

TCFD Report 2024

Bangkok Dusit Medical Service Public Company Limited

Task Force on Climate-Related Financial Disclosures (TCFD)

INFORMATION



Bangkok Dusit Medical Services Public Company Limited (BDMS) is listed on the Stock Exchange of Thailand and stands as one of the country's largest private hospital operators. It operates a network of hospitals across Thailand and Cambodia, under six hospital group names: Bangkok Hospital Group, Samitivej Hospital Group, BNH Hospital, Phyathai Hospital Group, Paolo Hospital Group, and Royal Hospital Group. BDMS is certified to international standards, comparable to leading hospitals worldwide. Additionally, the company encompasses various medical support services, including medical laboratories, pharmaceutical manufacturing, and saline production.



CONTENT

BDMS apply the TCFD framework in the management of climate-related risks and opportunities. We integrate the TCFD in the process following TCFD recommendations in 2017 and in line with the TCFD’s 2021 “Annex: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures”

https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFD-Implementing_Guidance.pdf The period covered by this report is calendar year 2024.

Disclosure Area	Disclosure Requirement
<p>Governance </p> <p>Disclose the company’s governance around climate-related risks and opportunities.</p>	<p>a) Describe the board’s oversight of climate-related risks and opportunities.</p> <p>b) Describe management’s role in assessing and managing climate-related risks and opportunities.</p>
<p>Strategy </p> <p>Disclose the actual and potential impacts of climate-related risks and opportunities on the company’s businesses, strategy, and financial planning where such information is material.</p>	<p>a) Describe the climate related risks and opportunities the company has identified over the short, medium, and long term.</p> <p>b) Describe the impact of climate-related risks and opportunities on the company’s businesses, strategy, and financial planning.</p>
<p>Risk Management </p> <p>Disclose how the company identifies, assesses, and manages climate-related risks.</p>	<p>a) Describe the company’s processes for identifying and assessing climate related risks.</p> <p>b) Describe the company’s processes for managing climate related risks.</p> <p>c) Describe how processes for identifying, assessing, and managing climate related risks are integrated into the company’s overall risk management.</p>
<p>Metrics & Targets </p> <p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.</p>	<p>a) Disclose the metrics used by the company to assess climate-related risks and opportunities in line with its strategy and risk management process.</p> <p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p> <p>c) Describe the targets used by the company to manage climate-related risks and opportunities and performance against targets.</p>

