


Innovation all for the patients



CHUGAI PHARMACEUTICAL CO., LTD.

 A member of the Roche group

CHUGAI PHARMACEUTICAL CO., LTD.

ESG Meeting

November 16, 2021

Event Summary

[Company Name]	CHUGAI PHARMACEUTICAL CO., LTD.	
[Company ID]	4519-QCODE	
[Event Language]	JPN	
[Event Type]	Analyst Meeting	
[Event Name]	ESG Meeting	
[Fiscal Period]		
[Date]	November 16, 2021	
[Number of Pages]	47	
[Time]	10:00 – 11:32 (Total: 92 minutes, Presentation: 62 minutes, Q&A: 30 minutes)	
[Venue]	Dial-in	
[Venue Size]		
[Participants]		
[Number of Speakers]	5	
	Motoo Ueno	Representative Director, Deputy Chairman
	Toshiaki Itagaki	Executive Vice President & CFO
	Tsukasa Kusano	Vice President, Head of Clinical Development Division
	Shigehiro Yamada	Head of Sustainability Department
	Seiji Saito	Digital Engineering Department
	Toshiya Sasai	Head of Corporate Communications Department
[Analyst Names]*	Hidemaru Yamaguchi	Citigroup Global Markets Japan Inc.
	Kazuaki Hashiguchi	Daiwa Securities Co. Ltd.
	Shinichiro Muraoka	Morgan Stanley MUFG Securities Co., Ltd.

*Analysts that SCRIPTS Asia was able to identify from the audio who spoke during Q&A.

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Presentation

Sasai: Let's get started. Ladies and gentlemen, thank you very much for taking time out of your busy schedules to participate in today's CHUGAI PHARMACEUTICAL ESG briefing. My name is Sasai from Corporate Communications, and I will be moderating today's session. Thank you.

In order to prevent the spread of the coronavirus infection, today's session will be conducted by both on-site presentation and conference call.

Chugai ESG Meeting Agenda



01	Sustainability Management	Representative Director & Deputy Chairman Motoo Ueno
02	Materiality and ESG Ratings	Executive Vice President & CFO Toshiaki Itagaki
03	ESG in the Context of Growth Strategy Drug Development in Pursuit of Sustainable Healthcare	Vice President & Head of Clinical Development Div. Tsukasa Kusano
04	ESG in the Context of Growth Strategy Global Environmental Initiatives (Pharmaceutical Technology)	Head of Sustainability Dept. Shigehiro Yamada, Ph.D.

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The agenda for today's briefing is shown on the screen in the hall, on the web screen, and on the second page of the presentation materials. Our presentation will be in line with the materials. Questions will be taken after all presentations have been completed. The Q&A is scheduled to take about 30 minutes.

Mr. Ueno, Chugai's Representative Director and Deputy Chairman, will now talk about sustainability and management. Thank you.

Ueno: Good morning, everyone. I'm Ueno. Thank you very much for attending the third Chugai ESG briefing.

The social and economic environment is changing rapidly. The coronavirus pandemic has contributed to this. We are facing a variety of societal issues, and we believe that dialogue with our stakeholders is essential in addressing these issues. Today's session will take just under an hour. Today, 110 people are joining us for this event. Of those, less than 10 people are in attendance at the venue. Last year, about 80 people attended the briefing, of whom 20 came to the venue. With the impact of COVID-19, I believe that this is part of the so-called New Normal, where digitalization creates new opportunities for meeting peoples' diverse needs.

Our contact with medical institutions continues to be strained by COVID-19. In this context, we have been holding webinars, which have been well received by doctors who are usually unable to participate due to long distances to travel. I think that hybrid events will continue to take hold in the future.

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Chugai ESG Meetings

- Aiming to improve engagement and upgrade ESG initiatives through PDCA cycling -



2019 1st ESG Meeting

- ESG overview -

【Meeting topics】

- Value Creation by Chugai
- Material Issues
- IBI 21 and ESG Initiatives

【Lessons from meeting】

- ✓ Focus on stakeholder concerns
- ✓ Importance of strategy/planning

2020 2nd ESG Meeting

- ESG strategies/plans -

【Meeting topics】

- Progress toward sustainability
- Sustainability-related indicators
- Long-term plan (SCM/environment)
- Global health

【Lessons from meeting】

- ✓ Explanation of ESG as management strategy
- ✓ Breadth of risk analysis

2021 3rd ESG Meeting

- ESG as management strategy -

Relationship between growth strategy and material issues

Explanation of ESG carried out by business units as one component of management strategy

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First of all, I would like to talk about the subject of today's briefing. As I just mentioned, this is our third talk on this topic. In the first presentation, I gave an overview of Chugai's ESG initiatives. In the second presentation, last year, I gave an overview of our main themes.

According to the questionnaire we distributed, some investors said that they had a relatively good understanding of Chugai's individual ESG activities, but they wanted an explanation of how ESG relates to drug discovery and growth strategies. So this time, I'd like to go one step further and focus on how Chugai is promoting ESG as a management strategy, what we are doing, and what we want to do.

I would also like to mention that our management strategy and ESG activities are interdependent.

Going forward, we will continue to hold ESG briefings as well as review our ESG initiatives. We will do this through the PDCA cycle and through dialogue with stakeholders.

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Outside Director's Message

- Significance of ESG meetings -



Outside Director
Yoichiro Ichimaru

Your candid input makes Chugai stronger

Chugai has adopted a basic policy of creating shared value with society and designated ESG as a medium/long-term management strategy. As part of its vision of becoming a top innovator by 2030, Chugai is ramping up ESG activities in the aim of being a role model for the world. Even my colleagues and I on the Board of Directors have experienced increased opportunities in discussing sustainability issues.

For Chugai to realize the advanced and sustainable patient-centric healthcare to which it aspires, it is crucial for all employees to first and foremost take personal responsibility for business activities, including the ESG aspects thereof, and create shared value in their respective workplaces. I believe the pandemic has strongly reaffirmed that Chugai can alleviate burdens and contribute to quality of life for not only patients and their families but also the entire medical profession.

Again such a backdrop, I consider ongoing engagement around ESG, including this meeting, to be a meaningful driver of the cycle whereby we identify external stakeholders' expectations, needs and wishes and incorporate them into Chugai's management. I personally spent my career in the auto industry but much of my experience is transferable across sectors or industries. From the standpoint of creating new value by capitalizing on diversity, I look forward to earnestly engaging with Chugai employees and various external stakeholders.

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Before I make a start on the main topic, I have a message from one of our outside directors.

This is Mr. Ichimaru. As you can see, at Board meetings and presentations, Mr. Ichimaru has given us his frank opinions and advice on ESG initiatives and dialogue with stakeholders.

With the support of outside directors, we would like to continue to make a commitment to ESG.

As mentioned in the second paragraph, in order to realize the "advanced and sustainable patient-centric healthcare" that Chugai advocates, it is necessary and important for each and every employee to consider business activities, including ESG, as a part of their own work, creating shared values in each workplace. It is necessary and important to have continuous dialogue on ESG to understand the expectations and requests from outside. These must be reflected in management, with this process running as a cycle.

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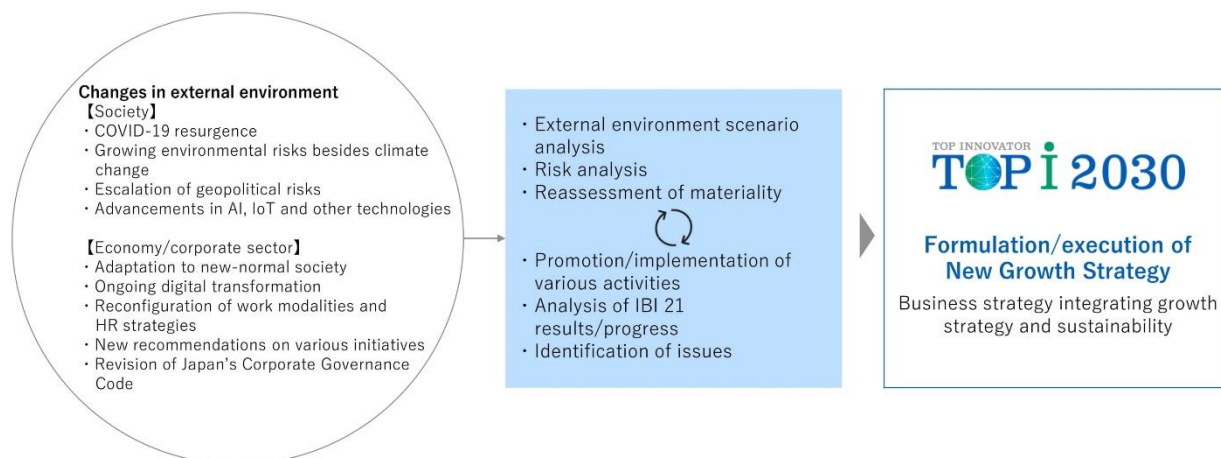
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Environmental Changes and Business Strategy

- We are implementing a new growth strategy formulated in light of changes in the environment and progress in activities -



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Next, I would like to explain how we are responding to changes in the external environment.

I touched on this a little bit during last year's ESG briefing, but I mentioned that we would need to take stock and reevaluate whether the business activities we had been conducting up until last year were really viable during the coronavirus pandemic and beyond.

We conducted an external environment scenario analysis and risk analysis and reexamined our materiality. We have confirmed that there is no change from the existing materiality.

Based on these analyses, as well as the progress and review of each business activity, we have launched a new growth strategy for 2030, which we have named TOP I 2030.

TOP I 2030 is a management strategy that integrates the medium- and long-term strategies of sustainability and growth with the aim of creating shared value.

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Basic Policy (Envisioned Future)

- Emphasis on alignment among mission, growth strategy and material issues -



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Here is a summary of our management approach.

Our basic management policy is to create shared value for our company and society. As for the value to be provided, or the so-called outcome, based on our mission, we have defined "the realization of advanced and sustainable patient-centric healthcare." We will promote TOP I 2030 with the aim of becoming a top innovator in the healthcare industry.

The foundation of TOP I 2030 is a set of 25 materiality items in 8 fields.

I believe that in order to enhance corporate value from a sustainability perspective, it is of utmost importance that these policies and strategies are consistent. They should be implemented proactively, with each function and department and taking responsibility for them.

By realizing this, we will be able to play a part in solving societal issues and promoting the development of society and the enhancement of our corporate value. By doing so, we hope to be a company that is indispensable to society.

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Year in Review: Progress in ESG-related Activities

- We made steady progress while adapting to changes in the environment -



Sustainable Healthcare <ul style="list-style-type: none"> • Made brisk progress in drug discovery/development • Launched new products, additional indications • Accelerated DX, most notably AI-based drug discovery • Made progress in developing/supplying COVID-19 therapies 	Global Environment <ul style="list-style-type: none"> • Formulated Mid-Term Environmental Goals 2030 • Conducted scenario analysis based on TCFD recommendations • Made progress toward environmental goals
Corporate Governance <ul style="list-style-type: none"> • Board of Directors' effectiveness assessed by external third party • Installed ERM system • Promoted engagement with stakeholders 	Human Resources <ul style="list-style-type: none"> • Implemented new HR system • Strengthened talent management • Secured talent with high-level expertise • Formulated/implemented new ways of working
Ethics and Compliance <ul style="list-style-type: none"> • Monitored compliance • Formulated purchasing policy and educated employees on it 	Human Rights <ul style="list-style-type: none"> • Conducted human-rights due diligence on contractors • Implemented safeguards for clinical trial subjects
Supply Chain Management <ul style="list-style-type: none"> • Made progress toward realizing digital plants • Formulated Supplier Code of Conduct and shared it with suppliers • Conducted supplier risk assessment 	Social Contribution <ul style="list-style-type: none"> • Codified social contribution activities, reset priorities • Promoted global health activities

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This is a summary of our progress in ESG-related activities over the past year.

As you can see here, this is the result of progress in 8 materiality areas. All of these measures were affected by COVID-19 and other changes in the environment, but we believe that we were able to implement each measure flexibly in line with the plan targets.

I believe that our activities over the past year have revealed two new goals and challenges for the future.

The first is environmental issues, an area of ESG that is of great interest to society as a whole. With regard to climate change countermeasures, last year we formulated the Medium-Term Environmental Goals 2030, which sets a target of reducing our CO₂ emissions to zero in 2050. To clarify, this is not so-called carbon-neutral, where absorption is subtracted from emissions. Rather, we aim to have zero emissions by 2050.

Although various issues remain, planning has led us to be able to draw a roadmap for achieving Scope 1 and 2. Mr. Yamada will say more on this later, but we recognize that the reduction of Scope 3, which is the issue after Scope 1 and 2, is a very big problem. Accordingly, we are going to consider Scope 3.

