



INNOVATION  
BEYOND IMAGINATION

# Chugai ESG Meeting

September 29, 2020

# Important Reminders

This presentation may include forward-looking statements pertaining to the business and prospects of Chugai Pharmaceutical Co., Ltd. (the “Company”). These statements reflect the Company’s current analysis of existing information and trends. Actual results may differ from expectations based on risks and uncertainties that may affect the Company’s businesses.

Information regarding pharmaceuticals (including products under development) is included in this presentation, but is not intended as advertising or medical advice.

# Outline of the Meeting

## Chugai ESG Meeting 2020

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**Progress in sustainability-oriented  
management and strategies**

**Deep-dive theme 1: Sustainability-related Indicators**

**Deep-dive theme 2: Long-term Planning**

**Deep-dive theme 3: Examples of Shared Value Creation**

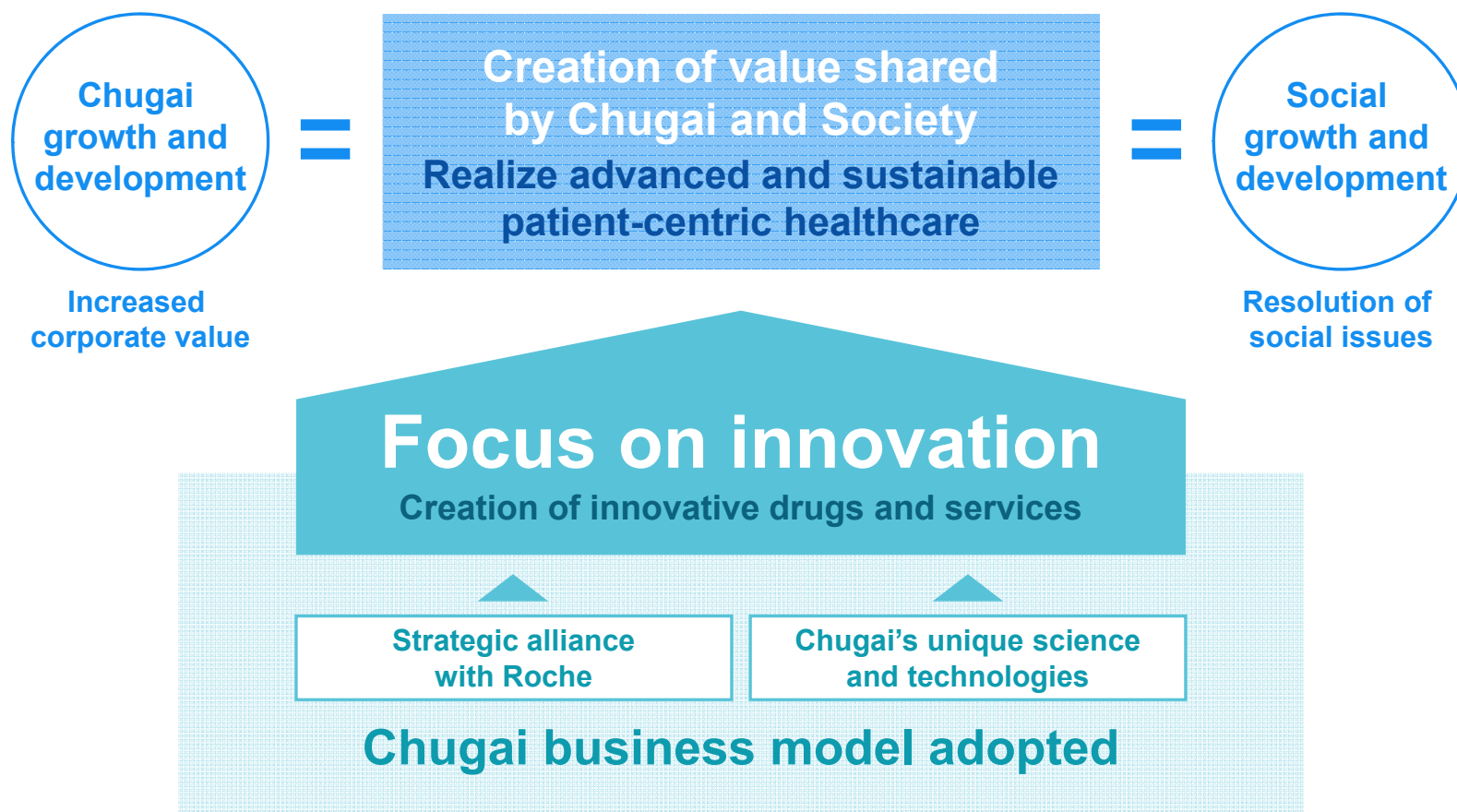
# Progress in sustainability-oriented management and strategies

**Motoo Ueno**  
Representative Director & Deputy Chairman



# Basic Policy (Envisioned Future)

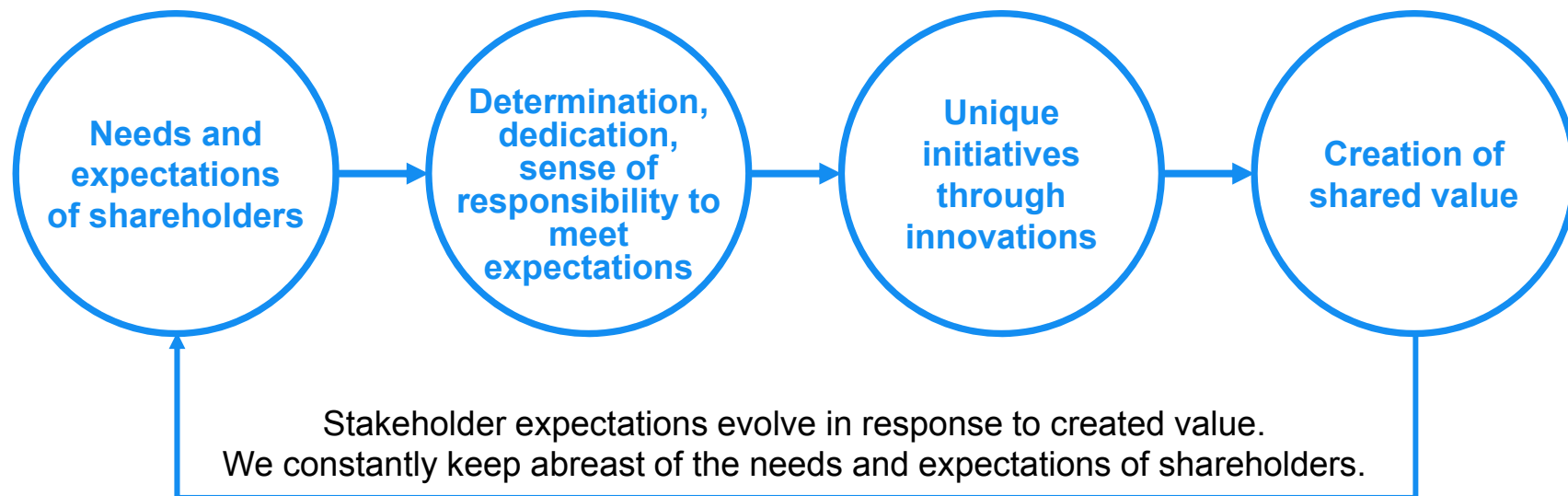
Become a top innovator for advanced and sustainable patient-centric healthcare, powered by our unique strengths in science and technology and the alliance with Roche



# Commitment to Meeting Needs and Expectations of Shareholders



**Innovative approaches are essential in all activities to create shared value in accordance with the needs and expectations of shareholders.**



Building a management/operational foundation conducive to innovation is another priority. We are strengthening our technology, human capital and sustainable platforms and pursuing digital transformation (Dx).

# Examples of Shared Value Creation

**We aim to share value and advance together with society by innovating across every function and value chain.**

## Examples of shared-value creation initiatives

Production	Use of single-use plastic bags for antibody production	<ul style="list-style-type: none"> <li>Increased capacity utilization, facilitation of high-mix, low-volume production</li> <li>Reduced emission burden and energy consumption</li> </ul>
Safety	Development and front-line deployment of drug-safety database tools	<ul style="list-style-type: none"> <li>Timelier responsiveness to healthcare providers' needs</li> <li>Promotion of appropriate use, increased product value</li> </ul>
Marketing	Promotion of regionally coordinated care for osteoporosis, hemophilia, etc.	<ul style="list-style-type: none"> <li>Increased screening rates, treatment rates and adherence to treatment</li> <li>Expansion of products' proper use</li> </ul>
Environmental SCM	Long-term planning in response to changes in external environment ★	<ul style="list-style-type: none"> <li>Acceleration of innovative initiatives</li> <li>Promotion of industry alliances, collaborations with external parties</li> </ul>
Global health	Deployment of our capabilities in support of global health ★	<ul style="list-style-type: none"> <li>Autonomous/ongoing improvement in healthcare access in alignment with actual circumstances in each location</li> <li>Improvement in locals' skills/capabilities</li> </ul>
IR	Engagement with investors based on financial and non-financial indicators ★	<ul style="list-style-type: none"> <li>Sharing and gaining recognition for our view and progress of activities</li> <li>Identification of external changes, acceleration of PDCA cycle</li> </ul>



Single-use bags (Ukima Plant)

(Stars (★) denote deep-dive themes covered in this presentation)



# Overview of Mid-term Business Plan IBI 21



**Accelerate corporate and social development through innovation  
focused on innovative products**

## Create Global Growth Drivers and Maximize Value

Strategy  
**1**

### Value Creation

Realize innovative drug discovery to  
cure and manage diseases

Strategy  
**2**

### Value Delivery

Deliver patient-centric solutions to  
maximize value of growth drivers

Strategy  
**3**

### Promote Advances in Personalized Healthcare (PHC)

Realize the further advancement of PHC and innovate  
R&D process by utilizing digital technology and data

## Strengthen HR and Infrastructure That Support Chugai's Business

Strategy  
**4**

### Human Capital and Structural Reform

Develop high-caliber HR talent that  
supports innovation, and drastically  
reform costs, systems and processes