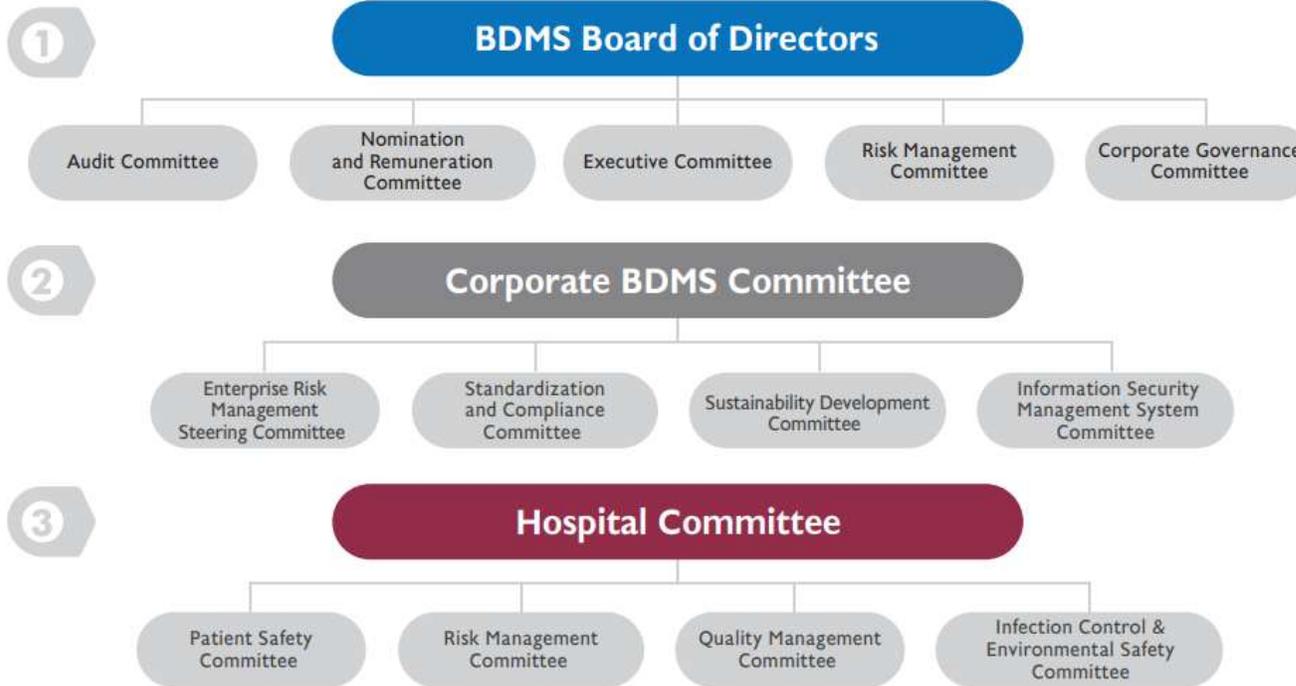
GOVERNANCE



GOVERNANCE

BDMS sustainability management approaches cover all dimensions of environmental, social, and governance. To ensure effectiveness of the operations, several departments across the organization has cooperated to create balance of control in sustainable practices. The sustainability management structure can be summarized as follows:

BDMS COMMITTEE STRUCTURE



Board of Directors

BDMS has the Board of Directors and Executive Management oversight and management the responsibility for the organization's sustainability performance. This includes driving continual improvement and ensuring alignment with BDMS's sustainability goals and climate-related commitments. Board level committees meet at least once per year to supervise through the BDMS Sustainability Development Committee (BDMS SDC), a board-level committee, provides strategic guidance and supervises sustainability-related initiatives, including climate-related risks and opportunities. The committee also ensures that progress toward environmental targets is regularly monitored and that such progress is meaningfully linked to executive remuneration and performance evaluations. Responsibility for managing climate-related issues at the operational level lies with the President and the Head of Sustainability Management, who are tasked with integrating climate considerations into strategic and risk management processes across the organization.

GOVERNANCE

President

The president's duties and responsibilities include reporting sustainability performance to the Board of Directors and facilitating the review of sustainability management policies and guidelines, which encompass stakeholder engagement and the evaluation of sustainability material topics, along with the annual sustainability reporting process. The president also considers feedback and suggestions from the Board regarding the sustainability management policy direction, ensuring effective communication and collaboration with the BDMS Sustainability Development Committee. Additionally, the president oversees the establishment of corporate targets and monitors progress toward these targets, as well as the implementation of transition plans. Another important role involves supervising various organizational aspects, including employee incentives, significant capital expenditures, innovation and R&D priorities, acquisitions, and divestitures. Finally, the president is responsible for reviewing environmental policies, such as the Climate Change policy and Earth Healthcare policy, ensuring they align with BDMS's sustainability objectives and principles.

BDMS Sustainability Development Committee (BDMS SDC)

The head of the BDMS sustainability management department is responsible for reporting sustainability performance and offering recommendations for improvement to the BDMS SDC. The committee oversees the strategic direction for addressing climate change challenges, which includes setting targets for reducing greenhouse gas (GHG) emissions and refining investment plans to minimize these emissions. Comprising executives from various functions, the committee also creates plans, practical applications, and measurement systems to support operational integration aimed at achieving Net-zero by 2050. Additionally, it oversees the establishment, revision, and support of operations that align with sustainability management policies, objectives, strategies, and guidelines, including stakeholder engagement and addressing key sustainability topics. Furthermore, the committee reviews, approves, and votes on the preparation and disclosure practices related to the sustainability report.

Meeting Frequency: Quarterly

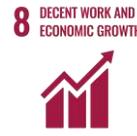
GOVERNANCE

BDMS Performance Indicators

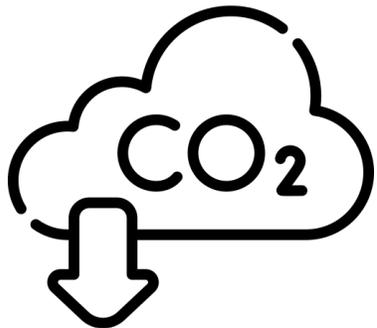
BDMS's sustainability performance is monitored through Environmental, Social, and Governance (ESG) indicators. These metrics guide the execution of BDMS's strategy, which includes a pathway to achieving Net Zero by 2050 and supporting the UN Sustainable Development Goals (UN SDGs).



Bangkok Dusit Medical Services
BDMS supports the Sustainable Development Goals



Executive Climate Related KPI



To ensure the effective execution of BDMS's climate change strategy, Key Performance Indicators (KPIs) related to GHG reduction targets are established as corporate metrics. These KPIs are supported by decarbonization initiatives aimed at achieving a 30% reduction in GHG emissions (Scope 1+2) by 2030, using 2022 as the baseline. Additionally, the target is to decrease GHG intensity (tonCO₂eq/revenue in millions) by 4% each year. These objectives apply to all executive levels and relevant business units, including the Group Chief Executive Officer, Hospital Directors, managers and employee of the relevant departments. Incentives are given to CEO, Hospital Director/executives and business unit managers and employee in a monetary term once the KPIs are achieved.

