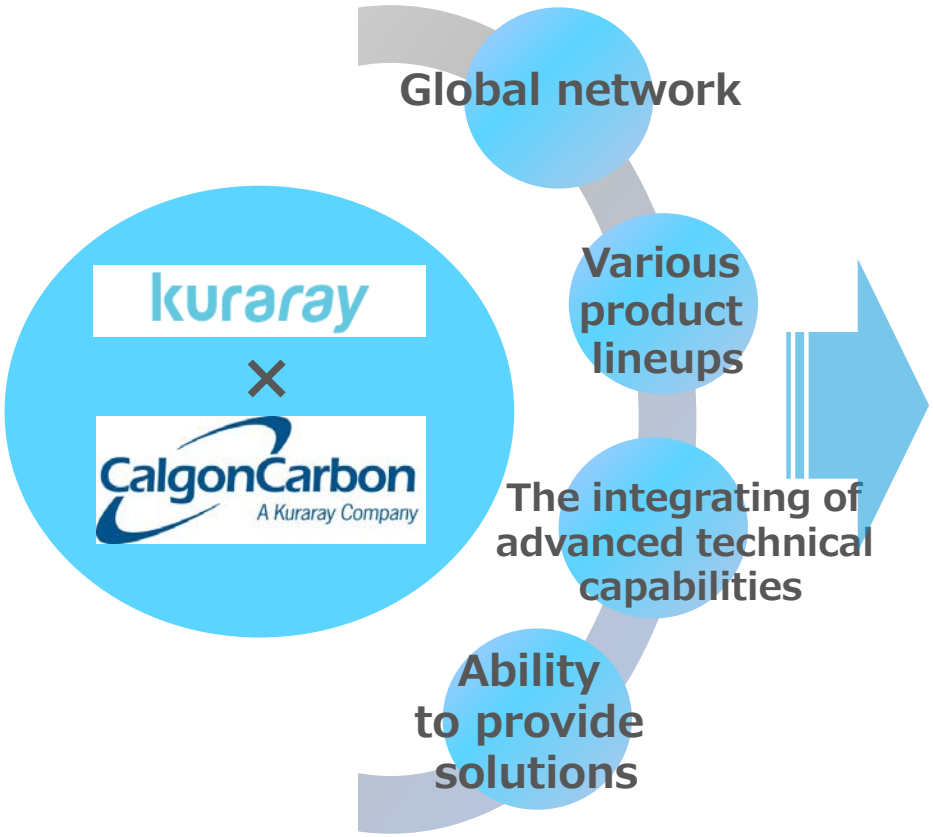
Calgon Carbon's and the Kuraray Group's Global Network

We have sales locations in 16 countries and areas as well as production bases in 8 countries, centered mainly in North America and Europe



Synergy

Quickly achieve synergy



Future synergies

Marketing synergies

Expand sales of both companies' unique products in both company's markets
- Calgon: Wood carbon, coal-based granular carbon, impregnated carbon
- Kuraray: canister auxiliary chamber applications, catalyst applications

Cost synergies

Optimize placement of production bases (reduce costs of coal products)

Integrate marketing, logistics, and procurement functions

Integrated research and technology synergies

Consider new facility expansion based on both companies' technologies with an eye toward a future rise in demand in high-end markets

Boost production capability of wood activated carbon and diatomaceous earth at Calgon

Leverage our information capabilities, which are unique to the biggest market players, to promote R&D in the absorption field.

Business Targets for Carbon Materials and Calgon Carbon

	FY17 Results	PROUD 2020	
		FY18 Forecast	FY20 Forecast
Net sales	¥84.3 billion	¥86.0 billion	¥95.0 billion
Core operating income	¥4.9 billion	¥5.2 billion	¥6.0 billion
+ Synergy	—	—	¥3.0 billion
Operating income (excluding tentative goodwill and PPA effects)	¥4.9 billion	¥5.2 billion	¥9.0 billion

- Tentative goodwill: ¥85.5 billion
(to be amortized at ¥4.0 billion per year over 20 years)

- Synergy target: ¥10.0 billion (around 2025)

All figures are rounded to the nearest hundred million yen.

This presentation contains various forward-looking statements which are based on the current expectations and assumptions of future events. All figures and statements with respect to the future performance, projections, and business plans of Kuraray and its group companies constitute forward-looking statements. Although Kuraray believes that its expectations and assumptions are reasonable, actual results and trends of Kuraray's performance could differ materially from those expressed or implied by such figures or statements due to risks and uncertainties in the future business circumstances. The factors which may cause such difference include, without limitation: (1) general market and economic conditions in Asia including Japan, the U.S., Europe and other regions; (2) fluctuations of currency exchange rates, especially between the Japanese yen and the U.S. dollar and other foreign currencies; (3) changes in raw material and fuel costs; (4) industrial competition and price fluctuations in Japan and international markets; (5) advance or delay in the construction of new plants and production lines; (6) successful development of new products and technologies; and (7) changes in laws and regulations (including tax and environmental) and legal proceedings.