



CSR

CSR Site Map



Materials Innovation

We create value through materials to enrich society, people and the environment.



Dialogue between JSR's Top and a CSR Expert




JSR Group CSR



Dialogue with Stakeholders

JSR Group CSR Priority Issues and FY2016 Progress of Initiatives



Basic Issues in JSR Group's Corporate Activity



Social Issues Attributable to JSR Group's Corporate Activity



Social Issues that JSR Group Can Help Resolve

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- 06/29/2017 **CSR** "Donation of Backpacks of Memory" Project
- 01/05/2017 **CSR** JSR Holds a Crisis Management Drill on 15 December

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Editorial Policy

Under the corporate mission of "Materials Innovation - We create value through materials to enrich society, people and the environment," JSR Group aims to build and maintain good relations with all of our stakeholders and become an indispensable corporate citizen. We intend to resolve social issues by integrating management and CSR as well as demonstrating our corporate mission with actual results.

In FY2016, we promoted initiatives focused on priority CSR issues that we had identified while increasing transparency and acceptability. At the start of FY2017, which is the initial fiscal year of our mid-term business plan "JSR20i9," we arranged our approach to these identified issues into three priority issues devised from the viewpoint of relevance to society. They are "Social Issues that JSR Group Can Help Resolve," "Social Issues Attributable to JSR Group's Corporate Activity," and "Basic Issues in JSR Group's Corporate Activity."

In this report, we aim to communicate our CSR activities in FY2016 to all stakeholders in an easily comprehensible way that follows the priority issues. Additionally, we have reworked our traditional "Top Message" into a dialogue between JSR's top and a CSR expert to convey our approach to sustainable medium- and long-term growth for JSR Group.

The online version gives a detailed report with data that primarily focuses on our initiatives targeting the three priority issues, with the aim being to give readers an overall picture of our CSR initiatives. As for the printed version, this fiscal year we are renaming this version the "highlight version." The highlight version provides highlights of our activities in FY2016.

FY: Fiscal Year means the year starting April 1st

For example, FY2016 means April 1, 2016 - March 31, 2017

1. CSR Report 2017: Formats

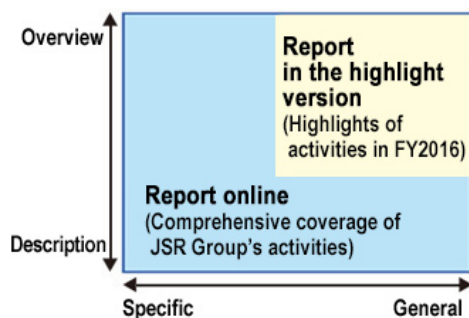
JSR Group's CSR Report 2017 is available both in an online and highlight versions.

The online version presents a comprehensive report on JSR Group's CSR activities.

The highlight version features highlights of JSR Group's CSR activities in FY2016.

The PDF file for the highlight version is available here.

- [Japanese version](#)
- [English version](#)



Other corporate information (products, services, financial information, etc.) can be found on the JSR website.

- http://www.jsr.co.jp/jsr_e/

2. Referenced Guidelines

- ISO 26000 Reference
- Environmental Accounting Guidelines for Chemical Companies, Japan Chemical Industry Association (JCIA)
- Environmental Accounting Guidelines 2005 / Environmental Reporting Guidelines 2012, Ministry of the Environment

3. Target Period and Fiscal Year

April 1, 2016 - March 31, 2017

(Some parts of CSR Report 2017 include activities and initiatives conducted since April 2017.)

* Fiscal Year means the year starting April 1st

For example, FY2016 means April 1, 2016 - March 31, 2017

4. Operations Covered

JSR Corporation and 50 Group Companies, totaling 51 Companies

- Operations for which data was collected on "Responsible Care" (the environment, health and safety)
 - Head Office, Yokkaichi Plant, Chiba Plant, Kashima Plant, Performance Polymer Research Lab., Display Materials Research Lab., Fine Electronic Materials Research Lab., Advanced Materials Research Lab., and Tsukuba Research Lab.
 - 14 domestic Group Companies and 10 overseas Group Companies*
(As of March 31, 2017)

* For information about Group companies, see [asterisks \(* \) in JSR Group Companies](#).

5. Publication Information

Date of publication: September 2017

Next scheduled issue: September 2018

(Previous issue: November 2016)

Dialogue between JSR's Top and a CSR Expert

JSR's CSR Management Aspirations as it Approaches its 60th Anniversary - 1



JSR celebrates the 60th anniversary of its company's founding in December 2017. The year 2017 also marks the start of the JSR Group's new mid-term business plan, "JSR20i9." It is also a time when the Group's CSR is beginning a review of priority issues among moves to new activities. This review will examine the steps JSR must take to be a sustainable company and contribute to society's sustainability over the next 10, 30, and even 60 years.

In this connection, we recently welcomed Mr. Peter D. Pedersen, president of Leadership Academy TAEL, co-founder of NELIS, and advocate of the "Resilient Company"* concept, for a dialogue with JSR's Representative Director and President, Mr. Mitsunobu Koshiba.

* "Resilient Company" refers to a company possessing strong stress tolerance and resilience when faced with crisis. It is a company that responds flexibly to changes in the business environment, identifies growth opportunities amid such changes, and contributes to society.

(At JSR Headquarters on April 18, 2017)

A Look Back at the Mid-Term Business Plan "JSR20i6" (FY2014-FY2016)

A Transformation of Business Structure

Pedersen: First of all, I'd like you to ask you to look back on your activities under the three-year mid-term business plan that began in fiscal 2014.

Koshiba: These three years, and the three years before that, making a total of six years, were a time of investment to create new growth opportunities. I was named president following the financial crisis sparked by Lehman Brothers' bankruptcy in 2009. Looking at what could happen in the time to come, and at what JSR should do to achieve growth, we set our sights on four sectors; the existing Petrochemical Business and Fine Chemicals Business and, as new undertakings, the Life Sciences Business and Lithium Ion Capacitor Business. Then, under our mid-term business plan "JSR20i6," we expanded the scale of our Life Sciences Business to 30 billion yen through two major M&As. That business is now undoubtedly on track to grow to 50 billion yen by fiscal 2020. We also rearranged our unprofitable businesses, and thus I think we have largely succeeded in getting on track as a new organization.

Pedersen: Did you have any problems?

Koshiba: The Petrochemical Business and Fine Chemicals Business were forced into a slump due to a collapse in the global supply-and-demand balance. However, they hit bottom in 2014 and 2015 and started a rebound toward the end of fiscal 2016, so we are optimistic about their prospects. Generally speaking, although it took until 2014 to recover from the post-Lehman slump, I am confident that we succeeded in transforming our business structure.

Looking at Things in Terms of Communication with Communities and Society

Pedersen: For the last twenty years, I have come into contact with numerous companies and explored the conditions of those that continue to succeed regardless of how the times unfold. I have concluded that, precisely because we cannot predict the future, companies must build a "resilient" organization that allows them to be ready to forcefully meet whatever the future brings. I call such a company a "Resilient Company." I think that to become a Resilient Company, a company must have three elements that I call the "Triple A": These are "Anchoring" (a corporate mission that serves as its anchor), "Adaptiveness" (ability to change oneself) and "Alignment" that is more than just CSR (aligning strategy with megatrends and new stakeholder expectations). These elements are particularly important when business is sluggish. From this standpoint what challenges has the JSR Group faced since 2000?

Koshiba: When we studied a long-term vision for the next twenty years (=2030) for a year and a half beginning in 2009, we extracted four themes as macro trends; these were global warming; emerging markets; population, water and food problems; and the digital revolution. First, in the area of "Alignment," we focused on "SSBR" (solution polymerization styrene-butadiene rubber for fuel-efficient tires) as a means of helping combat global warming. This raw material for tires reduces rolling resistance and thus improves fuel efficiency. It is enjoying rapidly growing demand in Japan, Europe, and the United States. I think it is a truly sustainable product. As for "Adaptiveness," I think in the past there were areas where we had problems keeping up in an increasingly rapidly-changing world. But I think we would have responded more successfully to the change if we had realized this around the mid-2000s, before changes started coming even faster.

Pedersen: Well, it might be harder to notice when things are going well. What about "Anchoring"? If you lose sight of your original mission and objectives, you may end up becoming a company that simply makes "things."

Koshiba: In 2011 we reexamined our corporate mission and decided to reword it as "Materials Innovation: We create value through materials to enrich society, people and the environment." Looking at the results of questionnaire surveys and other tools, I think the new corporate mission has penetrated throughout the company quite well. However, I think we still have work to do in terms of putting the mission into actual practice.



The Challenge is "Adaptiveness"

Pedersen: So your "Anchoring" is good, but you still face challenges in terms of practical application and "Adaptiveness." Put simply, you are at a point where your adaptiveness is being tested, aren't you.

Koshiba: To take the company even further, I think we must better promote our business activities with our business departments, rather than just leaving everything to R&D. Looking at surveys on employee awareness and corporate ethics awareness, we see that levels of satisfaction and happiness are generally high. However, some results indicate that more needs to be done in terms of company performance. It seems some employees think that although their own department is doing well, other departments have problems. Basically, I believe that labor productivity should go up when employees are healthy and happy, but my definition of satisfaction perhaps differs from theirs.

Pedersen: It may be that competition that skillfully raises awareness among departments is an important part of promoting "Adaptiveness." Additionally, employees must strengthen their engagement through personal transformation. For that to happen, it is important that employees realize they can participate more in the process of value creation. Of course, such mechanisms as health management, work-life-balance, and childcare leave are important. But I don't think engagement in the company will arise from those mechanisms. So I think being able to contribute to the process of value creation is essential.



Koshiba: We may indeed have a problem in terms of "Adaptiveness." On one hand, JSR's employees are perceptive, earnest, and highly motivated to achieve goals. But on the other, I think they may be timid when it comes to taking on the challenges. Our "Course of Action" is comprised of what we call the "4Cs." Specifically, these are Challenge, Communication, Collaboration, and Cultivation. After conducting personnel performance evaluation that emphasizes "Challenge" of the 4Cs, we found that, in fact, employees tend to set goals that are short-term and appear reachable. Consequently, the organization shies away from challenges, which is contrary to our goal here. Among our young employees, there are many who want to succeed and achieve recognition in the company. When we have such employees, we can demand that they produce results. So sometimes I dare to say, "Don't be afraid to 'waste' time trying new things!" (Laugh)

[Dialogue - 2 Key Points of the New Mid-Term Business Plan "JSR2019" and JSR Group's Future Orientation](#)

Dialogue between JSR's Top and a CSR Expert

JSR's CSR Management Aspirations as it Approaches its 60th Anniversary - 2

Key Points of the New Mid-Term Business Plan "JSR20i9" and JSR Group's Future Orientation

Growth Scenarios

Pedersen: How are you planning to move forward with the new mid-term business plan, which will extend up to fiscal 2019?

Koshiba: Although our Fine Chemicals Business has successfully increased its share overall, with the exception of some semiconductor materials and LCD materials, it has had difficulty achieving greater share and appears to have reached its limit. So we think our future business growth will be in line with market growth but not more than that. Likewise, our existing Petrochemical Business will grow at about the same rate as GDP growth. We are looking at three points as promising areas for profits in the future. The first is SSBR, which is a very competitive product. We are currently constructing a new plant in Hungary to go with our plants in Yokkaichi and Thailand. The second is semiconductor materials in our Fine Chemicals Business. We want to expand our share of semiconductor materials in the "data society," which will continue to grow and develop. And finally there is our Life Sciences Business. These three growth drivers will steadily produce higher profits. Additionally, we must enhance our global competitiveness. As part of this, I think we need to restructure our work formats to improve labor productivity—in other words, we must execute initiatives toward introducing heretofore nonexistent work modes in order to improve labor productivity.

Pedersen: Up until the late 20th century, I think competitiveness was built around four axes: "adaptiveness," "market share," "quality," and "price." However, in the 21st century market, I think an additional "fifth axis of competitiveness" called "sustainability innovation" is demanded. What I mean is, we now live in a time when companies that raise corporate value and creating value for society and the environment following an integrated strategy will be supported by society – and gain in competitiveness. An example here is a proactive response to climate change and the Sustainable Development Goals (SDGs). Additionally, labor productivity in the 20th-century market was handled in terms of "achieving the same output while reducing invested resources" or "increasing output by efficiently utilizing invested resources." However, I think that in the 21st-century market, labor productivity will be oriented more toward "improving human resources that create new value and organizational performance through demonstration of creativity and innovative abilities" and "creation of value that was impossible within the restricted environments of departments and companies – and often with the participation of a broad range of employees and collaboration with external partners."

Incorporating a "Digital Mindset" into the Company Organization

Koshiba: So management will change greatly.

Pedersen: That's right. We will need not only "functional problem-solving" in the form of the "P" (plan), "D" (do), "C" (check), and "A" (action) cycle but also more "creative problem-solving" in the form of the "DIE-I cycle," which is comprised of "De-framing" (stepping away from the usual point of view), "Insight" (gaining new awareness and insight), "Experiment & Learn" (gaining knowledge from experimentation), and "Implementation" (putting into action).

Koshiba: I think that, with the "DIE-I Cycle," you're talking about responding to the digital revolution. Although we can consider that there are businesses out there that have incorporated AI and IoT into various aspects of their operations, I think it is first important to incorporate a "digital mindset" into the organizational culture. For example, it is possible to accelerate the speed of R&D by ten or even one-hundred times by using AI. As we can see with Google's AlphaGo, which suddenly gained fame by defeating the top Go players, the development of AI entails great cost. However, in the semiconductor industry, such costs may fall in line with "Moore's law" and, perhaps in five years or so, we may be able to obtain AI technologies that are out of reach now. So, if we look at the "work-style reforms" that are coming, although I believe that such schemes as "no overtime days" and "Premium Fridays" are also important, we cannot view those reforms in this dimension alone. Indeed, I believe we must reexamine conventional practices and consider productivity in a completely new light through "De-framing." I think the target before us is to improve productivity in the 21st-century-style white-collar market.

Pedersen: I completely agree.



[Dialogue - 3 Action toward Sustainable Growth](#)

Dialogue between JSR's Top and a CSR Expert

JSR's CSR Management Aspirations as it Approaches its 60th Anniversary - 3

Action toward Sustainable Growth

Need to Consider Measures that Look 20 and 30 Years Ahead

Pedersen: JSR will celebrate its 60th anniversary in December of 2017. What sort of vision or measures come to mind when you look ahead to the next sixty years?

Koshiba: I believe that, for the corporate body known as the JSR Group to survive and grow over the next twenty or thirty years, we must come to grips with the work-style reforms that I just mentioned and the digital revolution. But there is one more thing. We must also reexamine our manufacturing facilities and IT infrastructure. We will decide on the course we will take here during the three years of our new mid-term business plan. We made the new plan effective until 2019 rather than 2020 because we wanted to send a message that "2020 will mark the start of the next generation." I want the young generation to take the lead in setting our direction for the twenty years, and thirty years, that come after that.

Pedersen: So it will be the coming young generation that will take charge of so-called creative problem-solving. How do you intend to instill the digital mindset, for example, that will be needed for this?

Koshiba: We have many employees who are not "digital natives." But I think we can raise their affinity with data by, for example, replacing our old-style core information systems to make better use of data in our operational systems and introducing digital medicine into our employees' health management. I also think that learning not just language but program language will be effective. One thing surprised me recently. A year ago, I was talking to some young research employees when I said, "Instead of always doing things the same way, why don't you try using a neural network (a data processing system modeled on the nervous system)." A year later, they sent me a report. And I discovered that they had progressed so far that I had no idea what their report said. That showed me just how far digital natives can grow if we give them an opportunity. In fact, we have just started selective education with this aim.

Pedersen: So it's important to have mechanisms that allow those who are motivated to reach high.

Koshiba: The Japan Synthetic Rubber Company (JSR's former name) of days past was a domestic company. Nowadays the culture is one that if even one foreigner participates in a meeting of mostly young employees, the conversation naturally switches to English. In the same way, I believe digital technologies will naturally become part of the company.

An Organization that Maintains a "Sound Mind"

Pedersen: I previously mentioned how it is necessary to build organizations that are "future-proof" against an unpredictable future—in other words, to build organizations that do not age and are resilient. I think a company climate into which digital technologies and English are incorporated is exactly in line with this. On top of this, alignment with society in the sense of bringing society and vectors together is essential. What I mean is that there is a need to align the vectors of a company's strategy in "realization of a sustainable society," something demanded by the times and by stakeholders.

Koshiba: We reorganized our previous Audit Department into a "Corporate Audit Department." This new department does more than just conduct checks to prevent irregularities, such as environmental destruction or accidents and falsification of quality data. It also aims to add the perspective of "sustainability innovation" for the delivery of better products based on the fundamental premise that such irregularities will not occur. In other words, it seeks to enhance psychological and cultural aspects while keeping a "sound mind" for organizational survival.

Pedersen: I think the "excellent company" of the past pursued so-called "performance excellence." But I think a keyword for today is so-called "double excellence"—double in the sense that pursuit of "social excellence" is added. The addition is significant. This is because I think it demonstrates to stakeholders that JSR is not simply about traditional QCD performance but also a company that firmly addresses social issues.

Koshiba: I was in sales for many years. In some respects, what brought customers to do business with us was the JSR brand. But the moment-to-moment interaction with "individuals," researchers or sales personnel, for example, was also an important element. Customers feel that they want to do business with us when they trust and like the individual. The best thing is to create a situation in which customers will buy a product even when it is not ready. This really happens not only with long-time customers but also new customers.

Pedersen: What you're saying is, "you can't go wrong with JSR," right?

Koshiba: We have consistently remained faithful to the idea of "Innovation One on One" with the customer as part of our Materials Innovation orientation. In other words, we strive to build a system in which innovation is born through a special one-on-one relationship with the customer. One meaning here is that, rather than purchasing completed products, customers are purchasing a relationship with JSR.

Pedersen: That's the strength of a relationship built on the sharing of "Anchoring" not only within the company but with outside interests and customers, isn't it.

Koshiba: However, "Innovation One on One" has a weakness in that the fields in which it can be applied are limited. We have stuck to "Innovation One on One" as a pattern for success. However, in the digital revolution, when change takes place rapidly, we will not succeed with it alone. Therefore, I think the question becomes how do we generate completely new business models. Answering it will be a tremendous challenge for us.



Being a Company that is Consistently Trusted

Pedersen: The United Nations adopted the "Transforming our World: The 2030 Agenda for Sustainable Development," better known as the Sustainable Development Goals (SDGs), in September of 2015. I think the SDGs are vectors for considering how we can change society, and what we should do



to execute those changes. It is important to consider what we can do for this through business innovation. We can multiply the strength of existing reliability and sincerity by the strength of creative innovation. I like to say that, from now on, ROI will not mean "return on investment" but rather "return on integrity." If CSR is something fatiguing and painful in which there is a trade-off between business activity and society, then we must eliminate that situation and create a "trade-on" relationship. I think doing so will bring higher brand value and higher return.

Koshiba: SSBR, which is a JSR product, is helping combat global warming. For example, tires can help resolve issues concerning electric vehicles (EV), which are said to have short travel range. Tires are also a key component of various environmental responses, including engine downsizing. And there are our semiconductor materials, which are energy-saving products. The amount of electric power consumed by equipment used in AI is tremendous. And it is said that data centers account for 2% of the world's electric power consumption. Business opportunities can be found in efforts to solve these social problems. I think "materials" are what will be needed in industrial innovation oriented toward resolving such major issues.

Because there is an element of social "alignment" in a company's existence, it is important that companies continue building even greater trust from their employees, clients, and customers and ensuring that such trust is unshakeable. I think that if we look squarely at the JSR Group place in society, our corporate social responsibilities will come into focus naturally.



Peter David Pedersen

Co-founder of E-Square Inc., executive director of TACL – The Academy for Corporate Leadership, and co-founder of the NELIS - Next Leaders' Initiative for Sustainability.

Mr. Pedersen was born in Denmark in 1967. He graduated from Department of Anthropology, Copenhagen University. He has resided in Japan for more than 25 years. In addition to being a consultant on matters concerning corporate management, the environment, and CSR, he is active as a lecturer, training instructor, and author. Among his major works are Resilient Company (Toyo Keizai Inc., 2015) and The Fifth Competitive Axis (Asahi Shimbun Publications Inc., 2009).

Dialogue with Stakeholders Thinking about Work Styles and the Development of the Human Resources that will Lead JSR Group in the Next Generation (1)



In the interest of integrating its management and CSR, JSR Group identifies priority issues and presents them in its CSR report to help realize a sustainable global environment and society.

In this connection, we recently invited experts on "work-style reform" to JSR to discuss two topics concerning JSR Group's approach to reform.

The first topic concerned "work styles and human resources development of the future, with general focus on the years 2025 and 2030." Here, we used "the digital revolution" and "sustainability" as vantage points to examine the abilities and skills that will be demanded in a society increasingly permeated by AI and IoT, and additionally to delve into the question of how company employees and management should change—and conversely how they must not change—in response to the changing times.

And the other topic concerned "work style-related challenges confronting JSR Group." Here the discussion examined such important challenges as curtailing work hours, work-life balance, diversity, health management, and safety management.

We plan to incorporate priority issues that were newly identified through the discussion as well as our guests' advice and opinions into forthcoming activity plans.

Work styles of the future

Nejigaki: JSR Group has commenced a new mid-term business plan that began in FY2017 and extends to FY2019. "Work-style reform" is positioned as a pillar of the plan's advancement. Seeing "employees as the leaders of action," we will tackle reform by sharing objectives, changing awareness and customs, and acting as a whole. To begin, our Human Resource Development Department is stepping forward to establish rules for eliminating wasteful activities and inconsistencies in internal meetings and e-mails. It is also implementing a "work-style reexamination project" to which it has invited external consultants. In addition, we recently hosted a dialogue between JSR's president and an outside expert as part of planning for our FY2017 CSR report. They discussed the new mid-term business plan, the company's long-term vision for the future, and the kinds of employees and work styles best suited for JSR Group. During the dialogue, the president presented his own thinking concerning work-style reform and the areas he views as problematic. Our president says, "Work-style reform is not just about dealing with overtime work. The important question is how to improve labor productivity by adding technology." He also outlined his concerns that the company's organization lacks the desire to take on new challenges, and that more opportunities must be created for employees to encounter new technologies. Additionally, he explained that we made our new mid-term business plan effective up to FY2019, rather than FY2020, so as to incorporate into it the idea that it is the coming generation who must consider JSR Group's direction in 2020 and beyond.

In light of this, I would like to start our discussion today by looking at the work styles of the future, with general focus on the years 2025 and 2030.

Thinking about the future, with the world and JSR Group of the present as starting points

Nakamura: I think three impacting factors will decide the work styles of the future. The first is change in the industrial structure. Manufacturing's share of GDP is decreasing, while the service industry's share continues to grow. The second is demographics. As the birthrate declines and the population ages, the population pyramid will steadily transform into an inverted triangle. And the third is technological advancement. This refers to the steady permeation of certain elements—AI, robotics, and the "sharing economy"—into workplaces and daily life. We must explore future work styles in a manner that considers these elements.

Sasaki: While there can be no doubt that work styles will change in the future, we still don't know how they will change. Some people say jobs will be lost to AI and robots, but others say they won't. And many jobs will probably completely disappear from mechanization, as we saw with the ticket gates at train stations. However, it could also be surmised that, as the working population shrinks due to the low birthrate, everyone—women, the elderly, people with disabilities, and foreigners—will need to work and therefore jobs will not be lost. So even if we can picture specific aspects, that doesn't mean we can go so far as to predict how society as a whole will change.

Fujii: First of all, looking at things as a manufacturer, I think that some operations at manufacturing sites will be replaced by AI and robots. But I must admit that I have no idea how far white-collar jobs in, say, R&D, sales, or back office operations will be affected.

Doi: It is said that jobs in legal affairs will be replaced by AI, but I don't think all will be lost. I think AI will save labor, but ultimately work requiring human decisions will still remain. At any rate, I think we must acquire the ability to fully utilize technology in preparation for the future.

Kawahashi: In R&D, improving "quality" and "quantity" are important in boosting the competitiveness of product development. I think it will be necessary to change work styles so that certain facets of "quantity" (which involves movement of hands and feet) are replaced by robotics and certain facets of "quality" (which involves use of brain power) are replaced by AI, leaving human beings with the task of creating ideas that spark innovation. The important thing will be to do this as soon as possible. If we don't, we will lose to our competitors.

Sasaki: When it comes to the introduction of AI and robotics, I think there is an aspect that will depend on the supply-and-demand balance. For example, if there are fewer taxi drivers, self-driving vehicles will probably become more common. At construction sites, surveying and other work are changing completely with the use of drones. And I think that if there are shortages of nursing-care staffers, nursing-care robots will be substituted for them. The point is that demand will spur development.



Companies must decide what to value on their own, and then create steps on their own.

Nakamura: Everyone has mentioned that we can't fully predict the future, but I think there is no real need to predict it. This is because what JSR Group will do is more important than what will happen in society. In an age when predicting the future is impossible, what we must do is decide on our own what our next step will be and then create the next stage.

Fujii: There is one thing that troubles me in the area of human resource development. In her book titled *Work Shift*, Lynda Gratton writes that only single-field professionals will be required in the future, and generalists will become unnecessary. I wonder if that's really true. JSR stresses generalist ability and handles its personnel on a rotational basis. Because we live in an age of rapid change, I think even single-field professionals like those we see in Europe and the United States will lose their jobs. I get the sense that it will actually be the generalists who will be able to survive.

Nakamura: A report by Recruit Works Institute called "Work Model 2030" that was published in November 2016 states that Japan (a country in which 90% of people are employed) must expand its freelancer and entrepreneur categories. It also says that generalist human resources should become "producers." I should add that the "single-field professional" mentioned by Lynda Gratton can be defined as a "technologist." A technologist is an advanced professional possessing a narrow and through expertise in a specific area. He or she is a person who increases the added value of his or her work by producing and utilizing technology. In other words, he or she aims to produce competitiveness. More specifically, a technologist is a person capable of developing his or her own field of specialization. A "producer" is a person who produces new value and business models by bundling such technologists together. He or she functions to stimulate the economy by seeking venues for activity, whether they be global or local, to give shape to his or her ideas. The conventional view of a generalist is of a "person who is adept at in-house adjustment." I think there is a clear distinction here.

What approaches should be taken in designing human resources and applying them to products and business?

Kawahashi: I agree with the argument that producers and technologists are necessary. I see this as the importance of having "design skills" for applying society's needs to materials, products, and business, and for developing and appropriately assigning the human resources necessary for those tasks.

Nakamura: I see. The word "designer" expresses role and function nicely, doesn't it. I should add that producers and technologists have something in common, which is that they "know that there are things they don't know." That's why their abilities to learn and absorb are extraordinary and boundless. The most important skill for both producers and technologists is the ability to change themselves as impactful events occur, as I previously mentioned. Technologists must possess more advanced expertise to be able to change themselves quickly. Producers must expand the network of new technologists with the concept of open innovation. Master what it takes to be a technologist and you become a producer. The important point is to translate that effort into competitiveness.

Doi: I think an important question is how to cultivate producers and technologists as JSR Group. But before that, we must establish a clear picture of the producers and technologists that JSR Group needs.



[To Discussion \(2\) "The Challenges Facing JSR Group"](#)

Dialogue with Stakeholders Thinking about Work Styles and the Development of the Human Resources that will Lead JSR Group in the Next Generation (2)

The Challenges facing JSR Group

Nejigaki: Next, I'd like to take the focus of our discussion to the human resources management-related challenges facing JSR Group. First, there is the matter of improving productivity as a goal of work-style reform. However, there are questions about how far this can be achieved within the research of a materials manufacturer. Excesses of white-collar workers can be handled by shifting workers around, but can this be done in painstaking materials research? And then there is the rather difficult problem of how white-collar workers can improve their own productivity.

The challenges of human resources management

Sasaki: Like you, I have tried various approaches in my company, but the old ways return whenever a workplace manager moves on to a new position. The reason is the next person doesn't use the new approach. Members don't either. They want to do things leisurely and slowly. I think attempting to improve productivity and execute work-style reform in such an environment is impossible. When changing an organization, the first concern is the kind of message workplace managers send. Concrete tools and know-how are also necessary. I got together with everyone in our workplaces to think about what should be done and then compiled the results into a manual. Good wisdom is produced when everyone thinks together. What is important after that is to stick to it.

Kawahashi: Even among research positions, there is a need to think about this on a workplace-by-workplace basis, as life sciences and petrochemicals are completely different. In any case, we must implement change by also introducing technologies so that we can allocate time to the development of new products.

Doi: Japanese companies have a culture in which people who work long hours are appreciated. That this is not good may not be sufficiently recognized within JSR Group. It happens because work tends to accumulate where people who are good at working are. Inevitably those people work long hours and become appreciated. So, rather than appreciating how many hours someone works, I think we should evaluate how much output he or she produces in the same amount of time.

Sasaki: Organizations contain various people. This makes diversity management that deals with those people necessary. I think it's the responsibility of the organization's head to also assign work to people who are not good at it.

Fujii: Our HR development department proposed rules for meetings and e-mail as a starting point for work-style reform. I think they are effective even in just eliminating time wasted in waiting around for a previous meeting to end or reading unnecessary e-mails. This is because they not only shorten those times but also help build everyday awareness. As a manufacturer, another point that should be stressed above all else is safety measures. No matter how much the world changes, safety measures must always be taken seriously.

Nejigaki: Three years ago, we had an accident in one of our plants. We launched a Workplace Accident Eradication Project to eliminate industrial accidents, and we identified the cause and developed countermeasures. In essence, what we found was that our corporate culture was part of the problem. One of the conclusions we reached was that, rather than doing this or that as a company, we "want workplace managers to think of their workplaces as their home, and to protect their employees by thinking of them as their family members."

Thinking about one's own mission

Sasaki: I think that we should emphasize culture over system, and workplace manager over culture. Even if we come up with great system, it will be meaningless if no one uses it. I think the whole will not change unless the workplace manager sends a message and changes each individual.

Nejigaki: So what you're saying is that thorough discussion is required in the workplace.

Sasaki: There is no discussion because everyone is busy. They don't discuss it even though they are aware of the problem. I think things would improve if thorough discussions took place. I come into contact with various companies. But what I find is that even if companies have systems in place, the systems are not used, and people who work long hours continue to be appreciated. So awareness of work-style reform is still lacking. Top managers must change this through forceful encouragement. There is a phrase that says, "Good habits achieve more than talent." I think it's important to make it a habit to discuss things as a group, to shorten meeting times, and to take notes on important matters and reread them. Reform requires constant effort.

Nejigaki: What should individual employees aim to do?

Sasaki: I think they should aim to be autonomous people. They should consider their own mission, not that of their company or workplace. This means they must think about how they will work independently and "how they will live." They should set their own goals and mission after considering what they want to do as a section chief, as a department head, or as a top manager. They must prioritize what they want to do and discard those things that are unimportant.

Nakamura: I think there is only one way. Instead of waiting for someone else to start reforms, each employee must find a work style through which he or she contributes to the company and society enjoyably. However, according to the results of a survey, awareness of career autonomy stands as high as 70% in other countries but only 40% in Japan. What this means is that employees are swept along by their surroundings and remain stuck in the conventional way of thinking. For example, even if they are told it's OK to take on a side job, a fair number of men say they can't think of any jobs they want to do. But even if they don't take on a job, I think others would be very appreciative if those men simply lent a hand in child-rearing or nursing care, for example. So I think it's important to stop for a moment, think for yourself, and then try taking action.



Sasaki: I believe one's way of working is really one's way of living. There are many important things in life. Work is important. But family is also important. Hobbies and friends are similarly important. If you are caught up with just your work, you will forget those other important aspects. Life goes on for more decades after you leave your company. But it's already too late if you only first notice the important things besides work the



moment you quit. When people think "Even though it's OK to take a side job, there's nothing I want to do" or "I could go home early, but there's nothing to do there," I wonder if they think that way because they are not valuing things outside of work.

Do whatever it takes to step outside of the established way.

Nakamura: Recruit Works Institute has a slogan that says, "creating a next generation society where 'everyone can work actively.'" With more attention paid to "work-style reform" than ever before, our work has increased a great deal. That's good news for us, but as we got busier and busier, some of us were saying "perhaps it's we who are not working actively" (laugh). So we made an organizational decision. We decided that, as a general rule, we would not work overtime from April. We also decided to prohibit e-mails during non-working hours and reduce workloads if work cannot be completed without overtime and off-work e-mails. Suddenly, my days have become very enjoyable, as I have time to spend with my children and friends and to see movies and read books. I realized that I was working too hard before. So I've come to think that it's very important to stop and take a look at your situation.

Fujii: JSR Group states that it wants people who are "professionals possessing global-level competitiveness in their respective fields." It wants personnel at the highest level—the "global" level—not the domestic level or company level. Becoming such a person requires encountering global-level human resources and enhancing one's education outside the company. I believe we can spark innovation by absorbing diverse values and knowledge in this way and then bringing it back to the company. So I want to consider work-style reform that is oriented toward generating such a cycle.

Nakamura: I get the sense that many researchers and engineers are good at cooking and child-rearing because they are already blessed with intellectual curiosity and an inquisitive mind. I also think some people stay on the front lines of business activity because they seek career success rather than advancement. It might be a good idea to create role models from people in such occupational categories. If doing so proves difficult, what factors are inhibiting it? Is it an absence of contact with other cultures or lack of involvement in the community?

Kawahashi: I think we have a problem in that our employees have little contact with the outside. While security- and compliance-related restrictions play a role here, I think employees' desire to remain where they feel "safe" may also be a factor. When people do not step out of their psychological shells, they do not receive information and are not a part of actions that bring change. People must break out of their shells and expand their perspective.

Fujii: A knowledgeable person once told me that "JSR Group is extremely well motivated to tackle matters at hand and achieve its goals." He said we are a task-oriented company. We are good at tackling tasks with all of our energy. But there is no play in this. Whenever we have extra time, rather than thinking "Let's go to an academic conference," we end up thinking "Let's make as many samples as we can."

Kawahashi: If employees cannot instigate change on their own, it may be necessary to try changing them from above, perhaps even forcibly. I also think we need a culture that allows us to go back to the drawing board and come up with something new when an approach fails.

Doi: That's because the system is in place. Now it's time to change the culture.



Measures to change corporate culture are important.

Sasaki: Isn't it the case that, when changing the culture, everything depends on whether or not top managers communicate a plan and those responsible at each worksite level move to execute it?

Nakamura: Another approach that might be effective when changing the culture is to appoint types of human resources that differ from those used before. Another possibility is to utilize young people who want to study AI and women, or to invite people from outside the company.

Fujii: It has often been the case that even if we bring in different types of people, after a while they too become stained by conventional values. Measures to prevent that are needed.

Nakamura: We must assume that unpredictable changes will continue incessantly. However, we can live with peace of mind if we ourselves become the "eye of the storm." For people to become autonomous human resources capable of doing this, work-style reform should expand networks in a manner that broadens horizons.

Sasaki: What I want to say is this: "Value yourself." If you genuinely consider yourself to be valuable, then the best work style for you should become clear to you. In all cases, I think you should consider your actions in terms of what will make you happy.

Nejigaki: We incorporated work-style reform into our new mid-term business plan after repeated internal conversation on the topic. However, our discussion today was extremely helpful, as we considered points that do not arise in internal discussion and new perspectives. I look forward to putting the fruits to use in future measures. Thank you very much for your time today.

[To Discussion \(3\) "Participants' Profiles"](#)

Dialogue with Stakeholders Thinking about Work Styles and the Development of the Human Resources that will Lead JSR Group in the Next Generation (3)

Participants



Tsuneo Sasaki

President and CEO, Sasaki Tsuneo Management Research, Inc. Mr. Sasaki graduated from the University of Tokyo's Faculty of Economics in 1969 and joined Toray the same year. He is a father of three children, including a son (his eldest) with autism. He has a difficult home life, as he must care for his son, whose condition causes problematic behavior on occasion. Moreover, his wife suffers from liver disease and depression. But he is also tremendously dedicated to his work. In an extremely busy career, he was relocated to Osaka or Tokyo six times as part of his company duties. His tasks have included rebuilding failed companies and executing various types of business reform. He became a director at Toray in 2001 (the first among Toray employees who joined in 1969) and President of Toray Corporate Business Research, Inc. in 2003.

In 2010, he became the President and CEO of Sasaki Tsuneo Management Research. He has a unique business perspective that comes from his experience executing numerous business reforms and serving three presidents. He is also a lecturer in a manager development program.

Outside of the company, he has engaged in various public service-related activities, among them serving as a member of the Cabinet Office's Council for Gender Equality and as a visiting professor at Osaka University.



Akie Nakamura

Manager, Centre for Labour Policy, Recruit Works Institute Ms. Nakamura joined Recruit in 1999 after earning her master's degree from the University of Tokyo's Graduate School of Mathematical Sciences. Before being transferred to Recruit Works Institute in 2009, she worked as an editor of Tech B-ing, a career magazine for engineers, and launched a career support website called "Tech Soken." She conducts research studies and prepares policy recommendations on the topic of "improvement of the labor market." She has compiled and presented reports concerning long-term perspectives of the labor market titled "Renovate and Reinvent our Workstyle by 2025," "Work Model 2030: Technology Innovates "Work" in Japan," and "Tokyo Orinpikku ga Motarasu Koyo Inpakuto" (employment impact of the Tokyo Olympics). While caring for her two children, she earned her PhD (commercial science) at Hitotsubashi University in 2016. She received the Japan Society of Human Resource Development's Young Researcher Prize in 2011. She is a visiting professor at Chuo University.

JSR



Nobuo Kawahashi
Director and
Executive Managing Officer
(Research & Development)



Makoto Doi
Senior Officer
(Legal and General Affairs, CSR)



Yasufumi Fujii
Officer
(Human Resources,
Diversity Development)



Kazumi Nejigaki
Fellow
General Manager
of CSR Department

(Positions are as of the time the discussion was held in May 2017.)



[TOP ▲](#)

JSR Group CSR Corporate Mission and CSR Philosophy

To create a corporate culture in which sustainable growth is achieved constantly regardless of changes in personnel or organizational form, and to ensure that such a culture permeates across JSR Group, we established our Essential Elements and have been promoting them to be shared among the employees within the Group as common values so that each employee can act with responsibility and confidence. The Essential Elements consists of the Corporate Mission, the Management Policies, and the Course of Action.

1. Corporate Mission and CSR Philosophy

CSR is a key element of management. CSR is included as part of the management policies by clearly indicating that "responsibility to stakeholders" and our management consists of CSR as an essential element.

Corporate Mission and CSR Philosophy

Integration of management and CSR creates benefits for both society and JSR Group through its contribution to the development of a sustainable global environment and society.

Under the corporate mission of "Materials Innovation - We create value through materials to enrich society, people and the environment," JSR Group aims to build and maintain good relations with all of our stakeholders and become an indispensable corporate citizen. We intend to resolve social issues by integrating management and CSR as well as demonstrating our corporate mission with actual results.

JSR Group's Corporate Mission and Priority Issues

Corporate Mission
Materials Innovation
We create value through materials to enrich society, people and the environment.

Management Policies
Essential Policy of Management
• Continuous Creation of Innovations
• Enhancement of Corporate Culture
• Increase in Corporate Value

Management Policies
Responsibility to the Stakeholders
• Responsibility to our Customers/Business Partners
• Responsibility to our Employees
• Responsibility to Society
• Responsibility to Shareholders

Course of Action: The 4Cs
CHALLENGE
COMMUNICATION
COLLABORATION
CULTIVATION

Issues facing society that need to be addressed

Business Focus JSR 2019 Materials Innovation
• Business Development for Higher Profitability
• Reinforcement of Global Competitiveness
• Nurturing of Next-Generation Businesses

Basic Issues in JSR Group's Corporate Activity
• Corporate Governance
• Compliance
• Risk Management
• Responsible Care

Social Issues that JSR Group Can Help Resolve
• Health and Longevity
• Better Access to Healthcare and Medical Care
• Quality of Life and Happiness
• Eco-Friendly Products

Social Issues Attributable to JSR Group's Corporate Activity
• Health and Safety Initiatives
• Climate Change Mitigation
• Environmental Impact Reduction
• Waste Reduction
• Water Resources Conservation
• Labor Environment
• Diversity
• Human Rights
• Supply Chain Management
• Communication with Communities and Society
• Communication with Shareholders and Investors

Development of a Sustainable Global Environment and Society

INTERNATIONAL COOPERATION
SUSTAINABLE DEVELOPMENT GOALS
Network Japan WE SUPPORT

JSR Group's Corporate Mission and Priority Issues ([PDF 304KB](#))

The scope of JSR Group's business activities is in the process of shifting from a Japan-centric focus to a truly global focus. In order to carry out global business activities, we need to have a deeper understanding of worldwide issues and the problems faced by regions throughout the world.

On the other hand, these issues and problems can be turned into opportunities for new businesses. By actively seeking to identify these business opportunities, we are working to expand the scope of our business.

Participation in the United Nations Global Compact

JSR Group became a participant in the United Nations Global Compact in April 2009. As such, we will more proactively fulfill our corporate social responsibilities with recognition that businesses operating on a global level must make a greater commitment to human rights, labor, the environment and anti-corruption, as expressed in The Ten Principles of the United Nations Global Compact.

We will also advance initiatives oriented toward achieving the "Sustainable Development Goals" (SDGs) that were adopted by the United Nations in 2015 through our business activities.



Mitsunobu Koshiba
Representative Director and President
JSR Corporation

A handwritten signature in black ink, appearing to read "Mitsunobu Koshiba".

The Ten Principles of the United Nations Global Compact

- 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- 2: make sure that they are not complicit in human rights abuses.
- 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- 4: the elimination of all forms of forced and compulsory labour;
- 5: the effective abolition of child labour; and
- 6: the elimination of discrimination in respect of employment and occupation.
- 7: Businesses should support a precautionary approach to environmental challenges;
- 8: undertake initiatives to promote greater environmental responsibility; and
- 9: encourage the development and diffusion of environmentally friendly technologies.
- 10: Businesses should work against corruption in all its forms, including extortion and bribery.

The Sustainable Development Goals (SDGs)

The SDGs are comprised of 17 goals and 169 targets that all United Nations member states will strive to achieve by 2030 for the purpose of bringing sustainability to the global environment and people's lives. In addition to conventional development goals, such as eradicating extreme poverty and hunger, the SDGs also cover challenges faced by developed countries, among them the promotion of gender equality, creation of a strong employment environment, reexamination of production and consumption, conservation of marine and forest resources, and development of safe communities.

SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



As a Global Compact participant, we prepare "Communication on Progress" (COP) reports detailing our fulfillment of the compact's principles.

2. Corporate Mission

Materials Innovation

We create value through materials to enrich society, people and the environment.

The corporate mission of JSR Group clearly identifies the company's raison d'etre. By supplying materials that are indispensable to human societies, JSR aims to be trusted.

3. Management Policies - JSR's Fundamental Pillars of Management

Continuous Creation of Businesses

As society evolves, so does the demand for specialized materials and advanced products. JSR continuously evolves to anticipate and respond to changing marketing needs and, in doing so, achieves dynamic growth.

Enhancement of Corporate Culture

As society evolves, so will our organization. JSR will build on its existing positive corporate culture to create an organization and management style with the vitality to keep evolving.

Increase in Corporate Value

Aiming to increase corporate value by creating business opportunities through materials. To this end, we will focus on customer satisfaction and the fulfillment of employees.

