



Group Strategy Briefing

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Panasonic Group

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Notes: 1. This is an English translation from the original presentation in Japanese.

2. In this presentation, "Fiscal 2023" or "FY3/23" refers to the year ended March 31, 2023. In addition, "Fiscal 2024" or "FY3/24" refers to the year ending March 31, 2024.

Looking Back over Two Years of Enhancing Competitiveness

■ Panasonic Group's Mission & Aim of 2-year Period to Enhance Competitiveness

Panasonic Group's mission

250-year plan (announced in 1932)

- To achieve **“An ideal society with affluence both in matter and mind”** in 250 years
- **This mission will be passed down from generation to generation** with ten 25-year periods; 10 generations



Enhance competitiveness

Strategy

- Long-term perspective
- Structural advantages
- Business model

Operational capability

- Being resilient to changes in the supply chain
(Value creation & cash generation capability)

A 2-year period was set to attain unrivaled competitiveness in achieving our mission

■ GX: Panasonic GREEN IMPACT

Group's long-term environmental vision toward achieving our mission

Target

- Toward 2050

Create an impact that reduces CO₂ emissions by more than 300 Mt, equivalent to “approximately 1% of the current global emissions” (①+②+③)

Milestone

- By Fiscal 2031 (ending March 2031)
Achieve “net zero CO₂ emissions at all operating companies” and
“**93 Mt of CO₂ Avoided Emissions**”
- For 3-year action plan until fiscal 2025 (ending March 2025)
GREEN IMPACT PLAN 2024 (GIP2024) formulated

Progress of GIP2024 (as of FY3/23)

- Achieved **28 net zero factories*** out of 37 (target by the end of FY3/25)
*All factories at Panasonic Automotive Systems (PAS) achieved net zero

Panasonic GREEN IMPACT

Target for CY2050

- ① **OWN IMPACT 110 Mt**
Emission reduction in the Group's value chain together with a decarbonization effect on the whole society
- ② **CONTRIBUTION IMPACT 100 Mt**
Avoided Emissions by existing businesses in the society
- ③ **FUTURE IMPACT 100 Mt**
Avoided Emissions through new technologies and businesses in the society

Formulate medium-term action plans and strive to achieve our target as the Group

Note: Figures for CO₂ emissions reduction were announced at Panasonic Group's Sustainability Second Briefing (held in July 2022)

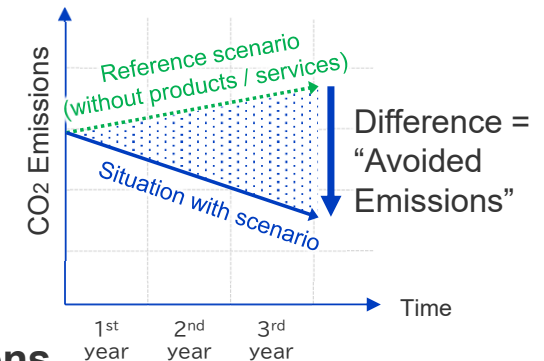
GX: Promotion for “CO2 Avoided Emissions”

Continue to engage in promotion activities so that value of CO2 Avoided Emissions is adopted internationally

Understanding of CO2 Avoided Emissions

(Ref: WBCSD guidance, published in March 2023)

- An avoided emission is the difference between GHG emissions that occur or will occur (the "solution with scenario") and GHG emissions that would have occurred without the solution (that of the "reference scenario without products/services) in society or for customers
- The definition: Emissions could be avoided if the solutions are not introduced.



Panasonic Group drives discussion of necessity of Avoided Emissions at WBCSD, IEC, GX League, etc.*

- COP27 Japan Pavilion Seminar (November 2022); Consensus built on "importance of achieving decarbonization along with economic development by implementing concept of Avoided Emissions"
- WBCSD and GX League announced “**Guidance**” for Avoided Emissions
- The G7 Ministers' Meeting on Climate, Energy and Environment in Sapporo (April 2023): G-7 ministers agreed in a joint statement that “**there is value in acknowledging avoided emissions**”



* Notes:

WBCSD: World Business Council for Sustainable Development, IEC: International Electrotechnical Commission,

GX League: A forum established by the Ministry of Economy, Trade and Industry in Japan, and aims to meet greenhouse gas reduction targets and increase industrial competitiveness