In the past, we have focused on suppliers in the narrow sense of the word, but from now on, we will broaden the framework to include various business partners, with whom we will engage in ESG activities. These activities relate to governance, compliance, global environment, human resources, human rights, and social contribution. While considering our own materialities, we will move forward with the same values. I think this will be very important for our company.

I think it is important to work together with such partners to solve social issues and increase each other's corporate value. This is the type of model that we are aiming for.

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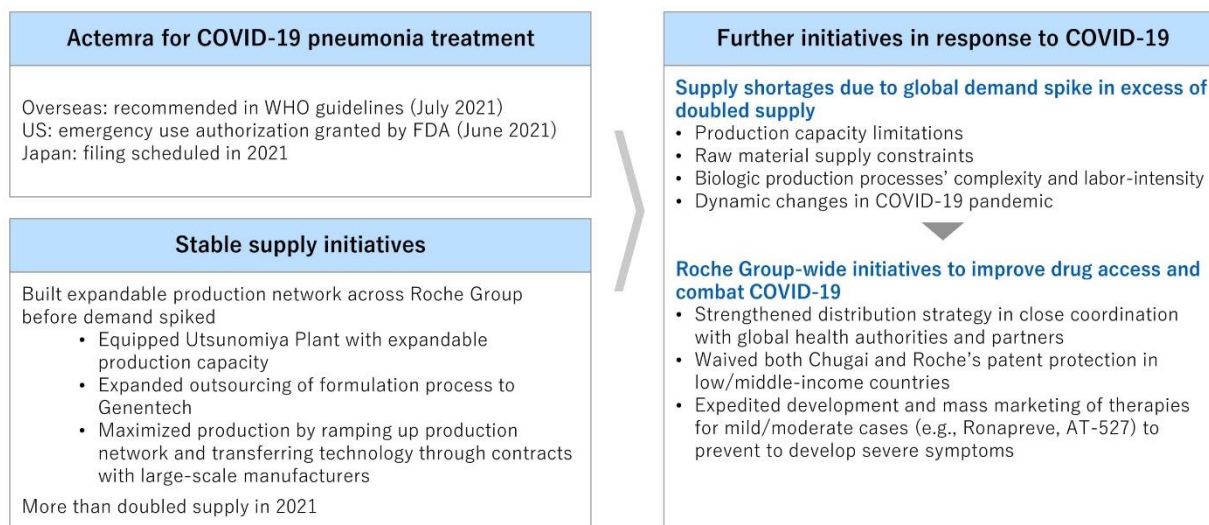
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Example: Responsibility for COVID-19 Drug Access



- Initiatives to ensure stable supply of Actemra -



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I would like to continue with a few examples related to COVID-19.

I think we are sharing information about the development status of Ronapreve and AT-527 in another meeting, which are drugs for mild to moderate disease. Today, I would like to touch on the stable supply of Actemra with respect to the theme of access to medicines.

In anticipation of the use of Actemra in COVID-19 pneumonia, we have been building a system to increase production even before an increase in demand. This is in order to ensure a stable supply of Actemra for the Roche Group as a whole. The Roche Group's total supply is more than double the pre-pandemic level.

However, with Actemra being recommended by the WHO guidelines and granted emergency use approval by the FDA, the demand for the drug has been exceeding expectations. While there is no concern about supply shortages in Japan, countries around the world are experiencing supply shortages despite unprecedented production increases.

Therefore, we are working on relaxed enforcement of patent rights for low- and middle-income countries to further improve access.

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Example: Reprioritization of Social Contribution Activities (1)

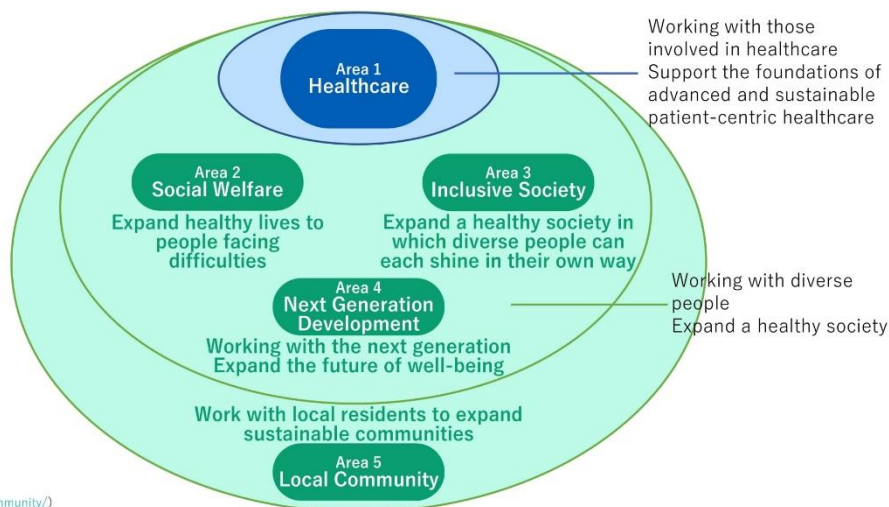


- Goals to Achieve Through Social Contribution Activities -

In our social contribution activities, we will support a foundation for advanced and sustainable patient-centric healthcare, and will work to advance initiatives for expanding a healthy society, centered on the following five areas.

- We have codified our approach to social contribution activities to realize our mission.
- We will focus on our five priority areas – healthcare, social welfare, inclusive society, next generation development, and local community – to respond to social needs.
- We define social contribution activities as activities that help to solve social issues and, in turn, realize our mission. They do not include business activities that directly lead to financial gain.

Reference: social contribution activity policies
(<https://www.chugai-pharm.co.jp/english/sustainability/community/>)



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Next, I would like to talk about an example of social contribution activities.

We have reprioritized social contribution activities in order to take our past activities one step further. We aim to focus on creating shared value with society and collaborating with stakeholders.

The aim is to deepen mutual understanding with stakeholders and to expand the base of activities together by clearly stating what we aim to achieve through our social contribution activities. We also aim to promote and communicate activities that tell a story toward the realization of our mission.

We believe in sustainable patient-centric healthcare, healthy societies with people who respect diversity, and sustainable local communities.

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Example: Reprioritization of Social Contribution Activities (2)



- Focusing on highly societally relevant initiatives in five priority areas -

Area 1 Healthcare	Support the foundations of advanced and sustainable patient-centric healthcare	<ul style="list-style-type: none"> Promoting research and education in medicine and pharmacology (support for, e.g., Tokyo Biochemical Research Foundation's activities) Supporting patient treatments and livelihoods (e.g., activities to raise awareness of diseases, collaboration with patient groups) Improving access to health and medical care for the world's people (e.g., support for diagnosis/treatment of non-communicable diseases in low/middle-income countries)
Area 2 Social Welfare	Expand healthy lives to people facing difficulties	<ul style="list-style-type: none"> Improving the lives of the elderly and those with disabilities (e.g., paratransit vehicle donation program) Supporting children in developing countries and refugees (support activities through, e.g., Roche Children's Walk)
Area 3 Inclusive Society	Expand a healthy society in which diverse people can each shine in their own way	<ul style="list-style-type: none"> Promoting inclusivity through sports (e.g., parasports promotion activities) Promoting inclusivity through cultural activities (support for, e.g., art/music/dance activities open to people with disabilities) Promoting women's participation and advancement (e.g., sponsorship of women's empowerment events under the theme "living your authentic life")
Area 4 Next Generation Development	Working with the next generation Expand the future of well-being	<ul style="list-style-type: none"> Cultivating interest in biotechnology/science (e.g., hosting of experimental biology seminars) Advancing career education for students (e.g., hosting of company tours for schoolchildren, guest-lecturing at schools) Expanding learning opportunities through website (e.g., publication of information on biotechnology and drugs)
Area 5 Local Community	Work with local residents to expand sustainable communities	<ul style="list-style-type: none"> Preserving the natural environment (activities to, e.g., preserve watershed forests from which Chugai sites source water) Promoting local community activities (e.g., participation in community events local to Chugai sites) Restoring and reconstructing disaster-stricken areas (e.g., disaster relief activities)

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In these 5 priority areas, we will focus on initiatives that meet high global expectations and demands, achieving the goals set in each area. This slide shows the direction of our efforts and examples of activities.

As an example, in Area 1, healthcare, initiatives that are not aimed at direct financial return are implemented in each department to support the foundation of sustainable patient-centric healthcare.

Specifically, it promotes research and education in the fields of medicine and pharmacy, supports patient care and livelihood, and improves access to health care for people around the world.

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Sustainability-related Governance

- Board of Directors and Executive Committee are increasingly devoting time to sustainability matters -



Board of Directors' main sustainability-related agenda items (Jan 2020 - Sep 2021)

Governance

- Convocation of and agenda-setting for General Meetings of Shareholders; approval of business reports, financial statements, etc.
- Nomination of director and Audit & Supervisory Board member candidates; appointment of Appointment Committee and Compensation Committee members
- Appointment/dismissal of representative directors, executive officers and advisors
- Directors' remuneration
- Implementation and reporting of evaluation of effectiveness of Board of Directors
- Reporting on internal control, risk management, and IR activities
- Verification of cross shareholdings
- Approval and reporting of transactions in competition with the Company and other conflict-of-interest transactions
- Review of revised version of Japan's Corporate Governance Code

Social and environmental

- Formulation of TOP 1 2030 (matters related to foundation for growth and sustainability)
- New production facility construction plans, R&D facility consolidation plans
- Matters related to stable Actemra supplies
- HR-related reporting
- Formulation of Mid-Term Environmental Goals 2030

Executive Committee's main sustainability-related agenda items (Jan 2020 - Oct 2021)

Environmental

- Mid-Term Environmental Goals' content/goal-setting (Jan., Jul., Sep. 2020, Jan. 2021)
- Measures implemented to achieve Mid-Term Environmental Goals and progress reporting (Jul. 2021 (twice), Oct. 2021)

HR

- Domestic group companies' HR management reforms, HR system changes (Nov. 2020, May 2021)

Other

- Chugai Pharmaceutical Corporate Pension Fund's endorsement of Japan's Stewardship Code (Oct. 2021)

Note: Underlining denotes agenda items for which advance briefings and/or Board deliberations were augmented in 2020

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I would like to continue to touch on the topic of governance regarding sustainability.

This governance initiative recognizes the need for continuous evolution of governance monitoring as well. In response to growing societal expectations and demands, the Board of Directors and the Executive Committee have expanded the scope of their deliberations compared to last year.

As 1 example, in October, the Chugai Pharmaceutical Corporate Pension Fund announced its endorsement and acceptance of the Japanese version of the Stewardship Code.

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Example: Mid-Term Environmental Goals 2030's Formulation Process

- We set ambitious goals with external input -



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As another example of governance in the area of sustainability, here is the flow chart for the formulation of the Mid-Term Environmental Goals 2030, which was announced in February.

Based on analysis of the external environment and exchange of opinions with outside directors and external experts, we established a direction and set targets in cooperation with each division and with the Roche Group.

In setting the targets, we emphasized the idea of the level we want to achieve or should achieve as a Company. We set ambitious targets. As I mentioned earlier, we are aiming to achieve zero CO₂ emissions.

We have had a lot of deliberations and discussions in our internal meetings, and we have shared the fact that many innovations will be needed, and each division is working on designing specific milestones.

We cannot achieve this goal through our own internal efforts alone. In order to attain this goal of zero CO₂ emissions, we need to collaborate with our business partners to pursue new innovations. We are currently in the process of finding business partners for this project.

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Aiming to become Role Model for the World

- Grinding out PDCA cycle iterations based on creating shared value through innovation -



Envisioned Future for 2030
Top innovator in the healthcare industry


Expectation from
patients all over
the world


Attracting talent
and players from
around the world


**Role model for
the world**

Recognized for its ESG initiatives through its business activities, Chugai will become a global role model as a leader in resolving social issues.

Steps toward becoming role model for the world

External

Identify expectations/needs/wants and respond at high level

- Continuously keep abreast of changing expectations/needs/wants
- Earn top-level ESG ratings (e.g., DJSI inclusion, surveys)
- Be a company indispensable to society



Internal

Create shared value through innovation

- Pursue innovation in both results and process
- Proactively adapt to changes in environment at individual workplace level
- Continuously progress in terms of communication and disclosure

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This last slide is a brief summary.

Our goal is to be a top innovator in the healthcare industry and to be a role model for the world in terms of sustainability.

We would like to become a company that leads in solving societal issues, with ESG initiatives incorporated into our growth strategies, and where our output is highly rated.

By keeping abreast of and responding to ever-changing expectations and demands, we hope to remain an indispensable part of society in the future.