4. Management Policies - Responsibility to Our Stakeholders

Responsibility to Our Customers / Business Partners

When interacting with our business partners and customers, JSR Group will:

- Constantly evolve to meet the demand for new materials
- Always strive to increase customer satisfaction
- Act in good faith and maintain fair and equitable business relations
- Continue to be socially and environmentally conscious throughout the supply chain

Responsibility to Our Employees

All employees should expect:

- To be evaluated and rewarded based on fair standards
- Continuous opportunities to grow by challenging themselves
- Acceptance of the diversity of fellow colleagues and to be provided a place where all employees can work together as a team

Responsibility to Society

All members of JSR Group will honor our responsibility to both the local and global communities through:

- Responsible and respectful business practices (Responsible Care) that considers the environment and safety
- Support for environmental conservation by providing eco-friendly products
- Reduction of our environmental impact throughout the entire product lifecycle
- Active contribution to conserving biodiversity throughout its business activities and the entire product lifecycle

Responsibility to Shareholders

JSR Group will maintain its responsibility to its shareholders by:

- Aiming to increase corporate value by creating business opportunities through materials
- Constantly enhancing its management efficiencies
- Inspiring trust by being highly transparent and conducting sound corporate management practices

5. 4C Course of Action

CHALLENGE

All employees of JSR Group should share a common, global focus and desire to succeed. Employees should feel confident to autonomously take on new challenges, learning from successes while viewing setbacks as opportunities to learn, grow and improve.

COMMUNICATION

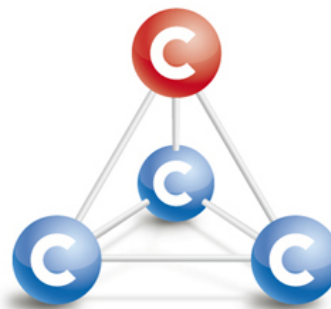
All employees should feel comfortable and confident maintaining open lines of bi-directional communication at all levels within JSR Group. Employees should strive for organizational transparency through direct conversations as the best means to share value and achieve common goals, especially in the face of growth and diversification.

COLLABORATION

Employees will work together in the spirit of cooperation, valuing common, corporate goals over internal or departmental barriers. Employees will also be encouraged to actively collaborate with external resources and not be bound to conventional ideas.

CULTIVATION

All employees will cultivate an environment that supports bi-directional communication between managers and subordinates and provides opportunities to develop together as individuals and as members of productive, supportive teams.



CHALLENGE
COMMUNICATION
COLLABORATION
CULTIVATION

Activities to ensure penetration of Essential Elements across the Group

Dialogues are organized as an opportunity to discuss the Corporate Mission directly with the company's executives.

In each meeting, lively and frank exchanges of opinion took place regarding issues such as how their departments and their own work was creating value and contributing to society based on the Corporate Mission.

In addition to executive exchange meetings, various opportunities were offered to consider the Corporate Mission during training courses for employees at all levels

and employees participated in group workshops. Activities to ensure penetration of Corporate Mission are now in their 6th year. We will continue with activities designed to increase the level of familiarity with and improve understanding of the Corporate Mission.



During training courses according to position

JSR Group CSR

Priority Issues to be Addressed by JSR Group

As part of our efforts to integrate our management and CSR, we identify priority issues to help realize a sustainable global environment and society. To assist us in this process, we use a matrix comprised of two axes; namely, "Importance for JSR Group (Internal Factors)" and "Importance for Stakeholders (External Factors)."

We review our priority issues each year in response to changes in society's demands on us.

In April 2017, which marked the start of our mid-term business plan "JSR20i9," we rearranged priority issues to be addressed by JSR Group as described below with a view to advancing our CSR activities.

We intend to resolve these priority issues with focus on the three axes of "Social Issues that JSR Group Can Help Resolve," "Social Issues Attributable to JSR Group's Corporate Activity," and "Basic Issues in JSR Group's Corporate Activity."

- [Click here for more information on the first process used to identify priority issues in FY2015 \(Online Version of the CSR Report 2015\)](#)
- [Click here for a verification of the priority issues to be addressed by JSR Group that was conducted in FY2016 \(online version of CSR Report 2016\)](#)

Social Issues that JSR Group Can Help Resolve	Social Issues Attributable to JSR Group's Corporate Activity
Health and Longevity Better Access to Healthcare and Medical Care Quality of Life and Happiness Eco-Friendly Products	Health and Safety Initiatives Climate Change Mitigation Environmental Impact Reduction Waste Reduction Water Resources Conservation Labor Environment Diversity Human Rights Supply Chain Management Communication with Communities and Society Communication with Shareholders and Investors
Basic Issues in JSR Group's Corporate Activity	
Corporate Governance Compliance Risk Management Responsible Care	

Primary topics of discussion during previous meetings with experts








- Experts: Diversity (2010)
- Experts: Conservation of biodiversity (2012)
- Experts: JSR Group CSR (2013)
- Experts: JSR Group environmental protection efforts (2014)
- Experts: Corporate Mission and CSR through business (2015)
- Experts: Verification of Priority Issues to be Addressed by JSR Group (2016)
- Experts: Work Styles and the Development of the Human Resources that will Lead JSR Group in the Next Generation (2017)












JSR Group CSR





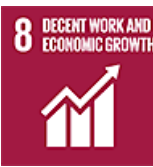





JSR Group's Mid-Term CSR Plan

JSR Group formulated the following "JSR Group Mid-Term CSR Plan JSR20i9" based on a vision of itself vis-à-vis CSR around the year 2030. The plan is linked to the "JSR Group Mid-Term Business Plan" that came into effect in FY2017.


Social Issues Attributable to JSR Group's Corporate Activity





Social Issues Attributable to JSR Group's Corporate Activity	Long-term goals (to 2030)	Initiatives under JSR20i9	Goals under JSR20i9	Related SDGs
Health and Safety Initiatives	JSR's safety culture is developed, the value of "safety first" reaches all employees, and safe and secure workplaces are maintained.	<ul style="list-style-type: none"> ● Safety foundation Reinforcement of the safety foundation for eliminating workplace accidents and process accidents ● Safety culture Penetration of safety values and maintenance of personnel 	<ul style="list-style-type: none"> ● Shift from "reactive"* approach in which action is taken only after something happens ● Laying of groundwork for a shift from "dependent"* approach (focusing on own tasks only and leaving the rest to others) to "independent"* approach (each person takes the lead in safety activity) <p>* Safety culture evaluation indicator based on DuPont's "Integrated Approach for Safety"</p>	<div style="background-color: #c00000; color: white; padding: 5px; text-align: center;"> 4 QUALITY EDUCATION  </div> <div style="background-color: #800040; color: white; padding: 5px; text-align: center;"> 8 DECENT WORK AND ECONOMIC GROWTH  </div>
Climate Change Mitigation	Continued contribution toward achieving the Paris Agreement's goals and development of a low-carbon society (CO2 emissions: Achieve reductions with attention to government goals)	Promotion of lower CO2 emissions and energy savings in response to the Paris Agreement	<ul style="list-style-type: none"> ● Promotion of efforts for reductions with attention to government goals ● 1% annual reduction in specific energy consumption in line with the Energy Savings Act 	<div style="background-color: #008040; color: white; padding: 5px; text-align: center;"> 13 CLIMATE ACTION  </div> <div style="background-color: #ffcc00; color: white; padding: 5px; text-align: center;"> 7 AFFORDABLE AND CLEAN ENERGY  </div> <div style="background-color: #c07040; color: white; padding: 5px; text-align: center;"> 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  </div>
Environmental Impact Reduction	<ul style="list-style-type: none"> ● Reduced impact on the air environment ● Steady reduction of chemical substance emissions (VOC, PRTR, etc.) 	<ul style="list-style-type: none"> ● Continuation of management using per-unit-of-sales index ● Reduction of chemical substance emissions (VOC, PRTR, etc.) 	<ul style="list-style-type: none"> ● SOx, NOx, and dust emissions: Continued management using per-unit-of-sales index (not to worsen compared to the present state) ● VOC emissions, PRTR emissions: Formulation of continuous improvement measures (Clarification of direction of improvement through improvement of material balance precision and screening of reduction measures) 	<div style="background-color: #008040; color: white; padding: 5px; text-align: center;"> 3 GOOD HEALTH AND WELL-BEING  </div> <div style="background-color: #c07040; color: white; padding: 5px; text-align: center;"> 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  </div>

				 
Waste Reduction	Reduced total amount of generated waste 15% reduction compared to the FY2013 level by 2030	Reduction of amount of waste generated, including waste discharged from outside worksites	<ul style="list-style-type: none"> Amount of waste for final disposal: Continued landfill percentage of all generated waste of no more than 0.05% Total discharged amount: Continuous improvement toward long-term goal (The target during the mid-term plan will be roughly 1/3 of the long-term goal.) 	  
Water Resources Conservation	Impact on water resources is reduced to near zero in all areas and sustainable water use becomes possible.	<ul style="list-style-type: none"> Higher recycling rate and contribution to biodiversity preservation with better water quality preservation technology and facilities Higher water use efficiency 	<ul style="list-style-type: none"> Wastewater: Response to the 8th water use regulations (YP) and continuous improvement in the use-per-unit-of-sales index (COD, total phosphorus, total nitrogen) Intake water: Maintenance of current amount of recycled water 	  
Labor Environment	Highly motivated workplaces where employees have job satisfaction, where pride and morals are shared, and where initiatives that pay attention to pride and responsibility can be executed are maintained and developed.	<ul style="list-style-type: none"> Promotion of employee health and building of motivation Promotion of work-life balance Further enhancement of HR development 	<ul style="list-style-type: none"> Continuous improvement of a corporate culture based on the results of employee awareness surveys Promotion of health measures using data analysis Establishment of PDCA and KPI for health management Promotion of initiatives for reducing overtime work Further adjustment of attendance management Implementation of measures to promote the taking of paid annual holidays Promotion of work styles that pay attention to productivity (free address, etc.) Study toward introduction of a telecommuting system Enhancement of in-house education and expansion of off-the-job training that fit with the career ambitions of individual employees 	  
Diversity	Diverse values are created in line with	Promotion of employment and appointment of women and	<ul style="list-style-type: none"> Promotion of understanding of the significance of diversity and 	








	JSR's status as a global company and are accepted	people with diverse nationalities, and development of a culture that accepts and applies different values	how it applies to everyone <ul style="list-style-type: none"> Promotion of activities to spread the concepts of diversity and inclusion throughout the company Promotion of increases in the number of female candidates for management positions and utilization of foreign employees Preparation of daily life guidelines for foreign employees and provision of support for them 	  
Human Rights	<ul style="list-style-type: none"> Human rights-related issues that must be addressed in the Group and globally are identified and being addressed. Human rights issues in major suppliers are understood. 	Promotion of and response to human rights due diligence	<ul style="list-style-type: none"> Introduction of systematic implementation of human rights training (implemented for three years for all executives and employees) Implementation of surveys based on an "expanded version of CSR/sustainable procurement" for major suppliers and 100% application of feedback 	  
Communication with Communities and Society	JSR is a manufacturer that is trusted by communities	<ul style="list-style-type: none"> Promotion of social contribution activities that highlight JSR's sustainable orientation (visiting lessons, etc.) Promotion of communication with the communities 	<ul style="list-style-type: none"> Continued implementation of visiting science lessons and lectures, etc. Support for discussions and active communication with plant neighbors 	 
Communication with Shareholders and Investors	Financial information and non-financial information are appropriately disclosed and communication with shareholders and investors is maintained.	Appropriate disclosure of financial information and stronger disclosure of non-financial information	<ul style="list-style-type: none"> Timely and appropriate information disclosure with website renewals 	 




Social Issues that JSR Group Can Help Resolve

Social Issues that JSR Group Can Help Resolve	Long-term goals (to 2030)	Initiatives under JSR2019	Goals under JSR2019	Related SDGs
Health and Longevity	The company is helping promote a "shift from treatment to prevention" and "personalized care," and is achieving higher corporate value as a result.	Expansion of the Life Sciences Business with focus on "advanced diagnosis" and "biopharmaceutical processing," and development of businesses that make contributions to	<ul style="list-style-type: none"> Achievement of the goals of the mid-term business plan Realization of technical development that contributes to advanced diagnosis and personalized care 	

		treatments and drug discovery		
Eco-Friendly Products	The company's eco-friendly products lineup is enhanced and contributing to the resolution of environmental impact and other social issues, and is achieving higher corporate value as a result.	<ul style="list-style-type: none"> Expansion of sales of eco-friendly products in accordance with the new definition Start of operation of an in-house authentication system that uses the JSR Sustainability Index 	<ul style="list-style-type: none"> Over 30% sales share of eco-friendly products (Targets to be set in a manner linked to the mid-term business plan's sales targets for relevant businesses.) 	  

Basic Issues in JSR Group's Corporate Activity

Basic Issues in JSR Group's Corporate Activity	Long-term goals (to 2030)	Initiatives under JSR2019	Goals under JSR2019	Related SDGs
Supply Chain Management	CSR/sustainable procurement is practiced throughout the entire supply chain, and JSR is contributing to the resolution of social issues in cooperation with suppliers.	Maintenance of stable procurement and quality improvement by promoting CSR/sustainable procurement	<ul style="list-style-type: none"> Implementation of surveys based on an "expanded version of CSR/sustainable procurement" for major suppliers and 100% application of feedback 	  
Compliance	Behaviors that are based on pride and responsibility are being practiced by executives and employees throughout JSR Group.	<ul style="list-style-type: none"> Compliance with the laws and regulations of all countries Precise response to legal revisions Reinforcement of monitoring Continued instruction on corporate ethics 	<ul style="list-style-type: none"> Reinforcement of legal compliance in major countries Continued implementation of education on laws and regulations, public announcement of cases of inappropriate behavior within the Group, and stronger awareness of compliance and corporate ethics with the CSR explanatory briefings 	   

Corporate Governance	A firm management system oriented toward sustainable growth is functioning and trusted by society.	Continued response to the Corporate Governance Code and improved effectiveness	<ul style="list-style-type: none"> Expansion of opportunities to provide information to stakeholders 	 
Risk Management	Responses for reducing risk and preparations for emergencies are ready throughout the entire Group.	<ul style="list-style-type: none"> Risk is understood and shared throughout the entire Group and appropriate measures are established Reinforcement of information security 	<ul style="list-style-type: none"> Identification of risks corresponding to changes and application of PDCA to them Formulation of business continuity plans for domestic Group companies Reduction in the number of information risk cases 	

Social Issues that JSR Group Can Help Resolve Contributing to a Healthy and Long-Living Society and Better Access to Healthcare and Medical Care

FY : Fiscal Year means the year starting April 1st.
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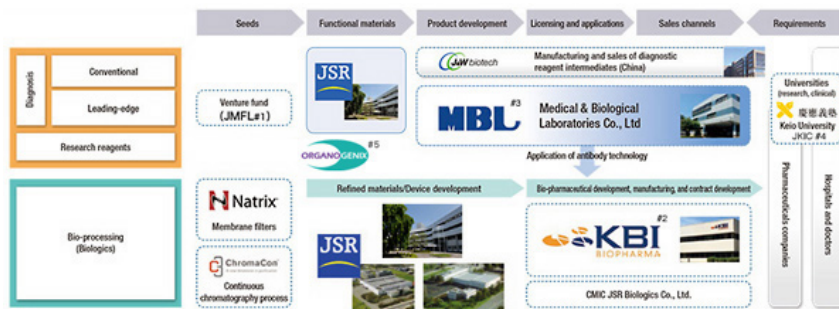
1. Basic Philosophy

One in every three Japanese persons is expected to be over 65 years of age by 2035 (according to the survey conducted by Statistics Bureau, Ministry of Internal Affairs and Communications in September 2014). This super-aging society is already creating issues such as increased medical care expenses and elder-to-elder nursing. Extending healthy life expectancy without daily assistance or care is now an issue that our society faces. Development of personalized medicines which enhance the efficacy of therapies by matching treatment methods more precisely to the condition of the individual patient will increase healthy life expectancy in the future. Healthcare methodologies and techniques will likely change during the coming years. Examples of this shift include the development of diagnostic technologies for early detection of disease as well as advances in highly effective treatments and pharmaceuticals to treat serious diseases at early stages.

JSR Group's Life Sciences Business, which contributes to personalized medical care and other fields, is the Group's third base business, following the Petrochemical Business and Fine Chemicals Business.

2. Structure of initiatives in the Life Sciences Business

While being an active participant in medical fields where diagnoses and treatment are provided and in the manufacture of pharmaceuticals, JSR Group will develop products in the life sciences sector by paying close attention to the technologies and services that society truly needs. To do this, we will build partnerships with institutions and companies possessing knowledge, technologies, and familiarity with approvals and licenses in the medical care field that we traditionally have not had. By taking this approach, we tie JSR Group's strengths in materials to final product quality and precisely meet the expectations of end users including physicians, pharmaceuticals companies and researchers. At the same time, we are setting up systems that will respond quickly to changing needs in medical fields by building strong partnerships with the medical institutions that use final products.



(as of March 31, 2017)

#1: JSR-mbl VC Life Sciences Investment Business Limited Liability Union =JSR/JSR Life Sciences Corporation/ JSR Micro, Inc./JSR Micro N.V.

#2: KBI Biopharma, Inc. (KBI)

Through a joint acquisition in which JSR was the primary investor, KBI, contract development and manufacturing organization(CDMO) of bio-pharmaceuticals, became a consolidated subsidiary as of FY2015.

#3: Medical & Biological Laboratories Co., Ltd. (MBL)

MBL, previously an equity method affiliated company, became a consolidated subsidiary as of FY2015 through the purchase of a majority of shares.

#4: JSR-Keio University Medical and Chemical Innovation Center (JKiC) where is the cooperative research facility between JSR and Keio University.

#5: SCIVAX Life Science Co., Ltd. changed a company name of it to ORGANOGENIX Co., Ltd. on June 17, 2016.

As part of this, JSR Group will open JSR-Keio University Medical and Chemical Innovation Center (JKiC), a joint-research facility with Keio University, in October 2017.

Located on Keio University's Shinanomachi Campus, which is home to the university's School of Medicine and hospital, JKiC has three floors above ground, one basement level, and a total floor area of 3,600 m². The first floor will have a space for social interaction, an exhibit space, meeting rooms, and an office to support industry-academia-medicine collaboration. The second and third floors will have "free address" rooms and open laboratories where JSR and Keio researchers can work side by side. Plans call for cutting-edge evaluation devices and other equipment to be installed in the basement level.

We will develop new materials and products for health and longevity and other objectives at JKiC through joint research with Keio University. Through our research there, we will aim to contribute to society and education by promoting global innovation in medicine. Specifically, we plan to promote joint research by establishing the following four areas as strategic fields.

1. Precision Medicine

- We will research and develop new diagnostic reagents that will be needed when providing care and administrating drugs tailored to individual patients.

2. Microbiome

- We will strive to clarify the roles that microorganisms present in the intestines, skin, and other parts of the body play in health maintenance and the onset of disease, and establish technologies for disease prevention and treatment.

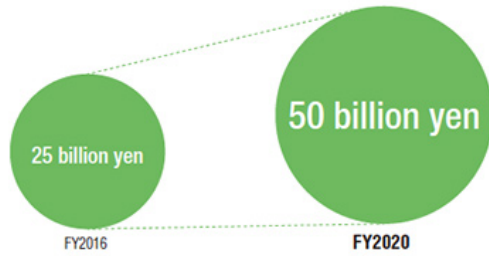
3. Stem Cell Biology and Cell Based Medicine

- We will aim to develop methods for efficiently culturing iPS cells and other "stem cells" and technologies for controlling their differentiation into tissues and organs. We will also strive to build systems for exploring new drugs and for performance and safety evaluation without using laboratory animals.

4. Designed Medical Devices

- We will develop three-dimensional cell culture substrata, 3D-printing software, and 3D-printed medical devices based on JSR's 3D-printing technologies.

Projected sales by the Life Sciences Business

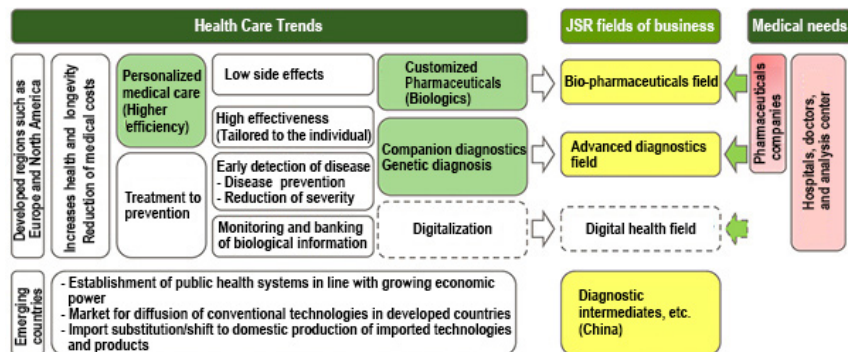


3. Fields for Development and Activities in Life Sciences Business

JSR Group's Life Sciences Business is developing operations centered on the bio-pharmaceuticals fields and advanced diagnosis field, both of which are connected with the manufacture of bio-pharmaceuticals.

In the bio-pharmaceuticals field, we are expanding KBI's contract development and manufacturing business for bio-pharmaceuticals and focusing on expanding sales of Amsphere™ A3, a carrier for antibody purification expected to see growing demand in the future.

And in the advanced diagnosis field, we are expanding sales overseas by utilizing the strengths of MBL. We will also develop innovative materials and products through joint research with Keio University's School of Medicine and Hospital at JKIC, which will open in October 2017.



(1) Companion diagnostics for personalized medical care

- JSR and MBL engaged in collaborative research to develop products for the early detection of disease -

Companion diagnostics refers to the predetermination of the effectiveness of pharmaceuticals and treatment in patients so that future diagnoses can be performed with existing knowledge of potential side effects in individual patients. This diagnostic process is a necessary part of personalized medical care that will be utilized for various purposes. For example response monitoring to optimize treatment schedules, dosages, and the timing of treatment cancellation. A typical method of performing companion diagnostics is to detect antigens (disease-related substances) that have bound themselves to antibodies*¹ attached to particles.

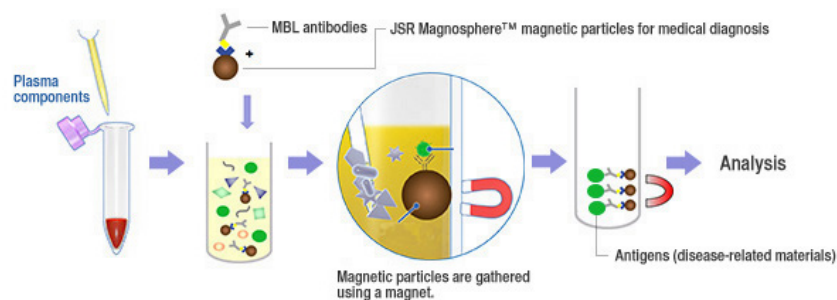
By combining our particle manufacturing technologies (magnetic, coloring, grain size control, and high-selectivity via surface characteristics control) with MBL's various antibodies, we can develop diagnostic medicines for specific antigens. We are also conducting research with MBL to enable the early detection of disease through the isolating and detection of exosomes*² and proteins by combining our internally developed Magnosphere™ magnetic particles for medical diagnosis*³ with MBL's antibodies. The ExoCap™ Streptavidin Kit developed by the joint JSR/MBL research team was released in June 2016. We are expanding our product lineup and supplying it to researchers throughout the world.

*1 Antibodies: Biomolecules produced by the immune system as a defensive response to eliminate foreign substances in the body. They consist of bio-derived proteins.

*2 Exosome: Vesicle released from cells and reflects the status of the derived cell. Recent research efforts have let to the detection of diseases, including cancer, by examining exosomes.

*3 Magnosphere™: High-performance magnetic particles used to separate and obtain specific bio-derived substances. The particle surface is coated with a proprietary polymer material. This coating prevents bonding with non-specific proteins and the movement of antibodies that have attached themselves to the particle surface. These characteristics result in a product suitable for use as a carrier in diagnostic medicines.

ExoCap Streptavidin Kit Usage Concept

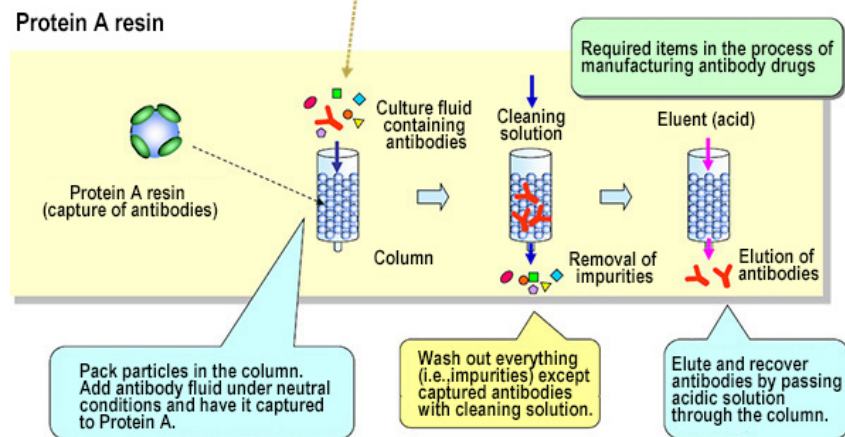
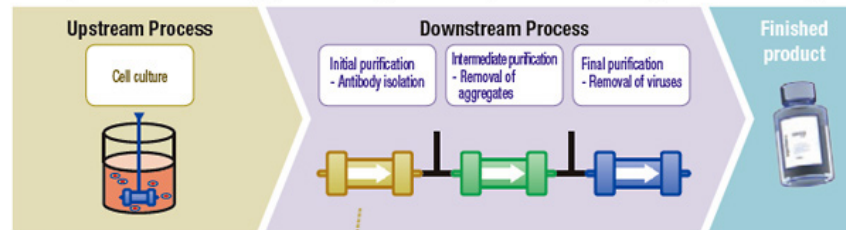


(2) Bioprocess materials used for bio-pharmaceuticals

- JSR products used in manufacturing processes of bio-pharmaceuticals in therapies for cancer and other diseases -

Bio-pharmaceuticals are therapeutic drugs developed and manufactured using biotechnologies. Bio-pharmaceuticals include antibodies,* vaccines, cells and nucleic acids. Specifically, antibodies for treatment of cancer and other serious diseases are being rapidly developed and utilized as pharmaceuticals because of their high degree of effectiveness and few side effects. Antibody drugs are manufactured by first cultured microorganisms or cells in which large amounts of antibodies are biologically synthesized. Antibodies are then collected from the culture and purified. JSR Group Life Sciences Business provides materials fluid used in the purification process. The purification of antibodies is both a technological and financial challenge. Advancement of purification technologies will reduce the cost of manufacturing, which will lead to widespread use of antibodies. This will enable the manufacturing of antibodies with new functionality.

■ Simplified manufacturing process diagram of Bio-pharmaceuticals (Ex. for antibodies)



JSR Life Sciences' Amsphere™ A3 is a chromatography resin used in the initial purifying process to extract necessary antibody components from culture. Amsphere™ A3 can extract and purify a larger amount of antibody efficiently than other conventional products in the marketplace can. It can also be reused with minimal degradation of performance. With a high level of mechanical strength, it can be used in higher-flow rate purification processes, which also increases efficiency. Amsphere™ A3 has been commercially available since January of 2016. JSR Group will continue its efforts to provide solutions for antibody manufacturing processes through the expansion of our base of strategic partners. We also provide materials and devices used in the manufacturing processes for next-generation antibodies and other bio-pharmaceuticals.

Regarding use of genetic modification technologies:

As a matter of policy, JSR Group formulates internal safety management standards based on national laws, ordinances, and regulations that correspond to the Cartagena Protocol (Cartagena Protocol on Biosafety to the Convention on Biological Diversity) and continually adheres to them.

* Antibodies: Biomolecules produced by the immune system as a defensive response to eliminate foreign substances in the body. They consist of bio-derived proteins.

(3) Contributing to a healthy and long-living society even outside the life sciences sector

- A collaborative research project with Keio University to develop and demonstrate prosthetic limbs produced with 3D printing -

JSR and the Keio University SFC Research Institute collaborated to develop the FABRIAL™ R Series, which is an elastomer-based biocompatible material for 3D printer. With support from JSR and the Frontier Makers Project, promoted by the Ministry of Economy, Trade and Industry, researchers from the Keio University SFC Research Institute held a demonstration in the Philippines showcasing prosthetic legs created with 3D printing technology in FY2015.



There are approximately 1,200,000 amputees in the Philippines. Unfortunately, the country is only capable of manufacturing 470 prosthetic legs per year, which results in many amputees being unable to leave their homes. Many amputees are also unable to afford the high cost of prosthetic legs. However, designs for prosthetic legs created using 3D printers are easily customizable, have replaceable parts, and are relatively inexpensive. The flexibility provided by JSR FABRIAL™ 3D printer resin can be used for the sections that make contact with the amputated leg to reduce stress at these sections.

The JSR Group will continue to explore ways in which it can apply Fabrial™ to other areas health care.

Social Issues that JSR Group Can Help Resolve

Contribution to Quality of Life and Happiness

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1. To Contribute to the Evolving Digitalization-Based Society (Fine Chemicals Business)

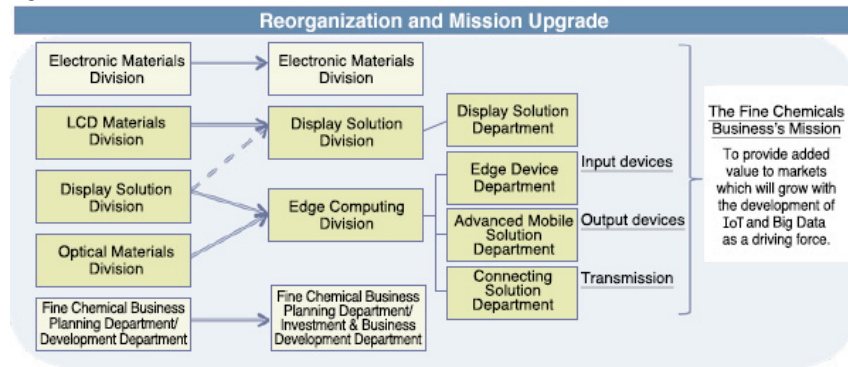
Society and the Coming Digital Revolution

Today, when life without computers and the internet is no longer imaginable, truly great changes are occurring. Right now, computers can only run on programs, but they are gradually gaining the ability to learn on their own (in a phenomenon called "cognitive computing"). The things that we use directly—the personal computers (PCs), tablet computers, and smartphones equipped with semiconductors, displays, cameras and the like—are in reality "terminal devices" that link the virtual world (a vast aggregation of various data) with people and things. Cloud computing (the "Cloud") stores and shares data through these terminal devices and the internet. Within the world of the Cloud is a growing virtual space composed of artificial intelligence (AI) and other technologies that learn from enormous amounts of collected data and become dramatically smarter. In the future, it will not be only "people" who are linked to this virtual space through their smartphones. Many "things," such as cars and manufacturing equipment, will also be linked to it as "edge devices" through various sensors (creating a phenomenon known as the "Internet of Things": IoT). And as a result, an unfathomably vast amount of data ("Big Data") will be aggregated there. AI will continue to get smarter, and eventually the day will probably come when we "people" use advanced AI routinely without even thinking about it. Already digital services that were unknown in the past—such as the streaming delivery of music and images and sharing of cars and houses—have begun to permeate throughout our daily lives. Their arrival gives us taste of the coming cognitive computing age.

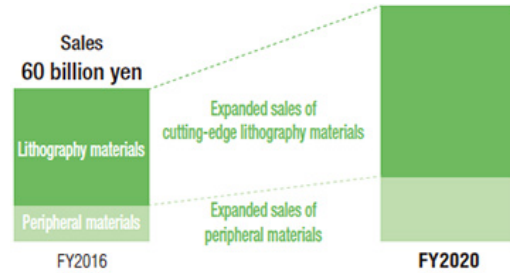
Reorganization of the Fine Chemicals Business and Mission Upgrade

It goes without saying that JSR's Fine Chemicals Business must reinvent itself in immediate response to such social changes. In the semiconductors sector, basic needs will not change in the sense that data processing volume will increase dramatically. However, we must prepare for shifts toward new processes that will process data with high efficiency. And in the display sector, we must prepare for a shift away from displays to "see" data to displays to "input and output" data. Amid such circumstances, there are concerns that we will be unable to respond to major changes in perception vis-à-vis such items if we maintain an organizational framework that is premised on the conventional industrial structure. For this reason, we changed the organizational format and names of JSR's Fine Chemicals Business in April 2017 (Figure 1). The Fine Chemicals Business of the cognitive computing age will need more than a materials-based approach whereby it simply supplies functional chemical products—specifically, differentiated high-value products. It will also require an approach that involves providing solutions that are matched to customers' needs. To reflect this, we reworked the business's organizational names to bring them in line with the experiences and values of final customers. With its new organization, JSR's Fine Chemicals Business will quickly respond to social change and provide added value to social markets which will grow with the development of IoT and Big Data as a driving force.

Figure1



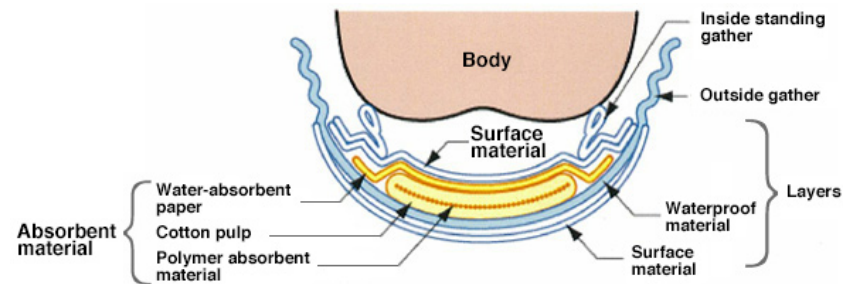
Expanded sales of lithography materials and peripheral materials



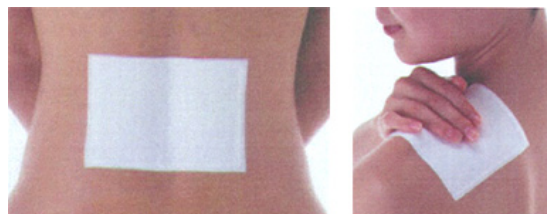
2. To Comfortable Living in an Aging Society.

Extending the number of years people can live healthily without daily assistance or care is now an issue that our society faces. JSR Group's styrene-/isoprene-butadiene thermoplastic elastomers JSR TR™ and JSR SIS™ help senior citizens live comfortable lives.

As our society ages, more people are using paper diapers. Paper diaper manufacturers are responding by developing products that are easier to use for both users and caregivers. As part of this, they are using hot melt adhesive made with JSR TR™ and JSR SIS™ between the various sheets in the layers of paper diapers to make products that are solvent-free and people-friendly. JSR is thus helping make comfortable paper diapers available to more people.



Additionally, many seniors use adhesive transdermal patches. However, because patches can cause itching and inflammation, seniors must pay attention to the condition of their skin when using them. JSR SIS™, which is used in patch adhesive, causes little irritation to the skin and helps make patches easier to use.



3. Contributing to Measures to Combat Global Warming.

"JSR FUELOCK" is suitable as a hose material for cars that run on bioethanol gasoline because it demonstrates superior performance with that fuel.

If a car is run on bioethanol produced from the starch of a crop that was produced from a plant's photosynthesis using the sun's energy and carbon dioxide in the air, its carbon dioxide corresponding to the plant's photosynthesis becomes zero (i.e., the car becomes so-called "carbon neutral").

"JSR FUELOCK" is helping make bioethanol gasoline cars more popular and is therefore useful as an indirect means of combatting global warming.

[TOP ▲](#)

Social Issues that JSR Group Can Help Resolves The E2 Initiative™ and Eco-Friendly Products

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For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy
2. Working to Solve Environmental Issues through the Deployment of E2 Initiative™
3. LCA & LCI Initiatives
4. Contribution with Eco-Friendly Products (Active Application of the E2 Initiative™)

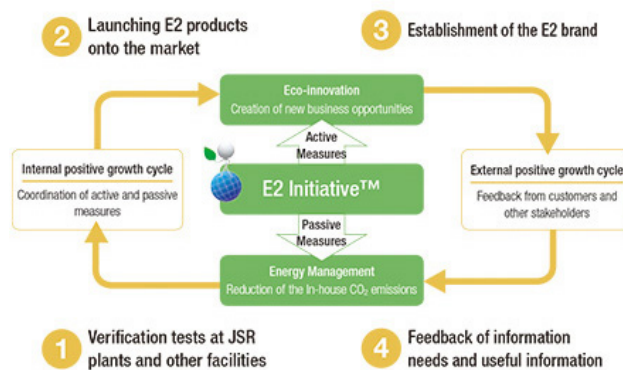
1. Basic Philosophy

JSR Group's "E2 Initiative™" is a clear and important concept of "environmental value creation" that we constantly have in mind as we manufacture our products and develop our business. It is also used as a concept that allows us to work toward solving problems in environmental burden, resources, and climate change when we carry out our business activities.

2. Working to Solve Environmental Issues through the Deployment of E2 Initiative™

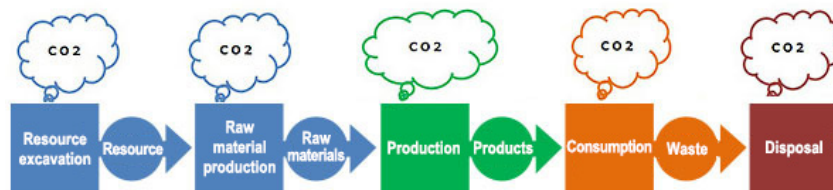
Because both humans and innumerable other living things share this planet Earth, we must make an earnest effort to deal with environmental issues. JSR Group has adopted its E2 Initiative™ as a concept to simultaneously reduce environmental impact and create new business opportunities using the environmentally-friendly aspects of our products. The E2 Initiative™ is based on "Eco-Innovation," which is designed to create business opportunities based on the environment, and "Energy Management," which is focused on reducing CO₂ emissions. It is a concept that allows us to create value both in active and passive ways. As we shifted our concept of value from the conventional two approaches of "differentiation" and "cost," our new concept of "environmental performance" has become essential.

By using the "Life Cycle Assessment (LCA)" to evaluate the "environmental impact" of our products from the design stage in the product development to the use of the product, we are working to solve environmental problems throughout business operations.



3. LCA & LCI Initiatives

LCA (Life Cycle Assessment) is a method of quantitative assessing the environmental impact of products throughout the life cycle of each product, from the materials procurement stage to manufacturing, sales, use, and disposal.



Implementation of LCA requires that we calculate the amount of resources used when manufacturing a product and the amount of CO₂ mission during all stages of the life cycle of a product (LCI data).

The entire synthetic rubber industry, including JSR Group, has engaged in LCI data calculations for representative synthetic rubber products.

The results of these calculations are stored in a database maintained by the Japan Environmental Management Association for Industry LCA Forum. For LCI data of our fine chemical products, we keep track of the amount of CO₂ produced during the production. We have started to apply LCA from the R&D stage and to operate a system of developing product designs with consideration for CO₂ emissions. We have made trial LCA calculations for approximately 50 product groups (83 representative grade types) as of March 31, 2017. We continue to make LCA calculations for newly developed product groups and grades.

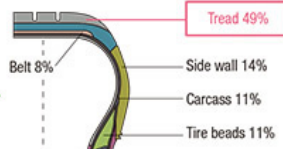
4. Contribution with Eco-Friendly Products (Active Application of the E2 Initiative™)

(1) SSBR: A synthetic rubber for low fuel-efficient tires with great potential in the effort to solve global environmental issues

Fuel-efficient tires are environmentally-friendly products and yet maintain their ability to stop safely and securely. JSR Group's solution polymerization SBR (SSBR) has received positive feedback from customers. JSR Group designed SSBR using technology that more readily facilitates rubber molecules and tire reinforcing material molecules to bond tightly, which reduces internal friction and rolling resistance.* In addition, this is achieved without changing the characteristics of rubber that enable tires to stop. SSBR allows large reductions in environmental impact through the entire lifecycle of the tire, from the material selection and its usage to disposal.

Automobiles will still require tires even after automotive engines are replaced with electric motors. Thus, demand for SSBR is high both in countries and regions where environmental standards are high, such as Japan and Europe, and in emerging nations where reducing environmental impact is an urgent issue. SSBR is currently manufactured in two countries: At the Yokkaichi Plant in Japan and JSR BST Elastomer in Thailand. Additionally, production is scheduled to start at JSR MOL Synthetic Rubber in Hungary in 2018. We will continue helping to solve global environmental issues by meeting the global demand for fuel-efficient tires.

Contributions of tire components to rolling resistance



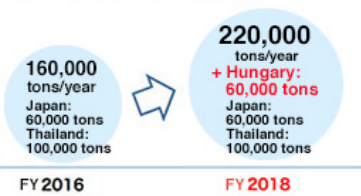
Source: Kazumi Ueno, Trends in low running resistance tire technologies. *Jidisha Gijutsu (Automotive Technology)*, Vol. 34, No. 10 (1980)

The use of JSR's SSBR in tire treads has led to...
Energy loss improvement of 45%, leading to an approximately
20% reduction in rolling resistance



SSBR plant of JSR BST Elastomer, Thailand

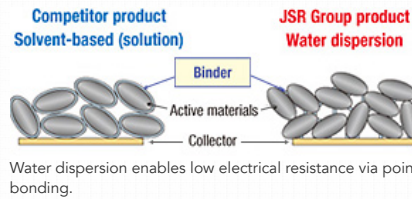
SSBR production capacity



* Rolling resistance: Resistance in the direction opposite to the direction of tire rotation. Caused by tire deformation, ground contact friction, and air resistance.

(2) Electrode binders for lithium-ion secondary batteries as part of our efforts to create a low-carbon society

JSR Group offers electrode binders (adhesive) for lithium-ion secondary batteries. These binders have experienced an increase in demand due to efforts for the effective use of energy and the creation of a low-carbon society.



Lithium-ion secondary batteries are used in hybrid and electric vehicles. As with normal dry-cell batteries, these batteries have positive and negative electrodes.

These electrodes are made by bonding carbon materials or metal oxide particles, which function as the activating material, to copper or aluminum foil (collector). Binders provided by JSR Group are used in this binding process.

JSR Group binders are made by dispersing resin in water, which has a low environmental impact. This point bonding method also significantly reduces the bonding area of the resin that interferes with the electrical continuity of the active substance. This results in the creation of electrodes with low electrical resistance.

These electrodes demonstrate the superior performance of JSR Group polymer design technologies, water dispersion technologies, and battery performance evaluation technologies.

Not limited to electric vehicles, our materials are used in a wide variety of products including computers, cellphones, electric vacuum cleaners, and so on.

(3) Lithium-ion capacitors that help achieve efficient energy use

Lithium-ion capacitors, which JSR Group positioned as one of its strategic businesses in the JSR2016 mid-term business plan, are an electricity storage device capable of instant charging and discharging together with a long lifespan and little propensity for self-discharge. They are currently at the center of global attention as a key technology for the more efficient use of energy, and their market is expected to expand significantly.

JM Energy Corporation, the industry's leading company, commenced the world's first high volume production of lithium-ion capacitors at the end of 2008. The company's current aim is to develop and offer lithium-ion capacitors with higher performance by utilizing JSR Group's material and precision processing technologies to expand their applications to various fields.

Laminate cells are thin, lightweight, compact, and have excellent heat radiation. Due to their ease of installation, they can be used in a wide range of applications. A module is a package of multiple cells.

Can-type modules have superior robustness. JM Energy adopted the world's first prismatic can structure as an alternative to the more common cylindrical structure. These modules excel in heat radiation efficiency and ease of implementation.