■ Enhance Operational Capability

Operational Frontlines Innovations: More frontlines with progress in constant *kaizen* activities

- Improved productivity by constantly reaching record-high KPIs, setting high targets at each operating company's leading worksites (e.g. Tsuruga Factory, Panasonic Automotive Systems: **Production lead time shortened 50% & safety stock halved** (vs. October 2021))
- Accelerate horizontal expansions of activities aiming for constant *kaizen* to become the norm at all Group sites by fiscal year ending March 2025



PX*: Steady progress in establishing foundation for data driven management

- Progress in effective utilization of data beyond business divisions and a shift to cloud-based systems in certain operations
- Heads of business will take the lead in accelerating transformation considering all aspects of: reviewing operations, standardizing processes, and using IT



Still halfway to targeted enhancement of operational capability
Heads of businesses will take the lead in accelerating development & transformation

* Panasonic Transformation

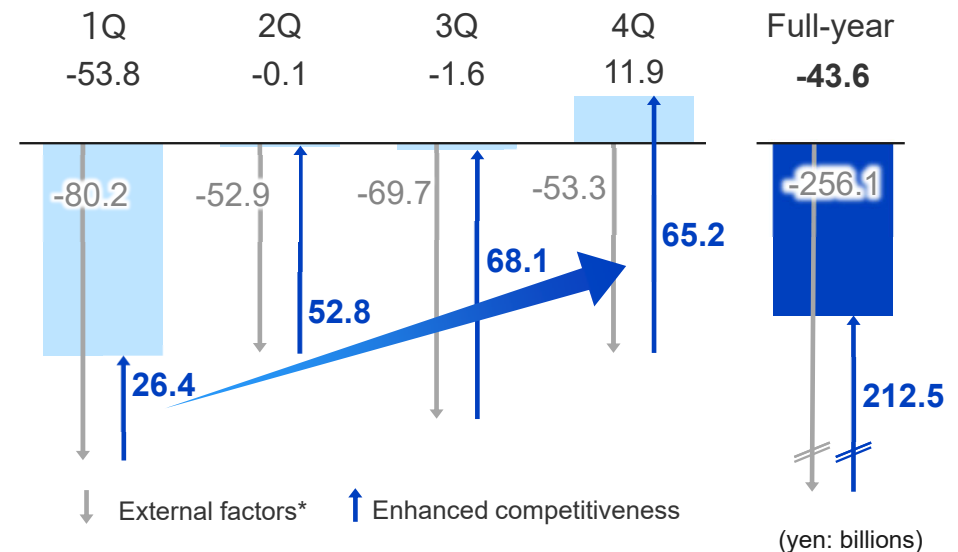
2 Years of Competitiveness Enhancement: FY3/23 Financial Results

During 2 years of efforts to enhance competitiveness, we have not yet reached the level to withstand several external factors*

FY3/23 financial results

(yen: billions)	FY3/23	year-on-year
Sales	8,378.9	113%
Adjusted OP	314.1	-43.6
OP	288.6	-68.9
Operating CF	520.7	+268.1

Quarterly adjusted OP (YoY) trend & factors



- **Maintain KGIs: Cumulative operating CF 2.0 tr. yen, ROE 10% or more, Cumulative OP 1.5 tr. yen**
- **Aim to gain competitiveness that can withstand sudden changes in business environment**

*e.g. Shanghai lockdown, semiconductor shortages, supply chain disruption, raw material price hikes



■ Shift to Growth Phase

Elevate competitiveness to the next level:
from “competitiveness-enhancement stage”
to “growth stage”