In addition, in order to create shared value based on these expectations and demands, we believe that it is important for each function and department to take the initiative in innovation. Innovation takes place not only in products and services, but also in processes, through the accumulation of originality and ingenuity in awareness of daily activities.

We believe that the creativity and ingenuity of each individual on a daily basis will foster a sense of satisfaction, accomplishment, and fulfillment in each employee, which in turn will increase employee engagement.

Last but not least, I would like Chugai to continue to be a company that is indispensable to society by contributing to the resolution of societal issues 10 years from now, and beyond. We aim to do this through the Chugai TOP I 2030 plan.

Thank you very much for your time today.

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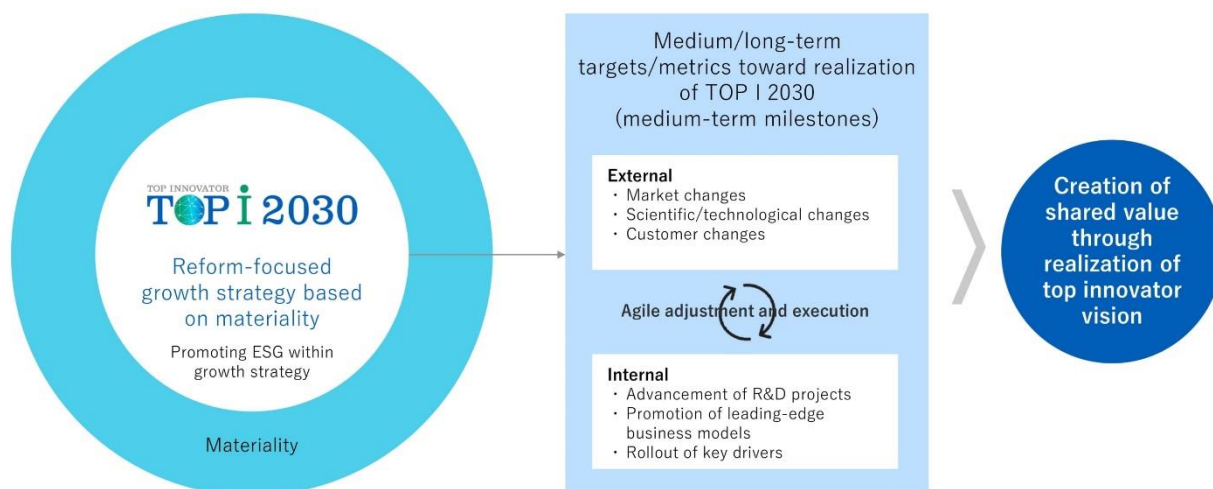
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Materiality and Growth Strategy

- Promoting ESG through our TOP I 2030 growth strategy linked to materiality -



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Sasai: Next, Mr. Itagaki, Executive Vice President and CFO, will talk about materiality and corporate ratings.

Itagaki: Hello everyone. I would like to talk about three points under the theme of materiality and corporate ratings.

This is the first point. I would like to talk about the relationship between materiality and growth strategies. We have identified eight materiality areas, which are issues that are very important to our mission. As Mr. Ueno has already mentioned, these 25 items are necessary to realize both the growth of the Company and the sustainable development of wider society. In line with this mission, the vision of Chugai for 2030 is to become a top innovator in the global healthcare industry. This is our TOP I 2030 strategy.

These materialities will naturally be developed as part of our TOP I 2030 strategy. In the previous mid-term business plan, IBI 21, we placed the strengthening of the foundations of sustainability as an independent strategic issue. This time around, we recognize that it is difficult to separate the growth of the Company and the sustainable development of society. These cannot be promoted as separate strategies or measures. Therefore, we will not separate the two materiality points.

For example, it is no longer possible to think about and promote environmental measures and other production and pharmaceutical strategies in isolation from each other.

Under TOP I 2030, we will develop and promote measures related to sustainability and ESG as part of our functional strategies and reforms. We will integrate these with our growth strategies.

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Management Strategy's Underlying Materiality Assessment



- We have reassessed impacts and timelines based on double materiality -

- We have clarified material issues' impacts and timelines based on a (strategic/operational) risk assessment (see page 54 of Annual Report 2020 for summary of risk assessment)
- We have assessed our material issues based on the double materiality concept in the European commission's Non-Financial Reporting Directive and proposed Corporate Sustainability Reporting Directive.



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I have summarized these two aspects of materiality, which I refer to as double materiality.

Materiality has two aspects: the financial materiality aspect on the left side and the environmental and social materiality aspect on the right side.

The target of each impact, the intensity of that impact, and the timing of that impact are all different.

For example, in the case of supply chain management, the cost of manufacturing products and the turnover rate mainly affect the profit and loss of companies in the short and medium term.

On the other hand, collaboration within the supply chain is important for solving societal issues, including environmental and human rights issues. The development of a company's supply chain over time will affect its impact on the environment and society over the long term.

Consequently, in considering corporate activities, it is not possible to separate these two aspects of materiality and promote them as separate entities.

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Reference: Existing Indicators for Materiality

- We set goals/indicators for individual material issues -



Category	Material Issue	2020-21 indicator(s)
Sustainable Healthcare	Creation of innovative drugs and services	• New products launched and new indications • Number of projects and products based on PHC
	Provision of solutions for patients	• Market share in therapeutic area • Customer satisfaction
	Fair marketing	—
	Fair pricing	—
	Adverse event management	• Customer satisfaction
	Quality assurance and stable supply of products	—
Corporate Governance	Corporate governance	• Review of Board of Directors effectiveness
	Risk management	—
	Disclosure and engagement	• ESG meeting for institutional investors and media
Ethics and Compliance	Compliance	• Compliance monitoring
	Code of conduct	• CCC and human rights training in Japan
	Fair transactions	—
Supply Chain Management	Supply chain management	• Risk assessment of major contract manufacturing organizations (CMOs)
Global Environment	Climate change countermeasures (energy, etc.)	• Scope 1+2 CO ₂ emissions • Scope 1+2 energy consumption • Sustainable electricity ratio
		• Fuel consumption by MR vehicles • Halogenated hydrocarbons
	Use of renewable/recycled resources (water, waste, etc.)	• Industrial waste reduction • Plastic waste reduction • Water resource conservation (Water withdrawal)
	Protection of biodiversity (environmental burden mitigation)	• Chemical substance management (SVHCs) • Hazardous waste reduction
Human Resources	Environmental management system	• Expand verification items and scope
	Employee job satisfaction	• Rate of paid leave taken • Work-from-home (WFH) participation rate • Employee awareness survey
	Development of employee potential	• Number of next-generation leader candidates
	Diversity and inclusion	• Ratio of female managers • Ratio of female managers (with subordinates)
Human Rights	Improvement of occupational health and safety	• Prohibit smoking during work
	Human rights	• Human rights due diligence on contractors
	Safety of clinical trial subjects	—
Social Contribution	Social contribution activities	• Set for each program
	Improvement of access to healthcare	• Set for each program

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This chart shows the management indicators for 25 materiality items in eight areas.

The IBI 21, which was originally due to end this year, is a three-year fixed-term mid-term business plan. We have moved it up to end one year early.

I have written here the indicators that we have been monitoring.

We have reviewed the materiality issues again, but ultimately, the 25 items in the 8 materiality areas have not changed, so you can understand that these indicators are generally similar.

The specific targets for each of these will be presented in the next announcement of financial results as the medium-term milestones of our growth strategy.

Today, we would like to focus on two of these materialities: development for sustainable healthcare, and environmental measures, principally in the pharmaceutical sector.

Later, we would like to explain the specifics, indicators, and targets.

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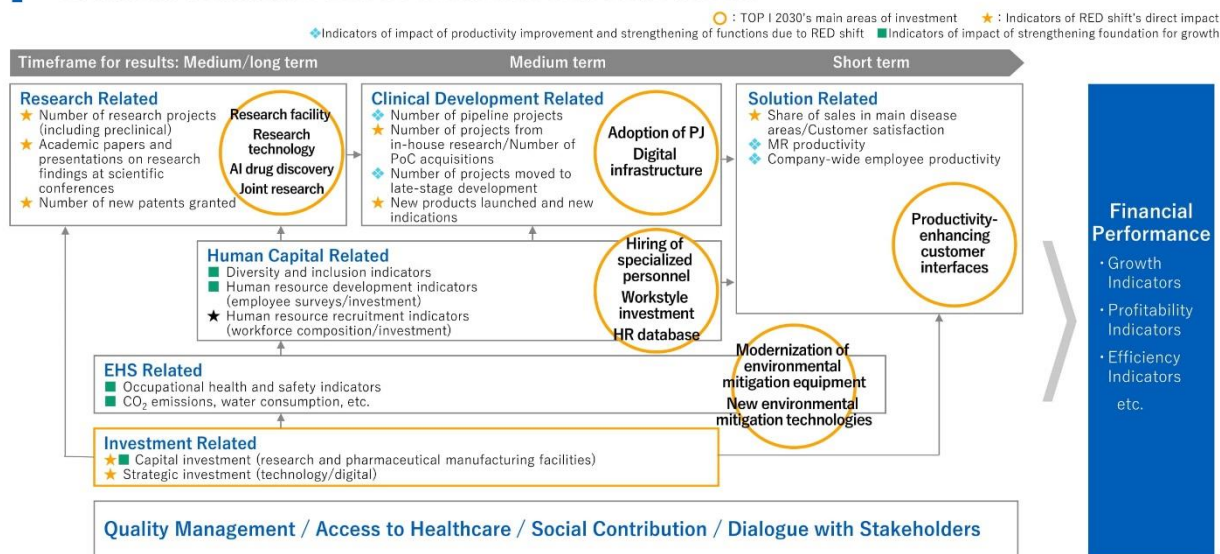
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Nonfinancial Indicators in TOP I 2030

- Resource allocation and nonfinancial indicator trends -



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My second point is non-financial indicators.

This slide shows a plot of each of the TOP I 2030 reform issues according to the length of time it takes to be reflected in financial results. The orange circles show the key inputs and resources to be invested, and the squares represent the key management indicators.

For example, research-related results are plotted on the top left, farthest away from the financial results, which are plotted on the right. This is because it takes a little time for them to translate into financial results.

In the orange circles, you will see the construction of new laboratories, new modality technologies such as mid-size molecules, AI drug discovery, and joint research such as open innovation.

Indicators include the number of research themes, the number of papers and conference presentations, and the number of patents obtained.

In addition to these research-related issues, other reform issues such as clinical development, solutions, human resources, and ESG-related issues such as environment, health and safety are also plotted. While organically connected to each other, it leads to the financial results plotted on the right side eventually.

If you look at the bottom of the page, for example, there are ESG-related issues such as access to healthcare and social contribution, which are not directly linked to the financial results on the right.

I would like to explain more about the relationship between ESG initiatives and corporate value in the next slide.

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ESG Initiatives and Corporate Value

- Corporate value = Economic value + Social value -



* 1 SROI: Social Return on Investment * 2 ICP: Internal Carbon Pricing 21

Corporate value, as we see it, consists of both economic value and social value. If we pursue only immediate economic value and neglect social value, we will not be able to sustainably increase corporate value.

In the middle are the eight materialities. Each initiative has an impact on economic and social value, and ultimately leads to corporate value. This is as explained in the duality of materiality and double materiality.

On the previous page, I mentioned that the ESG initiatives that are not directly linked to financial results are those that have the greatest impact on social value.

Important point is that economic value and social value influence each other. For example, a company with high social value will have a lower cost of capital, which will result in higher economic value and higher corporate value.

The economic value on the left is expressed in terms of revenues, profit, invested capital, and cost of capital, and is measured using the discounted cash flow method.

The social value on the right is expressed in the form of customer satisfaction, finances, cost burden, and the environment, for example. Recently, new methods such as Social Return on Investment and Internal Carbon Pricing have begun to measure social value.

In view of the recent expansion of ESG investment and the movement toward IFRS, I believe that it is not too far off when a unified method of measuring social value and disclosure standards is established.

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Example: HR-related Indicators (1)

- HR/organization strategies and indicators in TOP I 2030 (foundation for growth) -



Thoroughly implement new HR system

- Promote good fit between employees and their jobs to realize growth strategy
- Expedite development of next-generation leader candidates through strategic job rotations
- Foster an organizational culture that encourages bold challenges

(Indicators monitored)

- Number of next-generation leader candidates
- One-on-one check-in rate between superiors and subordinates

Acquire highly specialized talent

- Hire data scientists by developing new recruitment methods
- Strengthen internal identification and development of digital talent
- Implement autonomous learning with i-Learning learning management system

(Indicators monitored)

- Job-fill rate for essential positions
- i-Learning utilization rate

New ways of working

- Expand ranks of active employees through new ways of working
- Adopt telework model based on work from home and satellite offices
- Adopt highly flexible work modalities that boost productivity and job satisfaction

(Indicators monitored)

- Employee awareness survey (active employees)
- Ratio of teleworkers to on-site staff

Ongoing promotion of diversity and inclusion (D&I)

- Foster an innovation culture by promoting D&I
- Widely and persistently practice three behaviors conducive to inclusion
- Expedite promotion of female managers

(Indicators monitored)

- Ratio of female managers
- Employee awareness survey (D&I)

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Since we have been talking conceptually and theoretically, I would like to turn to some specifics here.