STRATEGY



STRATEGY

2. Green Building Design

BDMS prioritizes green building design, focusing on the construction and selection of environmentally friendly materials that align with the Leadership in Energy and Environmental Design (LEED) international standard. This certification for green buildings assesses environmental impacts, energy efficiency, and quality of life. Currently, BDMS boasts five LEED-certified buildings:

- BDMS Connect Center: Awarded LEED for New Construction v4 Gold Certification in 2024.
- Samitivej Chonburi Hospital: Awarded LEED for Healthcare v4 Gold Certification in 2023.
- Bangkok International Hospital: Awarded LEED for Healthcare v3 Gold Certification in 2022.
- Bangkok Hospital Chiang Rai: Awarded LEED for Healthcare v3 Gold Certification in 2021.
- Bangkok Hospital Chiang Mai: Awarded LEED for Healthcare v3 Certified in 2016.

3. Renewable Energy Management

BDMS has installed a solar rooftop system at 36 sites. In 2024, the solar rooftop system generated 14,197.51 MWh. Therefore, BDMS was able to reduce total GHG emissions by 7,097.34 tons CO₂eq. In 2024, additional solar rooftop system installations were ongoing. BDMS's share of renewable energy consumption will increase to 15% in 2030.



STRATEGY

Climate-related risks and opportunities and

Financial Impacts on Healthcare Business

Physical risk (acute and chronic) and transitional risk (current regulation, emerging regulation, technology, Legal, Market and Reputation), as well as potential stakeholder impacts, are all taken into account by the company and integrated into our Enterprise Risk Management system and our business strategy. In terms of climate change, we consider the following risks and opportunities as the main drivers to financial impacts to the company.

Term Horizons



Short Term

Within 3 years

Medium Term

3-10 years

Long Term

More than 10 years



STRATEGY

Climate-related Risk and Financial Impact on BDMS

Climate Risk Type	Climate Drivers	Financial Impact	Time Horizon
Transition Risk	Policy and Regulations		
	<ul style="list-style-type: none"> Carbon pricing and tax strategy (Emerging). Responsibility to report the increasing pollution emission. Rules and regulations related to the current products and services. Information disclosure for litigation. Strict compliance with the government to reduce greenhouse gas (GHG). Expenses related to the increasing non-circular energy consumption. 	<ul style="list-style-type: none"> Assess the extra expenses associated with climate change regulations and their financial impacts: an estimated 200,000 THB per site, based on the average carbon pricing in Thailand. Additional costs may arise from activities with a high carbon footprint, including increased compliance expenses and higher insurance premiums. There may be early impairment of assets and costs related to asset retirement due to policy changes. Rising costs might occur despite a decline in demand for products and services due to fines and legal decisions. There is a risk to the business license associated with operations that generate a high carbon footprint. 	Medium Term
	Technology		
<ul style="list-style-type: none"> Cost of shifting to low-carbon technology. New technologies that obstruct the business operations Unsuccessful technology Investment 	<ul style="list-style-type: none"> Cost increase in a new technology development that generates lower pollution and is in line with the circular energy. 	Short Term	

STRATEGY

Climate-related Risk and Financial Impact on BDMS (cont.)

Climate Risk Type	Climate Drivers	Financial Impact	Time Horizon
Transition Risk	Market		
	<ul style="list-style-type: none"> Changes in consumer behaviors toward low-carbon products. Market trend uncertainty. Market demands on low-carbon products and services that can save more energy but require further inspection and certification by third parties. Market demand decrease on high-carbon products and services. 	<ul style="list-style-type: none"> Market demand may decrease on products and services due to changes in consumer behaviors. Production cost increase due to higher raw material costs (e.g. energy). 	Medium Term
	Reputation		
	<ul style="list-style-type: none"> Changes in customer preference. Failure to respond to the needs of the stakeholders and customers. Increased expectations from the stakeholders regarding climate change responsibilities and awareness. 	<ul style="list-style-type: none"> Decreasing income and damage to reputation and brand values. Risk of losing trust in the management. 	Short Term

STRATEGY

Climate-related Risk and Financial Impact on BDMS (cont.)