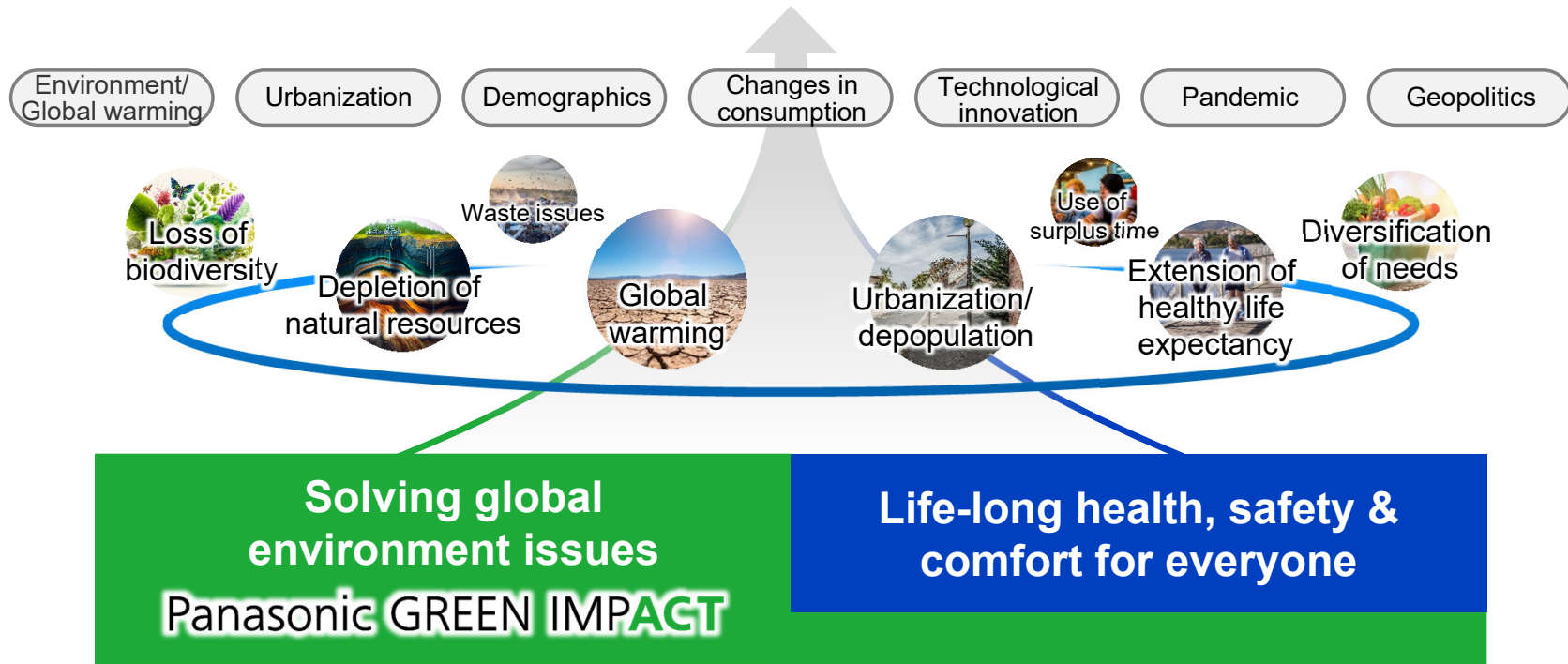
**Accelerate transformation toward
achieving our mission by further
clarifying our vision**

- Clarify priority investment area
- Orchestrate Group’s comprehensive strengths based on customers’ perspective

Group Strategy

Panasonic Group Vision

An ideal society with affluence both in matter and mind



Squarely address obstacles to our goals of achieving an ideal society and make the 250-year plan highly probable

Groupwide common strategy: Environment (Global warming prevention, circularity of natural resources)

Achieve both “Solving global environment issues” and “Making the Group grow” through achieving **Panasonic GREEN IMPACT**

- **Increase CO₂ Avoided Emissions** as the Group
- Use of knowledge and technologies in **electrification, energy saving, energy transition and resource conservation**



Prioritizing investments in automotive batteries, which comprise 60%* of Avoided Emissions for the Group

* Figure for 93 Mt of Avoided Emissions for the Group is the target for Fiscal 2031 (ending March 2031) (announced at “Panasonic Group’s Sustainability: Second Briefing” held in July 2022)