From among the reform points presented on page 20, I would like to focus on human resource development and human resource relations.

The "I" in TOP I 2030 stands for "Innovator" as well as for "I" as in "me". Human resources in particular are one of the priority issues in the strategy to strengthen the foundation for growth.

In the area of human resources, the four items you see here, starting from the top left, are the thorough implementation of the new personnel stem we introduced last year, which is based on having the right person in the right position. In addition, the acquisition and development of highly specialized human resources in the field of digital science. Also, the realization of a new way of working, mainly by utilizing new technologies. Lastly, we have set the continuous promotion of diversity and inclusion. These are four important themes of our efforts.

For each of these themes, we have established monitoring indicators, such as the percentage of 1-on-1 meetings between supervisors and subordinates, the percentage of people teleworking, and the percentage of female managers. These are written in blue.

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Example: HR-related Indicators (2)



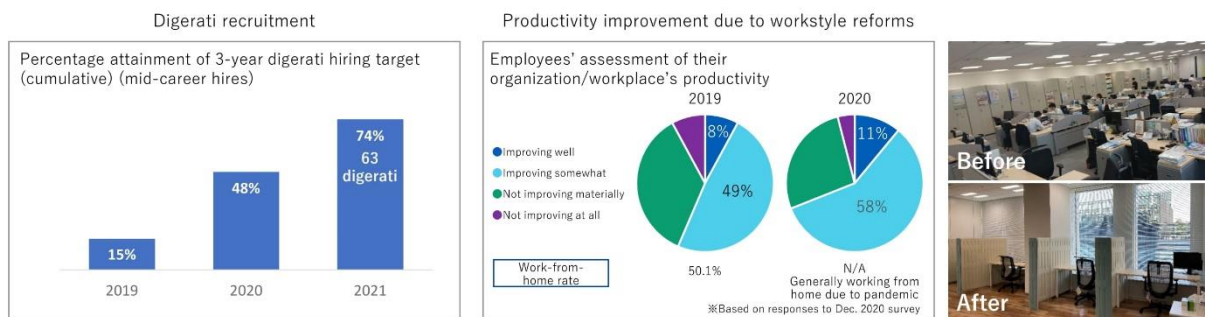
- Trends driven by implementation of TOP I 2030 (RED shift and HR strategy) -

【Acquire highly specialized talent】

- Steadily recruit digerati and scientific personnel by manifesting TOP I 2030's HR vision and implementing its hiring strategies
- We are identifying digerati through internal surveys and internally developing over 100 digerati annually through the newly established Chugai Digital Academy

【New ways of working】

- Continue to maintain or increase productivity amid rapid shift to working from home in response to pandemic
- Optimally combine telework and on-site work to generate synergies in terms of productivity and job satisfaction



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For example, in terms of acquiring highly specialized talents, we visualize what digital talents and science talents we secure in each department and division, and what we will need in the future, and incorporate them into our recruitment and training plans.

As for career recruitment, as shown in the graph on the lower left, we have made a plan to hire 85 excellent professionals over the next 3 years, and as of September, we have made 74% progress, or 63 career hires.

The market for digital talents, in particular, is a seller's market, and although it is quite competitive, we are hiring a large number of efficient mid-career individuals.

In terms of internal training, we established the Chugai Digital Academy this year, which will train more than 100 digital staff per year.

As for the next step in realizing a new way of working, we have shifted to a telecommuting system and are working on various initiatives to both maintain and improve productivity.

We conducted an internal survey and about 69% of the respondents answered that productivity has been improved.

Our offices have been designed to be completely free-address, allowing employees to choose their own working style. This includes head office, branch offices, and sales branches.

As a result, we have been able to reduce our office space by 30% to 40%, reducing our rent.

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Improvement Through Issue Analysis Conducted So Far



- Using gap analysis to identify issues and drive PDCA cycle -



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Finally, the third point I would like to address is about evaluation analysis and response to issues.

This chart lists the evaluations, issues, and responses over the past four years. Every year, we conduct a detailed analysis of various index evaluations to identify areas where we are not achieving and areas where society is demanding more.

Each of these issues is then incorporated into the strategy and priority issues for each fiscal year in light of their strategic importance and urgency. Countermeasures are selected and implemented.

By implementing the PDCA cycle, we believe that the awareness of each individual, the quality of our actions, and the evaluation of the results of our actions have been enhanced.

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Response to External ESG Ratings

- Priorities identified based on results of analysis -



○ Stable high ranking △ Stable low ranking ↗ Higher rating → Unchanged rating ↘ Lower rating

	Key 2020-21 initiatives	2020 rating	2021 rating
Materiality	• Augmented disclosure of material targets, etc.	↗	○
Corporate governance	• Appointed female director • Upgraded assessment of Board of Directors' effectiveness (third-party assessment) • Disclosed how officers' performance-based remuneration is set, including indicators used in the process • Disclosed Appointment and Compensation Committees' membership • Upgraded information security/cybersecurity	→	→
Risk management	• Updated risk factors and augmented disclosure thereof • Factored risk management indicators into executive remuneration	↗	○
Supply chain management (SCM)	• Made progress toward PSCI-compliant SCM and augmented disclosure of SCM initiatives • Systematically disclosed SCM process • Compiled labor safety indicators for outsourcing service providers	↗	○
Global environment	• Formulated medium/long-term environmental plans/targets • Analyzed sensitivity to climate-change/water risks and disclosed financial impacts • Expanded scope of both data from which indicators are compiled and third-party assurance	○	○
Human resources	• Recruited and retained talent • Commissioned third-party audit of occupational health and safety indicators	○	○
Human rights	• Prepared human-rights risk map • Systematically disclosed initiatives to address human rights issues	↗	↗
Social contribution	• Disclosed program for carrying out social contribution activities	↗	↗
Healthcare access	• Expanded initiatives targeted at local healthcare needs/challenges • Acted on strategy to improve drug access and addressed cost burden	↗	→
Tax strategy	• Newly formulated and disclosed tax policies	↗	○

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This table summarizes the analysis of the gaps and the responses based on the Dow Jones Sustainability Index assessment.

As a result of our efforts in various areas, such as disclosure of materiality targets, risk analysis, and due diligence in the supply chain, we were able to achieve a very high rating in 2020, as you can see from some of the arrows pointing upward.

We just received the 2021 results on last Saturday, so we haven't had a chance to fully analyze them, but there are some items that have improved further. Other items have received the highest rating.

Some of the ratings have stayed at the same level. Detailed analysis is still to be done. It is possible that some items that are restricted by the business model with Roche may have been rated as flat, but if there are areas that can be improved, we will continue to work on them.

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Augmentation of ESG Information Disclosure



- We are committed to increasing disclosure of idiosyncratic ESG information also -



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At the last ESG meeting, we received requests from many of you to enhance the disclosure of ESG information.

As you can see, we have disclosed 17 new items, ranging from governance-related items to human resources-related items.

With regard to the disclosure of ESG-related information, the world is really inundated with various frameworks. In this context, there are still some issues to be addressed in terms of comparison with other companies and the evaluation itself. At COP26, the IFRS Foundation established a standards council and released a prototype of reporting standards, and there are signs of future standardization.

We will continue to monitor these developments closely.

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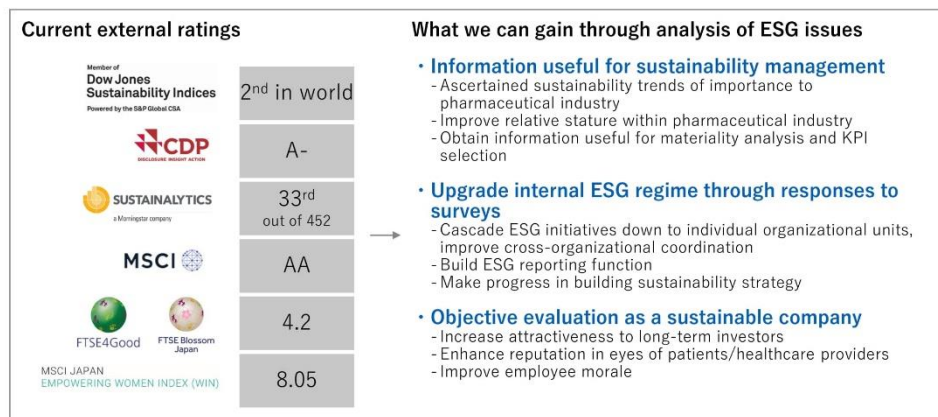


Future Direction and Sustainable Growth Through ESG Analysis

- Evolving into a role model for the world -



- We have earned global-level ratings through gap analysis and, in the process, raised awareness and built out an ESG regime across organizational units.
- Going forward, we will pioneer original initiatives to become a role model for the world.



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As you can see on the last page, the impartial and fair evaluation from the outside has been very helpful for us to develop our sustainability and ESG strategies and to improve the level of our activities. The expectations and demands of society are becoming increasingly sophisticated, and we recognize that it is essential to respond to such changes in an agile manner.

In addition, we will not only respond passively to requests and issues, but also promote innovative initiatives that are unique to our company. We will continue to promote ESG initiatives that are integrated into our business strategy so that we can act as a global role model, providing leadership in tackling societal issues.

Thank you very much.

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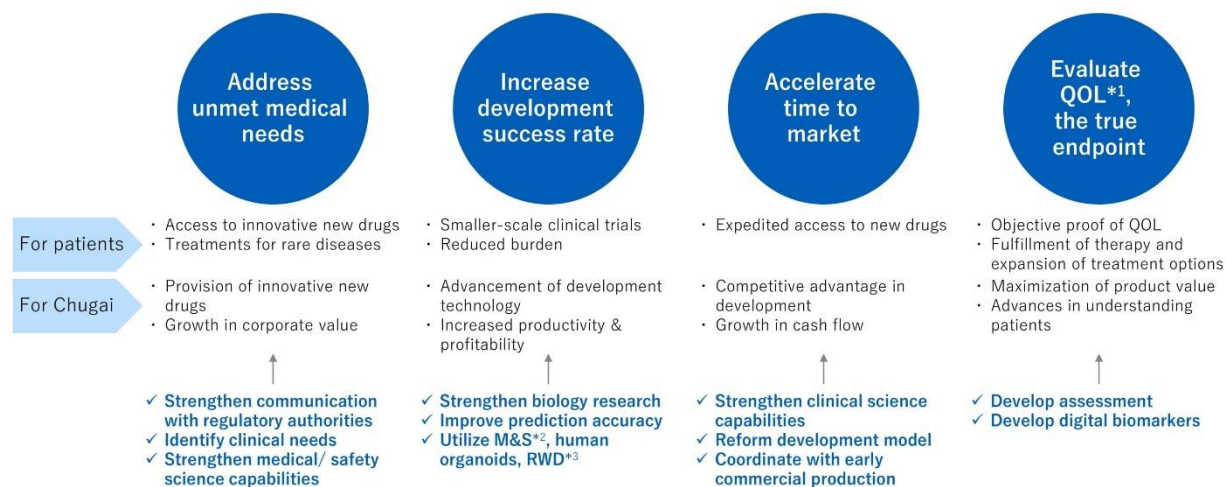
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Value Shared with Patients in Development Stage

- Adding value with TOP I 2030 growth strategy's priority initiatives -



^{*1} QOL: Quality of Life ^{*2} M&S: Model & Simulation ^{*3} RWD: Real World Data

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Sasai: Next, Mr. Kusano, Vice President and Head of Clinical Development Division, will explain about development for sustainable healthcare.

Kusano: Hello. I would like to talk about clinical development and working with patients towards sustainable healthcare.

In clinical development, TOP I 2030 aims to maximize shared value with patients. I believe that all of the key measures listed here in clinical development will be of great value to patients and will also make a significant contribution to the enhancement of our corporate value. We at Chugai will continue to boldly take on the challenge of diseases for which there are still no satisfactory treatments.

In addition, by improving the probability of success in clinical development, we will aim to reduce the scale of clinical trials themselves and to minimize the number of patients enrolled in clinical trials as much as possible.

In addition, we will continue our efforts to accelerate the speed to market by innovating our development model using digital and other technologies. Our goal in this area is to deliver innovative drugs to patients as soon as possible.