JM Energy Corporation ULTIMO™ brand of lithium-ion capacitors



Laminated cells



Laminated-cell modules



Square cells



Square-cell modules

(4) CALGRIP™ brand of latent heat storage materials contributes to energy conservation

Latent heat storage material CALGRIP™ is a material that is able to maintain a specific temperature between -20 and +80°C over long periods of time. CALGRIP™ is utilized in fields that require energy saving or accurate temperature control such as the transportation and storage of pharmaceuticals and foods, building materials, and air conditioning.

The product was used in next generation energy-saving model houses developed by the University of Tokyo and Chiba University and exhibited at the "ENEX2014/Smart Energy Japan 2014" exhibition held at Tokyo Big Sight. In the University of Tokyo's model house, CALGRIP™ was installed in the ceilings and floors, storing solar radiation heat during the daytime and discharging it during the night to maintain a comfortable room temperature even in the winter. CALGRIP™ contributes to the reduction of energy consumption by minimizing the use of air conditioners/heaters.



Next-generation housing developed by the University of Tokyo (CALGRIP™ used in ceilings and floors)



CALGRIP™ being installed in a ceiling

(5) SIFCLEAR™ brand of water-based, stain-resistant, and durable emulsion materials contribute to energy conservation and environmental impact reduction

SIFCLEAR™ is used in paints to make them resistant to contamination, helping maintain cleanness in appearance over the long-term. The high durability of the paint film reduces the need for frequent re-painting, contributing to resource conservation. In particular, when used in heat reflection paints, heat reflection effect is maintained over the long-term, achieving significant energy savings. It is also attracting attention as an environmentally-friendly material because of its ability to prevent Volatile Organic Compounds (VOCs) and the generation of odor.



SIFCLEAR™ is used on the right butadiene tank at the Kashima Plant.

(6) The BIOLLOY™ brand of plant-derived materials

BIOLLOY™ is a bioplastic produced by combining a thermoplastic resin with plant-derived polylactic acid. Compared to existing general bioplastics, BIOLLOY™ has five times greater shock resistance. The product is expected to be used in containers for cosmetics, shampoos, and other products that require thin, light, and eco-friendly materials, as well as in various other applications including automotive interiors, office automation equipment, and household appliances.



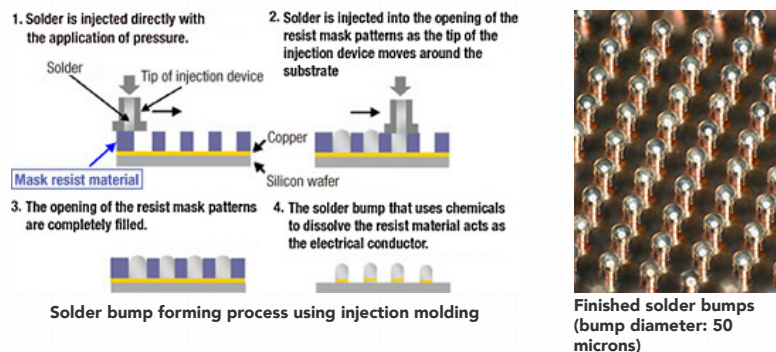
Top: Colored BIOLLOY™ pellets
Bottom: Bottles that contain BIOLLOY™

(7) Mask resist material*2 for injection molded solder processes that significantly simplifies processing and reduces environmental impact

As the miniaturization of transistors and wiring in IC chips continues to advance, demand for high-performance equipment used to build IC chips during semiconductor mounting processes continues to increase. JSR, IBM Japan, and Senju Metal Industry Co., Ltd. have worked together to develop a revolutionary injection molded solder (IMS) process that enables advanced high-density semiconductor mounting processes.

IMS is a technology in which a specialized soldering device directly injects solder into the opening of mask resist material formed on substrates. The mask resist material developed by JSR can resist temperatures up to approximately 250°C, which is the temperature at which solder is used. This enables extremely fine solder bump*3 patterns of 30 microns to be formed anywhere on substrates.

This eliminates the significant amount of plating required with conventional electrodeposition methods, the corresponding maintenance, and the large amount of waste disposal. With a 100% utilization ratio of solder, this environmentally friendly process generates zero process inefficiency and reduces waste products. In comparison with conventional methods, this method simplifies processes and has low environmental impact, and so we hope that this method will be utilized more and more.



*2 Mask (photo) resist material: Resin for which solubility changes with light. Patterns can be formed by applying this material to wafers and then exposing it to light and developing it with chemicals. This material protects the wafer surface.

*3 Bump: A protrusion of solder that acts as an electrode to electrically connect the semiconductor device to the substrate.

(8) HUSHLLOY™ reduces squeak noise, grease application, and non-woven fabric lamination

HUSHLLOY™*4 is an innovative material designed to reduce squeak noise caused by plastic joints in vehicle interiors. Conventionally, squeak noise prevention is achieved by applying grease or attaching felt fabric to the components, but the use of HUSHLLOY™ has made these countermeasures unnecessary, allowing component manufacturers to shorten their production process. In addition, since the material itself has the effect of minimizing squeak noise, maintenance is not required for a longer period of time.

*4 HUSHLLOY™ is a registered trademark of TechnoPolymer Co., Ltd.

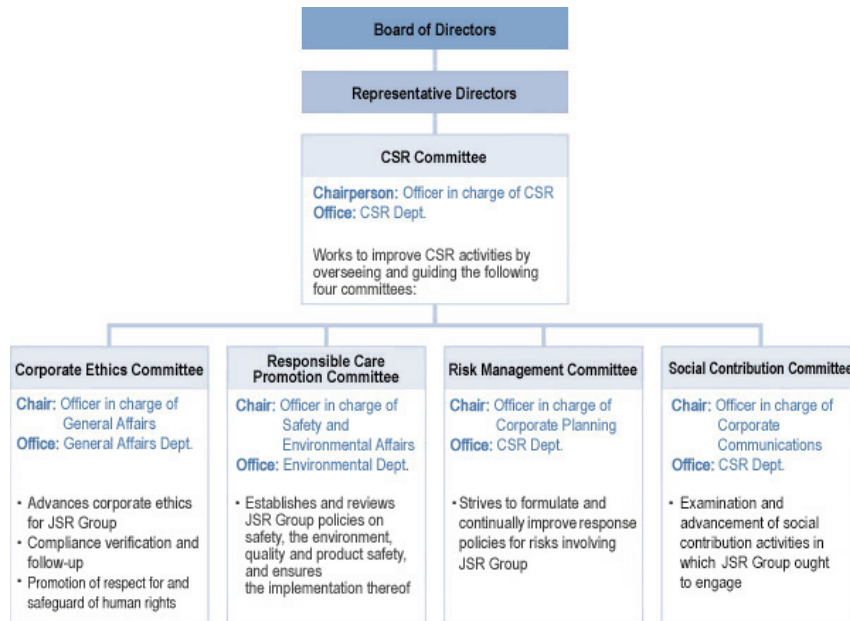
Basic Issues in JSR Group's Corporate Activity CSR Management

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

Under the corporate mission "Materials Innovation - We create value through materials to enrich society, people and the environment," JSR Group aims to build and maintain good relationship with all of our stakeholders and become an indispensable corporate citizen. We intend to resolve key social issues by integrating management and CSR as well as demonstrating our corporate mission with actual results.

1. CSR Structure

CSR initiatives are managed by the CSR Committee and the corresponding four specialized committees. The Corporate Ethics Committee works to establish ethical corporate behavior and enhance compliance. The Responsible Care (RC) Committee promotes sustainability by advancing responsible care. The Risk Management Committee seeks to further improve risk management systems. Finally, the Social Contribution Committee decides and promotes social contribution activities to be undertaken by JSR Group. The CSR Department is also in place to support the implementation of initiatives.



(1) JSR Group Principles of Corporate Ethics

The JSR Group Principles of Corporate Ethics stipulate our corporate code of conduct, which is necessary for fulfilling all responsibilities to our stakeholders, and which are clarified as part of our management policies, specifically Responsibility to our Customers/Business Partners, Responsibility to our Employees, Responsibility to Society, and Responsibility to Shareholders.

- [JSR Group Principles of Corporate Ethics](#)

(2) Basic Approach to Workplace Safety, the Environment, Quality, and Product Safety

- **Safety:** Continue our record of accident- and disaster-free operations to ensure the safety of our employees and the local community as we coexist with society.
- **Environment:** Reduce environmental impact throughout our entire business cycle, from product development to product disposal, doing our part to preserve the environment.
- **Quality:** Offer quality products and services that both meet customer requirements and ensure user safety.
- **Product Safety:** Verify safety at all stages, from raw materials to finished products, protecting the health and property of all individuals involved.

(3) Basic Approach to Risk Management

- Our Group believes that preventing a major crisis from occurring and minimizing the influence of any crisis that may occur on business activities is an important role of management. The Group has established a Risk Management Committee, and actively pursues risk management activities.

(4) Basic Approach to Social Contribution

- Our Corporate Mission dictates that we make a contribution to society through our business activities. Further, we are actively engaged in fulfilling social requirements and addressing issues as a responsible member of society.
- We are continuously engaged in positive social contribution activities, capitalizing on our chemical and technological knowledge and skills that form the core of JSR's business.
- Every employee is a point of contact between the Company and society, and we actively support our employees in their voluntary participation in social contribution activities.

(5) Basic Approach to Taxes

JSR Group supports the following philosophy as provided by the CFO.

- JSR Group will comply with the taxation laws of each country in which it does business, including that regarding transfer pricing and tax havens.

2. Key Stakeholders Involved with JSR Group

JSR Group's involvement with key stakeholders is based on the understanding that everything begins from society's expectations, and JSR emphasizes dialogue with stakeholders to avoid self-serving decisions.



Management Policy - Responsibility to our stakeholders

Responsibility to our customers / business partners

When interacting with our business partners and customers, JSR Group will:

- Constantly evolve to meet the demand for new materials
- Always strive to increase customer satisfaction
- Act in good faith and maintain fair and equitable business relations
- Continue to be socially and environmentally conscious throughout the supply chain

Responsibility to our employees

All employees should expect:

- To be evaluated and rewarded based on fair standards
- Continuous opportunities to grow by challenging themselves
- Acceptance of the diversity of fellow colleagues and to be provided a place where all employees can work together as a team

Responsibility to society

All members of JSR Group will honor our responsibility to both the local and global communities through:

- Responsible and respectful business practices (Responsible Care) that consider the environment and safety
- Support of environmental conservation by providing eco-friendly products
- Reduction of our environmental impact throughout the entire product lifecycle
- Active contribution to conserving biodiversity throughout its business activities and the entire product lifecycle

Responsibility to shareholders

Group will maintain its responsibility to its shareholders by:

- Aiming to increase corporate value by creating business opportunities through materials
- Constantly enhancing its management efficiencies
- Inspiring trust by being highly transparent and conducting sound corporate management practices

(1) CSR Awareness-Raising Measures

To promote the company's CSR activities and responsible care activities to all employees, JSR Group organizes RC & CSR explanatory briefings. Every year, the officers in charge and other managers visit each plant and group company to report the results of RC and CSR activities and share upcoming issues. Additionally, we have been bringing the CSR Explanatory Briefings program to overseas Group companies since FY2015. We also hold CSR Report Presentation meetings every year at each site for all domestic divisions, including Group companies. Each department reads the CSR reports to prepare for the creation of CSR goals for the following year and analyze the impact of their department on society. The CSR Department analyzes the philosophies of each workplace and provides feedback to employees as part of their CSR activities.

- [Click here for more information on RC & CSR explanatory briefings. Specifically, refer to Section 3.2.5.](#)

Basic Issues in JSR Group's Corporate Activity Corporate Governance

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy

It is JSR Group's goal to make steady progress in realizing its corporate mission (Materials Innovation: We create value through materials to enrich society, people and the environment). This shall be done through efficient and transparent business management by sustaining sound and healthy business practices.

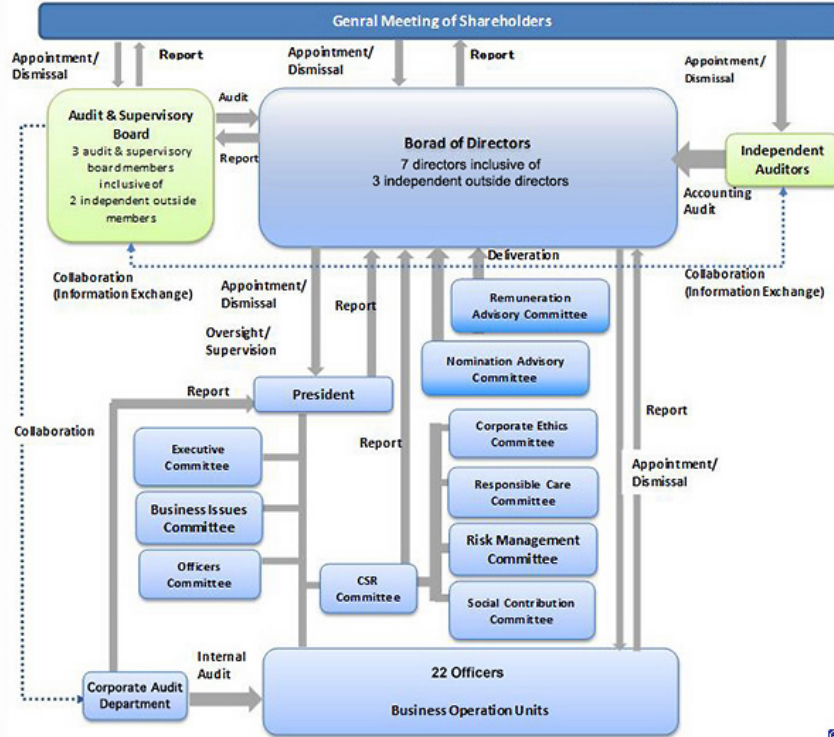
The Group will also continuously strive to create new corporate values with the hope of becoming an attractive corporation that can earn the trust of and satisfy the interests of all our stakeholders.

For the purpose of achieving sustainable growth and enhance mid-long term corporate value and in response to the corporate governance code set forth on June 1, 2015, the Group has been endeavoring to further develop systems that ensure prompt management decisions while maintaining transparency and fairness thereof and satisfying accountabilities to stakeholders.

2. Corporate Governance Structural Diagram

Reference Material 1: Corporate Governance Structural Diagram

Current as of June 16, 2017



Click here the latest information :

http://www.jsr.co.jp/jsr_e/company/governance.shtml

[Corporate Governance Report \(PDF 803 KB\)](#)

Basic Issues in JSR Group's Corporate Activity Compliance

FY : Fiscal Year means the year starting April 1st.
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1. Basic Philosophy

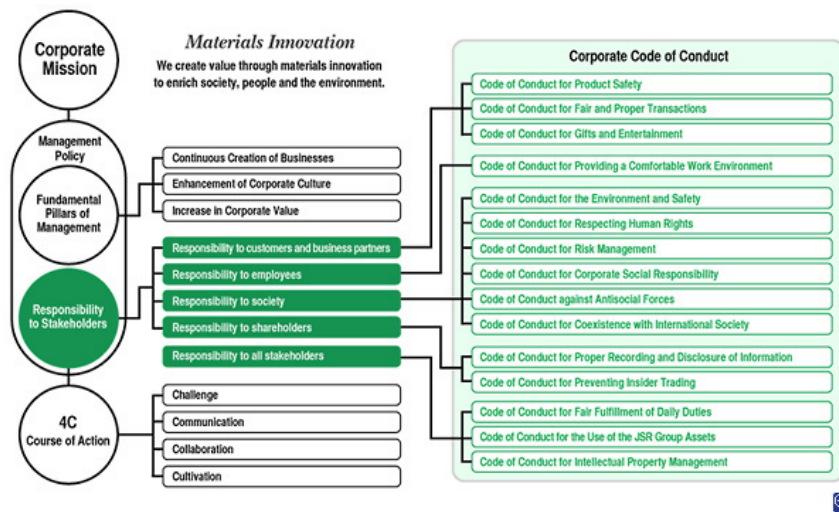
JSR Group has been endeavoring, by building up and maintaining good relationship with all our stakeholders, to become a trustworthy and indispensable corporate citizen. We have been vigorously performing our Code of Conduct in order to materialize "Our Responsibility to our Stakeholders", an essential part of our Management Policies, as well as to ensure compliance with the relevant laws and regulations during the course of our business.

2. JSR Group Principles of Corporate Ethics

JSR Group has established its Code of Conduct outlined in JSR Group Principles of Corporate Ethics, which we revised in July 2011 to reflect our newly defined "Essential Elements". Recognizing the new Code of Conduct as a common global rules for the entire JSR Group, we have been promoting corporate ethics activities at all our Group companies both at home and abroad.

We have established this Code of Conduct as the basic rules that all JSR Group companies, their directors and employees (full-time, contract, part-time, and temporary employees as well as employees on short-term contracts) should comply with, in order to execute the management policies "Our Responsibility to our Stakeholders" in engaging in business activities.

JSR Group shall not require our directors and employees to act in violation of the Code of Conduct. Additionally, we shall not disadvantage any director or employee as a result of their refusal to act in violation of the Code of Conduct.



3. Structure

Corporate Ethics Committee of JSR is responsible for advancing the Group wide activities such as promotion of corporate ethics activities, monitoring and enhancing legal compliance, and promotion of respecting and safeguarding human rights.



4. Corporate Ethics Activities

JSR Group has been pursuing the following 3 major corporate ethics activities;

(1) Education on JSR Group Principles of Corporate Ethics

JSR Group has produced English, Simplified and Traditional Chinese, Korean and Thai versions of JSR Group Principles of Corporate Ethics in addition to the Japanese version and distributed them to Group employees. We have thus ensured that employees at all Group companies worldwide can become acquainted with JSR Group Principles of Corporate Ethics in their native language or in a language in which they are proficient.

As an education-related measure, we have provided an e-learning program based on the Principles of Corporate Ethics for all employees of JSR Group companies in Japan. We also conduct corporate ethics training for new recruits and newly promoted managers.

JSR Group Principles of Corporate Ethics

- Japanese ([PDF 3,242kb](#))
- English ([PDF 2,784kb](#))
- Simplified Chinese ([PDF 1.971KB](#))
- Traditional Chinese ([PDF 2.031KB](#))
- Korean ([PDF 2,233kb](#))
- Thai ([PDF 10,433kb](#))

(2) Corporate Ethics Awareness Survey

JSR Group works to grasp and improve corporate ethics-related issues by conducting surveys on employees' awareness of corporate ethics. The survey targets all employees and has been conducted since FY2011.

Some of our overseas establishments also strive to build awareness of corporate ethics and legal compliance among their employees, including their locally hired employees, using methods that are appropriate for the local culture.

(3) Hotline (Internal Reporting Channels)

- **Hotline for Employees**

JSR Group has introduced internal reporting channels called the "Corporate Ethics Hotline" in order to timely identify and rectify actual or potential violation of or questionable acts against the relevant laws or Code of Conduct during the course of business. The hotline consists of an internal hotline connected to the contacts in the Corporate Ethics Committee of either JSR or each of the group companies and an external hotline connected to the designated independent attorney. In addition, in order to ensure easier access to the hotlines by personnel at both our domestic and overseas business establishments, we have set up another external hotline connected to an independent and specialized outside organization capable of providing us with the support for the communication in Japanese, English, Chinese, Korean, and Thai languages.

We have been encouraging our employees to use these hotlines through promotions via internal newsletters and/or posters and have been striving to build up trust in the hotlines by ensuring confidentiality and prohibiting unfair treatment of hotline users.

Number of Reports to the Hotline

(calls or e-mails)

FY	2012	2013	2014	2015	2016
JSR	11	4	8	5	3
Group companies	7	8	6	11	3
Total	18	12	14	16	6

- **Hotline for Business Partners**

JSR Corporation employs at its Procurement Department a "Suppliers' Hotline," an external reporting channel for business partners, namely suppliers and services providers, with which the company has regular business.

The Suppliers' Hotline is provided by the same outside organization as used for the hotline for employees and is designed for the similar purpose as well. The scope of the Supplier Hotline has expanded from business partners of the Procurement Department of JSR Corporation to those of JSR Group companies in Japan.

(Calls or e-mails)

FY	2014	2015	2016
JSR	0	0	0
Group companies	0	0	0
Total	0	0	0

5. Legal Compliance Measures

Each JSR Group company defines legal compliance regulations that form the basis of the organization's legal compliance. Each company utilizes these regulations to review and improve legal compliance regularly. Each company also provides legal training to increase awareness of laws and regulations and improve commitment to compliance.

Laws and regulations that are particularly relevant to the execution of business are identified as Overall Significant Laws and Legal regulations. We also concentrate on establishing individual systems to ensure compliance with these critical laws and regulations.

(1) Reviewing and Improving Legal Compliance

JSR Group identifies the laws and regulations that require compliance in each country, and confirms on a yearly basis that group business activities conform thereto. The periodic review of our business activities ensures continued improvement of our compliance awareness. Sharing information on non-compliance case studies throughout the group also helps improve our ability to preemptively prevent and detect violations.

(2) Training and Increasing Awareness

1. Compliance Handbook

JSR Group issued the Japanese version of the Compliance Handbook in FY2012 and the Korean version in FY2015 to thoroughly publicize important points demanding compliance in Japanese and South Korean law.

In FY2016 we issued a new Chinese version of the Compliance Handbook that is based on Chinese law. It is issued to not only Group companies in China but also JSR departments that sell products, supply samples, or otherwise engage in business dealings with Chinese enterprises. Through it, we are working to ensure thorough understanding and practice of legal compliance in China.



Compliance Handbook

2. Seminars and E-Learning

We strive to publicize and ensure full compliance with pertinent laws and ordinances by providing legal education. Such education includes the holding of periodic seminars and provision of e-learning for all JSR Group employees and officers. We also provide legal education that has been customized to meet the requirements of individual departments and Group members.

6. Protection of Personal Information

JSR Group, recognizing the importance of protecting personal information under the circumstances of highly advanced information and communication technologies and in accordance with the Act on the Protection of Personal Information, we have formulated and implemented a Privacy Policy and Rules for Handling Personal Information that sets out our basic approach to the acquisition, use and management of personal information.

In response to the introduction of Individual Number system in Japan, we renewed and upgraded our Rules for Handling Personal Information in FY2015 in order to, based on relevant laws and our privacy policy, define the precautions and security standards necessary to ensure proper use and protection of specific personal information at each step of information handling process such as acquisition, storage, use, provision, disclosure, correction, suspension of use, and deletion.

7. Human Rights

JSR Group signed the Global Compact proposed by the United Nations and endeavors to act responsibly as a global enterprise in international society.

The JSR Group Principles of Corporate Ethics expressly presents a Code of Conduct for Respecting Human Rights for the purpose of ensuring our responsible behavior. The Code of Conduct covers respect for basic human rights, respect for workers' rights in and outside of Japan, and abolition and denial of child and/or forced labor not only by our Group but also by our business partners and subcontractors.

- Concrete initiatives to eliminate child labor
When hiring, we confirm the age of full-time employees, contract employees, and other employees using registers and contracts.
- Concrete initiatives for respect of workers' rights
We have established regulations to prevent sexual harassment as well as regulations to prevent power harassment. We also strive to encourage greater awareness of sexual harassment and power harassment among employees by providing in-house education on these topics.

Basic Issues in JSR Group's Corporate Activity

Risk Management

FY : Fiscal Year means the year starting April 1st.
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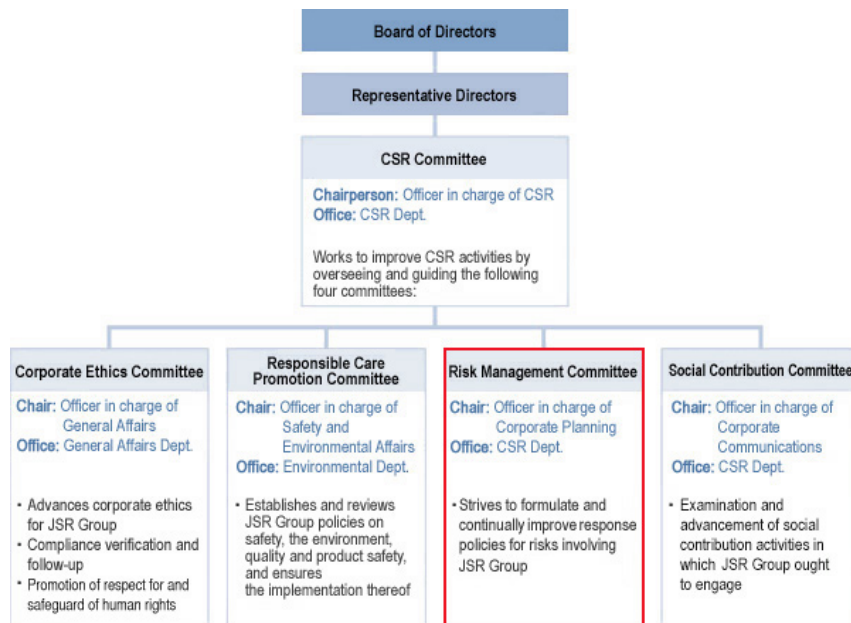
1. Basic Philosophy

JSR Group believes that preventing a major crisis from occurring and minimizing its impacts on business activities is an important management role. The Group has formulated Risk Management Policies and established a Risk Management Committee through which it actively pursues risk management activities.

2. Risk Management System

JSR Group risk management is handled by the Risk Management Committee, which performs group-wide risk management and formulates response policies concerning actual and potential risks other than those arising in the normal course of business that are addressed in major conferences such as meetings of the Board of Directors*.

* Risks arising in the normal course of business that are addressed in major conferences, such as meetings of the Board of Directors are strategic risks that include those associated with capital investment and M&A.



3. Risk Management Measures

(1) Risk Management

Since FY2009, JSR Group has fulfilled group-wide annual risk management procedures using its unique risk management system under the initiative of the Risk Management Committee. For each division of JSR Group companies in and outside of Japan, we identify and evaluate all potential risks, and formulate measures to control such risks. In FY2015, we revised risk identification methods after reviewing the validity of previous JSR Group risk management. Utilizing a risk map that represents level of business impact and frequency of occurrence, we identify risks that could have a significant impact on business continuity and organize them risks into the JSR Group Risk Factors. By monitoring and regularly reviewing risks that senior management has personally ascertained, we are building and maintaining a system for prevention and crisis preparedness.

(2) BCM Enhancement

1. We have published BCM procedures

Procedures which comprises BCM/BCP* systems in place for both peacetime and emergency situations.

These procedures define the BCM organization and the actual BCP, which includes stipulations on target recovery times, and BCP activation and cancellation standards. They also define the organizational structure that takes effect during activations of the BCP, and corresponding priority businesses and operations.

* BCM: Business Continuity Management/BCP: Business Continuity Plan

A BCP defines activities that need be conducted before the occurrence of an emergency situation that may threaten the survival of a company (large-scale natural disaster, explosion/fire, terrorist attack, etc.), judgment criteria and action guidelines that enable business continuity in the event of such emergencies, and other matters necessary for ensuring the continuity and early restoration of important businesses. BCM is a management system that has been developed to operate and continuously improve the BCP through a PDCA (plan-do-check-act) cycle.

2. Major Earthquake Preparations

JSR Group adopted a mid-term business plan in FY1995 concerning preparations for a major earthquake and has been conducting systematic activities to enhance those preparations. After FY2006, we began a seismic retrofitting project focused on high-pressure gas facilities in our plants, and installed an earthquake early-warning system at all JSR business sites. Based on lessons learned from the experience of the Great East Japan Earthquake, we are further reinforcing the anti-seismic capabilities of our buildings and implementing safety measures by incorporating the perspective of countermeasures against tsunamis. These initiatives are scheduled for completion by FY2020.

Yokkaichi Plant Administration Building

The Yokkaichi Plant Administration Building, completed in December of 2013, can withstand earthquakes of up to 600 Gals using two types of seismic isolators: laminated rubber and oil dampers. In addition, the lattice structure ground improvement method was used to prevent liquefaction to help further improve resistance to earthquakes. This building has warehouses in preparation for disasters and was designed to ensure enough space for the headquarter functions to continue in the event of disasters in the headquarter region (metropolitan Tokyo area). This building also functions as the Yokkaichi City Tsunami Evacuation Building for local residents.

Yokkaichi Plant Clean Room Building C

Completed in July of 2014, Yokkaichi Plant Clean Room Building C incorporates advanced soil liquefaction prevention measures and a seismic isolation structure to ensure the stable operation of precision instruments and resistance to earthquakes. Valuable equipment is installed in higher floors to prevent possible damage from tsunamis.

(3) Enhancement of Initial Response to Emergencies

1. Crisis Management Training

Members from the headquarters for accident & disaster control, with the President acting as the Director, conduct crisis management training once per year. In FY2016, JSR held a crisis management drill envisioning a scenario in which a Tonankai Earthquake (major earthquake centered on the Nankai Trough in the Enshu Sea or Kumano Sea) struck and caused damage in the Chukyo district. The Chukyo district includes Yokkaichi City, where JSR Group companies and their main factories are concentrated. We have drills of this nature



The Head Office's crisis center during FY2016 crisis management drill

each year since 2004 for the purposes of anticipating various potential risks and reinforcing the response of the crisis center in JSR Headquarters (Minato Ward, Tokyo) during times of crisis. Some 50 people, including JSR's President, who serves as the crisis center's head, participated. The drill was executed using a "blind scenario" format* that focused on events that could occur on the day of a disaster. Each participant confirmed the personal and organizational actions that are demanded, including spontaneous information-gathering in an ever-changing situation and the establishment of response guidelines.

By conducting drills that anticipate a variety of potential disasters, we will continue to make the preparations needed to ensure safety, control damage, maintain business continuity.

* Blind scenario format

A drill format that gives participants a constantly changing disaster or damage situation based on an undisclosed scenario, and then asks them to independently consider, identify, and execute responses.

2. Disaster Management Training at Group Companies

JSR Group conducts disaster management and evacuation training and drills on a regular basis. It is imperative that we minimize the impacts of emergencies and ensure business continuity in such situations.

3. Safety Confirmation System

In FY2009, we introduced a safety confirmation system to promptly confirm the safety of our employees in the event of a large-scale earthquake or other disaster. In FY2011, we expanded the system's coverage to our Group companies and the families of our employees.

4. Infection Preparedness

In the case of an epidemic or the spread of influenza and other infections, we stockpile masks. We also provide necessary information such as the announcement of flu outbreaks.

(4) Enhancing Information Security

JSR Group adopted an Information Security Policy and is working to implement appropriate information management by informing all personnel of the policy.

Information Security Policy

- The JSR Group (the corporate group consisting of JSR Corporation and its subsidiaries) will observe laws and other social norms relating to the handling of information belonging to the Group and its customers, business partners, and other third parties, and will protect that information in appropriate ways.
- The JSR Group will strive to develop and actively use its information assets for the efficient execution of its business. The Group's officers and employees will only use these information assets for the purposes of their work and within the scope of their authority.
- The JSR Group will improve organizations and systems, provide education on information security, thoroughly disseminate this policy and related regulations, and implement measures to ensure information security.
- The JSR Group will implement appropriate human, organizational, and technological measures and work to prevent unauthorized access to information assets from outside the company, as well as leaks, falsification, loss, theft and destruction of information assets.
- If an information security-related problem occurs, the JSR Group will promptly identify the cause and take measures to minimize damage and prevent recurrences.
- The JSR Group will periodically assess and review its information security measures to respond appropriately to changes in external environments.

JSR Group is continually working together with external experts to increase our level of security and protect corporate information assets from cyber-attacks. In FY2014, we issued an Information Security handbook to raise employee sensitivity to information leakage risks and help ensure that employees are aware of and follow rules regarding information security. We also conduct targeted attack drills using fake viruses to raise prevention awareness. In addition, we are engaged in raising awareness of the content in the Information Security handbook through e-learning and workplace meetings.



Additionally, in FY2016, we conducted our first "information security incident" drill (crisis management training to prepare for the possibility of an information leak).



The information security incident drill

(5) Strengthening Our Compliance Systems

Each JSR Group company defines legal compliance regulations that form the basis of the organization's legal compliance. Each company utilizes these regulations to review and improve legal compliance regularly. Each company also provides legal training to increase awareness of laws and regulations and improve commitment to compliance.

Laws and regulations that are particularly relevant to execution of business are identified as Overall Significant Laws and Legal regulations. We also concentrate on establishing individual systems to ensure compliance with these critical laws and regulations.

Moreover, we prepared the Japanese version of the Compliance Handbook in FY2012 and the Korean version in FY2015 to thoroughly publicize important points demanding compliance in Japanese and South Korean law. In FY2016 we prepared a new Chinese version of the Compliance Handbook that is based on Chinese law. It is issued to not only Group companies in China but also JSR departments that sell products, supply samples, or otherwise engage in business dealings with China. Through it, we are working to ensure thorough understanding and practice of legal compliance in China.

Basic Issues in JSR Group's Corporate Activity

Responsible Care® (RC) Management

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy
2. Environment and Safety Management Policy
3. Environment and Safety Advancement Structure
4. Disclosure of Legal and Regulatory Violations
5. External Initiatives
6. External Environmental and Safety Evaluations
(Major Awards: Past 10 Years)
7. Environment Distinguished Service Award

1. Basic Philosophy

JSR Group developed its Environment Safety Management Policy promotion items with reference to management policies based on our responsibility to stakeholders and the Japan Chemical Industry Association's basic policies on the environment and safety. We are formulating specific activity plans for these action items and engaging in the implementation of RC activities.

[Management Policies - Responsibility to Our Stakeholders](#)

What is RC?

RC is an acronym for Responsible Care®. In the chemical industry, each company handling chemical substances is responsible for ensuring that safety, health, and environmental issues are addressed throughout the chemical lifecycle, from development and production to distribution, use and disposal, publishing the results of their activities and maintaining dialogue and communication with society - all voluntarily. This initiative is called "Responsible Care."

Source: Japan Chemical Industry Association pamphlet "Do You Know about Responsible Care?"



2. Environment and Safety Management Policy

(1) Promotion Items and Policy

1. Development of safety-focused and environmentally friendly products

When developing new products, JSR Group evaluates the environmental, safety and health impact at every stage from research and development to production, transport, use and disposal, and makes the utmost effort to provide products that take such evaluations into consideration.

2. Provide safety and environmental information related to products

JSR Group sets in place a system for the management of product-related safety and environmental information, and provides Safety Data Sheets (SDS) to customers and yellow cards to transporters as necessary.

3. Preserve the environment and assure safety for local residents

JSR Group takes a positive approach in its measures for preserving the global environment, facility safety, and protection against major earthquakes, taking into consideration the impact its business activities have on the environment. JSR Group's objective is to earn even greater trust at its business locations.

4. Reduce environmental impact

JSR Group conducts studies on the environmental impact of chemical substances and works toward the systematic reduction of emissions. JSR Group engages in thorough efforts to reduce sources of emissions, reuse materials, and recycle resources in order to reduce environmental impact.

5. Assure safety and environmental preservation in international operations

JSR Group cooperates with cross-border transfers of environmental and safety technologies. Regarding corporate activities overseas, JSR Group strictly complies with the regulations of Japan and other nations, and makes every effort to assure safety and environmental compliance at each operating site outside Japan.

6. Ensure employee health and safety

Constantly at work on the pre-assessment of safety matters related to chemical substances and their handling, JSR Group is dedicated to improving operations and facilities, and to creating a healthy and safe workplace environment.

(2) International Initiatives

JSR Signs Declaration Supporting RC Global Charter

The Responsible Care (RC) Global Charter is a voluntary activity policy adopted by the International Council of Chemical Associations (ICCA) and shared by the chemical industry to enhance and reinforce RC activities around the world. JSR subscribes to this activity policy, and signed a declaration supporting the RC Global Charter in October, 2008. JSR has also signed the revised RC Global Charter in March, 2015. By signing the declaration, JSR has committed itself to making even greater contributions to health, safety, and environmental preservation not just in Japan, but around the world.

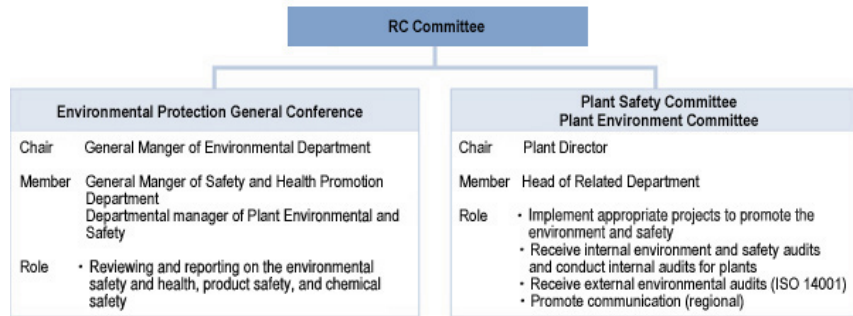


Declaration of support for RC Global Charter

3. Environment and Safety Advancement Structure

(1) Organization

The Responsible Care Committee is responsible for establishing project plans as well as project implementation and verification.



(2) System

1. Legal Compliance

When environmental and safety laws are adopted, enacted, or amended, the Head Office distributes information to each business site to keep them fully informed. JSR Group identifies laws and regulations requiring compliance in each country based on compliance regulations and conducts annual self-checks to ensure that business practices conform with laws and regulations through the entire Group.

2. ISO Certificate Acquisition

In 1999, all JSR plants acquired ISO14001 certification as an Environment Management System to support environmental management with recertification performed every year. In FY2016, all plants qualified for their continuing inspections. Currently, we are preparing to bring ourselves in line with ISO14001 revisions released in September, 2015. We are scheduled to complete this transition by September, 2018.

Tsukuba Research Laboratory is restructuring its environmental safety promotion system in accordance with ISO 14001 standards due to the launch of JSR Life Sciences Corporation and the reorganization of the research laboratory.

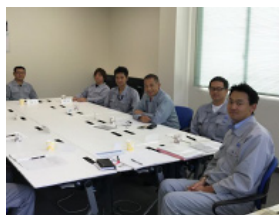
3. Headquarters Environment and Safety Audit

The JSR Headquarter conducts annual audits of its plants and research laboratories with the president acting as head of the auditing team. Beginning in FY2015, we switched to an audit system that pays more attention to the roles of the supervising departments of each business site (environmental safety and equipment management) and departments having worksites (production, research, etc.).

We fully discuss and share the challenges faced by audited departments and tie them to improvements. Additionally, we set up dialogues between top management and employees (nine people per group). The dialogues serve as opportunities for sharing the thoughts of the two sides and activating environmental and safety activities. In FY2016, we expanded the number of audited departments (having worksites) with the same method. We ascertained the challenges faced by each business site and reflected them on activity plans for the following fiscal year. In addition to these headquarters audits, we also annually audit our business sites that have been approved by the government for high-pressure gas operations as well as our approval inspection management department to ensure that both the department and the sites compliant government approval requirements.



President Koshiba visiting a plant



A dialogue with President Koshiba



A business site activities report

4. Environmental/Safety Audits in all Group Companies

At JSR, we implement environmental and safety audits at our Group companies in Japan that are involved in production, transportation, and engineering processes in order to achieve integrated Responsible Care activities. In FY2016, we also applied JSR auditing method to domestic Group companies that are outside of JSR plant zones. We will expand application even further to overseas Group companies in FY2017.

5. RC & CSR Explanatory Briefings

To promote the company's CSR, environmental, and safety activities to all employees, JSR organizes RC & CSR explanatory briefings. Every year, the officers in charge and other managers visit each business site to report the results of RC activities and share upcoming issues.

In FY2016, we reported on the results of our RC- and CSR-related activities over the past year as well as future tasks in these areas. We also reported on our efforts to promote commercialization review.



Explanatory briefing (Chiba Plant, JSR Corporation)

Conducted RC & CSR Explanatory Briefings

JSR Office	Event date
Headquarters	November 25 and December 6, 2016
Yokkaichi Plant	November 4, 2016
Chiba Plant	October 6, 2016
Kashima Plant	October 28, 2016
Tsukuba Research Laboratories	November 15, 2016

These CSR explanatory briefings were also conducted at a few other domestic and overseas group companies. We plan to continue conducting these briefings at other locations.

Conducted CSR Explanatory Briefings

Group company	Event date
Taiwan Branch, JSR Corporation (Taiwan)	March 20, 2017
JSR Micro Taiwan Co., Ltd. (Taiwan)	March 21, 2017
JSR (Shanghai) Co., Ltd. (China)	March 21, 2017

JSR Micro Korea Co., Ltd. (South Korea)	March 22, 2017
JSR BST Elastomer Co., Ltd. (Thailand)	April 20 and 21, 2017

4. Disclosure of Legal and Regulatory Violations

There were no legal or regulatory violations of laws pertaining to the environment and safety in FY2016.

We are working to prevent recurrence of the types of cases that occurred in the past by continuing preventative measures and providing periodic education on those cases.

5. External Initiatives

Cooperation in a Program inviting Staff of China's Ministry of Environmental Protection based on the Japan-China International Afforestation Project

JSR provides cooperation to a "Japan-China Youth Exchange Program" that is conducted under the Ministry of Foreign Affairs' "Japan-China International Afforestation Project." In November 2016, we conducted a plant tour (Tsukiyama, etc.) by 30 young managerial candidates from the Ministry of Environmental Protection of the People's Republic of China.



A tour of the Yokkaichi Plant's Tsukiyama green space

"Japan-China Youth Exchange Program": A initiative that invites Chinese young people to Japan for roughly one-week periods.

During their stay, they visit people concerned with environmental protection policy, participate in dialogues, tour companies, and engage in afforestation work among other activities. The program's purpose is to educate Chinese young people on environmental problems and promote their better understanding of Japan.

Cooperation with the International Center for Environmental Technology Transfer

FY	No. of trainings (times)	No. of participants (persons)	Content of training
1991 - 2016	67	586	Water quality management technology, industrial waste disposal/management technology, odor control technology, environmental management systems,
No training was conducted in FY2016, as no requests for training were received from ICETT.			

As part of our international RC efforts, we have provided cooperation and support to the International Center for Environmental Technology Transfer (ICETT), a Public Interest Incorporated Foundation established to assist in the development of environmental and safety engineers from around the world.



Training conducted as the Yokkaichi Plant

6. External Environmental and Safety Evaluations (Major Awards: Past 10 Years)

2015	JSR Optic Tsukuba Co., Ltd.	Japan Chemical Industry Association (JCIA)	Responsible Care Award for Effort
2015	JSR Micro Kyushu Co., Ltd.	Kyushu Bureau of Economy, Trade, and Industry	Award from the Kyushu Bureau of Economy, Trade, and Industry Award for Excellent Energy Management Plant

2013	JAPAN COLORING CO., LTD.	Chubu Bureau of Economy, Trade, and Industry	Award from the Chubu Bureau of Economy, Trade, and Industry Award for Excellent Energy Management Plant
2013	JSR Micro Kyushu Co., Ltd.	Commissioner of the Fire and Disaster Management Agency	Fire Defense Award
2013	JSR Optic Tsukuba Co., Ltd.	Commissioner of the Fire and Disaster Management Agency	Fire Defense Award
2013	Chiba Plant	Japan Chemical Industry Association (JCIA)	Responsible Care Award
2012	Yokkaichi Plant	Japan Chemical Industry Association (JCIA)	Safety Award Grand Prize
2010	Chiba Plant	Japan Chemical Industry Association (JCIA)	Safety Award First Prize
2007	Yokkaichi Plant	Japan Responsible Care Council (JRCC)	Responsible Care Award
2006	Tsukuba Research Laboratories	Commissioner of the Fire and Disaster Management Agency	Fire Defense Award

7. Environment Distinguished Service Award

To further encourage environmental protection activities, we created the Environment Merit Award for employees who have made important contributions to environmental protection through a range of activities that include environmental product and technology development, environmental impact reduction, and assisting local communities with environment-related issues. Seventeen employees received this award for five areas of excellence in FY2016.