■ Priority investment area: Automotive batteries

Market growth potential

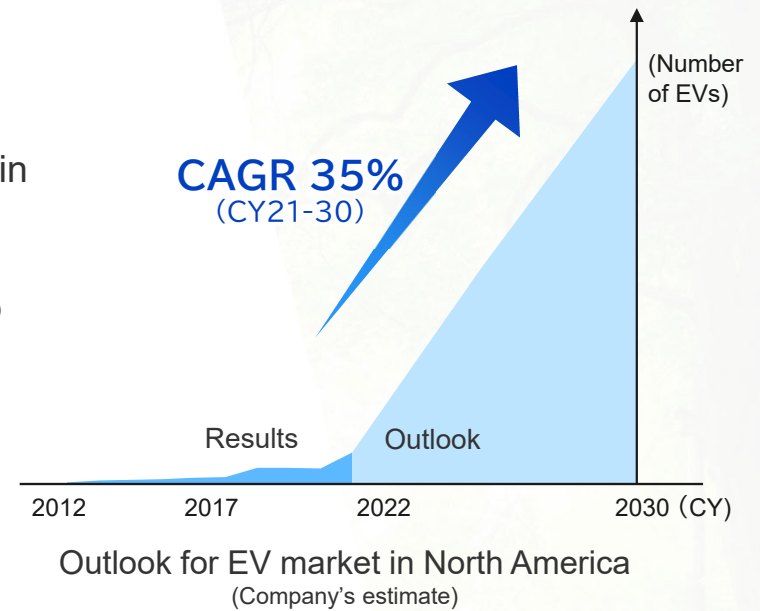
Expanding EV market globally backed by strong demand in electrification of mobility

Rapid growth of EV market in North America

- 35% CAGR (CY21-30) Rapid expansion outlook
- US Government supports establishment of US-based supply chain (e.g. IRA: Inflation Reduction Act)

Growing demand in “cylindrical-type cells” due to re-evaluation of its advantages

- Higher density with safety and cost advantages
- Suitable shape for cooling upon fast charging



Expand business in North America market responding to growing demand in cylindrical-type automotive batteries

■ Priority investment area: Automotive batteries

Competitive Advantage (Technology)

As a pioneer in development of battery technology, continue to lead lithium-ion battery industry with higher-capacity and less-use of rare metals

Evolution in energy density

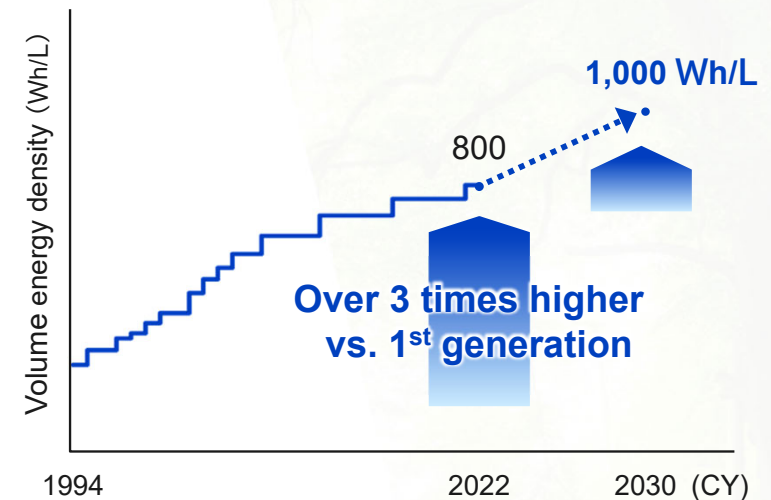
- Over 3 times higher energy density compared to 1st generation
- Aim to reach 1,000 Wh/L by 2030

Less rare metals

- Achieved world's first "less than 5% cobalt content" with "cobalt-free" within reach
(Company research: cathode materials for lithium-ion battery)
- Our technologies continue to evolve toward "nickel-less"

Safety

- Delivered batteries to the market equivalent in volume to 2 million EVs (No.1 share in North America) with zero recall related to batteries



Technological development and future evolution in energy density of LiBs at Panasonic Energy

■ Priority investment area: Automotive batteries

Competitive
Advantage
(Productivity)

- First company to establish large battery factory (No.1*) in North America with stable operation and stable supply
- Leverage refined operational capability within the US

Greater operational capability at Nevada factory

- No.1 production capacity in North America (exceeded initial target by 10%)
- *Kaizen* mindset firmly established and continue to increase production capacity

Improving investment efficiency

- Greater improvements of investment efficiency expected at new Kansas factory by leveraging knowledge acquired at Nevada factory
- Gain state government support

Establish battery supply chain in the U.S.