In addition, we would like to evaluate the true endpoints for patients by using digital biomarkers in clinical trials. Here, we intend to improve patients' daily quality of life, rather than just aiming for regulatory approval.

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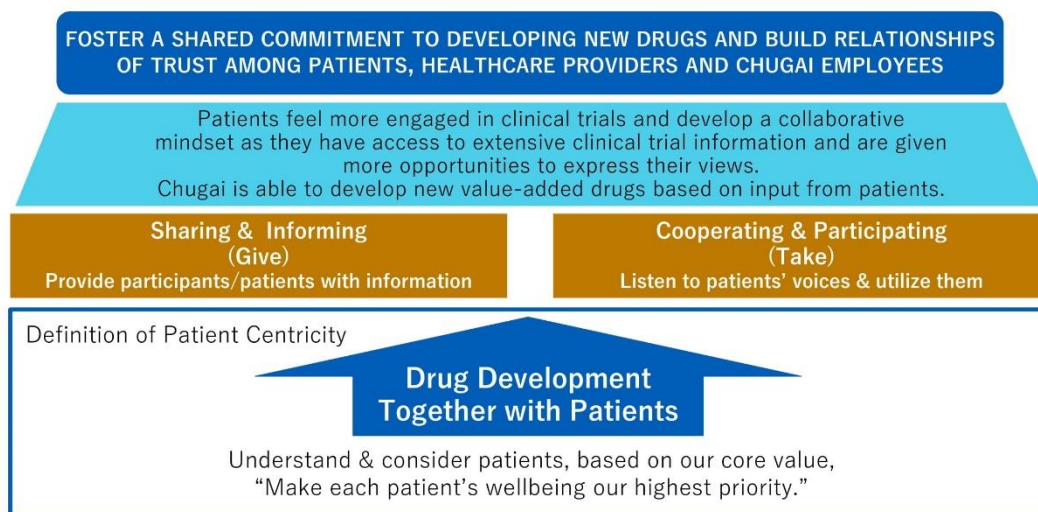
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Core Value in Development Stage: Patient Centricity



- We will realize our 2030 vision by pursuing patient centricity -



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Patient-centeredness, or Patient Centricity, is the core value in Chugai's clinical development.

The concept of Patient Centricity is to develop drugs together with patients. We will provide as much information as possible to our patients. We hope to make clinical trials more accessible to patients.

At the same time, we will make every effort to listen sincerely to the voices of patients and make use of this in our clinical trials. In other words, we will create new medicines together with patients.

That is what we are aiming for.

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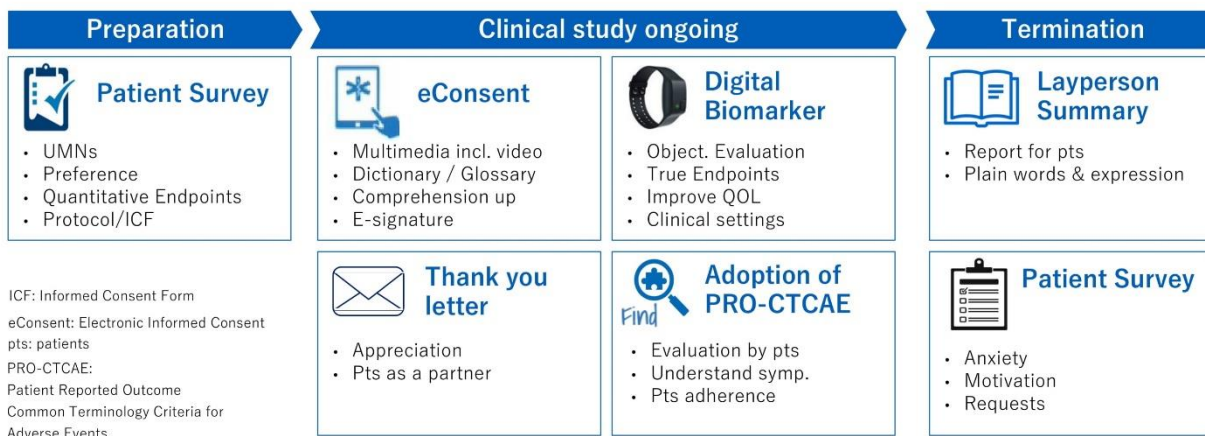


Clinical Trials Harmonized with Patients



- Patients as Partners -

- We design protocols in collaboration with patients by involving patients in the clinical trial process
- In recent surveys of clinical trial subjects, positive to participate in clinical trials as "a good opportunity to let the company and others know about their illness"



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Chugai's clinical trials will always be in step with patients.

Prior to the initiation of a clinical trial, we will conduct a survey of patients with the target disease to understand their unmet needs, which will be reflected in the protocol.

We have launched eConsent, which uses multimedia such as videos to provide information about a clinical trial to patients in an easy-to-understand manner.

We also distribute a thank you letter to patients to deliver a message that we want to work together with them in the development of drugs.

During the clinical trial, we will actively incorporate digital biomarkers to demonstrate the true endpoint for patients. The safety evaluation is based on the patient's perspective. At the end of the trial, we prepare a report for the patients in the form of a layperson summary. We will also conduct a questionnaire survey of the patients who participated in the clinical trial and reflect the results in the next clinical trial.

Chugai's clinical trials are not only aimed at obtaining regulatory approval, but we will strive to add new value for patients by involving them in the series of clinical trial flows.

Until now, patients did not have a good image of clinical trials, but according to a recent survey of patients, more and more patients are positive about participating in clinical trials. People now see clinical trials as a good opportunity to let colleagues and close persons know about their disease.

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Case Study: Digital Solutions for Endometriosis

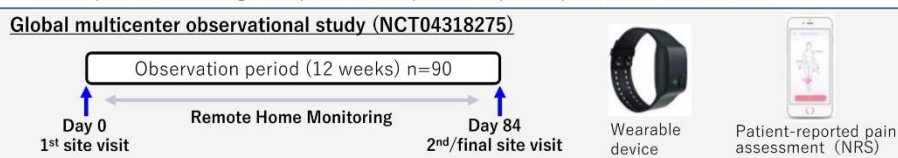


- Development of an objective, ongoing method of pain assessment, a key challenge in medical diagnosis/treatment -

- Issues :**
- Pain assessment is subjective
 - Patients have difficulty accurately reporting their pain's severity, duration, etc.
 - Changes in pain over time cannot be adequately ascertained through outpatient visits

- Solution:**
- Identify objective and consecutive assessment of continuous pain
 - Promote understanding of endometriosis and alleviate patient burden (psychological, time-wise, cost-wise) by developing new biomarker

- Protocol:**
- We are developing an objective pain assessment method through an observation study of endometriosis patients (conducted jointly with Biofourmis*1)
 - ✓ Collect vital sign data (pulse rate, blood volume, body temperature) via a wearable device (Empatica E4®*2)
 - ✓ Collect patient-reported pain assessments (on a numeric rating scale (NRS)) via a smartphone app
 - ✓ Construct a pain index through algorithmic analysis of the collected data
 - ✓ Validate pain index through comparison with patient-reported pain (NRS) assessments



*1 Joint study with Biofourmis (July 22, 2020, press release) *2 <https://www.empatica.com/research/e4/>

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I would like to share a few examples of our efforts.

First, an example concerning endometriosis. A common measure of endometriosis is the pain that the patient complains of. However, it is said that the evaluation of this pain is very subjective. Since each patient feels pain differently and there are many words to describe pain, it is difficult to accurately communicate the intensity and duration of pain to doctors.

In addition, as in the past, visits to the clinic every 2 weeks or once a month do not allow for proper monitoring of changes in pain over time. Therefore, we are developing a method to assess pain objectively and continuously by using digital biomarkers.

The research involves having patients with endometriosis wear a wearable device to acquire vital data such as heart rate and blood flow. Additionally, we have a smartphone app that allows patients to evaluate their pain numerically.

The data obtained will be analyzed by an algorithm to construct a pain index, which will be compared and verified with the evaluation of pain by patients. We are currently in the process of conducting the analysis, and if all goes well, we plan to incorporate this method into clinical trials for new drugs.

If we can establish an objective, continuous, and sustainable index of pain, and a digital biomarker, we believe that it will greatly reduce the burden on patients in terms of mental health, time, and cost of hospital visits.

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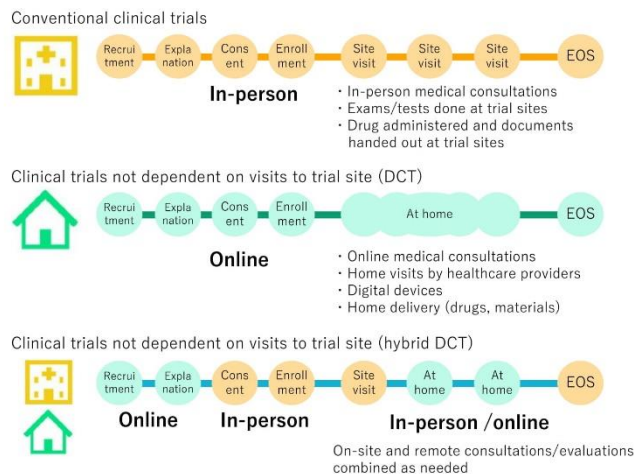
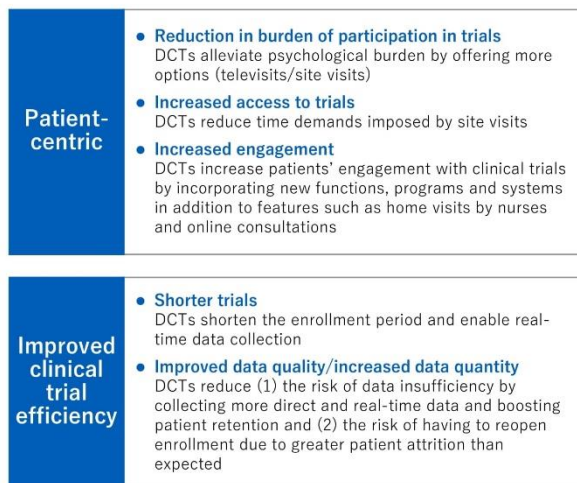
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Use of Decentralized Clinical Trials (DCTs)

- Clinical trial model not dependent on visits to trial site -



Source: Japan Pharmaceutical Manufacturers Association, *Iryou Kikan heno Rain ni Izon shinai Rinshou Shiken Shuhou no Dounyuu Oyobi Katsuyou ni Muketa Kentou*

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Another example is our work on the Decentralized Clinical Trial.

A Decentralized Clinical Trial is a clinical trial that is not dependent on visits to a medical institution. In conventional clinical trials, patients visit a medical institution, meet with a doctor, and are examined, tested, and given medication.

In the future, patients will be treated online at their homes, or doctors and nurses will visit patients at their homes. Tests will be done using digital devices, with data transferred directly to the hospital. It is expected that clinical trials will be conducted in which investigational drugs will be delivered to the patient's home.

At present, we are investigating this while checking the regulatory requirements of each country. In cases where the disease can be fatal which areas we engage in, we would like to start with a mixture of clinic appointments and home visits, rather than having all patients complete a clinical trial at home.

We believe that this test method will reduce the number of clinic visits for patients, thus reducing psychological and time constraints.

On the other hand, for our company, it will increase the number of patients who can participate in clinical trials. We will be able to obtain data directly and in real time, reducing the risk of missing data or patients dropping out of trials. We believe that this will shorten the duration of clinical trials and improve their quality. We are currently preparing to implement this in Japan and overseas, while checking various regulatory requirements.