Climate Risk Type	Climate Drivers	Financial Impact	Time Horizon	
Physical Risk	Acute			
	<ul style="list-style-type: none"> Floods, drought, cyclones, rising temperature and precipitation changes that occur more frequently and intensely. Interruption of operation. 	<ul style="list-style-type: none"> Direct damage to the property and fundamental anomalies. Interruption of operation. Cost and expense increase for natural disaster prevention and recovery. Raw material cost increase. Operational cost increase. 	Short-Medium Term	
	Chronic			
	<ul style="list-style-type: none"> Rising temperature, climate fluctuation, sea level rise and air quality (e.g. PM 2.5). Contagious disease transmission. 		Medium-Long Term	

STRATEGY

Climate-related Opportunity and Financial Impact to BDMS

Opportunity Type	Climate-related Opportunity	Financial Impact	Time Horizon
Resource Efficiency	<ul style="list-style-type: none"> • Transport efficiency enhancement. • Waste reduction from circular economy policy. • Water reduction. • Resources modification and energy efficiency enhancement. • Energy-efficient building. 	<ul style="list-style-type: none"> • Operational and energy consumption cost decline. • Net Profit increase. • Benefits to the manpower management and planning (e.g. health and safety and employee satisfaction) resulting in cost decrease. 	Short Term
Energy Sources	<ul style="list-style-type: none"> • Low-carbon energy (e.g. solar energy). • Modern low-carbon technology. 	<ul style="list-style-type: none"> • Operational cost decrease. • Decreasing risks on the fossil fuel price fluctuation. • Better return of investment from low-carbon technology. • Estimate the average annual financial positive from solar energy implications of this opportunity: 2.8 million THB/site and estimate costs associated with developing this opportunity: 10 million THB/site. 	Medium Term
Product and Service	<ul style="list-style-type: none"> • Low-carbon product and service development. • Product and service development through research and innovation. • Changes in consumer behaviors. 	<ul style="list-style-type: none"> • Revenue increase from high demands for low-carbon products and services. • Strengthening Brand Equity 	Medium Term

STRATEGY

Climate-related Opportunity and Financial Impact to BDMS (cont.)

Opportunity Type	Climate-related Opportunity	Financial Impact	Time Horizon
Market	<ul style="list-style-type: none">• Seeking new market opportunities.	<ul style="list-style-type: none">• New sources of income through new markets.• Enhanced reputation and brand values.	Medium Term
Flexibility	<ul style="list-style-type: none">• Corporate responses to changes and physical risks.• Collaboration for circular energy initiatives and energy efficiency measures.• Participation in initiatives and activities to fight or modify the climate change.	<ul style="list-style-type: none">• Evaluation of the increasing market values.• Stronger corporate reputation.• Income increase from new products and services related to the climate adaptation.	Long Term

RISK MANAGEMENT



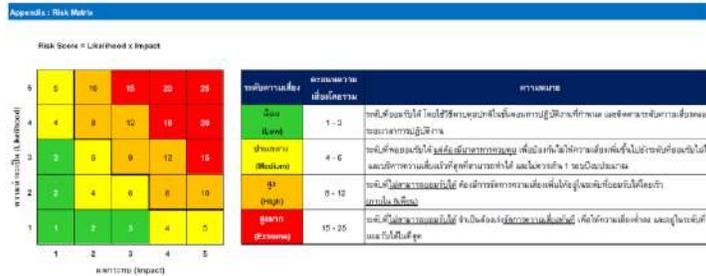
RISK MANAGEMENT

Describe the company's processes for identifying and assessing climate related risks

1. Evaluate factors that may impact the goal



2. Assess how various factors impact in which aspect



3. Evaluate the impact and likelihood of risk occurrence

* ระบุข้อมูลโดยย่อเกี่ยวกับ "สาเหตุการประเมินความเสี่ยง" ในวิธีการประเมินโอกาส (Likelihood) และ การประเมินผลกระทบ (Impact) โดยยึดกับวิธีการควบคุมที่คงอยู่ในปัจจุบัน (Existing Controls)
 * หากมีข้อมูลไม่เพียงพอ เพื่อพิจารณาว่าอยู่ในระดับสูง (8-12 คะแนน) และ สูงมาก (15-25 คะแนน) เป็นจำนวนมากเกินไป เพื่อไม่ให้ดำเนินการจัดการความเสี่ยง (High/Low Risk) ไม่จำเป็นต้องไปใช้วิธีการประเมินความเสี่ยงฉบับนี้ (Risk Assessment)