The foundation is ready for expansion of automotive battery supply in North America

* Company research: EV battery factory as of May 18, 2023



Kansas factory (image)

■ Priority investment area: Automotive batteries

Competitive
Advantage
(Technology/Production)

- Enhance R&D structure with consolidation of research & technology development sites
- Accelerate growth of automotive battery business as the Group



Suminoe site (plan for 2024)
For production technology development



Kadoma site (plan for 2025)
For development of new and next generation models /
material development

Priority investment area: Automotive batteries

Contribution to Environment

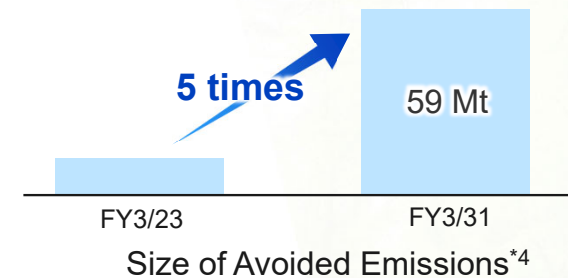
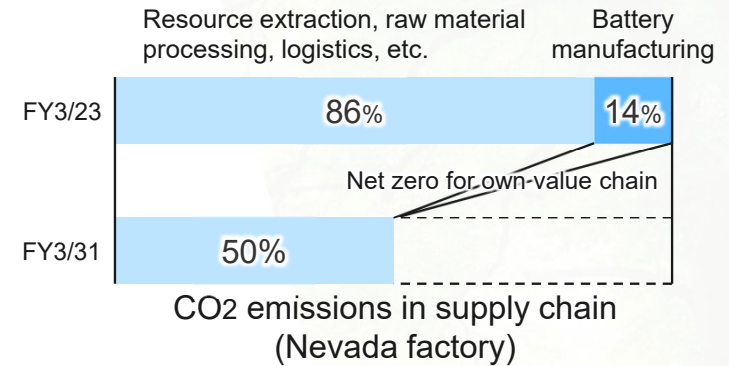
- Contribute to expansion of EV market in North America
- Play major role in Panasonic GREEN IMPACT

Establishment of low CFP (Carbon Footprint) in the supply chain

- Signed a long-term procurement of recycled battery materials*1 (with Redwood)
- Signed an MOU regarding materials produced with renewable energy*2 (with NMG*3)
- Aims to reduce environment burden upon transportation by establishing supply chain within North America
- Aims to reduce half of CO₂ in supply chain by FY3/31 (At Nevada factory vs. FY3/23)

Aim to increase Avoided Emissions along with business expansion

- Avoided Emissions: 5 times in FY3/31 (vs. FY3/23)



*1: Cathode & copper foil, etc. *2: Graphite, etc. *3: NMG (Nouveau Monde Graphite) *4: Avoided Emissions contributed by EVs equipped with Panasonic's batteries

■ Priority investment area: Automotive batteries

Business Expansions

- Expected to widen customer base through recognition of our competitive advantage
- Move to the full-fledged growth phase backed by preparation of capacity expansion

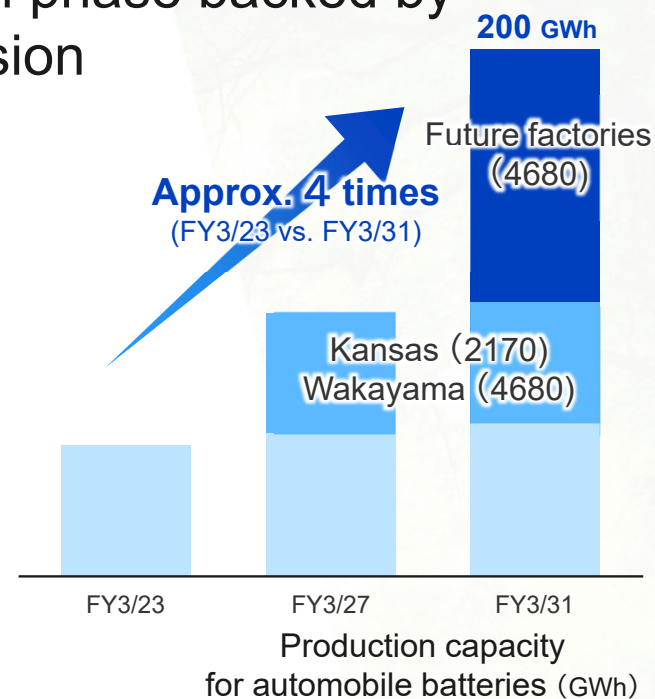
Further expansion of production capability in North America