Subject		Description
Chiba Plant	Establishment of flare stack combustion fluctuation control technology	We investigated the link between exhaust emissions from flare stacks at each of our plants and the generation of black smoke. We then established flare stack combustion fluctuation control technology by reviewing the circumstances of exhaust emissions and our smoke elimination and control sequence and tied it to safe operation.
Kashima Plant	Stabilization of sludge treatment process for plant secondary wastewater	To rectify significant degradation of treatment capability that was attributable to poor flocculation in our plant secondary wastewater and sludge treatment processes, we set optimum operational conditions for the appropriate adjustment of the type, volume, and ratio of added flocculation agent and used them to achieve better process stability.
Yokkaichi Plant	Reduction of environmental impact by recycling waste solvents	In the past, we were unable to incinerate some of the solvents that we use in our Fine Chemicals Business plants in-house, and therefore we disposed of them externally as waste (valueless product). To address this, we made improvements to our existing facilities to turn those solvents into a valuable fuel resource (i.e., a product with value). We have thus reduced the amount of waste solvent that we send out as waste and consequently reduced our environmental impact.
Yokkaichi Plant	Establishment of an alternative wastewater analysis method for plant wastewater in an emergency	Conventional wastewater analysis requires five days for BOD measurement. Given this, we established a new method using a quick BOD meter that dramatically shortens analysis time to approximately two hours. We tied the new method to quicker handling of wastewater in times of emergency and stronger wastewater management.
Kashima Plant	Reduction of VOC	To reduce VOC emissions at our EP plants, we switched from treating waste gas that cannot be collected by recovery equipment to a method that uses

emissions at
EP plants

RTO. As a result, we have succeeded in greatly reducing the amount of VOC we generate.

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Basic Issues in JSR Group's Corporate Activity

Responsible Care (RC) Management: Quality and Product Safety

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

The Corporate Mission of JSR Group "Materials Innovation - We create value through materials to enrich society, people and the environment."

We believe that an important role of JSR Group is to offer innovative materials and excellent products that meet customer needs and contribute to the making of a better society.

We strive to carry out initiatives to ensure the quality and safety of our products so that our customers can use them with peace of mind.

(1) Management of product safety and quality assurance activities

Each plant has a QA Promotion Sub-Committee that works together with the Group-wide QA Promotion Committee to promote activities in accordance with corporate plans. Progress reports are presented to the Responsible Care (RC) Committee, the CSR Committee and to senior management.

(2) Product safety and quality assurance processes

Internal and quality performance audits performed by plant managers and overseen by the President or an assigned officer as well as external ISO audits are conducted on a regular basis.

1. ISO 9001 Certification

All plants are ISO 9001 certified, including relevant divisions and indirect departments.

ISO 9001 certified plants:

Yokkaichi Plant, Chiba Plant, Kashima Plant, Tsukuba Research Laboratories, and relevant divisions of the Head Office

2. Quality Performance Audits

As a manufacturer, JSR Group has responsibilities to meet the quality, cost, and supply requirements of its customers. To fulfill these responsibilities, quality performance audits have been performed annually since FY2012 in place of the previously conducted head office quality audits. These audits include reports on plant QA activity concerns such as trends and corresponding solutions of claims and other issues, and activities to improve plant capability. They also include reports on customer satisfaction levels and presentations on quality improvement activities such as Six Sigma training and small-group improvement activities. The Quality Performance Audit is promoted as one of the drivers for quality improvement activities by combining the conventional QC method with the Six Sigma method in order to achieve the best possible balance between quality, cost, and stable supply. The fifth Quality Performance Audits were conducted under the leadership of the President at JSR's three plants in January and February of 2017.



A Quality Performance Audit being conducted by top management (JSR Corporation's Chiba Plant)



Presentation of a Quality Performance Audit's "highest excellence" award (at JSR Corporation's Head Office; March 28, 2017)

FY2016 Quality Performance Audits

Place	Date
Yokkaichi Plant	January 31, 2017
Chiba Plant	February 16, 2017
Kashima Plant	February 21, 2017

(3) Product quality and safety initiatives

1. Product liability prevention (PLP) activities

In 1994, JSR enacted its Product Liability Prevention (PLP) Standards to reinforce product safety efforts. These PLP Standards have been revised as needed to provide various stipulations for the prevention of product-related accidents at all stages of the product lifecycle, including product design, manufacturing, sales, and distribution. One example is a system for new products to be introduced to the market whereby each product undergoes safety checks starting at the product design stage, and is put on the market only after having received approval from the department manager. Similar efforts are currently being made at Group companies as well.

To prevent accidents related to products, we also strive to improve quality management throughout our supply chains—everything from raw materials procurement through distribution—by acquiring information through communication with our customers and by strengthening activities to prevent product-related accidents, such as through the revision of our quality management system and the updating of assessment technologies.

2. Basic Policy on Managing Chemical Substances

In light of recent global trends in the management of chemical substances, JSR has established the below three basic policies.

- (1) Instead of hazard-based management,*1 we will endeavor to implement risk-based management.*2
- (2) We will strive to manage our entire supply chain by utilizing a globally standardized method.
- (3) We will strive to comply with regulations and promote self-motivated initiatives to ensure the safety of our products.

*1 Management based solely on the hazardous properties of substances

*2 Management based on exposure to the hazardous properties of substances

3. Safety data sheets (SDS)

JSR discloses environmental and safety information to its customers by preparing a Safety Data Sheet (SDS) for all products containing polymers, regardless of whether they contain hazardous or toxic substances or not.

In Japan, our current SDS items all comply with JIS Z 7253, the Industrial Safety and Health Act, the Law concerning Pollutant Release and Transfer Register (PRTR Law), and the Poisonous and Deleterious Substances Control Act. Our new SDS electronic data management system has been in operation since its creation in 2002 to provide customers with SDS that contain the most accurate information possible about each product. This system includes user management, chemical substance database management, creation support, and publication (revision) history. This allows us to accurately and quickly provide environmental and safety information related to JSR products.

(4) Compliance

1. Responding to the amendment of the Industrial Safety and Health Act

In accordance with the amendment of the Industrial Safety and Health Act in 2014, starting June 1, 2016, manufacturers are required to label chemical substances, submit the relevant SDS and conduct risk assessments. This amendment significantly increases the chemical substances subject to labeling. We have completed steps to comply.

2. GHS Compliance

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) was developed as an international standard to classify and label chemicals, and includes the following elements: (a) Classification of chemical products according to hazard and toxicity; (b) Labelling on product packaging and containers; and (c) Documentation and provision of details in the SDS. In Japan, the Industrial Safety and Health Act stipulates mandatory application of GHS to the labels and SDS of products containing GHS-designated chemical substances. JSR has finished conducting hazard and toxicity classification for all products that contain applicable substances and has prepared appropriate labels for its products. We have also completed the application of GHS to SDS for all our domestic products. We are completing efforts to achieve compliance in countries and regions that have enshrined GHS into law, including the EU, South Korea, Taiwan and China.

3. Measures for Export Chemical Products

- European Union (EU): Compliance with REACH

REACH is a EU system for the "Registration, Evaluation, Authorisation and Restriction of Chemicals" that has been in effect since June 2007. REACH does not differentiate between existing chemical substances and new chemical substances. All chemical products manufactured in or imported by EU countries in volumes exceeding one ton per year, excluding certain chemicals, are required to be registered and accompanied by safety test results. We conduct verifications on a regular basis to check if we have any substances that require this registration in order to prevent issues developing with the manufacturing and importation of products in Europe.

- United States of America (USA)

The USA notification system for new chemical substances is stipulated in the Environmental Protection Agency's Toxic Substances Control Act (TSCA) and related federal regulations. We conduct legal procedures if substances exported to the U.S. are not on the existing chemical lists.

- Republic of Korea (South Korea)

The South Korean notification system for new chemical substances has been defined on the basis of the the Occupational Safety and Health Act regulated by Ministry of Employment and Labor on registering and verifying chemical substances. We conduct legal procedures on the the Occupational Safety and Health Act if substances exported to the South Korea are not on the existing chemical lists.

- People's Republic of China (China)

The new chemical substances notification system in China is stipulated in the Measures for the Environmental Management of New Chemical Substances ordained by the Chinese Ministry of Environmental Protection. We conduct legal procedures if substances exported to China are not on the existing chemical lists.

- Taiwan

Products are exported to Taiwan in accordance with the Toxic Chemical Substances Control Act and the Rules on Hazard Communication of Dangerous Materials and Toxic Materials. A new chemical substance registration system was introduced in Taiwan in 2014. We are currently conducting legal procedures in accordance with this new chemical substance registration system.

4. Industrial and International Measures

As voluntary efforts by the chemical industry, the Japan Chemical Industry Association (JCIA), to which JSR belongs, promotes JIPS^{*3} and LRI^{*4} activities; and our company contributes to these programs through participation in the association's working groups and by providing research funding. We are also proactively engaged in global warming mitigation in accordance with the corresponding JCIA policy.

*3 The Japan Initiative of Product Stewardship (JIPS):

An effort to implement the Global Product Strategy (GPS), which was presented by the International Council of Chemical Associations (ICCA) at the First International Conference on Chemicals Management (ICCM-1). The aim of GPS is to attain the WSSD 2020 target, an international goal to "minimize adverse effects that the manufacturing and use of chemical substances have on human health and the environment, by 2020," which was set at the World Summit on Sustainable Development (WSSD) held in 2002. In Japan, the JCIA has promoted JIPS activities to implement GPS. Manufacturers and importers of chemical substances are working on the proper management of chemical substances in supply chains by conducting risk assessment and releasing such assessment results and other information in cooperation with companies engaged in the processing, assembly and distribution of chemical substances.

*4 Long-range Research Initiative (LRI):

The Long-range Research Initiative (LRI) is one of the critical activities of the International Council of Chemical Associations (ICCA), and is a voluntary long-term research project for chemical substances that have an impact on the environment, safety and health. Since FY2013, JCIA has been engaged in new LRI initiatives to resolve the following five issues: (1) development and evaluation of the new risk assessment method; (2) study on the safety of new chemical substances including nano materials; (3) study on the effects of chemical substances on children, the elderly, and gene disorders; (4) evaluation of the impact on ecosystems and the environment; and (5) other issues that require an emergency response.

(5) Maintaining Transport Safety and Environmental Standards
















JSR outsources the distribution of its products. To maintain environmental and safety standards during transport, JSR has drivers carry a "Yellow Card" imprinted with special measures and telephone numbers in case of emergency, in addition to having logistics companies train them on specific safety issues.

















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JSR Group sets targets regarding specific action items of priority issues and review our activities on every FY. Beginning in FY2017, we will evaluate ourselves in accordance with the Mid-Term CSR Plan. The following report describes the main activities and their results in FY2016.








FY: Fiscal Year means the year ending March 31. For example, FY2016 means April 1, 2016 - March 31, 2017

Assessment ○: Better than planned ○: As planned △: Improvement needed — : New item for this FY

Social Issues Attributable to JSR Group's Corporate Activity	FY2016 Target	FY2016 Result	Assessment	FY2017 Target	Related SDGs
Health and safety initiatives	<ul style="list-style-type: none"> Implement preliminary environmental and safety assessments <ul style="list-style-type: none"> Reviewed and began operation of modification control and preliminary safety assessment 	<ul style="list-style-type: none"> Reviewed preparations for preliminary safety assessment (minor modification, periodic maintenance, etc.) and began operation as a company-wide procedure 	○	<ul style="list-style-type: none"> Verify effects of procedures reviewed in FY2016 and establish their operation 	 
	<ul style="list-style-type: none"> Zero facility accidents and zero serious workplace accidents <ul style="list-style-type: none"> Reform and rebuild the safety foundation (equipment, organization, and systems) Reestablish a safety culture (emotion, behavior, culture) Identify and improve measures for potentially dangerous equipment that could lead to serious workplace accident 	<p><Accidents> Facility accidents: 1 JSR accident, 0 Group accidents Workplace accidents (requiring time off work): 0 JSR accidents, 2 Group accidents <Safety foundation> - Completed countermeasures for facilities with the high potential of causing serious industrial accidents (catching, falls, etc.) (including the Group) - Formed information on in-house and outside accidents into a database and shared it, created new accident investigation methods, and prepared a collection of accident case studies - Developed an education and training system to strengthen the transfer of technologies in manufacturing departments - Fully introduced HAZOP*1 to all business establishments and began new identification of hazards <Safety culture> - Established the "Basic Philosophy for Occupational Health and Safety" and continued efforts to spread safety values through manager education - Raised motivation by holding a Safety and Health Activity Forum and improving the personnel evaluation system - Established and tested evaluation methods to ascertain safety culture level</p>	△	<ul style="list-style-type: none"> Zero facility accidents and zero serious workplace accidents <Safety foundation> - Put new accident investigation methods into full-scale operation and provide education by using the collection of accident case studies - Start education and training systems in manufacturing departments to strengthen the transfer of technologies - Develop education and training systems for managers and full-time staff <Safety culture> - Continue current efforts to spread safety values - Implement activities to eradicate unsafe behavior • Systematically identify hazards using HAZOP and expand HAZOP to Group companies 	
	<ul style="list-style-type: none"> Renew certifications on security-related laws and regulations 	<ul style="list-style-type: none"> Maintained certifications and compliance with high-pressure gas safety regulations and renewed these certifications: Chiba Plant (March 2017) Recertified certification as a Class 1 Pressure Vessel: Kashima Plant (January 2017) Renewed certifications regarding dangerous goods completion inspections: No recertification's required 	○	<ul style="list-style-type: none"> Maintain and renew certifications on security-related laws and regulations - Renew certification as a Class 1 Pressure Vessel: Yokkaichi Plant (in November 2017 or later) - Renew certifications regarding dangerous goods completion inspection: Chiba Plant (June 2017) 	
	<ul style="list-style-type: none"> Continue auditing methods that were reviewed in FY2015 Improve audit precision by expanding number of audited departments 	<ul style="list-style-type: none"> Expanded the number of audited worksites by adding departments having worksites to departments in charge of facility safety the previous year, and expanded audits to domestic Group companies (JSR and JSR Group companies: 9 companies, 13 locations) Shared issues of each business establishment and reflected them on safety activities for the next FY 	○	<ul style="list-style-type: none"> Implement audits with greater attention to process safety • Expand the number of audited departments to include overseas JSR Group companies 	
Climate change mitigation	<ul style="list-style-type: none"> Achieve 1% average annual reduction in per-unit energy consumption in line with the Energy Conservation Act 	<ul style="list-style-type: none"> Promoted project activities to conserve energy and resources throughout the company; however, target was not achieved, as the most recent per-unit energy consumption showed a 2.9% year-on-year increase 	△	<ul style="list-style-type: none"> Achieve 1% average annual reduction in per-unit energy consumption in line with the Energy Conservation Act 	  
	<ul style="list-style-type: none"> Continue focusing on energy conservation activities to achieve targets in reduction of CO₂ emissions Consider review of mid-term CO₂ reduction targets in accordance with trends and changes in government CO₂ reduction targets 	<ul style="list-style-type: none"> Continued safe operation of natural gas turbine cogeneration facilities. Exceeded our FY2016 goal of a 6% reduction in total CO₂ emissions from all 3 plants with an actual reduction of 65,000 tons, or a 9.0% reduction over FY1990 levels 	○	<ul style="list-style-type: none"> Promote efforts for reductions with attention to government goals 	
	<ul style="list-style-type: none"> Calculate greenhouse gas emissions (Scope 1, 2 and 3) throughout the supply chain and continue disclosure of this information via the CSR report 	<ul style="list-style-type: none"> Calculated greenhouse gas emissions (Scope 1, 2 and 3) throughout the supply chain and continued disclosure of this information via the CSR report 	○	<ul style="list-style-type: none"> Calculate greenhouse gas emissions (Scope 1, 2 and 3) throughout the supply chain and continue disclosure of this information via the CSR report 	
Environmental impact reduction	<ul style="list-style-type: none"> Maintain and renew ISO14001 certification Continuas preparation corresponding to revisions of ISO14001 certification(revised in September 2015) 	<ul style="list-style-type: none"> Continued to pass ISO14001 evaluation at our 3 plants Promoted preparation corresponding to 2015 edition of ISO14001 certification. 	○	<ul style="list-style-type: none"> Shift to 2015 edition of ISO14001 certification 	   
	<ul style="list-style-type: none"> FY2016 VOCs*2 reduction target - Continue and improve reduction of VOC levels by 75% over FY2000 levels 	<ul style="list-style-type: none"> Reduced VOCs emissions by 76% over FY2000 levels through continuance of stable operation of RTO*3 installed in the 3 JSR plants 	○	<ul style="list-style-type: none"> VOCs Reduction Target: Maintain 75% reduction in VOC levels over FY2000 levels 	
	<ul style="list-style-type: none"> Conduct activities to improve local environments 	<ul style="list-style-type: none"> Maintained reliable and stable functionality of environmental equipment and maintained current status of zero environmental complaints for FY2016 	○	<ul style="list-style-type: none"> Ensure reliable and stable functionality of environmental equipment and maintain current status of zero environmental complaints 	
	<ul style="list-style-type: none"> Conduct safety and environment audits 	<ul style="list-style-type: none"> Conducted safety and environment audits on JSR and domestic group companies (9 companies, 13 locations) 	○	<ul style="list-style-type: none"> Review audit methods to bring improved environmental performance and conduct safety and environment audits 	
Waste reduction	<ul style="list-style-type: none"> Reduce industrial waste 	<ul style="list-style-type: none"> Reached zero waste targets for industrial waste from FY2003 through FY2016 (0 tons of waste going to landfills) through systematic initiatives at all plants including strict waste reduction and separation efforts as well as searching for suitable recyclers 	○	<ul style="list-style-type: none"> Continue current efforts 	  
Water resources conservation	<ul style="list-style-type: none"> Promote reduction of wastewater emission and stabilization of wastewater treatment Promote initiatives to improve water resource management (maintain current level of water recirculation and reuse) 	<ul style="list-style-type: none"> Ensured proper wastewater management in all plants (COD*4, total nitrogen, total phosphorus). Continued to stabilize wastewater management and improved water quality. Complied with the seventh series of standards and regulations on total amounts 	○	<ul style="list-style-type: none"> Promote reduction of wastewater emission and stabilization of wastewater treatment Promote initiatives to improve water resource management (maintain current level of water recirculation and reuse) 	  

Social Issues Attributable to JSR Group's Corporate Activity	FY2016 Target	FY2016 Result	Assessment	FY2017 Target	Related SDGs
Labor environment	<ul style="list-style-type: none"> Promote measures for greater awareness of work-life management 	<ul style="list-style-type: none"> Conducted rank appropriate training for leader class and subleader class employees Disclosed overtime status (monthly) Conducted awareness surveys in regards to overtime Conducted employee awareness surveys (once every 3 years) 	○	<ul style="list-style-type: none"> Continue current efforts 	  
Diversity	<ul style="list-style-type: none"> Execute concrete measures and achieve quantitative targets for diversification of human resources 	<ul style="list-style-type: none"> Percentage of female employees hired in April, 2017 [JSR]: College graduates hired for technical positions, 20% (target: 15-20%) College graduates hired for general office positions, 50% (target: 40-50%) Percentage of females in management positions as of April, 2017 [JSR]: 3.8% (target: 8%) 	○	<ul style="list-style-type: none"> Continue current efforts 	  
	<ul style="list-style-type: none"> Diversify recruitment 	<ul style="list-style-type: none"> Percentage of employees with disabilities [JSR]: 2.2% (statutory employment rate: 2%) Foreign national employees recruited [JSR]: 9 (hired from FY2014 to FY2016) Held a cross-cultural communication workshop 	○		
	<ul style="list-style-type: none"> Advance corporate culture 	<ul style="list-style-type: none"> Continued communication-building activities at each office/workplace 	○		
Human rights	<ul style="list-style-type: none"> Improve awareness of corporate ethics and revision of JSR Group Principles of Corporate Ethics as necessary 	<ul style="list-style-type: none"> Implemented corporate ethics e-learning program Conducted corporate ethics training that included the topics of sexual harassment and power harassment for new employees and new management employees Continued to confirm age at new hiring (legal compliance) 	○	<ul style="list-style-type: none"> Continue current efforts 	  
Supply chain management	<ul style="list-style-type: none"> Expand CSR/sustainable procurement⁴⁵ 	<ul style="list-style-type: none"> Continued implementation of CSR surveys of new suppliers 	○	<ul style="list-style-type: none"> Expand CSR/sustainable procurement 	 
	<ul style="list-style-type: none"> Maintain green procurement⁴⁶ Promote activities focusing on collaboration among the supply chain 	<ul style="list-style-type: none"> Practiced green procurement based on JSR Green Procurement Guidelines Provided MSDS Plus⁴⁷ 	○	<ul style="list-style-type: none"> Promote activities focusing on collaboration among the supply chain 	
Communication with communities and society	<ul style="list-style-type: none"> Utilize the UN Global Compact (GC) network Participate in the Consortium for Sustainable Paper Usage Continue JBIB⁴⁸ activities 	<ul style="list-style-type: none"> Acted as a member of the Supply Chain Subcommittee for the GC Network Japan and the Corruption Prevention Subcommittee Acted as a member in the Consortium for Sustainable Paper Usage Held activities performed by the JBIB Natural Capital Management Working Group Hiring of JBIB auditors 	○	<ul style="list-style-type: none"> Utilize the UN Global Compact (GC) network Participate in the Consortium for Sustainable Paper Usage 	 
	<ul style="list-style-type: none"> Promote social contribution programs 	<ul style="list-style-type: none"> Provided science classes for elementary and middle school students in collaboration with educational institutions, private-sector training for teachers, and continued the Table for Two program⁴⁹ Conducted communication exchange with residents in local areas where our facilities are located including overseas offices and plants Participated in local clean-up activities, and developed opportunities to engage in dialogue 	○	<ul style="list-style-type: none"> Promote social contribution activities that highlight JSR Group's sustainable orientation (continue visiting lessons and lectures, etc.) Continue communication with local communities, including plant neighbors, with the aim of being a manufacturer that is trusted by the community 	
	<ul style="list-style-type: none"> Cooperate with the International Center for Environmental Technology Transfer (ICETT) 	<ul style="list-style-type: none"> Although no requests for training were received from ICETT in FY2016, cooperated with the "Japan-China Youth Exchange Program" under the Ministry of Foreign Affairs' "Japan-China International Afforestation Project" and supported the training of environment and safety technicians 	○		
	<ul style="list-style-type: none"> Promote communication using green areas that help conserve biological diversity 	<ul style="list-style-type: none"> Yokkaichi Plant: Held nature tours for employees and their children Chiba Plant: Grew shiitake mushrooms using wood from green space forest thinning Kashima Plant: Exterminated invasive plants and conducted wildlife monitoring Tsukuba Research Laboratories: Conducted wildlife monitoring, provided environmental education for employees, and exterminated invasive species 	○	<ul style="list-style-type: none"> Continue current efforts 	
	<ul style="list-style-type: none"> Create and distribute marketing materials to promote the "Mirai no kigen (Origin of the Future)" TV program 	<ul style="list-style-type: none"> Distributed marketing materials during student recruitment and at universities hosting program filming Placed text advertisement on Shinkansen trains 	○	<ul style="list-style-type: none"> Continue current efforts 	
Communication with shareholders and investors	<ul style="list-style-type: none"> Release information through various media 	<ul style="list-style-type: none"> Released information about the group that is easy to understand in a timely manner including such examples as the Information for Investors section of the website, annual reports, and the "JSR Throughout Society" booklet 	○	<ul style="list-style-type: none"> Continue current efforts 	 
	<ul style="list-style-type: none"> Communicate bi-directionally with shareholders and investors 	<ul style="list-style-type: none"> Held quarterly financial briefing, annual management policy briefing, and seminars for institutional investors and analysts Participated in domestic and overseas conferences 	○		
	<ul style="list-style-type: none"> Conduct shareholder meetings that encourage relationship-building 	<ul style="list-style-type: none"> Released meeting announcements schedules earlier and more frequently and avoided conflict with other shareholder meetings Enriched briefings of business overviews and product introductions at venues 	○		

Social Issues that JSR Group Can Help Resolve	FY2016 Target	FY2016 Result	Assessment	FY2017 Target	Related SDGs
Health and longevity	<ul style="list-style-type: none"> Contribute to the promotion of changing perspective from treatment to prevention and personalized medicine through the Life Sciences Business 	<ul style="list-style-type: none"> Prepared the organizational structure for the bioprocess and diagnostic & research reagents business; newly established the Life Sciences Division; began integrated management that includes overseas bases with appointment of an American division manager 	○	<ul style="list-style-type: none"> Contribute to the promotion of changing perspective from treatment to prevention and personalized medicine through the Life Sciences Business 	 
Eco-friendly products	<ul style="list-style-type: none"> Engage in activities to reduce environmental impact by incorporating LCA*10 	<ul style="list-style-type: none"> Estimated the CO₂ emissions from new and alternative products starting from the development phase through the incorporation of LCA (LCA processes are used during the manufacturing phase of 104 products) 	○	<ul style="list-style-type: none"> Continue analysis/discussion of feasibility of activities to reduce the environmental impact utilizing LCI*11 data 	 
	<ul style="list-style-type: none"> Create evaluation indicators for eco-friendly products 	<ul style="list-style-type: none"> Continued development of eco-friendly products (development of new grades) 	○	<ul style="list-style-type: none"> Set new targets for eco-friendly products during FY2017 	

Basic Issues in JSR Group's Corporate Activity	FY2016 Target	FY2016 Result	Assessment	FY2017 Target	Related SDGs
Responsible Care: Quality and Product Safety	<ul style="list-style-type: none"> Increase the number of divisions that operate in accordance with ISO 9001 specifications – Improve compliance of specific headquarter offices 	<ul style="list-style-type: none"> Trained internal ISO 9001 auditors and placed certified auditors in all departments Continued to pass ISO 9001 evaluations at our 3 plants 	○	<ul style="list-style-type: none"> Improve relevancy of customer-oriented business strategies 	  
	<ul style="list-style-type: none"> Implement Fifth Quality Performance Review as well as external and internal quality audits 	<ul style="list-style-type: none"> Implemented Fifth Quality Performance Review as well as external and internal quality audits 	○	<ul style="list-style-type: none"> Implement Sixth Quality Performance Review as well as external and internal quality audits 	
	<ul style="list-style-type: none"> Continuous improvement of product quality – Improve awareness and increase audit opportunities throughout the Group 	<ul style="list-style-type: none"> Implemented activities to raise awareness and conducted six special audits throughout the Group, including new group companies 	○	<ul style="list-style-type: none"> Provide outline of company-wide guidelines and support for new production bases and production transfers 	
	<ul style="list-style-type: none"> Provide safety and environmental information related to products to customers 	<ul style="list-style-type: none"> Provided proper information on prototypes and products to customers by utilizing the SDS*12 electronic management system Held sales agency conference hosted by the Petrochemicals Business Division 	○	<ul style="list-style-type: none"> Provide environmental and safety information to customers 	
	<ul style="list-style-type: none"> Strengthen chemical substance management Ensure compliance with GHS*13 – Continue to label product and provide SDS based on GHS in compliance with regulations 	<ul style="list-style-type: none"> Promoted labeling of product shipped domestically in compliance with Industrial Safety and Health Act. Promoted application of SDS in GHS as according to plan Ensured compliance with the GHS legislation of export destinations 	○	<ul style="list-style-type: none"> Continue to label products and provide SDS based on GHS in compliance with regulations Comply timely with GHS in accordance with laws and regulations of each export destination 	
	<ul style="list-style-type: none"> Ensure compliance with European REACH*14 and CLP*15 – Comply timely with GHS in accordance with laws and regulations of each country of export 	<ul style="list-style-type: none"> Transferred necessary information for REACH compliance and confirmed registration status of raw materials 	○	<ul style="list-style-type: none"> Respond to new overseas laws and legislations such as the US's revised TSCA*16 as well as the EU's REACH. 	
Compliance	<ul style="list-style-type: none"> Conduct corporate ethics awareness surveys 	<ul style="list-style-type: none"> Conducted corporate ethics awareness surveys and followed up at domestic and overseas offices 	○	<ul style="list-style-type: none"> Continue corporate ethics awareness surveys 	   
	<ul style="list-style-type: none"> Improve awareness of corporate ethics and revision of JSR Group Principles of Corporate Ethics as necessary 	<ul style="list-style-type: none"> Implemented corporate ethics e-learning program Conducted corporate ethics training for new employees and new management employees Conducted CSR Explanatory Briefings (4 domestic bases, 4 overseas bases) 	○	<ul style="list-style-type: none"> Continue improving awareness of corporate ethics and revision of JSR Group Principles of Corporate Ethics as necessary 	
	<ul style="list-style-type: none"> Improve level of legal compliance 	<ul style="list-style-type: none"> Confirmed periodic legal compliance verification at domestic and overseas offices Held legal compliance seminars 	○	<ul style="list-style-type: none"> Improve level of legal compliance 	
Corporate governance	<ul style="list-style-type: none"> Promote activities of the four committees (corporate ethics, RC, risk management, social contribution) 	<ul style="list-style-type: none"> Continued to perform activities of the four committees according to plan Continued response to the Corporate Governance Code Conducted CSR awareness-raising activities that have been integrated with The JSR Group's Essential Elements 	○	<ul style="list-style-type: none"> Continue response to the Corporate Governance Code 	 
Risk management	<ul style="list-style-type: none"> Systematic operation of JSR group company-wide risk management system – Maintenance of the JSR Group risk management system for domestic group companies – Lower risk through enhanced PDCA management 	<ul style="list-style-type: none"> Began full-scale use of risk assessment criteria that were reviewed in FY2015 	○	<ul style="list-style-type: none"> Continue strengthening risk identification to reduce risk Begin monitoring of departmental risks 	
	<ul style="list-style-type: none"> Reinforce crisis management Improve BCP*17 – Continue implementation and improvement of crisis management training (initial response training and BCP training) 	<ul style="list-style-type: none"> Completed implementation of strategies to resolve challenges discovered through crisis management drill conducted in FY2015 Conducted crisis management drill in anticipation of a Tonkai Earthquake; currently implementing measures to resolve challenges identified by this drill Conducted "information incident" drill in anticipation of an information leak; currently implementing measures to resolve challenges identified by this drill 	○	<ul style="list-style-type: none"> Support BCP formulation by Group companies Strengthen headquarters' crisis management drill 	
	<ul style="list-style-type: none"> Conduct CSR awareness-raising activities, including in overseas offices and plants 	<ul style="list-style-type: none"> Held CSR Explanatory Briefings (4 domestic bases, 4 overseas bases) Held annual CSR report presentation meetings 	○	<ul style="list-style-type: none"> Continue CSR awareness-raising activities 	
	<ul style="list-style-type: none"> Promote measures for large-scale earthquake countermeasures according to the mid-term plan 	<ul style="list-style-type: none"> Implemented measures in accordance with the seismic reinforcement plan (Continued reinforcement work at the Yokkaichi Plant; completed work at the Chiba Plant; prepared a reinforcement plan based on seismic reassessment at the Kashima Plant) 	○	<ul style="list-style-type: none"> Continue measures in accordance with the seismic reinforcement plan (Scheduled completion at the Yokkaichi Plant in FY2018 and at the Kashima Plant in FY2020) 	

*1 HAZOP (Hazard and Operability Studies) safety inspection

*2 VOC = "Volatile Organic Compounds," which is a cause of air pollution

*3 RTO = Regenerative Thermal Oxidizer. A device used to burn VOCs and decompose them into CO₂ and water to create cleaner exhaust gases.

*4 COD = Chemical Oxygen Demand. This is the amount of oxygen required to oxidize oxidizable materials in water. This is one of the more common indicators of water quality.

*5 CSR/sustainable procurement is a system of procuring raw materials from suppliers that have demonstrated resolve to engage in environment protection as well as incorporating the social aspect into corporate ethics and employment activities.

*6 Green procurement is a system of procuring raw materials from suppliers that meet strict guidelines on the management of substances that have the potential to cause harm to human health.

*7 MSDS Plus = A basic information sheet used to provide downstream users with information on chemical substances in products. It was created by the Joint Article Management Promotion Consortium.

*8 JBIB = Japan Business Initiative for Biodiversity.

*9 Table for Two = A social contribution program in which we, citizens of developed countries, and children of developing countries share meals together.

*10 LCA = Life Cycle Assessment. A method of quantitatively analyzing and assessing a product's environmental impact in all lifecycle stages, including raw materials, manufacturing, use, and disposal.

*11 LCI = Life Cycle Inventory. Sum of the input and output data of resource, energy, and environmental impact of products used for LCA.

*12 SDS = Safety Data Sheet. A sheet describing the safety information on chemical substances is attached when shipped to other operators.

*13 GHS = Globally Harmonized System Classification and Labeling of Chemicals. This system is designed to globally standardize classification, labeling and provision of SDS.

*14 REACH = Registration, Evaluation, Authorization and Restriction of Chemicals. This is a European Union regulation to provide safety test data on all chemical products that are manufactured or imported by an amount of at least 1 ton per year.

*15 CLP = Classification, Labeling and Packaging of Substances and Mixtures. This is a European Union regulation on defining the hazard classification of chemical substances and compounds, labeling and packaging on the basis of GHS.

*16 TSCA = The Toxic Substances Control Act of the United States. The act's purpose is to regulate chemical substances and mixtures that pose unreasonable risks to human health and the environment.

*17 BCP = Business Continuity Plan. BCP defines the planning of determination criteria and course of action plans to continue business operations in the event of emergencies or disasters and to continue or restore operations as quickly as possible after a major emergency event that could affect the existence of the company occurs such as largescale disasters, fires/explosions, terrorist attacks, etc. BCM defines the management system implemented to improve and operate the BCP through PDCA.

Social Issues Attributable to JSR Group's Corporate Activity

Health and Safety Initiatives

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy

JSR Group believes that "safety is of utmost importance to everyone working in manufacturing and the bedrock of business activity." To encourage understanding and acceptance of this belief by each employee and foster company-wide recognition of the value of "safety first," we established the following "Basic Philosophy for Occupational Health and Safety" and accompanying "Courses of Action" for executing it in July of 2016.

The points provided here provide the basis for JSR Corporation's unified approach to occupational health and safety.

(1) Basic Philosophy for Occupational Health and Safety

At JSR Corporation, safety is our highest priority and the foundation of all of our activities. Accordingly, we will create safe worksites and strive to maintain physical and mental health, with the goal of ensuring a safe return home at the end of each workday.

(2) Courses of Action

1. No matter the situation, we will act with safety foremost in mind.
2. We will comply with established rules and never fail to act in accordance with safety basics.
3. We will maintain safety by identifying and eliminating both actual and potential hazards.
4. We will strive to create comfortable work environments and promote physical and mental health.
5. Through communication and ingenuity, we will aim to achieve 100% employee participation in all safety activities.

2. FY2016 Activities

(1) Health and Safety Activities

Fully acknowledging the gravity of a serious workplace accident that occurred in July of 2014, JSR Group has launched a project designed to rebuild its safety infrastructure and safety culture based on a philosophy that "safety is the most important factor for everyone working in the manufacturing industry and a major premise of business." At the present time, this project is being proactively and aggressively implemented by a new headquarters safety organization (namely, Safety and Health Promotion Department and Workplace Safety Technology Division within the department) that was created in FY2015.

Additionally, we are "moving toward becoming a 'mutually enlightened organization' in terms of (1) extremely safe behavior, (2) securing human resources, and (3) optimal risk management" with a vision of where we want to be in FY2020. This will start with a transition from a project-led "reactive" stage to a manager-led "dependent" stage.

Our safety and health activities in FY2016 also included efforts to improve safety technology. Here, we focused not only on verifying safety infrastructure developed thus far but also on building of accident investigation methods and reinforcing our PHA.* Moreover, we also turned our attention to fostering a safety culture. We launched a number of concrete activities, among them spreading safety-related values throughout the organization, enhancing education and training systems in production departments, bringing in the production manager education programs of external organizations, reviewing our personnel evaluation and award schemes, and building a safety culture-level self-diagnosis system. Beginning in FY2017, we will verify the effects of these activities as we put them to full-scale use.

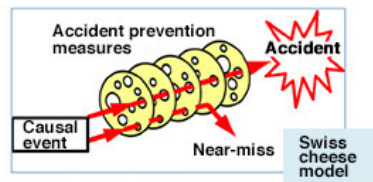
*PHA: Process Hazard Analysis

Vision for FY2020	<ul style="list-style-type: none"> ● Movement toward becoming a "mutually enlightened organization" (1) Extremely safe behavior: Penetration of the Basic Philosophy for Occupational Health and Safety throughout the company and ownership of courses of actions (2) Securing human resources: Maintenance of strong individual skills and organizational capabilities in accordance with education/training programs (3) Optimal risk management: Efficient and effective risk management matched to severity 									
	FY	2014	2015	2016	2017	2018	2019	2020	2021	2022
Stage	Reactive (action in response to accident)		Dependent (action under guidance of manager)			Independent (action taken by individuals)			Mutually enlightened (action to encourage colleagues)	
Leader	Project		Manager			Individual			Team	
Main activities	<ul style="list-style-type: none"> ● Safety equipment measures <ul style="list-style-type: none"> - Prevention of catching, entanglement, falls, etc. - Development of safety equipment and construction standards - Review of risk assessment criteria ● Development and trial implementation of safety infrastructure - Review of production and safety department organization - Development of safety infrastructure information - Review of standards (safety evaluations, etc.) - Creation of system for sharing accident data ● Identification of safety culture challenges - Identification of challenges through external diagnosis - Identification of challenges through employee interviews 		<ul style="list-style-type: none"> ● Development and trial implementation of safety infrastructure - Building accident investigation methods - Strengthening of PHA - Strengthening of operation with use of ICT technology - Review of indirectly-related department organization ● Maintenance of safety infrastructure - Post-trial verification and effective implementation ● Trial safety culture development - Penetration of safety values (mission, definition, etc.) - Reinforcement of education (managers, production departments, full-time staff, etc.) - Review of various schemes (auditing, awarding, evaluation, etc.) - Safety culture level monitoring (building a self-diagnosis system, etc.) - Improvement of risk recognition (use of IoT, etc.) - Initiatives to control unsafe behavior 			<ul style="list-style-type: none"> ● Maintenance and optimization of safety infrastructure - Optimization of equipment, organization, and mechanisms with the latest technologies based on safety performance ● Safety culture development - Strengthening of weak areas at company, business location, and worksite levels with application of safety performance and safety diagnoses * Linking safety awareness and safe behaviors of individuals to safety improvement and personnel development 			<ul style="list-style-type: none"> ● Maintenance and optimization of safety infrastructure - Optimization of equipment, organization, and mechanisms with the latest technologies based on safety performance ● Maintenance and improvement of built safety culture - Strengthening of weak areas at company, business location, and worksite levels with application of safety performance and safety diagnoses * The development of personnel for safety culture development builds the organization, leads to improvements in quality and production outside of safety, and builds the company. 	

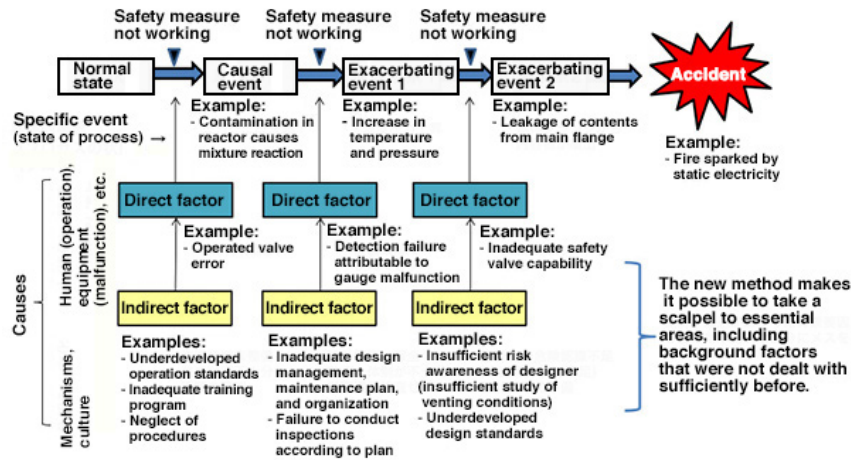
(1) Building accident investigation methods

It is said that almost all recent accidents are recurrences of past accidents, and that none can be attributed to new causes. Despite the fact that the purpose of accident investigation is to prevent the recurrence of similar accidents, JSR did not adequately utilize accident or near-miss information for this purpose. Because of this, Workplace Safety Technology Division took the lead in building a system that can investigate the true causes of accidents and implement reliable preventive measures with the guidance of Dr. Masamitsu Tamura, Professor Emeritus of the University of Tokyo. This initiative resulted in the preparation of a collection of accident case studies and other useful tools. We believe we can pass on lessons learned from past accidents by utilizing them in training for young employees who have yet to experience accidents. We know that we must continue applying what we have learned from past accidents. We will therefore put them to use in handing down safety skills by making sure they are known and shared within our organization.

JSR's new accident investigation method



We split the process leading up to an accident into events and causes (direct factors and indirect factors) and arranged them as shown below. (Exploration with stepwise regression based on the Swiss cheese model)



The new method makes it possible to take a scalpel to essential areas, including background factors that were not dealt with sufficiently before.

(2) Review and expansion of JSR's award scheme

Twenty-eight years ago, we launched the "Kawasaki Commemorative Safety Award" scheme as a safety award program. Over the years since, we have used it to mainly recognize production departments—including those of Group companies—that possess outstanding safety records. However, we changed the scheme in FY2016 with an eye to stimulating safety and health activities by departments that are indirectly involved in manufacturing and overseas Group companies. The new scheme contributes to across-the-board activity development in other departments by selecting departments that engage in outstanding work from all JSR Group business locations and presenting them through a revamped "Safety and Health Activity Forum." The first forum was held on July 20, which we established as "Safety Day" in the interest of keeping the serious workplace accident of 2014 fresh in everyone's minds. Departments throughout the Group used the opportunity to present reports on outstanding safety and health activities.