4. Develop a risk management plan to reduce the impact or likelihood of risk occurrence

5. Define Key Risk Indicators (KRIs)

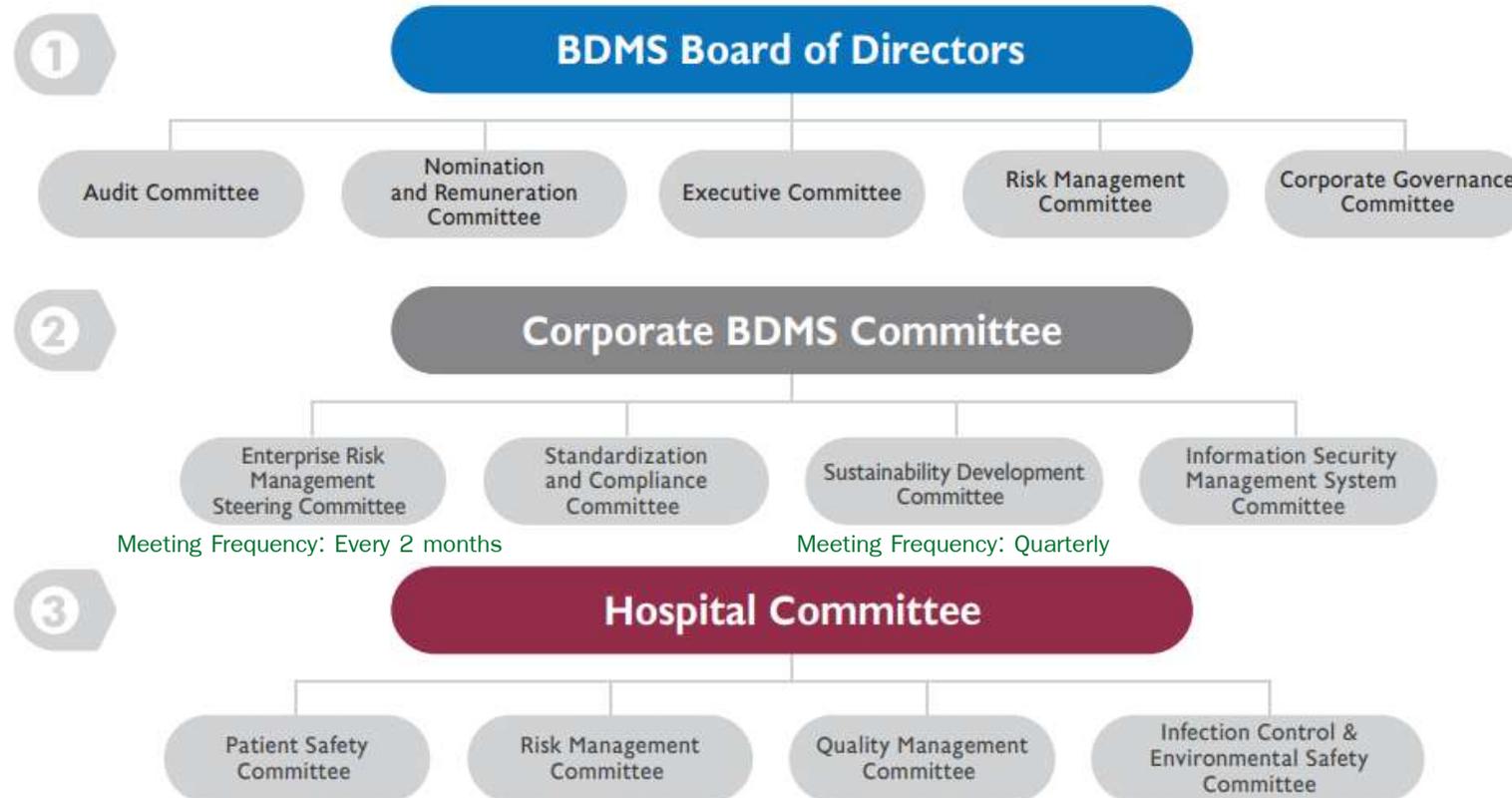
KRI No.	ตัวชี้วัดความเสี่ยง	หน่วยชี้วัด	ความถี่	เกณฑ์การประเมินตัวชี้วัด	ผู้รับผิดชอบ
KRI08.1	การซื้ออพยพตามแผน (เหตุน้ำท่วม)	นาที	รายไตรมาส	< 30 นาที > 30 - 45 นาที > 45 นาที	1. หน่วยงานจัดซื้อกลาง (Central Procurement) 2. ทุทหน่วยงานที่เกี่ยวข้องกับการจัดซื้อ
KRI08.2	การป้องกันเหตุภัยแล้งหรือคุณภาพดิบไม่ผ่านมาตรฐาน (ไม่มีน้ำใช้)	ชั่วโมง	รายปี	สำรองน้ำได้ 72 ชั่วโมงสำรองน้ำได้ 48 ชั่วโมงสำรองน้ำได้ 24 ชั่วโมง	1. หน่วยงานจัดซื้อกลาง (Central Procurement) 2. ทุทหน่วยงานที่เกี่ยวข้องกับการจัดซื้อ
KRI08.3	การลดการปล่อยก๊าซเรือนกระจกต่อรายได้ เทียบปีก่อนหน้า	ร้อยละ	รายปี	> 4% >0-4% < 0%	1. หน่วยงานจัดซื้อกลาง (Central Procurement) 2. ทุทหน่วยงานที่เกี่ยวข้องกับการจัดซื้อ
KRI08.4	เวลาที่ใช้ในการซื้ออพยพตามแผน (เหตุไฟไหม้) โดยวัดจากระยะเวลาที่ใช้ในการอพยพตามแผนเมื่อเกิดเหตุการณ์จำลอง (ทั้งกลางคืนและกลางวัน) และเปรียบเทียบกับเกณฑ์มาตรฐานที่วาง	นาที	รายไตรมาส	< 5 นาที > 5 - 10 นาที > 15 นาที	1. หน่วยงานจัดซื้อกลาง (Central Procurement) 2. ทุทหน่วยงานที่เกี่ยวข้องกับการจัดซื้อ