- 2170 : Expand production at Kansas new factory
- 4680 : Aim to establish stable production at Wakayama factory at the earliest point and to roll out new large-scale production capacity in North America by 2030

Expand customer base for cylindrical-type cell

- Signed supply contracts with Lucid and Hexagon Purus
- Continue to search for new customers

Various financing options are under consideration and investments will be made flexibly



Investment area: Air quality & air-conditioning

Expand Air-to-Water^{*1} & chiller businesses in Europe (a leading market in addressing climate change)

Competitive Advantage

- **Refrigerant control technology:** excellent performance in cold temperature areas
- **IoT remote monitoring:** Detect & predict malfunctions



Air-to-Water

Enhance Air-to-Water business foundation

- Formulate optimum management structure for Europe (local production for local consumption): seamless operation of development, production, and sales within Europe
- Czech factory production capacity: 550 thousand units (FY3/26)
Aim for 1-million-unit capacity globally in the future

Early response to Europe's F-gas regulations

- First Japanese manufacturer^{*2} to launch models using natural refrigerants (R290)

Acquired Systemair AB's commercial air-conditioning business, expand synergy

- Introducing products with hydronic systems (Air-to-Water & chiller) for light commercial (non-residential) areas
- Efficiency & cost reduction expected by sharing technology, parts & materials, sales channels



Chiller

^{*1} Air-to-Water (A2W) hot water heat pump system ^{*2} For home-use models with heating and cooling functions in European market

Investment area: Supply Chain Management Software

Contributing to reducing environment impact & solving labor shortages by eliminating any wastefulness and stagnation in supply chain

Competitive Advantage

- Leading end-to-end solution for manufacturing, logistics and retail
- Supply total optimal solutions with high accuracy generated by data collection, accumulation and AI analysis
- Strong customer base: trusted by over 3,000 global category-defining companies

Enhancing business foundation

- Increase value of products through strengthening R&D (Native SaaS* and security enhancement)
- Enhancing touch points with customers (marketing & sales, customer support, etc.)

Frontline data combined with SCM software

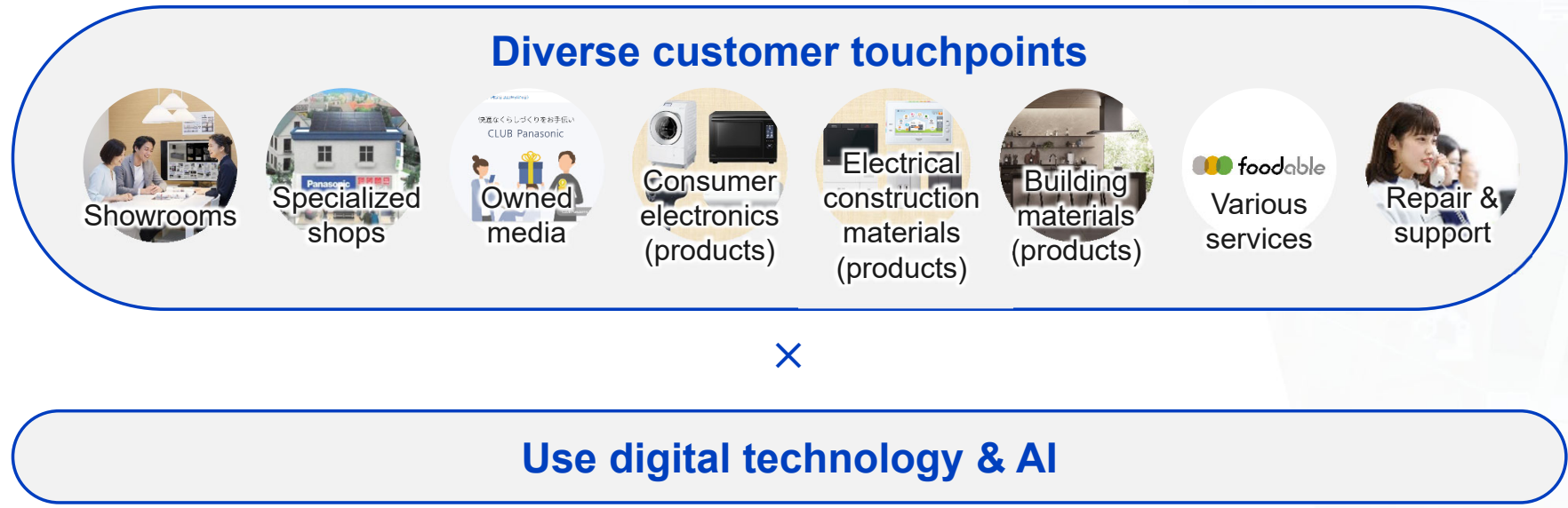
- Obtain real-time frontline data through edge devices, and combine with SCM software to deliver autonomous solutions