Strategy  
**5**

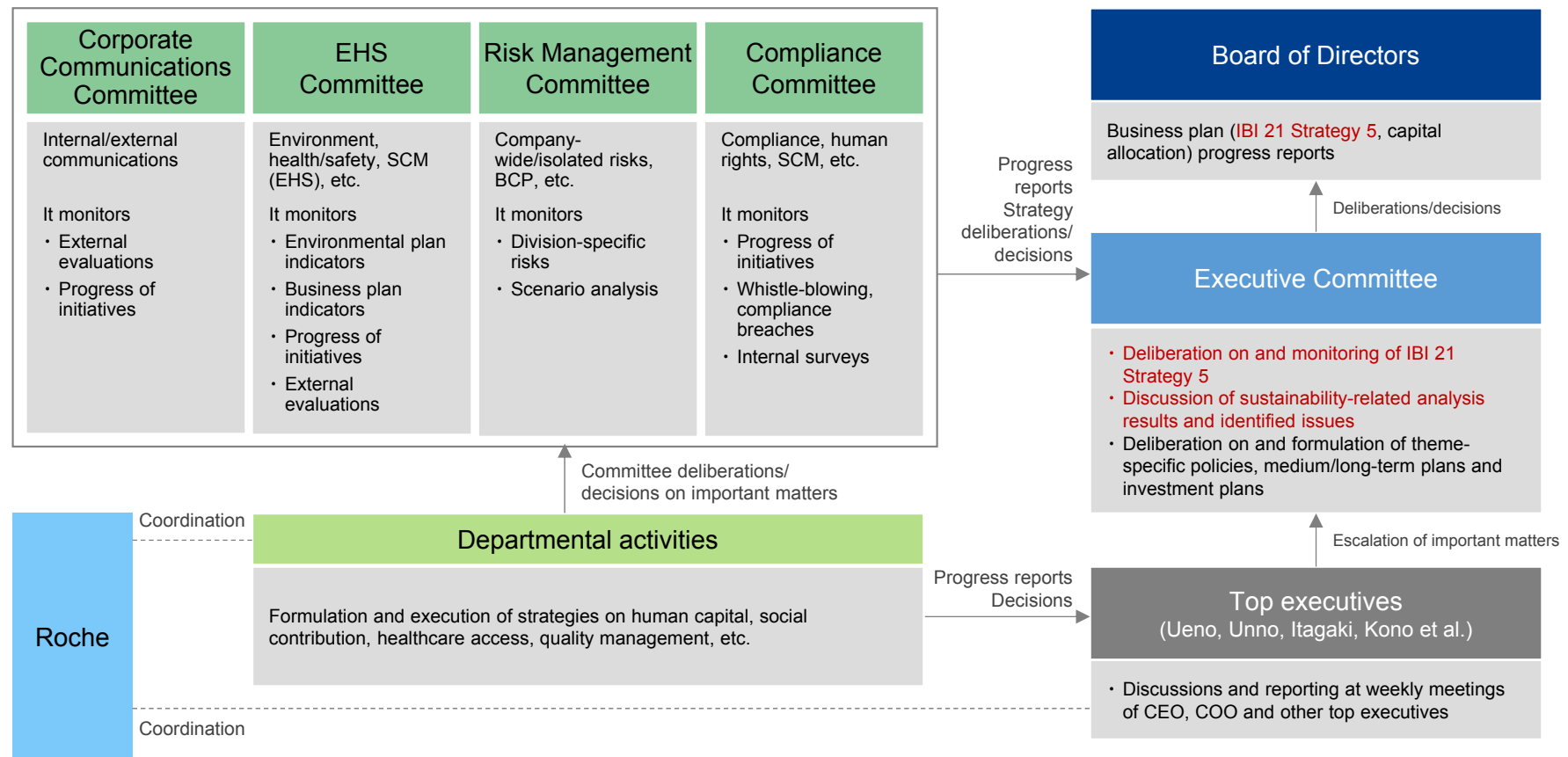
### Strengthen Sustainable Platforms

Simultaneously realize company growth  
and sustainable social development



# Sustainability-related Governance System

Since 2019, sustainability-related matters deliberated and resolved by the Board of Directors and Executive Committee have increased as a result of the IBI 21 plan's inclusion of a strategy to strengthen sustainable platforms (Strategy 5) (**red font** denotes major changes since 2018)



# State of Sustainability-related Governance (2019)



## Board of Directors' main sustainability-related agenda items

Governance-system related:	Revision of basic governance policies, results of assessment of Board's effectiveness, review of effectiveness assessment process, updates on strategic shareholdings
Sustainability-related:	Production facility construction plans, R&D facility consolidation plans, Mid-term Business Plan (Strategy 5) progress reports, reports on personnel system

## Executive Committee's main sustainability-related agenda items

- Feb: •Global health basic policies, basic strategy and new programs  
•Basic social contribution policies
- Jun: •Design of new personnel system
- Sep: •Design of new personnel system  
•Status of talent management, critical positions and talent pool  
•Long- and medium-term environmental plans' strategies and targets
- Dec: •Design of new personnel system  
•Status of talent management, critical positions and talent pool

## Main items monitored by Executive Committee

- Progress of human capital initiatives
- D&I-related indicators
- Environmental plans' target indicators
- EHS-related indicators
- Number of supplier due diligence investigations
- Strategy 5 initiatives' activity schedules, activity results, invested capital
- External sustainability indices
- External reviewers' assessments (ESG ratings/environment)

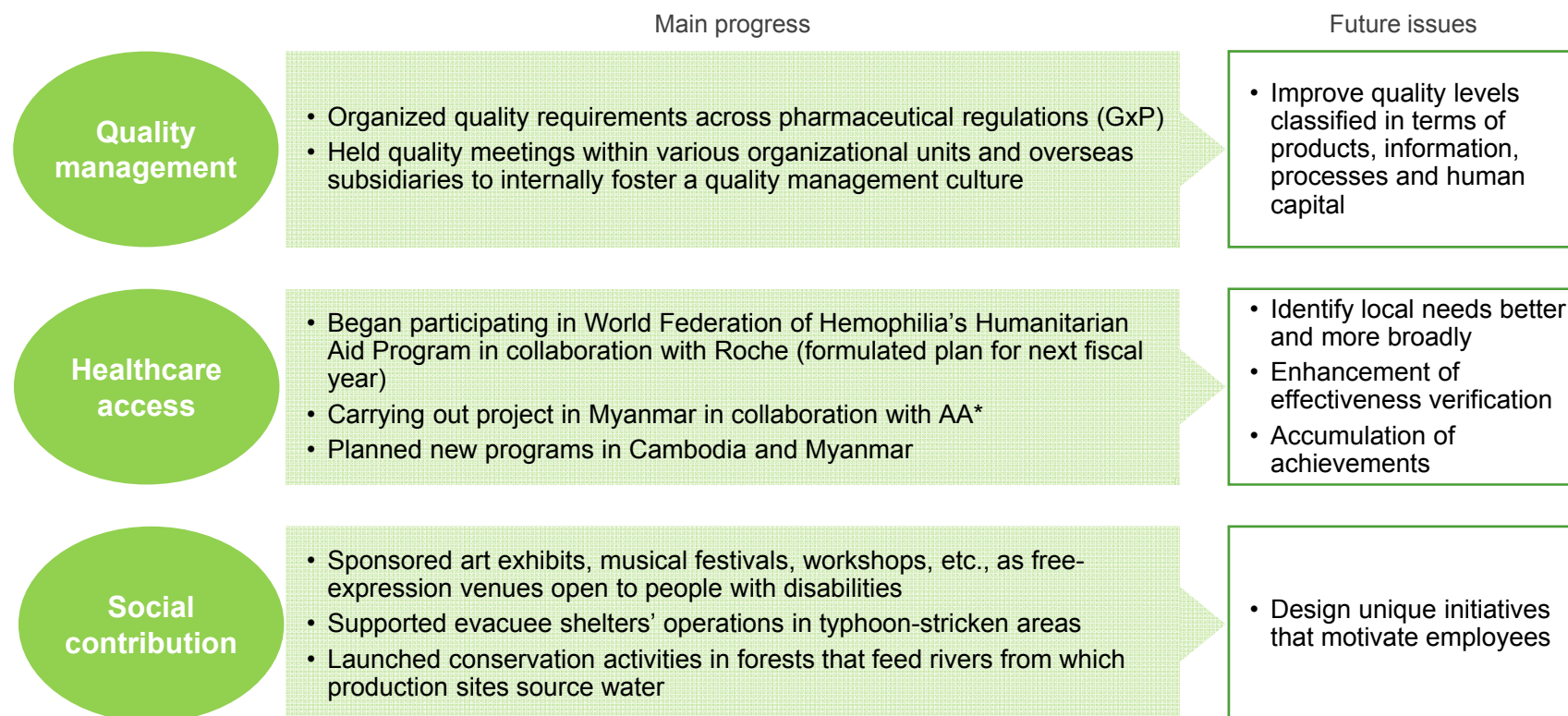
## Main issues identified by Executive Committee

- Adequacy of targets' levels amid ever-changing/increasing external expectations
- Verification of monitored indicators and externally shared indicators
- Scientific approach to verifying initiatives' effectiveness (particularly patient value)

Continuously evolving PDCA program for advancing sustainability as a strategic activity

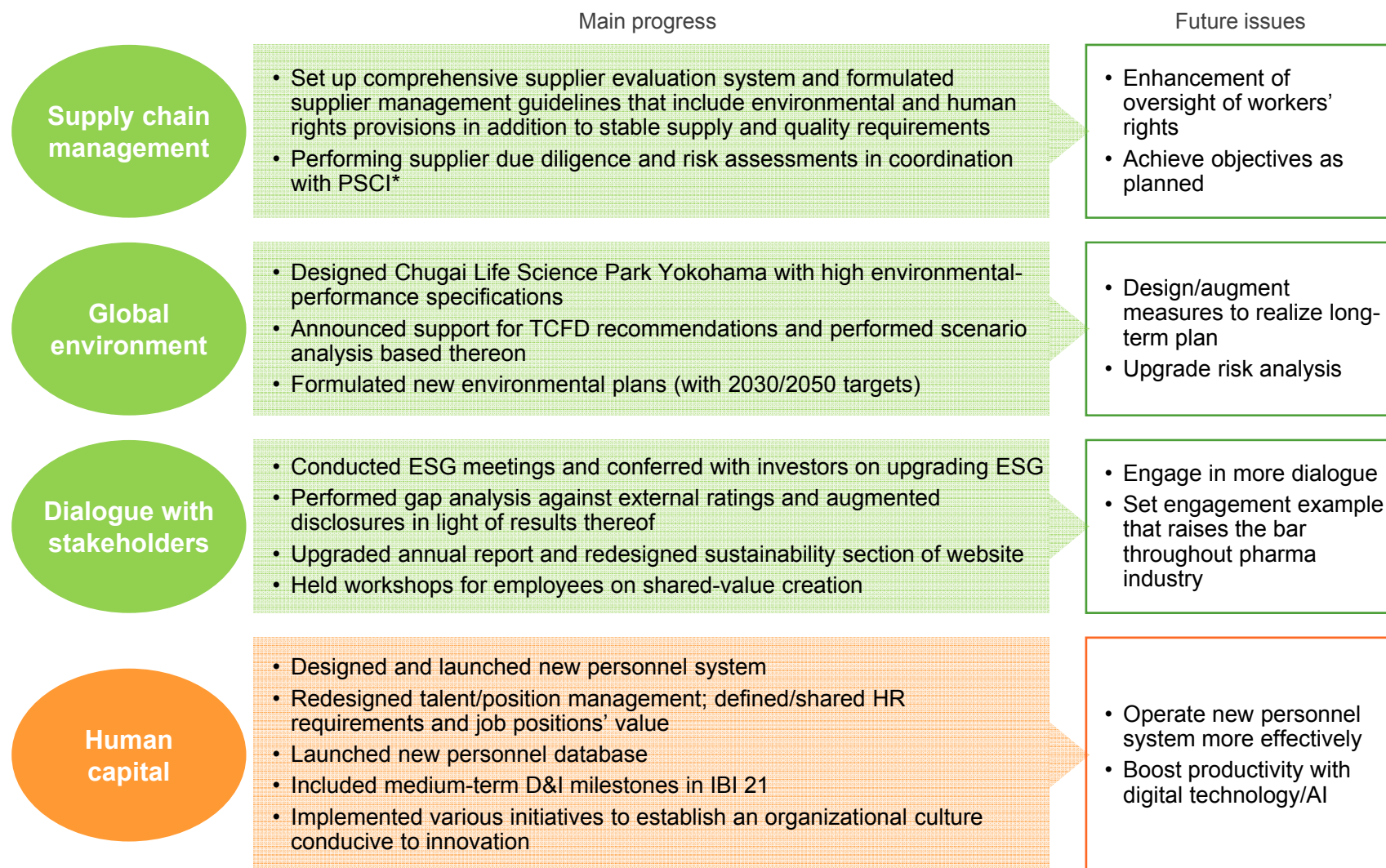
# Overview of Sustainability-related (Strategy 5/Human Capital) Progress (1)