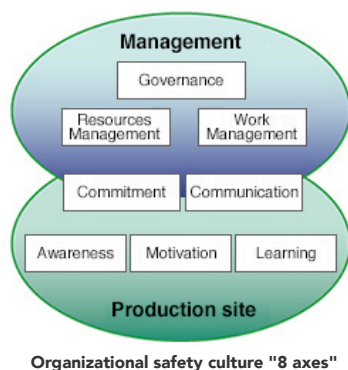
A presentation at the Safety and Health Activity Forum

Presenting Group	Item	Description
JSR Group R & D	Development of a chemicals management system using existing infrastructure	The originating section has an environment in which human errors in chemicals management (i.e., registration of new chemicals, quantity management, etc.) tend to occur because it handles many small-quantity chemicals for which it has little experience and because changes in personnel and themes are large. Consequently, it strengthened its chemicals management by developing a chemicals management system package that utilizes existing infrastructure (barcode management, automatic expiration date notification, etc.).
Yokkaichi Plant Petrochemical Production (employees entering JSR in FY2014)	Activities to promote a new workplace climate	An analysis of near-misses that occur in the originating section revealed that many are attributable to errors by young employees, and that in some cases, changing awareness slightly can help prevent recurrence. Given this, the section began an effort to change awareness of young employees, beginning with those in their second year with the company. Although the activities were straightforward in nature, involving simply talking to employees and posting notices, for example, it resulted in a gradual change in young employees' awareness and is having a good influence on the workplace as a whole.
Chiba Plant Petrochemical Production	Strengthening safety management by reviewing education and training methods	As older section employees leave and are replaced by younger employees, improving ability to respond to abnormalities and raising younger employees' sensitivity to safety are becoming urgent tasks. The section is therefore providing scenario-less training to develop its employees' ability to act quickly and precisely when emergencies occur. Just prior to the start of training, emergency information (5W1H) is randomly selected. Veteran employees are taking charge of improving

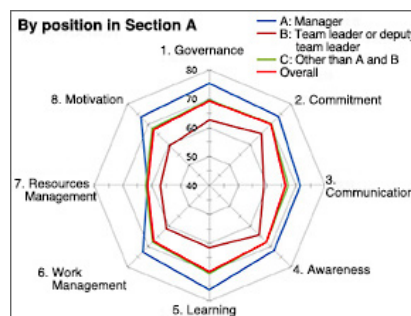
		young employees' safety sensitivity by directly and honestly telling them about their own experiences with near-misses and industrial accidents and giving them a sense of the tragic nature of accidents.
Yokkaichi Plant Utility Section	Clarification of grounds for setting DCS warnings (rules and principles) and technology transfer	The DCS in the originating section have approximately 1,400 warning settings that extend from serious warnings to messages. Although operators know what actions to take for each warning, as older operators become replaced by younger operators, there are instances when the grounds (rules and principles) upon which warning values are set are not adequately understood. Because of this, the section conducted a survey of those grounds by distributing tasks among all section members. It then compiled the results into material for passing on technical knowledge that it incorporated into educational activities.
Kashima Plant Combined business sites; Female employees	Building a safety culture by women	(1) Group safety education for new employees: At the Kashima Plant, the assignment of new employees and regular maintenance period occur at the same time. Having new employees enter the plant during this extremely busy period when numerous irregular activities are taking place increases the workload of accepting departments. In fact, there have been cases in the past when a new employee received minor injuries during this time. Kashima Plant successfully tackled this problem by preparing a female employee-centered plan and structure for simultaneously achieving lower workload and safety and technical education for new employees. (2) "Nadeshiko Safety Patrols": Kashima Plant improved workplace safety by executing a 4S-oriented patrols program from the viewpoint that "workplace organization is the mother of safety." The program changes the idea that safety patrols must be conducted by men and considers safety from a female perspective.
Yokkaichi Plant Production Management Section	Observing people's safety actions	Using an "observation sheet" it prepared independently from its own perspective, the Production Management Section identified unsafe behaviors in its production sites from specific points of view. This activity prevents potential industrial accidents by stressing the process of examining whether or not a particular operational procedure or method is desirable. When the section identifies an unsafe behavior, it explains the content and reason for this identification to the production side and then establishes and executes mutually acceptable preventative measures.

(3) Building of a safety culture-level self-diagnosis system

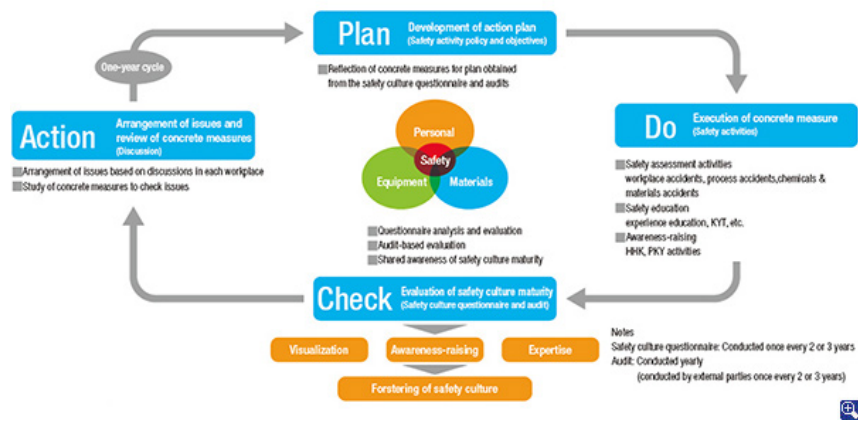
Because "safety culture" differs greatly depending on the company, business location, or workplace, it is important for organizations to accurately grasp our own safety culture level when building it. Although we carried out external consultants-led safety diagnoses for certain departments after the serious workplace accident, we did not have our own diagnosis system. Given this, in FY2016, we created JSR's own diagnostic system based on questionnaire results to monitor regularly the safety culture level of each workplace and began using it on a trial basis primarily at production sites. We plan to use this system to ascertain strengths and weaknesses at the company, business location, and workplace level and what we learn to connect to the building of a culture of safety.



Example of safety culture questionnaire results



Awareness levels were scored for a total of 103 questions (total of 165 questions allocated to the eight axes). By-Hierarchical analysis also reveals awareness gaps.



(2) Number of Workplace Accidents

As listed in the following table of the number of workplace accidents that occurred over the last five years, there were no accidents at JSR and there was one accident at manufacturing partners in FY2016. Although the number of accidents in JSR is decreasing across company-wide project activities, we have not made sufficient improvements in terms of minor workplace accidents such as those that do not result in lost time. A factor analysis of the causes of accidents that more than 90% are caused by unsafe behavior, and JSR is no exception. For this reason, we will execute company-wide activities to prevent unsafe behavior in FY2017. On the other hand, many minor accidents related to construction occurred at our manufacturing partners in the first half of FY2016. Because of this, we worked to prevent workplace accidents by launching project activities led by related JSR departments and manufacturing partners. We will continue those activities that have been proven effective.

* Accident numbers for Group companies are provided on the Group Companies RC Activities page.

Number of Workplace Accidents (JSR)

FY	2012*	2013*	2014*	2015	2016
Number of Cases	0	3	1 (Fatal accident)	1	0

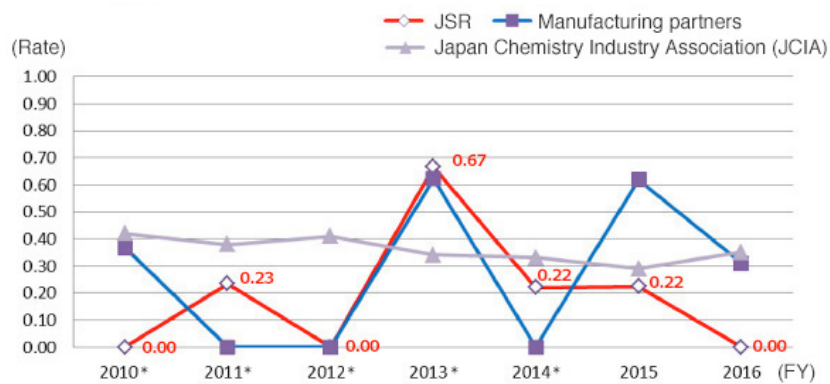
* Figures for 2012 to 2014 are fiscal year figures.

Number of Workplace Accidents (Manufacturing partners)

FY	2012*	2013*	2014*	2015	2016
Number of Cases	0	2	0	2	1

* Figures for 2012 to 2014 are fiscal year figures.

Lost-time accidents (rate)



Lost time accidents rate = (Number of victim in fatal or lost-time accidents/extended working hours) X 1 million

* Figures for 2010 to 2014 are fiscal year frequencies.

Information on workplace and facility accidents that occurred at JSR is quickly and effectively communicated to all employees via the company intranet. This ensures that all group companies and employees share and understand the information, which helps prevent occurrence of similar accidents in the future.

(3) Safety and Accident Prevention

In the spirit of our Responsible Care philosophy, we strive to acquire the certifications of approved organizations under various security and safety laws. This enables us create higher quality health and safety management systems in addition to clarifying rights and responsibilities. As a result, certification plays an important role in improving safety technologies. All JSR plants are striving to acquire certifications of under the High-Pressure Gas Safety Act, Fire Service Act, and Industrial Safety and Health Act. We will continue to maintain and upgrade certifications with the aim of improving safety and preventing accidents.

Certification	JSR Office	Date	Remarks
High-pressure Gas Safety Act	Yokkaichi Plant	Sep. 2015	Recertified
	Kashima Plant	Mar. 2016	Recertified
	Chiba Plant	Mar. 2017	Recertified
Dangerous Goods Inspection	Yokkaichi Plant	Mar. 2016	Recertified
	Kashima Plant	Mar. 2016	Recertified
	Chiba Plant	Jun. 2017	Recertified
Continuous Operation of Type One Pressure Vessels, Industrial Safety and Health Act	Yokkaichi Plant	From Nov. 2017	Scheduled for recertification
	Kashima Plant	Jan. 2017	Recertified
	Chiba Plant	Mar. 2018	Scheduled for recertification

1. Data on JSR Facility Accidents

As listed in the following table, the number of facility accidents at JSR in FY2016 was one. This information is reported to the government in compliance with the Act on the Prevention of Disaster in Petroleum Industrial Complexes and Other Petroleum Facilities.

* Accident numbers for Group companies are provided on the Group Companies RC Activities page.

FY	2012*	2013*	2014*	2015	2016
Number of Cases	2	2	2	1	1

* Figures for 2012 to 2014 are fiscal year figures.

Accident Summary for FY2016

On October 3, a minor fire occurred during a heat storage ignition test conducted with a gear oven in JSR Yokkaichi Plant's testing wing. The main cause of the fire was insufficient education concerning ignition tests. We implemented recurrence prevention measures together with equipment improvements.

Social Issues Attributable to JSR Group's Corporate Activity Environmental Impact Reduction

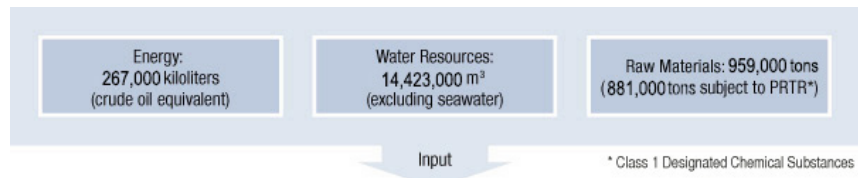
FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Environmental Impact of Business Activities

JSR strives to reduce its environmental impact by generating and closely analyzing input data (including use of energy, water resources, and chemical substances), as well as output data (including solid waste and emissions into the atmosphere and hydrosphere).

JSR is also an active member of the Mie Prefecture Industrial Waste Solutions Promotion Committee participating in efforts to continually reduce industrial waste and ensure it is properly disposed.

Input and Output Data :



Products	Environmental Impact																						
<ul style="list-style-type: none"> • Elastomer • Emulsions • Plastics • Fine chemical products • Monomers 	<p>Atmospheric emissions</p> <table border="0"> <tr><td>CO₂</td><td style="text-align: right;">657,000 tons</td></tr> <tr><td>SO_x</td><td style="text-align: right;">5 tons</td></tr> <tr><td>NO_x</td><td style="text-align: right;">305 tons</td></tr> <tr><td>Specific Chemical Substances In atmosphere (PRTR)</td><td style="text-align: right;">273 tons</td></tr> </table> <p>Waste water</p> <table border="0"> <tr><td>Total amount of waste water</td><td style="text-align: right;">11,936,000 m³</td></tr> <tr><td>COD</td><td style="text-align: right;">459 tons</td></tr> <tr><td>Total nitrogen/Total phosphorus</td><td style="text-align: right;">139 tons / 0.7 tons</td></tr> <tr><td>Specific Chemical Substances in water(PRTR)</td><td style="text-align: right;">3 tons</td></tr> </table> <p>Wastes</p> <table border="0"> <tr><td>Final off-site landfills</td><td style="text-align: right;">0 tons</td></tr> <tr><td>Amount of Specific Chemical Substances transferred (PRTR)</td><td style="text-align: right;">342 tons</td></tr> <tr><td>Amount recycled (Total amount on-site and off-site)</td><td style="text-align: right;">24,575 tons</td></tr> </table>	CO ₂	657,000 tons	SO _x	5 tons	NO _x	305 tons	Specific Chemical Substances In atmosphere (PRTR)	273 tons	Total amount of waste water	11,936,000 m ³	COD	459 tons	Total nitrogen/Total phosphorus	139 tons / 0.7 tons	Specific Chemical Substances in water(PRTR)	3 tons	Final off-site landfills	0 tons	Amount of Specific Chemical Substances transferred (PRTR)	342 tons	Amount recycled (Total amount on-site and off-site)	24,575 tons
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<p>Total amount of production</p>	<p>847,000 tons</p>																						

[Click here for more details](#)

Social Issues Attributable to JSR Group's Corporate Activity Resource Recycling

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

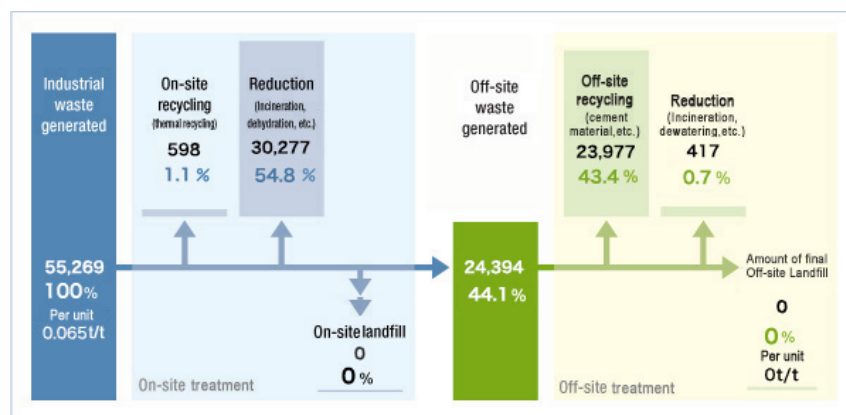
1. Initiatives to Reduce Industrial Waste
2. Application of "3R" (Reduce, Reuse, Recycle) to Packaging Materials
3. Water Consumption

1. Initiatives to Reduce Industrial Waste

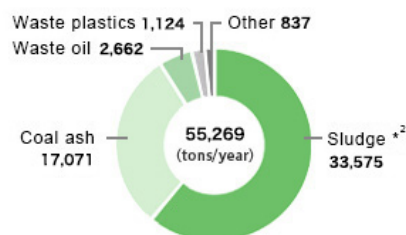
Since FY2000, JSR has been implementing its goal of "zero waste"^{*1} through activities that include prevention of waste materials, sorting of waste, and the search for recycling locations at all plants. In the period from FY2003 to FY2016, ongoing efforts have enabled us to reach our goals in zero waste activities. About 90% of the total volume of generated waste materials is taken up by surplus sludge resulting from the activated sludge treatment of wastewater and by coal ash generated in the coal boilers used for on-site power generation. With regard to this surplus sludge, sludge drying equipment was introduced at the Yokkaichi Plant in December 2012. This has enabled sludge to be processed into a valuable fuel product. Additionally, coal ash is recycled for use as cement materials. In addition to using waste oils and other materials as fuels, we promote the recycling of bottles, cans, drums, paper, fluorescent lamps, dry cell batteries and organic waste. The final landfill volume in FY2016 was zero. In the future, we will strive to implement ongoing zero waste operations by further continuing our search for recycling locations and our other efforts.

*1 Zero waste: When the volume of final off-site waste buried at third-party landfills is less than 0.1% of the volume of waste generated

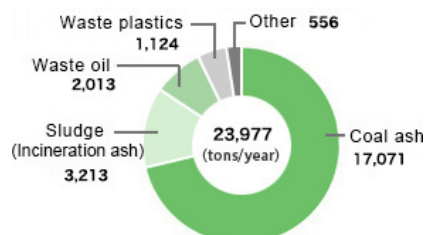
Industrial Waste Processing Flowchart (FY2016 performance in tons/year)



Breakdown of Generated Industrial Waste

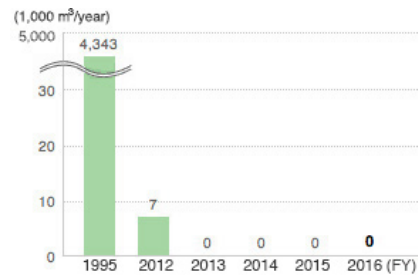


Breakdown of Outsourced Recycling

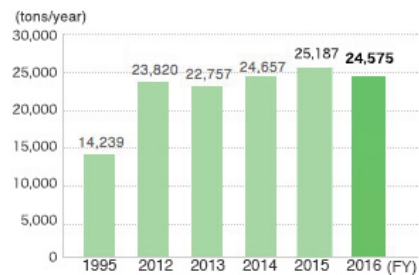


*2 20% of sludge accounted for as solid waste

Amount of Final Off-site Landfill



Changes of Amount of Recycle



2. Application of "3R" (Reduce, Reuse, Recycle) to Packaging Materials

JSR has always been serious about environmental measures in the distribution and logistics workflow. Therefore, we promote "3R" (Reduce, Reuse, Recycle) to effectively utilize waste-free packaging materials and packaging containers.

Reduce: Reducing the weight of steel box pallets used as packing containers for synthetic rubber and the weight of external cardboard boxes (two-tier construction to single-tier).

Reuse: Preventing the breakage of packaging materials that can be reused as intermediate product containers.

Recycle: Promoting a switchover to recyclable materials when selecting packaging materials. JSR will actively engage in the above 3R activities for packing materials to promote recycling and effective use of resources.

3. Water Consumption

JSR consumed approximately 14,423,000 cubic meters of industrial water, groundwater^{*3}, and tap water in FY2016.

29% of this volume was recycled effectively for use in various work processes at each plant. Key goals include the implementation of initiatives to improve water resource management and maintain the current level of water recirculation and reuse. The Yokkaichi Plant participates in the Yokkaichi Region Environment Council and continues to reduce water usage through the sharing of information on new water quality regulations.

Water Consumption (industrial water, etc.)



*3 Groundwater is not used at the Yokkaichi and Chiba Plants.

Water Consumption (breakdown) and Intensity Index^{*4}

(1000m³/year)

FY	1998	2012	2013	2014	2015	2016
Industrial water	15,196	14,671	14,733	14,359	14,190	13,916
Ground water	533	380	234	357	253	354
Tap water	174	149	147	139	138	153
Total Water Consumption	15,903	15,200	15,114	14,855	14,581	14,423
Intensity index* ⁴	100	99	102	108	108	106
Usage of recycling water	0	4,377	4,496	4,249	4,159	4,193
Effective recycling ratio (%)	0	28.8	29.7	28.6	28.5	29.1
Seawater (coolant)	60,731	62,772	59,830	57,395	54,725	55,413

*4 FY1998 represents the 100 level.

$$\frac{[(\text{fiscal year water consumption})/(\text{annual production volume for the fiscal year})]}{[(\text{FY1998 water consumption})/(\text{FY1998 production volume})]} \times 100$$

TOP ▲

Social Issues Attributable to JSR Group's Corporate Activity Climate Change Mitigation

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Energy Consumption
 - (1) Energy Reduction Targets
 - (2) Energy Consumption (Crude Oil Equivalent) and Per-unit Index
2. Initiatives to Reduce Greenhouse Gases
 - (1) Accounting for Greenhouse Gas Emissions Throughout the Value Chain
 - (2) Actions for Scope 1 (3) Actions for Scope 2 (4) Actions for Scope 3

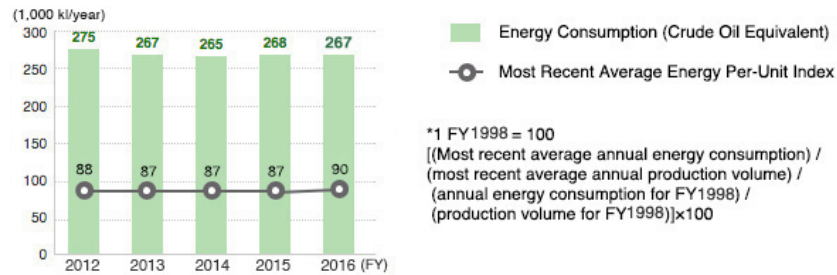
1. Energy Consumption

JSR's Responsible Care Committee adopted a "Medium-Term Environmental and Chemical Management Plan." This plan contains per-unit targets for energy reduction, which serve as measures to help prevent global warming. In order to reach these targets, JSR is engaged in E-100 Plus project activities targeted at reducing energy and resource use. Although we were unable to meet our per-unit energy reduction targets in FY2016, JSR remains committed to energy conservation activities and will continue to work toward reducing energy consumption.

(1) Energy Reduction Targets

1% average annual reduction in per-unit energy consumption in line with the Energy Conservation Act

(2) Energy Consumption (Crude Oil Equivalent) and Per-unit Index*1

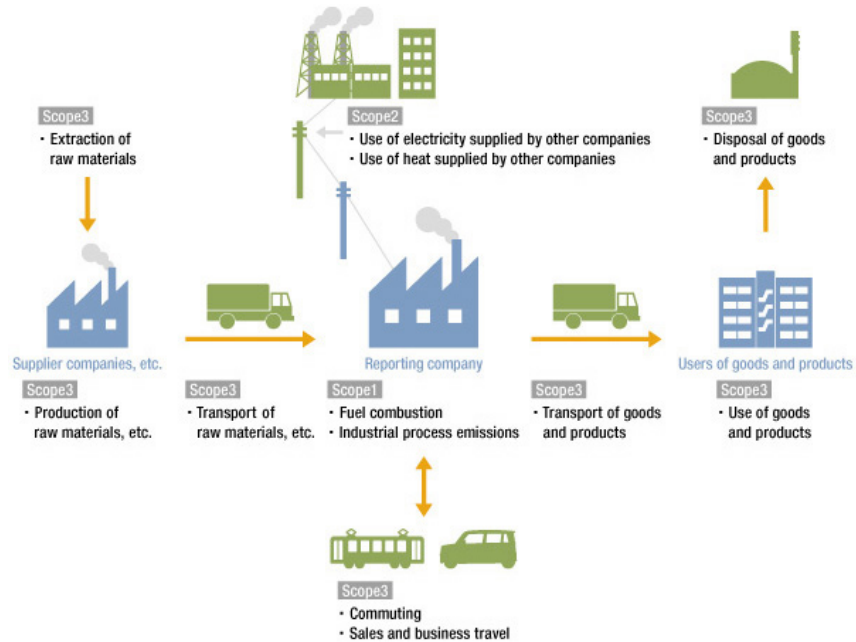


2. Initiatives to Reduce Greenhouse Gases

With increasing moves in recent years by businesses to manage greenhouse gases indirectly emitted from their supply chains and disclose their emissions at the global level, JSR has launched initiatives to calculate and ascertain emissions and reduce emissions based on the Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain issued by Ministry of the Environment, Government of Japan.

- Scope1 :** Direct greenhouse gas emissions by sources owned or managed by a company or household (use of fuel: factory, heater, private automobile, etc.)
- Scope2 :** Indirect emissions from the use of electricity, steam, or heat (use of purchased electricity, etc.)
- Scope3 :** Other indirect emissions besides Scope 2.
("Company" includes the procurement of raw materials, employee business trips, subcontracting of waste disposal, etc.
"Household" includes the purchase of products, travel, subcontracting of waste disposal, etc)

Scope of Greenhouse Gas Emissions from Businesses (conceptual illustration)



(1) Accounting for Greenhouse Gas Emissions Throughout the Value Chain

Category		FY2015 emissions		FY2016 emissions		Emissions subject to calculation
		CO2 (t)	Percentage (%)	CO2 (t)	Percentage (%)	
I. Direct emissions (Scope1)		379,019	54.8	397,252	28.2	- Direct emissions from the use of fuel and industrial processes by the reporting company
II. Energy-derived indirect emissions (Scope2)		272,225	39.3	260,455	18.5	- Emissions from the use of electricity and heat purchased by the reporting company
III. Other indirect emissions (Scope3)		40,597	5.9	749,048	53.2	- Added as a new calculation item in FY2016.
Other indirect emissions (breakdown of Scope 3)						
Category 1	Purchased goods and services	-	-	668,734	89.3	Emissions from activities up to the manufacture of raw materials, parts, purchased goods, sales-related materials, etc. - Calculated from FY2016.
Category 2	Capital goods	-	-	37,553	5.0	Emissions from the construction and manufacturing of the reporting company's capital goods

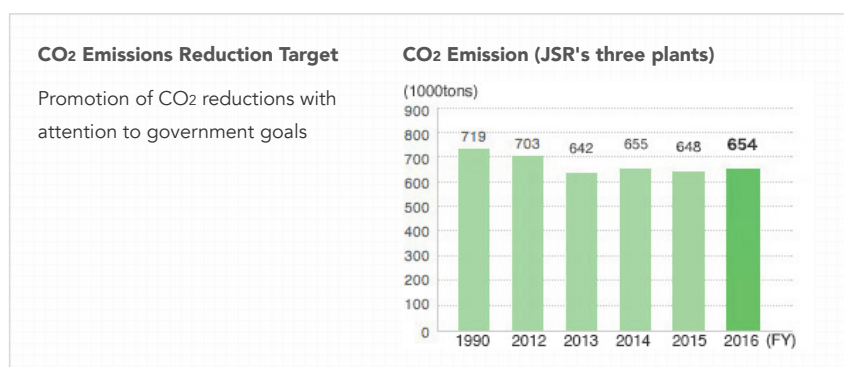
						- Calculated from FY2016.
Category 3	Fuel and energy related activities not included in Scope 1 or 2	6,551	16.1	6,713	0.9	Emissions from the procurement of fuel used in power generation, etc., for electricity and heat procured from other entities
Category 4	Transportation and distribution (upstream)	12,172	30.0	14,133	1.9	(1) Emissions from the distribution of raw materials, parts, purchased goods, sales-related materials, etc., up to delivery to the reporting company (2) Emissions (emissions from the distribution paid for by the reporting company) amount of activity from distribution services other than (1) above (transport, handling, and storage) purchased in the fiscal year of the report: Amount of domestic and overseas shipment distribution
Category 5	Waste generated in operations	9,343	23.0	9,152	1.2	Emissions from the transportation and processing of waste generated by the reporting company
Category 6	Business travel	327	0.8	330	0.0	Emissions from employee business travel
Category 7	Employee commuting	1,182	2.9	1,194	0.2	Emissions from employee transportation when commuting to and from the place of business
Category 8	Leased assets (upstream)	47	0.1	46	0.0	Emissions from the operation of assets leased to the reporting company (excluding emissions calculated under Scope 1 or 2)
Category 9	Transportation and distribution (downstream)	10,916	26.9	11,156	1.5	Emissions from the transport, storage, cargo handling, and retail sales of products (limited to those items not paid for by the reporting company)
Category 10	Processing of sold products	-	-	-	-	Emissions from the processing of intermediate products by the reporting company - This category is excluded from calculation because the company is a chemical intermediates manufacturer.

Category 11	Use of sold products	-	-	-	-	Emissions from the use of products by users (consumers and companies) - This category is excluded from calculation because the company is a chemical intermediates manufacturer and the category is not applicable to the use of sold products.
Category 12	End-of-life treatment of sold products	-	-	-	-	Emissions from the transportation and processing of products upon disposal by users (consumers and companies) - This category is excluded from calculation because the company is a chemical intermediates manufacturer.
Category 13	Leased assets (downstream)	59	0.2	38	0.0	Emissions from the operation of assets leased to other entities
Category 14	Franchises	0	0.0	0	0.0	Emissions from franchises - No emissions; business structures are not franchises.
Category 15	Investments	-	-	-	-	Emissions related to the management of investments - This category is excluded from calculation because it is not applicable to "investment to earn profit."
Scope 3 total (Categories 1 through 15)		40,597	100	749,048	100.0	

(2) Actions for Scope 1

JSR is endeavoring to reduce its greenhouse gas emissions through various energy saving activities under the Medium-Term Environmental and Chemical Management Plan.

1. CO₂ Reduction Targets and Current Emissions



In FY2012, JSR established its "System to Reduce Total CO₂ Emissions from Three plants by 6% Compared to FY1990" by upgrading its energy-saving technologies through the introduction of fuel conversion at the Kashima Plant (Kashima South Joint Power Corporation) and a sludge dewatering system at the Yokkaichi Plant. In FY2016, JSR successfully reduced CO₂ emissions by approximately 9% over FY1990 levels. The per-unit index was 68 in FY2016, which represents a continuing decrease in comparison with FY1990 on a scale of 100.

2. Examples of Measures Taken to Reduce CO₂ Emissions

Example 1: Introduction of a natural gas-fired turbine cogeneration system

The Yokkaichi Plant installed a natural gas-fired turbine cogeneration system in April 2010. By using natural gas instead of coal, a heavy oil-fired steam boiler and condensing steam turbine system, this new system helped us to cut CO₂ emissions by approximately 39,000 tons in FY2016.



Natural gas-fired turbine cogeneration system (Yokkaichi Plant)

Example 2: Introduction of a sludge dryer system that makes sludge combustible

In FY2012 a sludge drying system was adopted at the Yokkaichi Plant in order to dry the sludge generated from its general wastewater treatment facility. Previously, sludge containing a high percentage of water was burned with combustion support fuel (heavy oil); but drying allows us to use the sludge itself as fuel, which in turn allows us to reduce the amount of combustion support fuel we use. This led to a reduction in CO₂ emissions of approximately 2,500 tons in FY2016.



Sludge dryer system (Yokkaichi Plant)

(3) Actions for Scope 2

1. Measures to Cut Power Consumption at the Head Office

Power Saving Target for the Head Office

8% reduction compared to the average power consumption from the base years of FY2009 and FY2010

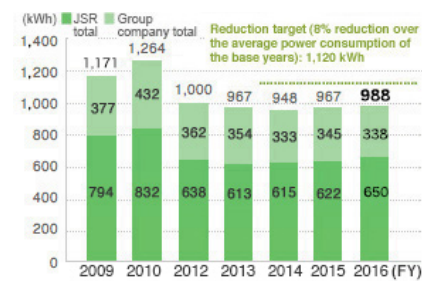
Major Efforts

- Policy of turning off lights and office equipment such as printers when not in use.
- Implemented the so-called "Cool Biz" dress code.
- Changed work schedules so that employees begin work and return home earlier than usual two days per week from June to September.
- Maintained a proper air-conditioned room temperature that achieves a balance between energy savings and operational efficiency.

The Tokyo Metropolitan Government requires major tenants of a building occupying 5,000 square meters or more in floor area or consuming six million kWh or more of electricity annually to reduce its CO₂ emissions under the Tokyo Metropolitan Ordinance on Environmental Preservation. Although we are not subject to this obligation, we are promoting energy conservation on our own initiative by voluntarily setting a specific power saving target.

In FY2016, as a result of these efforts, our power consumption decreased by 19% over the average consumption of the base years.

Power Consumption at the Head Office



(4) Actions for Scope 3

1. Environmental Measure in Logistics: Improving Transport Efficiency

As part of our environmental efforts in transportation, we have taken steps to reduce our transport energy use as a designated shipper under the amended Energy Conservation Act. We are working to reduce per-unit transport energy by using larger tanker trucks and making a modal shift from road to rail and water transport.

In FY2016, as a result of new policies to transport goods and raw materials by railway and ship, we improved our modal share over the previous fiscal year and successfully decreased per-unit transportation energy over the previous fiscal year.

Transport Statistics

FY	2012	2013	2014	2015	2016
Transport volume (million ton-kilometers ^{*3})	471	492	523	511	562
Rail/Sea transport ratio (%)	82	83	85	86	87
Energy consumption level (kiloliters: converted to crude oil)	8,655	9,026	9,388	9,112	9,898
Energy per-unit (kiloliters/1,000 ton-kilometers)	0.0184	0.0184	0.0180	0.0178	0.0176
CO ₂ emission level (tons)	21,907	22,960	23,984	23,333	25,495
- Transportation and delivery of raw materials and other materials (tons)	9,686	10,489	12,028	12,172	14,133
- Transportation of waste from plants (tons)	175	164	186	245	206
- Transportation and delivery of products (tons)	12,046	12,307	11,770	10,916	11,156

*3 Ton-kilometer: Freight Tonnage (Ton) x Transport Distance (km)

Social Issues Attributable to JSR Group's Corporate Activity

Biodiversity Conservation

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy
2. JSR Group Biodiversity Policies
3. Activity Progress Status

1. Basic Philosophy

JSR Group has formed biodiversity policies based on issues identified through conservation activities conducted in the past. We are currently promoting various activities in accordance with these policies.

2. JSR Group Biodiversity Policies

To contribute to the establishment of a sustainable society, JSR Group strives to identify how our business activities depend on and impact biodiversity, and to promote efforts in consideration of biodiversity.

1. We prioritize biodiversity conservation in procuring naturally derived raw and processed materials.
2. We work to make the green spaces of our business establishments biodiversity-friendly.
3. We strive to develop biodiversity-friendly products.
4. We emphasize staff engagement and cooperation with local communities.

Policy Formulation Process

Utilizing the JBIB*¹ Business and Biodiversity Interrelationship Map, we have clarified how our business activities depend on and impact biodiversity. We have since established JSR Group Biodiversity Policies on the basis of this clarification.

*¹ JBIB = Japan Business Initiative for Biodiversity.

3. Activity Progress Status

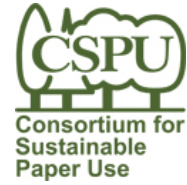
(1) Policy 1 - We prioritize biodiversity conservation in procuring naturally derived raw and processed materials.

1. Investigation to clarify the naturally derived raw materials that may have an impact on biodiversity.

We discovered that there were no items among main raw materials, but there were some such items in some auxiliary raw materials. We conducted an investigation to determine the impact of these materials. We found no impact at this time. We will continue to conduct similar investigations when using raw materials that may have an impact.


2. Sustainable Paper Usage


While not a main raw material, paper is used for copies, publications, envelopes, and packaging material. As such, JSR Group is working toward sustainable paper use and has always participated in the Consortium for Sustainable Paper Use, which was established to increase the use of sustainable paper in society. We promote activities throughout the Group that prioritize the procurement of business-use paper made primarily from used paper, or paper with FSC or other forest sustainability certifications in accordance with the JSR Group Paper Procurement Guidelines, which were established in FY2013 to promote forest sustainability. We have switched to FSC-certified paper in our company envelopes and are making steady progress in replacing our copy paper with FSC-certified paper.




(2) Policy 2 - We work to make the green spaces of our business establishments biodiversity-friendly.

By FY2014, we were able to improve green spaces at our 3 domestic plants and the Tsukuba Research Laboratories based on the Green Space Improvement Plan that we created with the cooperation of experts as well as using the results of a green space survey conducted in accordance with the JBIB Guidelines for Sustainable Business Sites. Each office is continuing to conduct similar activities independently.

Yokkaichi Plant	
Overview of Activities	 <p>Nature tour for employees and their children</p>
<ul style="list-style-type: none"> Green space developed as based on the 5-year plan to improve conservation of biodiversity at plant sites (FY2013-FY2017) Green space developed around company housing with an eye to protecting biodiversity 	
FY2016 Activities	
<ul style="list-style-type: none"> Holding of nature tours for employees and their children using green spaces at the plant site. Planting of 30 food plants for butterflies and additional installation of explanatory signs as improvements to green spaces at the plant site. 	
Future Activity Plans	
<ul style="list-style-type: none"> Additional installation of explanatory signs along walkways in green spaces at the plant site to mark the final year of a five-year improvement program. Upgrade of piles around undeveloped areas to allow comparison of the area before and after improvement. 	

Chiba Plant	
Overview of Activities	 <p>Cultivation of shiitake mushrooms at the "Relaxation Garden" green space entrance</p>
<ul style="list-style-type: none"> Green space was developed with regard to biodiversity at the entrance of the "Ikoi no Hiroba" (Relaxation Garden) that is part of the green space at the plant site. This space serves to make local residents as well as employees and their families more aware of biodiversity. 	
FY2016 Activities	
<ul style="list-style-type: none"> Harvested shiitake mushrooms grown using wood from forest thinning in the green space at the entrance to "Ikoi no Hiroba." 	
Future Activity Plans	
<ul style="list-style-type: none"> Continued monitoring of the living things inhabiting the company's green spaces Holding of events on the theme of "biodiversity" for employees' families 	

Kashima Plant	
Overview of Activities	 <p>Removing specific nonnative plants (Coreopsis lanceolata)</p>
<ul style="list-style-type: none"> Green space at the plant site was used to build a pond that recreates the local ecosystem. This space serves to make local residents as well as employees and their families more aware of biodiversity. 	
FY2016 Activities	
<ul style="list-style-type: none"> Continued development of the pond built in FY2014 (planting of waterside and other plants nearby) Removal of nonnative plants Additional planting of fruit trees (mandarin orange, persimmon, etc.) Monitoring of green spaces at the plant site (summer and winter) 	

Future Activity Plans
<ul style="list-style-type: none"> • Reexamination of JBIB Land Use Score Card usage • Removal of nonnative plants • Maintenance and management of improved green spaces at the plant site

Tsukuba Research Laboratories

Overview of Activities
<ul style="list-style-type: none"> • Establishment of a biodiversity promotion area and improvements based on the JBIB Land Use Score Card.

FY2016 Activities
<ul style="list-style-type: none"> • Consideration of animal habitats and migration patterns • Maintenance of bird nests and a bird house to provide a natural habitat for wildlife • Maintenance of unpaved roads as a migration path for animals • Periodic monitoring of indicator organisms • Periodic monitoring and removal of nonnative species • Employee participation • Biannual environmental training for employees utilizing green space at offices



Participants in wildlife monitoring

Future Activity Plans
<ul style="list-style-type: none"> • Continuation of existing activities

(3) Policy 3 - We strive to develop biodiversity-friendly products.

We are incorporating and promoting environmentally friendly product standards.

(4) Policy 4 - We emphasize staff engagement and cooperation with local communities.

We hold various events at our offices as part of our business activities.

Social Issues Attributable to JSR Group's Corporate Activity Environment and Safety (Related Data)

FY : Fiscal Year means the year starting April 1st.
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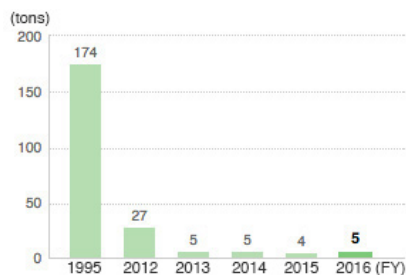
1. Protection of the Atmospheric Environment
2. PRTR Support
3. Preservation of Water Quality
4. Assessment of Soil and Groundwater Pollution
5. Asbestos Measures
6. PCB Management
7. Environmental Accounting
8. Improving the Local Environment
9. Maintenance management information regarding waste treatment facilities, By-product Reduction Plan

1. Protection of the Atmospheric Environment

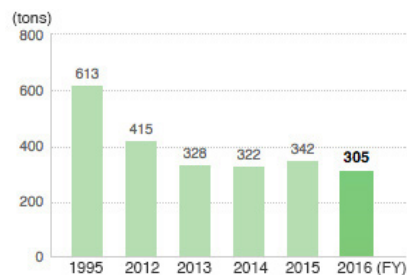
(1) Boiler Emissions Countermeasures

At the Yokkaichi Plant, which generates its own power, we installed flue gas desulfurization Equipment to reduce emissions of sulfur oxides (SOx). We also substantially cut emissions of nitrogen oxides (NOx) by installing burners with low NOx emissions and denitrification equipment. In FY2013, the fuel conversion (from heavy oil to public utility gas) change implemented at the Kashima Plant (Kashima Joint Power Generator) resulted in a reduction of both SOx and NOx emissions, an achievement that was maintained in FY2016. JSR will continue to adopt the best emissions reduction technologies, and will continue to make improvements.

SOx Emissions



NOx Emissions



(2) Initiatives for the Reduction of VOCs*1 Emissions into the Atmosphere

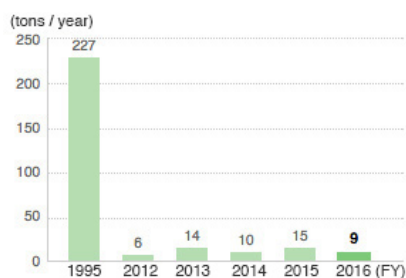
Having set a high voluntary goal for the reduction of emissions of volatile organic compounds (VOCs) by 75% from FY2000 levels, JSR undertook large-scale investment between FY2006 and FY2009 to install five dried-synthetic rubber waste incinerators in three plants. We also carried out meticulous maintenance and management activities, including enhancing the airtightness of release points, improving the working method by adopting a closed system for chemical sampling and preventing leakage from bulbs. As a result, our VOCs emissions in FY2016 were 996 tons (76% reduction as compared to FY2000), in so doing, we reached our internal target. As we ramp up our production volume, we will maintain the level of the current voluntary goal (75% reduction from FY2000) without large-scale investment by ensuring the proper operation of dried-synthetic rubber waste incinerators and finely tuned maintenance and management.

*1 VOCs = Volatile Organic Compounds.

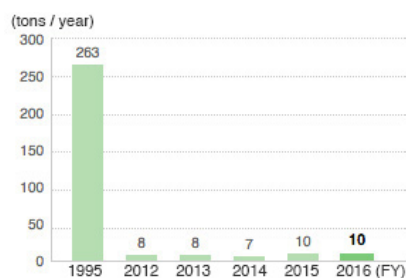
Reference: VOCs reduction targets

- (1) Air Pollution Control Act (enforced in April 2006): To achieve a 30% reduction in the amount of VOCs released into the atmosphere from the FY2000 level by FY2010 with the effective application of laws and regulations, along with operators' independent activities.
- (2) Japan Chemical Industry Association: To prevent any further negative impact over FY2010 levels by FY2015.

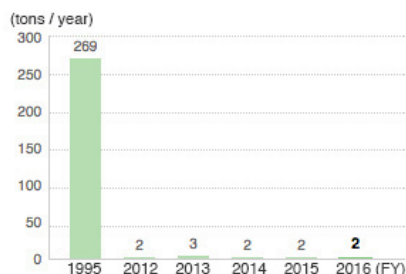
Acrylonitrile



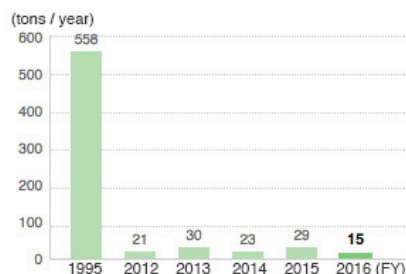
1,3-Butadiene



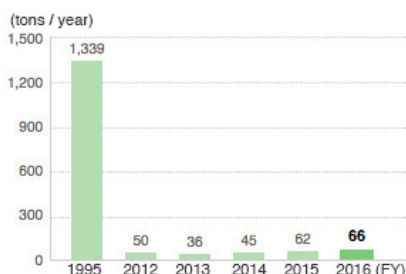
Dichloromethane



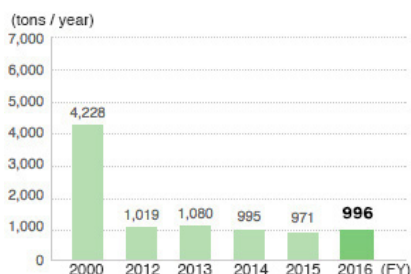
Styrene



Toluene



VOCs Emissions



(3) Measurement of Ozone-depleting Substances

As part of compliance with the Act on Rational Use and Proper Management of Fluorocarbons established in April of 2015, all businesses that use designated products, including industrial air conditioners, refrigerators, and freezers, must perform basic inspections, periodic maintenance, and create inspection records. A total annual leakage of 1,000 t or more of CO₂ must be reported to the acting minister.

For this reason, JSR has created management standards for devices that use freon and has mandated a policy that such devices be managed in accordance with these standards. The amount of freon leakage in FY2016 was 548t of CO₂.