* SaaS (Software as a Service)

■ Groupwide common strategy: Lifestyle (health, safety, comfort)

- Respond to societal changes such as “longer life expectancy,” and “diversified needs”
 - Make contributions to each customer’s life-long health, safety, and comfort
- Aim to become a **“Lifestyle Solutions Provider”** that can propose value tailored to each **customer** through diverse customer touchpoints in their lifestyle and use of digital technology & AI



■ Business Portfolio

To continue creating contributions to society & customers into the future, we set 2 types of criteria for our business portfolio

(1) Relevance with Groupwide common strategy

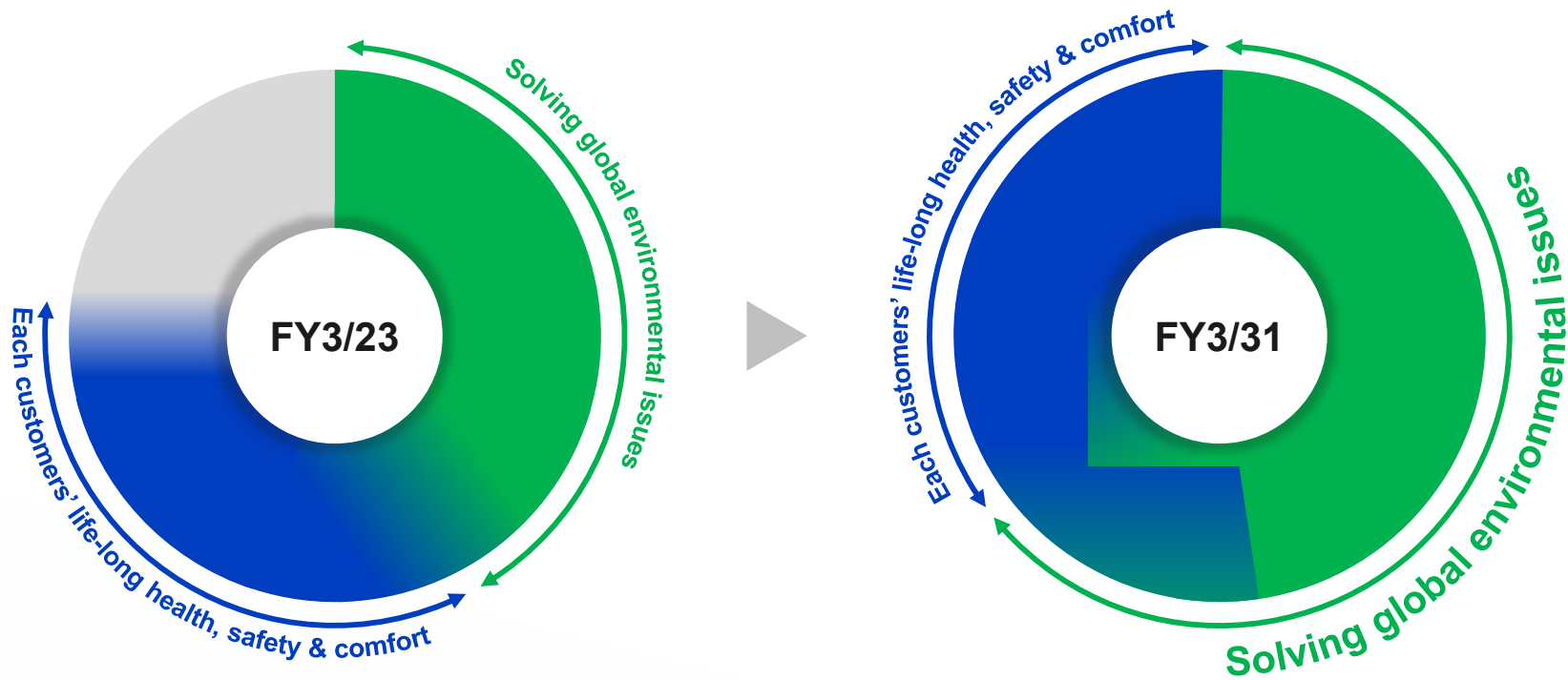
- Environment: Contributions to reduction of CO₂ emissions in the society / Contributions to saving resources
- Lifestyle: Propose value tailored for each customer through diverse customer touchpoints in their lifestyle and using digital technology & AI / In line with financial discipline