**With all initiatives progressing as planned,  
our targets' levels need to be raised in light of societal expectations.**



\* Access Accelerated

# Overview of Sustainability-related (Strategy 5/Human Capital) Progress (2)



\* Pharmaceutical Supply Chain Initiative

# Initiatives for the SDGs



The top priority goal directly linked to our Mission (3), the four goals required to achieve it (8, 9, 12 and 17) and the six goals that form the basis of our business activities (5, 6, 10, 13, 15 and 16)

<b>Goal 3</b>  Provision of innovative drugs and services/Provision of solutions for patients/Contribution to global health	<b>Goal 8</b> Improvement of occupational health and safety/Promotion of talent management/Promotion of work-life synergy/Supply chain management
	<b>Goal 9</b> Provision of innovative drugs and services/Initiatives for personalized healthcare/Establishment of open innovation networks with academia and other parties
	<b>Goal 12</b> Ensuring stable supply and stable inventories/Strengthening of quality assurance and stable supply/Use of renewable and recyclable resources/Environmental management
	<b>Goal 17</b> Establishment of open innovation networks/Stakeholder engagement strategy/Participation in GHIT Fund and Access Accelerated

**We set development goals to be pursued as priorities. We hold internal SDGs sharing meetings and SDGs drafting workshops with a focus on internal sharing and strengthening linkages between SDGs and business activities.**



# Response to COVID-19 Pandemic

**We are committed to variously contributing to the healthcare sector and society in addition to contributing through existing products and new R&D programs. The pandemic has had some impact on our operations/functions.**

## Pharmaceutical contributions to global healthcare

- Roche initiated phase III clinical trials of Actemra, both as a monotherapy and in combination with remdesivir, to treat severe COVID-19 associated pneumonia (in July, Roche announced the monotherapy trial failed to meet its primary clinical endpoint)
- Chugai Pharmabody Research commenced research on antibody therapeutics for COVID-19 in collaboration with Singapore's Agency for Science, Technology & Research (A\*STAR)

## Other contributions

- Released a voice drama program on YouTube to provide stress relief amid the pandemic
- Donated funds in support of Japanese healthcare providers

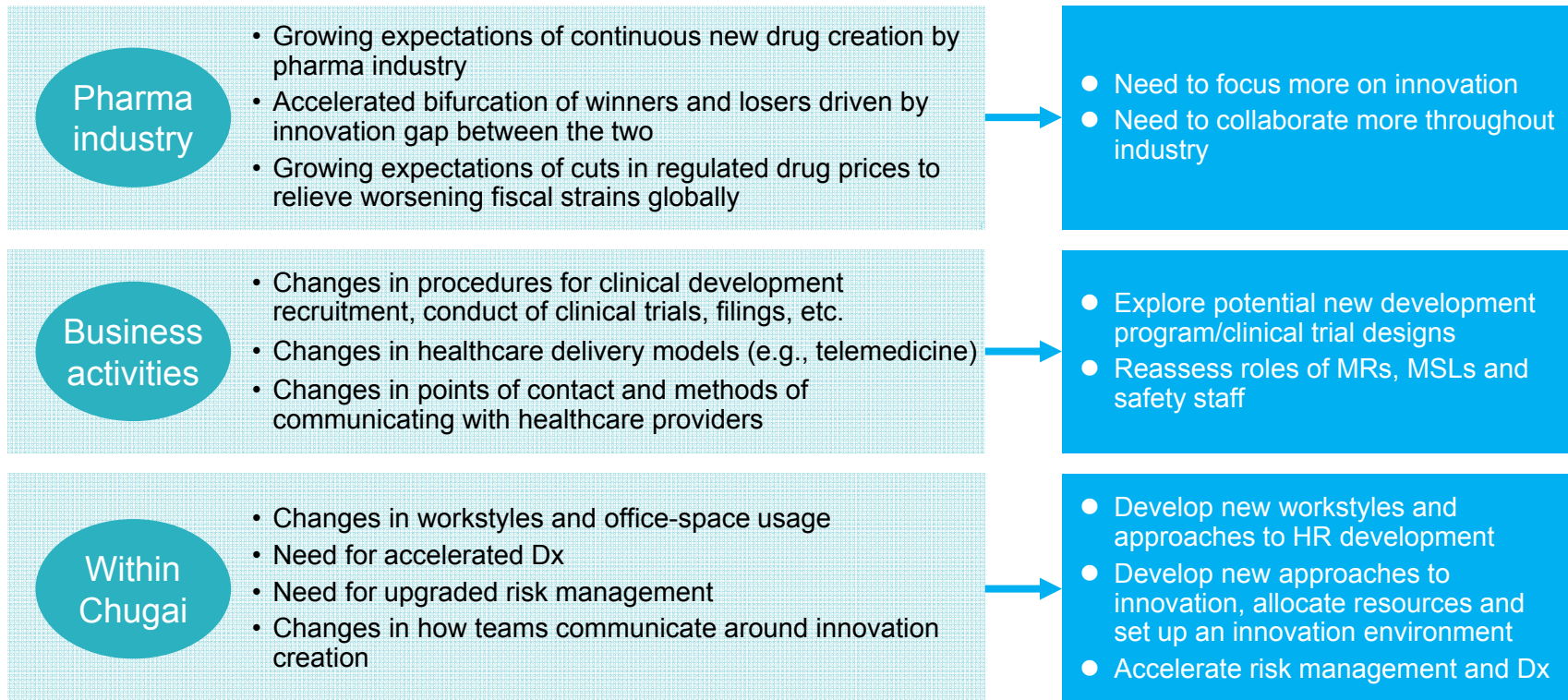
## Risk Mitigation Measures

- We quickly set response policies and implemented various measures through an emergency response headquarters. We also successfully implemented existing business continuity plans. Supplies of active pharmaceutical ingredients have been unaffected to date. We currently have ample safe stocks of products manufactured at overseas plants.
- We have implemented workforce deployment/activity measures, hygiene measures and contagion-prevention measures. Particularly, to ensure stable supplies, we have formulated standards of conduct and prepared employee skill lists to identify substitute personnel in case any employees get infected.

# Issue Recognition during Mid/post-COVID-19

Anticipated changes under New Normal/  
Issues whose possibilities to be verified

Issues to address going forward



**Though their respective timelines differ, all business activities must be reassessed in the context of a New Normal business environment accompanied by dramatic societal changes. This process will take place in conjunction with a materiality reassessment now underway.**



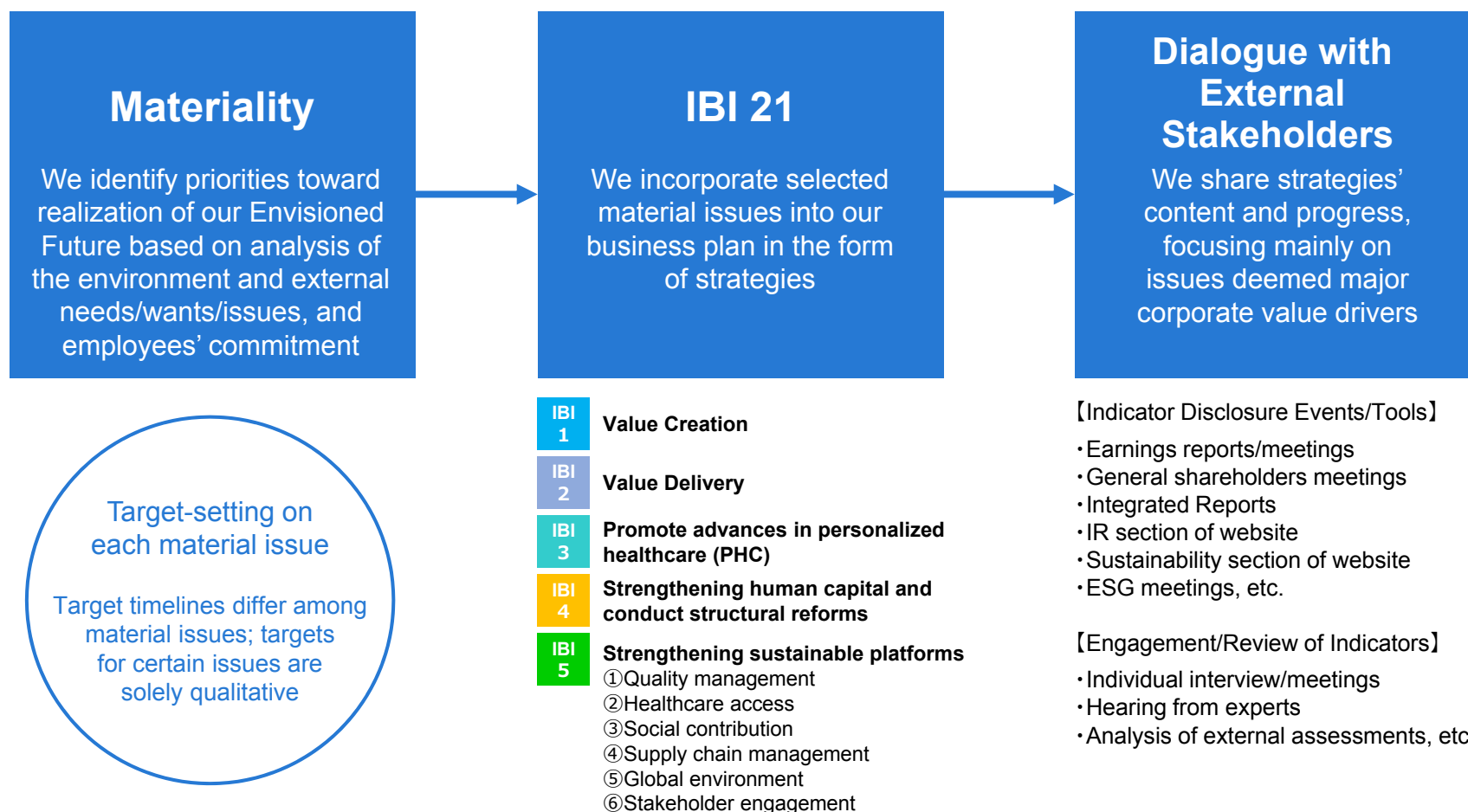
# Deep-dive theme 1 : Sustainability-related Indicators