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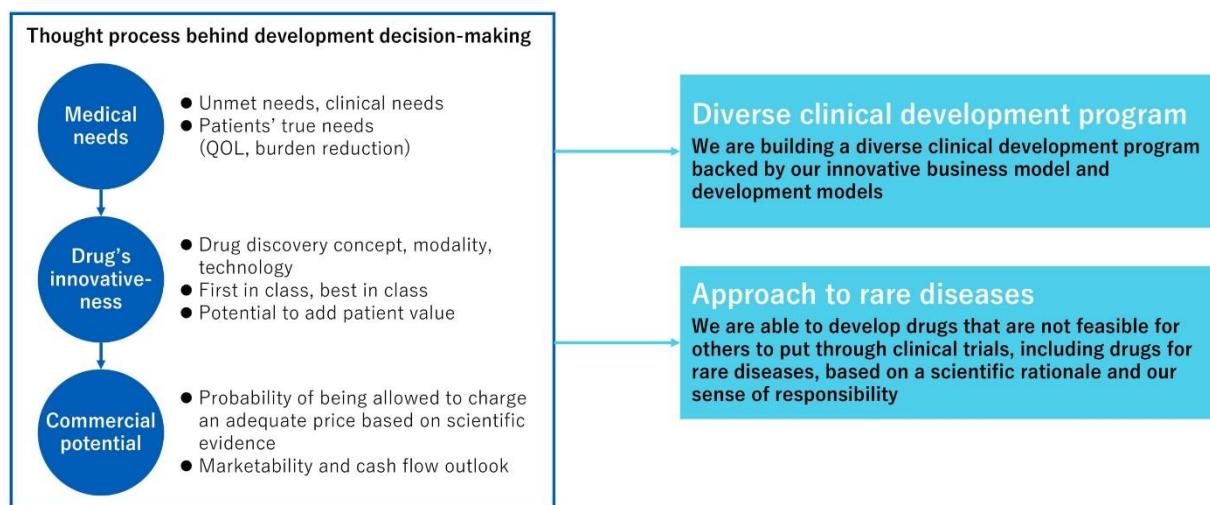
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Hallmarks of Clinical Development Driven by Patient Value



- Superior drug candidates lead to patient value -



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As you can see, Chugai has taken on the challenge of changing its development model by introducing digital biomarkers and decentralized clinical trials.

We are simultaneously working with both Roche's rich pipeline as well as our own innovative in-house products. We aim to develop first-in-class and best-in-class drugs, so we are conducting a wide variety of clinical development activities. This is one of the core characteristics of our clinical development.

In addition, based on medical needs and social responsibilities, we are continuing to develop treatments for rare diseases that other companies may find difficult to implement.

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Diverse Clinical Development Programs



- Committed to flexible clinical development optimized for both patients and the medical profession -

Variety of Study style	<ul style="list-style-type: none"> Global/Local Double blind/Open Adaptive Design 	<ul style="list-style-type: none"> Umbrella/Basket/Platform RWD*¹ Clinical pharmacology 	<ul style="list-style-type: none"> Sponsor/Investigator-initiated trials
Multiple Operation model	<ul style="list-style-type: none"> Roche/Chugai model CCRC*²/CRO*³ Full outsource 	<ul style="list-style-type: none"> Co-development Simultaneous development for multi-indication 	
A wide range of Modality	<ul style="list-style-type: none"> Small molecule Mid-size molecule Antibody 	<ul style="list-style-type: none"> Nucleic acid Regenerative medicine Gene therapy (expected to enter clinical trials) 	
Various Disease areas	<ul style="list-style-type: none"> Oncology Immunology Infection 	<ul style="list-style-type: none"> Ophthalmology Alzheimer Neuroimmune/muscle/degeneration/Developmental disability 	<ul style="list-style-type: none"> Hemophilia Metabolism Rare disease
Talented Members	<ul style="list-style-type: none"> Multinational workforce Gender mix: roughly 50:50 Personnel exchanges/joint HR development with Roche, Genentech, overseas affiliates 	<ul style="list-style-type: none"> Mid-career hires: roughly 30% of workforce 	

*1 RWD: Real World Data *2 CCRC: Chugai Clinical Research Center Co., Ltd. *3 CRO: Contract Research Organization

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As you may know, our research is technology-driven, and we never know what new drug candidates will emerge in what disease areas.

Roche, our strategic alliance partner, has a rich pipeline and a wide range of modalities in development. Its areas of expertise include oncology, immunology, and CNS conditions.

In order to be able to respond flexibly to the development of any new drug, we are challenging various clinical trial styles and adopting various operation models.

In addition, we handle a wide range of modalities and approach a variety of disease areas. Our diverse human resources are working to ensure that clinical development is optimal and flexible both for patients and from a medical standpoint.

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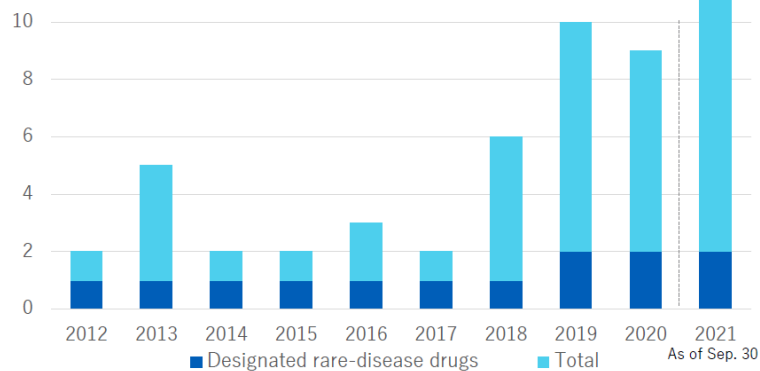
Approach to Rare Diseases

- Our technology/science-driven orientation impels us to address rare diseases -



- Our products were granted the rare disease designation 13 times over the past 10 years

New products launch and new indications*1 / Designated rare-disease drugs' share thereof*2



*1 Including both FoundationOne® CDx and FoundationOne® Liquid CDx Cancer Genomic Profile

*2 Rare-disease drug designation: A designation awarded by the Minister of Health, Labour and Welfare to drugs that meet certain criteria, including a Japanese patient population of less than 50,000 and a particularly acute medical need for the drug

Rare-disease drugs brought to market over past 10 years

Year approved/ marketed*3	Product name	Indication(s)
2012	Pulmozyme	Cystic fibrosis (improves lung function)
2013	Avastin	Malignant glioma
2014	Alecensa	Metastatic/unresectable <i>ALK</i> -positive NSC lung cancer
2015	Zelboraf	Malignant melanoma with <i>BRAF</i> V600 gene mutation
2016	Avastin	Cervical cancer
2017	Actemra	Large-vessel vasculitis
2018	Hemlibra	Suppression of bleeding in hemophiliacs without factor VIII inhibitors
2019	Tecentriq	Small-cell lung cancer
2019	Rozlytrek	Locally advanced or metastatic <i>NTRK</i> gene fusion-positive solid tumors
2020	Alecensa	<i>ALK</i> -positive anaplastic large-cell lymphoma
2020	Enspryng	Neuromyelitis optica and related diseases
2021	Evrysdi	Spinal muscular atrophy
2021	Polivy	Diffuse large B-cell lymphoma

*3 Year in which the drug was approved and first marketed with a rare disease designation. For products not yet on the market when approved, the year is the year the drug was first marketed.

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This section is about rare diseases. This slide shows the number of new products launched and the number of additional indications for each of the past 10 years.

The figures for this year, 2021, are as of the end of September. The light blue indicates the number of new product launches and the number of additional indications as a whole. The dark blue indicates the number of launches of orphan drugs.

As you can see, we have continuously received approvals and launched therapies for one to two rare diseases every year for the past 10 years. Rare diseases are not limited to cancer but cover a wide range of diseases.

As a technology- and science-driven company, Chugai, together with the Roche Group, will continue to work with patients to boldly take on the challenge of conducting a wide variety of clinical trials for rare diseases and other diseases for which there is not yet a therapeutic drug. Thank you.

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Mid-Term Environmental Goals 2030



- Climate change countermeasures include long-term goal by 2050 -

- We set goals for three material issues: climate change countermeasures, use of renewable/recycled resources and protection of biodiversity.
- We replaced our four previous medium-term goals with 10 new medium-term goals to better address our three material issues from a medium/long-term perspective.
- As a climate change countermeasure, we have set a longer-term goal of reducing our CO₂ emissions to zero by 2050.

Material Issues	Item	KPI (Base year 2019)		
Climate change countermeasures (Prevention of global warming)	Scope 1+2* ¹ CO ₂ emissions	40% reduction by 2025	60–75% reduction by 2030	Zero emissions by 2050
	Scope 1+2* ¹ energy consumption	5% reduction* ² by 2025	15% reduction* ² by 2030	
	Sustainable electricity ratio	100% by 2025		
	Fuel consumption by MR vehicles	35% reduction by 2025	75% reduction by 2030	
	Halogenated hydrocarbons (Base year 2020)	25% reduction by 2025	100% reduction by 2030	
Use of renewable/ recycled resources (Resource conservation, waste management)	Industrial waste reduction	5% reduction* ² by 2025	10% reduction* ² by 2030	
	Plastic waste reduction	5% reduction* ² by 2025	10% reduction* ² by 2030	
	Water resource conservation (Water withdrawal)		15% reduction* ² by 2030	
Protection of biodiversity (Reduction of environmental load)	Chemical substance management (SVHCs* ³)	After 2021, manufacturing processes without using SVHC-listed chemicals are established for all Chugai original candidate molecules by commercial productions.		
	Hazardous waste reduction	5% reduction* ² by 2025	10% reduction* ² by 2030	

*1 Scope 1: Direct emissions, Scope 2: Indirect emissions from the generation of purchased energy *2 Per total floor area (Excluding leased properties) *3 Substances of Very High Concern

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Sasai: Next, Dr. Yamada, Head of Sustainability, will talk about the environmental measures taken by the Pharmaceutical Technology Division.

Yamada: Hello, this is Yamada. Thank you. I would like to explain the second ESG theme of our growth strategy, which is environmental initiatives.

In this session, I would like to first briefly introduce the mid-term environmental goals that we have established for the year 2030, followed by the roadmap for CO₂ emission reduction and related material issues. Finally, I would like to introduce some specific examples of environmental measures that we are taking in the Pharmaceutical Technology Division. I will start from slide 38.

This is the Mid-Term Environmental Goals 2030 that we established this year. At last year's ESG briefing, we talked about our thinking and challenges in establishing environmental goals here. In consideration of these factors, we have developed the following content.

I will not explain the details today as they are already available on the webpage, but we have set three material issues: climate change countermeasures, Use of renewable/recycled resources, and protection of biodiversity.

In particular, climate change countermeasures have been attracting a great deal of attention from society in recent years. We have set stringent targets, assuming that society's expectations will increase in the future, as detailed in COP26.

We have also stated that we will achieve zero CO₂ emissions by 2050.

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Material Issues Being Addressed in Pursuit of Mid-Term Environmental Goals



- Climate change countermeasures in particular involve technology, investment and operations -

Climate change countermeasures

Reduce CO₂ emissions and energy consumption

- Reducing CO₂ emissions from research/production facilities, which account for a vast majority of Chugai's emissions, is a priority (and also crucial to achieving Roche Group's targets)
- We must update facilities/equipment and improve energy efficiency
- We will source and secure stable supplies of sustainable electricity
- We will challenge to reduce Scope 1 emissions with technology (mitigate impacts on operations, investment, technology)

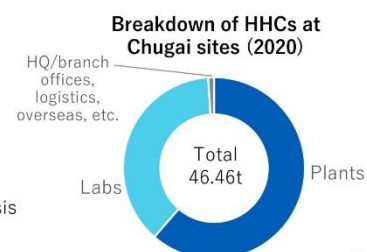
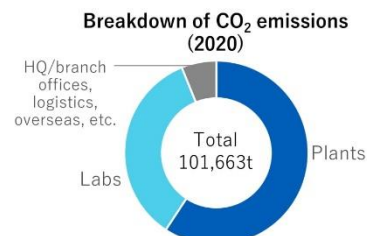
Discontinue use of halogenated hydrocarbons (HHCs)

- Need to test/identify alternative technologies
- Impact of natural refrigerants' adoption on energy efficiency and water consumption
- Fixes for equipment for which no alternative technologies exist yet

Use of renewable/recycled resources

Protection of biodiversity

- We will promote more agile and effective use of resources, placing priority on realizing a circular economy
- We will work on water management and water risk assessment in connection with business activities
- We must step up initiatives to reduce toxic chemical use on ongoing basis
- We must set plans in coordination with local communities



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Next slide. In this section, we introduce the material issues for achieving our mid-term environmental goals.

As you can see from the graph on the right, 95% or more of our company's CO₂ emissions and CFCs come from the Pharmaceutical Technology and Research Divisions. Therefore, our environmental measures will be centered on these two divisions.

The first important thing to do is to take energy conservation measures. Chugai has been proactively taking energy conservation measures. In new facilities, we are working on introducing the latest energy-saving equipment. Energy conservation activities are an accumulation of small reductions. We cannot expect large reductions from a single measure, but we will continue our efforts by researching and introducing the latest energy conservation technologies and by utilizing outside experts.

The main way to reduce CO₂ emissions from Scope 2 is to introduce renewable electricity, or sustainable electricity, as we call it. We will continue to work with our power suppliers to ensure a stable supply.

We believe that reducing CO₂ emissions from Scope 1 is a major issue. As alternative energy sources are still unclear, this is an issue that we need to find a solution to in the future.

With regard to the abolition of CFCs, we will continue our efforts while taking into account the identification of alternative technologies and the impact on energy efficiency.

