

Low-Carbon Transition Case 2: Odawara Municipal Medical Center



1. Facility Overview

Location: 46 Kuno, Odawara City, Kanagawa Prefecture (1.6 km on foot from JR Odawara Station, 7 minutes by public transportation)

Operated by: Odawara City

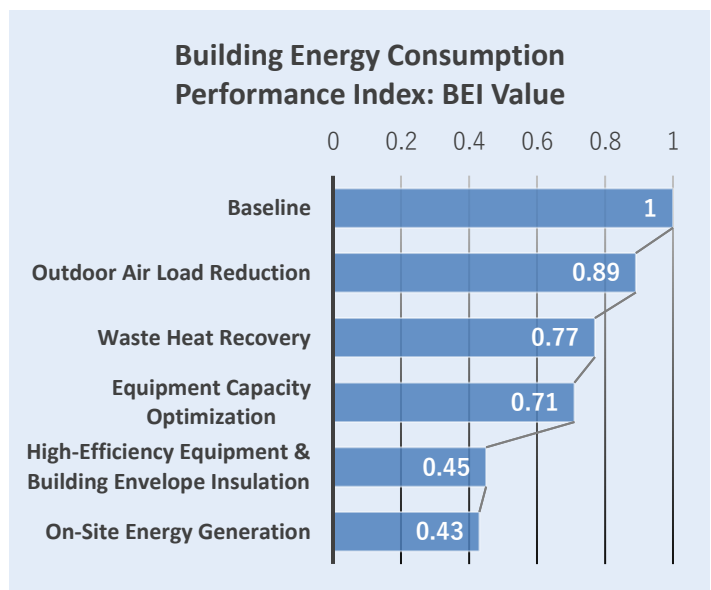
Facility Certifications / Designations: Regional Medical Support Hospital, Emergency and Critical Care Center (Tertiary Emergency Care), Regional Cancer Treatment Coordination Hospital, Regional Perinatal and Maternal-Child Medical Center, Disaster Base Hospital, Managing Clinical Training Hospital (among others)

In 1951, Odawara City, which was among the first in Japan to implement the National Health Insurance system (NHI) in cities with populations over 100,000, established this public core hospital in 1958 to support this system and provide stable medical care to its citizens (9 departments, 110 beds). The hospital was completely rebuilt in 1985, resulting in the current facility with 417 beds, 15 departments at the time of renovation (28 departments today).

	Present Hospital	New Hospital
Completion Date	March 1985	February 2026
Number of Beds	417 beds	406 beds
Number of Clinical Departments	28 departments	30 departments
Site Area	21,968.78 m ²	23,021.60 m ²
Building Area	6,192.52 m ²	6,911.09 m ²
Total Floor Area	25,026.26 m ²	42,234.16 m ²
Structure	Steel reinforced concrete; 7 stories above ground with 1 basement level	Seismic isolation, steel frame; 9 stories above ground, 41.243m
Floor Area per Bed	Approx. 60m ²	Approx. 104m ²

2. Green Systems

Category	Technology
Reduction of Outside Air Load (Ventilation)	Optimized patient room ventilation through night-mode switching Ventilation control using CO2 sensors
Waste Heat Recovery (Air Conditioning)	Water-source heat pump (using waste heat) Heat-recovery heat pump (using waste chilled water)
High-Efficiency Equipment (Ventilation and Air Conditioning)	Set air conditioning and ventilation capacity appropriate for operational needs
Efficiency Improvement and Building Envelope Load Reduction	High-efficiency air conditioning system, high-efficiency lightning, rooftop greening, low-E pair glass units, solar radiation shading
Energy Generation	Micro-cogeneration Solar power generation



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3. Implementation Plan and Overview

As the facility approached its 40th year, rebuilding became necessary in order to address the aging and spatial limitations of the building and equipment, ensure business continuity, and retain personnel.

- February 2014 The Odawara Municipal Hospital Management Council identified the necessity of early reconstruction.
- December 2018 Formulation of the “Basic Plan for the Redevelopment of Odawara Municipal Hospital”
- December 2020 Formulation of the “Basic Plan for the Construction of the Odawara City New Hospital”
- April 2021 Public Solicitation for Design-Build
- November 2021 Execution of the “Basic Agreement for the Odawara City New Hospital Construction Project” with the selected contractor.
- November 2022 Odawara City Selected as Ministry of the Environment Decarbonization Leading Area
- December 2022 Basic Design Completed
- September 2023 Reassessment of Construction Costs

Since 2016, through the introduction of management consulting and leadership from hospital executives, management improvements have been implemented based on **interviews with medical staff and administrative departments**. Since then, effective management has been consistently maintained. Although the hospital faced a critical situation during the COVID-19 pandemic, it overcame the crisis through a unified response.