**Toshiaki Itagaki**  
Executive Vice President & CFO



# Composition of Sustainability Indicators

**We incorporate selected baseline materiality targets into our management strategies.  
For some materiality issues, we set quantitative targets that we share externally through dialogue.**



# Targets and Indicators for Material Issues (1)



★ Disclosed indicator ☆ Partially disclosed indicator or indicator disclosed using external data

Category	Material Issue	Target	IBI 21	Indicators	Department/ Unit in Charge
Sustainable healthcare	Creation of innovative drugs and services	Create innovative drugs	IBI 1 IBI 3	<ul style="list-style-type: none"> <li>Number of new product launches and additional indications★</li> <li>Number of projects and products based on PHC</li> </ul>	<ul style="list-style-type: none"> <li>Project &amp; Lifecycle Management Unit</li> <li>Research Div.</li> <li>Translational Research Div.</li> <li>Clinical Development Div.</li> </ul>
	Provision of solutions for patients	Realize patient-centric healthcare	IBI 2	<ul style="list-style-type: none"> <li>Market share in therapeutic area☆</li> <li>Customer satisfaction☆</li> </ul>	<ul style="list-style-type: none"> <li>Marketing &amp; Sales Div.</li> <li>Medical Affairs Div.</li> <li>Drug Safety Div.</li> </ul>
	Fair marketing	Marketing in compliance with national guidelines	IBI 2	—	<ul style="list-style-type: none"> <li>Marketing &amp; Sales Div.</li> <li>Project &amp; Lifecycle Management Unit</li> </ul>
	Fair pricing	Pricing that reflects drug and service value	IBI 2	—	<ul style="list-style-type: none"> <li>External Affairs Dept.</li> </ul>
	Adverse event management	Perform appropriate pharmacovigilance activities and promote proper drug use	IBI 2	<ul style="list-style-type: none"> <li>Customer satisfaction☆</li> </ul>	<ul style="list-style-type: none"> <li>Drug Safety Div.</li> </ul>
	Quality assurance and stable supply of products	Ensure quality and stable supply of products and services	IBI 5 ①	—	<ul style="list-style-type: none"> <li>Quality &amp; Regulatory Compliance Unit</li> <li>Pharmaceutical Technology Div.</li> </ul>

# Targets and Indicators for Material Issues (2)



★ Disclosed indicator ☆ Partially disclosed indicator or indicator disclosed using external data

Category	Material Issue	Target	IBI 21	Indicators	Department/ Unit in Charge
Corporate governance	Corporate governance	Realize sustained growth and corporate value	IBI 5 ①	• Review of Board of Directors effectiveness ★	• General Affairs Dept.
	Risk management	Perform risk assessment and evaluate responses	IBI 5 ①	–	• General Affairs Dept.
	Disclosure and engagement	Earn market trust through appropriate information disclosure	IBI 5 ⑥	• Annual ESG meeting for institutional investors and media ★	• Corporate Communications Dept.
Ethics and compliance	Compliance	Appropriately manage compliance risks	IBI 5 ①	• Compliance monitoring	• Sustainability Dept. • Quality & Regulatory Compliance Unit
	Code of conduct	Promote understanding and awareness of Chugai Group Code of Conduct (CCC)	IBI 5 ①	• CCC and human rights training in Japan: twice a year ★	• Sustainability Dept.
	Fair transactions	Ensure compliance with trading laws and regulations and build fair and transparent business relationships	IBI 5 ④	–	• Purchasing Dept. • Sustainability Dept.
Supply chain management	Supply chain management	Perform comprehensive supplier evaluations	IBI 5 ④	• Risk assessment of major CMOs ☆	• Sustainability Dept. • Pharmaceutical Technology Div. • Purchasing Dept.
Global environment	Climate change countermeasures <sup>1</sup> (energy, etc.)	Minimize impact on global environment	IBI 5 ⑤	• Reduce energy consumption per employee by 20% vs 2010 ★ • Eliminate use of specific fluorocarbons ★ • Fuel economy of sales vehicles: ≥16 km/L ★	• Sustainability Dept.
	Use of renewable/recycled resources <sup>1</sup> (water, waste, etc.)			• Zero waste emissions (≥99% recycling of waste): 3 sites ★	• Sustainability Dept.
	Protection of biodiversity (environmental burden mitigation)			• Wastewater measurement using whole effluent toxicity testing: 5 sites ★	• Sustainability Dept.
	Environmental management system	Third-party assurance of performance data		• Expand verification items and scope (Overseas sales companies) ★	• Sustainability Dept.

1. Target for December 31, 2020

# Targets and Indicators for Material Issues (3)



★ Disclosed indicator ☆ Partially disclosed indicator or indicator disclosed using external data

Category	Material Issue	Target	IBI 21	Indicators	Department/ Unit in Charge
Human resources	Employee job satisfaction <sup>2</sup>	Develop work environment where employees can continue their careers	IBI 4	<ul style="list-style-type: none"> <li>Rate of paid leave taken: ≥80% ★</li> <li>Telecommuting participation rate<sup>3</sup> 35% ★</li> <li>Employee awareness survey ☆</li> </ul>	• Human Resources Management Dept.
	Development of employee potential	HR recruitment and training to realize strategic targets and accelerate innovation		<ul style="list-style-type: none"> <li>Number of next-generation leader candidates</li> </ul>	• Human Resources Management Dept.
	Diversity and inclusion <sup>2</sup>	Create new value through diverse talents		<ul style="list-style-type: none"> <li>Ratio of female managers<sup>4</sup> 16% ★</li> <li>Ratio of female managers (With subordinates)<sup>4</sup> 15% ★</li> </ul>	• Human Resources Management Dept.
	Improvement of occupational health and safety	Maintain and enhance safe work environment and employee health		<ul style="list-style-type: none"> <li>Prohibit smoking during work by December 31, 2021 ☆</li> </ul>	• Sustainability Dept.
Human rights	Human rights	Respect human rights of all persons involved in business	IBI 5 ④	<ul style="list-style-type: none"> <li>Human rights due diligence on contractors ☆</li> </ul>	• Sustainability Dept.
	Safety of clinical trial subjects	Conduct clinical trials under high ethical and scientific standards with safety	IBI 2 IBI 3	—	<ul style="list-style-type: none"> <li>Translational Research Div.</li> <li>Clinical Development Div.</li> <li>Drug Safety Div.</li> </ul>
Social responsibility	Social contribution activities	Develop networks in key areas	IBI 5 ③	<ul style="list-style-type: none"> <li>Set for each program</li> </ul>	• Sustainability Dept.
	Improvement of access to healthcare	Improve access to healthcare including drug development	IBI 5 ②	<ul style="list-style-type: none"> <li>Set for each program</li> </ul>	• External Affairs Dept.