There are some facilities for which alternative technologies do not yet exist, and we believe that dealing with these facilities will be an important issue in achieving our goals.

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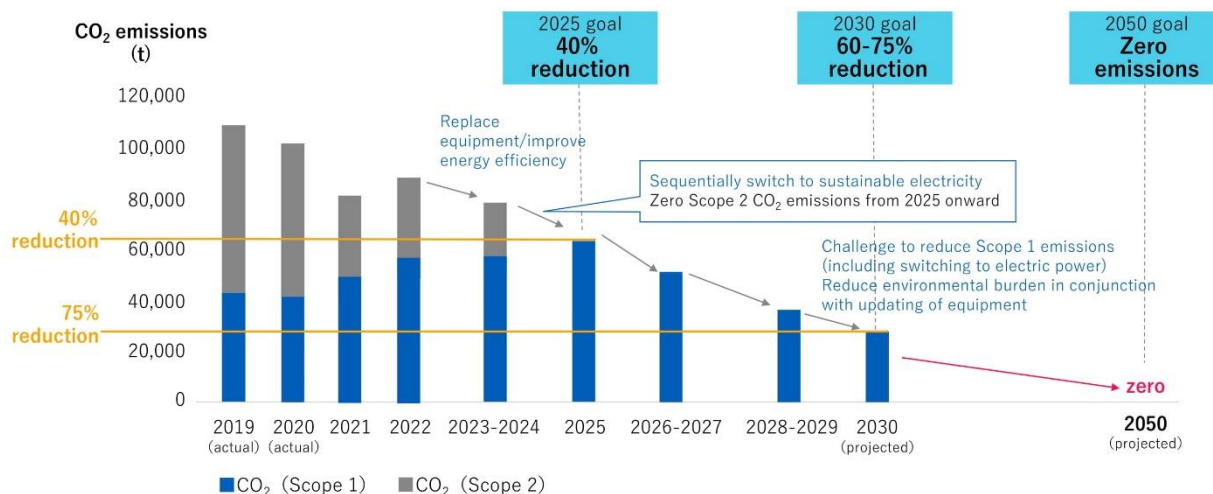
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CO₂ Emission Reduction Roadmap (Company-wide)

- Aiming to switch to 100% sustainable electricity by 2025 in process of achieving goals -



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Please move on to the next slide. This is a roadmap for achieving our CO₂ reduction goals.

The height of the graph is partly imaginary, but some offices and factories have already started to use sustainable electricity this year. The operation of the Chugai Life Science Park Yokohama will result in a temporary increase in CO₂ emissions, but after that, we expect to achieve the 40% reduction goal for 2025 by closing existing laboratories, reducing CO₂ emissions from Scope 2 by expanding the use of sustainable electricity, and conserving energy.

Thereafter, for 2030, we will work towards achieving the goal by electrifying Scope 1 facilities and further improving energy efficiency.

After that, there is still no concrete roadmap for achieving zero emissions in 2050, but we believe that efforts will be made through the introduction of new alternative energy sources.

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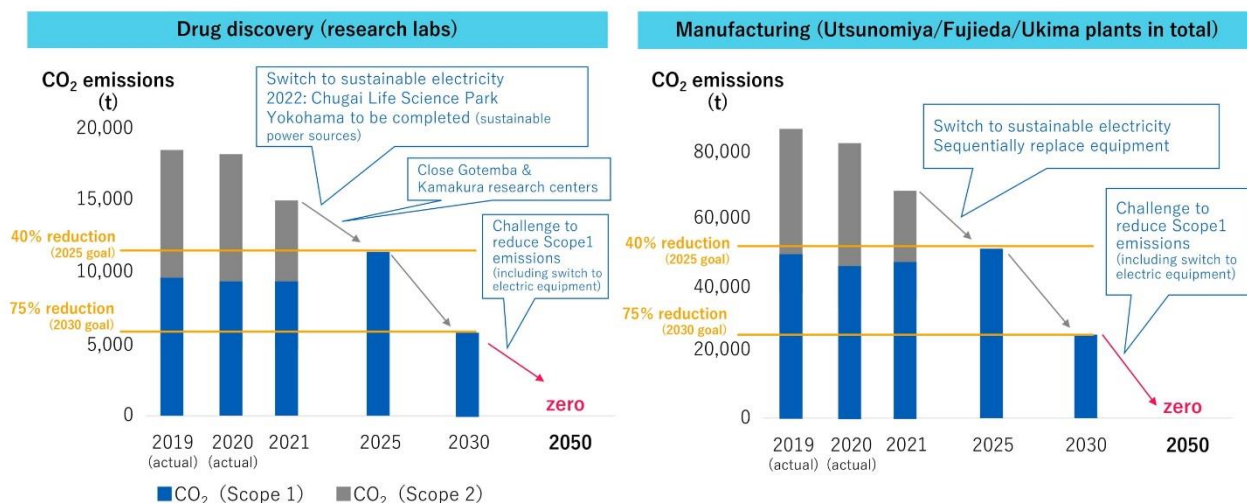
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CO₂ Emission Reduction Roadmap (Drug Discovery/Manufacturing)



- Aiming to switch to 100% sustainable electricity by 2025 in process of achieving goals -



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This is the roadmap that I just showed you, divided into the Research Division and the Pharmaceutical Technology Division.

In the Research Division, we plan to introduce sustainable electricity from 2023 after the start of operation of Chugai Life Science Park Yokohama in 2022. After that, we believe that we will be able to achieve the 2025 goal by closing the Gotemba and Kamakura Research Laboratories.

As for the Pharmaceutical Technology Division, we will aim to achieve the goal by 2025 by gradually expanding sustainable electricity use and promoting energy efficiency through facility upgrades.

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Manufacturing: Priority Climate Change Countermeasures



- Aiming to both upgrade drug manufacturing functions and achieve 2030 environmental goals -

We must plan and take action to implement climate change countermeasures while also executing RED (research and early development) shift, ensuring supply stability and improving quality

Mid-Term Environmental Goals 2030 (climate change countermeasures)	Action steps
Scope 1+2 CO₂ emissions Scope 1+2 energy consumption	<ul style="list-style-type: none"> • Build new facilities, update equipment, improve processes • Reduce energy consumption through drastic improvement in energy efficiency • Identify next-generation energy source(s) to replace natural gas • Reduce Scope 1 emissions • Expand use of single-use plastic bioreactors • Optimize HVAC/lighting through energy management
Sustainable electricity ratio	<ul style="list-style-type: none"> • Stably source sustainable electricity • Sequentially switch to sustainable electricity • Explore captive power generation (solar panels)
Halogenated hydrocarbon (HHC) usage	<ul style="list-style-type: none"> • Update production/HVAC equipment in conjunction with new construction/replacement of equipment • Figure out what to do with machinery for which HHC-free technology has yet to be developed • Install equipment that uses natural refrigerants • Test new technologies

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This is an introduction to the key issues in the Pharmaceutical Technology Division's efforts to combat climate change.

It will be necessary for us to make efforts to realize the RED shift, which is part of TOP I 2030. We will also work to improve the stable supply and quality of our products, something that is the responsibility of all pharmaceutical companies. This is in addition to our measures against climate change.

In order to reduce CO₂ emissions and energy consumption, we are working on new facilities, facility renewal, process improvements, efficiency improvements, and so on. To give you a concrete example, this includes the expansion of single-use bioreactors applied facilities and the optimization of energy management.

With regard to the introduction of sustainable electricity, we will proceed with the switchover and also consider the possibility of introducing solar power and other forms of in-house power generation.

To reduce the use of CFCs, in new facilities we are introducing non-CFC equipment that uses natural refrigerants. For equipment for which there is no alternative technology at the moment, we will need to search for and investigate new technologies, but we will continue to communicate with equipment suppliers and other companies to achieve our 2030 goals.

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Manufacturing: Initiatives at Fujieda Plant

- New building will be equipped with advanced EHS technologies and produce APIs for small and mid-size molecule drugs that will drive future growth -



New building (FJ3) for manufacturing APIs for small/mid-size molecule drugs



- Completion of construction: Oct. 2024
- Start of operation: Mar. 2025
- Total investment: ¥55.5 billion

We are building an integrated in-house supply chain in FJ3, a new building that will produce active pharmaceutical ingredients (APIs) from late-stage clinical development through initial commercial production. In addition to producing high potency compounds, FJ3 will be equipped with advanced environmental, health and safety (EHS) technologies.

Production functions

- FJ3 will be equipped with advanced containment technologies to enable production of high potency compounds
- Production lines will be largely automated to boost productivity and reduce manpower requirements

Environment

- HHC-free design by virtue of natural refrigerant use
- Will reduce energy consumption and CO₂ emissions through, e.g., waste heat recovery
- Will reduce waste through recycling of organic solvents/catalysts to help realize circular economy

Safety

- Safe design thoroughly prepared for explosion/fires
- Earthquake-resistant by virtue of seismic isolation structure



FJ2 is equipped with production lines and an HVAC system that use natural refrigerants, not HHCs (photo: refrigeration system that uses natural refrigerant)

43

Now, let's move on to the next slide.

Here I would like to introduce 2 specific examples of environmental measures that are being implemented at new facilities within the Pharmaceutical Technology Division.

The first example is the FJ3 facility, also known as the small and mid-size molecule APIs manufacturing facility, planned for the Fujieda Plant.

In addition to the production function and safety aspects, we will also consider environmental aspects such as non-fluorocarbon design using natural refrigerants, introduction of energy-saving measures such as waste heat recovery, and recycling of organic solvents discharged in the manufacturing process.

The photo on the right here shows a refrigeration system that uses ammonia, a natural refrigerant. In fact, the Fujieda Plant already has a facility under construction with this kind of CFC-free equipment: the FJ2 facility.

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Manufacturing: Initiatives at Ukima Plant

- Initiative to manufacture faster and more efficiently without using HHCs, burning natural gas or emitting CO₂ -



Biologic API manufacturing building (UK4)

UK4, where biologic APIs for early-stage clinical trials will be produced, will pursue expeditious, flexible and sustainable manufacturing as an HHC-free, all-electric facility with no CO₂ emissions

HHC-free

- Will use natural refrigerants instead of HHCs

Gas-free

- Everything, including production processes, will be electric-powered (zero Scope 1 emissions) by virtue of UK4's energy efficiency

CO₂-free

- Single-use plastic bioreactors will be heavily used (expanded scope of application)
- Membrane water treatment system will contribute to energy efficiency
- HVAC/lighting will be optimized using HVAC mode-switching control, high-efficiency motors and motion sensors
- Non-GMP areas will be powered with on-site renewable energy



- Completion of construction : Sep. 2023
- Start of operation : Jan. 2024
- Total investment: ¥12.1 billion

How single-use plastic bioreactors reduce environmental burden

- Single-use systems obviate the need for, e.g., tank cleaning and steam sterilization, thereby reducing water usage, power consumption and, in turn, CO₂ emissions
- They therefore impose less overall environmental burden than conventional stainless-steel bioreactors
- Measurement instruments to be installed in UK4 will monitor and analyze environmental-burden data



[Issues to be addressed]

UK4 is expected to generate more plastic waste than other manufacturing sites. It will be important to figure out how to recycle waste such as used plastic bags and packaging materials.

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Now, let's move on to the next slide.

The second example is UK4, a biologic APIs manufacturing facility that is scheduled to be constructed at the Ukima Plant.

In addition to a CFC-free and natural gas-free design, the building concept is based on the three zero concept, which aims for zero CO₂ emissions through the introduction of sustainable electricity and in-house renewable energy. In particular, we have been able to achieve zero gas usage by promoting thorough energy conservation.

In addition, here at UK4, we are planning to expand the use of more environmentally friendly single-use systems. We are planning to actually acquire and analyze environmental impact data after the system goes into operation.

On the other hand, the expansion of single-use systems will lead to an increase in plastic waste, and we will continue to study the recycling of this waste. This concludes my presentation. Thank you very much.

Sasai: Thank you very much for your attention.

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Question & Answer

Sasai: We will now move on to the question-and-answer session. Please note that in order to allow as many people as possible to ask questions, we would like to limit questions to 2 per person. Please note that the audio of your questions, along with that of the presentation, will be posted on our website at a later date.

Mr. Saito from the Digital Engineering Department, who is in charge of environmental measures at the Pharmaceutical Technology Division, is also here with us today.

First, I would like to take questions from participants in the audience, and then I would like to take questions from participants joining via conference call. After you state your name and company name, we will be happy to take your questions. Who would like to start?

Hyogo: My name is Hyogo from Mitsubishi UFJ Trust and Banking Corporation. Thank you. I have participated in all of these events, from the first to the third. I felt that the jump up from the previous event to this one was very well planned and developed, incorporating various outside ideas, which I thought was very good. I would like to see your company become a role model to others throughout the industry.