RISK MANAGEMENT

Describe the company's processes for managing climate related risks

BDMS's Enterprise Risk Management system based on Committee of Sponsoring Organizations of the Treadway Commission Enterprise Risk Management (COSO ERM) is intended to help the company identify, evaluate, and manage risks to lessen potential impact and assist the accomplishment of our long-term goals and business plan.

BDMS COMMITTEE STRUCTURE



RISK MANAGEMENT

BDMS conducted potential climate-related risk analysis for both transition and physical risk covering 100% of business operations. For physical risk type, risk drivers can be divided into acute and chronic risk. Climate changes have caused natural disasters in many areas in Thailand and all around the globe. These physical risks may impact business operation and incur additional expenditures. BDMS has prepared specific physical risk adaptation plans covering scope of new operations in different high-risk areas including;

Areas	Number of sites (site)	Adaptation Plan in place	New operations having adaptation plan (%)
Hospital and subsidiaries in areas where have extremely high-water stress and drought areas	30	Yes	100%
Hospital and subsidiaries in areas where have high risk related to flood or sea level rises (including costal areas)	12	Yes	100%



All sites have physical risk adaptation plans



Some sites have physical risk adaptation plans



No other sites have physical risk adaptation plans

RISK MANAGEMENT

Physical Climate Risk Adaptation

BDMS conducted potential climate-related risk analysis for both transition and physical risk covering 100% of business operations. For physical risk type, risk drivers can be divided into acute and chronic risk. Climate changes have caused natural disasters in many areas in Thailand and all around the globe. These physical risks may impact business operation, and incur additional expenditures. As a result, we are aware that risk from immediate flood and drought may cause significant impacts, thus, BDMS developed an adaptation plan for these risks.

Climate Drivers	Adaptation Plan	Financial Planning/ cost of response	Time Horizon
<p>Flood</p> <p>Example: Bangkok Hospital</p> 	<ul style="list-style-type: none"> - BDMS has monitored and developed a plan for each situations separated into water severity levels: <ul style="list-style-type: none"> ○ Code 2 Alert – When water level in Samsen Canal is zero (0). ○ Code 2A – When surface or underground water level increases by 10 cm. ○ Code 2B – When surface or underground water level is higher than 50 cm. - Setting up contingency plan for each department to follows in case of emergency by BDMS Environment of Care Committee (ECC). - Conduct annual evacuation drill and training for responsible staffs by BDMS Environment of Care Committee (ECC). - Conducting a feasibility study on water drainage installation. - Invest in electricity backup supply system in case of power outages due to flood damage including Uninterruptible Power Supply (UPS), Direct current (DC), Alternating Current Electricity (AC), and Automatic Transfer Switch (ATS). - Prepare water storage in case of Metropolitan Waterworks Authority cannot deliver water. 	<p>cost: approximately THB 300,000–500,000 / Site</p>	<p>Less than 5 years</p>

RISK MANAGEMENT

Physical Climate Risk Adaptation Plan			
Climate Drivers	Adaptation Plan	Financial Planning/ cost of response	Time Horizon
<p>Drought</p> <p>Example: Dibuk Hospital</p> 	<ul style="list-style-type: none"> - BDMS has launched water management plan within BDMS group to deal with emergency situation of water storage for 3 days (72 hrs.) of operations: <ul style="list-style-type: none"> - The Company will get water storage from partnering hospital totaling 10 cars of water container per day. - The Company will outsource water storage at least 15 cars of water container per day. - Emergency water storage for 10 days of operations: <ul style="list-style-type: none"> - The Company will get water storage from partnering hospital totaling 10 cars of water container per day . - The Company will outsource water storage at least 10 cars of water container per day. - Internal water storage including <ol style="list-style-type: none"> 1. Underground water reservoir 1,200 m³ 2. Rooftop 1 water reservoir 365 m³ 3. Rooftop 2 water reservoir 120 m³ 4. Water reservoir at water treatment plant 120 m³ - Conduct annual check-up and monitor water supply quantity and quality by third-party. - Create water management plan in case of any emergency. 	<p>Emergency water storage cost: approximately THB 149,000 – 169,000 / Site</p>	<p>Less than 5 years</p>