2. Target for December 31, 2021

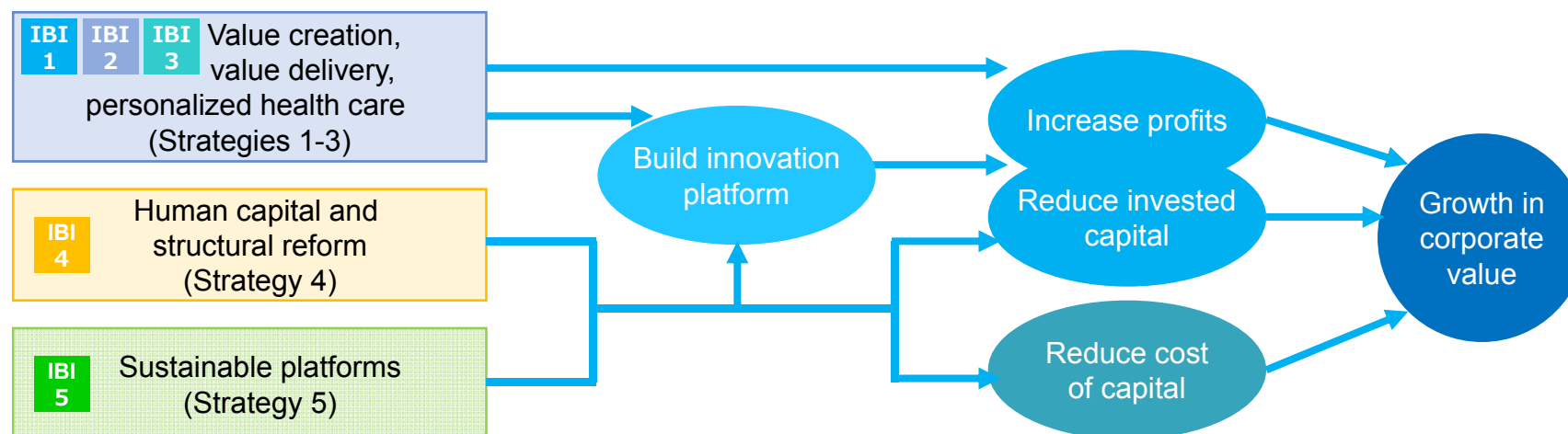
3. Non-consolidated basis

4. Non-consolidated employee basis

# IBI 21 and Corporate Value (related to human capital and sustainable platforms)



~Material issues of growth in corporate value~



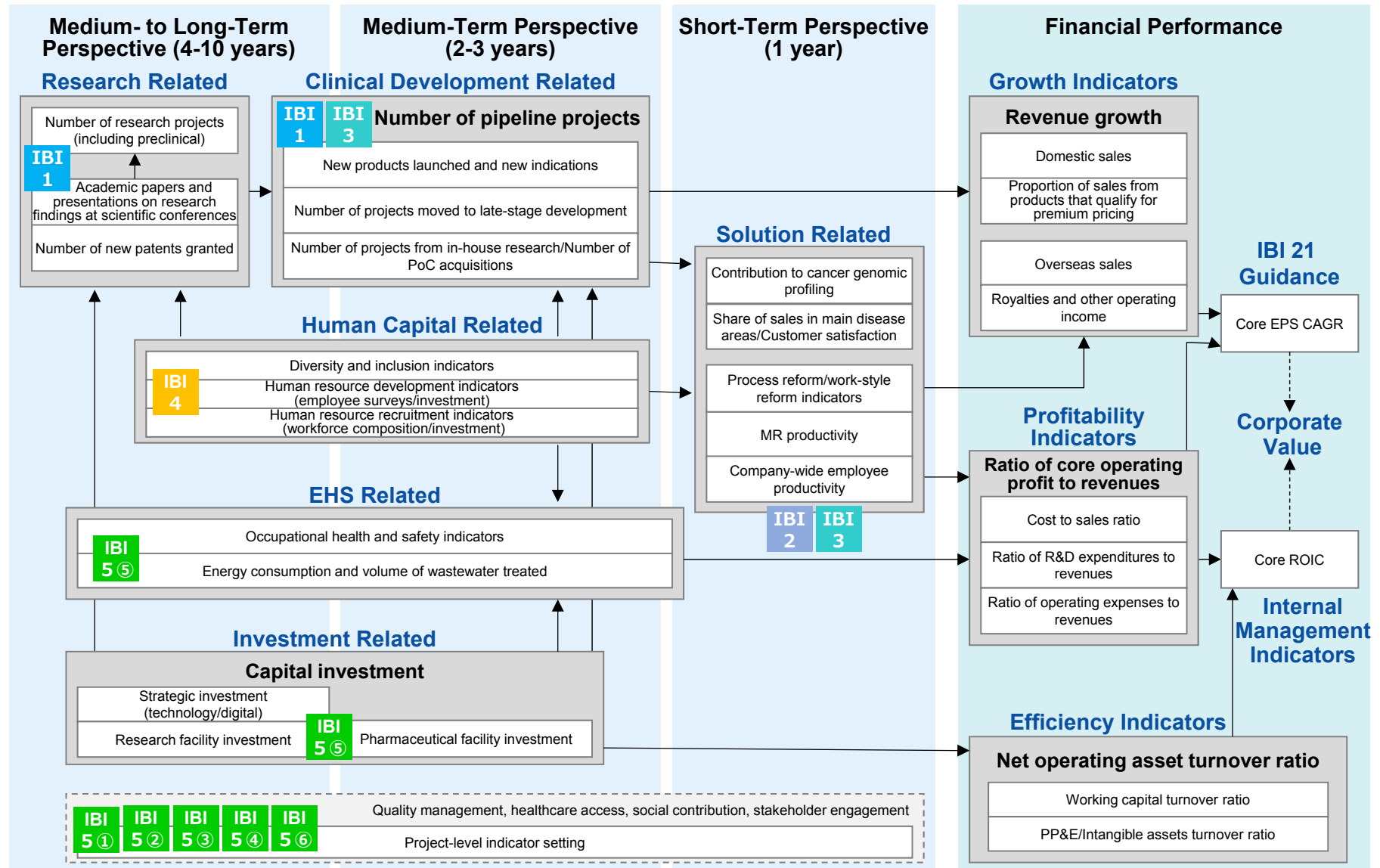
【Main drivers of corporate value growth through strengthening of human capital and sustainable platforms】

	Build Innovation Platform	Reduce Invested Capital	Reduce Cost of Capital
<b>IBI 4 Strengthen human capital</b>	<ul style="list-style-type: none"> <li>Foster organizational culture conducive to innovation</li> </ul>	<ul style="list-style-type: none"> <li>Recruit, develop and increase productivity of diverse, high-caliber human capital</li> </ul>	<ul style="list-style-type: none"> <li>Reduce human risks, risk of human capital outflux</li> </ul>
<b>IBI 5 ① Quality management</b>	<ul style="list-style-type: none"> <li>Entrench quality management</li> </ul>	<ul style="list-style-type: none"> <li>Increase capital efficiency and productivity</li> </ul>	<ul style="list-style-type: none"> <li>Reduce quality/regulatory compliance risks</li> </ul>
<b>IBI 5 ② Healthcare access</b>	<ul style="list-style-type: none"> <li>Expedite shared value creation initiatives</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Gain trust from society</li> </ul>
<b>IBI 5 ③ Social contribution</b>	<ul style="list-style-type: none"> <li>Remind employees of and inculcate them with Mission and Core Values</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Gain trust from society</li> </ul>
<b>IBI 5 ④ Supply chain management</b>	<ul style="list-style-type: none"> <li>Promote shared value creation initiatives throughout supply chain</li> </ul>	<ul style="list-style-type: none"> <li>Reduce future supply-chain costs</li> </ul>	<ul style="list-style-type: none"> <li>Reduce supply risks, supply chain risks</li> </ul>
<b>IBI 5 ⑤ Global environment</b>	<ul style="list-style-type: none"> <li>Implement plans to reduce facilities' environmental impact, reduce costs and increase productivity</li> </ul>	<ul style="list-style-type: none"> <li>Reduce future environmental costs</li> </ul>	<ul style="list-style-type: none"> <li>Reduce climate change risks, water risks, etc.</li> </ul>
<b>IBI 5 ⑥ Stakeholder engagement</b>	<ul style="list-style-type: none"> <li>Identify societal needs and expectations</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Share risk assessments with society, improve ESG ratings</li> </ul>

# Relationships of Financial and Non-financial Indicators



Roche Roche Group





# External Evaluation of Chugai's ESG Initiatives

Conduct analyses focusing on various indices and assessments  
to capture society's needs and expectations



As the result of a third-party audit, FTSE Russell (a registered trademark of FTSE International Limited and Frank Russell Company) hereby attests that Chugai satisfies the conditions of listing on the FTSE Blossom Japan Index and has been made a constituent stock of such index. The FTSE Blossom Japan Index was created by FTSE Russell, a global index provider, and has been designed to measure the performance of Japanese companies demonstrating excellent environmental, social, and governance (ESG) practices. The FTSE Blossom Japan Index is widely used in the creation and evaluation of sustainable investment funds and other financial products.

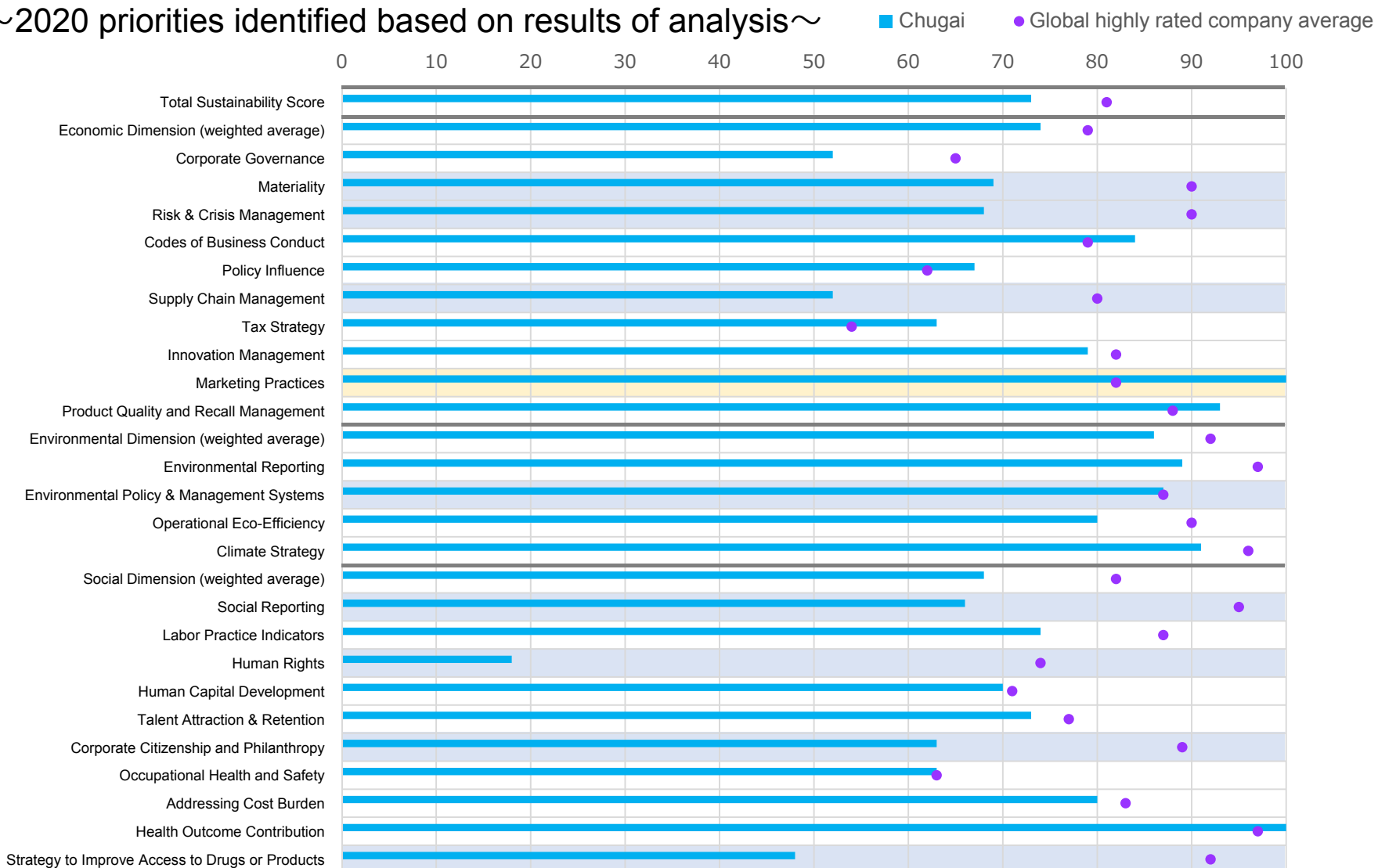
In 2020, Chugai Pharmaceutical Co., Ltd. received a rating of AA (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment. The inclusion of Chugai Pharmaceutical Co., Ltd. in any MSCI index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of Chugai Pharmaceutical Co., Ltd. by MSCI or any of its affiliates. The MSCI indices are the exclusive property of MSCI. MSCI and the MSCI index names and logos are trademarks or service marks of MSCI or its affiliates.

## Gap analysis against ESG surveys

- We analyze gaps between our ESG initiatives and results of global ESG survey items.
- We quantitatively and objectively identify continuously changing external needs and expectations.
- We plan to continually conduct such analysis.