With that in mind, I would like to ask you two questions. Looking at your explanation this time, there is a lot of explanation about what you are going to do as a Company, but I think it is a little hard to see how you are thinking about collaboration with external parties and other stakeholders.

For example, in the case of daily necessities, Lion and Kao have joined hands in the area of waste plastic. I think there is a lack of ideas on what to do as an industry. In order to become a role model, I believe that this concept will probably remain with us, so I would like to know what you think about this. Perhaps I could direct this to Mr. Ueno?

Ueno: Thank you. I think this is a very important point. It's not just about our own activities, but also about the need for cooperation and collaborative work, so I think it's very important to ask how the industry can come together and work as a group.

I am aware that the industry is currently focusing on how to quickly obtain approval and deliver drugs to the market without burdening patients. In the future, our industry is not one that consumes a lot of energy, but I think it is necessary to discuss these issues as well.

In particular, a major issue for the future is the primary and secondary packaging of pharmaceuticals, such as PTP and the so-called containers that pack injectable drugs. These include plastics and vials, which are of course important in ensuring the stability of the product. So, how can we solve environmental problems like this? We believe that this is a major issue. Thank you.

Hyogo: Thank you very much. The second question is, in the area of climate change countermeasures, you mentioned the ratio of sustainable electricity. There is an international initiative called RE100, which has been endorsed by companies such as Ono Pharmaceutical. Does your company have plans to commit to or support RE100 at some point? That is my second question. Thank you.

Yamada: I will take your question. As for the RE100, we are going to consider whether or not to apply for it next year. We are currently in the process of applying for SBT, and we will continue to make decisions on whether we should use external certification or not, while considering various aspects.

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Hyogo: Thank you very much. I have one request: next time, if it is possible, I would be grateful if you could allow an outside director to talk about your company's ESG activities from the perspective of a third party. When I looked at the message in the today's presentation, I found that it mentions a lot of positive points, but I felt that issues are not fully addressed. I thought it would be helpful to include that information so that we can promote sustainability in a more transparent manner. That's all from me. Thank you very much.

Sasai: Thank you very much.

Hashiguchi: My name is Hashiguchi from Daiwa Securities. I have two questions about environmental issues.

The first is about the goal to achieve zero CO₂ emissions in 2050. If I'm not mistaken, I thought that Mr. Ueno said at the beginning that although there are some challenges, your company is starting to be able to draw a roadmap. Compared to the presentation a year ago, I had the impression that you have moved forward in this sense. I would like to know what has changed that has enabled you to chart a course.

I also understand that innovation in society as a whole is necessary to achieve this goal, but if you are aware of any challenges that the pharmaceutical industry faces in order to achieve this goal, and if there is anything that you think your company should work on, could you please tell us about it?

Ueno: I will answer first, and Dr. Yamada can add a few words if necessary.

First of all, is there anything special that the pharmaceutical industry should do? One specific thing I would say here is about clean rooms. It is essential to maintain a sterile environment in the clean rooms in our facilities. This is where products are manufactured.

If sterility is broken, the process of restoration takes many months. This is something that we experienced this at the time of the Great East Japan Earthquake. That's why it's important to maintain sterility. I think this is also true for semiconductor manufacture. For that reason, the amount of energy consumed is not really linked to the amount of production.

One of the key words is to maintain the environment. We consume a considerable amount of energy to do so, and this may be a problem unique to our industry or to our product mix. Trying to find ways to reduce energy usage in this area will be a major issue for the industry.

In terms of the initial pathway, as I mentioned earlier, we can achieve a 75% reduction. Up until now, we have been roughly considering the path we will take in 2050 and 2030, based on a percentage reduction for each year, but we are now able to visualize the changes on a per-building basis at our sites.

As we are getting a more detailed understanding of the issues that need to be addressed, we are of course aiming for 75% or higher. This is a very high hurdle, but we are getting a clearer picture of the problems that need to be solved. There are some problems that we cannot solve, but I think we are starting to see how we can work with other innovators to solve them.

Yamada: I would like to add a few words. As Mr. Ueno just explained, last year we talked about our approach to the target, but we are still in the process of considering how we can actually proceed.

Over the past year, mainly in the Pharmaceutical Technology Division, we have been studying what we can do for individual facilities and buildings, as Mr. Ueno mentioned. We think we can manage to achieve a 75% reduction by, for example, changing Scope 1 to Scope 2. That is the degree of resolution with which we can see the way forward.

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However, another issue is that in the pharmaceutical industry, especially in the production of distilled water, energy efficiency is not good unless direct application of flame is used. Another issue is the difficulty in producing high temperature steam. There are other issues as well, but I think this is the biggest issue right now. For example, we will have to keep a close eye on whether hydrogen can be used, or whether biogas will be used in the future. So, I think we still have a little way to go.

Hashiguchi: Thank you very much. Another question concerns the mention of single-use systems as an example of your environmental impact initiatives at the Ukima Plant. I have heard that procurement of single-use products has become a little difficult during the coronavirus pandemic, which has caused confusion in the supply chain. How does your company view this type of risk?

Saito: Please allow me to answer. As you mentioned, we believe that there is in fact a tightening of demand for single-use bags, and we are also affected to a certain extent. Single-use bags are an important part of pharmaceutical manufacturing. We have been able to control the production of pharmaceuticals at present by consolidating single-use systems and making allowances on the supply side, such as ensuring sufficient lead time. In addition, we have a prospect of how we will be able to operate this kind of equipment in the future.

Hashiguchi: Thank you very much. That's all.

Participant: My name is Yamada from Nihon Keizai Shimbun. Thank you for your explanation. I also have two questions.

First, as Mr. Ueno mentioned earlier, the goal of zero emissions by 2050 is quite a high target. He also mentioned a desire to collaborate with outside organizations and innovators in areas where the Company is not possible to achieve targets on its own.

To the extent that you are able to answer, what kind of collaborations do you have at present with innovators such as pharmaceutical companies, biotechnology companies, energy companies, and so on? In what sense are you collaborating with these innovators?

Ueno: Environmental issues are an issue that all stakeholders have, and people in the electricity and gas industries, in particular, do not think that the current situation can be extended. Therefore, we are discussing issues such as how to supply and develop sustainable electricity and gas with the current major players in this field. If there is a problem that needs to be solved technologically, we will talk with the company that has the technology or specializes in that area.

Participant: Thank you very much. I would also like to ask you about the supply chain and your efforts to deal with environmental issues with your business partners and suppliers. For example, in various industries other than the pharmaceutical industry, when the supply network or suppliers do not take human rights issues into consideration, I believe that there is a movement to change suppliers, but I am not sure if the pharmaceutical industry is capable of doing so. If you have any examples of your company's dialogue with suppliers about the environment or human rights, I would like to know about it.

Ueno: I can give an overall impression of the situation, and the relevant people in charge may be able to give a more specific answer in terms of, say, human rights.

We have relationships with more than 4,000 suppliers, but of course it is difficult for us to contact or establish relationships with more than 4,000 suppliers at the same level. So we prioritize our activities so that we can work together to achieve the same goal.

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First of all, when we work with a new partner, we discuss with each other how they are tackling various issues such as human rights, the environment, BCP, and other ESG items. We do this in order to see if we can work together from the same perspective and at the same level. This is the first step in our evaluation process.

Of course, through the process of working with these people, we will be able to decide whether or not to work with them, but if it is clear to us that there is a problem, or that there is a level of concern, then of course we will ask them to meet the requirements of our core business. However, in addition to that, I think the question is how to evaluate ESG, environment, human rights, and other factors, and I would like to see improvements in this area.

If we can determine that we can understand the situation, make some improvements, and work together at that level, then we will enter into a relationship with that company. This forms the basis for our decision-making.

Yamada: I will explain a little about the details. Regarding human rights and the environment, there is a consortium of international pharmaceutical companies called the Pharmaceutical Supply Chain Initiative, PSCI, and as you may know, we are a member of that consortium. We conduct inspections and make decisions based on their standards.

Broadly speaking, as Mr. Ueno just said, we are thinking about it at 3 levels. The first is to say that we can no longer have a relationship with the company. We have never had such a situation before. The second is if there is an issue, but they are willing to work with us to make improvements, we will continue business while improvements are made. Where the improvements are made, the company will have reached a sufficient level, so we will be able to continue to do business.

We have participated in PSCI and have conducted audits based on the current standards, but we mainly prioritize suppliers that are very important to us, such as CMOs. Until now, we have not had any experience of saying that we cannot do business with a particular company.

Participant: Thank you very much.

Sasai: Thank you very much. We would now like to take questions from the participants via conference call.

Let's go to the first question. Mr. Yamaguchi of Citigroup Global Markets Japan, please go ahead.

Yamaguchi: This is Yamaguchi from Citi. Thank you. One question.

In the section on ESG initiatives and corporate value, you introduced in particular the economic value, which I think is on page 21, touching on increasing profits, reducing invested capital, and reducing the cost of capital. If you are able to measure the reduction or anticipated reduction in invested capital and the cost of capital in your company's activities, would you be able to disclose this? It would be very helpful for the DCF calculation.

Itagaki: This is Itagaki. As for the cost of capital, of course, internally, we use consensus calculations and other things that are calculated externally. I think these are public. But of course, each company can share the information, although they may not use it in their own DCFs because they do it on their own.

In addition, the specific details of the reduction of the invested capital and the profit are listed here. However, the DCF is actually, of course, about what the profit and loss will be in the future, what the cash flow will be, and what the investment will be. We are not able to disclose these predicted future figures at this time.

Yamaguchi: Specifically, do you think that the cost of capital is decreasing?

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Itagaki: We are using different percentages for different scenario cases, so I'd like to refrain from sharing what percentages we are using now.

Yamaguchi: Would you say that it is declining?

Itagaki: Yes, if you look at the past, the cost of capital itself has been declining.

Yamaguchi: So it's going down. Understood. Thank you.

Sasai: Thank you very much. Morgan Stanley MUFG Securities, Mr. Muraoka, please go ahead.

Muraoka: Thank you very much. I'm sorry, this may not be directly related to today's discussion, but I'm a little concerned about environmental impacts. I think there are some medicines that are thrown away by patients and others that are not used, such as antibacterial and hormone agents, which have a considerable environmental impact. Is there anything that your company or the industry is doing about this? Diabetes companies collect syringes and so on, but if you have any specific examples in this area, I would appreciate it if you could tell us about them.

Ueno: We are not currently taking any specific measures, such as collecting leftover medicines as you mentioned.

However, while there may be many reasons patients would not take a medicine, we generally do not assume that patients will not take the medication prescribed. Based on the premise that prescriptions are given and that they are taken or administered correctly, I think it will be necessary to design dosage forms that suit the patient as much as possible, and to put things into injection vials and syringes that will not be wasted. I think it will be necessary in the future to devise such a system.

I'm not sure if I'm answering your question.

Muraoka: Thank you very much. Is it correct to assume at this point that there have been no suggestions from outside the pharmaceutical industry that this is a problem?

Ueno: I don't know what kind of specific opinions we have received and to what extent, but I can think of one thing that was pointed out at the time of Tamiflu for influenza: if the drug is released into rivers and water and birds drink it, they may become resistant to it. There was some debate about the possibility of that. We will deal with such things sincerely, although we have not taken any specific action, but I think such a thing is possible.

Muraoka: Understood. That was very helpful. Thank you. That's all.

Sasai: Thank you very much. Our next question comes from Mr. Azuchi of NHK. Please go ahead.

Azuchi: In terms of the early development of a new coronavirus therapy, Atea recently announced that AT-527 did not meet its primary endpoint in a Phase 2 study. Also, on November 12, Atea announced a change in the plan for Phase 3. Please let us know if there are any changes from the previous process, such as the release of data, or the timing of the application to the MHLW.

Kusano: This is Kusano. I will answer the question from my side. Regarding AT-527, the results of the Phase 2 trial have been announced by Atea. Based on the results, Atea, Roche, and our company are currently discussing how to proceed with Phase 3, which is currently underway. Although we have not yet decided on a clear direction, we will continue to make decisions on our future policy based on the results of Phase 2.

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Azuchi: Will there be any changes to the schedule in the future, or will the information be the same as it has been in the past?

Kusano: Yes, we would like to consider the schedule in the future as well. Sorry, the results of Phase 2 have just come out, so we are still considering our future plans.

Azuchi: Thank you very much.

Sasai: Thank you very much. We are out of time, so we will now close our ESG meeting. If you have any additional questions, please contact the Corporate Communications Department. Thank you very much for taking time out of your busy schedule to join us today.

[END]

Document Notes

1. *Portions of the document where the audio is unclear are marked with [Inaudible].*
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