Metrics & Targets



METRICS & TARGETS

BDMS continually monitors our climate impacts through measurement of our GHG emissions and other indicators. We use the following methodologies to quantify and track our GHG emissions:

- Baseline year for target: 2022.
- Boundary of GHG reported: Bangkok Hospital Group, Samitivej Hospital Group, BNH Hospital, Phyathai Hospital Group, Paolo Hospital Group, Royal Hospital Group in Cambodia, Community Hospital, total 50 Hospitals and 8 companies in Business Related to Medical Services.
- Scopes included: Scope 1 and 2.
- Emission factor and methodology source: Intergovernmental Panel on Climate Change (IPCC) National Greenhouse Gas Inventory Guidance 2006, American Petroleum Institute (API) GHG Compendium 2009, Thailand Greenhouse Gas Management Organization (TGO).

BDMS targets are to achieve Carbon Neutral in 2030 and Net Zero by 2050.



UN SDG 13 Climate action is our key concern due to top materiality topics of BDMS's stakeholder are Climate Change Adaptation & Risk Management and GHG Emissions. To ensure focused implementation of climate change strategy, GHG emission reduction is set as Corporate KPI in 2024 for the Group Chief Executive Officer, Hospital Directors, and managers of the relevant departments, respectively.

METRICS & TARGETS

2030 Goal Carbon Neutral (Scope 1+2)

To achieve Carbon Neutral by 2030 and Net Zero GHG Emissions (Scope 1+2) by 2050

Key project categories for GHG emissions reduction



ENERGY EFFICIENCY

- High Efficiency Chiller
- High Efficiency Lighting
- EV Car



RENEWABLE ENERGY

- Solar Energy / REC



WASTE MANAGEMENT

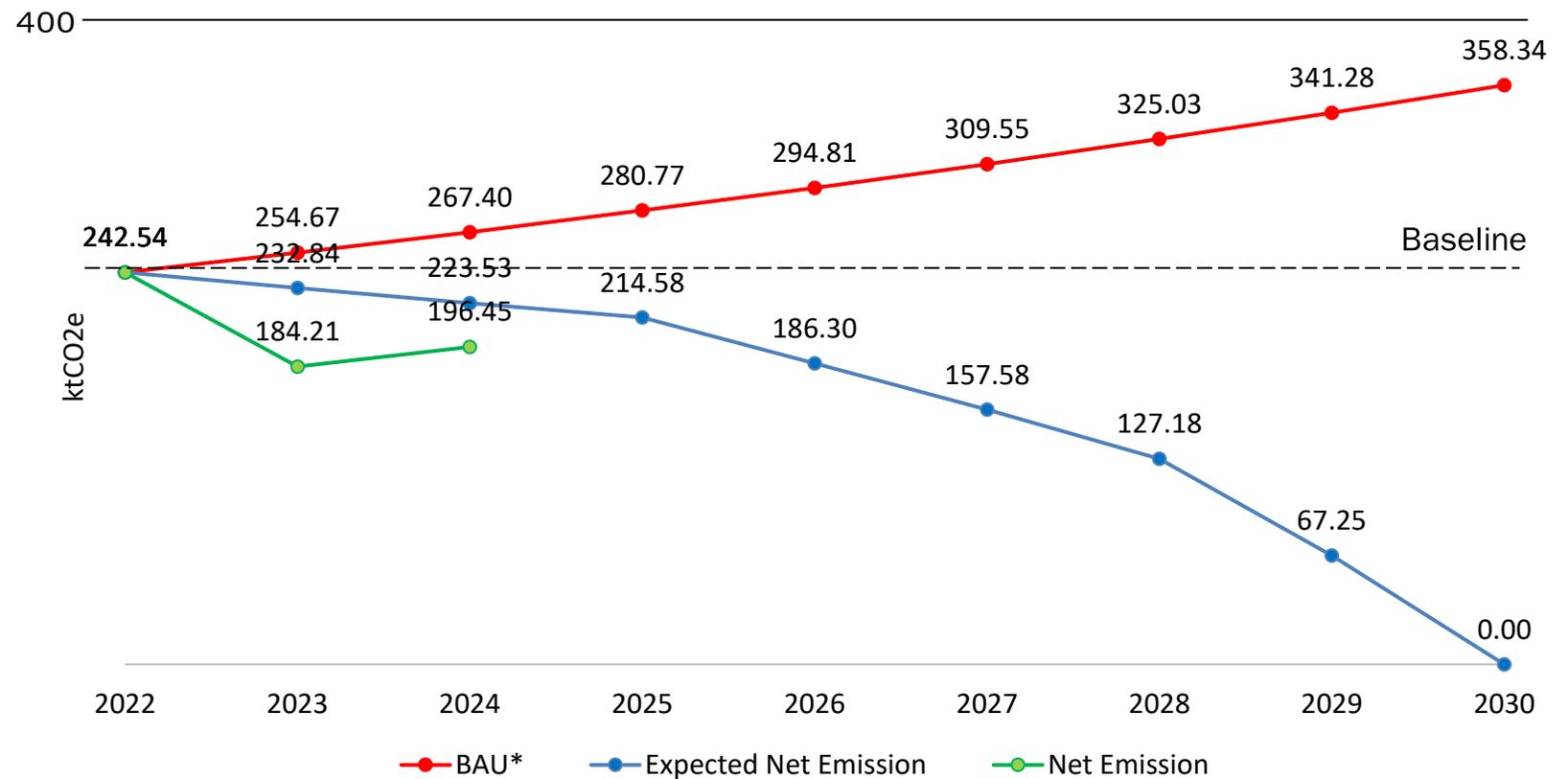
- Recycling



FORESTATION

- Sustainable Forestation

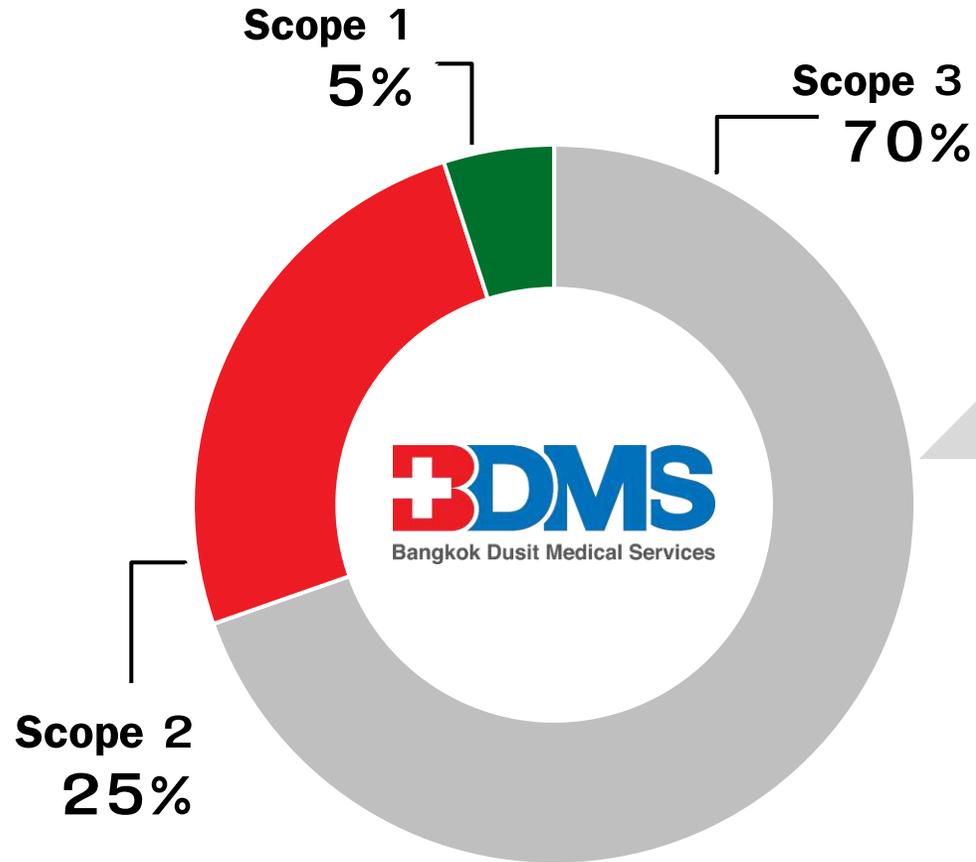
Progress against short-term and long-term goals



Remark : exclude indirect GHG emissions (Scope 3) With the assumption for business as usual growth of 5% per year

METRICS & TARGETS

BDMS Greenhouse Gases 2024



Scope 3 Breakdown

	Purchased goods and services	61%
	Capital goods	17%
	Fuel- and energy-related activities	8%
	The Remaining Scope	14%

Scope 1	31,975.36 tons CO₂eq	} Scope 1 and 2	196,445.69 tons CO₂eq
Scope 2	164,470.33 tons CO₂eq		
Scope 3	450,367.95 tons CO₂eq		

More information available in

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