# Gap Analysis against External ESG Benchmarks

~2020 priorities identified based on results of analysis~



# Response to External ESG Ratings

	2019		2020
	Priorities Based on Previous Year's Ratings	Rating Improved	Priorities Based on Previous Year's Ratings
<b>Materiality</b>	<ul style="list-style-type: none"> <li>• Disclose materiality specification process in detail</li> </ul>	●	<ul style="list-style-type: none"> <li>• Augment disclosure of material targets, etc.</li> </ul>
<b>Corporate governance</b>	<ul style="list-style-type: none"> <li>• Disclose target for independent outside directors' share of Board seats</li> </ul>	●	<ul style="list-style-type: none"> <li>• Appoint female director</li> <li>• Upgrade assessment of Board of Directors' effectiveness (third-party assessment)</li> <li>• Disclose how officers' performance-based remuneration is set, including indicators used in the process</li> <li>• Disclose Appointment and Compensation Committees' membership</li> </ul>
<b>Risk management</b>	<ul style="list-style-type: none"> <li>• Disclose identified long-term risks and their impacts</li> </ul>	●	<ul style="list-style-type: none"> <li>• Update risk factors and augment disclosure thereof</li> </ul>
<b>Supply chain management</b>	<ul style="list-style-type: none"> <li>• Formulate Supplier Code of Conduct</li> <li>• Build comprehensive supplier evaluation system</li> <li>• Set medium/long-term targets</li> </ul>	●	<ul style="list-style-type: none"> <li>• Expand supplier due diligence to more sites</li> <li>• Augment disclosure of progress in due diligence</li> <li>• Compile labor safety indicators for outsourcing service providers</li> </ul>
<b>Global environment</b>	<ul style="list-style-type: none"> <li>• Clarify scope of data from which indicators are compiled</li> <li>• Expand scope of third-party assurance</li> </ul>	●	<ul style="list-style-type: none"> <li>• Formulate medium/long-term environmental plans/targets</li> <li>• Analyze climate change risks/opportunities and disclose financial impacts</li> <li>• Expand scope of both data from which indicators are compiled and third-party assurance</li> </ul>
<b>Human resources</b>			<ul style="list-style-type: none"> <li>• Expand scope of data collection for diversity-related indicators</li> <li>• Measure return on investment in human capital development</li> <li>• Obtain third-party assurance of occupational safety indicators</li> </ul>
<b>Human rights</b>	<ul style="list-style-type: none"> <li>• Formulate human rights policies</li> <li>• Formulate supplier due diligence plan</li> </ul>	●	<ul style="list-style-type: none"> <li>• Expand supplier due diligence to more sites</li> </ul>
<b>Social responsibility</b>	<ul style="list-style-type: none"> <li>• Formulate and disclose basic policies</li> </ul>	●	
<b>Healthcare access</b>	<ul style="list-style-type: none"> <li>• Formulate and disclose basic policies</li> </ul>	●	<ul style="list-style-type: none"> <li>• Expand initiatives targeted at local healthcare needs/challenges</li> </ul>
<b>Tax strategy</b>			<ul style="list-style-type: none"> <li>• Newly formulate and disclose tax policies</li> </ul>

## Deep-dive theme 2: Long-term Planning

**Shigehiro Yamada, Ph.D.**  
Head of Sustainability Dept.



# Long-term Planning for Supply Chain Management



## Approach to Long-term SCM Planning

SCM planning over a 10-year horizon is difficult given ongoing changes in business models and core products, but our commitment to resolving social issues together with suppliers will never change.

To evolve together with suppliers as shared value creation partners, we formulate long-term plans for comprehensive supplier due diligence inclusive of EHS and compliance.

### 2019-2021

- Establish risk management system (Set/entrench policies & guidelines, establish framework)
  - Comprehensively evaluate contract manufacturers of APIs, intermediates and formulations (~40 evaluations)
- 【Target deadline: by 2021-end】

### By 2030

- Build resilient SCM strategy
  - Adopt management metrics
  - Comprehensively evaluate major suppliers' secondary suppliers (~50 evaluations)
- 【Target deadline: by 2030-end】

### 【Progress to date】

- Suppliers that have agreed to comply with Chugai Group Supplier Code of Conduct: 45
- Sites that have undergone supplier due diligence (including audits): 13
  - Total observations found: 65
  - (breakdown by subject matter:
    - ethics: 0, labor: 8, safety/health: 38, environment: 12, management systems: 7)
- Supplier briefings: scheduled in 2020
- Employee education: conducted in December 2019

# Long-term Environmental Planning

## Approach to Long-term Environmental Planning

With global environmental risks, most notably climate change risks, growing in importance across all industries, we need a plan that extends beyond our current plan that runs through 2020.

To address growing risks and allocate more resources to risk mitigation, we need a long-term plan in sync with our diversified operations and facility plans.

- Review mid-term environmental plan 2020
- Assess/analyze based on TCFD recommendations
- Identify issues and formulate environmental plan

Mid-term environmental plan 2030

Set 2050 targets

### [Analysis of 2020 mid-term target progress/results]

**We expect to achieve all targets. We need to set more ambitious, longer-term targets.**

#### [Climate change countermeasures]

- We must reduce energy consumption and adopt sustainable energy
- We will work on installing new equipment and renovating facilities

#### [Recyclable resource use, protection of biodiversity]

- We plan to newly set a target for water risk, though it is not a critical issue. We have launched activities to preserve water resources.

### [Overview of assessment/analysis based on TCFD recommendations]

#### Step 1 : qualitative assessment of risks/opportunities

- Conducted research based on publicly available information and sought input from experts
- Identified physical risks, transition risks and opportunities
- Studied/codified risks

#### Step 2: risk scenario analysis

- Set scope of risk scenario analysis
- Analyzed current and post-climate-change rain/flood risks
- Estimated financial impacts

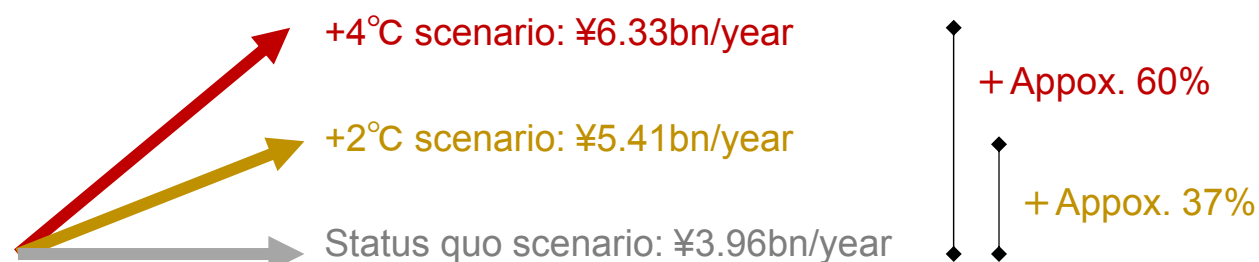
# Summary of TCFD Scenario Analysis

## Qualitative risk assessment

- Unlike in TCFD-defined high-risks sectors, no critical climate-related risks requiring long-term, large-scale business transformation or investment were identified.
- Climate-related risks common to manufacturers require continual analysis. Such risks include water deficiency, damage to production sites and/or externally sourced goods, and carbon taxes across value chains.
- We must assume that industry-wide GHG emission regulations will be tightened, given research findings that the pharmaceutical sector's GHG emission intensity (Scopes 1 & 2) is high.

## Estimated financial impacts based on scenario analysis (physical risks)

### Estimated sales loss due to rains/floods



### Estimated loss in event of storm/flood damage to East Japan Distribution Center, which distributes all products

Estimated loss: ¥72.3bn

Probability: status quo: 0.01%, +2°C scenario: 0.04%, +4°C scenario: 0.06%

Note: The above estimates are based on certain assumptions. See slide 43 in the Appendix for more details on the assumptions and the scenario analysis methodology.



# Examples of Risk Mitigation Measures Based on TCFD Scenario Analysis



Risks identified by TCFD scenario analysis coincided with risks addressed by BCP measures, resulting in lower estimates of financial impact per climate change risk analysis

## Specific Risks Identified by Analysis

### Ukima Plant

Located in high flood-risk area  
(near Arakawa River)



Ukima Plant's third production facility (UK3) was built to withstand flooding of up to 5m

Completed

### East Japan Distribution Center

Flooding and risk of prolonged flood closures are concerns  
(Near Tone River)



Center is scheduled to be relocated in Jan 2021 to new facility with flood protection based on flood map

Flood protection measures taken at new center

### Critical suppliers

Concentration of suppliers in high flood-risk areas

- Production of major products' raw materials
- Important in terms of quality management in addition to requiring expertise and advanced technological capabilities

Shifted to multi-sourcing to mitigate risks to stable supplies and ensure safe inventory levels

Completed

# Issues Involved in Medium/Long-term Planning



～Mid-term Environmental Plan 2030 and need for 2050 targets for climate change countermeasures～

## Climate Change Countermeasures

- Highest global priority
- Need for long-term, large-scale reforms directly linked to next-generation production and energy strategies

## Reuse of Recyclable Resources

- Water risk is relatively low because operations are mainly in Japan
- On track toward zero emissions of waste

## Protection of Biodiversity

- We must step up wastewater management and toxic chemical reduction initiatives
- We must set plans in coordination with local communities



## Formulation of Mid-term Environmental Plan 2030

However, setting target levels for climate change countermeasures in particular is a challenge from multiple perspectives

### Long-term perspective

- As near/mid-term measures, we are reducing energy consumption, improving energy efficiency and switching to sustainable electricity
- From a longer-term perspective, redesign/reform of facilities/equipment with direct (Scope 1) CO<sub>2</sub> emissions is essential from the present stage

### Roche Group's perspective

- Chugai accounts for ~25% of Roche Group's total CO<sub>2</sub> emissions
- It is important to help achieve the Roche Group's targets (e.g., 40% reduction by 2025<sup>\*1</sup>, zero GHG emissions<sup>\*2</sup> by 2050)

### Perspective of responsibility to ensure stable supplies

- It is important to both fulfill our stable-supply responsibility and experiment with infrastructure/technologies in the aim of migrating to sustainable facilities/resources (in terms of compliance with CFC regulations, adoption of natural refrigerants<sup>\*3</sup> entails many challenges at present)



We set 2050 targets because a long timeframe is essential for CO<sub>2</sub> emission reductions that require major reforms

\*1. Per employee, relative to 2020

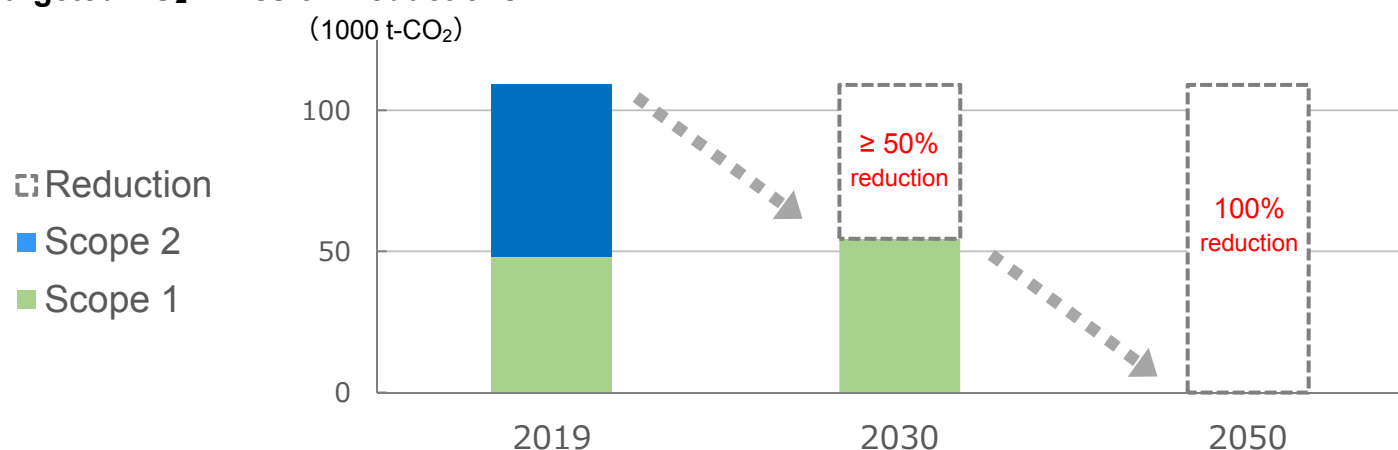
\*2. Scope 1 and Scope 2 emissions

\*3. The Roche Group is looking into adopting natural refrigerants instead of alternative CFCs

# Long-term CO<sub>2</sub> Reduction Targets

**We aim to reduce CO<sub>2</sub> emissions by at least 50% (relative to 2019\*) by 2030 and to zero by 2050**

## Targeted CO<sub>2</sub> Emission Reductions



**2030**  
**At least 50%**  
**reduction\***

- We are building Chugai Life Science Park Yokohama, consolidating research labs, reducing energy consumption, improving energy efficiency and switching to sustainable power sources (to reduce current Scope 2 emissions to near-zero)
- Meanwhile, we need to reduce direct (Scope 1) CO<sub>2</sub> emissions to reduce Scope 1 & 2 emissions by more than 50%. Conversion of existing facilities involves stability and supply-capacity issues. We are now starting to study conversion and consolidation/redesign of facilities.