2. PRTR Support

(1) PRTR*2 Activities

Based on the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, JSR aggregates the amount of designated chemical substances emitted into the environment (atmosphere, water and soil), transferred by manufacturing, or used in the previous year, and notifies the government of Japan of the results. We have systematically implemented a range of measures primarily for substances that are emitted in significant amounts and have a great impact on the environment. Such measures include enhancing the airtightness of substance release sources, rendering substances harmless by incineration, and improving manufacturing processes. In FY2016, as a result of taking such measures, we reduced emissions of the substances designated by the PRTR (273 tons) by 90% from the FY1995 level.

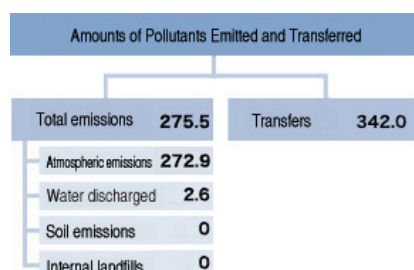
*2 Pollutant Release and Transfer Registers (PRTR): A system for registering the emission and transport of environmental pollutants

Outline of PRTR is shown in Ministry of Economy, Trade and Industry web site;

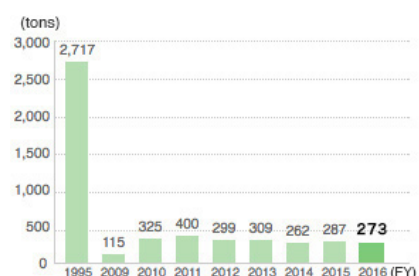
http://www.meti.go.jp/policy/chemical_management/english/prtr.html

Amounts of Pollutants Emitted and Transferred in FY2016 (tons/year)

(Including Techno Polymer Co., Ltd. KRATON JSR ELASTOMERS K.K. Japan Butyl Co., Ltd. Kashima Plant)



Amounts of Atmospheric Emissions of PRTR Applicable Substances



FY2016 Emissions of Chemical Substances (PRTR)

Ordinance designated number	Substance	Amounts handled*3 (t)	Atmospheric emissions (t)	Water discharged (t)	Transfers*4 (t)
1	Zinc compounds (water-soluble)	1.4	0.0	1.4	0.0
2	Acrylamide	95.4	0.0	0.0	0.0
4	Acrylic acid and its water-soluble salts	1,372.2	0.0	0.0	0.0
7	n-Butyl acrylate	1,898.4	0.0	0.0	0.1
9	Acrylonitrile	41,628.0	9.5	0.0	4.8
13	Acetonitrile	124.7	0.2	0.7	14.4
20	2-Aminoethanol	4.2	0.0	0.0	0.0
28	Allyl alcohol	6.5	0.0	0.0	6.5
30	n-Alkylbenzenesulfonic acid and its salts (limited to those with 10 to 14 alkyl group carbons and their mixtures)	1,103.8	0.0	0.0	0.0
36	Isoprene	85,640.9	0.8	0.0	4.7
71	Ferric chloride	19.9	0.0	0.0	0.0
80	Xylene	2.3	0.0	0.0	0.0
83	Cumene	19.9	0.2	0.0	0.0
86	Cresol	5.1	0.0	0.0	0.0
150	1,4-Dioxane	2.5	0.0	0.0	2.4
186	Dichloromethane	28.1	2.5	0.0	22.1
190	Dicyclopentadiene	13,213.2	0.0	0.0	29.8
202	Divinylbenzene	32.9	0.0	0.0	0.0
203	Diphenylamine	2.4	0.0	0.0	0.0
207	2,6-di-tert-butyl-4-cresol	771.2	1.4	0.0	15.9

220	Water-soluble salts of dimethyldithiocarbamic acid	69.0	0.0	0.0	0.0
230	N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine	271.7	0.0	0.0	0.0
234	Bromine	1,584.3	0.0	0.0	0.0
240	Styrene	124,260.0	14.5	0.0	7.1
274	Tert-dodecanethiol	983.2	0.2	0.0	0.6
276	3, 6, 9-triazaundecane-1, 11-diamine (also known as tetraethylenepentamine)	9.9	0.0	0.0	1.6
300	Toluene	2,142.6	66.5	0.1	109.9
309	Nickel compounds	0.6	0.0	0.0	0.1
321	Vanadium compounds	37.5	0.0	0.0	36.7
330	Bis (1-methyl-1-phenylethyl) peroxide	12.2	0.0	0.0	0.2
337	4-Vinyl-1-cyclohexene	108.5	0.0	0.0	0.5
351	1, 3-Butadiene	590,012.3	9.6	0.0	0.9
355	Bis (2-ethylhexyl) phthalate	54.0	0.0	0.0	0.1
366	Tert-butyl hydroperoxide	7.4	0.0	0.0	0.0
392	n-Hexane	1,074.9	163.1	0.0	77.3
395	Water-soluble salts of peroxodisulfuric acid	559.3	0.0	0.0	0.0
405	Boron compounds	1.0	0.0	0.4	0.0
406	Polychlorinated biphenyl (PCB)	1.4	0.0	0.0	1.4
411	Formaldehyde	1.4	0.0	0.0	0.0
415	Methacrylic acid	85.6	0.0	0.0	0.1
417	2, 3-Epoxypropyl methacrylate	9.9	0.0	0.0	0.0
420	Methyl methacrylate	3,267.0	2.5	0.0	3.8
436	α-Methylstyrene	10,186.8	1.8	0.0	0.6
440	1- Methyl-1-phenylethyl hydroperoxide	101.1	0.0	0.0	0.2
448	Methylenebis (4,1-phenylene) = diisocyanate (MDI)	1.4	0.0	0.0	0.0
	Total	880,814.4	272.9	2.6	342.0
243	Polychlorinated-dibenzo-p-dioxins*5	-	0.2812	0.0577	0.0000

*3 The handling amount represents the value after base deduction (1 ton/year per place of business)

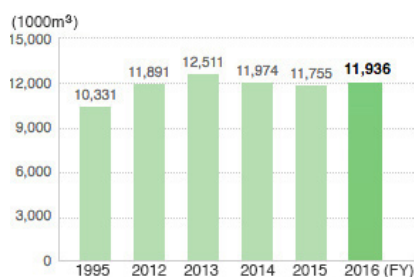
*4 The transfer amount is the amount committed to intermediate waste service companies plus the amount discharged into public sewers

*5 Dioxin category unit: mg-TEQ

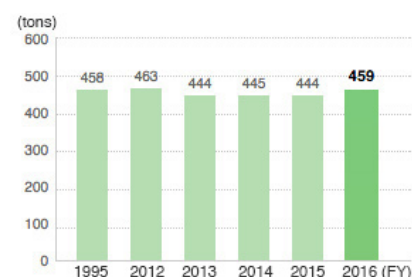
3. Preservation of Water Quality

JSR performs rigorous wastewater management at all of its plants, and strives to maintain and improve water quality. JSR is in full compliance with the 7th Total Pollutant Load Control that was put into operation in April 2012. We will continue to strictly monitor water quality and strive to further reduce our impact on water.

Total amount of waste water



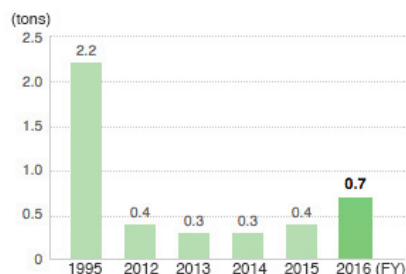
Chemical Oxygen Demand Emissions



Total Nitrogen Emissions



Total Phosphorus Emissions



4. Assessment of Soil and Groundwater Pollution

Groundwater (Environmental Quality Standards for Groundwater Pollution) and soil (major items regulated under environmental standards) at all three of our plants are periodically inspected. As in previous years, no problems were found in FY2016.

5. Asbestos Measures

In accordance with the Ordinance on Prevention of Hazards due to Asbestos, JSR has conducted checks at all of its facilities (office, manufacturing, R&D and employee amenity areas), including those of all Group companies, where asbestos containing materials have been sprayed. Subsequently, at locations in plants where asbestos was found, we completed removal and enclosure projects in FY2006. In addition, we are investigating the replacement of asbestos containing gaskets with non-asbestos containing types and are progressively carrying out replacements when the safety of their use in production has been confirmed.

We will continue to act properly to prevent workers engaged in building demolition work from acquiring health problems caused by asbestos exposure in accordance with air pollution prevention laws and asbestos disability prevention regulations.

In order to accommodate requests from the Labour Standards Bureau of the Ministry of Health, Labour and Welfare to thoroughly inform our employees of various systems, including the issuance of the asbestos-related health care handbook and the provision of special benefits as industrial workers' compensation for bereaved families, we introduced the relevant leaflet released by the Ministry of Health, Labour and Welfare on our website.

6. PCB Management

JSR stores and manages PCB waste in an appropriate manner in accordance with the "Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes" and subsequently carries out detoxication treatment in accordance with the law.

Electrical devices	Number of devices	Oil containing PCB (liter)
Devices in storage (not in use)	12	17,222
Devices in operation	0	0
Total	12	17,222
Current treatment status (%)	296 (96.1)	167,711 (90.7)

As of March 31, 2017

7. Environmental Accounting

- **Policy**

JSR introduced environmental accounting in FY1999 with the following two objectives

1. To strive to quantify the amount of resources invested into the environment and implement sound measures for the environment.
2. To publish environmental accounting and increase corporate transparency.

- **Scope**

JSR Corporation - JSR Head Office, Yokkaichi Plant, Chiba Plant, Kashima Plant and Research Laboratories

- **Target Period**

April 1, 2016 - March 31, 2017

- **Underlying Assumptions regarding Aggregation and Calculation**

1. Calculations are performed in accordance with the Environmental Accounting Guidelines, 2005 edition (Ministry of the Environment) and environmental guidelines used in the chemical industry (issued by the Japan Chemical Industry Association and the Japan Responsible Care Council).
2. While the calculation of costs was based mainly on actual results, the calculation of some expenses was based on underlying assumptions.
3. Economic effects were substantial and did not include conversions of risk aversion effects or deemed effects into monetary amounts.

* Units of one million yen

* Abbreviations - YP: Yokkaichi Plant, KP: Kashima Plant, CP: Chiba Plant

(1) Environmental Protection Costs

(Unit: one million yen)

Category		Investment ^{*6}		Expense	
		FY2015	FY2016	FY2015	FY2016
(1) Business area costs		549	291	4,540	4,228
Breakdown	(1) -1 Pollution prevention costs	302	197	1,866	1,773
	(1) -2 Global environmental protection costs	157	45	1,014	866
	(1) -3 Resource circulation costs	90	49	1,660	1,589

Investments:
YP: Wastewater flow measurement devices (84); installation of No. 6 boiler exhaust analyzer electricity trestle; replacement of worn BD plant valves (34); KP: measures to reinforce wastewater SS (17); CP: installation of A-11 PIT level gauge (11), etc.

Expenses:
Air pollution prevention (depreciation, labor, variable costs, pollution-related assessments) (637); water pollution prevention (depreciation, labor, variable costs) (356); KP: measures to reinforce wastewater SS (depreciation, maintenance and management) (290), etc.

Investments:
YP: Upgrade of ancillary equipment for the No. 1 and No. 6 boilers (39), etc.

Expenses:
YP: Energy conservation costs due to self-generation of power (depreciation, labor, variable costs, self-generation equipment repair (745); global warming prevention and energy conservation costs (depreciation, labor, variable costs) (87), etc.

Investments:
YP: Upgrade of air preheater of No. 1 fluidized bed furnace (49)

Expenses:
YP: Industrial waste recycling (depreciation, labor, variable costs) (467);

					industrial waste disposal costs (depreciation, labor, variable costs) (584); KP: industrial waste disposal (187), etc.
(2) Upstream/downstream costs	0	0	0	0	
(3) Management activity costs	6	4	493	523	Expenses: YP: Environmental impact monitoring (72); ISO 14001 maintenance and operation (60); labor (78); CP: environmental improvement measures (39); Head Office: labor (78), etc.
(4) Research and development costs	0	0	1,550	1,380	Expenses: Development of environmentally friendly products (1,196), environmental impact analysis and tests for legal applications (207), etc.
(5) Social activity costs	0	0	43	41	Expenses: YP: Donations and support costs for environmental protection organizations (15); Head Office: support for the International Center for Environmental Technology Transfer (ICETT) (17); organizational contributions (7), etc.
(6) Environmental pollution response costs	0	0	0	0	
Total	555	295	6,626	6,172	

*6 Refers to the amount of the orders placed

(2) Environmental Protection Effects

Effect	Index	Unit	FY2015	FY2016	Difference ^{*7}	Related information
Environmental effects related to resources used in business activities	Total energy consumption (crude oil equivalent)	kL	268,100	267,500	-600	For more information
	Use of resources designated under PRTR Act	tons	851,004	880,814	29,810	For more information
	Water consumption	1,000m ³	14,600	14,400	-200	For more information
Environmental protection effects related to environmental impact and waste emitted from business activities	CO ₂ emissions	tons	650,900	657,400	6,500	For more information
	SO _x emissions	tons	4	5	1	For more information
	NO _x emissions	tons	342	305	-37	For more information
	PRTR substance emissions	tons	287	303	16	For more information
	Total amount of waste water	1,000m ³	11,755	11,934	179	For more information
	Chemical Oxygen Demand emissions	tons	444	459	15	For more information

	Total nitrogen emissions	tons	148	139	-9	For more information
	Total phosphorus emissions	tons	0.4	0.7	0.3	For more information
	Waste materials from plants	tons	23,874	24,394	520	For more information
	Off-site recycling	tons	23,548	23,977	429	For more information
	Reduced volume of waste treated off-site	tons	326	417	91	For more information
	Waste materials from plants disposed of by landfill	tons	0	0	0	For more information
	PRTR materials transported	tons	430	342	-88	For more information
Other environmental effects	Products transported	million ton-kilometer	511	562	51	For more information
	During transport CO2 emissions	tons	23,333	25,495	2,162	For more information
	Number of environmental complaints (Odor, noise, and vibration)	cases	0	0	0	For more information

*7 Improvement from previous years has not been corrected in terms of the production volume.

(3) Economical Effects of Environmental Protection Measures*8 - Substantial Effect-

(Unit: million yen)

Effect (for one year)		Benefit	
		FY2015	FY2016
Cost reduction	By saving energy	33	64
	By saving resources	46	130
	By treating waste on-site	475	588
Total		554	782

*8 The economic effects of energy and resource saving compared to the previous year.

(4) Consolidated Accounting

(Unit: one million yen)

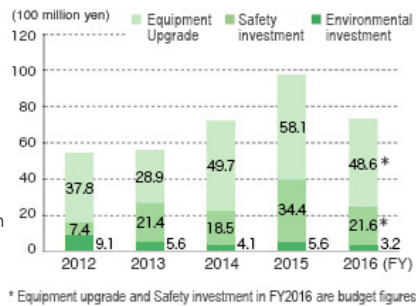
	Investments		Expense		Benefit	
	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016
JSR	555	295	6,626	6,172	554	782
Total of 13 Group companies*9	99	102	2,422	2,216	509	428
Total	654	397	9,048	8,388	1,063	1,210

*9 Excludes JSR Optech Tsukuba Co., Ltd.

(5) Development of New Environmental Protection Technologies

1. Amount of Capital Investment

JSR makes continuous investments in the environment and safety. Investments made in FY2016 reached 7.3 billion yen. This consisted of plant and facility investment aimed at various environmental improvements such as energy-saving equipment, and safety improvements such as workplace accident prevention. JSR will continue to make ambitious investments to maintain and improve the environmental, safety, and health aspects of operations in accordance with its medium-term capital investment plan.



2. Main Areas of Environmental & Safety Capital Investment (Year in parentheses represents the investment year)

- Full-scale anti-seismic measures for facilities (FY1995-)
- Sludge dryer system (FY2012)
- Installation of safety equipment to eliminate industrial accidents (FY2014-)

3. Development of New Environmental Protection Technologies

Led by its Process Development Center, JSR is actively engaged in the development of new technologies to promote environmental protection. The following are recent themes in technological development approached by JSR. We deploy technologies as they are developed.

4. Main Areas of Environmental & Safety Technology Development

(1) Development of Energy-saving Processes

- Computer-assisted optimization of heat recovery (pinch technology)
- Computer-assisted optimization of energy use in control systems
- Energy-saving through changes in heat recovery and solvent types across multiple plants—

(2) Other Technologies to Reduce Environmental Impact

- Development of solution polymerization manufacturing facilities and a new solvent recovery process (to reduce hydrocarbon emissions into the atmosphere)
- Development of synthetic rubber manufacturing facilities and dry exhaust systems (to reduce odors near plants and hydrocarbon emissions into the atmosphere)
- Development of polymerization technologies to combat total nitrogen emissions (measures to prevent eutrophication of ocean waters)
- Development of environmental technology through more effective use of microbes (to reduce odors near plants and to improve the quality of wastewater)
- Incineration technology for dry synthetic rubber dry exhaust (measures for harmful atmospheric pollutants)
- Installation of a sludge dryer system (to reduce CO₂ emissions and promote effective utilization of waste)

8. Improving the Local Environment

JSR values the opinions of local residents and considers high transparency of plant operations to be the key to improve the local environment. With this in mind, we have strived to improve the local environment by implementing monitoring and tours of environmental equipment at regular intervals. In FY2006 and FY2007, we installed equipment to incinerate dry synthetic rubber dry exhaust (RTO*¹⁰) at the Yokkaichi, Kashima, and Chiba plants to prevent foul odors. In FY2008, a ground flare was installed at the Yokkaichi Plant to prevent noise and flashes. As a result, there have been no environmental complaints from FY2008 to FY2016.

We will continue striving to maintain our basic policy of improving the local environment.

*10 RTO (Regenerative Thermal Oxidizer): A device that combusts breaks down VOCs into water and CO₂ to make emissions clear



Dried-synthetic rubber waste incinerator
(Kashima Plant)



Ground flare
(Yokkaichi Plant)

9. Maintenance management information regarding waste treatment facilities, By-product Reduction Plan

* Only Japanese version available.

(1) Maintenance management information regarding waste treatment facilities (Yokkaichi Plant)

1. Maintenance management information

- FY2017 ([PDF 89.0KB](#))
- FY2016 ([PDF 90.6KB](#))
- FY2015 ([PDF 90.2KB](#))
- FY2014 ([PDF 96.0KB](#))
- FY2013 ([PDF 95.0KB](#))
- FY2012 ([PDF 83.8KB](#))
- FY2011 ([PDF 53.4KB](#))
- FY2010 ([PDF 34.3KB](#))

2. Periodic inspection notifications

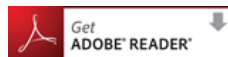
- Incinerator #1 (primary reactor) Industrial Waste ([PDF 272KB](#))
- Incinerator #2 (Fluidized bed incinerator #1) Industrial Waste ([PDF 260KB](#))
- Incinerator #4 (Fluidized bed incinerator #2) Industrial Waste ([PDF 259KB](#))
- General Waste ([PDF 263KB](#))

3. Licensing

- Industrial Waste Disposal Permits ([PDF 313KB](#))
- Special Control Industrial Waste Disposal Permits ([PDF 369KB](#))
- Specific Waste Treatment Facilities License ([PDF 911KB](#))

(2) By-product Reduction Plan Based on Laws Promoting the Effective Use of Resources

- By-product Reduction Plan Based on Laws Promoting the Effective Use of Resources([PDF 128.9KB](#))



This information is provided in PDF files. Adobe Acrobat Reader is required to view these documents. Use this link to download Adobe Reader.

Social Issues Attributable to JSR Group's Corporate Activity Responsible Care Activities by Group Companies

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Responsible Care Activities by Group Companies
2. Environmental and Safety-related Data on Domestic Group Companies
3. Environmental and Safety-related Data on Overseas Group Companies

1. Responsible Care Activities by Group Companies

JSR strives in concert with all group companies to promote environmental and safety activities. We regularly conduct environment and safety audits on all group companies in Japan and overseas that are involved in production, transportation and construction. Further, most of our Japanese and overseas Group companies have already acquired ISO 14001 certification, and companies pending accreditation implement proprietary environmental management systems. Group companies are systematically working to establish environmental targets and reduce environmental impact.

Data Aggregation Scope

Group Companies

Japan	14 companies (18 sites)	Overseas	10 companies (10 sites)
ELASTOMIX CO., LTD		JSR Micro N.V. (Belgium)	
Japan Butyl Co., Ltd		JSR Micro, Inc. (USA)	
KRATON JSR ELASTOMERS K.K		JSR Micro Korea Co., Ltd. (South Korea)	
Emulsion Technology, Co., Ltd.		JSR Micro Taiwan Co., Ltd. (Taiwan)	
D-MEC LTD.		Kumho Polychem Co., Ltd. (South Korea)	
JSR Micro Kyushu Co., Ltd.		JSR BST Elastomer Co., Ltd. (Thailand)	
JSR Optech Tsukuba Co., Ltd.		ELASTOMIX (THAILAND) CO., LTD. (Thailand)	
JM Energy Corporation		PT.ELASTOMIX INDONESIA (Indonesia)	
JAPAN COLORING CO., LTD.		Tianjin Kuo Cheng Rubber Industry Co., Ltd. (China)	
Techno Polymer Co., Ltd.		ELASTOMIX (FOSHAN) CO., LTD. (China)	
JSR trading Co., Ltd.			
JSR LOGISTICS & Customer Center Co., Ltd.			
JSR ENGINEERING CO., LTD.			
JSR Life Sciences Corporation			

Implementation Status of Environmental and Safety Audit

Japan	10 companies (11 sites)
Overseas	0 companies (0 sites)

ISO14001 Certification Status

Japan	11 companies (14 sites)
Overseas	8 companies (8 sites)

(Sites without certification employ individual environmental management systems)

2. Environmental and Safety-related Data on Domestic Group Companies

(1) Recycling and Environmental Impact

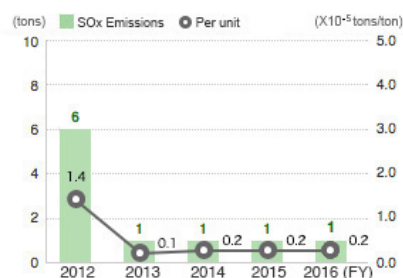
Input						
	FY	2012	2013	2014	2015	2016
Production volume (1,000t/y)		422	417	376	415	397
Energy consumption (crude oil conversion: 1,000kL/y)		118	123	112	126	118
Water resource use (1,000m ³ /y)		3,133	3,038	2,985	3,009	2,673
PRTR applicable substance use (1,000 t/y)		177	177	140	163	155
Output						
	FY	2012	2013	2014	2015	2016
CO2 emission (1,000t/y) (Total for Scope1 and Scope2)		337	295	271	302	295
Atmosphere						
SOx emission (t/y)		6	1	1	1	1
NOx emission (t/y)		58	55	50	64	58
Water quality Total discharge (1,000m ³ /y)		3,180	3,272	3,064	3,273	3,173
COD discharge (t/y)		22	25	70	72	87
Total nitrogen discharge (t/y)		7	7	5	8	6
Total phosphorus discharge (t/y)		0.3	0.3	0.3	0.2	0.3
Industrial waste generation (t/y)		21,582	15,180	9,101	13,327	12,133
Recycled waste (on-site and off-site: t/y)		20,667	14,531	8,615	12,835	11,659
Amount of final off-site landfills (t/y)		413	184	184	198	176
PRTR-regulated substances						
Atmospheric emissions (t/y)		348	222	220	218	246
Water supply discharge (t/y)		3	6	5	6	6
Transported waste (t/y)		152	282	55	52	78
PCB Management (power equipment)						
Equipment in storage (units)		17	15	11	7	4
: Oil Volume (L)		21,828	19,728	15,318	12,550	2,240

(2) Other

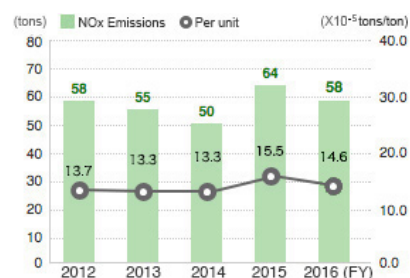
Other						
	FY	2012	2013	2014	2015	2016
Environmental and Safety Capital Investment (100 million yen/y)		5.1	4.7	7.3	9.9	12.4
Environmental complaints (cases)						
Odor		0	0	0	0	0
Noise		0	0	0	0	0
Vibration		0	0	0	0	0
Other		0	0	0	0	0
Facility accidents (cases)		0	0	0	1	0
					(Calendar year)	(Calendar year)
Workplace accidents resulting in lost worktime (cases)		0	1	1	3	2
					(Calendar year)	(Calendar year)
* Number of Group companies and business site covered		11 companies 16 sites	12 companies 16 sites	14 companies 18 sites	14 companies 18 sites	14 companies 18 sites

(3) Preservation of Atmospheric Environment Data

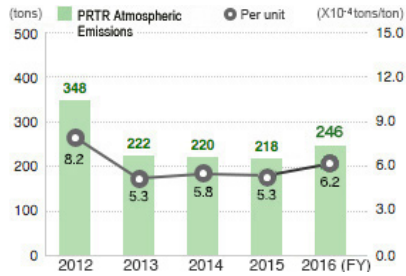
SOx Emissions



NOx Emissions



Atmospheric Emissions of PRTR-Regulated Substances

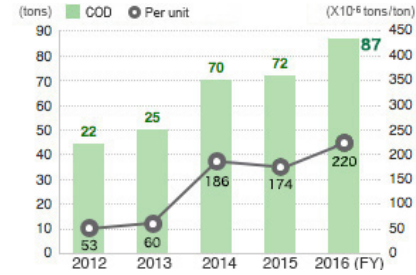


(4) Preservation of Water Quality Data

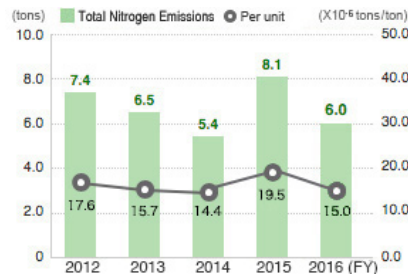
Total amount of waste water



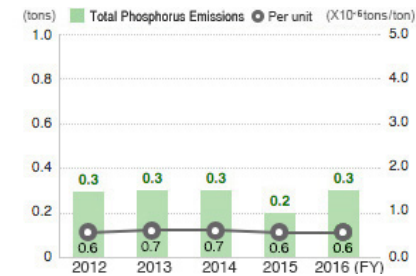
Chemical Oxygen Demand Emissions



Total Nitrogen Emissions

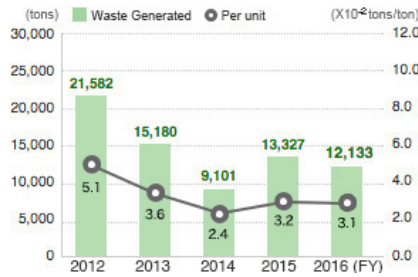


Total Phosphorus Emissions

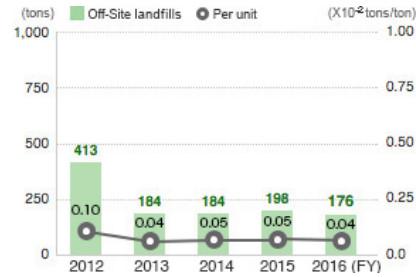


(5) Recycling Data

Waste Generated



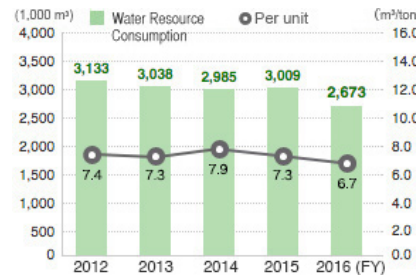
Off-Site Landfills



Recycled Waste

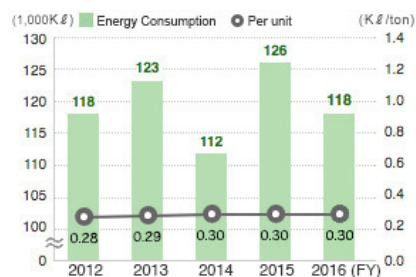


Water Resource Consumption

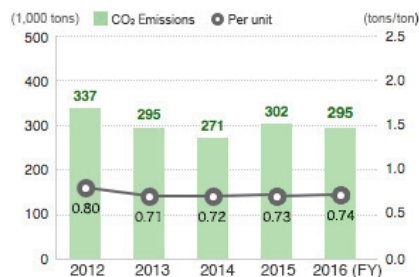


(6) Climate Change Countermeasures Data

Energy Consumption



CO₂ Emissions



Domestic Group Companies: Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Scope 1 to 3)

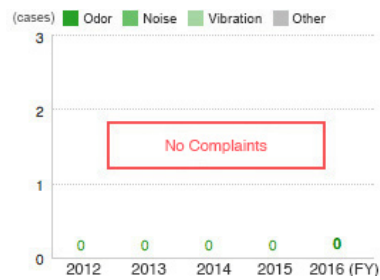
Category		FY2015 emissions		FY2016 emissions		Emissions subject to calculate
		CO ₂ (t)	Percentage (%)	CO ₂ (t)	Percentage (%)	
I. Direct emissions (Scope 1)		84,990	27.1	94,251	30.9	- Direct emissions from the use of fuel and industrial processes by the reporting company
II. Energy-derived indirect emissions (Scope2)		217,231	69.1	200,558	65.8	- Indirect emissions from the use of electricity and heat purchased by the reporting company
III. Other indirect emissions (Scope3)		12,065	3.8	10,179	3.3	
Other indirect emissions (breakdown of Scope3)						
Category 1	Purchased goods and services	-	-	-	-	Emissions from activities up to the manufacture of raw materials, parts, purchased goods, sales-related materials, etc. - Not calculated.
Category 2	Capital goods	-	-	-	-	Emissions from the construction and manufacturing of the reporting company's capital goods - Not calculated.
Category 3	Fuel and energy related activities not included in Scope 1 or 2	-	-	-	-	Emissions from the procurement of fuel used in power generation, etc., for electricity and heat procured from other entities - Not calculated.
Category 4	Transportation and delivery (upstream)	-	-	-	-	(1) Emissions from the distribution of raw materials, parts, purchased goods, sales-related materials, etc., up to delivery to the reporting company (2) Emissions (emissions from distribution paid for by the reporting company) amount of activity from other distribution services than (1) above (transport, handling, and storage)

						purchased in the fiscal year of the report: Amount of domestic and overseas shipment distribution - Not calculated. - Not calculated.
Category 5	Waste from business operations	10,914	90.5	8,986	88.3	Emissions from the transportation and processing of waste generated by the reporting company
Category 6	Business travel	240	2.0	237	2.3	Emissions from employee business travel
Category 7	Employee commuting	848	7.0	836	8.2	Emissions from employee transportation when commuting to and from the place of business
Category 8	Leased assets (upstream)	54	0.4	45	0.4	Emissions from the operation of assets leased to the reporting company (excluding emissions calculated under Scope 1 or 2)
Category 9	Transportation and delivery (downstream)	-	-	-	-	Emissions from the transport, storage, cargo handling, and retail sales of products (limited to those items not paid for by the reporting company) - Not calculated.
Category 10	Processing of sold products	-	-	-	-	Emissions from the processing of intermediate products by the reporting company - This category is excluded from calculation because the company is a chemical intermediates manufacturer.
Category 11	Use of sold products	-	-	-	-	Emissions from the use of products by users (consumers and companies) - This category is excluded from calculation because the company is a chemical intermediates manufacturer and the category is not applicable to the use of sold products.
Category 12	Disposal of sold products	-	-	-	-	Emissions from the transportation and processing of products upon disposal by users (consumers and companies) - This category is excluded from calculation because the company is a chemical

						intermediates manufacturer.
Category 13	Leased assets (downstream)	9	0.1	74	0.7	Emissions from the operation of assets leased to other entities
Category 14	Franchises	0	0.0	0	0.0	Emissions from franchises - No emissions; business structures are not franchises.
Category 15	Investments	-	-	-	-	Emissions related to the management of investments - This category is excluded from calculation because it is not applicable to "investment to earn profit."
Scope 3 total (Categories 1 through 15)		12,065	100.0	10,179	100.0	

(7) Other: Number of Workplace Accidents, Number of Facility Accidents, Number of Environmental Complaints

Environmental Complaints

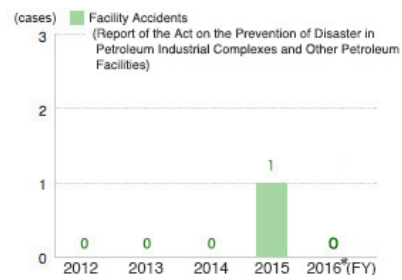


Workplace accidents



*Aggregated on a calendar year-bases from 2015

Facility Accidents



*Aggregated on a calendar year-bases from 2016

3. Environmental and Safety-related Data on Overseas Group Companies

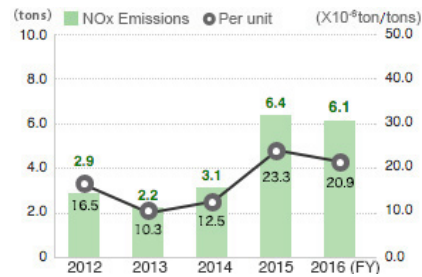
(1) Recycling and Environmental Impact

Overseas Group Companies

Input						
	FY	2012	2013	2014	2015	2016
Production volume (1,000t/y)		174	208	250	272	292
Energy consumption (crude oil conversion: 1,000kL/y)		86	119	140	169	174
Water resource use (1,000m ³ /y)		1,496	2,090	2,859	3,232	3,629
Output						
	FY	2012	2013	2014	2015	2016
CO2 emission (1,000t/y) (Total for Scope1 and Scope2)		227	315	365	449	445
Atmosphere	SOx emission (t/y)	0.0	0.0	0.0	0.0	0.0
	NOx emission (t/y)	2.9	2.2	3.1	6.4	6.1
Water quality Total discharge (1,000m ³ /y)		1,279	1,706	2,279	2,427	2,506
Industrial waste generation (t/y)		6,194	7,327	9,849	10,622	10,212
Recycled waste (on-site and off-site: t/y)		4,619	5,286	7,362	7,810	7,211
Amount of final off-site landfills (t/y)		304	310	814	627	956
* Number of Group companies and business site covered		9 companies 9 sites	9 companies 9 sites	11 companies 11 sites	10 companies 10 sites	10 companies 10 sites

(2) Preservation of Atmospheric Environment Data

NOx Emissions



(3) Preservation of Water Quality Data

Total amount of waste water



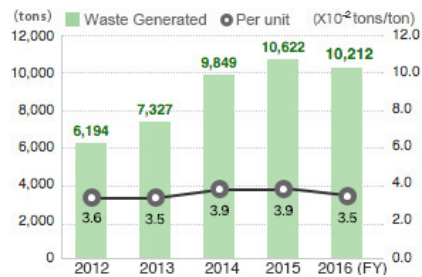
Tianjin Kuo Cheng Rubber Industry Co., Ltd. was certified as a water-conserving company by the People's Government of Tianjin Municipality.

In January 2017, Tianjin Kuo Cheng Rubber Industry Co., Ltd. was certified as a water-conserving company by the People's Government of Tianjin Municipality as a result of its reinforced efforts to conserve water. The report of the company that surveyed its water usage gave Tianjin Kuo Cheng Rubber Industry a score of more than 90 points for a number of achievements, including having a water recycling rate above 93%, operating within the limits of water use plans prepared every three months, not exceeding its water use of the previous year when compared to production, and introducing water-saving models for all of its equipment. Knowing that it must face recertification each year, Tianjin Kuo Cheng Rubber Industry aims to maintain its rating by persisting with its water-conservation efforts.

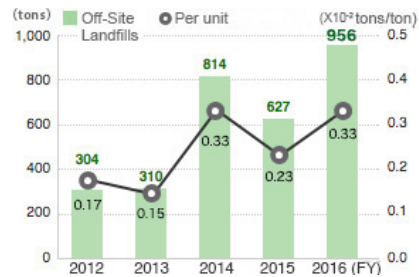


(4) Recycling Data

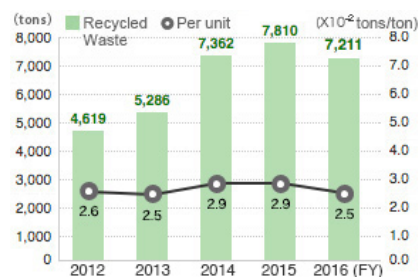
Waste Generated



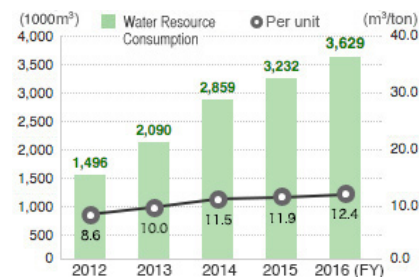
Off-Site Landfills



Recycled Waste

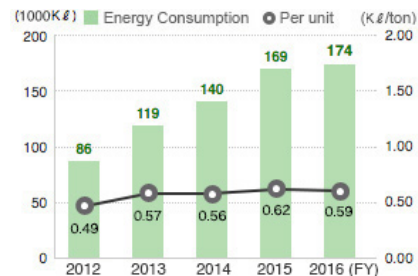


Water Resource Consumption

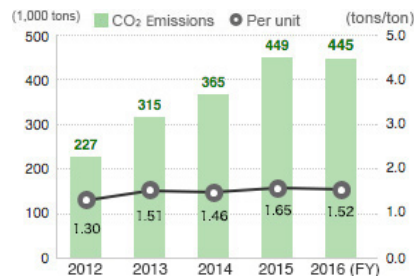


(5) Climate Change Countermeasures Data

Energy Consumption



CO₂ Emissions



Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Overseas Group Companies)

Overseas Group Companies: Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Scope 1 to 3)

Category	FY2015 emissions		FY2016 emissions		Emissions subject to calculate
	CO ₂ (t)	Percentage (%)	CO ₂ (t)	Percentage (%)	
I. Direct emissions (Scope 1)	217,065	47.1	190,859	41.7	- Direct emissions from the use of fuel and industrial

						processes by the reporting company
II. Energy-derived indirect emissions (Scope2)	231,626	50.3	254,524	55.7		- Indirect emissions from the use of electricity and heat purchased by the reporting company
III. Other indirect emissions (Scope3)	11,878	2.6	11,823	2.6		
Other indirect emissions (breakdown of Scope3)						
Category 1	Purchased goods and services	-	-	-	-	Emissions from activities up to the manufacture of raw materials, parts, purchased goods, sales-related materials, etc. - Not calculated.
Category 2	Capital goods	-	-	-	-	Emissions from the construction and manufacturing of the reporting company's capital goods - Not calculated.
Category 3	Fuel and energy related activities not included in Scope 1 or 2	-	-	-	-	Emissions from the procurement of fuel used in power generation, etc., for electricity and heat procured from other entities - Not calculated.
Category 4	Transportation and delivery (upstream)	-	-	-	-	(1) Emissions from the distribution of raw materials, parts, purchased goods, sales-related materials, etc., up to delivery to the reporting company (2) Emissions (emissions from distribution paid for by the reporting company) amount of activity from other distribution services than (1) above (transport, handling, and storage) purchased in the fiscal year of the report: Amount of domestic and overseas shipment distribution - Not calculated.
Category 5	Waste from business operations	10,209	85.9	9,814	83.0	Emissions from the transportation and processing of waste generated by the reporting company
Category 6	Business travel	225	1.9	216	1.8	Emissions from employee business travel
Category 7	Employee commuting	813	6.8	781	6.6	Emissions from employee transportation when commuting to and from the place of business
Category 8	Leased assets (upstream)	625	5.3	927	7.8	Emissions from the operation of assets

						leased to the reporting company (excluding emissions calculated under Scope 1 or 2)
Category 9	Transportation and delivery (downstream)	-	-	-	-	Emissions from the transport, storage, cargo handling, and retail sales of products (limited to those items not paid for by the reporting company) - Not calculated.
Category 10	Processing of sold products	-	-	-	-	Emissions from the processing of intermediate products by the reporting company - This category is excluded from calculation because the company is a chemical intermediates manufacturer.
Category 11	Use of sold products	-	-	-	-	Emissions from the use of products by users (consumers and companies) - This category is excluded from calculation because the company is a chemical intermediates manufacturer and the category is not applicable to the use of sold products.
Category 12	Disposal of sold products	-	-	-	-	Emissions from the transportation and processing of products upon disposal by users (consumers and companies) - This category is excluded from calculation because the company is a chemical intermediates manufacturer.
Category 13	Leased assets (downstream)	6	0.1	85	0.7	Emissions from the operation of assets leased to other entities
Category 14	Franchises	0	0.0	0	0.0	Emissions from franchises - No emissions; business structures are not franchises.
Category 15	Investments	-	-	-	-	Emissions related to the management of investments - This category is excluded from calculation because it is not applicable to "investment to earn profit."
Scope 3 total (Categories 1 through 15)		11,878	100.0	11,823	100.0	

Social Issues Attributable to JSR Group's Corporate Activity Employees Fundamental Philosophy

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Fundamental Human Resource Philosophy

JSR Group drives its organization and personnel forward based upon the following measures:

- 1. Develop mechanisms and a corporate culture with a healthy balance of 'Freedom' and 'Discipline,' guided by the Course of Action's 4Cs to enable managers and junior staff to grow together, help all employees accurately perceive and solve issues in order to foster a JSR that not only maintains its organizational capacity, but ensures its future growth.**
- 2. Promote the globalization of JSR corporation employees while developing a globalized workforce within JSR Group as well as train and manage the Group's human resources on a global level.**
- 3. Generate synergies which take full advantage of the increasing range of diversity (in terms of nationality, culture, gender, values, etc.) throughout JSR Group's vast human resource pool.**

2. Course of Action: 4C

Challenge

All employees of JSR Group should share a common global focus and desire to succeed. Employees should feel confident to autonomously take on new challenges, and learn from success while viewing setbacks as opportunities for growth and improvement.

Communication

All employees of JSR Group should base their actions on the common fundamental values of JSR Group, strive for organizational transparency, and maintain open, direct communication as the best means of sharing values and achieving common goals.

Collaboration

All employees of JSR Group will work together in the spirit of cooperation, valuing common, corporate goals over internal or departmental barriers. Employees will also be encouraged to actively collaborate with external resources and to not be bound by conventional ideas.

Cultivation

All employees of JSR group will be supported by a work environment that provides opportunities for, and encourages bi-directional communication between managers and subordinates in order for them to develop together as individuals and members of productive, supportive teams.



3. Communicating with Employees

(1) Progressing Corporate Culture

JSR is actively working on reshaping its corporate culture based on the principles of freedom and discipline. By promoting inter-personal communication and encouraging managers to provide their subordinates with more opportunities for independence, the Course of Action's 4Cs "Cultivation" principle works to help managers and subordinates develop together as individuals as well as members of productive, supportive teams. In line with these efforts, JSR is enhancing its On the Job Training (OJT) program by holding OJT preparedness courses and communicating the fundamentals of OJT. JSR is also engaged in group-wide communication initiatives via formal and informal workplace gatherings.

JSR also introduced a biannual employee awards program. The "Nice Support Award" recognizes employees who play a significant role behind the scenes in the smooth performance of the organization. The "Nice Try Award" recognizes those who have contributed to fostering a corporate culture in which all employees are bettering able to take on new challenges without fear of failure.