From the initial planning stage, support was provided by a **construction management (CM) firm** to provide supplemental knowledge on hospital construction projects, as well as to augment staffing shortages.

To flexibly respond to changes in the social environment, such as legal systems and technological innovations, that may occur between planning and completion, a **Design-Build (DB) method** was adopted.

As part of the ongoing Odawara City Urban Regeneration Plan (Odawara Station Area), the project was designated as a priority recipient of the Ministry of Land, Infrastructure, Transport and Tourism’s Intensive Support Grant for Urban Restructuring, securing ¥1.5 billion in funding.

The project was positioned as a core initiative within the Decarbonization Leading Area model, with the aim of **promoting environmental awareness and behavioral change among citizens**. Funding is being utilized from the Ministry of the Environment’s “Regional Decarbonization Transition and Renewable Energy Promotion Grant” (approximately ¥2.4 billion expected). After opening, the hospital plans to achieve net-zero CO₂ emissions from electricity consumption through the use of renewable energy power sources, including locally generated energy.

At each stage—basic planning, basic design, detailed design, and construction—interviews with hospital representatives were conducted to incorporate on-site perspectives throughout the process. About 4-6 sessions were held per stage, each lasting approximately two hours, with 37 hospital departments.

During the design phase, additional costs (approximately ¥9.6 billion) arose due to increased material expenses caused by yen depreciation and surging raw material, crude oil, and logistics costs, as well as higher labor costs stemming from wage increases and labor shortages. However, an understanding was reached because the construction cost per square meter remained competitive at approximately ¥629,000/m² compared to market rates.

- December 2023 Completion of Actual Design and Execution of the Construction Contract
- January 2024 Groundbreaking Ceremony; Construction Begins
- July 2024 Construction Contract Amendment (1st)

In response to rising construction costs, a project cost revision of approximately ¥1.68 billion was required. The FY2024 Prefectural Hospital Function Consolidation Subsidy (approximately ¥50 million) was allocated as an additional funding source.

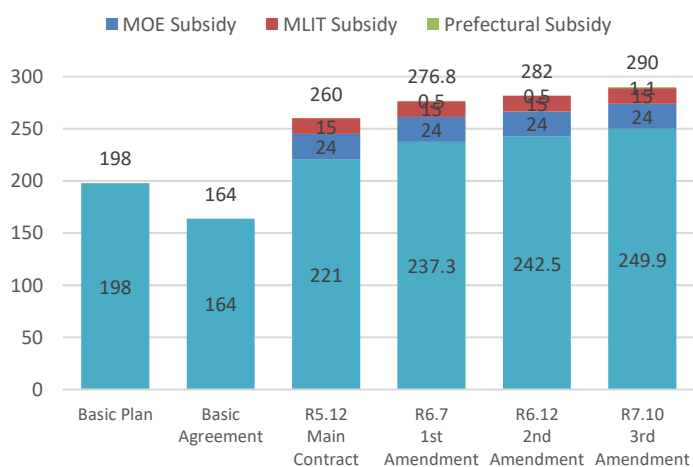
- August 2024 Obtained ZEB Ready Certification At Design Phase

- December 2024 Construction Contract Amendment (2nd)
An inflation escalation clause* was applied to the remaining construction works from July 2024 onward, resulting in an increase of approximately ¥520 million in the contract amount. The Prefectural Hospital Function Consolidation Subsidy, which formed part of the financing, was likewise increased.

- October 2025 Construction Contract Amendment (3rd)
Similarly, for the remaining construction works from March 2024 onward, the contract amount was increased by approximately ¥800 million, and the Prefectural Hospital Function Consolidation Subsidy was also increased.

- February 2026 Scheduled Completion of New Hospital Transition to Phase II Construction (Planned: Demolition of the Existing Hospital, Exterior Works, Construction of a Multi-Story Parking Structure, etc.)

Trends in Construction Cost (in Billions)



*Inflation Escalation Clause: As stipulated in Article 26, Paragraph 6 of the Construction Contract Agreement, this provision allows the contract amount to be revised through consultation between the client and the contractor in response to unforeseen and rapid price fluctuations during the construction period.

Lessons Learned and Key Messages

Against a backdrop of sound management and organizational culture, the project aligned with urban planning and regional decarbonization strategies, as well as broader healthcare policies, enabling it to secure a diverse subsidies. By introducing CM, project requirements were clarified from the early planning stages, and through the adoption of the Design-Build (DB) method, it became possible to respond flexibly to changes in the social environment and construction conditions while carefully incorporating on-site feedback. Rising construction costs were addressed through thorough explanations and meticulous consensus-building with citizens, the city council, and relevant departments.