**2050**  
**100%**  
**reduction\***

- We will continue to pursue step-change innovations including ones currently seen as unfeasible, such as self-generation of renewable energy and industry-wide structural reforms.
- We have allocated some resources and are starting to explore new approaches.

\*2030 reduction target is tentatively based on 2019 emission level but we will make final decision on the base year in light of the COVID-19 pandemic's impact on emissions.

# Environmental Initiatives (Employee Comments)



**Akiyo Watai**  
Environmental, Health and  
Safety Group  
Sustainability Dept.

**We will carry out far-sighted initiatives over the long term in coordination with internal departments, suppliers, local communities, Roche et al.**

In environmental initiatives, coordination is essential, not only with other internal departments but also with Roche, suppliers and other stakeholders. Internally, environmental consciousness has been rising since the global environment was included as a priority for IBI 21. We are exploring and assessing approaches to achieve more ambitious targets, working in particularly close coordination with the Pharmaceutical Technology and Research Divisions, both of which have large environmental footprints. We will carry out activities in company-wide unity.

Additionally, a local approach is also important from the standpoint of shared value creation. For example, in 2019, Chugai volunteers thinned woodlands in Kawanehoncho (Shizuoka Prefecture) to preserve the water source for our Fujieda Plant. I felt the activity was very successful as an opportunity for Chugai employees to work together with local residents and think deeply about the environment.

Environmental activities require a long time horizon and far-sighted efforts. A global perspective is likewise important. I feel environmentalism has much in common with drug discovery. We intend to carry out world-leading environmental initiatives that leverage the mindset and framework of thinking we have cultivated through drug discovery.

# Deep-dive theme 3 : Examples of Shared Value Creation

**Keiji Kono**  
Senior Vice President  
In charge of External Affairs Dept. and Global Health Policy



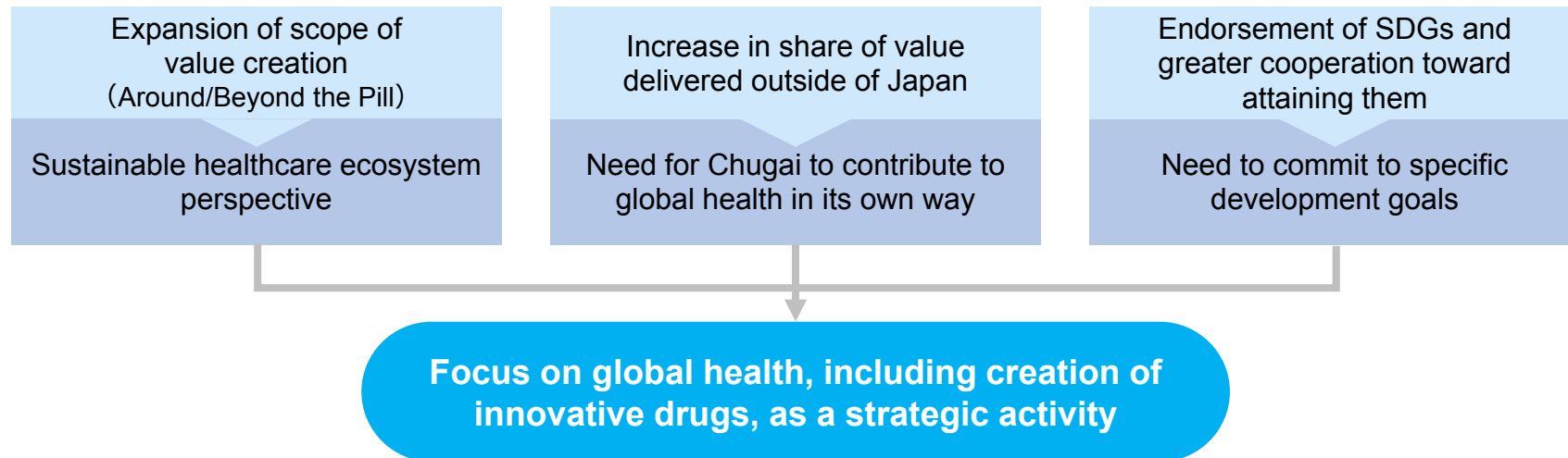
# Background of Our Focus on Global Health



## Mission

Dedicate ourselves to adding value by creating and delivering innovative products and services for the medical community and human health around the world

### 【Changes in environment and external expectations】



### 【Unwavering commitment to the access to medicines】

To achieve our Mission, we have long placed priority on not only creating drugs but also providing solutions and “access to medicines.”  
We have hitherto been propagating/promoting equal access to standard-of-care cancer treatments, personalized healthcare, team care and regional healthcare coordination mainly in Japan.

# Approach to Global Health Initiatives

## Our Resources/Assets

Proven track record in oncology, hemophilia, rheumatology, etc.

World-class drug discovery/production technologies

Roche's global network

Experience in improving access to medicines in Japan

Employees' motivation to add more value for patients globally

## Initiative Policies



## Aimed Effect

Accelerate realization of advanced and sustainable patient-centric healthcare

### 【For local healthcare】

- Improve autonomous and sustainable access in accordance with local conditions
- Upgrade local healthcare providers/administrators' skills
- Raise awareness of local illnesses

Creation of shared value

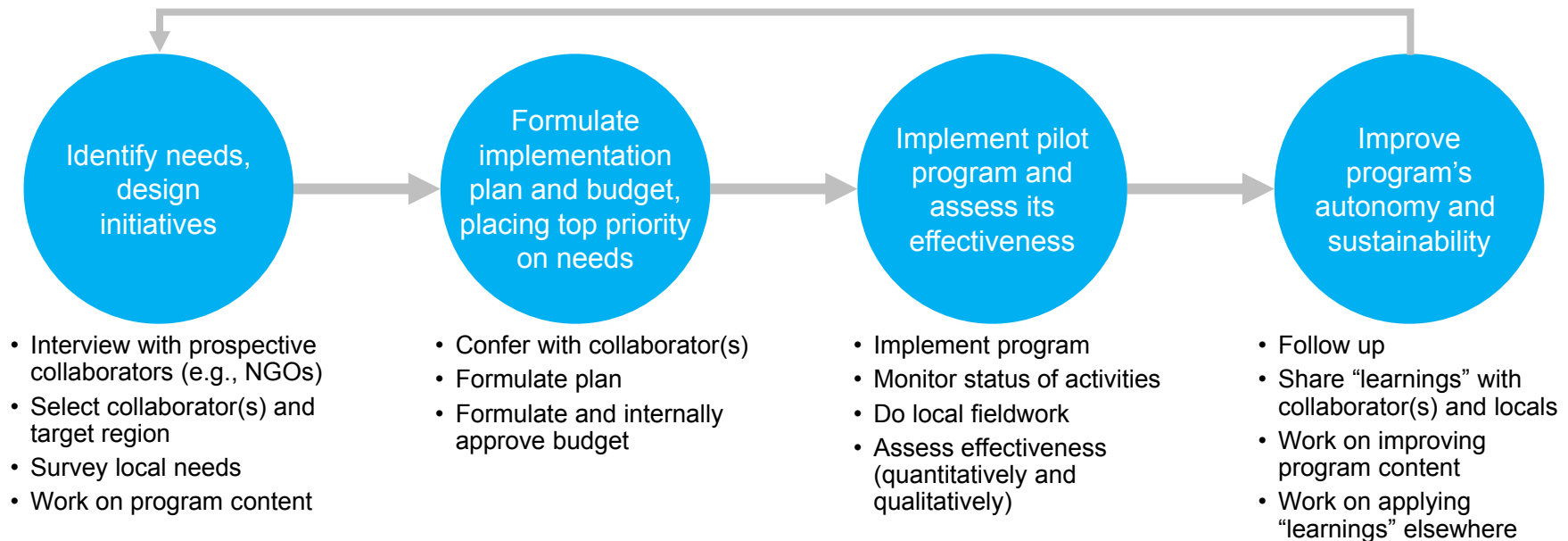
Realization of Mission

Growth in corporate value



# Global Health Management Flowchart

~Needs-based Assessment/Follow-up Cycle~



2019 Progress on Governance
<ul style="list-style-type: none"> <li>• Assessed current state of global health and challenges (discussed by top management)</li> <li>• Formulated and announced Chugai's Basic Approach to Global Health (vetted by Executive Committee)</li> <li>• Vetted projects that are material in scale (Executive Committee/ Board of Directors)</li> </ul>
<b>【Allocation of resources】</b> <ul style="list-style-type: none"> <li>• Given major variations among potential programs and limitations on what a single company can do, allocating substantial resources was not feasible.</li> </ul>

Governance Issues to Be Addressed
<ul style="list-style-type: none"> <li>• Formulate medium/long-term strategy</li> <li>• Build track record of results and strengthen partnerships</li> </ul>
<b>【Allocation of resources】</b> <ul style="list-style-type: none"> <li>• Develop human capital as top priority</li> <li>• Disregard direct returns on financial impacts, including prospective gains in name recognition</li> </ul>

# Specific Global Health Initiatives (1)

## Hospital Delivery Promotion and Non-communicable Disease (NCD) Detection/Treatment (Myanmar)

Two AA programs run as a Chugai-sponsored project in Myanmar

- Program period: Nov 2018 ~ Oct 2020
- Partner NGO: AMDA-MINDS

AA is a global initiative launched to achieve the SDG of a one-third reduction in premature deaths from NCDs by 2030

### Promotion of Safe Inpatient Childbirth (Pauk Township)

#### Healthcare Challenges/Needs

- Located in highly impoverished arid region in central Myanmar
- Little access to healthcare; highest infant mortality rate (8.9%) of any state/administrative region
- **Challenge: build autonomous model for safe inpatient childbirth**

#### Program Overview

- Established funds to transport pregnant women to hospitals in emergency cases; trained locals to run program themselves
- Retrained midwife assistants
- Donated ultrasonic diagnostic equipment; trained physicians
- Trained locals in emergency first aid



### NCD Detection/Treatment (Meiktila Township)

#### Healthcare Challenges/Needs

- NCDs are a serious problem in Myanmar. Ministry of Health and Sports strongly hopes to receive international assistance with NCDs.
- **Challenge: build self-sustaining model to continuously improve diagnosis and treatment of NCDs in coordination with health authorities**