Employee Contribution Awards

Award	First Half of 2016	Second Half of 2016
Nice Support Award	98	100
Nice Try Award	93	98

(2) Employee Awareness Survey

Every three years since FY2004, JSR has conducted group wide surveys on employee awareness and satisfaction in regards to the company, workplace, and work itself. By monitoring these levels, we are able to provide employees with the aggregated survey results, and corporate feedback. We also actively use the survey's results when designing and implementing policies. Starting with FY2010, we added questions to better assess our employees' awareness and comprehension of JSR's Corporate Mission, Diversity, and Work-life Management and are now using the results to promote these initiatives. We conducted the fifth survey in FY2016 and plan the next one for FY2019.

Reshaping the Corporate Culture to Foster Innovation

Looking to generate the innovation that will fuel JSR Group's sustained competitiveness, we established a "4C-no-Mori" and "Meeting Rooms" as spaces to encourage communication and collaboration among researchers in the main laboratory building of JSR's Yokkaichi Plant in December 2015. We also partially introduced a "free address" system that does not assign individual researchers to specific seats.

"4C-no-Mori" is named after the "4Cs" of JSR Group employees' Course of Action. It was conceptualized as a "forest" (Japanese:mori) that nurtures interaction. It is equipped in-house wireless LAN, allowing it to serve as an ordinary work environment, and also has vending machines for coffee and snacks. The aim is that, by being used as a space for communication and relaxation, it will become a place where spontaneous communication inevitably occurs and where unexpected conversations and information-sharing become commonplace. In FY2016, "4C-no-Mori" was used to hold in-house presentations and seminars as well as yoga lessons and other recreational programs.

"Meeting Rooms" are glass-enclosed area designed to be reminiscent of an ocean. It permits brainstorming in an open atmosphere and encourages the sharing of in-house knowledge by giving visibility to the content of discussions.

We also plan to utilize the free address system and to create work environments that incorporate inventive spaces for interaction in rooms of a new research wing of JSR's Yokkaichi Plant that is scheduled for completion in FY2017 as well as JSR-Keio University Medical and Chemical Innovation Center (JKiC). Through office makeovers like those mentioned above, we intend to cultivate a culture of exchange that is not bound by inter-departmental barriers and to build environments that foster innovation.



Work in "4C-no-Mori"



An in-house seminar in "4C-no-Mori"



Glass-enclosed "Meeting Rooms"

* [The "4C" of the Course of Action](#)

Social Issues Attributable to JSR Group's Corporate Activity

Employees Human Resources

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Human Resource Development Philosophy

We are working on human resource development with the understanding that it is the greatest priority for achieving sustainable, long-term corporate growth. In particular, we are promoting human resource development in order to strengthen our organizational capacity by implementing the Course of Action "The 4Cs" - "Challenge," "Communication," "Collaboration," and "Cultivation" - of our Course of Action at a higher level, and with focus on "skill/know-how" and "awareness/motivation."

Human Resources = Skill and Know-How x Motivation

As a key goal, we will also strengthen our employees' international communication abilities.

(1) Human Resource Development Policy

1. Respect each employee's desire for personal growth and provide adequate support for employees who take the initiative to raise their skills and develop their careers.
2. Based on the idea that the development of employee skills is the foundation of a company, make "growth through work" a primary consideration and, from a long-term perspective, conduct systematic, planned, and continuous training at all group companies to support this.

(2) Types of Personnel Sought by JSR

All Employees

1. Professionals who are competitive on a global level in all areas of their responsibility.
2. Individuals who are willing to take on new challenges and who respond flexibly to changes in the environment, supporting innovation and advancement without settling for the status quo.
3. Team players with high ethical standards who emphasize communication, collaboration, cultivation, and taking on challenges.

Management

4. Supervisors who can delegate work and responsibilities to their junior staff while also leading by example, always mindful of organizational management and human resource development.
5. Leaders who effectively oversee the achievement of organizational goals and can also lead reforms.

(3) Specific Measures

- Continue to implement programs to realize early development of the leaders of tomorrow through the Next Leaders Development Committee
- Implement OJT and Off-JT training with a greater emphasis on motivation, a critical ingredient for the development of employee skills and knowledge
- Enhance language and cultural programs in international communication such as intensive language courses and overseas training in China
- Continue and expand training to support the passing on of technological expertise and development of manufacturing skills common to all Group plants
- Continuation of specialized skill training for young employees
- Provide training programs with common content between Group companies

2. Various Training Programs

JSR conducts a variety of training programs to raise the skills of its employees.

In the FY ended March 2016, the total annual training time per JSR employee was 17.7 hours. This total was calculated by including technology and skill training, employee rank-based training, and other training organized by human resources departments. It therefore does not include hours spent in education provided independently by departments or external education. Additionally, it does not include internet-based training hours.

Position	Rank-based training	Job-based Training						Objective-based Training				
		Manufacturing	Production and technology	Research and development	Planning, managing and administration	Marketing and development	Common across all areas	Six sigma	Promoting internationalization	Business skills	Life planning	Assistance to applicants for career transfer
General Manager, Plant Manager	Training the leaders of tomorrow (JSR Business School)				Specialized knowledge courses & external courses on management strategies							
Manager, Team Leader	Middle management training New supervisor and management training						Specialized knowledge courses					Career-development seminars and education assistance benefits
Project Leader		Pre-management training Safety, environmental preservation, quality control, facility management, personnel management, cost management										
Section Manager	Subsection chief training											
Group Leader	Group leader training New supervisor training											
General Employees	Mid-level employee training	<ul style="list-style-type: none"> - General technical skills training - Safety and environmental training - Quality control training - Public certification training 	Basic knowledge training (polymer chemistry, chemical engineering, and chemical processes)	Understanding of JSR's unique technologies	Quality control (levels: introductory and intermediate)	Chemical management, environmental preservation	Intellectual property, contracts	External courses (for graduates) Accounting, finance, marketing and other external courses	Correspondence course (for graduates) English, accounting, finance, marketing, legal affairs, and other correspondence course technical skill courses conducted by individual department			
	New employee follow-up training											
	New employee training											

3. Career Development Program

We have established the Career Development Program (CDP) to work in conjunction with other training programs in the development of human resources and the next generation of JSR. With CDP, recent graduates will work temporarily in different departments for their first few years as part of their development.

We believe that this kind of rotation forms the basis of human resources development. Since first introduced in 1988, we have continued to improve and refine this method of training. Each employee must work in at least three different departments during their first 10 years of employment. This program produces highly capable employees that have excellent efficiency and inter-departmental communication skills due to their understanding and awareness of the relationships between upstream and downstream processes.

CDP Committee members individually interview employees that will enter CDP before forming individual rotation plans at a general CDP meeting. The Human Resources Department runs the CDP Committee, and each Division Director is a committee member.

4. Utilization of Training Centers

Making the best use of the training centers we have established near our plants to support the continuing education of our employees, we focus on further refining our strengths in technology and human resources by passing on technical skills at manufacturing sites and expanding employee education programs.



Yokkaichi Training Center



Chiba Training Center



Kashima Training Center



Miniature Plant in Yokkaichi Training Center



Head Office Training Center (JSR Roppongi Club)

Social Issues Attributable to JSR Group's Corporate Activity

Employees Diversity

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Recruitment and Promotion of Diverse Human Resources

JSR Group is rapidly expanding its various business activities around the world, and we believe that harnessing diverse human resources is crucial for the advancement of our wide-ranging business strategies. We view the promotion of diversity as a fundamental part of our management strategy. In taking this approach, we are engaged in developing management that is focused on individualism and the respect for, and utilization of values through diversity. Furthermore, a corporate culture which is welcoming of new values and work styles is instrumental in our goals of creating a diverse workplace. We are committed to promoting these ideals with our work-life management initiatives.

The Diversity Development Office was established as an independent department, directly under the President. This decision was based on recommendations made by the Women's Leadership Development Task Force, implemented in 2014, who articulated the need for a department dedicated to the acceleration and promotion of diversity. The mission of the Diversity Development Office is to establish and implement initiatives which enable diversity in the workforce. In addition to our emphasis on gender equality initiatives, JSR Group shows its commitment to the future by expanding the scope of our initiatives to include foreign nationals, individuals with disabilities, and individuals in the lesbian, gay, bisexual, and transgender (LGBT community). Furthermore, our initiatives also include intergenerational work-style and mindset understanding programs.

(1) Promoting the Active Participation and Advancement of Women in the Workforce

As a part of our mid-term business plan, JSR has publicly announced our quantitative targets for the active support of our female employees. We have also developed an action plan to promote and support the lives of working women within JSR, based on and in accordance with the Act on Promotion of Women's Participation and Advancement in the Workplace (Women's Act). The Women's Acts' first phase is set for April 1, 2016 to March 31, 2018. These targets demonstrate our management's commitment in achieving understanding and cooperation throughout the organization.

JSR has also publicly announced each of our action plans to nurture and raise the next generation of children. These plans are based the Act on Advancement of Measure to Support Raising Next-Generation Children (Next-Generation Act), which has been in effect since April 2005. The sixth phase of which is set for March 31, 2016 to March 31, 2018. Throughout the first five phases we continued to establish, notify, publicly disclose, raise awareness of, and implement our action plan in accordance with the Next-Generation Act.

[Women's Act - Action Plan](#)

[Next-Generation Act - Action Plan](#)

Active support of Women in the Workforce: Quantitative Targets

	Target	FY2016	FY2017
Percentage of women hired annually per position	College graduates, engineering positions: 15-20%	15%	20%
	College graduates, administrative positions: 40-50%	60%	50%
Percentage of women in managerial positions	March 2020: 8%	3.6%	3.8%

* As of April 1st of each fiscal year

(2) Creation of Systems to Actively Support Women in the Workplace

Refer to the page on [Employees Labor Environment](#)

(3) Developing Programs that Support Working Women

The following programs are held with special consideration for female employees, and managers, in order to increase female employees' ownership of their career development at JSR.

1. Pairing Seminar: a collaboration between female employees and management in order to consider possible career paths.
Total of 800 participants since FY2010
2. Career Track Transfer Seminar: employees brainstorm about career possibilities and skill development after changing career tracks within JSR.
Held annually since FY2010
3. Work Communication Seminar: managers improve their diversity management skills
Held annually since FY2011
4. General Career Development Seminar: non-managerial, general employees develop efficient internal communication skills.
Held annually since FY2013

Furthermore, seminars which educate males in managerial positions about female employee's career development are held annually.

JSR was again selected as a Nadeshiko Brand* initiative

For the second year in a row, we were selected as a Nadeshiko Brand initiative by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange (TSE), in recognition of our efforts to advance women in the workforce, and our support of a health work-life balance.



As part of the Nadeshiko Brand selection process, companies' efforts in the promotion of female career advancement and betterment of work-life balance are evaluated.

Regarding the promotion of female career advancement, we have held various seminars in which female employees and management collaborated to increase their understanding of career advancement.

We are implementing an initiative through which female employees, who are candidates for management positions, work together with their supervisors to clarify, establish, and implement career-development and skill-enhancement plans.

In addition to conforming to legal regulations regarding working hours, in 2006 we implemented a Work from Home initiative as a part of our continuing efforts in supporting a healthy work-life balance. We have also implemented systems which ensure employees smooth return to work after extended childcare leave by offering consultations with supervisors, and reinstating full benefits for workers who have returned to work for six months.

JSR Group is rapidly expanding its various business activities around the world, and we believe that harnessing diverse human resources is crucial for the advancement of our wide-ranging business strategies. To JSR, diversity expands beyond providing support for

female employees, extending through our dedication to creating a corporate culture that values and respects individuality and diversity in the workforce.

* The Nadeshiko Brand Initiative aims to distinguish companies that show outstanding support for women in the workplace, in order to elevate their investment status in the market place, and propel their corporate values over the mid and long-term. Ultimately, the goal of the Nadeshiko Brand Initiative is to accelerate the adoption of women support initiatives throughout Japan. This year, enterprises listed in the first and second sections of the TSE, TSE Mothers and JASDAQ were evaluated on the basis of management level staff's commitment and actual performance regarding female career advancement and the promotion of a healthy work-life balance. In FY2016, a total of 47 companies were selected.

(4) Career Re-Entry System

JSR instituted its Career Re-Entry System to enable employees who voluntarily left JSR and the workforce due to marriage, childbirth, nursing care responsibilities, the transfer of a spouse, or other personal reasons to register for rehire in accordance with company needs and the former employee's desires.

FY	FY2012	FY2013	FY2014	FY2015	FY2016
Registered	5	7	8	4	5
Rehired	0	0	0	0	1

* Between April and the end of July 2017, one person using this system was rehired.

(5) Activation of Foreign Nationals

As JSR Group continues to expand globally, we saw the need to craft a human resources management system with the ability to support the developing human resource needs of JSR Group on a global scale. As a part of our push to globalize the employees at JSR Corporation, we have been working on diversifying our hiring efforts by hiring foreign nationals, as well as taking in dispatch employees from our overseas subsidiaries. Through the planning of a next-generation global management training program and the strengthening of our human resources networks at domestic and international levels, we are exploring systems that will expand the managerial pools at our overseas subsidiaries to further include local staff members and researching methods of international inter-company human resource exchanges.

Workforce Globalization Efforts: Quantitative Overview

Objectives	Results		
Increase the number of foreign nationals at JSR	Foreign nationals hired	10	Hired by JSR between FY2015 and FY2017
Enhance international dispatch training methods	International research opportunities	12	Results for FY2015 through FY2017
	Short term culture & language learning opportunities in China and the U.S.	30	Results for FY2015 through FY2017
Management required for the securement of a global workforce - Training and development of promising personnel in foreign offices. - Human resource development that supports overseas group companies.	Long-term research opportunities in Japan for employees of overseas group companies.	1	Results for FY2015 through FY2017

(6) Employment Opportunities beyond Retirement

JSR has systems in place that enables employees who have reached the mandatory retirement age to stay in the JSR workforce. Prior to retirement, employees complete a survey concerning their desire to continue employment. Those who wish to continue working are re-employed.

(7) Support for Employees with Disabilities

As of the end of FY2016, JSR's employment rate of individuals with disabilities was 2.23% (the statutory employment rate is 2.0%). By discussing their strengths, and the details of their disability, we are able to find a work style that best suits each employee's situation. Although there are still few employees with disabilities working in areas where hazardous materials are handled, such as manufacturing and research laboratories, we are working on ways to ensure safety while expanding employment opportunities.

2. Personnel Data

(1) Basic Data on JSR Employees

As of March 31, 2017

Employee Breakdown		Male	Female	Total
Employees (Total)		2,858	470	3,328
New hires	Recent graduates*1	80	15	95
	Mid-career hires	19	3	22
Average no. of years of continues employment		13.0	14.8	13.2

*1 Employees hired on April 01, 2016

By FY	2012	2013	2014	2015	2016
Percentage of employees who left JSR within three years	6.7	6.3	4.2	3.4	2.1
Percentage of employees with disabilities*2	1.96	2.19	2.28	2.23	2.32

*2 As of March 31st of each fiscal year.

(2) JSR Group Employees by Region

As of March 31, 2017, the total number of employees of JSR Group is 6,790. The following provides percentages by region.

Japan	Asian (Japan excluded)	United States	Europe
68%	18%	9%	5%

TOP ▲

Social Issues Attributable to JSR Group's Corporate Activity

Employees Labor Environment

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Work-Life Management Basic Philosophy

JSR is actively promoting its Work-Life Management initiative. Employees are encouraged to not only develop work-related skills, but to also actively participate in social, and personal activities (e.g., social and community groups, family, volunteer activities, self-development, and hobbies). JSR believes that by encouraging our employees to become well-rounded individuals, and by finding a personal sense of self-fulfillment and satisfaction that they will then be able to bring that energy into their work.

JSR encourages all of our employees to closely manage their personal time and maintain a balanced work schedule. We are also working on implementing various systems that support flexible work styles, with special consideration for childbirth, childcare and family-nursing needs. Work-life management is vital in the implementation of diversity management, because in order to create an organization with a diverse workforce, we must also promote a corporate culture that is open to diverse values and work styles.

2. Overtime Reduction Initiatives

The total number of working hours per JSR employee in FY2016 was 1,977 hours. This includes, on average, 225 hours of overtime per employee, per year. In FY2004, we implemented an electronic time and attendance system to accurately record working hours. By implementing this system, employees gained the ability to effortlessly self-report working hours producing easily accessed records of entry & exit times at our offices and plants. Managers also gained the ability to verify their employees working hours. This system has enhanced the efficiency and accuracy of time and attendance reporting within JSR. The electronic system also automatically notifies supervisors when employees exceed a certain amount of overtime. We are working on ways to foster a more efficient and transparent work culture by internally disclosing each department's overtime hours.

3. Work-Style Reform Activities

At JSR, we are implementing work-style reforms with the goal of realizing sustainable growth for both the company and our employees.

In promoting work-style reform, we will analyze factors in the workload of each department and then formulate and execute concrete measures to reduce work and alleviate workloads based on prioritization so that each employee can approach it with problem awareness. Reports and information on countermeasures proposed by each department are shared at meetings attended by assigned officers.

Furthermore, we see three main approaches to changing work style: work place, work tools, and work time. Given this, we are implementing the "free address" system and using ICT on a trial bases in some areas of our Head Office and Yokkaichi Plant. We are also publicizing JSR's fundamental rules on meetings and e-mail, encouraging the use of "no overtime days" at all major business locations, and encouraging the taking of paid holidays on workdays sandwiched between national holidays and in combination with three-day weekends.

JSR held a seminar on "work-style reform."

In February 2017, we held our first seminar primarily focused on work-style reform. The seminar's focal point was "work-style reform: reducing labor hours x raising productivity = time management that produces results." More than 160 employees participated. We invited Mr. Takayuki Kawashima to serve as the seminar's lecturer. Mr. Kawashima is a pioneer in Japan's



"IkuBoss"* movement and active as a member of the Cabinet Office's Council for Gender Equality and the NPO Fathering Japan. He spoke on views of the topic—namely, "work-life balance is not a welfare issue but a management strategy" and "seeking something extremely difficult: reducing work hours while producing results"—as well as initiatives for raising organizational productivity. Following the seminar, Mr. Kawashima and JSR's officer in charge of diversity held a discussion on the topic of "diversity and work-style reform."

Through the seminar, we gained an appreciation of the goals and philosophy of Fathering Japan's activities and decided to join the Fathering Japan-led "IkuBoss Company Alliance" in May 2017.

* "IkuBoss" refers to a boss (manager or management position) who enjoys his or her own work and personal life, produces results for his or her organization, and supports the careers and daily lives of his or her subordinates and staff by considering their work-life balance.

4. Flexible Working Style Support Benefits

While life is a series of major events, child care and long-term nursing care have become increasingly prominent. Because of this, JSR is working to create an environment that enables its employees to balance work and caretaking needs. In an effort to increase awareness of the multitude of support structures, JSR distributes a guidebook that details the various internal and external support benefits and policies available to employees. By using these resources, JSR helps employees balance their responsibilities at work and at home.

- [Data on the utilization of work balance support benefits](#)

JSR's Flexible Working Style Support Benefits

Life Stage	Available Support	Description
Prenatal (Fertility treatment, prenatal care etc.)	- Shortened working hours	During pregnancy, employees may reduce their working hours up to two hours per day. Employees engaged in fertility treatments can reduce their working hours by up to four hours per day, or up to 44 hours per month.
	- Work from home	During pregnancy, employees are able to work from home one day per week.
Postpartum	- Maternity leave (prenatal & postpartum)*	Employees can take maternity leave starting six weeks before, and extending eight weeks after childbirth.
	- Special paid paternity leave	Male employees can take four days of special paid paternity leave anytime from one week prior to two weeks after the birth of their child.
	- Extended childcare leave*	Employees are able to take an extended leave of absence until their child turns 18 months of age.
	- Extended childcare leave counseling	Upon request by employees taking extended childcare leave, counseling sessions between the employee and their supervisor are held. In these sessions they discuss and aim to resolve any worries or issues that could hinder a smooth transition back to working life.
Balancing work and childcare	- Shortened working hours	Employees with non-working spouses can shorten their working hours until the child is three years of age. Additionally, employees with working spouses can reduce their working times until the child is in their third year of elementary school.
	- Work from home	Employees with working spouses may work from home one day per week until their child finishes elementary school.

	- Family-care leave	Employees can take up to ten days of leave in half-day units per year to provide nursing care for family member's that live in the same household. Uses include, accompanying family members to the hospital, medical examinations, vaccinations etc.
Balancing work and nursing care	- Shortened working hours	Employees providing nursing-care for family members can reduce their working hours by up to four hours per day, or up to 44 hours per month.
	- Work from home	Employees providing nursing-care for family members are able to work from home one day per week.
	- Family-care leave	Employees can take up to ten days of leave in half-day units per year to provide nursing care for family members that live in the same household. Uses include, accompanying family members to the hospital, medical examinations, vaccinations etc.
	- Nursing-care leave	Employees providing nursing-care for family members can take up to 20 days of leave in half-day units annually.
	- Extended nursing-care leave*	Employees providing care for family members can take up to 24 months of extended nursing-care leave. Extended leave can be broken down into as many as three periods for up to two years.

* Per employee request, mobile devices with remote access to the company network are provided under these benefits.

JSR also provides a discretionary labor system for employees in R&D, as well as a "no-core" flextime labor system for its non-shift based employees. Employees can take up to five days of paid leave per year as a part of our paid volunteer leave system. This allows employees to participate in social contribution activities that occur during working hours. JSR is also improving and fostering communication between female employees through the implementation of our internal SNS tool, Harmony.



Next Generation Accreditation Mark "Kurumin"

JSR and JSR Micro Kyushu are Accredited with the "Kurumin" Next-Generation Mark

In August 2007 and April 2012, JSR received the Next Generation Mark accreditation (nicknamed "Kurumin") issued by the Minister of Health, Labor and Welfare. Kurumin designates enterprises that provide superb parenting support. JSR Micro Kyushu also received the mark in May 2017.

JSR Original Support Benefits

In addition to compensation benefits available during paid leave periods via health and workers compensation insurance, JSR employees are provided with the following original benefits. These benefits aim to aid employees in maintaining a healthy work-life balance.

- [Data on the usage of compensation benefits](#)

(1) Childbirth Lump-Sum Allowance

Women enrolled in JSR's health insurance program are eligible to receive a 100,000 yen per child Childbirth Lump-Sum allowance in addition to the government mandated childbirth allowance.

(2) Extended Childcare Leave Allowance

Employees on extended childcare leave are eligible to receive their base salary with an additional 50% bonus for the first five days. This allowance is funded via the JSR Mutual Aid Association.

(3) Post Childcare Leave Reinstatement Allowance

For employees who have returned back to work for a continues six months following maternity leave or extended childcare leave (of at least one month) are eligible to receive a allowance of 200,000 yen per child. This allowance is funded by the JSR Mutual Aid Association for the purpose of recognizing employees past service, and continued dedication.

(4) Daycare Allowance

In households where both parents work, employees are reimbursed half the cost of daycare services that are required on working days. Costs are reimbursed via the JSR Mutual Aid Association with an annual limit of 400,000 yen per eligible employee.

5. JSR Workers' Union Activities

(1) JSR Workers' Union Basic Policies

With the search for affluence as its guiding principle, the JSR Workers' Union works to:

- (1) Negotiate wages
- (2) Improve workplace environments
- (3) Improve welfare
- (4) Publicize leisure, public relations, and volunteer activities
- (5) Promote union activities

(2) Members of the JSR Workers' Union

There are 2,542 members of the workers' union as of April 1, 2017. Group companies have also established their own workers' unions.

(3) Communication between JSR and the JSR Workers' Union

JSR and the JSR Workers' Union have entered a labor agreement based on workers' union regulations.

The president and directors in charge of individual business segments have regular discussions with the workers' union to exchange opinions and conduct QA sessions regarding the working environment, business conditions, major company policies, and workers' union activities. The JSR Workers' Union discloses the content of these discussions with union members.

Negotiations include labor management councils at the employee- and plant-level, local labor management councils, and Safety and Health Committees to deepen understanding and trust as well as ensure sound labor relations. In FY2016, our offices and plants made efforts to create a work-friendly environment with a particular focus on partially revising the retirement pension system, correcting overtime, and engaging in frequent discussions on expanded support for childcare and nursing care.

(4) Communication between the JSR Workers' Union and union members

Union members at each plant represent of plant workers' opinions. They also act as a conduit between union leadership and the union members. Workplace discussions and questionnaires are conducted to ensure the ideas and opinions of union members are incorporated into union activities.

6. Utilization of Work-Life Balance benefits and JSR Original Benefits

Utilization of Work-Life Balance Benefits		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Remarks	
Fertility treatments	Shortened working hours	-	-	-	0	0	0	0		Established in FY2013	
Childbirth	Childbirth leave*	23	25	23	14	15	20	23			
	Extended childcare leave*	Female	19	24	22	15	18	20	19		
		Male	5	4	3	6	2	5	11		
		Total	24	28	25	21	20	25	30		
	Extended childcare leave counseling	10	14	19	17	13	12	14			
Balancing work and childcare	Shortened working hours (Includes prenatal employees)	59	67	73	79	77	81	87			
	Work from home (Includes prenatal employees)	9	9	9	12	11	10	10			

Balancing work and nursing-care	Shortened working hours	3	2	1	0	3	4	2		
	Work from home	1	3	3	0	0	2	1		
	Nursing-care leave	4	4	1	2	1	6	3		
	Extended nursing-care leave*	0	0	0	0	0	1	1		
Other	Provision of mobile devices with remote access to the company network	8	9	7	4	3	2	4		
	Discretionary labor system		446	464	104	107	103	107	108	Number of employees at the start of each FY. (April 1st)
	Special volunteer leave (The value in parenthesis represents the total number of leave days taken)	4 (7)	134 (470)	3 (8)	4 (10)	3 (5)	4 (11)	3 (7)		In FY2011, major volunteering efforts were taken for earthquake disaster recovery.

* Per employee request, mobile devices with remote access to the company network are provided under these benefits.

Original Benefits	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Extended Childcare Leave Allowance	23	27	27	21	18	25	26
Post Childcare Leave Reinstatement Allowance	24	10	19	19	23	15	19
Daycare Allowance	2	3	5	6	2	5	6

TOP ▲

Social Issues Attributable to JSR Group's Corporate Activity

Employees Healthy Mind and Body

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy

JSR feels that a healthy mind and body are extremely important for employees and their families to live happy lives. We also feel that they are imperative in the creation of a productive and vibrant workplace. Because of this, we have adopted various measures to help our employees work in good health, both mentally and physically.

(1) Health and Fitness: JSR Health Promotion

JSR will advance "JSR Health Promotion" as an activity to support our work-style reform and promote health and fitness among our employees, who are the foundation of organizational activity. Incorporating two approaches in the management of employees' health—a "high-risk approach" (i.e., individual attention when an employee is ill) and a "population approach" (i.e., risk reduction/prevention for all)—we will address specific issues that include prevention of lifestyle-related diseases, ensuring that employees receive health checkups and follow-ups, and mental health. At the same time, JSR Health Insurance Society will introduce a web portal site as a tool to support efforts to maintain and promote employees' health. Looking forward, we will also work to strengthen ICT in employees' health management.

Additionally, in February 2017, we were recognized as a "White 500" enterprise under the 2017 Certified Health and Productivity Management Organization Recognition Program,* a scheme run by the Ministry of Economy, Trade and Industry (METI) and Nippon Kenko Kaigi. This designation acknowledges our standing as a listed company that practices outstanding health and productivity management.

*The "Certified Health and Productivity Management Organization Recognition Program" examines large enterprises, SMEs and other organizations engaging in initiatives for overcoming health-related challenges in regional communities or for promoting health-conscious activities led by the Nippon Kenko Kaigi, and recognizes outstanding enterprises engaging in efforts for health and productivity management.

(2) Physical Health Assistance

JSR supports its employee's physical health by providing general physical screenings, special examinations required by law, such as chemicals examinations and VDT screenings, lifestyle disease checkups, and gynecologic cancer examinations. Subsidies are also provided to employees who receive complete medical screenings and brain scans such as MRIs. Since 2008, the JSR Health Insurance Society has promoted lifestyle disease prevention screenings (diabetes, high blood pressure, and obesity) paired with health guidance and counseling to achieve promising results. Moreover, we actively work to ensure employees' health through various means, among them providing education on ways to prevent lifestyle-related diseases through the industrial health staffs of our business sites, individual counseling at health exams, and safety and health advice through workplace visits.

Additionally, in addition to providing its own sports facilities as well as memberships in sports clubs through welfare service contracts, each JSR business site hosts sporting events, such as softball games, and bowling tournaments to improve health through physical activity and facilitate communication among employees. These programs have received positive feedback from employees who do not normally have the opportunity to participate in physical activities.

Examples of JSR sports facilities



Health management center (exterior) and training room, Yokkaichi Plant



JSR athletic ground next to the Kashima Plant

Health Exercises and "Refresh Stretching" in the Tokyo District

The JSR Health Insurance Society organized a "Head Office Exercise Support Seminar: Health Exercises." The seminar was held with the aim of ensuring that more employees are healthy and vibrant by supporting fitness in not only our plants but also our management and sales departments. Health and exercise instructors of the JSR Health Insurance Society visited JSR's Head Office and Group companies to provide instruction on "refresh stretching" that prevents stiff shoulders and lower back pain. Many employees participated even though the instruction was provided during business hours. The results of a post-seminar questionnaire survey indicated that participants were extremely satisfied, as 90% of respondents said they found the stretching helpful. We will continue health-oriented activities for the purpose of "supporting health and fitness" and strive to implement initiatives that promote health and productivity management and help improve employee productivity.



Refresh stretching (JSR Head Office)

Mental Health Assistance

JSR has taken measures to improve employee mental health since the issue first began drawing attention. JSR takes a four-point approach in providing mental health support, "Check," "Organizational Analysis," "Consultation," and "Training."

Checks and organizational analysis include a biannual employee mental health JMI Health Survey conducted by JSR since FY1998. The data from these checks is used in a variety of ways. It helps individual employees understand their own mental stress levels. It also helps JSR to understand the stress levels of all employees throughout the organization. Furthermore, it is used in the implementation of various companywide policies. Since FY2012, we have been conducting web based stress diagnostics throughout the JSR domestic group. Stress diagnostics are conducted annually via our e-Stress Diagnosis System.

Consultation includes the establishment of a program to provide counseling for employees at a location of their choosing. Counseling is conducted through a third party professional, Human Frontier Counseling. This program has been established at each of the JSR domestic group companies as a part of our mental-health counseling support efforts. In efforts to provide stable and quality mental health counseling, occupational health professionals are present at all of JSR Corporation's offices and plants.

Training includes a variety of mental health care programs, such as self-care and line-care that properly reflects each level of JSR's organizational hierarchy.

JSR was Recognized as a "White 500" Enterprise of the Certified Health and Productivity Management Organization Recognition Program.

JSR was recognized as one of the "White 500" enterprises under the 2017 Certified Health and Productivity Management Organization Recognition Program, a scheme run by the Ministry of Economy, Trade and Industry (METI) and Nippon Kenko Kaigi. This designation acknowledges our standing as a listed company that practices outstanding health and productivity management. The "Certified Health and Productivity Management Organization Recognition Program" examines large enterprises, SMEs and other organizations engaging in initiatives for overcoming health-related challenges in regional communities or for promoting health-conscious activities led by the Nippon Kenko Kaigi, and recognizes outstanding enterprises engaging in efforts for health and productivity management.

We were selected because we satisfied criteria in five categories pertaining to the practice of health and productivity management in the "large enterprise category"—specifically, "management philosophy (managers' awareness)," "organizational structure," "implementation of systems and measures," "evaluation and improvement," and "legal compliance and risk management"—and because we scored excellent marks in each item of METI's FY2016 Survey on Health and Productivity Management.

Seeing the health and fitness of each JSR employee as vital to better productivity, we will continue regarding employee health as a management issue and take proactive steps that include promoting measures to maintain and promote health and reexamining how our employees work.



Social Issues Attributable to JSR Group's Corporate Activity

Supply Chain Management

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy

The Corporate Mission of JSR Group "Materials Innovation — We create value through materials to enrich society, people and the environment".

We believe that an important role of JSR Group is to offer innovative materials and excellent products that meet customer needs and contribute to the making of a better society.

We are able to respond to social issues through our business partners and supply chain management.

2. Supply Chain Management

(1) CSR/sustainable procurement

JSR Group supply chain management has a unique feature of a chemicals manufacturer supplying materials to various industries and supporting society. Specifically, that is our ability to deliver products of discernible quality to our customers reliably and without interruption.

Supply chain management is specific to each of our businesses and so is different between the Petrochemical Products Business and the Fine Chemicals Business, or the strategic businesses.

Our CSR/sustainable procurement policy states that when making purchases, JSR will give sufficient consideration to legal and regulatory compliance, resource protection, environmental conservation, safety, human rights, biodiversity, and other factors that lead to a sustainable society. With suppliers understanding, and through communication, mutual understanding, and cooperation, we can continue engaging in effective initiatives. Based on Purchasing Policy and CSR/sustainable procurement initiatives implemented in FY2010, we surveyed the social and environmental considerations of our suppliers using a questionnaire. When an issue was detected, we dispatched the person in charge of procurement to the supplier to work on solving the issue together. We were able to survey the suppliers that represent 99% of our purchased materials by FY2013. We will continue to conduct the same process as we establish new suppliers in the future.

Additionally, our policy based on the above-mentioned Purchasing Policy is to never permit the use of conflict minerals, either directly or indirectly. We gain our business partners' cooperation in confirming that we use no conflict minerals.

JSR Engineering Co., Ltd., a JSR Group company responsible for construction work, communicates the policy of JSR Group to the Safety Committee organized by its subcontractors and asks their cooperation in our CSR/sustainable procurement initiative. CSR consciousness has been increasing among business partners, who also organize separate study meetings and discussions.

(2) Green procurement and purchasing

1. Green procurement of raw materials

JSR has long been committed to green procurement, a policy that puts the highest priority on goods with minimal environmental impact when purchasing raw materials. In response to the growing industry trend in managing chemicals in the supply chain, JSR joined the Joint Article Management Promotion-consortium (JAMP)*¹ in October 2008, and reviewed of its Green Procurement Guidelines*². JSR will continue to practice green procurement with an emphasis on disseminating information through the supply chain.

*1 The Joint Article Management Promotion Consortium (JAMP) was established as an inter-industry organization in September 2006 to support activities that aim to create and expand specific systems for the proper management of information on chemicals in articles (components, products, and so on) and to facilitate the disclosure and dissemination of information within supply chains. JSR conducts activities that contribute to the practice of these principles through its participation in JAMP.

*2 Green Procurement Guidelines:

JSR conducted a review of its Green Procurement Guidelines when it joined JAMP. Substances presently managed at JSR were coordinated with substances managed under the JAMP MSDSplus system, and the format was changed to MSDSplus. Also, the scope of green procurement was expanded from raw materials to include packaging materials and facilities. JSR is conducting green procurement with an emphasis on the dissemination of information so it can effectively manage chemical risks in its supply chains.

2. Green purchasing of office equipment and supplies

JSR defines green purchasing as the purchasing of environmentally friendly office equipment and supplies not directly related to its products or manufacturing. Green purchasing is distinguished from the green procurement of raw materials for products, packaging materials, and manufacturing facilities.

The Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (commonly referred to as the Green Purchasing Law) was enacted in 2000, and Japan's basic policy on the law was announced in 2001, when the law came into effect. Based on this policy, JSR strives to prioritize equipment and supplies with energy-saving features and high recycled content. In FY2016, green purchasing represented 95,812,000 yen out of a total of 119,640,000 yen in purchases at all business sites. This is equivalent to a green purchasing rate of 80%.

(3) BCM

We employ business continuity management (BCM) practices to manage resources to mitigate supply risk by having multiple suppliers. We also have a strict inventory management system in place based on business plans to prevent production from being halted in the event supplies of required raw materials temporarily run out.

Social Issues Attributable to JSR Group's Corporate Activity

Communication with Customers and Business Partners

FY : Fiscal Year means the year starting April 1st.
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1. Basic Philosophy

The Corporate Mission of JSR Group "Materials Innovation - We create value through materials to enrich society, people and the environment".

We believe that an important role of JSR Group is to offer innovative materials and excellent products that meet our customers' needs through communication with them and to contribute to the making of a better society.

We also link communication with our business partners to improvements in our business activity.

2. Communication with customers

(1) Customer feedback questionnaires

Customer feedback questionnaires are conducted every two years to obtain customer opinions on the effectiveness of our management, product development, product quality, and technical and sales support. Even though we routinely receive positive scores in product quality, and technical and sales support, we are dedicated to continually improving product quality and meeting changes in demand.

(2) Responses to CSR questionnaires for our customers

We aim to be a company that is trusted by its customers. One way we do this is by responding to questionnaires concerning CSR that are submitted to us by the EICC*1 and our customers.

*1 EICC: Electric Industry Citizenship Coalition

An industrial organization that works to improve sustainability in the electronics industry.

(3) Issuance of market reports

The Specialty Elastomer Department in our Petrochemical Products Business actively supplies information to our customers in Japan by issuing monthly market reports that cover raw materials trends and other pertinent matters.

(4) JSR Corporation received SCQI Award from Intel Corporation

Successive recognition by Intel's Supplier Continuous Quality Improvement (SCQI) Award
In March 2017, we received the FY2016 Supplier Continuous Quality Improvement (SCQI) Award from Intel Corporation, a world-class semiconductor manufacturer.

The SCQI Award is Intel's most prestigious award given to suppliers. It is awarded to outstanding suppliers that achieve extremely high standards in terms of quality, cost, supply system, technical capability, customer service, labor and ethical conditions, and environmental sustainability.

(5) JSR Micro Taiwan Co., Ltd. received AU Optronics' Supplier Award

On April 22, 2016, the AUO Global Partner Summit 2016 was held by AU Optronics Corporation (AUO), one of Taiwan's two leading LCD manufacturers, in Mabville, Taiwan. During the summit, AUO presented JSR Micro Taiwan Co., Ltd. with its Supplier Award as an expression of gratitude for many years of support in AUO's growth as a company.

Global Partner Summit is an event to which AUO invites 40 particularly important companies from its approximately 1,900 suppliers. Fifteen suppliers, among them JSR Micro Taiwan Co., Ltd., received awards.



The award ceremony

3. Communication with business partners

(1) Presentation of Suppliers Awards (Fine Chemicals Business)

Each year, we present Suppliers Awards to business partners who procure raw materials related to our Fine Chemicals and Other Products Business. We present this award to convey to our partners our desire "to raise value and achieve growth in mutual cooperation with them" and to express our gratitude for their cooperation over the years.

In presenting the award, JSR's research departments, manufacturing technology departments, procurement departments, and business departments evaluate business partners according to their own criteria (e.g., ability to present new proposals, supply performance, cost, ability to meet deadlines, etc.) and provide feedback. We then choose the business partner that scores the highest for the award.

We also share the results of this process within the company and use them as a point of reference when studying raw materials needed for new product development.

(2) Holding of agency meetings and presentation of agency awards (Specialty Elastomer Department, Petrochemical Products Business)

Since 2013, we have been holding annual meetings with our agencies each February. The purposes of these meetings are to nurture a sense of unity with our agencies with an eye to strengthening sales and to improve their knowledge of our products by sharing problems, grasping raw materials trends, and introducing products. We also recognize one domestic agency and one overseas agency that have made particularly noteworthy contributions to sales.

Social Issues Attributable to JSR Group's Corporate Activity

Communication with Communities and Society

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. Basic Philosophy
2. Organization
3. In the FY ended March 2016 Progress of Initiatives
 - (1) Social Welfare Activities
 - (2) Health, Medicine, and Sports
 - (3) Academic and Research Programs
 - (4) Education and Social Education
 - (5) Culture and the Arts
 - (6) Environmental activities
 - (7) Community activities, preservation of historic sites and traditional culture
 - (8) Assistance to Disaster-Stricken Areas

1. Basic Philosophy

JSR Group has been involved in various social contribution programs with a focus on community activities. In January 2009 we established our "Basic Approach to Social Contribution" as a philosophy aimed at further strengthening our activities. We are currently implementing the initiatives outlined in this philosophy.

Basic Philosophy to Social Contribution

- (1) Our Corporate Mission dictates that we contribute to society through our business activities. Further, we are actively engaged in providing solutions to social requirements and issues as a responsible member of society.
- (2) We are continuously engaged in positive social contribution activities, capitalizing on the chemical and technical knowledge and skills that form the core of JSR business.
- (3) Every employee is a point of contact between the Company and society, and we actively support our employees in their voluntary participation in social contribution activities.

Additionally, in 2010 we established "standards for making donations to disasters" in order to stipulate evaluation criteria when making donations to natural disasters. This brought greater clarity to standards and allows contributions to be made promptly and fairly.

2. Organization

JSR Social Contribution Committee plans and executes activities that promote JSR Group's standing as a good corporate citizen.



3. In the FY ended March 2016 Progress of Initiatives

The following section describes some of our main social and community activities for FY2016.

(1) Social Welfare Activities

1. Participation in blood donation activities: Domestic and overseas business bases

JSR Group continues to participate in blood donation activities as part of volunteer programs conducted at local offices in Japan and abroad. In FY2016, Emulsion Technology Co., Ltd. received a letter of appreciation from the Minister of Health, Labour and Welfare for its many years of cooperation in promoting blood donation activities.



2. JSR Micro Korea Co., Ltd. - "Ai-no-Wakeai-Kai" Donating fruit to senior citizens' welfare centers

In September 2016, JSR Micro Korea Co., Ltd. joined with companies in the Ochang Scientific Industrial Complex to visit and donate fruit to nearby senior citizens' welfare centers.



3. JSR Micro Taiwan Co., Ltd. - Book donation

In February 2017, JSR Micro Taiwan Co., Ltd. donated books it owned to twelve nearby public institutions to encourage reading.



4. JSR Group - Conducting programs in Tokyo, Yokkaichi, and Tsukuba to donate coins to foreign countries

JSR Group has been conducting a foreign coin collection campaign since 2009 to assist programs that support children around the world through the Japan Committee for UNICEF.

These coins are effectively utilized to protect the life, health, and rights of children in developing countries.



5. JSR Group - Donations to food banks in Tokyo

On Disaster Drill Day every September, JSR Group reviews their emergency supplies at offices in Tokyo. Old stored hardtack and water are replaced with new supplies. While some of these supplies are consumed through sample tasting or on other occasions, some are donated by employees and sent to the Second Harvest Japan (2HJ) food bank, a specific non-profit corporation. This helps ensure effective use of the hardtack and water, which has a shelf life of at least one month.

2HJ receives donations of food that would otherwise be disposed of for various reasons from corporations, farmers, and individuals, and sends them to welfare facilities and other organizations in need.

6. JSR Yokkaichi - Participation in aluminum can collection activities

Since October 2010, the Yokkaichi Plant has been participating in aluminum can collection activities for social welfare organizations that help people with disabilities in Yokkaichi City learn to become self-sufficient. These welfare organizations include the "i-project," which targets children, and "Tanpopo," which targets adults. Aluminum cans are useful to multi-functional work environments that incorporate can-crushing activities into their processes. The collection of aluminum cans helps children with disabilities make connections with other people and society, and become more independent. We plan to continue participating in this activity.

7. Tokyo, Yokkaichi, and JM Energy - Plastic bottle cap collection

Instead of burning plastic bottle caps as waste, they are collected and sold to recycling companies. The funds earned through this activity are then used to provide vaccinations to children around the world. We have been involved in this program since 2009.



Plastic bottle cap and aluminum can collection boxes (JSR Yokkaichi Plant)

8. JSR Group - Table for Two Program in Tokyo and Yokkaichi

Since February 2010, JSR Group has participated in the Table for Two (TFT) program. The TFT program provides food to children in Africa through the sharing of meals. When a participant purchases TFT-specified food, it will provide both a healthy food alternative and an opportunity to donate 20 yen per meal, which is enough to pay for a single serving in developing countries with school lunch programs. In addition, Cup for Two beverages are also offered through vending machines at JSR Yokkaichi Plant.