(2) Market position & competitiveness

- Market growth & continuity
Quantitative: Market CAGR / Qualitative: Market continuity
- Business' position in the market & profitability
Quantitative: Relative market share, ROIC, cash generation capability /
Qualitative: Past achievements, medium- to long-term advantages, future opportunities

For the sake of all stakeholders and improvement of the Group's value, set the direction in revising business portfolio during the fiscal year ending March 2024, and execute the decisions made accordingly

■ Sales Composition Ratio (FY3/2023 ▶ FY3/2031)



Expand businesses that contribute to solving global environmental issues

Financial Strategy

■ Capital Allocation Policy (FY3/23 – FY3/25)

In principle, investments, dividends, etc. to be managed within the cash generated through businesses

Financial discipline

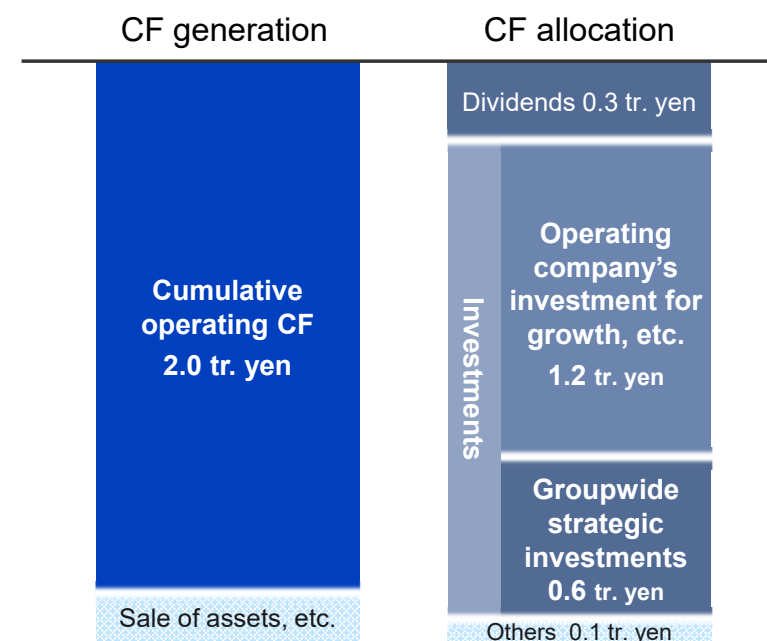
- Net Debt/EBITDA ratio: approx. 1.0 times (FY3/23 results: 0.8 times)
- Strengthen monitoring of operating companies

Dividends

- In principle, distribute profits to shareholders based on business performance and strive for stable and continuous dividend payments. Target dividend payout ratio of approx. 30% with respect to consolidated net profit*

Investment

- Prioritize investments in automotive battery (priority investment area)



* Dividends determined based on amount of net profit excluding IRA tax credit effect

Basic idea: Allocate cash from IRA tax credit to automotive battery business investment in US by taking into consideration the aim of IRA (reduce excessive inflation and promote energy policies in US)

The image features a dark blue background with a subtle grid pattern. The text "Panasonic Group" is centered in a bold, white, sans-serif font. The background has a slight gradient and a faint, glowing effect around the text.

Panasonic Group

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