#### Program and Next Steps

- Formulated plan at a workshop attended by health authorities and hospital staff to enable public/private cooperation to address NCDs in response to local needs
- Provided exams/treatment in 8 locations with mobile clinics; provided follow-up care in 2 locations
- Provided health education and brochures to locals



# Specific Global Health Initiatives (2)



## Pediatric Oncology Support Activities (Cambodia)

### State of Local Healthcare

- Patients generally pay out of pocket
- NCDs are common cause of adult deaths
- No drug dispensing infrastructure; many cases of drug-induced suffering
- Inadequate healthcare statistics

### Local Healthcare Challenges/Needs

- Partner NGO: Japan Heart
- Site: Japan Heart Children's Medical Center (70 beds)
- **Challenges:**
  - **Improve communication/coordination among physicians, nurses, midwives, and other healthcare providers**
  - **Facilitate communication with patients and their families, etc.**



### Overview of Program

- Period: 2019 Program development  
2020~ Program implementation
- Brainstormed solutions with the NGO
- Decided to hold workshops to improve communication among healthcare providers in accordance with local conditions (The site is Cambodia's only pediatric cancer center. Support for such facilities is in alignment with local authorities' promotion of advance healthcare)

### 【Phase-1 Program】 (February 2020)

- Leadership workshops for the site staff

### Next Steps

- Assess effectiveness of Feb 2020 workshops and follow up
- Gain more understanding of local needs
- Work on applying "learnings" elsewhere

# Specific Global Health Initiatives (3)

## Support for High-quality Multidisciplinary Cancer Care (Yangon, Myanmar)

### Key Issue Identified by C/Can

- C/Can has been active in Yangon since July 2017
- It conducted a comprehensive study of the current state of cancer care and needs in Yangon in cooperation with city authorities and the national Ministry of Health and Sports



- **Key issue: lack of multidisciplinary cancer care guidelines tailored to local conditions**

### About C/Can (City Cancer Challenge Foundation)

- NGO that supports cities in developing countries with respect to cancer care
- It aims to improve access to quality cancer care in countries around the world by transforming the way stakeholders from the public and private sectors collectively design, plan, and implement cancer solutions.
- It was established by the Union for International Cancer Control at the 2017 World Economic Forum



© City Cancer Challenge

### Program Overview

- Supports to improve quality of cancer care, largely by training local healthcare providers
- Maximally leverages Chugai's expertise and experience in oncology and multidisciplinary team care

• Partner NGO: C/Can

• Objective: To formulate, disseminate and entrench multidisciplinary treatment guidelines for high-priority cancers

• Period: From July 2020 onward

• Strategies:

- Help develop localized cancer care guidelines
- Train various healthcare providers (physicians, nurses, and caregivers, etc.) to put guidelines into practice (~400 providers within 3 years)

# Global Health Initiatives (Employee Comments)



**Katsuya Yano**  
Public Affairs Group  
External Affairs Dept.

## **I want to support international aid activities by meticulously analyzing local healthcare needs and assessing activities' effectiveness**

I recently visited Cambodia for the first time. Within Cambodia, urban and suburban areas are completely different in terms of not only their landscapes but also healthcare systems and challenges. I realized anew the importance of the global health field of designing aid programs based on granular analysis and understanding of local, not national, healthcare needs.

During the actual program, I was impressed by the earnestness of the healthcare providers undergoing training. Prior to the training, they apparently spent essentially all of their time caring for patients without undergoing any skills development training. They spoke enthusiastically about applying what they were learning to patient care. For the follow-up workshop, I planned to come up with a way to use concrete metrics to quantify the extent to which the training participants were putting what they learned into actual practice and a way to strengthen the sustainable team healthcare approach on an ongoing basis together with the participants.

We hope to contribute to healthcare globally by utilizing such analysis and sharing the know-how to promote team healthcare across various countries and regions.

# Appendix

# Reference: Outline of survey on qualitative evaluation of climate risks and opportunities



Physical risks		Transition risks		Opportunities	
Acute risks	<ul style="list-style-type: none"> <li>✓ Increased risks of disrupting supply chain of raw material procurement and product shipping due to the increase of localized heavy rain or large typhoons.</li> <li>✓ Increase of facility damage occurrence or repair costs by abnormal weather or weather disasters, discontinuation of business activities due to production facility damages.</li> </ul>	Policy and Legal	<ul style="list-style-type: none"> <li>✓ Risks of price increase of energy costs for facilities or procurement costs due to the rise of carbon tax.</li> <li>✓ Risks of capital investment increase for such as facility replacement to clear GHG emission reduction targets set by the government or industry organization.</li> </ul>	Resource Efficiency	<ul style="list-style-type: none"> <li>✓ Cost reduction by improving resource efficiencies such as energy conservation, water use reduction and waste disposal.</li> </ul>
	G		G		G
Chronic risks	<ul style="list-style-type: none"> <li>✓ Risks to relocate sites such as plants due to the impact of sea level rising.</li> </ul>	Technology	<ul style="list-style-type: none"> <li>✓ Risks of increasing capital investment to install facilities for new technologies (in-house power generation, storage batteries) due to the prevalence of clean energy technologies.</li> </ul>	Energy Source	<ul style="list-style-type: none"> <li>✓ Energy cost reduction and energy supply stabilization due to the improvement of diversified clean energy technologies.</li> </ul>
	G		G		G
	<ul style="list-style-type: none"> <li>✓ Productivity decrease or absentee rate increase of employees due to work environment worsening by heat or cold waves or the increase of diseases caused by climate changes.</li> </ul>	Market	<ul style="list-style-type: none"> <li>✓ Risks of demand decrease by product price increase due to the cost increase of procurement items.</li> <li>✓ Risks of consumer behavior change.</li> </ul>	Products/ Services	<ul style="list-style-type: none"> <li>✓ Demand expansion of drugs for diseases caused by climate changes (existing market).</li> </ul>
	G		G		P
Chronic risks	<ul style="list-style-type: none"> <li>✓ Risks of temperature control cost increase in manufacturing, storage and distribution of products due to temperature rise. Risks of product quality deterioration due to temperature rise.</li> </ul>	Reputation	<ul style="list-style-type: none"> <li>✓ Risks of impact on stock price due to the delay of measures against climate change.</li> </ul>	Market	<ul style="list-style-type: none"> <li>✓ Demand expansion of drugs for infectious diseases caused by temperature rise or abnormal weather (new market).</li> </ul>
	P		G		P
Chronic risks	<ul style="list-style-type: none"> <li>✓ Risks of water deficiency or water quality deterioration due to drought.</li> </ul>	Resilience	<ul style="list-style-type: none"> <li>✓ Minimize physical risks by planning and implementing measures.</li> <li>✓ Stabilize business by evaluating climate related risks and formulating measures for risk dispersion.</li> </ul>	Resilience	<ul style="list-style-type: none"> <li>✓ Minimize physical risks by planning and implementing measures.</li> <li>✓ Stabilize business by evaluating climate related risks and formulating measures for risk dispersion.</li> </ul>
	P		G		G

P

: Risks more relevant to pharma sector.

G

: Risks common among industries including manufacturing businesses in general.



# Reference: Outline of Physical Risk Scenario Analysis Approach



## Purpose

Calculate difference in expected sales decrease due to business suspension at critical material suppliers, in-house manufacturing and distribution centers by rain/flood disasters in each scenario (increase or decrease).

	Summary	Input data
<b>Step 1</b> Current rain/flood risk analysis	<p><b>Procedure 1.</b> Obtain inundation height data under planned scale rainfall* and assumed maximum rainfall* based on latitude/longitude data of each site and create probability distribution of inundation height for each.</p> <p><b>Procedure 2.</b> Calculate the probability of business suspension for each site by relating probability distribution of inundation height and business suspension duration of each inundation height.</p> <p><b>Procedure 3.</b> Calculate expected amount of sales decrease by obtaining weighted average of the probability obtained in Procedure 2 using annual sales of relevant final products.</p>	<ul style="list-style-type: none"> <li>■ Latitude/longitude data of each site</li> <li>■ Flood (high tide) inundation area map data</li> <li>■ Inland water inundation area map data</li> <li>■ Flood control economy manual</li> <li>■ Annual sales of each final product</li> </ul>
<b>Step 2</b> Analysis of rain/flood risk after climate change and estimation of financial impacts	<p><b>Procedure 1.</b> The probability distribution of inundation height obtained in Step 1 was modified to another distribution in which the large-scale rainfall frequency fluctuation information of scenario assumed in IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) is taken into account.</p> <p><b>Procedure 2.</b> Calculate expected amount of sales decrease for each scenario as in Step 1.</p> <p><b>Procedure 3.</b> Difference between expected sales decrease in the current risk and risk after climate change was calculated and amount of financial impact by climate change was calculated.</p>	<ul style="list-style-type: none"> <li>■ Same data as Step 1.</li> <li>■ Large-scale rainfall frequency fluctuation information data which SREX assumes for each scenario</li> </ul>

\*Planned scale rainfall is inundation height analysis based on flood by rainfall once in 200 years and assumed maximum rainfall is based on rainfall once in 1000 years.

# Reference: Assumption for Analysis of Each Site



Site	Assumption		Sales impact condition	Sales decrease period
<b>Suppliers</b>	Regarding data from the Flood control economy survey manual, business suspension dates including a necessary recovery period from operation stop are used. (Conservative side)	<ul style="list-style-type: none"> <li>Manufacturing of products using relevant procurement items is completely stopped if supply is suspended.</li> <li>Stocks in suppliers are assumed to be damaged by disasters as well as facilities in sites.</li> </ul>	Suspended dates > Inventory days - (formulation and packaging manufacturing LT + distribution LT)	Suspension period + formulation and packaging manufacturing LT (3M) + distribution LT (3D) - inventory days (4M)
<b>In house plants</b>		<ul style="list-style-type: none"> <li>Manufacturing of products manufactured in a relevant plant is completely stopped.</li> <li>Raw material stocks and product inventories in a relevant plant are assumed to be damaged by disasters as well as facilities in the plant.</li> </ul>	Suspended dates > Inventory days - (manufacturing LT + distribution LT)	Suspension period + manufacturing LT (10.5M) + distribution LT (3D) - inventory days (4.5M)
<b>Distribution centers</b>		<ul style="list-style-type: none"> <li>All products are stored both in East and West Centers.</li> <li>Sales of all products in each area (East and West) are stopped if suspended.</li> <li>Sales in East and West areas are set in ratio as external parameters.</li> </ul>	Immediately after suspension	Formulation and packaging manufacturing LT (3M) + distribution LT (3D)

## External parameters

- Inventory days for each product: Number of days during which sales can be continued with inventory.
- Manufacturing LT (lead-time) for each product: Number of days necessary for manufacturing in a plant.
- Distribution LT (lead-time) for each product: Number of days necessary to deliver product from a plant to a distribution center.
- East West Sales ration: Ratio of sales between East and West Japan (areas covered by East Center or West Center).

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