(2) Health, Medicine, and Sports

1. JSR donations to help resolve global health issues

We make donations to medical care support programs such as the Japan branch of the Médecins Sans Frontières NGO to provide treatment for HIV/AIDS and infectious diseases such as cholera and malaria.

2. Yokkaichi – Supporting "Iga FC Kunoichi" of the Nadeshiko women's soccer league

JSR supports Iga FC Kunoichi, a team in the Nadeshiko League. Iga FC Kunoichi is Mie Prefecture's only professional sports team. We will continue to help promote sports in the local community.



(3) Academic and Research Programs

1. Participation in the Human Resources Fostering Program in Chemistry

The Human Resources Fostering Program in Chemistry was created by the Japan Chemical Industry Association (JCIA) in October 2010. It is based on a proposal made in a report prepared in April of the same year by the "Kagaku Bijon Kenkyukai" (chemistry vision study group) of the Ministry of Economy, Trade and Industry. The program informs universities of the chemical industry's human resources needs. Then industry supports the university courses that can meet these needs and their students. Its purpose is to develop the young people who will serve as the foundation for stronger international competitiveness and industrial promotion in Japan's chemical industry. We use the program to support courses engaged in outstanding initiatives and their students.

2. Supporting young researchers through sponsorship of a mini-series

We support young researchers by sponsoring the TBS TV/CBS TV mini-series "Mirai no Kigen (Origin for the Future)."

(4) Education and Social Education

JSR Group provides support for next-generation development and education opportunities through our continued efforts to provide education and internship opportunities to students both in Japan and abroad. We also provide private-sector training to teachers as well as career experience opportunities.

1. JM Energy Corporation – A plant tour by local elementary school children

In May 2016, JM Energy Corporation was selected by Hokuto City's Izumi Elementary School as a place to visit for its school-wide activity called "Furusato Daikoshin" (great hometown march). Seventeen teams comprised of a total of some 170 first to sixth graders toured the JM Energy plant. They saw actual worksites, watched a JM Energy video that explained work processes, and experienced what it's like to be in a manufacturing plant.

2. JSR Kashima Plant - Classes for local junior high school students

In December 2016, we engaged in instructional activities for three different classes of second graders (97 kids) at the Kamisu Daiichi Junior High School in Kamisu City. Three experiments were performed in these classes, including Synthetic Rubber, Balls that Bounce and Ones that Don't, and Unbreakable Plastic. We have created a mascot known as Mr. Molecule to help explain the relationship between molecules and material characteristics.

3. JSR Yokkaichi Plant – Participation in a program for training skilled workers to lead local industry

Yokkaichi Plant accepted a nearby industrial high school for the program.

4. JSR Chiba Plant - Employee presentations at Nihon University

As part of our efforts to promote collaboration between industry and academia*, every year, the Chiba Plant holds presentations at the Nihon University College of Industrial Technology. The course, titled "The Properties and Manufacturing Processes of Rubber and Quality Assurance," was held on October 27, 2016 for nearly 100 students.



* Ichihara City's program to strengthen collaboration between industry and academia

5. JSR Head Office and Chiba Plant - Teacher training program at a private company

Since FY2010, JSR Group has participated in a teacher training program at a private company that is organized by the Keizai Koho Center. In FY2016, we held a two-day training session from August 23 to 24 at the Head Office and Chiba Plant with six teachers to help them learn more about the basic attitudes required to do business, company efforts needed to address environmental problems, and human resources development. The purpose is to have teachers utilize this training experience in children's education and school administration.

6. JSR Head Office - Providing teaching materials for education in developing countries

We provided JSR-made 3D printer materials to activities by AIESEC, a specified non-profit organization, to help improve the quality of primary education in Southeast Asia. Japanese university students who are interested in educational issues and technology prepared teaching materials using 3D printers. They then visited areas of Southeast Asia as interns and provided education using their prepared materials. The aim was to expand the free thought, independence, and creativity of local children through education in which they use their hands and heads and thus become human resources for the future. Additionally, JSR employees taught the participating university students 3D printer technology, which resulted in the students' acquiring skills with those technologies.

7. JSR Group - Book bag donations in Yokkaichi

Since 2014, the Yokkaichi Plant, with cooperation from JSR Group and JSR Labor Union, has participated in the "Memory Book Bag (Radoseru) for Children in Afghanistan" event held by JOICFP, an NGO engaged in international cooperation. Through the event, we donate unused school bags to underprivileged children in Afghanistan to assist their education. The event's aim is to help give children the knowledge and information they need to keep themselves and their families healthy by attending school and learning to read and write. In FY2016, we joined with JSR's business partners to donate 18 book bags as well as pencils, notebooks, and other stationery. We will remain involved with the event, viewing it as a social contribution activity in which individual employees can participate.



(5) Culture and the Arts

1. Chiba - Public relations support for Ichihara Art x Mix 2017

Ichihara Art x Mix is an event organized by Ichihara City and held jointly with Chiba Prefecture and neighboring municipalities. Staged in a community woodland of southern Ichihara City, it is held as a local art festival that highlights local resources through modern art. This year's event is the second held thus far, the first being in 2014. JSR assists in public relations for it and contributes to the promotion of local arts.

1. Tsukide Kousya (former Tsukide Elementary School)



2. Tsukizaki Station/Quard's Forest



3. Former Satomi Elementary School



(6) Environmental activities

JSR Group continues to help with local clean-up activities of roads, coastlines, and rivers at domestic and overseas offices and plants.

1. JSR BST Elastomer Co., Ltd. in Thailand - Participation in international cleanup activities

Following last year, we again participated in the International Coastal Cleanup event organized by the Ocean Conservancy NPO based in the US. In 2016, 108 employees and their families helped clean Mae Ram Phueng Beach and Namrin Payung Beach in cooperation with other companies located in the same industrial park, other local businesses, educational institutions, and community volunteers.

This event is held on the third Saturday in September all around the world to clean beaches, lakes, seas, and rivers in various countries. The participation of nearly 500,000 people in 91 different countries makes this one of the largest marine conservation project in the world.

2. Yokkaichi Plant - Cleanups on Toshijima Island

We participate in coastal cleanup activities on Toshijima, an island in Toba City, Mie Prefecture.

These activities began in FY2012 and have continued each year since.

Companies and local governments that are members of the Mie Prefecture Industrial Waste Solutions Promotion Committee participate. JSR Yokkaichi Plant serves as an executive member company of the committee.



(7) Community activities, preservation of historic sites and traditional culture

1. Yokkaichi Plant – Participation in the Mie Leading Industry Exhibition

In November 2016, we participated in the Mie Leading Industry Exhibition 2016, an event sponsored by Mie Prefecture. This year marked the 14th time the exhibition has been held. A total of 188 companies and organizations participated, including some from Aichi and Gifu Prefectures. They presented their products and technical capabilities through exhibits organized into ten zones, among them "Manufacturing," "Environment and Energy," and "Industry-Academia-Government Collaboration." JSR's booth was visited by some 100 people who included officials from prefectural and municipal offices, companies (including fellow exhibitors), students, former JSR employees, and ordinary citizens.

2. JSR Yokkaichi Plant and Kashima Plant - Participation in regional discussions

The Japan Chemical Industry Association (JCIA) RC committee holds regional dialogue meetings all over Japan as part of its RC initiatives. Participants include local residents, educators, civil servants, and members from various other organizations. They are becoming important events that provide an opportunity to introduce participating companies, to explain their everyday safety and environmental measures to local residents to bolster understanding and peace of mind, and to respond to residents' concerns and questions.

In FY2016, discussions were held in Yokkaichi and Kashima. In Kashima's case, we contributed to the discussion's management by serving as the chair company. The event proved successful in building mutual understanding between us and the local community.



Participation in regional discussions

3. JSR Group - JSR Harmony Festa in Yokkaichi

JSR Harmony Festa is held every year to bring JSR Group and their families together with residents in the local area. Over 1,900 people attended the event, which has become a local custom, in FY2016. The event offered many fun and interesting activities such as various sports and games, soccer lessons, and workshops. The stage was home to a performance by the juggling club of a high school in Mie Prefecture and band performances by student bands from daycare facilities and junior high schools in Yokkaichi City.

4. ELASTOMIX CO., LTD. - Donations to the Otsukado Performing Arts Preservation Society

The Otsukado Performing Arts Preservation Society in Joso City, Ibaraki Prefecture is committed to preserving the old tradition of Tsunabi, which dates back to the Edo Period. Tsunabi is a traditional play that combines puppets and fireworks. The play is enacted with wooden dolls wrapped in fireworks that hang from a string. This play is performed for the public every year at the Grand Festival at Hitokotonushi Shrine in Otsukado. Elastimix donates to this preservation society to help keep this tradition alive.

(8) Assistance to Disaster-Stricken Areas

1. Donations following the 2016 Kumamoto earthquakes and earthquake in central Italy

In the wake of the 2016 Kumamoto earthquakes and an earthquake that struck central Italy, we made donations to provide relief for the victims and help in restoration of the afflicted areas. We offer our sincerest wishes for a quick return to normalcy for everyone who was affected.

2. JSR Group – Holding of a "Tohoku reconstruction support market and wine sale with JSR Trading"

On February 23, 2017, we held a "Tohoku reconstruction support market and wine sale with JSR Trading" at JSR's Head Office.

Held as a joint CSR program by JSR and JSR Trading Co., Ltd., a member of JSR Group, this collaborative undertaking featured sales of specialty products from three Tohoku prefecture that were stricken by the Great



East Japan Earthquake (Iwate, Miyagi, and Fukushima) and tasting and sales of wines imported by JSR Trading. Ten businesses from the three Tohoku prefectures set up sales stands. Several hundred people from both inside and outside the company visited and enjoyed purchasing products while talking to the stand operators. Sales were brisk, with some products selling out almost immediately.

Six years after the Great East Japan Earthquakes, the affected areas continue to move from the reconstruction phase to the business promotion phase. Nonetheless, more than 120,000 people* continue to live as evacuees, and thus the road to recover has only just begun. In addition to making a contribution to society through our business activities, we will continue to actively meet society's requirements and resolve social issues as a responsible member of society.

*The number of evacuees is as of January 16, 2017 (announced by the Reconstruction Agency on January 31, 2017).

Cooperation: Office for disaster victim support coordination, Reconstruction Agency, FY2016, and Mitsubishi Research Institute, Inc.

Social Issues Attributable to JSR Group's Corporate Activity

Communication with Shareholders and Investors

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

By maintaining and enhancing management efficiency, transparency and soundness, we strive to continuously create corporate value and make ourselves even more attractive to our shareholders.

1. Basic Philosophy

Our most important challenges are to strengthen our R&D activities from a long-term perspective, increase our competitiveness by developing new businesses, and maintain long-term growth of our business performance.

We are also working hard to enhance corporate governance with the aim of developing a trusted and attractive corporate culture. Management transparency and soundness are being boosted, and management monitoring and oversight functions are being strengthened through the appointment of independent outside directors and auditors.

2. Codes of Conduct

Code of Conduct to fulfill Responsibility to Shareholders

(1) Code of Conduct for Proper Recording of Information and Disclosure

1. When evaluating business activities, we shall focus not only on final results but also on business processes that deliver those results. We will strive to accurately and explicitly record our business activities.
2. We shall disclose information on management and business activities in a timely and appropriate manner.

(2) Code of Conduct for Preventing Insider Transactions

1. We shall not use, for our private interests, undisclosed material information which we have come to know through conducting our business and which concerns JSR Group and/or other companies in which we engage.
2. In the case that we have and hold any undisclosed material information, we shall not release such information until it is disclosed officially. Additionally, we shall not sell and/or purchase JSR's and/or other relevant companies' shares or relevant financial products until official disclosures are made.

3. Investor Relations

JSR Group strives to promote investor relations (IR) with due consideration for our shareholders and investors, and to disseminate information regarding business situation and corporate policies promptly and accurately.

(1) Shareholders' Meetings

JSR has implemented a variety of measures to facilitate the exercise of shareholder voting rights. These include the holding of the general shareholders' annual meeting at an earlier date to avoid the typical peak period of shareholders' meetings, earlier notification for the meeting, the adoption of a voting system via Internet, participation in electronic platforms for the exercise of voting rights by institutional investors, and the listing of invitations to shareholders' meetings on our website in both Japanese and English.

We aim to make documents attached to invitations to our shareholders' meetings easy to understand. To this end, we provide not only legally required content, but also other useful information, such as information regarding our products and an overview of our mid-term business plan. Additionally, we make effective use of graphs, photographs, and color printing. We also ensure that ordinary general meetings of shareholders are accessible and easy to understand for all shareholders by adopting various measures such as the exhibition of panels to explain about JSR, video and audio information relating to our business conditions, and the President's briefing on the mid-term business plan.



Panel exhibition at a shareholders' meeting

(2) Communication with Shareholders and Investors

In addition to conducting briefings on our business results after each quarter, we also organize seminars for investment institutions and analysts as well as various other events to achieve extensive bi-directional communication with shareholders and investors.

In the FY2016, we held seven seminars for corporate investment analysts. We hold a total of nearly 250 meetings for investors in Japan and overseas per year.

Feedback on opinions and questions received through these meetings is shared with management on a regular basis.

With regard to the global development of JSR Group companies, we intend to implement IFRS* from March 2018 in an effort to improve the comparability of financial information regarding international capital markets.



IR meetings

* International Financial Reporting Standards

We held a meeting for securities company analysts and members of the mass media to explain JSR Group's Life Sciences Business.

Along with the Life Sciences Division, we presented JSR Life Sciences Corporation, Medical & Biological Laboratories Co., Ltd., and KBI Biopharma, Inc., all of which are members of JSR Group, and the JSR-Keio University and Chemistry Innovation Center, which is a joint research facility to be created with Keio University's School of Medicine. We also presented the products they will produce.



(3) Communication through Various Forms of Media

1. Information Disclosure on Our Website

In order to provide the latest information regarding our financial and business performances, JSR Group's website contains the section, "Investor Relations." This section includes the latest IR information, news releases, and the latest stock price information, which are indicated in a way that is easy to see. The section also presents various types of IR information, including documents regarding our business results, annual reports, IR news, information related to our stocks, documents regarding our shareholders' meetings, and our company information for individual investors. We strive to provide necessary information in a timely and easy-to-understand manner.



Our website provides information regarding stock price, news, and other topics in a timely manner

2. Information Disclosure in Annual Reports

We publish an annual report (available only in English) every year regarding the relevant fiscal year's financial results, and management and business situations.

http://www.jsr.co.jp/jsr_e/ir/annual_report.shtml



Annual Report 2017

3. JSR Throughout Society

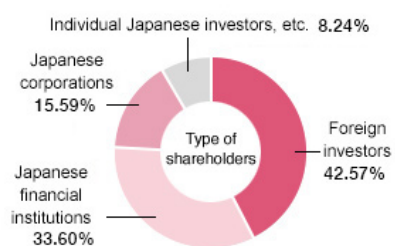
We send the "JSR Throughout Society (available only in Japanese)" brochure to our shareholders. This brochure aims to help our shareholders to understand that our Group's products are used extensively for a wide range of materials and parts needed in society. The brochure explains how our products are utilized in leading-edge fields such as fuel-efficient tires, smart phones, and life sciences field.



JSR Throughout Society Part 9

4. Shareholder Composition

The number of JSR shareholders was 16,586 as of March 31, 2017; shareholder composition is as follows:



* Shares owned by individual Japanese investors, etc. include treasury shares (1.57%).

About JSR Group

JSR Group Profile

FY : Fiscal Year means the year starting April 1st.
For example, FY2016 means April 1, 2016 - March 31, 2017

1. JSR Profile (as of March 31, 2017)

Company name	JSR Corporation
Established	December 10, 1957
Head office	Shiodome Sumitomo Building, 1-9-2 Higashi-Shimbashi, Minato-ku, Tokyo, Japan
President	Mitsunobu Koshiba
Capital	23.3 billion yen
Number of employees	6,790 (consolidated)

2. JSR Group's Major Business (as of March 31, 2017)

The manufacture and sale of the following products

Type of business		Main products	
Petrochemical Business	Elastomers	Synthetic rubbers	Styrene-butadiene rubber, butadiene rubber, ethylene-propylene rubber and other synthetic rubbers and refined processed products
		Thermoplastic elastomers	Thermoplastic elastomers and related processed products
		Emulsions	Latex for paper processing, general industrial-use latex, acrylic emulsion, refined processed products made from raw latex, and other products
		Functional chemicals	High-performance coating materials, high-function dispersant, industrial particles, latent heat storage materials, heat reflection paint material, battery material, and other products
		Other	Chemical products such as butadiene monomers
	Plastics		Synthetic resins such as ABS resin, AES resin, AS resin, and ASA resin
Diversified Businesses	Fine Chemicals Business	Semiconductor Materials	Lithography materials (photo resist and multi-layering materials), CMP materials, packaging materials, etc
		Display Materials	Color LCD materials, anti-reflection film materials, functional coating, and other products
		Optical Materials	Heat-resistant transparent resin, functional films, high-performance UV curable resins, stereolithography, and other products
	Strategic Business and other materials		Life sciences (in vitro reagents for diagnostics and/or research, raw materials for such reagents, bioprocess materials, contract development and manufacturing of biopharmaceuticals) and Lithium ion capacitors

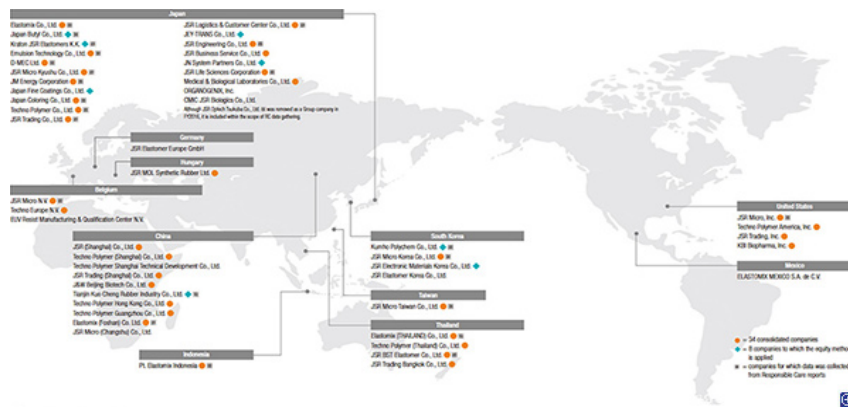
3. JSR Corporation's Business Establishments

(as of March 31, 2017)

Head office	1-9-2 Higashi-Shimbashi, Minato-ku, Tokyo, Japan	
Branches	Nagoya Branch	Nagoya City, Aichi Prefecture
Plants	Yokkaichi Plant	Yokkaichi City, Mie Prefecture
	Chiba Plant	Ichihara City, Chiba Prefecture
	Kashima Plant	Kamisu City, Ibaraki Prefecture
Research centers and laboratories	Performance Polymer Research Laboratories	Yokkaichi City, Mie Prefecture
	Display Materials Research Laboratories	Yokkaichi City, Mie Prefecture
	Fine Electronic Materials Research Laboratories	Yokkaichi City, Mie Prefecture
	Advanced Materials Research Laboratories	Yokkaichi City, Mie Prefecture
	Tsukuba Research Laboratories	Tsukuba City, Ibaraki Prefecture
Overseas branches / offices	Singapore Branch	Singapore
	Taiwan Branch	Taiwan

- Notes:
1. JSR closed its Wallisellen office in Switzerland effective from July 1, 2016, and the transferred its business to JSR Elastomer Europe GmbH.
 2. Effective from April 1, 2017, JSR established the Yokkaichi Research Center and placed thereunder the Performance Polymer Research Laboratories, Display Solution Materials Research Laboratories (renamed), Fine Electronic Materials Research Laboratories, Advanced Materials Research Laboratories, and Edge Computing Research Laboratories (newly established).
 3. JSR closed its Singapore Branch on July 12, 2017.

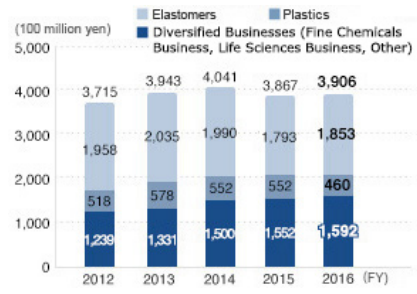
4. JSR Group Companies (as of March 31, 2017)



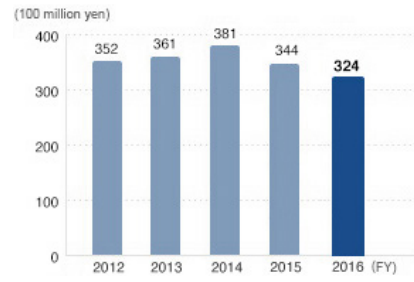
JSR Group Companies ([PDF 282KB](#))

5. Financial Information

Net Sales (consolidated)



Operating Income (consolidated)



TOP ▲

Evaluation by Outside Organization, Third-Party Opinion, and Independent Review

1. Inclusion into International Indices and universe for international socially responsible investment

(Current as of July 3, 2017)

JSR Group CSR activities have been evaluated by an outside organization. We have earned inclusion into the following socially responsible investment (SRI) indices and brands.



We have been a constituent of the FTSE4Good Index Series since 2004.



We were selected as one of top 120 global companies included in the Euronext Vigeo Eiris World 120 Index.



We were reconfirmed for inclusion in the Ethibel Pioneer & Excellence Investment Registers on June 30, 2017.



January 4, 2017

We have been selected as a member of the Morningstar Socially Responsible Investment Index, Japan's major SRI index, since 2009.

* The Morningstar Socially Responsible Investment Index represents 150 domestic companies selected as being exceptionally socially responsible. This stock index does not guarantee future performance nor does it assume any responsibility. Morningstar Japan K.K. and Morningstar, Inc. shall not bear any responsibility for damage that might result from use of the index. Copyright and all other rights rest with Morningstar Japan K.K. and Morningstar, Inc. Copies, reproductions, and citation without permission are prohibited.



We were selected by SNAM (Sompo Japan Nipponkoa Asset Management Co., Ltd.) as a brand for investment of the SNAM Sustainable Investment Fund in recognition of our standing as a company with a high ESG (Environment, Social, and Governance) evaluation.



In March of 2017, we were selected as an FY2016 Nadeshiko Brand initiative by the Ministry of Economy and Tokyo Stock Exchange in recognition of our efforts to support female employees.



"White 500" Enterprise of the Certified Health and Productivity Management Organization Recognition Program.

We were selected as a company practicing outstanding health and productivity management by the Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi.



We were selected as an investment brand of the "FTSE Blossom Japan Index" for being a Japanese company with excellent consideration for ESG (Environment, Social, and Governance)



We were selected by MSCI as an investment brand of the "MSCI Japan Empowering Women Index (WIN)" for being a company with excellent gender diversity.

We were also ranked 90th in the 2016 Channel NewsAsia Sustainability Ranking. Additionally, the JSR Group has continually been ranked in the Global Compact 100 since FY2013.

2. Third-Party Opinion



Toshihiko Goto

Chief Executive Officer

Sustainability Forum Japan (specified non-profit organization)

The year 2016 was marked by events that went contrary to most predictions, among them the UK's exit from the European Union and the election of Mr. Donald Trump as the US president. It is possible that, in an age of uncertainty, we have become conservative, unable to find a new way forward. However, whatever is happening, the background of it is the fall of the middle class in developed countries.

Nonetheless, the Paris Agreement came into effect on November 4, 2016, less than 11 months after its adoption. Remembering that it took more than seven years for the Kyoto Protocol to come into force, I think this demonstrates just how much of a sense of crisis exists in the world. In fact, India has declared that it will not sell cars that run on fossil fuels beginning in 2030. France has declared the same beginning in 2040. Reports indicate that China is also planning to make the production of new energy vehicles mandatory. These are proof that movement under a new paradigm—sustainable development within a finite global environment—has started. It is said that, in general, Japanese society has a weak sense of crisis concerning climate change. Even so, I hope that JSR will persist in living up to its ideals when it says "Materials Innovation—We create value through materials to enrich society, people, and the environment." For example, natural rubber faces a great problem—namely, destruction of tropical rainforests. This is why we need to find alternatives. Apart from this, I would like you to also consider how to respond to the expanding social disparities in Japan, which is the second worst of the developed countries. Such expansion roughly corresponds to the fall of the middle class and poverty in single-mother households. As with your commitment to the idea that "business opportunities can be found in efforts to solve social problems," whether your products are materials business, or business model is B to B, you can find ways forward particularly by knowing needs within work-style reform (typically not limited to just the company) and on the upstream and downstream sides of the value chain. The eradication of poverty is an issue that underlies the "2030 Agenda for Sustainable Development (SDGs)."

Considerable attention has been given to IoT, AI, and other forms of digital innovation, and I get the sense that there has been a transition from last year to this year, as Japanese companies that had been slow to embrace digital innovation have begun to grapple with it as one. I applaud what you are doing in its Fine Chemicals Business and other areas.

I note with great appreciation that you have formulated an ideal vision of yourself in 2030, something that I recommended last year. I also note that, based upon it, you are committed to "having the young generation take the lead in setting our direction for the twenty years, and thirty years, that come after that." I look forward to seeing you assemble a team of young people to build this vision of the future.

The nurturing of producers and technologists and the promotion of diversity, women's involvement, and productivity are coaxial issues. A necessary element for achieving them is work-life management. I hope you will persist in tackling it as a material management item. You have prepared a "Basic Philosophy for Occupational Health and Safety" and a "Course of Action," and have begun taking steps toward "becoming a "mutually enlightened organization." One way of getting there systematically is integration with ISO 14001, and so I think this is one item worthy of consideration. The switch to the ISO 14001:2015 will take place

this year, and I expect that your stance of "active approach = eco innovation = opportunity" will become increasingly apparent. As for measures to combat the climate change, I think they are helpful both for the risk management and opportunity creation in terms of not only "mitigation" but also "adaptation."

I had the feeling that, although you consider everything earnestly throughout the entirety of your business, your perspectives and challenges tend to be somewhat internalized. Given the great possibility that your businesses will continue changing in the years ahead, and considering that you cannot achieve sustainability without change, I think you must take more of an "outside-in" perspective whereby you view yourself from outside. One of the first steps is to do more to encourage each employee to become involved in volunteering and outside study to increase his or her social capital (which roughly translates into "richness of personal networks"). Finally, I feel that you would do well to make greater use of numerical data. I would suggest considering the compilation of a separate data collection.

Profile

Chief Executive Officer, Sustainability Forum Japan (specified non-profit organization)
Chairman, Sustainable Management Forum of Japan, Japan Sustainable Investment Forum (JSIF) ;
Director, Green Finance Organization ; Board Member, Global Compact Network Japan etc.
Serves as chair and member of multiple committees, including Member of the working group studying revision of the Ministry of the Environment project EA21; Convener of the working group to develop a platform for disclosing environmental information; Member of the judging committee for the Environmental Communication Awards; Chair of the committee to study the Eco-CRIP project; and Head of the Tripartite Roundtable on Environmental Business (TREB) attached to the Tripartite Environmental Ministers Meeting among Japan, China, South Korea (TEMM). An expert in ISO/TC 207. Former Board Member of GRI. Graduate of Faculty of Law, The University of Tokyo.

Upon Receiving the Third-Party Opinion

Thank you for your feedback on the JSR Group's CSR report.

We strive to resolve social issues based on the view that management that fulfills our corporate mission of "Materials Innovation - We create value through materials to enrich society, people and the environment" and CSR are indistinguishable. This fiscal year, we arranged priority issues for the JSR Group into three axes. At the same time, we have drawn up a vision of ourselves as a company and given greater clarity to our stance and targets for each priority issue.

We have begun work toward executing your proposal of "assembling a team of young people to build our vision of the future." As for "increasing the social capital of each employee," we intend to consider this issue within the contexts of increasing opportunities for outside interaction for employees and our approach to social contribution. We will also consider system-based responses and the preparation of a data collection as part of an effort to improve our safety culture.

CSR Department, JSR Corporation

3. Independent Review

The JSR Group has been independently reviewed by the Responsible Care Verification Center of the Japan Chemical Association regarding the content found in the printed and online versions of the JSR Group CSR Report 2017.

- [Click here for the Independent Review Report \(PDF 364kb\)](#) 



Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

JSR Group CSR Report 2017 Independent Review Report

July 14, 2017

To: **Mitsunobu Koshiba,**
Representative Director and President, JSR Corporation

Chief Director, Responsible Care Verification Center
Japan Chemical Industry Association

Shigetoku Nagamatsu

■ Objective of Verification

This Responsible Care® report verification is performed by the Responsible Care Verification Center with respect to the “JSR Group CSR Report 2017 (Online Version) and its Highlight Version” prepared by JSR Corporation (hereinafter, “Report”), with the objective of verifying the following and reporting opinions from the perspective of an independent third-party specialist in the chemical industry.

- 1) The reasonableness of the calculation and aggregation methods of performance indices (numerical data) and the accuracy of the numerical data
- 2) The accuracy of information other than numerical data
- 3) Responsible Care and CSR activities
- 4) Characteristics of the Report

■ Verification Methodology

- At the Head Office: An inspection concerning the reasonableness of the aggregation method of numerical data reported from each site (office, plant) as well as the accuracy of information other than numerical data. It was conducted by interviewing relevant business managers and Report editors concerning the content as well as receiving necessary documents and explanation.
- At the Chiba Plant: An inspection concerning the reasonableness of the calculation methods of numerical data reported to the Head Office and the accuracy of numerical data as well as the accuracy of information other than numerical data. It was conducted by interviewing relevant business managers and Report editors, receiving necessary documents and explanations, and checking them against evidence.
- The numerical data and other information provided in the Report were inspected by sampling.

■ Opinion

- 1) The reasonableness of the calculation and aggregation methods of performance indices (numerical data) and the accuracy of the numerical data
In this item, we have confirmed the following:
 - Reasonable methods were adopted for the calculation and aggregation of numerical data at both the Head Office and the Chiba Plant.
 - Within the inspection, the numerical data is calculated and aggregated accurately.
- 2) The accuracy of information other than numerical data
In this item, we have confirmed the following:
 - Information provided in the Report is accurate. Some suggestions were given at the drafting stage concerning inappropriate expressions and difficult-to-understand text; however, they all have been corrected in the current Report.
- 3) Responsible Care (RC) and CSR activities
 - We positively acknowledge company-wide activities aimed at establishing a safety foundation. We hope to see systematic implementation and further improvements in areas that include improvement of equipment and facilities, creation and sharing of a database of accident cases, development of training systems to reinforce the transfer of technical knowledge, and HAZOP-based reevaluation of processes and identification of risk factors.
 - We positively acknowledge JSR’s initiatives aimed at achieving “mutual enlightenment”-based “felt leadership” in building a safety culture. We hope JSR will take steady steps forward in this area, beginning with line managers who take the initiative in demonstrating action that is “felt by subordinates” and extending to all members, including administrative staffers, who stimulate the entire organization through mutual enlightenment.
 - The ideals of a consistent “challenge-oriented posture” and “initiatives to fully apply people’s unique attributes” that are noted in JSR’s Course of Action appear in various settings and places, including in dialogues with experts. We hope JSR will become even more active in addressing work-style reform and the digital revolution.
 - We positively evaluate the fact that various initiatives are being implemented at the Chiba Plant. They include taking action with clear priority themes set forth in an RC promotion plan and reinforcing safety-oriented initiatives; preparing a KK (*kiken-kanjusei* [danger sensitivity] and *kiken-kankosei* [danger reactivity]) map based on questionnaires, ascertaining actual circumstances in the organization, and responding by calling attention to dangers through sharing of actual experiences with HH (*hiyari hatto*; close calls and near accidents); and holding “blind scenario”-based drills (with the participation of operators and their section chiefs) and making use of them to improve response when plant abnormalities occur, transferring technologies, and maintaining security.
- 4) Characteristics of the Report
 - Prepared to be easily comprehensible and readable, this Report consists of an Online Version that reports JSR Group initiatives on CSR activities with comprehensive data and a Highlight Version that summarizes the highlights of the Online Version.

ISO26000 Compatibility Table

ISO 2600 is an international guideline on organizational social responsibility that was issued by the International Organization for Standardization in November of 2010.

Core Subjects and Issues		Item	JSR Group Activities	Compatibility
Core Subject 1 Organizational Governance	Organizational Governance	6.2	<ul style="list-style-type: none"> Development and implementation of corporate governance structure Signing of UN Global Compact and integration of CSR and management 	○
Core Subject 2 Human Rights	Issue 1 Due diligence	6.3.3	<ul style="list-style-type: none"> Specified response as "Code of Conduct for Respecting Human Rights" in the Principles of Corporate Ethics and promoted it through the Corporate Ethics Committee Spreading corporate ethics training (e-learning) and legal compliance checking system throughout the company Monitoring the supply chain through the CSR/sustainable procurement mechanism Confirming through an employee hotline and Hotline for Business Partners Implementing communication-building activities with local communities at each office/workplace 	○
	Issue 2 Human rights risk situations	6.3.4	<ul style="list-style-type: none"> Clearly noted support for the Universal Declaration of Human Rights in the Principles of Corporate Ethics Prepared policy on conflict minerals and built a mechanism for periodic confirmation that no conflict materials are used as raw materials. Conducting supplier surveys to confirm that no conflict materials are used as raw materials based on them. Providing natural disaster-related support as needed and making donations to humanitarian organizations 	○
	Issue 3 Avoidance of complicity	6.3.5	<ul style="list-style-type: none"> Specified response as "Code of Conduct for Respecting Human Rights" in the Principles of Corporate Ethics Confirming with suppliers that no complicity exists in CSR/sustainable procurement mechanism Implementing communication-building activities with local communities at each office/workplace 	○
	Issue 4 Resolving grievances	6.3.6	<ul style="list-style-type: none"> Set up employee hotline that includes overseas Group companies that can handle grievances in various languages Established a suppliers' hotline for business partners Implementing communication-building activities and handling grievances with local communities at each office/workplace 	○
	Issue 5 Discrimination and vulnerable groups	6.3.7	<ul style="list-style-type: none"> Signed the UN Global Compact Stipulated respect for basic human rights and prohibition of discrimination in the Principles of Corporate Ethics Set up an employee hotline Responding by setting up systems for supporting women's involvement, persons with disabilities, etc. 	○
	Issue 6 Civil and political rights	6.3.8	<ul style="list-style-type: none"> Stipulated respect for human rights, prohibition of discrimination, and respect for the thoughts and beliefs of others in the Principles of Corporate Ethics Completed the establishment of internal rules concerning disciplinary measures to prevent unfair discipline Guaranteeing employees' freedom of association Promoting monitoring of improper treatment, etc., through the Corporate Ethics Committee and hotline 	○
	Issue 7 Economic, social and cultural rights	6.3.9	<ul style="list-style-type: none"> Cooperating with social welfare activities Cooperating with TFT (support for children in developing countries) Supporting (making donations to) Médecins Sans Frontières, etc. 	○

	Issue 8	Fundamental principles and rights at work	6.3.10	<ul style="list-style-type: none"> Have a department in charge of the labor environment and promoting equal opportunity, prohibiting discrimination, and eliminating forced labor and child labor Have a labor union and securing freedom of association and collective bargaining rights Have above items specified in the Principles of Corporate Ethics Promoting monitoring of improper behavior through the Corporate Ethics Committee and hotline 	○
Core Subject 3 Labor Practices	Issue 1	Employment and employment relationships	6.4.3	<ul style="list-style-type: none"> Specified employment/employment relationships in the Principles of Corporate Ethics and preparing/executing work regulations based on labor laws Confirming suppliers' circumstances in CSR/sustainable procurement Securing personal information and privacy of workers with a confidential information management system Hiring employees of host countries by overseas Group companies, etc. 	○
	Issue 2	Conditions of work and social protection	6.4.4	<ul style="list-style-type: none"> Prepared the Principles of Corporate Ethics and work regulations and responding accordingly Promoting work-life management measures 	○
	Issue 3	Social dialogue	6.4.5	<ul style="list-style-type: none"> Regularly engage in dialogue and labor negotiations with the labor union 	○
	Issue 4	Health and safety at work	6.4.6	<ul style="list-style-type: none"> Handled through Responsible Care (RC) activities (environment and safety management systems) 	○
	Issue 5	Human development and training in the workplace	6.4.7	<ul style="list-style-type: none"> Completed preparation of various training programs and HR development programs 	○
	Core Subject 4 The Environment	Issue 1	Prevention of pollution	6.5.3	<ul style="list-style-type: none"> Promoting and managing prevention of pollution through the Responsible Care (RC) Committee Preventing pollution at each office/workplace based on environment and safety management systems Acquired ISO 14001 certification Requesting that suppliers also prevent pollution within the CSR/sustainable procurement mechanism
Issue 2		Sustainable resource use	6.5.4	<ul style="list-style-type: none"> Managing sustainable resource use through the Responsible Care (RC) Committee Completed preparing environment and safety management systems at each office/workplace Prepared the JSR Group Paper Procurement Guideline and proceeding with switch to FSC-certified paper 	○
Issue 3		Climate change mitigation and adaptation	6.5.5	<ul style="list-style-type: none"> Promoting and managing initiatives to reduce GHG emissions through the Responsible Care (RC) Committee Implementing measures of the E2 Initiative™ (eco-innovation, energy management) Responding to the CDP 	○
Issue 4		Protection of the environment, biodiversity and restoration of natural habitats	6.5.6	<ul style="list-style-type: none"> Formulated a biodiversity policy and conducting material surveys, procuring FSC-certified paper, and improving plant green areas based on the policy 	○
Core Subject 5 Fair Operating Practices	Issue 1	Anti-corruption	6.6.3	<ul style="list-style-type: none"> Responding by preparing the Principles of Corporate Ethics, corporate ethics training, CSR procurement, an employee hotline, and a suppliers' hotline Responding by formulating anti-corruption regulations Established regulations on conflicts of interest and responding accordingly, etc. 	○
	Issue 2	Responsible political involvement	6.6.4	<ul style="list-style-type: none"> Specified response as "Code of Conduct for Gifts and Entertainment" in the Principles of Corporate Ethics Monitoring through hotline reports, internal auditing, etc. 	○
	Issue 3	Fair competition	6.6.5	<ul style="list-style-type: none"> Ensuring fair competition through the Principles of Corporate Ethics, legal compliance checking system, and Antitrust Act training 	○
	Issue 4	Promoting social responsibility in the value chain	6.6.6	<ul style="list-style-type: none"> Implementing CSR/sustainable procurement 	○
	Issue 5	Respect for property rights	6.6.7	<ul style="list-style-type: none"> Specified respect for own and other companies' intellectual property rights in the Principles of Corporate Ethics 	○

Core Subject 6 Consumer Issues	Issue 1	Fair marketing, factual and unbiased information and fair contractual practices	6.7.3	<ul style="list-style-type: none"> Specified response in the Principles of Corporate Ethics (responsibility to customers/business partners) 	○
	Issue 2	Protection of consumers' health and safety	6.7.4	<ul style="list-style-type: none"> Specified response in the Principles of Corporate Ethics Issuing Safety Data Sheets (SDS) 	○
	Issue 3	Sustainable consumption	6.7.5	<ul style="list-style-type: none"> Implementing measures of the E2 Initiative™ (eco-innovation, energy management); also implementing Life Cycle Assessment within those measures 	○
	Issue 4	Consumer service, support, and complaint and dispute resolution	6.7.6	<ul style="list-style-type: none"> Employing a sales style in which sales personnel are assigned to all customers and take care of those customers Set up a contact point for written complaints on the company website 	○
	Issue 5	Consumer data protection and privacy	6.7.7	<ul style="list-style-type: none"> Completed preparation of Information Security Policy and documentary information management regulations 	○
	Issue 6	Access to essential services	6.7.8	<ul style="list-style-type: none"> No pertinent activities 	—
	Issue 7	Education and awareness	6.7.9	<ul style="list-style-type: none"> SDS Technical service for business partners 	○
Core Subject 7 Community Involvement and Development	Issue 1	Community involvement	6.8.3	<ul style="list-style-type: none"> Holding plant tours for local residents, participating in community events, providing science visiting lessons at schools, etc. 	○
	Issue 2	Education and culture	6.8.4	<ul style="list-style-type: none"> Providing visiting science lessons at schools, accepting students for career experience opportunities, providing production engineering lectures at universities, providing teacher training, accepting interns, hosting various community events, promoting children's school attendance in developing countries through cooperation with TFT 	○
	Issue 3	Employment creation and skills development	6.8.5	<ul style="list-style-type: none"> Promoting employment of persons with disability, supporting career re-entry, etc. Providing employment in plants' host areas 	○
	Issue 4	Technology development and access	6.8.6	<ul style="list-style-type: none"> Reducing GHG emissions at the Yokkaichi Plant through generation of a portion of in-house generated power from natural gas cogeneration. 	○
	Issue 5	Wealth and income creation	6.8.7	<ul style="list-style-type: none"> Hiring employees from the community, etc. 	○
	Issue 6	Health	6.8.8	<ul style="list-style-type: none"> Responding through Responsible Care (RC) activities (product safety) 	○
	Issue 7	Social investment	6.8.9	<ul style="list-style-type: none"> Cooperating in exhibits of museums in Yokkaichi City, co-sponsoring events, promoting volunteer activities, cooperating with TFT, donating to Médecins Sans Frontières 	○

Report Downloads

1. JSR Group CSR Reports
2. JSR Micro, Inc. CSR Report
3. JSR Micro N.V. CSR Report
4. RC Site Report

1. JSR Group CSR Reports

The CSR Report 2017 is issued as an Online Version and a Highlight Version.

Online Version: A detailed report with data that primarily focuses on JSR's initiatives targeting priority issues

Highlight Version: A report that provides highlights of JSR's activities

Click on the images to link to the individual reports.

2017 Edition For the period between April 1, 2016, and March 31, 2017

Online Version



Highlight Version



2016 Edition For the period between April 1, 2015, and March 31, 2016

Online Version



Print Version



2015 Edition For the period between April 1, 2014, and March 31, 2015

Online Version



Print Version



2014 Edition For the period between April 1, 2013, and March 31, 2014

Online Version



Print Version



2013 Edition For the period between April 1, 2012, and March 31, 2013

Online Version



Print Version



2012 Edition For the period between April 1, 2011, and March 31, 2012

Online Version



Print Version



2011 Edition For the period between April 1, 2010, and March 31, 2011

Online Version



Print Version



2010 Edition For the period between April 1, 2009, and March 31, 2010

Online Version



Print Version



Online Version



Print Version



2. JSR Micro, Inc. CSR Report

JSR Micro, Inc. CSR Report



- JSR Micro, Inc. CSR Report 2016 ([PDF 5.1MB](#))



- JSR Micro, Inc. CSR Report 2014 ([PDF 4.5MB](#))



- JSR Micro, Inc. CSR Report 2012 ([PDF 8.0MB](#))

3. JSR Micro N.V. CSR Report

JSR Micro N.V. CSR Report



- JSR Micro N.V. CSR Report 2017 ([PDF 821kb](#))



- JSR Micro N.V. CSR Report 2015 ([PDF 4,416kb](#))

4. RC Site Report

Responsible care report of each Plant (Japanese only)

Responsible Care Reports have not been issued for the Chiba Plant and Kashima Plant since FY2015.

- [Yokkaichi Plant Responsible Care Report](#)
- [Chiba Plant Responsible Care Report](#)
- [Kashima Plant Responsible Care Report](#)



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